

SYLLABUS

FOR

M. B. A. (Environment Management)

(To be Implemented from Academic Year: 2023-24)



School of Environmental Sciences and Management

**CHHATRAPATI SHAHU INSTITUTE OF
BUSINESS EDUCATION AND RESEARCH (CSIBER),
(AN AUTONOMOUS INSTITUTE)
UNIVERSITY ROAD, KOLHAPUR - 416 004 (M. S.), INDIA**

2023

REVISED CURRICULUM OF M. B. A. (ENVIRONMENT MANAGEMENT) PROGRAMME WITH DUAL SPECIALIZATION

The M. B. A. (Environment Management) Programme is of Two-year duration and is divided into Four semesters. Semester I, II will be taught in the First Year of the programme and Semester III & IV during the Second Year of the programme. Student can opt for any one of the following specializations along with Environment i.e. Agri-Business, Finance, Human Resource, Marketing, Production and Systems.

Objectives:

The specific objectives of the programme are:

1. To infuse environmental concepts in all the functional area of business management
2. To provide in-depth knowledge to the students in respect of current business and environmental problems faced by human society and to develop scientific attitude among students based on interdisciplinary approach to enable them to take holistic view in planning and decision-making.
3. To develop managerial competence among students in managing environmental development programs initiated by the Government.
4. To provide students a typical problem-oriented situations in environmental protection, Development and management.
5. To inculcate modern concept of Green Industry to the students for sustainable development.

Eligibility:

Candidates should have passed graduation under 10+2+3 pattern from the recognized University.

Intake: 60

Admission process:

Student will be admitted purely on merit basis through DTE-CET cap round.

Reservation:

Reservation for special categories such as SC, ST, NT, OBC, etc. will be as per the Government of Maharashtra, AICTE and other statutory bodies.

Duration:

The degree of M. B. A. (Environment Management) is a full time course and its duration is of Two Years. The course consists of four semesters. The examination to be held in the First, Second semester will be called Part – I (First Year) and the examination to be held in the third and fourth semester will be called Part – II (Second Year).

If a candidate fails to clear all the theory papers and project report within six years of his/her registration, the past performance will stand automatically nullified. If a candidate discontinues any of the terms (i. e. semester – I to IV) on any account, he/she will be allowed to complete the in-completed terms in the subsequent years subject to the condition that it is within the stipulated time duration of Six years. In addition to the above, once a student's term (semester) is granted, he/she shall be allowed to appear and pass in any of the subsequent examinations held, provided the examinations are within the stipulated period of Six years after registration. In case the term (semester) is not granted the student has to seek fresh admission in the next year and complete the term and pass the examination. This is also within Six years of his/her registration.

Course Completion with Break in Between:

A student who has passed M. B. A. – I and is seeking admission to M. B. A. – II after a long gap (Provided the gap lies within the stipulated duration of Six years) should complete the course syllabus which is in existence at the time he/she has sought the admission for the academic year.

Award of the degree: After successful completion of four semesters of M. B. A. (Environment Management) mark list ledgers will be forwarded to the Shivaji University, Kolhapur, for the award of the degree.

CBCS PATTERN:

M. B. A. (Environment Management) under CBCS pattern carry certain number of credits. Credits normally represent the weightage of a course and are a function of teaching, learning and evaluation strategies such as number of contact hours, the course content, teaching methodology, learning expectations, etc. The credits are based on the number of instructional hours per week, generally 1 credit per one hour of instruction in theory and 1 credit for 2 hours of practical/project work/Field work/internship.

General features of the Choice Based Credit System are:

- a) The M. B. A. (Environment Management) programme is structured in CBCS Pattern
- b) The Programme consists of Compulsory Core and Electives. The core and elective papers deal with the specific discipline.
- c) The relative importance of subjects of study is quantified in terms of credits.
- d) The elective courses are offered within the discipline faculty.
- e) The curricula should be unitized giving equal weightage in terms of contact hours and marks.

- f) Well defined model outline of question paper consisting of Long answers/essay type/ case studies.
- g) The evaluation will be on formative evaluation (Continuous Internal Assessment) and summative evaluation (End Semester Assessment). The final results shall be declared after integration of both.
- h) The declaration of result is based on the grade point average (GPA) earned towards the end of each semester and the Cumulative Grade Point Average (CGPA) earned towards the end of the program.

Outline of Choice Based Credit System:

1. **Core Course:** A course, which should compulsorily be studied by a candidate as a core requirement is termed as a Core course.
2. **Field Project:** Field Project of 4 credits can be completed under the supervision of departmental faculty member. This includes collection of field-based data, analysis, interpretation, referencing, report writing, etc. in the functional area.
2. **Elective Course:** Generally a course which can be chosen from a pool of courses and which may be very specific or specialized or advanced or supportive to the discipline/ subject of study or which provides an extended scope is called an Elective Course.

Credit Pattern:

Every course offered will have three components associated with the teaching-learning process of the course, namely.

Lecture – L, Tutorial- T, Practice - P

Where,

L stands for **Lecture session**.

T stands for **Tutorial session** consisting participatory discussion / self-study/ desk work/ brief seminar presentations by students and such other novel methods that make a student to absorb and assimilate more effectively the contents delivered in the Lecture classes.

P stands for **Practice session** it consists of Hands on experience / Laboratory Experiments / Field Studies / Industrial visits/ Case studies that equip students to acquire the much required skill component.

In terms of credits, every one hour session of L amounts to 1 credit per week and a minimum of two hour session of T or P amounts to 1 credit per week, over a period of one semester of 15 weeks for teaching-learning process. The total duration of a semester is 17 weeks inclusive of semester-end examination.

M. B. A. (Environment Management) consists of all the three components with weightage depending upon the paper.

The total credits earned by a student at the end of the semester upon successfully completing the course are L + T + P. The credit pattern of the course is indicated as L: T: P. If a course is of 4 credits then the different credit distribution patterns in L : T : P format could be :

Theory Papers-	3: 0.5: 0.5
Practical -	1: 0: 3.0
Field Work-	0: 1: 3

If a course is of 2 credits then the different credit distribution patterns in L : T : P format could be :

Theory Papers-	1.5: 0.25: 0.25
Practical-	0.5: 0: 1.50
Field Work -	0: 0.5: 1.5

Teaching programme for each Semester shall consist of:

- a) Theory Lectures: There will be 60 contact hours / paper / semester for four credits ; @ 4 lectures/paper/week and 30 contact hours / paper / semester @ 2 lectures /paper / week , for two credits. Each lecture is of the duration of 60 minutes.
- b) Practical: 1 practical / week. Each practical is of the duration of 3 clock hours, number of students in batches should not exceed 15.

Credit Grade Based Performance Assessment System (CGPA):

I. ASSESSMENT:

Taking into consideration the UGC and AICTE requirements, CSIBER has adopted “Credit Grade Based Performance Assessment System” (CGPA). Each paper is of 100 marks and contact hours for each paper are 60. One credit is allotted to 15 contact hours. All papers are considered as Full credit papers i.e. four credits are allotted to each paper. Practical of 100 marks are considered as four credit

For the paper of 100 marks, the distribution of the marks for theory, practical and project work will be as follows –

i) Internal Marks i.e. Formative evaluation	-	40 Marks
ii) External Marks i.e. Summative evaluation	-	60 marks
1. For the paper of 50 marks. The distribution of the marks will be as follows –

i) Internal Marks i.e. Formative evaluation	-	20 Marks
ii) External Marks i.e. Summative evaluation	-	30 marks
 2. External marks will be given at the time of viva by external and internal and average marks will be calculated out of 60.
- Breakup of Internal Marks i.e. Formative evaluation

Sr. No.	Head	Marks 40	Marks 20
1.	Class Participation	10	5
2.	Field Based Project	10	5
3.	Class Test/ Quiz	10	5
4.	Library Based Assignment	10	5
	Total	40	20

The Internal Marks assessed by the teachers be shown to the students and their signature will be obtained. The Summative assessment of papers will be done by an Internal and External examiner. A difference of more than 20% in the marks awarded by these examiners would necessitate the valuation of the paper by Third examiner. The 'nearest highest' marks will be considered for determining the average mark of such papers.

3. Evaluation of Field Project

Assessment Strategy:

For the paper of 50 marks, the distribution of the marks for theory will be as follows –

- i) Internal Marks i.e. Formative Assessment - 20 Marks
- ii) Examination Marks i.e. Summative Assessment - 30 marks

Breakup of Internal Marks (Formative Assessment)

Sr. No.	Head	Marks Out of 20
1	Individual Viva	05
2	Presentation	10
3	Literature review/ Assignments	05
	Total	20

3.1 Evaluation of Research Methodology

Assessment Strategy:

For the paper of 100 marks, the distribution of the marks for theory will be as follows –

- i) Internal Marks i.e. Formative Assessment - 40 Marks
- ii) Examination Marks i.e. Summative Assessment - 60 marks

Breakup of Internal Marks (Formative Assessment)

Sr. No.	Head	Marks Out of 40
1	Research Participation	10
2	Literature Review and Laboratory/Research Record	10
3	Progress Report	10
4	Research Project Preparation	10
	Total	40

3.2 Evaluation of Research Project (Master Thesis)

Assessment Strategy:

For the paper of 150 marks, the distribution of the marks for theory will be as follows –

- i) Internal Marks i.e. Formative Assessment - 60 Marks
- ii) Examination Marks i.e. Summative Assessment - 90 marks

Breakup of Internal Marks (Formative Assessment)

Sr. No.	Head	Marks Out of 60
1	Research Participation	15
2	Literature Review and Laboratory/Research Record	15
3	Progress Report	15
4	Research Project Preparation	15
	Total	60

- 4. Once the Student passes in the internal marks (Summative evaluation out of 40) and the record is submitted to the examination department, it should be carried forward whenever required and it cannot be improve in any case.
- 5. Students who fail in the internal marks (Formative evaluation out of 40) should reappear for the same and then only the revised marks will be considered for further result calculation.

II. STANDARD OF PASSING:

- 1. In order to pass in a paper/head, a candidate will have to obtain 50% in the internal marks (Formative evaluation), 40% marks in theory, and a minimum of 50% of the marks in aggregate in each paper head.
- 2. To pass the M.B.A. examination, a candidate will have to pass in all Four Semester in Two Parts i.e. Part – I (Semester – I & II) and Part – II (Semester – III & IV).
- 3. A candidate from the first year M.B.A. will be eligible to proceed to the Semester III, if he/she is not having more than 5 (Five) papers backlog of the First Year (that is Semester – I & II).
- 4. A candidate will be permitted to proceed to the second Semester even though he/she fails in one or more subjects of the first Semester.
- 5. A candidate will be permitted to proceed to the Fourth Semester even though he/she fails in one or more subjects in third Semester.
- 6. Semester Performance Index (SPI) will be as follows:

III. GRADING SYSTEM:

a) Four Credit 100 Marks

Grade Table for Semester Examination			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
96-100	S+	10.0	SUPER
91-95	S	9.0	
86-90	E+	8.5	Exemplary
81-85	E	8.0	
76-80	O+	7.5	Outstanding
71-75	O	7.0	
66-70	A+	6.5	Good
61-65	A	6.0	
56-60	B+	5.5	Average
50-55	B	5.0	
--	X	0.0	Defaulter
--	XX	---	Incomplete

b) Two Credit 50 Marks

Grade Table for Semester Examination			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
48-50	S+	10.0	SUPER
46-47	S	9.0	
43-45	E+	8.5	Exemplary
41-42	E	8.0	
38-40	O+	7.5	Outstanding
36-37	O	7.0	
33-35	A+	6.5	Good
31-32	A	6.0	
28-30	B+	5.5	Average
25-27	B	5.0	
--	X	0.0	Defaulter
--	XX	---	Incomplete

- c) **Final Result:** For the final result of the student Cumulative Performance Index (CPI) based on total earned credits vis-à-vis total earned grade points shall be calculated will be as follows. Total earned grade points / Total credits 104.

Result		
CPI	Final Grade	Classification of Final Result.
9.6-10.0	S+	SUPER
9.1-9.5	S	
8.6-9.0	E+	Exemplary
8.1-8.5	E	
7.6-8.0	O+	Outstanding
7.1-7.5	O	
6.6-7.0	A+	Good
6.1-6.5	A	
5.6-6.0	B+	Average
5.0-5.5	B	

Note: An aggregate of 5.0 CPI are required to pass the M. B. A. (Environment Management) program.

IV. CALCULATION OF PERFORMANCE INDICES:

A distinction of the performance of one student from the other student is rather impossible to carry out from the grades obtained by a student in all the courses taken by him in a Semester/year. Hence, the evaluation of various courses is cumulated in two performance indices termed as Semester performance index (SPI) and cumulative performance index (CPI) the explanation of which is given below:

Semester Performance Index (SPI):

The performance of a student in a Semester is indicated by a number called Semester Performance Index (SPI). SPI is the weighted average of all the grade points obtained by him in all the courses registered during the Semester r. If G_i is a grade with numerical equivalent

$$SPI = \frac{\sum C_i \cdot G_i}{\sum C_i}$$

as G_i obtained by a student for the course with credit C_i then, SPI for that Semester is calculated using formula.

Where summation is for all the courses registered by a student in that Semester. SPI is calculated to two decimal places and rounded off. SPI once calculated shall be modified. Generally, for the students failed in regular examinations SPI is calculated only after the declaration of re-examination grades.

Cumulative Performance Index (CPI):

An up-to-date assessment of the overall performance of a student from the first Semester till completion of the programme is obtained by calculating an index called as Cumulative Performance Index (CPI). The CPI is weighted average of the grade points obtained in all the courses registered by a student since the first Semester of the programme.

$$CPI = \frac{\sum_i C_i g_i}{\sum_i C_i}$$

Besides SPI, CPI is also calculated at the end of every semester upto two decimal places and is rounded off. It is necessary to ensure that one course appears only once in calculation of CPI and the denominator in above equation does not exceed the total number of credits registered by him.

Initially there is certain trepidation in the minds of students and there are some difficulties in understanding the mechanics of this system. Therefore, it was decided that for the first year of implementation, on the mark sheets, both, the marks and the grade points and credits should be shown.

V. GRACE MARKS UNDER DIFFERENT ORDINANCE.

S.O. No. 1:-Grace Marks for Passing in each head of Passing (Theory/Practical/ Oral/ Sectional/External/Internal).

The Examinee shall be given the benefit of grace marks only for passing in each head of Passing (Theory/Practical/Oral/Sectional/ in External/ Internal examination as follows.

Head of Passing	Grace Marks
00-50	2
051-100	3
101-150	4
151-200	5
201-250	6
251-300	7
301-350	8
351-400	9
401 and above.	10

Provided that the benefit of such gracing marks in different heads of passing shall not exceed 1% of the aggregate marks in that examination.

Provided further that the benefit of gracing of Marks under this Ordinance shall be applicable only if the candidate passes the entire examination of Semester/year.

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM, CCIIL, NCTE, UGC etc.

S.O. No. 2:- Grace Marks for getting higher Class

A Candidate who passes in all the subjects and heads of passing in the examination without the benefit of either gracing or condonation rules and whose total number of Marks falls short for securing Higher Class or Grade by marks not more than 1% of the aggregate marks of that examination or upto 10 marks, whichever is less, shall be given the required marks to get the next higher class of grade as the case may be.

Provided that benefits of above mentioned grace marks shall not be given, if the candidate fails to secure necessary passing marks in the aggregate head of passing also, if prescribed in the examination concerned.

Provided further that the benefits of above mentioned grace marks shall be given to the candidate for such examination/s only for which provision of award of class has been prescribed. Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM, CCIIL, NCTE, UGC etc.

S.O. No. 3. Condonation

If a candidate fails in one or more head of passing, having passed in all other heads of passing, his/her deficiency of marks in such head of passing may be condoned by not more than 1% at the aggregate marks of that examination or 10 marks of the total Number of marks of that of passing in which he/she is failing whichever is less. However condonation, whether in one head of passing or aggregate head of passing be restricted to maximum upto 10 marks only.

Condonation of deficiency of marks be shown in the statement of Marks in the form of asterisk and Ordinance number.

Provided further that this gracing is concurrent with the rules and guidelines of professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM, CCIIL, NCTE, UGC etc.

**Structure of MBA (Environment Management)
(Implemented from 2023-24)**

M. B. A. - I Year

Semester – I

Choice Code	Name of the Subject	Total Credits	L:T:P	Contact Hours	Int. Marks	Ext. Marks	Total Marks
EM -101	Fundamentals of Ecology and Natural Resources.	4	3:0.5:0.5	60	40	60	100
EM -102	Air and Noise Pollution.	4	3:0.5:0.5	60	40	60	100
EM -103	Financial Accounting.	4	3:0.5:0.5	60	40	60	100
EM -104	Marketing Management.	4	3:0.5:0.5	60	40	60	100
EM- 105	Research Methodology.	4	3:0:0.5:0.5	60	40	60	100
EM -106	Information Technology for Management.	4	3:0.5:0.5	60	40	60	100
Total Credits		24		360	240	360	600

Semester – II

Choice Code	Name of the Subject	Total Credits	L:T:P	Contact Hours	Int. Marks	Ext. Marks	Total Marks
EM -201	Water Pollution.	4	3:0.5:0.5	60	40	60	100
EM -202	Water and Waste Water Engineering.	4	3:0.5:0.5	60	40	60	100
EM -203	Organizational Behavior and Human Resource Management.	4	3:0.5:0.5	60	40	60	100
EM -204	Business Laws.	2	1.5:0.25:0.25	30	20	30	50
EM -205	Business Statistics.	4	3:0.5:0.5	60	40	60	100
EM -206 OR	Environmental Microbiology and Biotechnology.	4	3:0.5:0.5	60	40	60	100
EM -207 OR	Energy Resource Management and Environmental Toxicology.						
EM -208	Disaster Management.						
EM -209	Field Project.	2	0:1:1	30	20	30	50
EM -210	Practical – I.	4	1:0:3	60	40	60	100
Total Credits		28		420	280	420	700

M. B. A. - II Year

Semester – III

Subject Code	Name of the Subject	Full Credits	L:T:P	Contact Hours	Int. Marks	Ext. Marks	Total Marks
EM -301	Solid and Hazardous Waste Management.	4	3:0.5:0.5	60	40	60	100
EM -302	Corporate Environmental Strategies.	2	1.5:0.25:0.25	30	20	30	50
EM -303	Environnemental Impact Assessment (EIA) and Environnent Management System (EMS).	4	3:0.5:0.5	60	40	60	100
EM -304	Practical – II.	4	1:0:3	60	40	60	100
EM- 305	Research Project (Master Thesis).	6	1:1:4	90	60	90	150
EM -306	<u>Any One</u> EM-Spl-I-306-A: International Finance. EM-Spl-I-306-B: Employee Relations and Labour Laws. EM-Spl-I-306-C: Consumer Behavior. EM-Spl-I-306-D: Supply Chain Management. EM-Spl-I-306-E: Indian Agribusiness Management. EM-Spl-I-306-F: Management Information Systems.	4	3:0.5:0.5	60	40	60	100
EM -307	<u>Any One</u> EM-Spl-II-307-A: Direct and Indirect Taxes. EM-Spl-II-307-B: International Human Resource Management. EM-Spl-II-307-C: Services Marketing. EM-Spl-II-307-D: Purchasing and Inventory Management. EM-Spl-II-307-E: Rural Marketing in India. EM-Spl-II-307-F: Information Systems Audit and Control.	4	3:0.5:0.5	60	40	60	100
Total Credits		28		420	280	420	700

Semester- IV

Subject Code	Name of the Subject	Full Credits	L:T:P	Contact Hours	Int. Marks	Ext. Marks	Total Marks
EM -401	Land and Water Management.	4	3:0.5:0.5	60	40	60	100
EM -402	Strategic Management.	4	3:0.5:0.5	60	40	60	100
EM -403	Business Ethics and Corporate Governance.	4	3:0.5:0.5	60	40	60	100
EM -404	Startups and Entrepreneurship Development.	4	3:0.5:0.5	60	40	60	100
EM -405	<u>Any One</u> EM-Spl-I-405-A: Management Control System. EM-Spl-I-405-B: Performance and compensation Management. EM-Spl-I-405-C: Sales and Distribution Management EM-Spl-I-405-D: Project Management. EM-Spl-I-405-E: Agri Production, Supply chain and Logistics Management. EM-Spl-I-405-F: Applied Data Science and Business Analytics using R.	4	3:0.5:0.5	60	40	60	100
EM -406	<u>Any One</u> EM-Spl-II-406-A: Investment and Portfolio Management. EM-Spl-II-406-B: Talent and Human Capital Management. EM-Spl-II-406-C: Advertising and Integrated Marketing Communication. EM-Spl-II-406-D: Quality Management. EM-Spl-II-406-E: Agricultural Marketing, Commodities Markets and Agri- Business. EM-Spl-II-406-F: Software Engineering.	4	3:0.5:0.5	60	40	60	100
Total Credits		24		360	240	360	600

Total Credits

Semesters	Core Credits	Total Credits	Contact Hours	Total marks
I	6 x 4 = 24	24	360	600
II	6x 4 = 24 2 x 2 = 4	28	420	700
III	6 x 1 = 06 5 x 4 = 20 2 x 1= 02	28	420	700
IV	6x4 = 24	24	360	600
Total		104	1560	2600

- Note :**
1. L stands for lectures, T for tutorial and P for practice.
 2. Average Contact hours per semester are 390 contact hours.
 3. Specialization will only be continued if there are 12 students or more opting.

MBA(ENVIRONMENT MANAGEMENT)

SEMESTER – I

Semester	I	Total Credit	4
Course Code	EM - 101	Credit Pattern	L-45, T-8, P-7
Course Title	FUNDAMENTALS OF ECOLOGY AND NATURAL RESOURCES		

Course Objectives

1.	Infuse basic ecological concepts and use scientific skills and knowledge to manage ecological problems.
2.	Sight and accomplish natural resources and its issues with special preference to India.

Course Outcomes: The students will able to

1.	Acquire the knowledge of Environmental Science and its multidisciplinary approach, ecosystem, types of ecosystem and its components.
2.	Interpret the consequences the biogeochemical cycles and human interference in cyclic process.
3.	Develop ability to identify local issues related with environment and natural resources.
4.	Infer about land as a resource its management, classification, importance and about land use pattern.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Environmental Science as a multi-disciplinary subject, its scope and necessity. General Accounts of Biosphere and Limits of Biosphere. Concepts of Ecosystem, Structure and Functions of ecosystem: Principles of organism-environment relationship; Ecological amplitudes, limits and tolerance to stresses.	L= 12	
		T=2	P=1
2	Concept of habitat; Ecological succession & Types of Ecosystem. Ecological energetics, energy flow in the ecosystem and Ecological food chain. Autecology of plant species. Biogeochemical cycles - Carbon, Nitrogen, Phosphorous and Sulphur. Inventories of important elements, Human interference in cyclic process.	L= 11	
		T= 2	P= 2
3	Natural Resources: Structure and composition of the earth, concept of Natural Resources and their classification. Conventional and Non energy resources. Natural Resources of India: Mineral Resources: with special reference to their occurrence, distribution and utilization of metallic minerals and non-metallic minerals. Biological diversity and concept Forest resources: forest cover and types, Major and minor forest products, Marine resources: Food, Mineral and Energy. Water resources: Unique properties water, Concept of hydrological cycles, monsoons Distribution, Classification and sources of surface and groundwater, water resource scenario in India, issues related to water resources.	L= 11	
		T= 2	P= 2
4	Soil Resources Definition and composition of soil, Soil formation process, Soil profile, Components and properties of soil, Classification of soil, Soil erosion Universal Soil Loss Equation (USLE), Land as a	L=11	
		T=2	P= 2

	resource - importance of land formation, basic concept of land, land resources, land cover and land use classification, land characteristics – issues related to land use.		

Learning Resources

1	Text Book	• Fundamentals of Ecology by Odum, E.P. • Environmental Science by Nobel, B.J. and Kormandy, E.J. (1981), The Way the World Works, Prentice-Hall Inc., N.J. • Environmental Science by Turk A., Turk, J. Wittes J.T. and Wittes, R.E. (1978) • Environmental Studies by Anindita Basak, 2009, Dorling Kindersley, New Delhi Publication. • Vogel's Textbook of Quantitative Chemical Analysis, 5th edition, J H Basett, J. Nendham and Denny, R.C. • Textbook Of Remote Sensing & Geographical Inform. Systems by KALI CHARAN, Atlantic Publisiers, 2018 • Text Book Of Soil Science by PAL, CBS publishers, 2018 • Textbook Of Environmental Science And Technology by REDDY, BSP publishers, 2019 • A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 • A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 • Textbook On Biotechnology by Hd Kumar, Affiliated East-West Press Pvt Ltd, 2003
2	Reference books	• Ecology of Urban India by Pramod Singh • Ecology of Rural India by Singh • Ecology 2000 by Sir Edmand Hillary • Environmental Chemistry – II Edition by A.K. De • Principles of Environmental Science by Watt, K.E.F. (1973), McGraw-Hill Book Company, • Basic Ecology by Odum, E.P. (1973) • Manual for field ecology by R. Mishra • Modern concepts of ecology by H.D. Kumar • Plant ecology by Ambhast • Elements of Ecology by Thomas M. Smith and Robert Leo Smith, 2007, • Published by Dorling ,Kindersley, New Delhi. • Ecology and Environment by P.D. Sharma, 2012, Rastogi Publications, Meerut, India. • Mineral Resources by Krishna Swamy • Environmental Geology by KS Valdiya • Energy Resources and Science by Kirwan • Environmental Resources by Mathur • Handbook of Minerals, IBM (1993) • Biodiversity, MacMillan India Ltd., Swaminathan, M. S. and Jana, S. Eds. 1992: Madras

		• Singh, B. K. 2004: Biodiversity Conservation and Management, Mangaldeep • Publications, Jaipur • Hignman, S. <i>et al.</i>, 1999: The Sustainable Forestry Hand Book, Earth Scan • Publications Ltd., London • Puri, G. S. <i>et al.</i>: Forest Ecology, Oxford & IBH, Bombay • Desai, V. : Forest Management in India : Issues and Problems, Himalaya • Publishing House, New Delhi • Singh, A. K. 1987: Forest Resources, Ecology and Environment, Concept • Sarma, P. K.: Forest Resources and their Utilization in India, Mittal Publishers, New Delhi
3	Websites	• https://www.toppr.com/guides/biology/ecosystem/biogeochemical-cycle/ • https://nca2014.globalchange.gov/report/sectors/biogeochemical-cycles • https://www.conserve-energy-future.com/what-is-environmental-science-and-its-components.php • http://www.biologydiscussion.com/natural-resources/natural-resources-of-india-availability-and-problems/16685 • http://www.yourarticlelibrary.com/economics/what-are-the-different-types-of-natural-resources-produced-in-india/2683
4	Journals	• Down to Earth • Every Thing About Water • Journal of Environmental Biology
5	Supplementary Reading	• National Geographic
6	Practical Component	• Field visit to various ecosystems • Group discussions on current topics of natural resource degradation • Debate on various issues

Semester	I	Total Credit	4
Course Code	EM - 102	Credit Pattern	L-45, T-8, P-7
Course Title	AIR AND NOISE POLLUTION		

Course Objectives

1. Make the students aware about the facts of air pollution.
2. Explain the effect and control methods of the air and Noise pollution.

Course Outcomes:

1. Appraisal of present air pollution status.
2. Identify existing and potential sources of air pollution.
3. Identify and Classify existing sources of noise pollution.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Meteorology and Atmosphere: Primary and secondary atmosphere, weather and climate, Atmosphere engine, physical and chemical properties of atmosphere, vertical structure of atmosphere. Meteorological elements – Definition and measurements: Temperature, pressure, humidity, Wind speed and direction, precipitation, forms of precipitation. Atmospheric circulation, Lapse rate – Environmental, dry adiabatic lapse rate and effective. Atmospheric stability: concept and types, pasquill stability classification. Wind rose, heat island effect, Inversion of temperature and turbulence, Mixing heights, plume behavior.	L= 12	
		T=2	P=1
2	Air Pollution: Definition, terminology, sources of air pollution ,Classification of air pollutants, Air quality standards, Acid rain, Greenhouse effect and Global Warming, Ozone layer depletion, Dispersion of pollutants in the atmosphere: Gaussian dispersion model, Effect of air pollution and acid rain on plants, animals and property.	L= 11	
		T= 2	P= 2
3	Air Pollution Control : Particulate matter– settling chamber, cyclone, Wet collector, Fabric filter and Electro Static Precipitators Gaseous Pollutants: Adsorption and absorption, Condensation, wet scrubber Mobile sources: Incineration, Adsorption and absorption, alternative fuels Indoor air pollution, Air pollution episodes.	L= 11	
		T= 2	P= 2
4	Noise Pollution: Definition, scope, properties of sound; Theory of noise measurement; Sound pressure, loudness, sound intensity; Hearing mechanism; Threshold noise level, Sources of noise pollution, Effect of noise pollution on human-beings and wildlife, Noise control measures.	L=11	
		T=2	P= 2

Learning Resources

1	Text Book	• A Text Book of Engineering Chemistry, Dara, Chand • A Text Book Environmental Studies, Chatawal & Sharma, HPH • Textbook Of Environmental Science And Technology by REDDY, BSP publishers, 2019 • A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 • A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 • Textbook On Biotechnology by Hd Kumar, Affiliated East-West Press Pvt Ltd, 2003 • Fundamentals of Ecology by Odum, E.P. • Environmental Science by Nobel, B.J. and Kormandy, E.J. (1981), The Way the World Works, Prentice-Hall Inc., N.J. • Environmental Science by Turk A., Turk, J. Wittes J.T. and Wittes, R.E. (1978) • Environmental Studies by Anindita Basak, 2009, Dorling Kindersley, New Delhi Publication. • Vogel's Textbook of Quantitative Chemical Analysis, 5th edition, J H Basett, J. Nendham and Denny, R.C.
2	Reference books	• Air Pollution By: Arthur C Stern. 3rd Edn. Vol. I, II, VI, VII, Academic Press (1986) • Air Quality By: Thad Godish, 3rd Edition, Lewis Publishers, New York (1997) • Understanding Environmental Pollution By: Marquita K Hill. Cambridge University Press (1997) • Pollution: Causes, Effects & Control Edited By: Roy M Harrison. 2nd Edn. The Royal Society of Chemistry Cambridge (1995) • Environmental Chemistry: A Global Perspective By: Gary W vanLoon & Stephen J Duffy. Oxford University Press (2000) • Handbook of Air Pollution Control Engineering & Technology By: John C Mycock, John D McKenna & Louis Theodore. Lewis Publishers, CRC London (1995) • Handbook of Pollution Control Processes By: Robert Noyes. Jaico Publisheing House, Mumbai (2001) • An Introduction to Air Pollution By: RK Trivedy & PK Goel. ABD Publishers Jaipur, India (2003) • Air Pollution By MN Rao & HVN Rao. Tata McGraw-Hill Publishing company Ltd., New Delhi (1994) • Environmental Chemistry By: AK De. 3rd Edn. New Age International (P) Ltd. Pub. (1999) • Environmental Air Pollution and its Control By: GR Chhatwal, MC Mehra, M Satake, T Katyal, Mohan Katyal, T Nagahiro. Anmol

		Publications, Delhi (1993) • Environmental Chemistry By: BK Sharma. Krishna Prakashan Media, Meerut (1994) • Air Pollution by Perkin HG • Air monitoring survey design by Noll KE and Miller TL • Fundamentals of Air Pollution by Stern AC, Henry Wohlers, GR Richard, Boulal, W and William Lowry, P. • Air Pollution by Wack, K and Warner CF • Air Pollution by Sainfeld JH • Air Pollution by HC Pertin • Air Pollution by Strauss • Air Pollution Control Theory by Crawford • The Atmosphere by Tarbuch and Lutgen • The Weather Book by Williams, Jack, USA
3	Website	• http://www.imd.gov.in/Welcome%20To%20IMD/Welcome.php • https://www.niwa.co.nz/education-and-training/schools/students/layers • http://www.indiaenvironmentportal.org.in/category/37/thesaurus/air-pollution-control/ • https://www.environmentalpollutioncenters.org/noise-pollution/
4	Journals	• International Journal of Environmental Engineering Science, ISSN No .2229-3094 • International Journal of Environmental Pollution Control & Management , ISSN No .0975-3842 • Journal of Biosciences, ISSN No. 0250-5991 • Current Science, ISSN No. 0011-3891
5	Supplementary reading	• CPCB reports • MPCB reports
6	Practical Component	• Industrial visit to learn air pollution sources • Noise monitoring during festivals like Ganpati, Navratra and Diwali • Traffic noise monitoring • Traffic air pollution monitoring

Semester	I	Total Credits	4
Course Code	EM - 103	Credit Pattern	L 45, T 8, P 7
Course Title	FINANCIAL ACCOUNTING		
Course Outcomes	The Student Will be able to		
1.	Acquire the requisite theoretical framework for understanding practical problems in Accounting.		
2.	Apply basic accounting principles and concepts for preparation of Financial Statements.		
3.	Evaluate the financial position by preparing the financial statement as per Schedule III.		

Syllabus

Unit Number	Contents	Number of Sessions	
1	Introduction to Accounting: Meaning of Accounting, Branches of Accounting, Users of Accounting Information, Advantages and Limitations of Accounting, Accounting Concepts and Conventions, Introduction of Accounting Standards and IFRS	L = 11	
		T = 2	P = 2
2	Accounting Process: Accounting Cycle, Journal, Ledger, Subsidiary Books of Accounts, Trial Balance Bank Reconciliation Statement: Introduction, Significance and Need of Bank Reconciliation Statement, Causes for Difference between Bank Balance Shown by Cash Book and Pass Book, Preparation of Bank Reconciliation Statement	L = 12	
		T = 2	P = 1
3	Accounting for Depreciation: Meaning of Depreciation, Accounting Concept of Depreciation, Causes of Depreciation, Objectives of Providing Depreciation, Methods of Providing Depreciation – Straight Line Method, Diminishing Balance Method. Funds Flow Statement: Meaning and Definition, Nature of Funds Flow Statement, Utility of Funds Flow Statement, Preparation of Funds Flow Statement	L = 11	
		T = 2	P = 2
4	Financial Statements: Preparation and Understanding of Financial Statements – Balance Sheet and Statement of Profit and Loss and Notes as per Schedule III, Preparation of Cash Flow Statement Introduction of Tally Software Package in Accounting: Creating Companies, Journal Entries and Ledger Accounts	L = 11	
		T = 2	P = 2

Note:

1. Case Studies on each Aspects mentioned in Syllabus need to be discussed
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources

1	Text Books	a. Mukherjee A and Hanif M, (2018), 4th Edition, “Financial Accounting”, Tata McGraw Hill Education Pvt. Ltd. b. Kalpesh Ashar, (2019), 4th Edition, “Financial Accounting”, Vibrant Publishers
2	Reference Books	a. Goyal B K and Tiwari H N, (2019), 7th Edition, “Financial Accounting – Text and Illustrations”, Taxmann Publication Pvt. Ltd. b. Ramchandran N and Ramkumar K, (2020), 5th Edition, “Financial Accounting for Management”, McGraw Hill Education Pvt. Ltd. c. Gupta A, (2022), 7th Edition, “Financial Accounting for Management – An Analytical Perspective”, Dorling Kindersley (India) Pvt. Ltd d. Jawaharlal and Srivastava S, (2017), 1st Edition, “Financial Accounting- Text and Problems, Himalaya Publishing House e. Narayanaswamy R, (2017), 6th Edition, “Financial Accounting – A Managerial Perspective”, PHI Learning Pvt. Ltd. f. Gupta R L And Gupta V K, (2014), 3rd Edition, “Financial Accounting”, Sultan Chand & Sons (P) Ltd. g. Singh Y P and Singhal A, 1st Edition, “Financial Accounting”, Thakur Publication Pvt. Ltd.
3	Websites	a. www.emeritus.org/blog/finance-fundamentals-of-financial-accounting/ b. www.icaai.in/upload/Students/Syllabus2016/Inter/Paper-5 c. www.ddeegjust.ac.in/studymaterial/mba/cp-104 d. www.illumio.com/blogs/illumio-customer-success/2022/02/28/financial-accounting-what-its-importance-examples
4	Research Articles	a. Mert H, Dil S E, 2016, ‘Effects of Depreciation Methods on Performance Measurement Methods : A Case of Energy Sector’, Journal of Economics, Finance and Accounting, Vol. 3 (4), pp 330 – 344 b. Clementina K, Gabriel I, 2015, ‘Bank Reconciliation Statements, Accountability and Profitability of Small Business Organizations’, Research Journal of Finance and Accounting, Vol. 6 (22), pp 21 – 30 b. Khan H F, 2016, ‘Accounting Information System: The Need of Modernization’, International Journal of Management and Commerce Innovations, Vol. 4 (1), pp. 4 -10
5	Journals	a. Journal of Accounting & Finance, b. ICAI Journals c. ICSI Journals
6	Practical Component	a. Practical Problems on Bank Reconciliation Statement c. Practical Problems on Depreciation Accounting d. Practical Problems on Funds Flow Statement e. Practical Problems on preparation of Balance Sheet, Income Statement and Notes as per Schedule III f. Practical Problems on Preparation of Cash Flow Statement

Semester	I	Total Credit	4
Course Code	EM - 104	Credit Pattern	L-45, T-8, P-7
Course Title	MARKETING MANAGEMENT		
Course Objectives:			
1.	To create an awareness about fundamentals of marketing.		
2.	To cover the basic concepts of marketing and develop conceptual abilities and substantive knowledge in marketing through a variety of real-life marketing situations.		
3.	To understand the use of marketing mix in marketing decision making.		
Course Outcomes:			
1.	Discuss conceptual knowledge of Marketing Concepts.		
2.	Analyze marketing situation and provide appropriate solution for the issue.		
3.	Devise Market segmentation strategies for product and services.		
4.	Develop 4Ps of Marketing for Product and Services.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Marketing & Demand Measurement Definition – Importance and Scope – Core concepts of Marketing – Company Orientation Towards Market place; Building Customer Value, satisfaction and loyalty – cultivating customer relationship - Scanning the Marketing Environment Macro – Demographic, Economic, Social – Cultural –Political –Legal- Technology- Natural and Micro environment. Concept of Market Demand and Demand Measurement, estimating current and future demand, Definition, Need & Benefits	L= 11	
		T= 2	P= 2
2	Market Segmentation & Product Mix Market research and its importance – Consumer behavior, Factors affecting Consumer behaviour Consumer and Industrial buying process, Identifying market segments and Targets – base for consumer segmentation, market targeting, evaluating segments. Develop brand positioning, Concept of Product - product levels, product Classification. Product & brand relationship, Branding, Packaging and Labeling. Product Life Cycle – New Product Development -process	L= 12	
		T= 2	P= 1
3	Price, Place & Promotional Mix Importance of pricing, Pricing Objectives, Price Determination Procedure –Methods of Pricing. Importance, Functions of Distribution channels - Introduction to the various Channels of Distribution – Channel Management Decision. – Marketing Communication, AIDA model of Consumer responses, , developing effective communications, Advertising, Sales Promotion, Publicity and Personal Selling, Managing digital communication, Introduction to Digital Marketing framework.	L= 11	
		T= 2	P= 2
4	Marketing Planning & Control Nature, Scope and Contents Of Marketing Plan - Process of planning Concept – Importance- Techniques of control- Annual Plan Control – Profitability Control – Efficiency Control – Strategic Control Marketing Sustainability & Ethics, Green Marketing	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Kotler Philip, "Marketing Management 17th Edition 2015", Prentice Hall of India, New Delhi. 2. Saxena Rajan, "Marketing Management 2nd Edition 2002", Tata McGraw Hill, New Delhi
2	Reference books	1. Kotler, P., (2015) 17th Ed., Marketing Management, Prentice Hall of India, New Delhi. 2. Ferrell, O. C., Hartline, M. D., (2007), 3rd Ed., Marketing Strategy, Thompson Learning, India. Saxena Rajan, "Marketing Management 2nd Edition 2002", Tata McGraw Hill, New Delhi
3	Websites	https://www.ama.org/ https://www.academyofindianmarketing.org/ (Academy of Indian Marketing (AIM) Management Institutions) https://www.ima-india.com/ (https://www.ima-india.com/)
4	Supplementary Reading	Economics Times, Brand Equity Business Standard, The Strategist.
5	Practical Component	1. Student will select any product of their choice and prepare a poster presentation on core concept of Marketing applicable for the product. 2. Student will select any industry of their choice, identify the major companies operating in industry and compare the segmentation strategy used by companies. 3. Group Activity: Students will develop a conceptual new product, identify the target market for the product and develop a marketing plan for the product. 4. Group Activity: Students will prepare an advertisement to promote the conceptual product developed to the target customer.

Semester	I	Total Credits	4
Course Code	EM- 105	Credit Pattern	L=46,T=7, P=7
Course Title	RESEARCH METHODOLOGY		

Course Objectives

1.	To provide an international outlook and assessment of issues relating to the developments and growth in the global, national and micro contexts.
2.	To Develop Analytical skills, for sound understanding of the discipline and analytical ability for research orientations.

Course Outcomes : The students will able to learn:

1.	To Conceptualize a topic of Interest and need to define a problem to be investigated .
2.	Analyze the various methodologies for application to their own research.
3.	Demonstrate applications of the research findings in a meaningful way with validity.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Research Strategies: Empiricism, Deductive and Inductive Inquiry, Philosophical Assumptions in Research. Planning Research Project and Developing Research Questions: Research Thought, Importance, Supervisor, managing Time and Resources, Developing Research Questions Research Design: Reliability, Replicability and validity, Experimental Design, Cross Sectional Design, Case Study Design, Comparative Design Reviewing the Literature for Research: critical reading, systematic review, narrative review, searching online databases, keywords and defining search parameters, referencing, avoiding plagiarism	L=11	
		T=2	P=2
2	Nature of Qualitative Research – Main Steps of Qualitative Research, Reliability and Validity in Qualitative Research, Evaluating Qualitative Research, Credibility, Transferability, Dependability, Confirmability, Preoccupations of Qualitative Researchers, Concepts and theory grounded in data, Critique of Qualitative Research, Contrast and Similarities between Qualitative Research Sampling in Qualitative Research – Levels of Sampling, Purposive Sampling, Theoretical Sampling, Generic Purposive Sampling, Snowball Sampling, Sample Size Determination; Ethnography and Participants Observations, Interviewing in Qualitative Research, Qualitative Data Analysis.	L=12	
		T=2	P=1

3	Introduction to Quantitative Research - Steps in Quantitative Research, Concepts and measurements, Indicators, Reliability of Measures, Stability, Validity of Measures, Connection between Reliability and Validity, Main preoccupants of Quantitative Researchers, Critique of Quantitative Research Sampling in Quantitative Research – Planning a survey, Basic concepts in sampling – population sample, representative sample, sampling bias, probability sample, non – probability sample, sampling error, non – sampling error, Types of probability sample, Types of non – probability sample. Structured Interviewing – Asking questions – open and close ended questions, Self- completion of questionnaires, Quantitative Research using naturally occurring data	L=12	
		T=2	P=2
4	SPSS (Statistical Package for Social Sciences) Statistics – Basic Operations in SPSS, Entering data, Recording and Computing variables, Data Analysis with SPSS, Quantitative Data Analysis – Bivariate analysis, Multivariate analysis. Mixed Method Research – Combining Qualitative and Quantitative Research, Natural Science Model and Qualitative Research, Quantitative Research and Interpretivism, Quantitative Research and Constructionism, Problems with Quantitative/ Qualitative Contrast – behavior vs. meaning, Reciprocal Analysis – Qualitative analysis and Quantitative data, Quantitative analysis of Qualitative data Ethics in Research – Importance of Research Ethics, Ethical principles, Ethical Considerations in Online Research, copyright issues, copyright and photographs, Writing up of Research Project .	L=11	
		T=2	P=2
Learning Resources			
1	Text book	• Bell, E., Bryman, A. & Harley, B. (2019), 2nd Ed., Business Research Methods, Oxford University Press, New Delhi, India • Kothari, C. R. & Garg, G., (2019), 4th Ed., Research Methodology – Methods and Techniques, New Age International Publishers, New Delhi, India • Creswell, J.W., (2014), 3rd Edition, Research Design, Qualitative, Quantitative and Mixed Methods Approaches, Sage Publication, New Delhi, India	

Semester	I	Total Credit	4
Course Code	EM - 106	Credit Pattern	L-45, T-8, P-7
Course Title	INFORMATION TECHNOLOGY FOR MANAGEMENT		
Course Objectives			
1.	To develop students' discipline to manage I.T resources in accordance with business needs.		
2.	To make use of database management system using MS Access.		
3.	To develop the Skill for preparing an effective presentation.		
4.	To understand all aspects of E-Commerce.		
Course Outcomes: Students will be able to;			
1.	Analyze industry data using MS-Excel.		
2.	Develop an effective presentation using software.		
3.	Appreciate importance of IT in Digital Economy.		
4.	Design conceptual models of a database using MS Access for real-life applications and also construct queries, data entry forms using wizard.		

Unit Number	Contents	Number of Sessions	
1	Organizational Performance- I.T. Support and Applications: Concept of I.T., How I.T. supports people and Organizational Activities, Concept of Information Systems (I.S.), Difference between computers and I.S., Doing Business in the Digital Economy, Major I.T. characteristics in Digital Economy, Major capabilities of Computerized Information Systems, Managerial issues in I.T. Management.	L= 11	
		T= 2	P= 2
2	MS- Word- Creating, Formatting, Saving, Printing Documents, Using Visual Aids In Business – Factors To Be Considered Before Creating A Presentation, making presentation using PowerPoint- creating presentation, adding slide, formatting slides, animation, slide transition, adding media, images, charts, tables to presentation, visual media, Designing, setting up the room.	L= 12	
		T= 2	P= 1
3	Data Analysis And Business Module Through Excel – Using Excel Efficiency, Formatting Work Sheet, Naming Cells and Range, Advanced conditional Formatting, Data visualization using Spark lines and Excel Charts, Data , Formula Functions and relative and absolute addressing, SUM, SUMIF, COUNT, COUNTIF, COUNTBLANK Functions, Amortization Tables ,Excel Settings, Basic Data Analysis – Sorting, Summarizing, Filtering, Validating Data, Subtotal	L= 11	
		T= 2	P= 2
4	DBMS and RDBMS, Characteristics Of RDBMS, Role And Responsibilities Of DBA, Using MS Access - Creating A Table, Add and Delete columns Calculation using access, Importing table, Creating query using wizard, Query with relationship, Create Form using Form Wizard, Create reports using report wizard, Computer Network, Network Topologies, Meaning of Network Protocol, Concept of Internet, Intranet and Extranet, e-Commerce– Introduction, Advantages of e-Commerce, Types of e-commerce, e-Governance. Computer Virus- Types of Viruses and remedial measures.	L=11	
		T= 2	P= 2

Learning Resources		
1	Text Books	• Turban, Leidner, McLean, Wetherbe (2013), “Information Technology for Management – Transforming Organizations in the digital Economy”- 6th Edition, John Wiley and Sons. • Humphrey M L, (2019) Microsoft Office
2	Reference books	• Abaunza, Stephany. Microsoft Access User Guide: Effectively Manage All Types Of Databases. Independently published , 2022. • Muthukumern. Information Technology for management. Oxfard Press, 2010. • Ron Plew, Ryan Stephens. Sams Teach Yourself SQL in 21 Days. Sams, 2012. • Schneider, Bob. Hands-On Microsoft Access: A Practical Guide to Improving Your Access Skills. Addison-Wesley Professional, 2010. • Silberchaltz. Database Management System . BPB, 2019.

SEMESTER – II

Semester	II	Total Credit	4
Course Code	EM - 201	Credit Pattern	L-45, T-8, P-7
Course Title	WATER POLLUTION		
Course Objectives			
1.	Examine the interrelationship between industrial activities and water pollution.		
2.	Outline the various characteristics and parameters of water for water quality index .		
3.	Prioritize the scientific, technological, economic and political solutions to waste water treatment.		
Course Outcomes: The students will able to			
1.	Identify sources for surface water, ground water and marine pollution.		
2.	Analyze parameters and standards for water and waste water.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Water Pollution: Definition, Concept and sources of water pollution. Major Pollution parameters: pH, Solids, Dissolved Oxygen, Chemical Oxygen Demand, Biochemical Oxygen Demand, Trace inorganic, Most Probable Number of Coliform Bacteria. Methods of water sampling, handling and preservation.	L= 11	
		T=2	P=2
2	Characteristics of wastewater generated by industries: pulp and paper, sugar, distillery, textile, dairy, tannery, community (sewage), food processing industry and petrochemical industries.	L= 12	
		T= 2	P=1
3	Eutrophication: Meaning of eutrophication, Causes and effects of eutrophication on water quality. Water quality standards: World Health Organisation, Bureau of Indian Standards (BIS), Indian Council of Medical Research (ICMR).	L= 11	
		T= 2	P= 2
4	Ground Water Pollution, Causes of ground water pollution. Effects of pollutants on ground water table, Path (movement) of pollutants reaching to ground water. Thermal Pollution, concept of thermal pollution, Effects of thermal pollution on water quality and on aquatic flora and fauna. Marine pollution: Causes of marine pollution, Effects of marine pollution on ocean water quality, on marine flora and fauna.	L=11	
		T=2	P= 2

Learning Resources

1	Text Book	- Textbook Of Environmental Science And Technology by REDDY, BSP publishers, 2019 - A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, - A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, - Textbook On Biotechnology by Hd Kumar, Affiliated East-West Press Pvt Ltd, 2003 - Fundamentals of Ecology by Odum, E.P.

		• Environmental Science by Nobel, B.J. and Kormandy, E.J. (1981), The Way the World Works, Prentice-Hall Inc., N.J. • Environmental Science by Turk A., Turk, J. Wittes J.T. and Wittes, R.E. • Environmental Studies by Anindita Basak, 2009, Dorling Kindersley, New Delhi Publication.
2	Reference books	• Environmental Pollution of cadmium by Rohatgi . • Land Pollution, causes and control by Harrusson and Laxon. • Environmental Pollution and Bhopal killing. • Waste Water Treatment by M.N.Rao and A.K. Datta, Oxford and IBH Publication Co. New Delhi, 1978. • Environmental analysis of water, soil air by Saxena. • Water pollution and management by C.K. Vershney. • Responses to oil and chemical marine pollution by Cormack D. (1993), Appl. Science Publishers, New York. • Soil and Water conservation engineering by Schwab, SD, Frevert, RK, Edminster, TW and Barns, KK, John Wiley and Sons. • Analytical chemistry of industrial poisons, Hazards and solvents by Jacons, M.B. (1969) Interscience, New York. • Standard Methods for the Examination of Water and Wastewater (1984): American Public Health Association (APHA, AWWA, WPCF), New York. • Chemical and Biological Methods For Water Pollution Studies by R.K.Trivedy and P.K.Goel, 1984, Environmental publication , Karad, • Water Pollution- Causes, Effects and Control, by P.K.Goel, 1997, New Age Publication, New Delhi.
3	Website	• https://www.lenntech.com/water-pollution-faq.htm • https://www.everythingconnects.org/soil-pollution.html • http://www.fao.org/3/i9183en/i9183en.pdf • https://wwf.panda.org/knowledge_hub/teacher_resources/webfieldtrips/water_pollution/
4	Journals	• Journal of Earth System Science, ISSN No .2253-4126 • Every Thing About Water • Current Science, ISSN No. 0011-3891 • International Journal of Environmental Pollution Control & Management , ISSN No .0975-3842
5	Supplementary reading	• UNEP reports • WHO notifications
6	Practical Component	• Industrial visit to learn water pollution sources • Field visit to water sources

Semester	II	Total Credit	4
Course Code	EM - 202	Credit Pattern	L-45, T-8, P-7
Course Title	WATER AND WASTEWATER ENGINEERING		

Course Objectives

1.	Explain the students the waste water treatments.
2.	Describe the effect and control methods of the effluent and sewage.

Course Outcomes:

1.	Design water treatment plant.
2.	Select appropriate method for water and wastewater treatment.
3.	Grade the existing water and wastewater treatment methods.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Fundamentals of Water Treatment: Flow diagram of general water treatment plant, Water demand, factors affecting water demand, population forecasting, Concept of wastewater flows and variations, Flow measurement and types of notches, Sanitary survey of source, protection of source.	L= 11	
		T=2	P=2
2	Methods of Water Treatment: Unit operation in water treatment: intakes, aeration, Coagulation and flocculation process, common coagulants, Filtration, mechanism of filtration, slow sand, rapid sand and dual media filters, backwashing of filters, Sedimentation, particle settling theory and types of sedimentation tank, Disinfection of water, minor methods of disinfection, ideal disinfectant, Types of hardness and methods of water softening, Iron and manganese removal, fluoridation and de-fluoridation Taste and odor removal .	L= 12	
		T= 2	P=1
3	Waste Water Treatment: General methods of volume and strength reduction of waste water, Flow diagram of general waste water treatment plant, Low cost treatments, stabilization ponds, septic tanks, lagoons. Primary treatments– racks and screens, types of screens, grit removal, types of grit chambers, disposal of grit, oil and grease removal, corrosion, types of corrosion and corrosion control.	L= 11	
		T= 2	P= 2
4	Secondary and Tertiary Treatment Secondary treatments– Trickling filters, types of trickling filters, Activated sludge process, modifications of activated process, Rotating biological contactors, bio-digesters, significance of F/M ratio Tertiary treatment– Wet land and aquatic treatment, Root zone treatment, Reverse osmosis, carbon adsorption, phosphorus removal, nitrogen removal.	L=11	
		T=2	P= 2

Learning Resources

1	Text Book	- Textbook Of Remote Sensing & Geographical Inform. Systems by KALI CHARAN, Atlantic Publisiers, 2018 - Text Book Of Soil Science by PAL, CBS publishers, 2018 - Textbook Of Environmental Science And Technology by REDDY, BSP

		publishers, 2019 • A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 • A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 • Textbook On Biotechnology by Hd Kumar, Affiliated East-West Press Pvt Ltd, 2003 • Fundamentals of Ecology by Odum, E.P. • Environmental Science by Nobel, B.J. and Kormandy, E.J. (1981), The Way the World Works, Prentice-Hall Inc., N.J. • Environmental Science by Turk A., Turk, J. Wittes J.T. and Wittes, R.E. (1978) • Vogel's Textbook of Quantitative Chemical Analysis, 5th edition, J H Basset, J. Nendham and Denny, R.C.
2	Reference books	• Wastewater Engineering Treatment Disposal Reuse, By Metcalf & Eddy, Publisher: Tata-McGraw-Hill Publishing Company Ltd., New Delhi, Fourth Edition, (2010). • A Text Book of Sanitary Engineering, Theory, Design and Practice, By Prof. Vinayak N. Ghorpade, Publisher: Engineering Book Publishing Company, Poona-16 Fourth Edition (1984). • Environmental Engineering: Water Supply, Sanitary Engineering and Pollution, By A. Kamala and D. L. Kanth Rao, Publisher: Tata-Mc. Graw Hill Publishing Company Ltd., New Delhi, (1988). • Fundamentals of Water Supply and Sanitary Engineering, By S. C. Rangwala & K. S. Rangwala, Publisher: Chartor Publishing House, Anand, India, Eleventh Edition, (1986). • Water and Wastewater Technology, By Mark J. Hammer & Mark J. Hammer, Jr., Publisher: Prentice-Hall of India Pvt. Ltd., New Delhi (1998). • Water Supply and Sanitary Engineering Including Environmental Engineering, By G. S. Birdie & J. S. Birdie, Publisher: Dhanpat Rai & Sons, New Delhi, Fifth Edition, (1997).
3	Website	• https://globalhydration.com/waterborne-disease/common-methods-of-water-purification/ • https://www.cdc.gov/healthywater/drinking/public/water_treatment.html • https://www.asce.org/fundamentals-of-water-treatment-processes-physical-chemical-and-biological/ • https://www.organicawater.com/primary-secondary-tertiary-wastewater-treatment-work/
4	Journals	• Current Science, ISSN No. 0011-3891 • Journal of Environmental Biology, ISSN No. 0254-8704 • Resonance, ISSN No. 0971-8044 • Journal of Earth System Science, ISSN No .2253-4126 • Down to Earth
5	Supplementary reading	• CPCB and MPCB reports
6	Practical Component	• Practicals based on this paper will be conducted under Paper No. CC 203 (Practical- II)

Semester	II	Total Credit	4
Course Code	EM - 203	Credit Pattern	L-45, T-8, P-7
Course Title	ORGANIZATIONAL BEHAVIOR AND HUMAN RESOURCE MANAGEMENT		

Course Out Comes: Students will be able to	
1.	To study individual and group perspectives of behavior in an organization.
2.	To develop skills in understanding and appreciating individual, inter-personal and group process for increased effectiveness, both within and outside organizations
3.	To enable student to gain insights for effectively managing human resource in the organization
4.	To design and implement different HR functions covered in the course.
Course Outcomes: Students Will Be Able To;	
1.	Demonstrate a thorough knowledge of organizational behavior.
2.	Apply relevant contemporary theories, concepts and models in order to analyse organizational environment, cases and issues.
3.	Identify the wide range of sources for attracting and recruiting talent and appropriate process for selecting candidates
4.	Conduct job analysis interview develop job descriptions and job specifications, conduct performance appraisal
5.	Develop, implement and evaluate employee orientation, training and development programs.

Unit Number	Contents	Number of Sessions	
1	Definition and Importance of OB, Perception – Definition, Importance and Factors Influencing Perception, Motivation: Definition, Theories in Motivation- Maslow, Theory X and Y, Z Theory. Individual Perspective: Personality – Determinants of personality, Theories of personality- Type A and B, Big five, Locus of control.	L= 12	
		T= 2	P= 1
2	Attitude – Characteristics, Components, Formation, Concept of Values. Concept of Groups, Stages in Group Development, Types of power, Power and Politics. Human Resource Management- Meaning, Objectives, Scope, Functions, Job Analysis- Job Description and Job Specification.	L= 11	
		T= 2	P=2
3	Concept of Human Resource Planning and importance, Recruitment- Definition, Sources of Recruitment, Employee Selection Process. Training and development- Methods of training and development.	L= 11	
		T= 2	P= 2
4	Performance Appraisal- Methods of Performance Appraisal, Problems in Performance Appraisals and solutions, Factors to be considered for Fixing Compensation, Employee Health, Safety and Welfare.	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Reference books	1. David A. Decenzo, Stephen P. Robbins, Personnel / HRM (3rd Edition), Prentice Hall Of India, New Delhi. 2. Fred Luthans, Organisational Behavior, McGraw Hill, 11th Edition, 2001. 3. Hellrigal, Slocum and Woodman, Organisational Behavior, Cengage Learning, 11th Edition 2007. 4. Ivancevich, Konopaske&Maheson, OranisationlBehaviour& Management, 7th edition, Tata McGraw Hill, 2008. 5. Mc Shane & Von Glinov, OrganisationalBehaviour, 4th Edition, Tata McGraw Hill, 2007. 6. Schermerhorn, Hunt and Osborn, Organisational behavior, John Wiley, 9th Edition, 2008. 7. P G Aquinas, Organisational Behaviour : concepts, realities, applications and challenges, Excel Books. 8. Gary Dessler, Human Resource Management Prentice Hall Of India, New Delhi, Tenth Edition. 9. Bohlander And Snell, Managing Human Resources 13th Edition, Thomson –South Western.
2	Journals	1. IUP Journal of Organisational Behavior 2. Indian Journal of Training and Development 3. Indian Journal of Human Development

Semester	II	Total Credit	2
Course Code	EM - 204	Credit Pattern	L-22, T-4 , P-4
Course Title	BUSINESS LAWS		
Course Objectives			
1.	To enable students to appreciate the relevance of business law to individuals and businesses.		
2.	To equip students with knowledge needed to manage business successfully from legal point of view.		
Course Outcomes: Students will be able to;			
1.	Explain the legal principles of Business Laws.		
2.	To solve legal issues of Business.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	A) Indian Contract Act – 1872: Meaning and sources of law, Definition of contract and essential elements of a valid contract, Modes of discharge of contract, Remedies for breach of contract. B) The Sale of Goods Act – 1932: Definition of Sale, essentials of a valid Sale, Conditions and Warranties, caveat emptor, passing of property, Unpaid seller. C) Consumer Protection Act – 1986: Definition of consumer, complaint, complainant, unfair trade practice, Consumer dispute Redressal Agencies. (15)	L= 11	
		T=1	P=3
2	A) The Companies Act – 2013: Definition of company, kinds of companies, Memorandum of Association, Articles of Association, Boards of Directors: duties and powers, Meetings in a company, Winding up. B) Information Technology Act – 2008: Objectives of IT Act, Digital Signature, E-Governance, Controller, Certifying authority, offences and penalties. C) The Negotiable Instrument Act – 1881: Definition and characteristics of NI, kinds of Negotiable Instruments, Holder and holder in due course, Crossing of Cheque, Discharge of Negotiable Instruments. (15)	L= 11	
		T= 1	P= 3

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.

Learning Resources		
1	Text Books	1. Mercantile Law by N. D. Kapoor 2. Business Law by S. S. Gulshan & G. K. Kapoor
2	Reference books	1. Business Law by Kuchhal M. C. 2. Business Law by K. R. Bulchandani
3	Websites	1. www.lawctopus.com 2. https://indiacorplaw.in
4	Journals	1. India Law Journal 2. Corporate Law reporter 3. India Business Law Journal- Delhi High Court 4. IOSR Journals
5	Supplementary Reading	1. Bare Acts on Consumer Protection Act 1986 2. Bare Act on Information Technology Act 2008
6	Practical Components	1. Case studies to be discussed on all the above topics 2. Seminars to be conducted on the above topics

	II	Total Credit	4
Course Code	EM - 205	Credit Pattern	L-45, T-8, P-7
Course Title	BUSINESS STATISTICS		
Course Outcomes: Students will be able to;			
1.	Provide solution to management decision problems.		
2.	Analyze company/organization data for taking decisions.		
3.	Interpret the relevance of statistical findings for business problem solving and decision making.		
4.	Evaluate the data collected for management decision and provide inference towards it.		
Unit Number	Contents		
1	Measures of Central Tendency: Introduction, Objectives of statistical average, Requisites of a Good Average, Statistical Averages - Arithmetic Mean - Properties of arithmetic mean - Merits and demerits of arithmetic mean, Median - Merits and demerits of median, Mode - Merits and demerits of mode, Measures of Dispersion: Appropriate Situations for the Use of Various Averages, Positional Averages, Dispersion – Range - Quartile deviations, Standard Deviation -Properties of standard deviation, Coefficient of Variation.		L= 11, T 2, P 2
2	Simple Correlation: Introduction , Correlation - Causation and Correlation - Types of Correlation - Scatter diagram - Karl Pearson’s correlation coefficient - Properties of Karl Pearson’s correlation coefficient, Spearman’s Rank Correlation Coefficient Regression: Regression analysis - Regression lines - Regression coefficient, Testing of Hypothesis: Introduction, Simple & Composite, Null & Alternate Hypothesis, Type I and Type II Error, Level of Significance, One Tail & Two Tail, General Procedure of Testing of Hypothesis,		L = 11, T 2, P 2
3	Parametric Tests: Introduction – Assumptions of Parametric Tests, Small Sample t - Test for – Single Sample Mean, Two Sample Means, Single Sample Proportion, Two Sample Proportions. Paired Sample t-Test, Large Sample - Z-Test for - Single Sample Mean, Two Sample Means, Single Sample Proportion, Two Sample Proportions,		L = 12, T 1, P 2
4	Non-Parametric Tests: Introduction – Assumptions of Non-Parametric Tests, – Chi Square Test of Goodness of Fit, Chi-Square Test for Independence of Attributes, One Sample Sign Test, Two Sample Sign Tests, Signed Rank Test, Wilcoxon Mann-Whitney Test (U-Test), Kruskal Wallis Test (H-Test),		L = 11, T 2, P 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. S C Gupta, Fundamentals of Statistics 2. S C Gupta, Business Statistics 3. C R Kothari, Research Methodology – Methods Techniques
2	Reference books	1. N D Vohra, <i>Business Statistics</i>, Tata McGraw Hill 2. G C Beri, <i>Business Statistics</i>, Tata McGraw Hill 3. Devid M Levine etc, <i>Business Statistics – A First Course</i>, Pearson Publication. 4. Ken Black, <i>Business Statistics For Contemporary Decision Making</i>, Wiley 5. Albright, Winston, Zappe, <i>Decision Making Using Microsoft Excel</i>, Cengage Learning.
3	Journals	1. Journal of Indian Business Research 2. International Journal of Statistics & Management Systems 3. International Journal of Statistics and Analysis 4. Calcutta Statistical Association Bulletin 5. Vikalpa: The Journal for Decision Makers
4	Websites	1. www.stattrek.com 2. www.statisticsbyjim.com
5	Supplementary Reading	Glyn Davis & Branko Pecar, <i>Business Statistics Using Excel</i> , Oxford University Press.
6	Practical Component	1. Analyzing collected raw data or online available data. 2. Finding relations among two or more variables and fitting regression equation to predict value of dependent variables.

Semester	II	Total Credit	4
Course Code	EM - 206	Credit Pattern	L-45, T-7, P-8
Course Title	ENVIRONMENTAL MICROBIOLOGY & BIOTECHNOLOGY		
Course Objectives: Equip students with the ability to:			
1.	Equip the students with the application of bio-technology to all Aspects of the Environment.		
2.	Implement the Concept of Green Chemistry for Eco-friendly improved Production technology.		
Course Outcomes: After completion of this course students will have capacity to			
1.	Describe the importance of microbial diversity, beneficial and harmful properties of MOs with potential applications in the innovative environmental management technologies		
2.	Describe and apply existing and emerging technologies like <i>in-situ</i> , <i>ex-situ</i> , & engineered bioremediation, phyto-remediation that are important in the area of environmental clean up / pollution & forest management.		
3.	Demonstrate an awareness about emerging concerns of reductions in fossil fuels through new biotechnological interventions in the harnessing renewable biomass energy.		
4.	Describe and apply biotechnological solutions like bio-plastics, bio-fertilizers, bio-pesticides, bio-mining, biosensors to address present environmental concerns.		

Unit Number	Contents	Number of Sessions	
1	Introduction to the world of microbes & History, Types of Microbes & Microbial structure, Harms & Benefits of MOs with their Environmental Significance. Modern Environmental Microbiology, Microbial Diversity and Metabolism. Microbial Nutrition, Media components, & Media Preparations, Classification of microorganisms according to Nutrition, Enrichment culture technique for the isolation of desired types of microorganism.	L= 11	
		T=2	P=2
2	Microbial population and community dynamics, Microbial growth in closed and open environments, Binary Fission, Generation Time, Growth Curve. Factors Affecting Microbial Growth:- pH, Temperature, Salinity, Moisture Content, Radiation, Heavy Metals, Toxic chemicals etc. Concept & Importance of Pure Culture, Methods of Isolation of Pure Culture Enumeration of MOs in Environmental Samples by Direct and Indirect Methods, Biosafety of GMOs.	L= 11	
		T= 2	P=2
3	Concept and Terminologies in Environmental Biotechnology, Biotechnological approach of environmental pollution abatement, Bioremediation of contaminated sites, <i>in situ</i> , <i>ex situ</i> and engineered, Solid Phase – Composting, Slurry Phase- Bioreactors, Phyto-remediation- Organic & Metal Phyto-remediation, Construction of Wet lands, Rotating Biological Contactors, Biotechnology in the Energy Management, Biomass Energy, Resources, Energy Crops, Biomass Conversion Technologies- Production & Scope of Liquid Fuel, Production & Scope of Biogas, Production & Scope of Biodiesel.	L= 12	
		T= 2	P= 1
4	Biotechnology and Forest Management, Micro-propagation, Artificial Seeds, Plant Improvement, Industrial Biotechnology- Microbes & Industries, Concept of Green chemistry, Immobilized Enzymes for Green Chemistry, Biopolymers and Bioplastics, Bioleaching and Biomining, Biofertilizers, Biosensors, Biofilms, Biosurfactants.	L=11	
		T=2	P= 2

Learning Resources

1	Text Book	• General Microbiology By: SB Sullia & S Shantharam. Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi (1998). • Environmental Biotechnology, Buddolla, Narosa • Environmental Biotechnology, Allen, CBS • Environmental Biotechnology, Fulekar, CRC • Environmental Biotechnology, Scragg, Oxford • Essentials of Biotechnology, Michael Chrichton, MEDTEC • Biotechnology, Smith, Cambridge • Textbook On Biotechnology by Hd Kumar, Affiliated East-West Press Pvt Ltd, 2003 • Fundamentals of Ecology by Odum, E.P. • Environmental Science by Nobel, B.J. and Kormandy, E.J. (1981), The Way the World Works, Prentice-Hall Inc., N.J. • Environmental Science by Turk A., Turk, J. Wittes J.T. and Wittes, R.E. (1978) • Environmental Studies by Anindita Basak, 2009, Dorling Kindersley, New Delhi Publication. • Vogel's Textbook of Quantitative Chemical Analysis, 5th edition, J H Basset, J. Nendham and Denny, R.C.
2	Reference books	• Microbiology By: Michael J Pelczar, Jr; ECS Chan & NR Krieg. Tata McGraw-Hill Edition, New Delhi (1998). • Principles of Microbiology By: Ronald M Atlas 2nd Edn, WCB McGraw-Hill, Boston (1997). • General Microbiology By: RY Stanier, JL Ingraham, ML Wheelis & PR Painter. 5th Edn Macmillan Press Ltd., London (1995). • Microbial Ecology – Fundamentals and Application By: Ronald M Atlas & Richard Bartha. 4th Edn. An Imprint of Addison Wesley Longman, Inc. California (1998). • Microbiology: Fundamentals and Applications By: SS Purohit. 6th Edn. Agro Botanica (1997-98). • Microbiology – Diversity, Disease & Environment By: Abigail A Salyers & Dixie D Whitt. Fitzgerald Science Press, Maryland (2001). • Industrial Microbiology – An Introduction y: Michael J Waites, Neil L Morgan, John S Rockey & Gary Higton. Blackwell Science, London (2002). • Microbiology – A Laboratory Manual (International Students Edition) By: James G Cappuccina & Natalie Sherman. Addison – Wesley Longman, Inc. California (1990). • Renewable Energy, Power for Sustainable Future, Third Edition, Godfrey Boyle, Oxford University Press, (2014). • Environmental Bio-Technology, Second edition , A K Chatterji, Prentice Hall of India Pvt. Ltd., (2007). • Environmental Biotechnology, K Allen , CBS Publishers & Distributers, (2016). • Environmental Biotechnology-Basic Concepts & Applications, Indu Shekhar Thakur, I K International Pvt. Ltd., (2006).

		• Environmental Biotechnology (Industrial Pollution Management), S N Jogdand, Himalaya Publishing House,(2012). • Green Chemistry,Environmentally Benign Reactions, V K Ahluwalia,Ane Books Pvt. Ltd2016).
3	Website	• https://www.britannica.com/technology/biotechnology • https://en.wikipedia.org/wiki/History_of_biotechnology
4	Journals	• International Journal of Environmental Pollution Control & Management , ISSN No .0975-3842 • Journal of Biosciences, ISSN No. 0250-5991 • Journal of Environmental Biology, ISSN No. 0254-8704 • Resonance, ISSN No. 0971-8044 • Current Science, ISSN No. 0011-3891
5	Practical Component	• Practicals based on this paper will be conducted under Paper No. CC 203 (Practical- II)

Semester	II	Total Credit	4
Course Code	EM - 207	Credit Pattern	L-45, T-7, P-8
Course Title	ENERGY RESOURCE MANAGEMENT AND ENVIRONMENTAL TOXICOLOGY		
Course Objectives: Equip students with the ability to:			
1.	Equip with an ability to rephrase the concept and significance of energy resources.		
2.	Summarize the concept and significance of environmental toxicology.		
Course Outcomes: Students will be able to			
1.	Identify and compare various forms and energy resources.		
2.	Compare and contrast conventional and non conventional energy sources and relate technologies for harnessing renewable energy resources.		
3.	Identify and evaluate the toxic chemicals, mutagens, carcinogens and their relationships between exposure and dose-response relationships.		
4.	Evaluate effects on living/physiological systems like neurotoxicity, nephro-toxicity, hepato-toxicity, and reproductive toxicity.		

Unit Number	Contents	Number of Sessions	
1	ENERGY RESOURCE MANAGEMENT Basics of Energy and its various forms, Energy: Energy; work and power, first and second law of thermodynamics, concept of entropy, Energy, Environment and Economics of Development: Resources of energy and energy use pattern in different parts of the world, Indian energy scenario for domestic, agriculture, transport and industrial sector and its impact on the environment.	L= 11	
		T=2	P=2
2	Conventional Energy Sources and Technology: Coal, lignite; petroleum, natural gas, cracking of petroleum, furnace, boiler, turbines, fluidized bed, nuclear energy: fission and fusion energy, Renewable Energy Technology: Solar energy, Wind energy, Ocean energy, Geo-thermal energy, Hydel energy, Biomass Energy, bio-conversion technology, energy recovery from wastes, and environmental impacts of large scale exploitation of renewable energy. Energy Conservation and Energy Economics: Energy analysis: Capital recovery factor, Levelised annual cost, Economic analysis of wind electric generation and thermal power systems.	L= 12	
		T= 2	P=1
3	ENVIRONMENTAL TOXICOLOGY Toxicology - Scope, Definition, Evaluation of toxicity - routes of exposure; Acute, sub acute, chronic toxicity; LC50/LD50/NOEL - concepts and significance, their estimation, Some organ specific toxicity Studies- Neurotoxicity, Nephrotoxicity, Hepatotoxicity, Reproductive toxicity.	L= 11	
		T= 2	P= 2
4	Genotoxicity - Mutations, mutagenic agents, Toxic agents in environment: pesticides, agrochemicals, industrial chemicals, food additives, Safety regulations, legal control.	L=11	
		T=2	P= 2

Learning Resources		
1	Text Books	• A Text book of Forest Texanomy, Singh & Nair, Anmol Publication. • A Text Book of Plant pathology, Sambamurty, I K Intarnetional. • A Text Book Environmental Studies, Chatawal & Sharma, HPH • A Text Book Environmental Science, Joshi & Joshi, APH

		• A Text Book of Environmental Studies, Nambiar, STP • A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 • Textbook Of Environmental Science And Technology by REDDY, BSP publishers, 2019 • Park Textbook of Preventive and Social Medicine, Park Bhanot, Twenty Third edition.
2	Reference Books	• Alternative Energy Resources: The Quest for Sustainable Energy, Paul Kruger. • Wiley, 2006, ISBN 0471772089 • Non Conventional Energy Resources, B.H Khan, Tata McGraw-Hill Education. ISBN 1259081397 • Energy Resources: Availability, Management, and Environmental Impacts, Kenneth J. Skipka, Louis Theodore, CRC Press, 2014 ISBN 1466517417. • Renewable and Alternative Energy Resources: A Reference Handbook Contemporary world issues, Zachary Alden Smith, Katrina D. Taylor, ABC-CLIO, 2008 ISBN 1598840894. • Energy Security and Economic Development in India: a holistic approach, Bala Bhaskar, TERI Press. • Energy Resources Survey in India, Allied Publishers Pvt. Ltd. (1995) • Desai, A. V.: Energy Economics, Wiley Eastern, Bombay. • Tyner, W.E.: Energy Resources and Economic Development in India, Allied Pub. Pvt. Ltd. • Mital, K.M. 1997: Non-conventional Energy System, Wheeler Publishers, New Delhi. • Pachauri, R. K.: Energy, Environment and Development, Vol. I & II, Har Anand Pub. Pvt. Ltd. • Varadarajan, D. B.: Energy Economics, Sterling Publishers. • Edward H. Thorndike, Energy & Environment: A Primer for Scientists and Engineers, Addition-Wesley Publishing Company, Reading, 1976. • Handbook of Toxicology, Third Edition, Michael J. Derelanko, Carol S. Auletta Publisher CRC Press, 2014 ISBN 143989014. • Casarett & Doull's Toxicology: The Basic Science Of Poisons, Curtis Klaassen, Graw Hill Education/Exclusively distd . By Jaypee; 8 edition (2013) • Casarett & Doull's Essentials of Toxicology, Third Edition (Casarett and Doull's Essentials of Toxicology), Curtis Klaassen & John Watkins, McGraw-Hill Education. • Principles and Practice of Toxicology in Public Health Ira S. Richards Jones and Bartlett Publishers • Understanding Environmental Health Nancy Irwin Maxwell (Author) Jones and Bartlett Publishers, Inc.
3	Websites	• https://mnre.gov.in • https://en.wikipedia.org/wiki/Renewable_energy • https://en.wikipedia.org/wiki/Environmental_toxicology • https://www.britannica.com/science/environmental-toxicology • https://openoregon.pressbooks.pub/envirobiology/chapter/6-3-

		<u>environmental-toxicology/</u>
4	Journals	• Current Science, ISSN No. 0011-3891 • Down to Earth • Journal of Biosciences, ISSN No. 0250-5991 • Journal of Environmental Biology, ISSN No. 0254-8704 • Resonance, ISSN No. 0971-8044 • Journal of Earth System Science, ISSN No .2253-4126
5	Practical Component	Practicals based on this paper will be conducted under Paper No. CC 203 (Practical- II)

Semester	II	Total Credit	4
Course Code	EM - 208	Credit Pattern	L-45, T-7, P-8
Course Title	DISASTER MANAGEMENT		
Course Objectives: Equip students with the ability to:			
1.	Understand the concept and significance of disasters.		
2.	Interpret the causes, effects and control measures of disasters.		
Course Outcomes: After completion of this course students will have capacity to			
1.	Recognize the various global and regional environmental concerns due to natural causes and/or human activities, and the impact of these on various forms of life .		
2.	Obtain and communicate information on risks, relief needs and lessons learned from earlier disasters in order to formulate strategies for mitigation in future scenarios.		
3.	Describe and evaluate the environmental, social, economic, legal and organizational aspects influencing vulnerabilities and capacities to face disasters.		
4.	Relate theoretically and practically in the processes of disaster management (disaster risk reduction, response, and recovery).		

Unit Number	Contents	Number of Sessions	
1	Definition of hazard and Disaster, Fundamentals of disasters, Classification of disasters, Disaster Management Act, 2005. Disaster Management - Pre-disaster Planning, Planning During Disaster, Post- Disaster Planning.	L= 11	
		T=2	P=2
2	Natural and Man-made disasters – causes, effects and control Earthquakes, Floods, Droughts, Landslides, Cyclones, Storms, Tornadoes, Coastal & Marine disasters, Air, Water, Road & Rail and Nuclear disasters .	L= 11	
		T= 2	P=2
3	Concept of disaster management, Disaster Management Cycle, Hazard vulnerability, Hazard Zoning, Physical & Biological indicators of hazard, Risk Assessment & Hazard Preparedness Plan, collection of data for preparation of hazard preparedness plan.	L= 11	
		T= 2	P= 2
4	Role of various organizations - District Disaster Management Committee, National Disaster Management Authority (NDMA), NDRF, Non-Governmental Organisations, Military.	L=12	
		T=2	P= 1

Learning Resources

1	Text Books	- Textbook Of Environmental Science And Technology by REDDY, BSP publishers, 2019 - A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 - A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 - A Text Book of Ecology, Tyler Miller, Cengage Learning - A Text Book Environmental Studies, Chatawal & Sharma, HPH - A Text Book Environmental Science, Joshi & Joshi, APH - A Text Book of Environmatal Studies, Nambiar, STP

2	Reference books	• Nuclear Accidents (Man Made Disasters) Mark Mayell Publisher: Lucent Books. • Management of Man-made Disasters, S. L. Goel, Motilal Banarsidass Publishers Private Limited, New Delhi. • Handbook of Pollution Control Processes By: Robert Noyes. Jaico Publishing House, Mumbai (2003). • Fire & Explosion Hazards Handbook of Industrial Chemicals By: TA Davletshina & NP Cheremisinoff, Noyes Publications, Mumbai (2003). • Environmental Geology by K. Valdiya, Tata McGraw Hill Publishing Co. • Perspectives on Environment by I.R. Manners, M.W. Micksell. • Our Planet, Our Health by WHO (1992). • Report of the Panel on Industry by WHO (1992). • Natural Disasters, Author: Claire Watts / Trevor DayPublisher: Dk Publishing, ISBN: 9781465438096. • Environmental Biology by K.C. Agarwal . • Resource Book on Chemical (Industrial) Disaster Management, http://nidm.gov.in/PDF/pubs/chemical_mdc.pdf
3	Websites	• Directory of Institutions and Resource Persons for Landslide Management In India • http://nidm.gov.in/PDF/pubs/directory%20landslide.pdf • https://www.ifrc.org/en/what-we-do/disaster-management/about-disaster-management/ • https://en.wikipedia.org/wiki/Disaster_management_in_India
4	Journals	• Current Science, ISSN No. 0011-3891 • Down to Earth • Journal of Biosciences, ISSN No. 0250-5991 • Journal of Environmental Biology, ISSN No. 0254-8704 • Resonance, ISSN No. 0971-8044 • Journal of Earth System Science, ISSN No .2253-4126 • Industrial Safety Chronicle • International Journal of Environmental Engineering Science, ISSN No .2229-3094
5	Supplementary Reading	• News Paper • Case studies of various disasters • Report of Bhopal Gas Tragedy
6	Practical Component	• Mock drill for various disaster

Semester	II	Total Credit	2
Course Code	EM - 209	Credit Pattern	L-0, T-15, P-15
Course Title	FIELD PROJET		

Course Objectives

1	It is an academic requirement for the students of M.B.A (Environment Mgt.) to undergo Field project for a period of minimum one month during May & June (Summer Vacations) by working & learning from Industry/Organization to gain an experience in the real world situation.

Course Outcomes: After completion of this SIP students will have capability to

1	Select and defend a topic of their Field project and effectively plan, execute, evaluate and discuss their innovative ideas and experiments.
2	Identify systematically the relevant theory and concepts, and relate these to appropriate methodologies and evidences.
3	Apply appropriate techniques and draw appropriate conclusions, develop communication and interpersonal skills.
4	Propose and present scientific approach to solve the problem. Interpret, discuss and communicate scientific results in written form.

Syllabus:

Sr. No.	Contents	Number of Sessions	
1	They will study the working environmental conditions & problems in the organization. Areas for Field Project are- 1 Waste Water Treatment Plant 2. Solid Waste Management Plant 3. Vermicomposting Plant 4. Dairy Industry 5. Textile Industry 6. Sugar Industry 7. Aquatic ecosystem 8. Common Effluent Treatment Plant, 9. Forest Ecosystem 10. Tannery Industry, 11. Wildlife Century 11. Biomedical Waste Management Plant 12. Pesticide Industry 13. Botanical Garden, 14. Agriculture College	L= 0	
		T=15	P=45

Semester	II	Total Credit	4
Course Code	EM - 210	Credit Pattern	L-30, T-0, P-90
Course Title	PRACTICAL - I		

Course Objectives

1. The students should know the experimental procedures for analysis of environmental samples.

Course Outcomes: The students will able to

1. Relate and demonstrate the basic laboratory instruments used in environmental analysis and understand the principle of measurements using those instruments.
2. Identify and describe steps that are included in analysis, like sampling, sample processing, removal of interferences, detection of component of interest and data evaluation.
3. Utilize the technical skills for air sampling, using high volume sampler.
4. Determine water pollution levels using appropriate methodology/ instrumentation.
5. Perceive skills in analytical techniques/experimental for BOD, COD measurements.
6. Interpret the experimental results to study water pollution levels.
7. Apply Screening of microbial cultures in the different areas of environment management and for further entrepreneurship development.
8. Designing & Maintenance of water and waste water treatment plant.
9. Evaluate dispersal of air pollutants by drawing wind rose diagram.
10. Determine water pollution levels using appropriate methodology/ instrumentation.

Syllabus:

Sr. No.	Title	Number of Sessions	
1	Acid Base Titration (Standardization).	L= 15	
2	Determine Na & K from water sample.	T=0	P=45
3	Estimation of Oxides of Nitrogen from ambient air.		
4	Estimation of Sulphur dioxide from ambient air.		
5	Estimation of Nitrate from water using UV-VIS spectrophotometer.		
6	Determine Permanganate Value of water sample.		
7	Estimation of Total hardness, Calcium & Magnesium of water sample.		
8	Estimation of SPM & RPM by using HVS.		
9	Determination of Chlorides, Total Alkalinity, Carbonates & bicarbonates from water sample.		
10	Estimation of pH & EC from given water sample.		
11	Determination of Do & CO ₂ in water & wastewater sample.		
12	Determination of COD from wastewater sample.		
13	Determination of BOD from wastewater sample.		
14	Estimate suitable coagulant dose of water sample using Jar Test.		
15	Determine MPN from water sample.		
16	Determine Residual chlorine & Bleaching Powder Analysis of water sample.		
17	Determine Chlorine dose to a given water sample.		
18	Determine Oil & Grease from water sample.		

19	Determine TS,TDS,TSS from water sample.	
20	Design of Physical unit.	
21	Determination of H ₂ S from wastewater sample.	
22	Determine Inorganic phosphorus in water sample.	
23	Determination Sulphate in water sample.	
24	Determination Hexavalent Chromium in water sample.	
25	Determination of Cultural Characteristics of Microorganisms.	
26	Estimate Standard Plate Count of microorganisms.	
27	Isolation of pure culture of microorganisms.	
28	Determination of Nitrite in water sample.	
29	Estimation of Turbidity of Water sample.	
30	Determination of Boron in the water sample.	
31	Draw Windrose Diagram using wind data.	
32	Examine Gram Staining of bacterial culture.	
33	Demonstration of Motility of bacteria.	
34	Estimation of GPP, NPP of water sample.	
35	Determination of acidity and alkalinity of water sample.	

Learning Resources

1	Reference books	• Water & WasteWater analysis : Dr. R.K. Trivedy & Dr. P.K.Goel • Standard Methods of water & Waste water analysis: APHA • Hand book of Methods in Environmental Studies (Vol.I) : S.K.Maiti • Hand book of Methods in Environmental Studies (Vol.II) : S.K.Maiti • A text book of Soil analysis : Baruah & Barthakur

SEMESTER- III

Semester	III	Total Credit	4
Course Code	EM - 301	Credit Pattern	L-46, T-8, P-6
Course Title	SOLID AND HAZARDOUS WASTE MANAGEMENT		

Course Objectives

1. Illustrate the procedures and practices for Solid Waste Management.
2. Interpret the methods of collection, transportation and disposal of Municipal Solid Waste.

Course Outcomes: The students will able to;

1. Estimate the suitable methods for Solid Waste Management.
2. Compare between the various categories of Solid Waste as per the regulations.
3. Prioritize the appropriate plan for handling and disposal of Hazardous Waste.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Solid Waste Management: Need of solid waste management; Types of solid waste: biodegradable, Industrial solid waste: pulp and paper, sugar, thermal power station, food processing, textile, urban and agricultural. Solid waste treatment: Compaction, dewatering, briquetting, size reduction, separation of organic and inorganic i.e. removal of metals like iron.	L=11	
		T= 2	P= 2
2.	Solid waste disposal methods – Solid waste reuse: Recycling and recovery Solid waste energy recovering, incineration, pyrolysis, biogas generation Solid waste as a source of raw material i.e. light weight bricks from fly ash, composting, etc. Urban Solid Waste: Changing scenario with development, collection, transport & disposal; Separation of waste at source of generation for recovery of plastic, paper & metal, etc.	L= 12	
		T= 2	P= 1
3.	Operation and Maintenance of Effluent Treatment Plant: Operation and monitoring of waste treatment units including primary, secondary and tertiary for industries viz., sugar, pulp and paper, dairy, textile and distillery, Concept of common effluent Treatment Plant (CEPT) Sludge Management. Sewage sludge, industrial sludge, primary and secondary sludge dewatering of sludge, conditioning, Compressible and non-compressible sludge, filtration, filtration aids, Dewatering aids, thickening, centrifugation & drying.	L= 12	
		T= 2	P=1
4.	Hazards and Toxic Waste Management: Sources, characteristics, handling and disposal methods safe to environment Radioactive and Medical waste management. Management of toxic industrial chemicals: Insecticides, cyanide, caustic soda, chlorine, etc. for industries viz. insecticides, caustic soda, chlorine plants, etc.	L=11	
		T= 2	P= 2

Learning Resources		
1	Text Books	• Vogel's Textbook of Quantitative Chemical Analysis, 5th edition, J H Basett, J. Nendham and Denny, R.C. • Textbook Of Environmental Science And Technology by REDDY, BSP publishers, 2019 • A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 • Textbook On Biotechnology by H D Kumar, Affiliated East-West Press Pvt Ltd, 2003
2	Reference books	• A Text Book of Environmental Chemistry & Pollution Control, Dara, Chand • A Text Book of Green Chemistry, Ahluwalia, Narosa • A Text Book of Engineering Chemistry, Dara, Chand
3	Websites	• Integrated Solid Waste Management – Engineering Principles & Management By: Issues by George Tchobanoglous, Hilary Theisen & Samuel A Vigil. McGraw-Hill International Editions, New York (1993). • Solid Waste Management in Developing Countries By: AD Bhide & BB Sunderesan. Indian National Scientific Documentation Centre, New Delhi (1983). • Solid Waste Engineering By: PA Vesilind, William Worrell & R. Thomas Brooks/Cole, Australia (2002). • Infectious Waste Management By: Frank L Cross Jr, Howard E Hesketh, P Kay Rykowski. Technomic Publishing Co Inc. Lancaster, Basel (1990). • Basics of Solid and Hazardous Waste Management Technology By: K.L Shah. Prentice Hall, Ohio (2000). • Industrial and Hazardous Wastes – Health Impacts & Management Plans By: Rajiv K Sinha & Sunil Heart. Pointer Publishers, Jaipur (2004). • Hazardous Waste Management By: MD LaGrega, PL Buckingham, JC Evans & Environmental Resources Management, McGraw-Hill International Edn. Boston (2001).
4	Journals	• http://mpcb.gov.in/images/pdf/part.pdf • https://www.britannica.com/technology/solid-waste-management • https://nptel.ac.in/courses/120108005/module9/lecture9.pdf • https://iwa-network.org/groups/sludge-management/ • http://mimoza.marmara.edu.tr/~orhan.gokyay/enve425/ch1.pdf
5	Supplementary Reading	• Current Science, ISSN No. 0011-3891 • Every Thing About Water • Industrial Safety Chronicle • International Journal of Environmental Engineering Science, ISSN No .2229-3094 • International Journal of Environmental Pollution Control & Management , ISSN No .0975-3842
6	Practical Component	• Manual of handling of hazardous waste • Case studies of waste management
		Practicals based on this paper will be conducted under Paper No. CC 203 (Practical- III)

Semester	III	Total Credit	2
Course Code	EM-302	Credit Pattern	L-22, T-4, P-4
Course Title	CORPORATE ENVIRONMENTAL STRATEGIES		
Course Objectives:			
1	Understand concept and signifiance of corporate environmental strategies.		
2	Interpret concept and signifiance of Environnental Education.		
Course Outcomes: Students will be able to;			
1	Critique CSR for perticular industry.		
2	Relate various international strategies with national strategies.		
3	Appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems.		
4	Understand International efforts for Environment Protection		

Unit Number	Contents		
1	Corporate Environmental Strategies : International efforts for environmental protection : United Nations Environmental Programme (UNEP), International Union for Conservation of Nature & Natural Resources (IUCN), World Wide Fund for Nature (WWF), Stockholm Conference. Rio Conference, Agenda 21, UNFCCC, IPCC, Basel convention; Montreal Protocol, Paris Agreement-2015 etc.	L-11	
		T-2	P-2
2	Business strategy, Marketing strategy, Green marketing, Eco-labelling, Operation of Eco-mark Scheme of Govt. of India, Criteria for eco-mark, Status of eco-mark development, World Trade organization(WTO), General agreement on trade in services (GATS). Global Warming Potential (GWP), Clean development Mechanism (CDM), Corporate Social Responsibility.	L-11	
		T-2	P-2

Learning Resources		
1	Text Books	• A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 • A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 • A Text book of Extension Education, S V Supe, ATPA • A Text book of Agricultural Biotechnology, Ahindra Nag, PHI • A Text Book of Green Chemistry, Ahluwalia, Narosa • A Text Book Environmental Studies, Chatawal & Sharma, HPH • A Text Book Environmental Science, Joshi & Joshi, APH
2	Reference books	• Environmental Management Strategies: The 21st Century Perspective Volume 5 Corporate Environmental Strategy: The Avalanche of Change Since Bhopal Bruce Piasecki Wiley. • Environmental Strategies for Industry: International Perspectives On Research Needs And Policy Implications Corporate Environmental Strategy and Competitive Advantage (New Perspectives in Research on Corporate Sustainability Series) • Environmental Management, N K Uberoi, Published by Excel Books. Publishing House, 2nd Revised edition edition, 2005.

3	Website	• https://unfccc.int/ • https://sustainabledevelopment.un.org/milestones/unced • http://www.ijpmbs.com/uploadfile/2015/0412/20150412030122401.pdf • https://www.wto.org/english/tratop_e/serv_e/gatsqa_e.htm • https://www.wto.org/ • http://www.oecd.org/corporate/mne/ • https://asq.org/quality-resources/iso-14000 • https://www.iso.org/iso-14001-environmental-management.html • http://www.environmentalpollution.in/environmental-audit/environmental-audit-concept-setting-and-process/3890 • https://www.iso.org/iso-9001-quality-management.html
4	Journals	• Current Science, ISSN No. 0011-3891 • Down to Earth • International Journal of Environmental Pollution Control & Management , ISSN No .0975-3842 • Journal of Earth System Science, ISSN No .2253-4126 • Resonance, ISSN No. 0971-8044
5	Supplementary Reading	• The Hindu • Paris Agreement • IPCC reports

Semester	III	Total Credit	4
Course Code	EM - 303	Credit Pattern	L-45, T-8, P-7
Course Title	ENVIRONMENTAL IMPACT ASSESSMENT (EIA) AND ENVIRONMENT MANAGEMENT SYSTEM (EMS)		
Course Objectives			
1.	Apprise concept and signifiante of environmental impact assessment.		
2.	Explain concept and signifiante of Environmental Legislation.		
3.	Discuss various steps in conducting environmental management plan.		
Course Outcomes:			
1.	Design EMP for particular industry.		
2.	Prépare Environnemental Impact Assessment report.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Concept and Components of EIA : Environment and Development, Sustainable development. Definition of EIA, its concept, scope and objectives. Negative and positive, primary and secondary, reversible and irreversible, tangible and intangible impacts, Elements or components of EIA, EIA in developed countries and developing countries, Baseline studies in EIA, Public participation in EIA Prediction of impacts and its methodology.	L=11	
		T= 2	P= 2
2.	Methodologies of EIA : Uncertainties in EIA, Environmental monitoring and environmental management plan, Planning and management of impacts studies, Cost-benefit analysis of the project: present and future worth of project, feasibility report. Preparation, writing and appreciation of EIA reports pertaining to Dam, Mining and other industries, Life Cycle Assessment as environmental management tool, Composition of expert committee Procedure & format of obtaining consent to establish and consent to operate from the State Pollution Control Board (SPCB). Concept of Social Impact Assessment (SIA).	L= 12	
		T= 2	P= 1
3.	Environmental Management System (EMS): Scope, application and benefits of ISO certification; Introduction, terms and definitions, Need for EMS, ISO 14000 (Series) – The Basic Principles; Environmental Management System Requirement - Deming Cycle of continual improvement. Environmental Policy, Environmental aspects and impacts. Environmental objectives. ISO 14001: Preparation of documentation. Steps for certifications; Actual conduct of audit for certification; Implementation of ISO 14000, Reporting of Non conformity and follow audit trails.	L= 11	
		T= 2	P=2

4.	Environmental Auditing : Preamble, scope and objectives of environmental auditing, Applicability of statutory environmental statement audit, Qualities of an environment auditor, Contents of EA report. Preparation of documents for consent to establish/ consent to operate / Renewal, Types of Environmental audits, - Preset audit, Impact assessment audit, compliance audit, Awareness audit and improvement / Green audit. General approach towards environmental audit, preparation of questionnaire for audit, presentation of data and certification	L= 11	
		L=2	L= 2

Learning Resources

1	Text Books	• A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 • A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 • A Text Book Environmental Studies, Chatawal & Sharma, HPH • A Text Book Environmental Science, Joshi & Joshi, APH • A Text Book of Environmatal Studies, Nambiar, STP
1	Reference books	• Environmental Impact Assessment By: Larry W Canter. McGraw-Hill International Editions, 2nd Edn, New York (1996) • EIA Theory & Practice By: Peter Wathern. Unwin Hyman, London (1990) • Environmental Impact Assessment By: PR Trivedi. APH Publishing Corporation, New Delhi (2004) • EIA Practical Solutions to Recurrent Problems By: David P Lawrence. Wiley Interscience Publication (2003) • A Handbook of EIA By: VS Kulkarni, SN Kaul & RK Trivedy. Scientific Publishers (India) • EIA (Available Techniques, Emerging Trends) By: SA Abbasi & DS Arya. Discovery Publishing House, New Delhi (2000) • Environmental Impacts of Agricultural Production Activities By: Larry W Canter. Lewis Publishers, Inc. USA (1986) • Environmental audit by Mhaskar AK • EIA – A Bibliography with abstracts By: B.D. Clark, R. Bisset, P. Wathern (1980), Mansell London • Manners, IR, Micksell MW (1974) Perspectives on Environment Association American Geographers, Pub. 13. • Environmental Assessment and Statements by Harr and Hagerty (1977) • Environmental Auditing by Central Pollution Control Board. • Stoner, Freeman, Gilbert – Management – Prentice Hall of India Ltd., New Delhi – VIth Edition • Kathryan M. Bartol & David C. Martin – Management – Mc Graw – Hill Services in management, Second Edition • Terry – Franklin – Principles of Management – All India Traveler Bookseller • R.S.Gupta, B.D. Sharma, N.S.Bhalla – Principles and Practic of Management – Kalyani Publishers Edition 1990

		• P.C. Tripathi , P.N.Reddy – Principles of Management – Tata Mc Graw – Hill publishing Co. Ltd. Vth Edition • Harold Koontz & Cyril O’ Donnell – Management - Mc Graw – Hill publication. • Environmental audit by Mhaskar AK.
3	Website	• https://www.cbd.int/impact/whatis.shtml • https://nptel.ac.in/courses/120108004/module3/lecture3.pdf • https://nptel.ac.in/courses/120108004/module2/lecture2.pdf • http://mpcb.gov.in/ • https://www.cseindia.org/tag/state-pollution-control-board--(spcb) • https://www.iaia.org/wiki-details.php?ID=23
4	Journals	• Current Science, ISSN No. 0011-3891 • Every Thing About Water • Down to Earth • Industrial Safety Chronicle • International Journal of Environmental Pollution Control & Management , ISSN No .0975-3842 • Resonance, ISSN No. 0971-8044 • Journal of Earth System Science, ISSN No .2253-4126
5	Supplementary Reading	• EIA reports of various developmental projects

Semester	III	Total Credit	4
Course Code	EM - 304	Credit Pattern	L-30, T-0, P-90
Course Title	PRACTICAL - II		

Course Objectives

1. The students should know the experimental procedures for analysis of environmental samples.

Course Outcomes: The students will able to

1. Make the use of personal Protective Equipment's.
2. Determining quality of irrigation water for optimal utilization to avoid further environmental consequences.
3. Recommend gypsum requirement for the preparation of reclamation plans for saline alkali soils.
4. Propose dose of lime for reclamation of an acid soil, by performing laboratory experiments and computing results.
5. Demonstrating Isolation, segregation, characterization and proper utilization of Municipal Solid Waste.
6. Determining quality of irrigation water for optimal utilization to avoid further environmental consequences.
7. Extend use of technical and analytical skills to quantify the level and effects of noise pollution.
8. Interpret the chemical methods used to study environmental processes.
9. Elaborate and Integrate scientific processes to analyze soil samples.
10. Experiment with work safely and competently in an environmental laboratory settings, with confidence.

Syllabus:

Sr. No.	Title	Number of Sessions	
1	Estimation of Biomass production by grassland ecosystem.	L= 15	
2	Study of density & relative density of grassland species.	T=0	P=45
3	Study of Mineral & Rocks.		
4	Measurement of Sound pressure level using Sound Level Meter at given Location.		
5	Determine Water holding capacity, bulk density & moisture content of soil.		
6	Determine Calorific Value of fuel of given wood sample.		
7	Determination of freq. distribution from given set of data.		
8	Determine Wood pyrolysis of wood sample.		
9	Estimation OC & OM from soil.		
10	Determine Volatile fatty acids of a sample.		
11	Determine SVI, MLSS, MLVSS of a sample		
12	Determine Available "P" in soil.		
13	Determine Available "K" in soil.		
14	Determine Available Nitrogen in soil.		
15	Determine Available Sulphur in soil.		

16	Determine Langlier Saturation Index of water sample.	
17	Determine Water Quality Index.	
18	Mechanical analysis of soil & use of Textural triangle.	
19	Determine Wildlife census by block count method.	
20	Site selection criteria under EIA.	
21	Prediction of Impact by Dispersion Model(AIR).	
22	Precipitation Analysis.	
23	Physical & Chemical Characteristics of MSW.	
24	Determine Cation Exchange Capacity of soil sample.	
25	Determination of Gypsum Requirement of soil.	
26	Determination of Lime Requirement of soil.	
27	Determine Iron from water sample.	
28	Estimate the Species diversity Index.	
29	Estimation of Chlorophyll content in leaves.	
30	Demonstration & use of PPE.	
31	Determination of Total Phosphorous from water sample.	
32	Determine the soil rating & fertilizer dosing of agricultural Soil.	
33	Determination of Irrigation water quality by SAR method.	
34	Determination of Total Kjhdhal Nitrogen of water sample.	
35	Determination of Irrigation water quality by pH, EC & Carbonate-bicarbonates values.	

Learning Resources

1	Reference books	• Water & WasteWater analysis : Dr. R.K. Trivedy & Dr. P.K.Goel • Standard Methods of water & Waste water analysis: APHA • Hand book of Methods in Environmental Studies (Vol.I) : S.K.Maiti • Hand book of Methods in Environmental Studies (Vol.II) : S.K.Maiti • A text book of Soil analysis : Baruah & Barthakur

Semester	III	Total Credit	6
Course Code	EM - 305	Credit Pattern	L-15, T-15, P-60
Course Title	RESEARCH PROJET (Master Thesis)		

Course Objectives	
1.	It is an academic requirement of the course to complete Summer Inplant Training by working in industry to learn practical knowledge from various sectors of Environment & allied.
2.	To gain an field experience in the real world situation.

Course Outcomes: After completion of this course students will able to	
1.	Select and defend a topic of their SIP and effectively plan, execute, evaluate and discuss their innovative ideas and experiments.
2.	Systematically identify relevant theory and concepts, and relating these to appropriate methodologies and evidences.
3.	Apply appropriate techniques and drawing appropriate conclusions, developing communication and interpersonal skills.
4.	Propose scientific approach to solve the problem and Interpret, discuss and communicate scientific results in written form.

Syllabus:

	Contents	Number of Sessions	
1	They will study the working environmental conditions & problems in the organization.	L= 15	
		T=0	P=45
	Areas for SIP are-		
	1. Waste Water Treatment		
	2. Solid Waste Management		
	3. Characterization of Effluent		
	4. Air Pollution & Control		
	Technologies		
	5. Noise Pollution		
	6. Toxicological Study		
	7. Industrial Safety		
	8. Disaster Management		
	9. Environmental Auditing		
	10. ISO 14000		
	11. OSHAS-18001		
	12. Energy Management		
	13. Composting		
	14. Wormicomposting		
	15. Bioremediation		
	16. Phyto-remediation		
	17. Water Budget		
	18. Energy Audit		
	19. Carbon Footprint		
	20. Biomedical Waste Management		

Semester	III	Total Credit	4
Course Code	EM -Spl-I- 306 -A	Credit Pattern	L-45, T-6, P-9
Course Title	INTERNATIONAL FINANCE		

Course Outcomes: The students will able to learn:

1.	Assess foreign exchange rates and develop export trade document.
2.	Apply international finance terms in trade.
3.	Evaluate foreign direct investment design.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to International Finance: concept and Principals of International Trade – Theories of International Trade – Comparative Advantage – Absolute Advantage – Hecksher Ohlin Theory – Imitation Gap Theory- Barriers to International Trade –Indian EXIM Policy. Concepts of DTAA and International Taxation.	L=11	
		T=2	P=2
2	Export and Import Finance: Special need for Finance in International Trade –Terms used in International Trade (FOB, CIF, etc.,) – Payment Terms – Letters of Credit and its types – Pre Shipment and Post Shipment Finance – Forfaiting –Deferred Payment Terms – EXIM Bank – ECGC and its schemes – Import Licensing – Financing methods for import of Capital goods.	L=12	
		T=1	P=2
3	Foreign Exchange Markets: Spot Prices and Forward Prices – Factors influencing Exchange rates – The effects of Exchange rates in Foreign Trade – Tools for hedging against Exchange rate variations –Forward, Futures and Currency options -Determination of Foreign Exchange rate and Forecasting – Law of one price – PPP theory – Interest Rate Parity – Exchange rate Forecasting. Two way and three way arbitrage, arbitrage with IRP and PPP.	L=11	
		T=1	P=3
4	Determination and Forecasting of Exchange Rates: Currency risk management – Measuring and Managing Transaction – Translation and Economic Exposure. International Cash Management – Cost Of Capital for Foreign Direct Investment – Designing Global Capital Structure. Foreign Direct Investment – Cost and Benefits. Derivatives in International Trade Important Export trade documents, like Proforma, commercial, legalized, invoice, packaging list, bills of leading, airway bill, insurance policy, export incentive, duty exemptions, export house.	L=11	
		T=2	P=2

Note: Practical Problems to be covered on

1. Calculation Of Foreign Exchange Rates – Forward Rates, Premium Discounts on forward rates
2. Simple problems on pay off from Derivatives
3. Arbitrage

Learning Resources		
1	Text Books	1. Kapil Sheeba, "Financial Management" Pearson Publication House. 2. Jonathan Berk, Peter, "Financial Management" Pearson Publication House. 3. Sharan Vyuptakesh, "Fundamentals of Financial Management" Pearson Publication. 4. James C Van harne, "Financial Management & Policy" Pearson Publication House. 5. ICSI: Handbook on Mergers Amalgamations and takeovers.
2	Reference Books	1. Jeevanandam .C, INTERNATIONAL BUSINESS, M/s Sultan & Chand, Delhi, 2008 2. Sumathi Varma, INTERNATIONAL BUSINESS, <i>Ane, Delhi, 2010</i> 3. P.G. Apte – "Global Business Finance" – Tata McGraw Hills. 4. P.G. Apte – "International Finance Management" – Tata McGraw Hill 5. V.K. Bhalla – "International Financial Management" – Prentice Hall 6. Khan & Jain, "Financial Management", Tata Mcgraw Hill, 6th edition. 7. R.P.Rustagi, "Financial Management", PHI, 10th edition.
3	Websites	<u>INFLIBNET</u> http://nlist.inflibnet.ac.in <u>J-GATE</u> http://jgateplus.com <u>EBSCO</u> http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4	Journals	• Prabhandan: Indian Journal of Management • IUP Journals • ICSI Journals • Finance India • Indian Journal of Finance (New Sub.) • Journal of Accounting & Finance etc.
5	Supplementary Reading	• Financial Express • Economics Times • Business Standard • Times of India • Indian Express.
6	Practical Component	• Calculation Of Foreign Exchange Rates – Forward Rates, Premium Discounts on forward rates • Simple problems on pay off from Derivatives • Problems on arbitrage • Financial statement analysis using Proves-IQ • Companies Financial Reports & Corporate case studies.

Semester	III	Total Credit	4
Course Code	EM -Spl-I- 306 -B	Credit Pattern	L-45, T-8, P-7
Course Title	EMPLOYEE RELATIONS AND LABOUR LAWS		
Course Outcomes : Students will be able to			
1.	Discuss the concepts and theories to manage Industrial Relations and Labor Laws.		
2.	Apply the concept of industrial relations, legal issues to the system in which it operates.		
3.	Solve industrial Related legal issues used in the resolution of conflict.		
4.	Critically evaluate emerging trends in employment law.		
5.	Design the collective bargaining process, including preparation, negotiation, and settlement.		

Unit Number	Contents	Number of Sessions	
1	Industrial Relations and Trade Union:- Industrial Relations:- Concepts of Industrial Relations, Approaches to Industrial Relations, Role of Employer/Management, Trade Union and Government in Industrial Relations. Trade Union:- Purpose, Functions of trade unions, Problems of Trade unions, Measures to strengthen Trade Union, Recognition of Trade Union as Collective Bargaining Agent. Trade Union Act (1926), Standing Order	L=11	
		T=2	P=2
2	Collective Bargaining and Industrial Unrest: - Collective Bargaining:- Structure, Procedure and machinery for collective bargaining process, Negotiation Skills, Productivity Bargaining, emerging trends in collective bargaining. Industrial Unrest: Causes of Industrial Disputes, Prevention and Settlement of Industrial Disputes- Relevant Provisions related to Industrial Disputes Act, 1947. Purpose and procedure of disciplinary action, Meaning and scope of misconduct	L=12	
		T=2	P=1
3	Positive Employee Relations and Labour Laws:- Building positive employee relations, Participative Management:- Workers participation in Management (statutory and Non statutory Schemes), VRS:- Reason and acceptance of VRS, Management of Sexual Harassment and Sexual Harassment Laws in India,	L=11	
		T=2	P=2
4	Social Security for emotional Bondage:- Social Securities in India, ESI Act 1948, Workmen's Compensation Act, Maternity Benefit Act 1961, The employees Provident Fund Act, 1952. Payment of Gratuity Act 1972, and Management of Contract Labour.	L=11	
		T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Mamoria C.B, Dynamics of Industrial relations, Himalaya Publishing House 2. A.M.Sarma, Industrial Relations, Himalaya Publishing House
2	Reference books	1. ArunMonappa, Industrial Relations, Tata McGraw Hill Publishing Company Ltd. 2. Dhyani S.N., Industrial Relations Systems, Printwell Publishers 3. John Fossum, Labour Relations, Development, Structure, Process, McGraw Hill Education 4. Michael R Carrell and Christina Heavrin, Labour Relations and Collective Bargaining- Private and Public Sectors, Merrill 5. PromodVerma, Management of Industrial relations, Reading and Cases, Oxford and IBH Publications 6. Singh B.D., Industrial Relations –Emerging Paradigms, Excel Books 7. Srivastava S.C., Industrial Relations and Labour Laws, Vikas Publishing House Pvt. Ltd.,
3	Websites	1. www.ILO.org 2. www.labour.nic.in 3. www.labourstat.org
4	Journals	1. Indian Journal of Industrial Relations 2. Indian Labour Journal 3. Current Labour Report 4. Labour Law Journal
5	Supplementary Reading	1. Labour Law Journals 2. https://www.thehindubusinessline.com/opinion/the-recognition-question-in-trade-union-law-ep/article24988006.ece 3. https://www.labourfile.org/rights-of-women.aspx/
6	Practical Component	1. Role Play exercise on Collective Bargaining 2. Arrange a debate in the classroom about rights and duties of trade union of workers. 3. Students will draft a standing order for certification for a newly started garments factory employing 300 workers. 4. Students will draft a charge sheet about a list of allegations reported against an employee of an organization. 5. Interaction with Trade Union Leaders to identify challenges faced by them and present in class. 6. Students will prepare a policy document to prevent sexual harassment at workplace. 7. Study the procedure including the documents required for PF and Gratuity benefit. 8. Role Play on Economic Coercion

Semester	III	Total Credit	4
Course Code	EM -Spl-I- 306 -C	Credit Pattern	L-45, T-8, P-7
Course Title	CONSUMER BEHAVIOUR		
Course Objectives:			
1.	Impart conceptual knowledge of Consumer Behavior.		
2.	Equip students to analyze impact of various factors on consumer behavior.		
Course Outcomes: Students will be able to;			
1.	Discuss conceptual knowledge of Consumer Behavior.		
2.	Analyze impact of various factors on consumer behavior.		
3.	Evaluate the impact of social and psychological factors on consumer behavior.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	An Introduction to Consumer Behaviour – Meaning, Consumers’ Impact on Marketing Strategy, Marketing Strategy’s’ Impact on Consumers, Consumer Behaviour as a Field of Study; Consumer and Social Well Being – Business Ethics and Consumer Rights, Consumer Rights and Product Satisfaction, Major Policy Issues Relevant to Consumer Behaviour, Dark Side of Consumer Behaviour; Internal Influences on Consumer Behaviour – Perception – meaning, Stages of Consumer Behaviour; Learning and Memory – meaning, Learning Theories, Memory	L= 11	
		T= 2	P= 2
2	Motivation and Affect – The Motivation Process, Affect, Consumer Involvement; The Self, Gender Identity, The Body; Personality, Brand Personality, Lifestyles and Consumer Identity, Values;	L= 12	
		T= 2	P= 1
3	Power of Attitudes, Formation of Attitudes, Persuasion – change of attitudes; Decision making – Cognitive Decision Making, Habitual Decision Making, Collective Decision Making, Family Decision Making; Situational Effects on Consumer Behaviour, Shopping Experience, Post – purchase satisfaction and Disposal.	L= 11	
		T= 2	P= 2
4	Consumers in Social and Cultural Settings – Groups, Word of Mouth Communications, Opinion Leadership, Social Media Revolution; Income & Social Class – Income and Consumer Identity, Social Class & Consumer Identity, Status Symbols and Social Capital; Subcultures – Ethnic & Racial Subcultures, Religious Subcultures, Family Unit & Age Subcultures, Place Based Subcultures; Culture – Cultural Systems, Cultural Stories & Ceremonies, Sacred & Profane Consumption, Diffusion of Innovations, Fashion System, Global Consumer Culture.	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and videos relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Soloman, M. R. & Panda, T. K., (2020), 13th Ed., Consumer Behaviour, Pearson India, New Delhi, India. 2. Schiffman, L.G, Wisenblit, J. & Kumar, S. R., 11th Ed., Consumer Behaviour, Pearson India, New Delhi, India. 3. Mothersbaugh, D. L., Hawkins, D. I. Kleiserc, S. B., & Mookerzi, C. A., (2002), 14th ed., Consumer Behaviour, McGraw Hill, New Delhi, India. 4. Sarma, S., (2019), 1st Ed., Consumer Behaviour, Dreamtech Press, New Delhi, India. 5. Sahaney, S., (2017), 1st Ed., Consumer Behaviour, Oxford University Press, New Delhi, India. 6. Kumar, S. R., & Krishnamurthy, A, (2020), 1st Ed., Advertising, Brands & Consumer Behaviour – The Indian Context, Sage Publications, New Delhi, India. 7. Batra, S. & Kazmi, H. H., (2008), 1st Ed., Consumer Behaviour: Text & Cases, Excel Books, New Delhi, India.
2	Websites	https://www.ama.org/ https://www.academyofindianmarketing.org/ (Academy of Indian Marketing (AIM) Management Institutions) https://www.ima-india.com/ (https://www.ima-india.com/)
3	Supplementary Reading	Economics Times, Brand Equity Business Standard,
4	Practical Component	Case studies on all units.

Semester	III	Total Credit	4
Course Code	EM -Spl-I- 306 -D	Credit Pattern	L-45, T-7, P-8
Course Title	SUPPLY CHAIN MANAGEMENT		

Course Objectives

1.	To make students understand fundamental concepts and principles of Logistics & Supply Chain Management.
2.	To make students understand supply chain metrics & decisions, supply chain coordination & planning.
3.	To introduce students to Global Supply Chain Operations.

Course Outcomes: Students will be able to

1.	Discuss the evolution of Supply Chain & Logistics and how it can affect organization operations.
2.	Distinguish between various Supply Chain Distribution Strategies and choose effective strategy for organization.
3.	Estimate the Demand in the market to develop Supply Chain Strategy for Organization.
4.	Discuss Global Supply Chain Operation and recent trends in Supply Chain Management.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	INTRODUCTION TO LOGISTICS MANAGEMENT Definition & Meaning of Logistics, Principles of Logistics, Activities of Logistics: Transportation, Warehousing, Packaging, Material Handling. Collaborative Relationship & Alliance, Logistics Outsourcing Activities: 3PL, 4PL, Risk of Outsourcing.	L= 12	
		T= 1	P= 2
2	ESSENTIALS OF SUPPLY CHAIN MANAGEMENT Concept & Definition of Supply Chain, Drivers of SCM, Push/Pull SCM, SC Network Decisions & Designs. Demand Planning & Forecasting, Collaborative Planning Forecasting Replenishment (CPFR), Mass Customization, Role of IT in SC.	L= 11	
		T= 2	P= 2
3	STRATEGIC SUPPLY CHAIN MANAGEMENT Distribution Strategies: Milk Runs, Hub & Spoke System, Cross Docking, Pool Distribution, Direct Shipping. Bullwhip Effect, Recent Trends In Supply Chain: Agile Supply Chain, Green Supply Chain, Lean Supply Chain, E- Supply Chain, E-Commerce Supply Chain. Introduction to Supply Chain Analytics.	L= 11	
		T= 2	P= 2
4	GLOBAL SUPPLY CHAIN OPERATIONS Global SCM, International Transportation: Sea, Air, Land, Multi-Modal Transportation. International Documentation for Import/Export, Customs Clearance Formalities, International Logistics Infrastructure.	L= 11	
		T= 2	P= 2

Learning Resources		
1	Text Books	1. Shah J., Supply Chain Management 2/e: Text and Cases, Pearson Education India 2. Ganapathi S. & Nandi, Logistics Management, Oxford University Press 3. Chopra S., Meindl P. & Karla D., Supply Chain Management, Sixth edition by Pearson Education India 4. Ailawadi S. & Singh R., Logistics Management, Prentice Hall India Learning Private Limited
2	Reference books	1. Simchi-Levi D., Kaminsky P., Designing and Managing the Supply Chain 3rd Edition, McGraw Hill Education 2. Bowerox D., Tata Mcgrawhill Edition “Supply Chain Logistic Management” 3. Chandrasekaran N. , Supply Chain Management: Process, System & Practice, Oxford University Press
3	Websites	1. https://www.managementstudyguide.com/supply-chain-management-articles.htm 2. https://lecturenotes.in/materials/17685-note-of-supply-chain-management-by-dr-panneerselvam-s 3. https://www.aims.education/study-online/supply-chain-management-notes/ 4. http://www.eiilmuniversity.co.in/downloads/Import-Export-Management.pdf 5. http://www.pondiuni.edu.in/storage/dde/downloads/ibiii_exim.pdf
4	Journals	1. Supply Chain Management: An International Journal - Emerald Insight 2. Journal of Supply Chain Management - Wiley Online Library 3. Supply Chain Management Journal 4. The International Journal of Logistics Management - Emerald Insight
5	Supplementary Reading	1. Singh R. , International Trade Logistics, Oxford University Press 2. C. Rama Gopal, Export Import Procedures - Documentation and Logistics, New Age International Publishers 3. https://www.managementstudyguide.com/import-and-export-management-articles.htm
6	Practical Component	1. Studying Supply Chain Distribution of any organization and classifying it according to different types of strategies which are studied and justifying why such system is chosen by that organization. 2. Identifying and visiting local business to study its Logistics & Supply Chain Strategies. 3. Group Discussion on Recent Trends in Supply Chain Management. 4. Identifying and visiting local Import/ Export Agency to study International Documentation required for Import/Export.

Semester	III	Total Credit	4
Course Code	EM -Spl-I- 306 -E	Credit Pattern	L-44, T-8, P-8
Course Title	INDIAN AGRIBUSINESS MANAGEMENT		

Course Out Comes: Students will be able to

1.	Able to understand and identify the trends in the agribusiness sector in India and the world.
2.	Will gain introduction to the necessary skill sets being an agriprenuer on various production methods.
3.	Able to review the contribution of national and international organizations in farm sector.
4.	Develop understanding of policy environment in the country.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Agribusiness Management The concept of Agri-business, Historical Review, Scope, Nature of Successful Agri-Business Firm and Challenges, Role of Agriculture in National Economy, Socio-Economic Impact of Agribusiness, Environmental Impact of Agribusiness, Agro-Business Sector: Global Trends, Issues and Challenges.	L= 11	
		T= 2	P= 2
2	Unit 2: Agribusiness Sector in India Growth and Performance of Agricultural Sector, Agricultural Markets in India, Role of Government in Agribusiness Development, Agriculture Technology and its Trends in India, Agro-Based Industries in India: Dairy, Food Processing, Aqua, Sugar, Confectionery, Edible Oils, etc., New Food Processing Policy of India.	L= 11	
		T= 2	P= 2
3	Unit 3: Production Management in Agribusiness: Introduction, Natural Resource Management, Soil Conservation, Biodiversity Conservation, Sustainable Agriculture, Water Resource Management, Labor and Agricultural Wages, Cropping Pattern (Regional Agro-climatic Pattern), Global Positioning System (GPS), Precision Farming, Organic Farming, Sustainable Agricultural Practices in India.	L= 11	
		T= 2	P= 2
4	Unit 4: International Institutions and Agricultural Trade Environment WTO: Functions and Role in Agriculture, FAO: Functions and Role in Agriculture, Agreement on Agriculture (AOA) and India, APEDA and Its Role, Import and Export Procedures for agricultural products in India, Strategies of Exports for agro-based industries. Trend analysis of Agricultural Trade.	L= 11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources

1	Text Books	• Mishra, A., Biswas, D. & Giri, A., (2019), <i>Production Management in Agribusiness</i>. In: H. P. House, <i>AgriBusiness Management</i>. (2019), Himalaya Publishing House, Mumbai (India), pp. 106 -120. • Nagaraja, P. M., (2019), <i>Agricultural Business Management</i>. 1st Ed., Himalaya Publishing House, Mumbai (India) • Diwase, S., (2009), <i>Indian Agriculture and Agribusiness Management</i>. 1st Ed.,

		Krishi Resource Management Network, Pune. • Smitha, D., (2010), <i>Agribusiness Management</i>, Everest Publishing House, Pune. (India)
2	Reference books	• Panigrahy, S. R. et.al., (2020), 3rd Ed., <i>Objective Agribusiness Management</i>, Scientific Publishers, Jodhpur. India • Barnard, L. Freddie, et.al., (2020), 6th Ed., <i>Agribusiness Management</i>, Routledge, UK. • Gupta, Rakhi, et.al., (2017), <i>Advances In Agri-Management: General Management, Business Development And Innovative Practices</i>, New India Publishing Agency, New Delhi. India • Van Fleet, David et.al., (2014), 6th Ed., <i>Agribusiness: Principles of Management</i>. Cengage Learning, USA.
3	Websites	• www.agriculture.gov.in/ • www.manage.gov.in • www.ica.coop/ • www.apeda.gov.in
4	Journals	➤ Agribusiness: an international journal (Wiley Online Library: https://onlinelibrary.wiley.com/journal/15206297) ➤ Agricultural and Resource Economics Review (ABI/INFORM Complete: https://www.cambridge.org/core/journals/agricultural-and-resource-economics-review) ➤ International Food and Agribusiness Management Review (AgEcon Search: https://www.wageningenacademic.com/journals/ifamr/general-information) ➤ Global Journal of Food and Agribusiness Management (https://www.internationalscholarsjournals.org)
5	News Papers	The Hindu Survey of Indian Agriculture The Economic Times Rural Marketing The Times of India The Economic Times Business Standard Outlook Business The Hindu Frontline Business Today Business India Business World

Semester	III	Total Credit	4
Course Code	EM -Spl-I- 306 -F	Credit Pattern	L-45, T-8, P-7
Course Title	MANAGEMENT INFORMATION SYSTEM		

Course Objectives

1. To understand the concept and importance MIS.
2. To make sense of the technical aspects of MS-Excel for creating dashboards.
3. To develop the skills more effectively to visualize the data using Power query.

Course Outcomes: Students will be able to;

1. Construct MIS Dashboards, including the use MIS Infographics.
2. Using Excel Power Query, refined the data using ETL Process.
3. Extract the content of data from website using web scrapping.

Unit Number	Contents	Number of Sessions	
1	MIS Infographics : Drill Down using pivot table, Pareto charts, Infographics Chart, Trend chart using SUMIF, Map Chart using XY-Scatter, KPI using excel, Charts with Hyperlink and conditional formatting, Speedometer Chart, See Saw Chart, MIS-Hyperlink with column and Pie Chart.	L= 11	
		T= 2	P= 2
2	Disboarding Techniques: Dynamic Month Disboarding, Dashboard on day wise report, Sales ranking dashboard, weekly sales dashboard, Daily task reminder dashboard, Year wise report , Dashboard using VLOOKUP, INDEX and COUNTIF, MIS Amazing Dashboard, Gantt Chart with conditional formatting, Small project on MIS Dashboard.	L= 12	
		T= 2	P= 1
3	Power Query - :Introduction and installation, Create connection with excel table, text file and Access Database, Reconnect data with Power Query, Create Pivot table on Multiple Sheets & text data, Merge Multiple sheets, Power Query Home Tab, Transform Data Dynamically, Combine Multiple tables, Transform raw data real job query, Merge Workbooks, Customer calendar, Merge Data Dynamically.	L= 11	
		T= 2	P= 2
4	MIS using VBA and Power BI- VBA Outlook, Sending email through outlook, Outlook with email attachment, Sending Bulk Mail, Introduction to Web Scrapping, Web scrapping loop, Web Scrapping get data from website, Web Scrapping get all links, Web scrapping get exact data from website, VBA Events, Dashboarding using Power BI.	L = 11	
		T= 2	P= 2

Note:

1. For this paper, there is no Theory exam. The evaluation will be based on the Practical Exam. The External Examiner will evaluate the practical exam.
2. Students will have to complete all tutorials, assignments, and lab sessions for internal credits.

Learning Resources

1	Reading References	1. Aarora, Ritu. Mastering Advanced Excel. BPB Publications, 2023. 2. Cascarino, Richard. Auditorsw guid to information system auditing. Agra:Auditorsw guid to information system auditing, 2017. 3. Lalwani, Lokesh. Excel 2019 All-in-one. Mumbai: BPB Publication, 2019. 4. Michael Alexander, John Walkenbach. Excel Dashboards and Reports .Woley, 2029. 5. Microsoft Excel VBA and Macros (Office 2021 and Microsoft 365) (BusinessSkills). Microsoft, 2021. 6. Schwartz. "Microsoft office 2013 - Schwartz." Pearson, 2016. 7. Clark, Dan. Beginning Power BI . APress, 2017. 8. Webb, Christopher. Power Query for Power BI and Excel. Apress, 2016.

Semester	III	Total Credit	4
Course Code	EM -Spl-II- 307 -A	Credit Pattern	L-45, T-6, P-9
Course Title	DIRECT AND INDIRECT TAXES		

Course Objectives

1.	To understand the concept of Indian Income Tax.
2.	To Enable the students to compute taxable income of individual.
3.	To make students aware about various provisions in GST.

Course Outcomes

1.	To summarize tax basics.
2.	To experiment with direct tax provisions.
3.	To aware students about GST Provisions.

Unit No.	Topic	Number of Sessions	
1	Direct Tax Basics: Important definitions, incomes exempt under section 10, deduction from gross total income under chapter VI, Types of Assessee, filling of income tax return, maintenance of accounts and audits of accounts, TDS and TCS	L = 11	
		T = 2	P = 2
2	Computation of income: Computation of income under different heads of income namely – salary, house property, profits and gains from business and profession, income from other sources, Meaning of Presumptive taxation	L = 12	
		T = 1	P = 3
3	Introduction to GST : Existing indirect tax structure in India, Need of constitutional amendment, Important definitions under GST, Concept of supply, interstate and intrastate supply, Levy of GST	L = 11	
		T = 1	P = 2
4	GST Time and Place of supply and Concept of input tax credit: Time and value of supply, Place of supply, Concept of input tax credit, Blocked credit, Input Tax Credit Rules	L = 11	
		T = 2	P = 2

Note:

1. Case studies on each of the aspects mentioned in the syllabus need to be discussed
2. Videos cassettes, CDS and documentary films exhibited.

Learning Resources

1	Text Books	• Singhanian, V. K. and Singhanian, M. (66th edition) <i>Students' guide to Income Tax including GST for AY 2022-23</i>. New Delhi: Taxmann's publication • Singhanian, V. K. and Singhanian, M. (24th edition AY 2022-23) <i>Students' guide to Income Tax including GST Problems & Solutions</i>. New Delhi: Taxmann's publication • Manoharan, T. N. (40th edition, 2023) <i>Students' Handbook on Taxation for AY 2023-24</i>. Mumbai: Snow white publication
2	Reference Books	• Sekar G (2015) <i>Direct Taxes A Ready Referencer AY 2016-17, 16th edition</i>. New Delhi : Taxmann's publication • Goyal, M. (2nd edition 2013) <i>Direct Taxation AY 2013-14</i>. New Delhi : biztantra publication • Myneni, S.R. (2013) <i>Law of Taxation</i>, Allahabad : Allahabad Law

		Agency publication • <i>GST A Complete Perspective</i> (2nd Edition , 2017) Chandigarh: Walter Kluwer's Publications Deloitte
3	Websites	• Income Tax Department, Government of India – www.incometax.gov.in • Income tax and GST informative sites – www.cleartax.in • Income tax and GST informative sites – www.taxguru.in • Income tax and GST informative sites – www.caclub.in • Income tax and GST informative sites – www.taxmann.com • Income tax and GST informative sites – www.indiafilings.com • Income tax and GST informative sites – www.charteredclub.com • Library online Opac Address: http://192.168.1.111:8080/opac
4	Journals	• https://resource.cdn.icai.org/65855cajournal-aug2021-21.pdf - Whether Tax Audit and Presumptive Taxation, by CA Dindayal Dhandaria, ICAI e-Journal August, 2021, Volume 69, No. 10 • https://resource.cdn.icai.org/65857cajournal-aug2021-23.pdf - Section 115BAC of Income Tax Act, 1961: A step towards the New-Normal, by CA. Saurav Somani, ICAI e-Journal August, 2021, Volume 70, No. 10
5	Supplementary Reading	• Financial Express • Economics Times • Business Standard • Times of India • Indian Express.
6	Practical Component	• Practical Problems on Computation of income from Salary, House Property, profits and gains from business and profession and Other source. • Practical Problems on Exemptions and deductions • Case studies on GST time of supply, schedule I and II

Semester	III	Total Credit	4
Course Code	EM -Spl-II- 307 -B	Credit Pattern	L-45, T-8, P-7
Course Title	INTERNATIONAL HUMAN RESOURCE MANAGEMENT		
Course Objectives			
1.	To provide theoretical foundations of International HRM to students.		
2.	To equip students with the knowledge of HRM Practices in Multi-National Companies.		
3.	To enable students to understand the implications of culture on HR Practices in MNCs.		
4.	To enable students to understand HR interventions in successful cross-border Mergers and Acquisitions.		
Course Outcomes : Students will be able to :-			
1.	Describe the different concepts in International HRM.		
2.	Differentiate between International and Domestic HRM.		
3.	Interpret the implications of culture on HR Practices.		
4.	Evaluate different HR interventions in cross-border mergers and acquisitions.		
Unit Number	Contents		Number of Sessions
1	Globalization: Drivers of Globalization, Effects of Globalization on HRM, Concept of IHRM, Model of International HRM, Differences and similarities between DHRM and IHRM, Issues in IHRM, barriers to effective Global HRM,. Concept of culture, characteristics of culture, types of culture- Dominant, sub-culture, organizational and professional cultures.		L= 11
T=2			P= 2
2	Cultural pre-dispositions- Ethno-centricism –Polycentricism – Regio-centricism- Geocentricism. Geert Hofstede’s cultural dimensions, Communication, Leadership and Motivation across cultures, Issues in International Human Resource Planning, International Staffing: Linking staffing with stage of MNC		L= 12
T=2			P= 1
3	Identifying Potential expatriate, selection criteria of Expatriates, Challenges faced by Expatriates, Women Expatriates, Challenges and Advantages of Women expats, Process and Importance of Cross-cultural training, Emerging Trends. Issues in Performance Appraisal in International context. Compensation Management: Objectives, Components of International compensation package.		L= 11
T=2			P= 2
4	Cross-border Mergers and Acquisitions: Motives, HR Interventions in cross border Mergers and acquisitions. Repatriation: Reasons, Process, benefits from returnees – individual and organizational, Challenges of re-entry, Tips for successful repatriation.		L= 11
T= 2			P= 2
Learning Resources			
Reference books	1. <u>Michael Armstrong</u> , <u>Angela Baron</u> , Strategic HRM: The Key to Improved Business Performance. 2. <u>Julia Connell</u> , <u>Stephen Teo</u> , <u>Strategic HRM: Contemporary Issues in the Asia Pacific Region</u> , 3. Rao P.L. International Human Resource Management- Text and Cases, Excel Books. 4. Charles Greer, Strategic HRM- Pearson Education. 5. Monir H. Tayeb, International Human Resource Management - Oxford University Press, 2005.		
	1. Debate on the cultural predispositions multinational context will be conducted in class 2. Write an essay on “The challenges I would face if my company sends to on foreign assignment“. 3. Case based on Recruitment strategy will be discussed and students will be asked to design and present the recruitment strategy for a given company.		

Semester	III	Total Credit	4
Course Code	EM -Spl-II- 307 -C	Credit Pattern	L-45, T-8, P-7
Course Title	SERVICES MARKETING		
Course Objectives:			
1.	To impart knowledge about Services Marketing.		
2.	To develop knowledge and understanding regarding factors affecting Services Marketing.		
3.	To develop quality Services for consumers.		
Course Outcomes: Students will be able to;			
1.	Discuss conceptual knowledge of Services Marketing.		
2.	Apply 7 P's to the concept of services marketing.		
3.	Devise strategies for Services.		
4.	Evaluate strategies for Services.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Services Marketing Why study Services, principal industries of Service Sector, Historical view of Services, Benefits without ownership, four broad categories of services, 7 P's of Services; Framework for developing Service Market Strategies; Three-Stage Model of Service Consumption – Pre-purchase Stage, Service Encounter Stage, Post Encounter Stage; Positioning Services In Competitive Markets – Customer driven Services Marketing Strategy, Segmenting Service markets, Targeting Service Markets, Principles of Positioning;	L= 11	
		T= 2	P= 2
2	Applying 4 P's of Marketing to Services- Developing Service Products and Brands; Distribution of Services, How to distribute Services. Location of Facility, When should Service be delivered; Services Pricing and Revenue Management – Effective Pricing, Foundations of Pricing Strategy, Revenue Management, Fairness and Ethical Concerns in Service Pricing, Putting Service Price into Practice; Service Marketing Communications – Integrated Service Marketing Communications, Defining target audience, specifying objectives, tactical objectives, crafting effective service communication messages, Services Marketing Communication Mix; Managing Customer Interface – designing service processes, developing service blueprint, Service process Redesign, customer participation in Service processes, Self Service technologies; Balancing Demand and Capacity – fluctuations in demand, defining productive service capacity, understanding patterns of demand, Inventory demand through Waiting lines and queuing systems, Customer perception of waiting time, inventory through reservation systems, creating alternative use for otherwise wasted capacity.	L= 12	
		T= 2	P= 1
3	Crafting Service Environment – service environments, purpose, theory, dimensions of service environment; Managing People for Service Advantage, Service employees, frontline work, Cycles of failure, mediocrity & Success, Human resource management, Service culture, Climate and leadership; Managing relationships and Building Loyalty – search for customer loyalty, wheel of loyalty – foundation for customer loyalty, Strategies for developing loyalty, reducing customer defections, enablers of customer loyalty, CRM	L= 11	
		T= 2	P= 2

4	Customer Handling & Service recovery, customer complaint behavior, Customer response to effective service recovery, principles of effective recovery system, service guarantees, discouraging abuse and opportunistic customer behavior; Improving Service quality – meaning, measuring service quality, customer feedback, hard measures of service quality, return on quality; Productivity –defining & measuring, improving service productivity; Integration & Systemic approaches to quality improvement; Building World Class Service Organisation	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and videos relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Lovelock C, Wirtz J, Chatterjee J (2011) 8th Ed, Services Marketing Pearson Publications New Delhi India 2. Lovelock C, Wirtz J, Chatterjee J (2011) 7th Ed, Services Marketing Pearson Publications New Delhi India 3. Zeithmal , V A., Bitner M. J., Gremler D. D., Pandit, A. (2013), 6th Ed., Services Marketing McGraw Hill Publication, New Delhi India.
2	Websites	https://www.ama.org/ https://www.academyofindianmarketing.org/ (Academy of Indian Marketing (AIM) Management Institutions) https://www.ima-india.com/ (https://www.ima-india.com/)
3	Supplementary Reading	Economics Times, Brand Equity Business Standard, HBR
4	Practical Component	Case studies on relevant components

Semester	III	Total Credit	4
Course Code	EM -Spl-II- 307 -D	Credit Pattern	L-45, T-7, P-8
Course Title	PURCHASING AND INVENTORY MANAGEMENT		
Course Objectives			
1.	To make students understand fundamental concepts, principles and practices of purchase management, including the basic functions of materials management.		
2.	To make students knowledgeable about theoretical aspects and practical application of Inventory Management.		
3.	To introduce students to modern concepts and trends in Purchase & Stores Management.		
Course Outcomes: Students will be able to			
1.	Explain basic terms and concepts related to Purchase & Stores Management.		
2.	Discuss the functions and benefits of store management including its safety and security aspects.		
3.	Develop suitable Inventory Model for the organization by determining safety stock requirement.		
4.	Design effective Vendor Development Programme, Vendor Evaluation and Rating Method for the organization.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	PURCHASING MANAGEMENT Introduction to Materials Management, Purchasing: Objectives, Scope, Principles & Procedure, 5R of Purchasing, Responsibilities of Purchasing Manager, Methods of Buying, Centralised & Decentralised Purchasing, Sources of Supply & Supplier Selection, Legal Aspects of Purchasing.	L= 12	
		T= 1	P= 2
2	STORES MANAGEMENT Meaning of Store Management, Functions of Scientific Store Management, Types of Stores, Stores Procedure, Store Location & Layout, Centralised & Decentralised Store, Storage Safety And Security Aspects, Standardization & Variety Reduction, Codification, Stock Taking.	L= 11	
		T= 2	P= 2
3	INVENTORY MANAGEMENT & CONTROL SYSTEM Defining Inventory, The Need of Inventory & Its Control. Inventory Management: Objectives, Functions & Importance. Costs Associated with Inventory, Inventory Models: Basic EOQ Model, Quantity Discount Model, Safety Stock Determination, Replenishment Systems, Fixed Order Quantity (Q Model) Versus Fixed Time Period (P Model). (Numerical Treatment on Inventory Models)	L= 11	
		T= 2	P= 2
4	STRATEGIC MATERIALS MANAGEMENT Vendor-Vendee Relations, Vendor Development, Vendor Evaluation & Rating Methods, Supplier Quality Assurance Programme, Material Accounting & Audit, Inventory Valuation, Worldwide Sourcing, Government Purchasing Practices & Procedure, Materials Management Information System (MMIS)	L= 11	
		T= 2	P= 2

Learning Resources		
1	Text Books	1. Ahuja K., Material Management ,CBS Publishers & Distributors 2. Datta A. , “Materials Management”, Procedure, Text & Cases, Prentice-hallof India Pvt. Ltd, New Delhi. 3. Menon K., Kulkarni S., Purchasing and Inventory Management, SPD Publications 4. Jain K. and Patidar J., Purchasing and Materials Management, S. Chand
2	Reference books	1. Müller M., “Essentials of Inventory Management” Amacom, 2003. 2. Tersine R., “Principles of Inventory and Materials Management” North-Holland, 2007.
3	Websites	1. www.materialsmanagement.info/defscope/index.htm 2. http://www.materialsmanagement.info/inventory/functions-of-inventory.htm 3. https://www.managementstudyguide.com/inventory-management.htm 4. http://www.ispatguru.com/stores-management/
4	Journals	1. Journal of Purchasing and Materials Management - Wiley Online Library 2. Journal of Purchasing & Supply Management - Journals - Elsevier 3. International Journal of Procurement Management (IJPM) 4. International Journal of Purchasing and Materials Management
5	Supplementary Reading	1. Gopalakrishnan P. and Sundaresan M., Material Management: An Integrated Approach, Prentice-Hall of India Pvt.Ltd 2. Monczka R. and Robert B. Handfield, “Purchasing and Supply Chain Management” 6th Edition, Jan 2015.
6	Practical Component	1. To interview Purchasing Manager of any local business to understand responsibilities and limitations of purchasing manager. 2. To visit any local manufacturing organization study functions of Store Management and storage security and safety aspects. 3. To interview Inventory Manager of any local business to study inventory control technique adopted by the organization. 4. Library Exercise on Materials Management Information System (MMIS) undertaken by any one company of your choice.

Semester	III	Total Credit	4
Course Code	EM -Spl-II- 307 -E	Credit Pattern	L-44, T-8, P-8
Course Title	RURAL MARKETING IN INDIA		

Course Out Comes: Students will be able to

1.	Able to identify, understand and evaluate the trends in the rural and agricultural markets in India.
2.	Will gain necessary skill sets being a rural marketing expert such as developing various marketing strategies for rural markets, able to adopt rural marketing research tools in a rational way etc.
3.	Able to develop Rural Marketing Strategy Model Report on the basis of learning points in the module.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit 1: Introduction to Rural Marketing: Definition, Classification, Nature and Characteristics of Rural Markets, Rural Market Structure and Size, Problems and Constraints in Rural Marketing, Constitution of Rural Markets in India, Recent Trends in Indian Rural Markets.	L= 11	
		T= 2	P= 2
2	Unit 2: Rural Marketing Research Introduction, significance and sources of information, key decisions, approaches and tools of market research- case for innovation, participatory approaches, innovative tools, rural vs urban marketing research, rural research business, challenges in rural marketing research	L= 11	
		T= 2	P= 2
3	Unit 3: Rural Consumer Behavior Rural Consumer: Classification and profile, Rural Consumer Buying Behavior – Major Forces Influencing Rural Consumer Behavior, Changing Characteristics’ of a Rural Consumer, Consumer Buying Process, Opinion Leadership Process, Dissemination of Innovation and Brand Loyalty.	L= 11	
		T= 2	P= 2
4	Unit 4: Rural Marketing Planning and Strategy Development: Rural Segmentation, Market Targeting and Positioning and Procedures in India, Planning For Rural Marketing, Strategic Issues In Rural Marketing: Rural Product Strategy – Rural Pricing Strategy – Rural Distribution Strategy – Rural Promotion Strategy, Introduction to PRA Technique and its importance in Rural Marketing,	L= 11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Ramkishan, I., 2004. “<i>New Perspectives In Rural And Agricultural Marketing</i>”, Jaico Publishing House, 2nd Edition 2. Pradip Kashyap, 2016, “<i>Rural Marketing</i>”, Pearson Publications, Third Edition, 3. Dr. Badi, R., and Prof. Badi, N.V., 2017. “<i>Rural and Agricultural Marketing</i>”, Himalya Publications, New Delhi
2	Reference books	1. Sarwade W.K., 2006. “Agricultural Marketing” Vatsala Baliram Prakashan Kendra, Mumbai 2. Gopalswamy T.P., 2006, “Rural Marketing: Environment Problems and Strategies”, Vikas Publishing House Pvt. Ltd, New Delhi 2006, Third edition, 2009, 3. Verma S.B; Jiloka S.K., 2006, “Rural Agricultural and Marketing”, Deep and Deep Publications, India 4. Kamat M.; Krishnamurthy R., 2003. Rural Marketing, Himalaya 5. Habeeb-ur-Rahman K.S., 2003, “Rural Marketing In India”, Himalaya Publishing House, New Delhi 6. Abbott J.C.; Makcham J.P, 1992. “Agricultural Economics and Marketing in the Tropics”, Elbs with Longman, 2nd Edition. 7. Singh G.N.; Singh D.S., Singh R. I, 1990. “Agricultural Marketing In India, Analysis Planning And Development” Chugh Publications, Allahabad 8. Rajagopal, 1993. “Indian Rural Marketing”, Rawat Publication.
3	Websites	www.agriculture.gov.in www.manage.gov.in www.ica.coop www.apeda.gov.in www.enam.gov.in www.ruralmarketing.in
4	Journals	Rural Marketing Indian Journal of Marketing Vikalpa
5	News Papers and Magazines	Rural Marketing The Times of India The Economic Times Business Standard Outlook Business The Hindu Frontline Business Today Business India Business World Financial Express

Semester	III	Total Credit	4
Course Code	EM -Spl-II- 307 -F	Credit Pattern	L-45, T-8, P-7
Course Title	INFORMATION SYSTEM AUDIT AND CONTROL		

Course Objectives

1. To enable a student to use analytics to solve business problems.
2. To Make Use of I.S Audit Procedures.
3. To develop skills in the theory, techniques and practical issues involved in computer-based information systems control and auditing.

Course Outcomes: Students will be able to;

1. Classify the concepts of computer security, computer security threats and the corresponding remedies.
2. Describe the trend of computer security threats.
3. Develop an audit plan to achieve the IT audit objectives.

Unit Number	Contents	Number of Sessions	
1	Introduction – Overview Of Information System Auditing, Need For Control And Audit Of Computers, Need for Assurance, Effect Of Computers On Auditing, Benefits of IS Audit for An Organization. IT Governance and Auditors. Conducting Information System Audit –Audit Charter And Engagement Letter, A Typical IS Audit Charter	L= 11	
		T= 2	P= 2
2	Audit Planning, Audit Approaches, Risk Assessment, Information Gathering Techniques, Vulnerability, System Security Testing, Development Of Security Requirements Checklist, The Road Map For Setting Up Information System Audit For Bank, The Management Control Framework: Introduction, IT Management Framework.	L= 12	
		T= 2	P= 1
3	Top Management Controls – Evaluating – Evaluating The Planning, Organizing-Policies and procedures, HR Policies and Procedures Relating To Information System, Leading Function, Controlling Function. Audit of Program Development, Audit of Program Modification, Field level input control, Record level input control, Conversion Audit.	L= 11	
		T= 2	P= 2
4	Operational Control Review – Control Requirements for Backup, Backup Procedures, Selection of storage media, Security Measurement Controls – Introduction, Conducting A Security Program, Major Security Threats And Remedial Measures, Need Of Disaster Recovery And Business Continuity, Data Disaster, Virus Disasters, Software Disasters, Data Center Disasters, Core Banking Solution.	L=11	
		T= 2	P= 2

Note: Students will have to complete all tutorials, assignments and lab sessions for internal Credits.

Learning Resources		
1	Reading References	1. Weber, Ron. "Information System Control And Audit." In Information System Control And Audit, by Ron Weber. Delhi: Person, 2016. 2. Cascarino, Richard. Auditors guid to information system auditing. Agra: Shity Bhavan, 2017.

SEMESTER – IV

Semester	IV	Total Credit	4
Course Code	EM - 401	Credit Pattern	L-45, T-8, P-7
Course Title	LAND AND WATER MANAGEMENT		
Course Objectives			
1.	To understand problems and solutions related with land resources.		
2.	To study various aspects of water management.		
Course Outcomes: After studying this course the students will able to			
1.	Identify the concept of optimal land use planning based on capabilities to prevent further degradation and relate these to appropriate methodologies of sustainable land management.		
2.	Describe challenges and give suggestions to manage accelerated soil erosion, ground water recharging and water logging conditions, with the emphasis on prevention, control and reclamation of saline-alkali soils.		
3.	Develop understanding of the hydrology of streams and lake systems and concept of water shed management, and describing the processes of and importance of groundwater flow and aquifer systems.		
4.	Perceive the challenges of maintaining surface and ground water quality, apply their knowledge base and research skills to current issues pertaining to water resource management, and remediation, with emphasis on related economic, social, and public policy dimensions.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Soil Pollution: Importance of Soil resources, Physical, Chemical and Biological Properties of soil. Definition, causes/ sources of soil pollution: agro-chemicals, heavy metals, disposal of city refuse, waste water, soil salinity and water logging. Methods of Soil sampling, Effect of Soil pollution on Flora and Fauna. Control of Soil Pollution: Prevention & Elimination, Soil pollution management.	L=11	
		T= 2	P= 2
2.	Land Management Land classification on the basis of topography, climate, and utilization; Land use patterns in India, Need of Land Management. Spheres of Land Management, Land Productivity, Capability and Capacity, Land Capability Classification as a Guide for Soil Conservation. Desertification with special reference to India, Degradation of Land: causes, effects & control, Acid Soil management, Saline & Alkali Soil Management. Soil Erosion, Methods of Soil Conservation, and Wetlands & Water Logged areas.	L= 12	
		T= 2	P= 1
3.	Water Resources Classification and sources of surface and groundwater; Exploration and exploitation of water resources; Quality of Irrigation Water; Consequences of unskilled irrigation practices, Impact of dam construction on ecosystem and society, Utilization of water resources for energy production, sanitation, drinking, navigation, industries and agriculture; National Water Policy.	L= 11	
		T= 2	P=2

4.	Watershed Management : Water management strategies and problems, Watershed- concept and Classification; Watershed characteristics, concept of Contour Watershed Management structures, Multi-disciplinary water management.	L=11	
		T= 2	P= 2

Learning Resources

1	Text Books	- Text Book Of Soil Science by PAL, CBS publishers, 2018 - Textbook Of Environmental Science And Technology by REDDY, BSP publishers, 2019 - A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 - A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 - A Text Book Environmental Studies, Chatawal & Sharma, HPH - A Text Book Environmental Science, Joshi & Joshi, APH - A Text Book of Environmatal Studies, Nambiar, STP
2	Reference books	- Managing Natural Resources: Focus on Land and Water. Misra H.N, 2014 - Land and Water Management Engineering. Madan K. Jha V.V.N. Murty, 2013. - Land & Water Management Principles. R Suresh, 2008. - Hydrological Measurements for Watershed Research by Wasi Ullah, SK Gupta and SS Dalal. - Watershed Management by JVS Murthy, New age International (P) Ltd, New Delhi. - Ground water Hydrology by Todd,D.K. Willy India Pvt. Ltd, New Delhi,2011. - Ground water hydrology by Todd, David Keith, 2010. - Principle and Practice of Water Management by S.C.Panda Agrobos (India). - Conservation of Water Resources Problems & Prospects, 2008. - Resource Values & Development, 1999 by Amarthysen, Oxford Uni. Press New Delhi. - Soil Geology, Kolay. A. K ., Atlantic Publisher. - Soil Pollution, 2009, Mishra S. C. , APH Publications New Delhi. - Text Book of Soil Science, 2005, Daji J.A. Media Promotors & Publisher , New Delhi. - Introduction to Soil & Water Conservation Engineering, 2002, Mal..B.C. Kalyani Publisher, Ludhiyana. - Land Utilization : Theory & Practice, Mandal R. B. , Concept Publishing. - Environmental Geography Science landuse & Earth, Marsh Willium. M. Jhon Willy & Sons, New York. - Geochemistry, Groundwater & Pollution, 2005, Appcco C.A.S., A.A. Balkema Publishers. - Land Degradation & Desertification, Jha V. C., Rawat Publications, Jaipur. - Hand Book of Ground Water Remediation & Treatment Technology, Cheremisinoff N.P., Crest Publishinh hours, New Delhi. - Land Reforms In India- Performance & Challenges in Gujarat & Maharashtra, Shah Ghanshyam, Sage Publications, New Delhi.

3	Websites	• https://www.sciencedaily.com/terms/sustainable_land_management.htm • http://www.yourarticlelibrary.com/geography/soil-conservation-4-methods-that-must-be-adopted-for-conserving-soil/13910 • https://www.conserve-energy-future.com/methods-of-soil-conservation.php • https://sciencing.com/types-water-resources-5127497.html • https://www.un.org/waterforlifedecade/water_and_sustainable_development.shtml
4	Journals	• Current Science, ISSN No. 0011-3891 • Down to Earth • Every Thing About Water • International Journal of Environmental Engineering Science, ISSN No .2229-3094 • Resonance, ISSN No. 0971-8044 • Journal of Earth System Science, ISSN No .2253-4126
5	Supplementary reading	• Soil Quality Survey • Water Quality Reports of State Government
6	Practical Component	Practicals based on this paper will be conducted under Paper No. CC 203 (Practical- III)

Semester	IV	Total Credit	4
Course Code	EM - 402	Credit Pattern	L-45, T-8, P-7
Course Title	STRATEGIC MANAGEMENT		

Course Objectives	
1.	To familiarize students with strategic management process in detail.
2.	To analyze organizations for strategy formulation and implementation.
3.	To design various types of strategies for a given industry.
4.	To evaluate an industry using various tools and techniques for strategic choice.
5.	To be able to evaluate strategies implemented.
Course Outcomes Students should be able to:	
1.	Discuss various concepts and theories in the field of strategic management.
2.	Formulate various types of strategies for a given industry.
3.	Evaluate an industry using various tools and techniques for strategic choice.
4.	Critique strategies implemented.
5.	Devise strategic approaches to managing a business successfully in a global context

Unit Number	Contents	Number of Sessions	
1	Introduction to Strategic Management & External Environment Introduction to Concept of Strategy and Strategic management; Stages of strategic Management, key terms in Strategic Management; The Strategic Management Model; Benefits and pitfalls of strategic Management; Strategy formulation – Vision and Mission; importance of vision and mission statements; importance of vision and mission statements, characteristics of Mission statements; evaluating and writing mission statements. External environment Audit – purpose and nature; Ten external forces that affect an organisation; Porters Five Forces Model, External Factor Evaluation Matrix, Competitive profile Matrix.	L=11	
		T=2	P=2
2	Internal Analysis & Corporate Strategies Nature of Internal Audit; Integrating strategy and culture; management, marketing, finance, operations audit; Value Chain Analysis; Internal Factor Evaluation Matrix. Strategies in Action – long term objectives; Types of Strategies – levels, integration strategies, Intensive Strategies, Diversification Strategies, defensive Strategies, Michael Porter's Generic Strategies -Blue, red & Purple Ocean strategies Means for achieving strategies.	L=12	
		T=2	P=1
3	Strategic Analysis and Choice Strategic Analysis & Choice Process; Strategy formulation Analytical Framework; SWOT Matrix, Strategic Position and Action Evaluation (SPACE) Matrix, BCG Matrix, Internal- External (IE) Matrix, Grand Strategy Matrix, Quantitative Strategic Planning (QSPM) Matrix; Cultural Aspects of SAC, Politics of SAC. McKinsey's 7s framework Strategy Implementation – Need for clear objectives and policies, allocate resources and manage conflict; Match structure with strategy, Strategic HR, Operations, Marketing, Finance Issues.	L=11	
		T=2	P=2

4	Strategic Evaluation and Key Strategic Management Issues Strategy Evaluation Process Criteria And Methods, Strategy Evaluation Activities, Balanced Score Card, Sources of Strategy Evaluation Information, Characteristics of Effective Strategy Evaluation System, Contingency Planning, Auditing, 21 st Century Challenges in strategic Management; Business Ethics, Social & Environmental Responsibility – Whistle blowing, bribery and workplace balance, Social responsibility Policy, Environmental Sustainability, wildlife Welfare; Global and International Issues – Nature of doing business globally, advantages and disadvantages of doing business globally.	L=11	
		T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. David F R and David F R (2018), 16th Ed, Strategic Management Concepts – A Competitive Advantage Approach, Pearson India Education Services, Noida India. 2. Hoskisson, Hitt, Ireland & Manikuttu, “Strategic Management”- A south Asian Perspective Cengage Learning, 9th Edition. 3. Rao, V. S. P., (2013), 2nd Ed., Strategic Management Text & Cases, Excel Books, New Delhi, India. 4. Thomas Wheelen, T., Hunger J. D, Hofman, A. N., & Banford, C. E., (2018), Concepts in Strategic Management and Business Policy Pearson Publication , New Delhi, India.
2	Websites	www.mckinsey.com/in
3	Supplementary reading	Business Standard : The Strategist supplement Economic Times
4	Practical component	Case studies and assignments on real life situations

Semester	IV	Total Credit	4
Course Code	EM - 403	Credit Pattern	L-44, T-8, P-8
Course Title	BUSINESS ETHICS AND CORPORATE GOVERNANCE		
Course Outcomes: At the end of the course Students will be able to			
1.	Describe ethical decision-making framework.		
2.	Analyze ethical and moral issues in life and in Business.		
3.	Examine the evolution of Corporate Governance in India.		
4.	Generalize Principles of Good corporate governance.		
Unit Number	Contents		Number of Sessions
1	Unit 1: Introduction to Business Ethics Concept of Ethics, Nature and Characteristics of Business Ethics, Doctrine of Karma, Causes of Unethical Behaviour , Work Ethics, Code of conduct for business, Ethical decision making frameworks, Ethical theories: Rights Theories, Justice Theories, Utilitarianism, The Virtue Approach, The Common Good Approach.		L=11
			T=2 P=2
2	Unit 2: Ethical issues : Identification and Solutions Ethical Dilemma, Resolution of ethical dilemma, Fostering ethics, Whistle blowing concept and policy, Corruption, Bribery. Ethical issues in Global Business, Concept of sustainability reporting, Ethics in various functional areas- Marketing, Advertising, HRM, Accounting, Ethics in environment protection.		L=11
			T=2 P=2
3	Unit 3 : Introduction to Corporate Governance Corporate Governance – Concept, Objectives, History ,Issues in Corporate Governance, Elements of good Corporate Governance, OCED Principles of Corporate Governance, Corporate citizenship, Corporate Social Responsibility and Stakeholders Role, Triple Bottom line and Carroll's model of CSR.		L=11
			T=2 P=2
4	Unit 4 : Corporate Governance in India. Naresh Chandra Committee Recommendations, Narayan Murthy Committee Recommendations, The Cadbury Committee, Recommendations in Companies Act 2013, Amendments by Indian regulators pertaining to Corporate Governance. Recent Developments in India- Corporate Governance Score card, Corporate Governance Awards. Role of Board of Directors, Types of Directors and their Functions, Independent Directors- Functions and Role, Ethics committee.		L=11
			T=2 P=2

Learning Resources		
1	Text Books	1. Business Ethics and Corporate Governance , B.N.Ghosh, Tata Mcgraw Hill
2	Reference books	1. Fernando A.C. , Corporate Governance, Principles, Policies and Practices, Pearson Education 2. Business Ethics and Corporate Governance , B.N.Ghosh, Tata Mcgraw Hill 3. Business and Government , Francis Cherunilam , Himalaya Publishing House 4. Joffy George, The Art of Corporate Governance 5. SEBI Regulations 2015 6. Shaw W.H, Business ethics, Thomson 7. Ferrel O.C., Farrell Linda, Business Ethics, Ethical decision making and cases, Biztantra
3	Websites	www.onlineethics.org www.oecd.org
4	Journals	1. Business Express 2. Bloomberg Business Week 3. Business India
5	Supplementary Reading	1. The Economics Times
6	Practical Component	1. Studying Governance system of any company and classifying it into different types of systems which are studied and justifying why such system is chosen by that organization. 2. Preparing the code of conduct of any five business organization. 3. Class debate on ethical dilemma. 4. Identify three ethical business organizations and list their ethical norms. 5. Library Exercise on Corporate Governance activities undertaken by any of two company

Semester	IV	Total Credit	4
Course Code	EM - 404	Credit Pattern	L-44, T-8, P-8
Course Title	START UPS AND ENTREPRENEURSHIP DEVELOPMENT		
Course Outcomes: At the end of the course Students will be able to			
1.	Describe the concept and types of Start ups.		
2.	Explore the start up ideas and start up India scheme.		
3.	Identify various funding options for start ups.		
4.	Create a start up on the campus.		
Unit Number	Contents	Number of Sessions	
1	Understanding Start ups: Understanding the concept of start up and its economic rationale. The difference between a startup and a small Business, Types of Start Ups: Life style start ups, Small business start ups, Scalable startups (Silicon Valley entrepreneurs), Buyable startups, Social start ups, Technology Startups. Innovative Business Models adopted by startups worldwide. Startup Ecosystems with examples. Indian Start ups in the last ten years. Government policy for MSME and start up India Scheme.	L=11	
		T=2	P=2
2	Innovations and Entrepreneurship: Meaning and definitions of Innovation, Practice of Innovation, Types of Innovation, Process of Innovation, Drucker’s Seven sources of Innovations. Protection of Intellectual Property. Patent laws Meaning, concept, definition. Meaning of trade mark, trade secrets, copyright, patent, geographical indications, brand, logo etc – concept and meaning. Patent law in India. Process of filling IPR in India – patent, trademark, GI, trade mark, copyright, IPR and WTO - TRIPS. Intellectual property management.	L=11	
		T=2	P=2
3.	Design thinking Approach: DT frame works. Phases, Methods and Tools of Design Thinking- Phases: Explore, Empathies, experiment, engage and evolve. Methods- field Observation, deep interviews, needs finding, persona identification. IDEATION USING Deconstruct & Reconstruct. Domain Selection- Startup idea Generation, Screening, Selection. Project in Design Thinking.	L=11	
		T =2	P= 2
4.	Funding Methods for Startups: Stages of Start up Financing, Types of Investors for Startups 1) Friends & Family. 2) Banks & Government Agencies. 3) Angel Investors 4) Boot strapping 5) Accelerators & Incubators 6) Family Offerings 7) Venture Capital Firms. 8) Corporate Investors. Funding for startups through government agencies India. Preparing a Business Plan, Key elements and pitching for investment. Problems and Challenges of startups: Lack of legitimate mentors for Startups, Competition from big players, stringent norms of financiers, marketing problems, human resource management problems, funding problems, delays and project cost escalation. Sustaining and growing the startup.	L=11	
		T=2	P=2

Learning Resources		
1	Text Books	1. Mohanty S.K. (2019) – Fundamentals of Entrepreneurship, Prentice Hall of India 2. Arya K., Entrepreneurship: creating and leading an entrepreneurial organization. By Pearson India. 3. Zimmerer & Scarborough – Essentials of Entrepreneurship & Small Business Management, Prentice Hall of India 4. Allen, K. (2003) Launching New Venture, Cengage Learning 5. Drucker P. (2006), 'Innovation and entrepreneurship'. HarperCollins. 6. Angela Albu ' Fundamentals of Innovation' IntechOpen http://dx.doi.org/10.5772/intechopen.69005
2	Reference books	1. Hisrich P., Irwin.' Entrepreneurship: Starting, Developing and Managing a New Enterprise. PHP 2. Nandan R : 'Unlashing your entrepreneurial Potential' Sage Publication 3. Lall M, 'Entrepreneurship', Excel books 4. Mathew J Manimala :- Entrepreneurship at the Crossroads – Biztantra Pub. 5. Ries E, (2017) 'The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses:' Published By Currency, USA 6. Khandwalla P. (2014) 'Creative Society: Prospects for India'. Vikas Publishing House, Noida 7. Thierry Burger-Helmchen edited (2012) 'Entrepreneurship – Creativity and Innovative Business Models' Published by InTech (pdf)
3	Websites	https://inc42.com/startups/file:///E:/introduction%20to%20startup.pdf file:///C:/Users/student/Downloads/rebo_use_dp_2016_1613%20(1).pdf https://fi.co/insight/the-most-comprehensive-guide-to-the-silicon-valley-startup-ecosystem-ever-created
4	Journals	EDII, Ahmedabad Reports and Publications.
5	Supplementary Reading	Economic Times Business Standard Online reading of Harvard Business Review, Journal of Business Venturing
6	Practical Component	Case Study on Start Up Business Models and presentation. Visit to Incubations Interaction with Startup entrepreneurs

Semester	IV	Total Credit	4
Course Code	EM-Spl.I-405-A	Credit Pattern	L-45, T-6, P-9
Course Title	MANAGEMENT CONTROL SYSTEM		
Course Outcomes : The students will able to learn			
1.	Apply concept of marginal costing for decision making.		
2.	Analyze various operating and financial leverages to design capital structure.		
3.	Evaluate various types of budgets for managerial decision making.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Management Accounting: Meaning and Scope of Management Accounting In the Context of Changing Business Environment, Human Resource Accounting and Inflation Accounting. Strategic Management Accounting, Introduction of Accounting Information for Transfer Pricing. Methods of Transfer Pricing.	L=11	
		T=2	P=2
2	Marginal Costing: Meaning and scope, uses and advantages, Terminologies in Marginal Costing- Contribution, Margin of Safety, CVP analysis, BEP and Relevant Cost and Decision-Making.	L=12	
		T=1	P=2
3	Leverage Analysis: Meaning & importance of leverage, Types of leverages, Use of leverage in decision making, Measures of Operating and Financial Leverage, Effects of Leverage on Shareholders Returns.	L=11	
		T=1	P=3
4	Budget and Budgetary Control: Concept of Budget, Budgeting and Budgetary Control, Organization for Budgetary control- Budget Centers, Budget Committee, Budget Manual, Budget period, Principal Budget, Advantages and limitations of Budgetary Control System. Types of budget.	L=11	
		T=2	P=2

Note:

1. Case studies on cash budget and flexible budget.
2. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
3. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Kapil Sheeba, "Financial Management" Pearson Publication House. 2. Jonathan Berk, Peter, "Financial Management" Pearson Publication House. 3. Sharan Vyuptakesh, "Fundamentals of Financial Management" Pearson Publication. 4. James C Van harne, "Financial Management & Policy" Pearson Publication House. 5. ICSI : Handbook on Mergers Amalgamations and takeovers.
2	Reference Books	1. V.K. Saxena And C.D. Vashisth: "Advanced Cost And Management Accounting", Sultan Chand And Sons, 6th Edition 2. M.Y. Khan And P.K. Jain, "Cost Accounting", Tata McGraw Hill, Edition 2000 3. Dr. M.K. Kole, "Human Resource Accounting, Institute Of Cost And Works, Accountants Of India", Edition 2000 4. N.K. Prasad, "Cost Accounting" 5. R.P.Rustagi, "Financial Management", PHI, 10th edition. 6. Garrison, Managerial Accounting, Tata McGraw 7. Maheshwari, Financial Accounting, Vikas Publishing 8. Khan and Jain, Management Accounting, Tata McGraw 9. Ramchandran, Financial Accounting for Management, Tata McGraw 10. JawaharLal, Accounting For Management, Himalaya Publishing 11. J.Madegowda, Accounting For Managers, Himalaya Publishing 12. M.N.Arora, "Cost and Management Accounting", Himalaya Publishing
3	Websites	<u>INFLIBNET</u> http://nlist.inflibnet.ac.in <u>J-GATE</u> http://jgateplus.com <u>EBSCO</u> http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4	Journals	• Prabhandan: Indian Journal of Management • IUP Journals • ICSI Journals • Finance India • Indian Journal of Finance (New Sub.) • Journal of Accounting & Finance etc.
5	Supplementary Reading	• Financial Express • Economics Times • Business Standard • Times of India • Indian Express.
6	Practical Component	• Practical Problems on marginal costing and decision making • Practical Problems on leverages • Practical Problems on flexible budget and functional budgets • Financial statement analysis using Proves-IQ • Companies Financial Reports & Corporate case studies.

Semester	IV	Total Credit	4
Course Code	EM-Spl.I-405-B	Credit Pattern	L-45, T-8, P-7
Course Title	PERFORMANCE AND COMPENSATION MANAGEMENT		
Course Outcomes: Students will be able to;			
1.	Gain insights of various conceptual aspects of Compensation, Performance Management and competencies and related law to achieve organizational goals.		
2.	Determine the performance/competency based compensation system for business excellence and solve various cases.		
3	Designing the performance and compensation strategies for attraction, motivation and retaining high quality workforce.		

Syllabus:

Unit Number	Contents	Number of Session	
1	Performance Management: Managing and addressing Employee Performance Problems. Performance Management and Employee Development: Employee Assessment system, Potential Appraisal System:- Development and Retention of high potentials, Role of HR Professionals in Performance management.	L= 12	
		T= 2	P= 1
2	Competency Model, Competency Model Pyramid, Application of competency model into various HRM functions, benefits of using competency mapping model in organizations, Benefits of using competency based performance appraisal system, Taking interviews to gather information, Behavioural Event Interview, process for writing competencies.	L= 11	
		T= 2	P= 2
3	Compensation Management: Wage and Salary Administration: Calculation of Wage, Salary, Perquisites, Cost of Living Index and Dearness Allowance, Designing and operating incentives, fringe and non-financial Benefits,. Job Evaluation:- Major Decisions in Job Evaluation, Job Evaluation Methods	L= 11	
		T= 2	P= 2
4	Employee Contributions: Pay For Performance (PFP): Competency Based Pay, Skill based Pay, Team based pay, Gain and Profit sharing, Merit Pay/Variable Pay, Compensation Strategies for Special Groups. Executive compensation, cafeteria compensation. Laws related to wages and salaries:- Minimum Wages, Payment of Wages, Payment of Bonus.	L= 11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Gerhart B and Rynes S L (2012), first edition, Compensation, Theory, Evidence and Strategic Implications, New Delhi, Sage Publications. 2. Armstrong M. Cummins A, Hastings S, Wood W (2006), 6th Edition, Job Evaluation: A Guide to achieving equal pay, New Delhi, Kogan Page India.
2	Reference books	1. Kohli A Sand Deb T (2009), Third Edition, Performance Management, Oxford University Press, New Delhi. 2. Milkovich G.T, Newman J M and Venkata Ratnam CS (2009), 9th Edition, Compensation, Chennai, McGraw Hill Education, 3. Henderson R I (2017), 10th Edition, Compensation Management in a knowledge based world, Delhi, Pearson. 4. Appa Rao C (2012), First Edition, Performance Management, New Delhi, biztantra 5. Armstrong M, Murlis H (2005), 5th Edition, Reward Management, New Delhi, Kogan Page in association with Hay Group.
3	Websites	1. www.Razorpay.com 2. www.Minthr.com
4	Journals	1. IOSR Journal of Humanities And Social Science 2. Indian Labour Journal
5	Supplementary Reading	1. https://www.toolbox.com/hr/performance-management/articles/what-is-performance-management/ 2. https://www.hibob.com/hr-glossary/compensation-management-planning/ 3. https://www.talentlyft.com/en/resources/what-is-behavioral-based-interview 4. https://www.namanhr.com/services/competency-mapping/
6	Practical Component	1. Students must prepare a comprehensive compensation plan to be offered to Executives. 2. Students must compare and analyze compensation practices in different countries. 3. Students to collect information from different organization regarding the Cost To Company of an employee. 4. Students have to prepare questionnaire for conducting wage survey and carry out wage survey for any selected sector and prepare a report for the same. 5. Students to calculate the bonus amount eligible to an employee working as a HR Executive

Semester	IV	Total Credit	4
Course Code	EM-Spl.I-405-C	Credit Pattern	L-45, T-8, P-7
Course Title	SALES AND DISTRIBUTION MANAGEMENT		
Course Objectives			
1.	To study the sales force management to develop the sales management skills.		
2.	To study concepts in Distribution management.		
3.	Identify and implement appropriate distribution channels.		
Course Outcomes: Students will be able to;			
1.	Evaluate concepts related to sales and distribution.		
2.	Manage sales force effectively.		
3.	Evaluate appropriate use of distribution channels.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit-I : Sales Management – Evolution, Meaning, Objectives, sales management & Control; Personal Selling & Salesmanship – Buyer – Seller Dyads, selling situations, Theories of Selling, SPIN selling, prospecting, sales resistance, Closing sale (sales Funnel); Personnel Selling Objectives –types, analysing market potential, Market Indexes, Sales Potential & Forecasting, Sales Forecasting Methods, converting industry forecast to company forecast, evaluation of forecasts; Personal Selling Strategy – competitive settings, determining Kinds of Sales Personnel, Determining Size of Sales Force; Sales Executive – functions & Qualities; Sales Organisation – Purpose, Setting up organisation, types of Sales Organisational Structures, Field organisation.	L=11	
		T=2	P=2
2	Unit II : Sales force management- recruitment meaning & process, selection process, Sales Training- defining aims, deciding content, selecting training methods, executing training programs; Motivation- meaning, interdependence & Motivation, leadership and Motivation, Communication & Motivation; Compensation of salespeople – devising Sales Compensation Plans, types, Managing Expenses of sales personnel, Sales Meetings and Sales Contests.	L=12	
		T=2	P=1
3	Unit III : Sales Budgets – purpose and procedure; Sales Target, sales Forecast & Sales Budget; Sales territory, Concept, Size, Allocation & Design, Territory Shapes; Sales Quota, procedure for sales quota. Types of sales quota, Methods of setting quota; Sales control and Marketing cost analysis.	L=11	
		T=2	P=2
4	Unit IV : Distribution Management – Introduction-Marketing Channels – channel members, channel functions, designing marketing channels, selecting channel partners, Channel Intensity: Managing Channel Partners – setting cooperative programs, role of manufacturer's sales force, channels partners cooperation, managing channel conflict; Channel Information Systems; E-commerce and Distribution Channel Management.	L=11	
		T=2	P=2

Learning Resources		
1	Text Books	1. Still, R.R., Cundiff E. W., Govoni, N. A. P., & Puri S., (2017) 6th Ed., Sales and Distribution Management, Pearson Education, New Delhi, India. 2. Panda, T. & Sahadev, S., (2019), 3rd Ed., Sales and Distribution Management, Oxford University Press, New Delhi, India. 3. Chunawalla, S. A, (2015), 2nd Ed., Sales and Distribution Management, Himalaya Publication, New Delhi India.
2	Supplementary Reading	1. The Economic Times 2. Business Standard 3. Business TIMES
3	Practical Component	1. Group Activity based on all the units 2. Discussion on Cases related to all units 2. Take business Games & other subject related activities 3. Library assignment on all the units

Semester	IV	Total Credit	4
Course Code	EM-Spl.I-405-D	Credit Pattern	L-45, T-7, P-8
Course Title	PROJECT MANAGEMENT		

Course Objectives

1.	To make students understand fundamental concepts and characteristics of project including the basic roles, responsibilities and functions of project manager.
2.	To Familiarize the Students with various Techniques of project financing and capital budgeting.
3.	To introduce students to project evaluation and termination.

Course Outcomes: Students will be able to

1.	Explain basic concept of Project Management including Project Appraisal, Project Risk Management and use of IT in Project Management.
2.	Select most appropriate Project from available options to the organization by analyzing all the projects on the basis of capital budgeting techniques.
3.	Develop the Project Report of the project undertaken by the organization.
4.	Determine Critical Path of project undertaken by organization and estimate project duration.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	OVERVIEW OF PROJECT MANAGEMENT & SELECTION Concept & Definition of Project, Characteristics of Project, Types of Project, Project Identification, Project Selection & Criteria, Project Life Cycle, Concept & Importance of Project Management, Roles and Responsibilities of Project Manager, Work Breakdown Structure.	L= 12	
		T= 1	P= 2
2	PROJECT APPRAISAL & RISK MANAGEMENT. Concept of Project Appraisal, Technical Appraisal, Commercial Appraisal, Economic Appraisal, Financial Appraisal, Management Appraisal, Social Cost- Benefit Analysis, Introduction to Risk Management, Role of Risk Management in Project Management, Steps in Risk Management.	L= 11	
		T= 2	P= 2
3	PROJECT FINANCING & SCHEDULING Estimating Cost of Project, Components of Cost of Project, Sources of Project Financing, Development of Project Network, Time Estimation, Developing The Project Network Using CPM/PERT, Crashing The Network, Project Review. (Numerical Treatment on CPM/PERT)	L= 11	
		T= 2	P= 2
4	PROJECT PLANNING & EVALUATION Project Evaluation: Concept, Purpose, Advantages. Project Audit: Meaning, Objectives, Phases of Project Audit. Project Quality Management, Project Termination, Project Management Information System (PMIS): Need of Project Management Software, Project Report Writing.	L= 11	
		T= 2	P= 2

Learning Resources		
1	Text Books	1. Gray C. , Project Management: The Managerial Process, Sixth Edition, McGraw Hill Education. 2. Nagrajan K. “Project Management”, New age international publication. 3. Ramakrishna & Kamaraju, Essentials of Project Management, Prentice Hall India Learning Private Limited.
2	Reference books	1. Meredith J. , Samuel J. Mantel Jr. “Project Management- A Managerial Approach” John Wiley and Sons. 2. Gray C., Larson E., “Project Management-The Managerial Process” Tata Mcgraw-Hill Publishing Co Ltd. 3. Wyzoubi R. & Acgary R., “Effective Project management”, Wiley India Pvt.Ltd.
3	Websites	1. https://www.project-management-knowhow.com/ 2. https://www.tutorialspoint.com/pmp-exams/index.htm 3. https://www.managementstudyguide.com/project-management-articles.htm 4. https://www.projectengineer.net/
4	Journals	1. International Journal of Project Management – Elsevier. 2. Project Management Journal PMI. 3. Project Management Journal - Wiley Online Library. 4. International Journal of Project Management ScienceDirect.com.
5	Supplementary Reading	1. Nicholas J. “Project Management For Business And Technology” Prentice Hall Of India Pvt Ltd. 2. Lewis J. “Project Planning, Scheduling And Control” Tata Mcgraw-Hill Publishing Co Ltd.
6	Practical Component	1. Role play to understand roles & responsibilities of project manager. 2. To identify and visit ongoing projects undertaken by any local business to study project appraisal techniques and risk management. 3. To meet project finance personnel from any financial institution to understand project financing and capital budgeting techniques. 4. Library Exercise on Project Report Preparation by studying project reports prepared by any one company of your choice.

Semester	IV	Total Credit	4
Course Code	EM-Spl.I-405-E	Credit Pattern	L-44, T-8, P-8
Course Title	AGRI PRODUCTION, SUPPLY CHAIN AND LOGISTICS MANAGEMENT		

Course Out Comes: Students will be able to

1.	Understand the importance of farm and its resource management.
2.	Review various farming systems, land tenure systems, their impact on productivity in agriculture sector.
3.	Understand the role of Supply chain methods in development of farm and farm allied activities.
4.	Critique the importance of logistics development in development of farm sector and farmer.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit 1: Fundamentals of Farm Management Scope of Modern Agriculture, Special Features of Agricultural and Industrial Production, Difference between Farm and Non-Farm Business Management; Making Small farm more effective, Farm Technology, Gains from Technological Improvements to Producers and Consumers, Mechanization and Automation.	L= 11	
		T= 2	P= 2
2	Unit 2: Theories of Farm Management and Farm Production Systems Farm system Theory: Theory of Farm Management by Objectives, Practices of Farm Management, Farm Production Systems: Peasantry, Proprietorship, Cooperative Farming, Capital Farming, Corporate Farming, Green House Farming and FPOs, Farm Management Tools, Farm Size and Productivity Debate, Measurement of Farm Efficiency.	L= 11	
		T= 2	P= 2
3	Unit 3: Supply Chain Management in Agribusiness Sector Introduction to SCM and Changing Business environment; Nature of association in supply chain, Evolution of SCM in agriculture, Business Process in the Agribusiness supply chain, Supply Chain categories, Integrated supply chains, Supply Networks: TCSCs, Contract Farming, Factors Determining the Nature of supply chains, Agri-Business Supply Chains in India and Case Studies, Success of supply chains.	L= 11	
		T= 2	P= 2
4	Unit 4: Agri-Business and Logistics Management Logistics Management: History and Evolution of Logistics, Elements of Logistics Management, Distribution Management, Distribution Strategies: Pool Distribution; Transport Management, Fleet Management, Service Innovation, Warehousing, Order Processing, Material Handling and Packaging for Logistics (Case Studies Discussion), Third – party Logistics (TPL/3PL), GPS technology.	L= 11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Mishra, A., Biswas, D. & Giri, A., (2019), Production Management in Agribusiness. In: H. P. House, AgriBusiness Management. (2019), Himalaya Publishing House, Mumbai (India), pp. 106 -120. 2. Diwase, S., (2009), Indian Agriculture and Agribusiness Management. 1st Ed., Krishi Resource Management Network, Pune. 3. Altekar RV. 2006. Supply Chain Management: Concepts and Cases. Prentice Hall of India.
2	Reference books	1. Panigrahy, S. R. et.al., (2020), 3rd Ed., Objective Agribusiness Management, Scientific Publishers, Jodhpur. India 2. Van Fleet, David et.al., (2014), 6th Ed., Agribusiness: Principles of Management. Cengage Learning, USA. 3. Monczka R, Trent R & Handfield R. 2002. Purchasing and Supply Chain Management. Thomson Asia. 4. Van Weele AJ. 2000. Purchasing and Supply Chain Management Analysis, Planning and Practice. Vikas Publ. House
3	Websites	www.agriculture.gov.in/ www.manage.gov.in www.ica.coop/ www.apeda.gov.in www.enam.gov.in www.ruralmarketing.in http://indiagovernance.gov.in/docsearch.php?search=Agriculture&from_map=1&type=theme
4	Journals	1. Indian Journal of Agricultural Economics 2. Indian Journal of Agricultural Marketing 3. Journal of Agribusiness 4. Rural Marketing
5	News Papers and Magazines	• Rural Marketing • The Times of India • The Economic Times • Business Standard • Outlook Business • The Hindu • Frontline • Business Today • Business India • Business World • Financial Express

Semester	IV	Total Credit	4
Course Code	EM-Spl.I-405-F	Credit Pattern	L-45, T-8, P-7
Course Title	APPLIED DATA SCIENCE AND BUSINESS ANALYTICS USING R		

Course Objectives

1. To understand and adopt the skills of big data analytics and Business Intelligence to varied aspects of managerial decision making.
2. To enable a student to use analytics to solve business problems.
3. To make use of a language R for applied data science.
4. To Apply BI tools for problem-solving.

Course Outcomes: Students will be able to

1. Identify and describe complex business problems in terms of analytical models.
2. Apply appropriate analytical methods to find solutions to business problems that achieve stated objectives.
3. Apply the knowledge of R gained to data Analytics for real-life applications.

Unit Number	Contents	Number of Sessions	
1	Introduction to Business Analytics, Prerequisites for effective business analytics, Applications of Business Analytics, ETL Process, Role of statistics in Analytics, The R community, The R environment, Installing R, Variables in R.	L= 12	
		T= 2	P= 1
2	Types of Digital Data, Input of data, Output in R, In-built functions in R, Single-mode Data Structure- Create, Data structure Attributes, subscripting data structure.	L= 11	
		T= 2	P= 2
3	Multi-mode data structure- Create, Data structure Attributes, subscripting data structure, Decision making Structures, Importing and Exporting, Predictive analytics, Emergence of Predictive Analytics, Applications of Predictive Analytics .	L= 11	
		T= 2	P= 2
4	Basic Visualization-Pie Chart, Bar Chart, Line Chart, Q-Q Plot, Box-and-Whisker plot, Basic Statistics using R, Time-series Models, Decision Tree, Clustering using R, Machine learning for text data, Building web applications with Shiny.	L= 11	
		T= 2	P= 2

Note:

1. Students Will Have To Complete All Practical Assignments Based On R.
2. Students will have to complete all tutorials, assignments, and lab sessions for internal credits.
3. The evaluation of 60 marks will be based on the practical exam. The external examiner will be assessing the Practical Paper.

Learning Resources

1	Reading References	1. Hadley Wickham, Garrett Golemund. R for Data Science: Import, Tidy, Transform, Visualize, and Model Data. Shroff/O'Reilly, 2017.
		2. Lander, Jared P. R for Everyone: Advanced Analytics and Graphics. 2018: Pearson, n.d.
		3. Ledolter, Johannes. Data Mining and Business Analytics with R. Wiley, 2013.
		4. R N Prasad, Seema Acharya. Fundamentals of Business Analytics. Apress, 2017.
		5. Fundamentals of Business Analytics. Wiley, 2016.
		6. Schniederjans, Marc J. Business Analytics Principles, Concepts, and Applications: What, Why, and How (FT Press Analytics). Person, 2016.
		7. Webb, Christopher. Power Query for Power BI and Excel. Apress, 2016.
		8. Laursen, GHN. Business Analytics for Managers - Taking Business Intelligence Beyond Reporting 2e: Taking Business Intelligence Beyond Reporting. Wiley, 2016.

Semester	IV	Total Credit	4
Course Code	EM-Spl.II-406-A	Credit Pattern	L-45, T-6, P-9
Course Title	INVESTMENT AND PORTFOLIO MANAGEMENT		

Course Objectives	
1.	To have understand on investment and avenues in investment.
2.	To have exposure on analysis, techniques of securities.
3.	To understand various life cycle stages for portfolio management.

Course Outcomes	
1.	Identifying various investment avenues as a small and corporate investor.
2.	To know relationship between security and market portfolio.
3.	To prepare investment plans for individuals during various life cycle stages.

Unit No.	Topic	Number of Sessions	
1	Introduction to Investment: Investment – Basics, Investment categories, Investment avenues, Investment, speculation and gambling, Non marketable financial assets, Money market instruments, Bonds (meaning, valuation of Bonds, Yield to Maturity), Debentures, Equity Shares, Schemes of LIC, Mutual Fund, Financial derivatives (Derivative market, instruments in market, calculations of pay off from options), Real assets, Real estate, Art – antiques & others, Introduction to stock market: Primary & secondary market, Regulations of stock market – companies Act, SEBI, securities contract regulation Act.	L = 11	
		T = 2	P = 1
2	Security Analysis: Fundamental analysis, EIC and CIE Approach, Quantitative and Qualitative Analysis; Technical Analysis, The Dow Theory - Primary Trend, The Secondary Trend, Minor Trend; Chart Analysis (line, bar, Point & figure and Candle stick); Efficient Market Theory – Basic Concepts, Weak form of EMH, Semi strong form, Strong Form, Market Inefficiencies.	L = 11	
		T = 1	P = 2
3	Portfolio Management and performance models: Meaning of Portfolio, Steps of Portfolio Management; Meaning and measurement of return and Risk, types of risks, Portfolio analysis, Portfolio and Single asset Returns and Risk – Mean, Variance, Covariance, coefficient of correlation, Beta (simple problems), Portfolio Markowitz Model, Simple diversification, Risk and return with Different correlation ; Portfolio Risk and Return. Portfolio Performance Models-Sharpe's Performance Index, Treynor's Performance Index	L = 12	
		T = 2	P = 3
4	Preparation of Investment Plans for Individuals: Introduction, Various life cycle stages of individuals- Young unmarried stage, Young married stage- Single earning members, Young married stage- Both earning members, Young married with children stage, Married with older children stage, Pre-retirement stage, Retirement stage, Practical problems or case studies for each stage of life cycle.	L = 11	
		T = 1	P = 3

Note:

1. Case studies on each of the aspects mentioned in the syllabus need to be discussed.
2. Videos cassettes, CDS and documentary films exhibited.

Learning Resources		
1	Text Books	- Prasanna, C. (2017) <i>Investment analysis and portfolio management</i>. New Delhi: Tata McGraw-Hill Education - KEVIN, S. (2022) <i>Security Analysis and portfolio management</i>. S.l.: PHI LEARNING - Talwar, S. (2016) <i>Security Analysis and portfolio management</i>. New Delhi: Cengage Learning
	Reference Books	- Sasidharan, K. and Mathews, A.K. (2011) <i>Security Analysis and portfolio management</i>. New Delhi: Tata McGraw-Hill Education - Dash, A.P. (2013) <i>Security Analysis and portfolio management</i>. New Delhi: I.K International - Agrawal, O.P. (2011) <i>Security Analysis and portfolio management</i>. Mumbai : Himalaya Publishing House
2	Websites	Library online Opac Address: http://192.168.1.111:8080/opac
3	Journals	- Journal of Investment and Management - The Journal of Investing - Dalal Street Investment Journal - The Journal of World Investment & Trade
4	Supplementary Reading	- The Times of India - The Economic Times - Financial Express - Dainik Sakal - Dainik Lokmat
5	Practical Component	- Practical Problems on Risk and return on single asset or portfolio (max 3 securities) - Practical Problems on Payoff Calculation - Practical Problems on Valuation of bond, yield to maturity - Practical Problems on Performance Index : Sharpe's, Treynor's, - Practical problems or case studies for each stage of life cycle

Semester	IV	Total Credit	4
Course Code	EM-Spl.II-406-B	Credit Pattern	L-45, T-8, P-7
Course Title	TALENT AND HUMAN CAPITAL MANAGEMENT		

Course Outcomes :- Students will be able to:	
1.	Describe the concept of Talent and Human Capital Management.
2.	Apply different concepts of Human Capital Management.
3.	Critically evaluate emerging trends in Talent and Human Capital Management.

Unit Number	Contents	Number of Sessions	
1	Talent Management: Acquiring talent, Retaining talent, Nurturing talent, and Developing and Recognizing talent, Separation of Talent. Principles of Talent Management, Talent Management Opportunity and Challenges, Myths about Talent Management, Current Trends in Talent Management. Benefits of Talent Management, Role of Human Resource in Remote Working – Meaning, Importance, Advantages and Disadvantages Employee Engagement: Means to promote Employee Engagement, Relationship with Talent Management.	L= 12	
		T=2	P= 1
2	Concept of Human Capital Management HRD Audit: Characteristics, Scope, Process, Methodology, Documents and outcomes. HR Accounting: Objectives, Methods, Advantages and Limitations. Human Resource Information System: Issues while adopting HRIS, Sub-systems of HRIS, Steps in designing HRIS, Advantages of using HRIS.	L= 11	
		T=2	P= 2
3	Employee empowerment- concept, objectives, Pre-requisites, types, Process, benefits, limitations. Concept of Work Life Integration, Flexi-time as a retention tool, Moonlighting: causes and HR interventions, Succession Management, Workforce Diversity, Green HRM, Employer and Employee Branding	L= 11	
		T=2	P= 2
4	Concept of HR Balanced Scorecard. Role of HRM in Learning organization. Quality circle- constitution and process Quality of Work life- objectives, importance, determinants of Quality of Worklife.	L= 11	
		T=2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.

Learning Resources		
1	Reference books	1. Lyle M. Spencer, Signe M. Spencer, Competence at work –JohnWiley 1993 2. Naik G.P, Competency mapping, Assessment and Growth - IIHRM,2010. 3. Herman Aquinas, Performance Management - Pearson Education,2007. 4. Lance A. Berger &Dorothy. Berger, The Talent Management Hand Book - Tata McGraw Hill.
2	Practical Components	1. Students are expected to conduct a study on how talent is acquired and retained – in various industries – and various strategies followed by the respective companies. 2. Students will collect data about the position of principal, director, and other teachers in your college and prepare a competency dictionary for the said positions. 3. Students will collect data in your college or any other organization using Q 12 instrument and analyze it to find out the engagement level of employees. 4. Students will identify the important positions in your college or any other organization and ascertain the measures if any taken to develop second line of leadership.
3	Journals	1. Harvard Business Review 2. Manpower Journal 3. Human Capital

Semester	IV	Total Credit	4
Course Code	EM-Spl.II-406-C	Credit Pattern	L-45, T-8, P-7
Course Title	ADVERTISING AND INTEGRATED MARKETING COMMUNICATION		
Course Objectives:			
1.	Impart conceptual knowledge about advertising and IMC.		
2.	Make students familiar with advertising and IMC strategies.		
Course Outcomes: Students will be able to;			
1.	Discuss conceptual knowledge of Advertising and IMC.		
2.	Devise Strategies for advertising and IMC.		
3.	Evaluate IMC policies and campaigns.		
4.	Evaluate performance of advertising and IMC strategies.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Strategic Brand Communication – Marketing Foundation, Integrated Marketing Communication; Advertising – Practice of advertising, Evolution of key concepts of Advertising, Advertising world, Changes in practice of advertising; Public Relations - meaning, process and tools, trends in public relations; Direct Response and Promotions – functions and elements of Direct Response Communications, Importance of Promotions, Multiplatform Communications; Brand Communication – meaning, Facets of Impact, Power of Brand Communication; Strategic Research – Process, Methods of Data Collection, Research Trends and Challenges.	L= 11	
		T= 2	P= 2
2	Segmentation and Targeting Audience – Brand Decisions, Influences on Consumer Decisions, Market Segmentation and Targeting, Profiling Markets and Target Audiences; Strategic Planning – meaning – Business Plan and Marketing Plan, Key Strategic Decisions, Consumer Insight and Account Planning; Creative Communication of Brand – Role of Creativity in IMC, Creative Thinking, Key Message Strategy Approaches, Management of Creative Strategy and its Implementation; Promotional Writing – Writer’s Role in Brand Communication, Types of Brand Communication Writing, Writing for Various Media, Challenges for Writers; Visual Communication – Role of Visual Communication, Basics of Design, Essentials of Production for Print, Essentials of Video Production, Web Design Considerations.	L= 12	
		T= 2	P= 1
3	Media in World of Change – Media Basics, Fundamentals of Media Strategy, Changing Patterns of Media Use; Paid Media – Traditional Paid Media, Out of Home Media, Online Advertising; Owned, Interactive and Earned Media – Owned Media, Owned but Interactive Media, Earned Interactive Media; Media Planning and Negotiation – Media Plans, Steps in Media Planning, Media Buying and Negotiation, Media Planning and Buying Trends.	L= 11	
		T= 2	P= 2
4	IMC and Total Communication – IMC Management, Key Concepts of IMC, IMC Campaign Planning, International IMC Campaigns, Managing 360 degree Communication Programs; Evaluating IMC Effectiveness – Brand Communication Impact, Evaluating IMC Message, evaluating Performance of IMC Tools, IMC Campaign Evaluation Challenges; Social Impact, Responsibility and Ethics – Social Impact of Brand Communications, Communicators’ Ethical Responsibilities, Regulation of Brand Communication	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and videos relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Morianty, S., Mitchell, N., Wells, W D & Wood C, (2003), 11th Ed, Advertising and IMC – Principles and Practice, Pearson Education, New Delhi, India. 2. Dutta, K., (2016), Integrated Marketing Communications, 1st Ed., Oxford University Press, New Delhi, India. 3. Shah, K., (2017), 1st Ed, Advertising and Integrated Marketing Communications, McGraw Hill, New Delhi, India. 4. Clow, K. E., & Black, D. E., (2013), 6th Ed, Integrated Advertising, Promotion and Marketing Communications, 5. Blakeman, R., (2018), 3rd Ed, Integrated Marketing Communication, Pearson Education, New Delhi, McGraw Hill, New Delhi, India. 6. Blech, G. E., Blech, M. A. & Purani, K., (2021) 12th Ed, Advertising and Promotion: An Integrated Marketing Communications Perspective, McGraw Hill, New Delhi, India. 7. Shimp, T. & Andrews, J. C., (2005), 9th Ed, Advertising Promotion and Other Aspects of Integrated Marketing Communications, South Western Publishers, New Delhi, India. 8. Juska, J. M., (2021), 2nd Ed, Integrated Marketing Communication: Advertising and Promotion in a Digital World, Routledge Publisher, New Delhi, India.
2	Websites	https://www.ama.org/ https://www.academyofindianmarketing.org/ (Academy of Indian Marketing (AIM) Management Institutions) https://www.ima-india.com/ (https://www.ima-india.com/)
3	Supplementary Reading	Economics Times, Brand Equity Business Standard,
4	Practical Component	Case studies on relevant topics.

Semester	IV	Total Credit	4
Course Code	EM-Spl.II-406-D	Credit Pattern	L-45, T-7, P-8
Course Title	QUALITY MANAGEMENT		

Course Objectives

1.	To make students understand fundamental concepts and principles of quality management, including the basic concept and functions of service quality management.
2.	To make students knowledgeable about theoretical aspects and practical application of statistical quality control techniques.
3.	To introduce students to various quality management awards & its framework.

Course Outcomes: Students will be able to

1.	Explain basic terms and concepts related to Quality Management including Quality Assurance, Cost of Quality & Quality Function Deployment.
2.	Solve problems on Process Control Charts and Interpret on the process capability.
3.	Discuss recent techniques of quality management including Total Quality Management, Six Sigma and Quality Circle.
4.	Make use of quality awards framework to qualify the organization for various quality management awards.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	INTRODUCTION TO QUALITY MANAGEMENT Definitions of Quality, Dimensions of Quality, Meaning of Quality Management, Quality Assurance, Quality of Design, Quality of Conformance, Cost of Quality: Cost of Poor Quality. Introduction to Service Quality, The Service Quality GAP Model, Measuring & Improving Service Quality.	L= 12	
		T= 1	P= 2
2	STATISTICAL QUALITY CONTROL Meaning And Significance of Statistical Quality Control, Need of Acceptance Sampling, Types of Sampling Plans, OC Curve, Introduction To Statistical Process Control & Control Charts, Control Charts for Variable, Control Charts for Attribute. (Numerical Treatment on Control Charts)	L= 11	
		T= 2	P= 2
3	QUALITY IMPROVEMENT TOOLS & TECHNIQUES Total Quality Management: Concept of TQM, Principles of TQM, TQM Model, Implementation of TQM (PDCA Cycle). Six Sigma: Introduction to Six Sigma, Evolution of Six Sigma, DMAIC Model for Implementing Six Sigma. Quality Circles, Benchmarking, Quality Function Deployment.	L= 11	
		T= 2	P= 2
4	QUALITY MANAGEMENT SYSTEM & AWARDS Quality Audit, Quality System Standards, Bureau of Indian Standards, Introduction to ISO, Importance of ISO Certification, ISO 9001 Structure, Deming Prize, Malcolm Baldrige National Quality Award, Rajiv Gandhi National Quality Award, , Ramkrishna Bajaj National Quality Award.	L= 11	
		T= 2	P= 2

Learning Resources		
1	Text Books	1. Mitra A., Fundamentals of Quality Control and Improvement, Wiley 2. Panneerselvam R. & Sivasankaran P., Quality Management, Prentice Hall India Learning Private Limited. 3. Bhat S, Total Quality Management – Text and Cases, Himalaya Publishing House, First Edition. 4. Mahajan M., Statistical Quality Control, Dhanpat Rai& Co.
2	Reference books	1. Bedi K., “Quality Management”, Oxford University Press. 2. Hoyle D., Quality Management Essentials, Butterworth-Heinemann.
3	Websites	1. https://www.managementstudyguide.com/total-quality-management-articles.htm 2. https://www.managementstudyguide.com/six-sigma-articles.htm
4	Journals	1. International Journal of Productivity and Quality Management (IJPQM). 2. Journal of Quality Management ScienceDirect.com. 3. Quality Management Journal – Scimago. 4. The TQM Journal information – Emerald.
5	Supplementary Reading	1. Dale H. Besterfield et al, Total Quality Management, Third edition, Pearson Education. 2. Evans & Lindsay, An Introduction to Six Sigma & Process Improvement, Cenage learning.
6	Practical Component	1. To meet quality control manager of any local manufacturing organization to understand application of Quality Control Tools. 2. Identifying and visiting local ISO Certified organization to understand criteria for getting ISO Certification. 3. Visiting any local service sector business to study its Quality Management Framework. 4. Library Exercise on any one of the Quality Management Awards studied and any one award winning company of your choice.

Semester	IV	Total Credit	
Course Code	EM-Spl.II-406-E	Credit Pattern	L – 44, P - 8 ,T - 8
Course Title	AGRICULTURAL MARKETING, COMMODITIES MARKETS AND AGRI-BUSINESS		

Course Out Comes: Students will be able to	
1.	Identify review the relation between agricultural markets and agriculture development.
2.	Gain introduction to the necessary skill sets by study of agricultural markets and support systems.
3.	Review the importance of agricultural commodities markets in farm sector.
4.	Develop understanding of methods of trading in commodities markets.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit 1: Agricultural Marketing in India Agricultural Marketing and its Process, Classification of Agricultural Markets, Methods of Sales, Marketing Agencies and Marketing of Agricultural Products, Classification of Marketing Functions, Performance Analysis of Marketing of Agricultural Inputs – Fertilizers; Seeds; Agrochemicals; Tractors; Farm Equipment, Irrigation Equipment and Animal Feed.	L= 11	
		T= 2	P= 2
2	Unit 2: Commodities Markets and Commodity Exchanges: An Overview Introduction to Commodity Markets, Marketing of Agricultural Commodities, Physical Market Operations, Introduction to Commodity Exchanges Around the World and In India, Electronic Spot Exchange, Regulation of Commodity Markets in India, Understanding Risk, Managing Risk.	L= 11	
		T= 2	P= 2
3	Unit 3: Commodities Derivatives in India Evolution of Commodity Derivatives: Commodity Derivatives in India, Meaning, Derivative Markets and Its Participants, Economic Importance, Designing Commodity Controls, Types and Classification of Derivatives, Agricultural Derivatives in India: Issues and Challenges	L= 11	
		T= 2	P= 2
4	Unit 4: Trading on Clearing and Settlement on Commodity Exchanges: The Exchange platform, Exchange Membership, Commodity Brokerage, trading systems, participants in Commodity Markets, Role of speculators, Trading mechanism – Margin Trading, Mark to Market, Conflict Management; Arbitration and International Legal provisions, Market Positions, Order Types, Access to Commodity Exchanges, Volume and Open Interest, Clearing House Operations and Risk Management, Procedures, Delivery related issues like delivery centers, Deliverable varieties, Issues related to monitoring and surveillance by exchanges and regulator, Margining Method and the settlement process	L= 11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. MAHAJAN Neeraj and SINGH KAVAJIT, (2015), "A BEGINNER'S GUIDE TO INDIAN COMMODITY FUTURES MARKETS", Madhyam Book Publications, New Delhi. 2. Dr. Chaitnani Nandini Niti, (2019), "Commodity Markets And Derivatives", 2Nd Edition, CENGAGE India Publications. 3. Dr. Chaitnani Nandini Niti, (2009), "Commodity Markets: Operations, Instruments, and Applications", Tata Mc Grow Hill, India
2	Reference books	1. Helyette Geman (2005) Commodities and Commodity Derivatives: Modeling and Pricing for Agriculturals, Metals and Energy. John Wiley & Sons Ltd. 2. Helyette Geman (2009), —Risk Management in Commodity Markets: From Shipping to Agriculturals and Energy, J. Wiley & Sons Ltd. 3. Neil C. Schofield (2007), —Commodity Derivatives: Markets and Applications, John Wiley & Sons Ltd. 4. R.W. Kolb and Overdahl J (2007), Futures, Options, and Swaps, 5th Edition, Blackwell Publishers, Malden MA
3	Websites	www.indiabudget.nic.in www.commodityonline.com www.cmegroup.com/company/cbot.html www.ncdex.com www.mcxindia.com www.icexindia.com
4	Journals	Rural Marketing Vikalpa The Survey of Indian Agriculture Indian Council of Agriculture Research Journal (www.icar.org.in/icar-journals) Journal of Agricultural Marketing (https://ccsniam.gov.in) The State of Agricultural Commodities Markets, Annual publication of FAO
5	News Papers and Magazines	Rural Marketing The Times of India The Economic Times Business Standard Outlook Business The Hindu Frontline Business Today Business India Business World Financial Express

Semester	IV	Total Credit	
Course Code	EM-Spl.II-406-F	Credit Pattern	L – 45, P = 7, T = 8
Course Title	SOFTWARE ENGINEERING		

Course Out Comes: Students will be able to	
1.	To Understand The Nature Of Software Development And Software Life Cycle Process Models, Agile Software Development, SCRUM, And Other Agile Practices.
2.	To Develop The Skill Of Software Design And User-Centric Approach And Principles Of Effective User Interfaces.
3.	To Infer The Need For Project Management And Project Management Life Cycle
Course Outcomes: Students Will Be Able To;	
1.	Needs For Software Specifications Also They Can Classify Different Types Of Software Requirements And Their Gathering Techniques.
2.	Identifying The Role Of SDLC In Software Project Development And They Can Evaluate The Importance Of Software Engineering In PLC.
3.	Familiar With The Different Methods And Techniques Used For Project Management.
4.	Discuss The Parameters Of The Software Project's Success And Failures.

Unit Number	Contents	Number of Sessions	
1	Concept Of Software, Program V/S Software, Software Characteristics, Software Myths, Software Development Life Cycles. Waterfall Model, Prototyping Model, Spiral Model, Coding guidelines, Structured Approach To System Design : Principles of software design, DFD, Data Dictionary, Decision Tree, Decision Table & Structured English, E-R Diagrams.	L= 11	
		T= 2	P= 2
2	Software Requirement and Specification, Characteristics of Good User Interface Design, Concept of white box testing and black-box testing. Object-Oriented Project Design, Introduction: Software Project Management, I.T. Stakeholders, Understanding the project, Project Initiation, Product Life Cycle, Skills and Qualities of Software Project Manager.	L= 12	
		T= 2	P= 1
3	Project Planning - Work Break Down Structure, CASE Tools, Types of Software maintenance, Defining The Project – Deliverables, Objects And Scope, Project Scheduling, Estimating the project – Period Vs Effort, Contingency, Type of costs, Preparing the Project Budget, Defining And Managing The Risk, Managing Information systems, Project Time and Resources.	L= 11	
		T= 2	P= 2
4	Implementation Activities – Forming a Project Team, Managing People And Organizing Teams, Managing Client Expectations, Configuration Management, Identifying Information Systems Project Risks, Evaluating Success- Software Quality Factors, Causes of Failure, Project Success, Measure of end-user satisfaction, Closing the project And Business Continuity, Data Disaster, Virus Disasters, Software Disasters, Data Center Disasters.	L=11	
		T= 2	P= 2

Note:

1. Students will have to complete all tutorials, assignments, and lab sessions for internal credits.

Learning Resources		
1	Text Books	1. Fundamentals Of Software Engineering – Roger Pressman 2. Information Technology Project Management – Jack Marchewka – Wiley India Edition
2	Reading Resources	1. S. Mukherjee. Project Management for Software Development. Jaicob Publishing House, 2008. 2. Bob Hughes, Mike Cotterell. Software Project Management. McGraw-Hill Education, 2015. 3. Ghezzi, Rajib Mall. Fundamentals Of Software Engineering. PHP Learning Pvt Ltd, 2016. 4. Marchewka, JT. Information Technology Project Management. Wiley India Private Limited, 2006. 5. Pressman, Roger. SOFTWARE ENGINEERING: A PRACTITIONER'S APPROACH,. McGraw Hill Education, 2009.
3	Reference books	1. Fundamentals Of Software Engineering - Rajib Mall Ghezzi, Jazayeri Stephen H. Khan 2. Software Requirements And Estimation - Fenton, Ptleeger McGraw Hill 3. Project Management For Software Development - Jaico 4. IT Project Estimation – Paul Coombs. – Cambridge 5. Information System Project Management - John McManus, Trevor Wood- Happer – Pearson. 6. Software Project Management – Bob Hughs , Mike Cotterell – Tata McGrawhill
4	Website	1. www.tutorialspoint.com 2. www.guru99.com 3. www.examupdates.in
5	Journals	1. International Journal of Scientific Computing 2. International Journal of Statistics & Management Systems 3. Chartered Secretary
6	Supplementary Reading	1. Business Line 2. Current affairs in news papers 3. Information system Audit Reports from computer consultancies
7	Practical Component	1. Visit any computer consultant firms and discuss and understand about Software engineering process 2. Case study about Information system Project Planning

Chh Shahu Institute of Business Education & Research Kolhapur
(An Autonomous Institute under UGC Act.)

Department of Computer studies



Structure & Syllabus of the M.Sc.(Computer Science) Programme
(Revised and Effective from 2019-20)
C.B.C.S. Pattern

M.Sc.(Computer Science)

OBJECTIVE:

To develop a comprehensive and advanced knowledge of Computer Science thereby enabling graduates to perform more effectively in the work place as well as to enhance their research capability.

INTRODUCTION:

The M. Sc. is offered on full-time basis. The course is of two years (full time) duration, named as M. Sc. (Computer Science). Each year is divided into two semesters for the convenience of teaching and examination. In each semester, except the last, there will be teaching for 15 weeks followed by end-of-semester examination (EOS). The teaching for Semesters I, and III will be held between 1st July to 25th November, and the teaching of Semester II will be held between 1st January to 25th April. Semester IV that is the last semester of the course, is reserved for research project. During this semester a student is expected to work on a research project for a period of about 120 days and submit a report to the Examination Department for evaluation..

ELIGIBILITY:

1. A candidate for being eligible for admission to M.Sc. (COMPUTER SCIENCE) programme (Faculty of Science) must have passed B.C.S., B.Sc. (Computer Science) Degree, B.Sc.(Computer Technology / IT), B.Sc. (Mathematics), B.Sc. (Statistics) , B.Sc.(Electronics), B.C.A. (Science Faculty) or B. Sc. Having computer as one of the subject at final year. Examination of the Shivaji University or any other University recognized by A.I.U. (Association of Indian Universities) with minimum of 50% marks at the final year of examination.
2. The admission to M.Sc. programme will be made on the basis of entrance test conducted by the Institute.
3. The knowledge of Mathematics, Statistics or quantitative techniques up to the level of 12th std. is desirable.

DURATION:

The course of the study of the degree of M.Sc. (Computer Science) shall be full time course and its duration shall be of **TWO** Years. The course consists of Four Semesters. The examination to be held in the First and Second Semester will be called Part – I (First Year) and the examination to be held in the Third and Fourth Semester will be called Part – II (Second Year)

If a candidate fails to clear all the theory papers, practicals, term papers and project report within **Six** years of his/her registration, the past performance will stand automatically nullified.

If a candidate discontinues any of the terms (i.e. Semester – I to IV) on any account, will be allowed to complete the incompleting terms in the subsequent years subject to it is within the stipulated time duration of **Six** years.

In addition to the above, once a student's term (Semester) is granted, he/she shall be allowed to appear and pass in any of the subsequent examinations held, provided the examinations are within the stipulated period of **Six** years.

In case the term (Semester) is not granted the student has to seek fresh admission in the next year and complete the term and pass the examination. This too within **Six** years of his/her registration.

- **Course Completion with Break in Between :**

A student who has passed M.Sc. (Computer Science) – I and is seeking admission to M.Sc. (Computer Science) – II after a long gap (Provided the gap lies within the stipulated duration of **Six** years) should complete the course syllabus which is in existence at the time he has sought the admission for the academic year

ASSESSMENT:

1. For the theory paper is of 100 marks, the distribution of marks will be –
 - i) Internal Credit (practical/term paper/seminar) - 40 Marks
 - ii) Theory Paper - 60 Marks.
2. For the practical paper is of 50 marks, the distribution of marks will be –
 - i) Practical examination - 40 Marks
 - ii) Journal - 10 Marks
3. For Project report (Fourth Semester) the marks will be:–
 - i) Project report - 100 Marks
 - ii) Confidential Report - 100 Marks
 - iii) Viva-Voce - 100 Marks
 - iv) Project presentation. - 100 Marks
4. The assessment of papers will be done by an Internal and External examiner. A difference of more than **20%** in the marks awarded by these examiners would necessitate the valuation of these papers by the Third examiner. The '**nearest**' highest two marks will be considered for determining the average mark of such papers.
5. The examiners should submit the marks on separate sheets supplied to them. No marks should be entered directly in the inside pages of the answer book.

6. In the matter of examining the students for a subject that consists of assessment of Theory Plus Term Work (e.g. Tutorial, assignment, attendance, oral examination etc) be considered for combined passing. Once the marks of Term Work out of 40 are submitted to the Examination Department it should be carried forward whenever required.
7. In the matter of examining the students for a subject that consists of assessment of Theory Plus Practical examination be considered for separate passing (40% at each head of passing). If a candidate fails in any one of head of passing he/she shall appear for only the head in which he/she has failed.

Breakup of Internal Marks i.e. Concurrent evaluation -

Sr. No.	Head	Marks
1.	Class Participation	10 Marks
2.	Moodle Test (Minimum One Test Per Unit)	10 Marks
3.	Seminar /Article Review (Based on Emerging Trends in Information Technology and Computer Science)	10 Marks
4.	Case Study / Term Paper	10 Marks
5.	Total	40 Marks

Each student is expected to appear for a minimum **FIVE** Class Test to be conducted on moodle. A student has to submit one library based assignment, two case studies, one article reading, one seminar for each programme in the syllabus. The final internal marks will be calculated using the heads shown in above table. **The internal marks obtained by the student has to be disclosed and signed by the student.**

STANDARD OF PASSING:

1. In order to pass in each passing head, a candidate will have to obtain 50% in the internal marks (Concurrent evaluation), 40% marks in theory, and minimum of 50% of the marks in aggregate in passing head.
2. To pass the M.Sc.(C.S.) examination, a candidate will have to pass in all Four Semester in Two Parts i.e. Part – I (Semester – I to II) and Part – II (Semester – III & IV).
3. To pass the Project work / Seminar course/ Term paper a candidate must obtain a minimum of 50% of the total marks. If a candidate fails in the seminar / project report/ term paper and its viva-voce, he/she will be required to join the particular seminar / project report/ term paper and its viva-voce as a fresh candidate in the subsequent year.
4. A candidate from first year M.Sc.(C.S.) will be eligible to proceed to the semester III ,if he/she is not having more than **five** courses backlog (25% of passing heads) from the first year (i.e. Semester I and II)

CGPA System:**Full Credit 100 Marks**

Grade Table for Trimester/Semester Examination			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
96-100	S+	10	SUPER
91-95	S	9.0	
86-90	E+	8.5	Exemplary
81-85	E	8.0	
76-80	O+	7.5	Outstanding
71-75	O	7.0	
66-70	A+	6.5	Good
61-65	A	6.0	
56-60	B+	5.5	Average
50-55	B	5.0	
--	X	0	Defaulter
--	XX	---	Incomplete

Half Credit 50 Marks

Grade Table for Trimester/Semester Examination			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
48 – 50	S+	10.0	SUPER
46 – 47	S	9.0	
43 – 45	E+	8.5	Exemplary
41 – 42	E	8.0	
38 – 40	O+	7.5	Outstanding
36 – 37	O	7.0	
33 – 35	A+	6.5	Good
31 – 32	A	6.0	
28 – 30	B+	5.5	Average
25 – 27	B	5.0	
--	X	0.0	Defaulter
--	XX	---	Incomplete

6. Final Result: For the final result of the student Cumulative Performance Index (CPI) based on total earned credits vis-à-vis total earned grade points shall be calculated will be as follows.

Total earned grade points / Total credits i.e. **120** credits.

Result		
CPI	Final Grade	Classification of Final Result.
9.6-10.0	S+	SUPER
9.1-9.5	S	
8.6-9.0	E+	Exemplary
8.1-8.5	E	
7.6-8.0	O+	Outstanding
7.1-7.5	O	
6.6-7.0	A+	Good
6.1-6.5	A	
5.6-6.0	B+	Average
5.0-5.5	B	

Note: An aggregate of **5.0** credit points are required to pass the M.Sc.(C.S.) program.

CALCULATION OF PERFORMANCE INDICES:

A distinction of the performance of one student from the other student is rather impossible to carry out from the grades obtained by a student in all the courses taken by him in a semester/year. Hence, the evaluation of various courses is cumulated in two performance indices termed as semester performance index (SPI) and cumulative performance index (CPI), the explanation of which is given below:

Semester Performance Index (SPI):

The performance of a student in a semester is indicated by a number called Semester Performance Index (SPI). SPI is the weighted average of all the grade points obtained by him in all the courses registered during the semester. If G_i is a grade with numerical equivalent as G_i obtained by a student for the course with credit C_i then, SPI for that semester is calculated using formula.

$$SPI = \frac{\sum C_i G_i}{\sum C_i}$$

Where summation is for all the courses registered by a student in that Semester SPI is calculated to two decimal places and rounded off. SPI once calculated shall never be modified. Generally, for the students failed in regular examinations SPI is calculated only after the declaration of re-examination grades.

Cumulative Performance Index (CPI):

An up-to-date assessment of the overall performance of a student from the first semester till completion of the programme is obtained by calculating an index called as Cumulative Performance Index (CPI). The CPI is weighted average of the grade points obtained in all the courses registered by a student since the first semester of the programme.

$$CPI = \frac{\sum C_i G_i}{\sum C_i}$$

Besides SPI, CPI is also calculated at the end of every semester upto two decimal places and is rounded off. It is necessary to ensure that one course appears only once in calculation of CPI and the denominator in above equation does not exceed the total number of credits registered by him.

GRACE MARKS UNDER DIFFERENT ORDINANCE.

S.O. No. 1:-Grace Marks for Passing in each head of Passing (Theory/Practical/Oral/Sessional/External/Internal).

The Examinee shall be given the benefit of grace marks only for passing in each head of Passing (Theory/Practical/Oral/Sessional/ in External /Internal examination as follows.

Head of Passing	Grace Marks
Upto –50	2
051-100	3
101-150	4
151-200	5
201-250	6
251-300	7
301-350	8
351-400	9
And 401 and above.	10

Provided that the benefit of such gracing marks in different heads of passing shall not exceed 1% of the aggregate marks in that examination.

Provided further that the benefit of gracing of Marks under this Ordinance shall be applicable only if the candidate passes the entire examination of Trimester/Semester.

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM,CCIII. NCTE, UGC etc.

S.O. No. 2:- Grace Marks for getting higher Class

A Candidate who passes in all the subjects and heads of passing in the examination without the benefit of either gracing or condonation rules and whose total number of Marks falls short for securing Second Class/Higher Second Class or First Class by marks not more 1% of the aggregate marks of that examination or up to 10 marks, whichever is less, shall be given the required marks to get the next higher class of grade as the case may be.

Provided that benefits of above mentioned grace marks shall not be given, if the candidate fails to secure necessary passing marks in the aggregate head of passing also, if prescribed in the examination concerned.

Provided further that the benefits of above mentioned grace marks shall be given to the candidate for such examination/s only for which provision of award of class has been prescribed.

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM,CCIII. NCTE, UGC etc.

S.O. No. 3 Condonation

If a candidate fails in more than one head of passing, his/her deficiency of marks in such head of passing may be condoned by not more than 1% at the aggregate marks of the examination. However condonation, whether in one head of passing or aggregate head of passing be restricted to maximum upto 10 marks only.

Condonation of deficiency of marks be shown in the statement of Marks in the form of asterisk and Ordinance number

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM, CCIII, NCTE, UGC etc..

BACKLOG:

1. A candidate will be permitted to proceed to the second Semester even though he/she fails in one or more subjects of the first semester, provided the first semester term is granted..
2. The students who have a backlog of not more than **Five courses (25% of passing heads)** in the First year examination (Semester I & II) will be eligible to be admitted to the Second year (III Semester) of M.Sc.(C.S.)
3. A Candidate will be permitted to proceed to the Fourth Semester even though he/she fails in one or more subjects of the third semester, provided the third semester term is granted.

Programme Fee Structure:

Sr. No.	Particular	M.Sc.-I	M.Sc.-II
1	Development Fees	7500	7500
2	Tution Fees	30000	30000
3	Library Fees	1500	1500
4	Laboratory Fees	2500	2500
	Total Fee	41500	41500
5	Library Deposit	1000	Nil
6	Dress Code	2500	Nil
7	Alumini Fees	Nil	500
	Grand Total	45000/-	42000/-

**CHHATRPATI SHAHU INSTITUTE OF BUSINESS EDUCATION AND RESEARCH
(CSIBER)**

University Road, Kolhapur – 416 004

**Out Line Theory Question paper for all the programmes
(Four Unit Course)**

Class:

Subject:

Paper no. :

Time: Three hours

Total marks: 60

INSTRUCTIONS:

1. Question no. 1 is **COMPULSORY**
2. Attempt any **FOUR** from Q. No.2 to Q. No.7.
3. Figures to right indicate **FULL** marks

Q.1.: Case study / Problems / Program (Based on Unit I to IV)
(12)

Q.2 : Long Question / Brief answer Questions A and B (Based on Unit I)
(12)

Q.3 : Long Question / Brief answer Questions A and B (Based on Unit II)
(12)

Q.4 : a) Question (Based on Unit III)
(06)

b) Question (Based on Unit III)
(06)

Q.5 : a) Question (Based on Unit IV)
(06)

b) Question (Based on Unit IV)
(06)

Q.6 : a) Question (Based on Unit I or III)
(06)

b) Question (Based on Unit II or IV)
(06)

Q.7 : Write Short Answers
(12)

a) Based on Unit I (3 Marks)

b) Based on Unit II (3 Marks)

c) Based on Unit III (3 Marks)

d) Based on Unit IV (3 Marks)

.....XXXXXXXXXXXXXXXXXXXXX.....

**CHHATRPATI SHAHU INSTITUTE OF BUSINESS EDUCATION AND RESEARCH
(CSIBER)**

University Road, Kolhapur – 416 004

**Out Line Theory Question paper for all the programmes
(Two Unit Course)**

Class :

Subject :

Paper no. :

Time : Two hours

Total marks : 30

INSTURUCTIONS:

4. Question no. 1 is **COMPULSORY**
5. Attempt any Three from Q. No.2 to Q. No.5.
6. Figures to right indicate **FULL** marks

Q.1.: Case study / Problems / Program (Based on Unit I or II)
(6)

Q.2 : Long Answer Question (Based on Unit I)
(8)

Q.3 : Long Answer Question (Based on Unit II)
(8)

Q.4 : a) Brief Answer Question (Based on Unit I)
(4)
b) Brief Answer Question (Based on Unit II)
(4)

Q.5 : a) Brief Answer Question (Based on Unit II)
(4)
b) Brief Answer Question (Based on Unit I)
(4)

.....XXXXXXXXXXXXXXXXXXXXX.....

NATURE OF PRACTICAL QUESTION PAPER

Time : 2 Hours

Total Marks : 50

Instructions:

1. Attempt any two questions.
2. **10 Marks are reserved for journal**

Q. 1: (20 Marks)

Q. 2: (20 Marks)

Q. 3: (20 Marks)

Programme Structure**M.Sc.(Computer Science) (Part-I) Semester – I**

Course No.	Course Name	Credit	Hours	Int.	Ext.	Total
CC-101	Computer Organization and Architecture	3:1:0	60	40	60	100
CC-102	Software Engineering and Project Management	3:1:0	60	40	60	100
CC-103	Object Oriented Programming with C++	3:1:0	60	40	60	100
CC-104	Web Design and Development	3:1:0	60	40	60	100
LAB-I	Based on CC1.3	0:0:2	45	10	40	50
LAB-II	Based on CC1.4	0:0:2	45	10	40	50
DSE 101	A. Theoretical Computer Science (TCS)	3:1:0	60	40	60	100
	B. Cloud Computing					
	C. Information Security & Cryptography					
GE 101	A. Fundamentals of Management	3:1:0	45	40	60	100
	B. Environment & Development					
	C. Indian Social Problems and Services					
	D. Principles of Economics					
AEC 101	A. Design and Analysis of Algorithms	3:1:0	60	40	60	100
	B. Mobile, Wireless, and VoIP Security					
		32	495	300	500	800

M.Sc.(Computer Science) (Part-I) Semester – II

Course No.	Course Name	Credit	Hours	Int.	Ext.	Total
CC-201	Operating Systems	3:1:0	60	40	60	100
CC-202	Linux Administration and Programming	3:1:0	60	40	60	100
CC-203	.NET programming	3:1:0	60	40	60	100
CC-204	Data and File Structures	3:1:0	60	40	60	100
LAB-III	Based on 2.3	0:0:2	45	10	40	50
LAB-IV	Based on 2.4	0:0:2	45	10	40	50
Project-I	Mini Project and Viva-Voce	0:0:4	60	40	60	100
DSE-201	A. Big Data and Hadoop	3:1:0	60	40	60	100
	B. Computer graphics					
	C. Ethical Hacking and Network Defense					
GE-201	A. Fundamentals of Accounting	3:1:0	45	40	60	100
	B. Disaster Management					
	C. Social Welfare and Administration					
	D. Principles of Microeconomics					
AEC-201	A. Database Management System	3:1:0	60	40	60	100
	B. Cyber Forensics					
		36	555	340	560	900

M.Sc.(Computer Science) (Part-II) Semester – III

Course No.	Course Name	Credit	Hours	Int.	Ext.	Total
CC-301	Computer Networks	3:1:0	60	40	60	100
CC-302	Artificial Intelligence	3:1:0	60	40	60	100
CC-303	Java Programming	3:1:0	60	40	60	100
CC-304	Data Warehousing and Data Mining	3:1:0	60	40	60	100
LAB-V	Based on CC303	0:0:2	45	10	40	50
LAB-VI	Based on CC304	0:0:2	45	10	40	50
DSE-301	A. Optimization Techniques (OR)	3:1:0	60	40	60	100
	B. Advanced data analytics					
	C. Cryptanalysis					
GE-301	A. Agri-Enterprise Management	3:1:0	45	40	60	100
	B. Sustainable Agriculture					
	C. Fundamentals of Counseling					
	D. Fundamentals of Macroeconomics					
AEC-301	A.Mobile Computing	3:1:0	60	40	60	100
	B. Cyber Crimes & Investigation					
		32	495	300	500	800

M.Sc.(Computer Science) (Part-II) Semester – IV

Course No.	Course Name	Credit	Hours	Nature of EOS exam.	Total
CC-4.1	Project report	12	728/2 = 364	Report Documentation	100
CC-4.2	Confidential Report			Report From Industry	100
CC-4.3	Viva-Voce			Viva –Voce	100
CC-4.4	Project presentation			Project Presentation	100
	Total	12	364		400

Total Credits:

Semesters	Core Credits	DSE	GE	AEC	Total
I	4x 4 = 16 2x 2 = 04 (Pract.)	1 x 4= 4	1 x4= 4	1 x 4= 4	32
II	4x 4 = 16 2x 2 = 04 (Pract.) 4x1 = 04(Project)	1 x 4= 4	1 x4= 4	1 x 4= 4	36
III	4x 4 = 16 2x 2 = 04 (Pract.)	1 x 4= 4	1 x 4= 4	1x4 = 4	32
IV	12				12
Total	76	12	12	12	112
Percentage	67.87	10.71	10.71	10.71	100
Total marks	2000	300	300	300	2900

M.Sc.(Computer Science) (Part-I) Semester – I

Semester	I	Total Credit	4
Course Code	CC101	Credit Pattern	L-48, T-12, P-0
Course Title	COMPUTER ORGANIZATION AND ARCHITECTURE		
Course Objectives			
1	To feature a strong emphasis on the fundamentals underlying digital circuit design		
2	To build problem-solving skills required for digital circuit design		
3.	To explore computer design components like Boolean Algebra, Combinational, Sequential Circuit Design, Memory and CPU Organization, Input Output Processing		
Course Outcomes: The students will able to			
1.	Build understanding and problem-solving skills required for digital circuit design		
2.	Learn the basic concepts used in the digital domain like number systems, logic gates, Boolean algebra and K-maps etc		
3.	Present hardware operation and circuit designs used in digital computers.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Data Representation systems and Boolean Algebra: (15) Data Representation: Introduction to Digital Computer, Number Systems- Binary, Octal and Hexadecimal, Inter-conversion between number systems, Coding Schemes Boolean Algebra: Binary Logic, Logic Gates, Boolean Algebra, Postulates of Boolean Algebra, Boolean Function, Algebraic Simplification, Karnaugh Maps, Boolean Circuits	L= 12	
		T=3	P= 0
2	Combinational and Sequential Circuits: (15) Combinational Circuits: Introduction, Design Procedure, Half Adder, Full Adder, Decoder, Encoder, Multiplexer Sequential Circuits: Flip Flops - SR, D and JK, Registers, Register with parallel load, Shift Registers, Counters, Ripple Counters, Synchronous Counter.	L= 12	
		T= 3	P= 0
3	Memory and CPU Organization: (15) Memory Organization: Memory Hierarchy, Main Memory, Auxiliary memory, Associative Memory, Cache memory, Virtual Memory CPU Organization: CPU Building Blocks, Instruction codes, Registers, Addressing Modes, Instruction sets, RISC, CISC and its characteristics, Instruction execution and Interrupts.	L= 12	
		T= 3	P= 0
4	Control Organization and Input Output Processing: (15) Control Organization: Introduction, Hardwired Control, Micro Programmed Control, Micro Instructions, Micro Operation Address Sequencing Input-Output Processing: Input/ Output Devices, Input-Output Interface, Modes of Transfer, Direct Memory Access, I/O Processor	L=12	
		T= 3	P= 0

Learning Resources		
1	Text Books	1. M. Morris Mano, Computer System Architecture, Pearson, 3rd Edition 2. M. Morris Mano, Digital Logic and Computer Design, Prentice Hall
2	Reference books	1. M. Morris Mano, Michael D. Ciletti, Digital Design, Prentice Hall, 4th Edition 2. J. P. Hayes, Computer Architecture & Organization, MGH, 3rd Edition 3. V. Rajaraman & Radhakrishnan, Introduction to Digital Computer Design, PHI 4. Pal Chaudhary, Computer Organization & Design, PHI, 3rd Edition 5. William Stallings, Computer Organization and Architecture: Designing for Performance, PHI, 7th Edition
3	Websites	• https://www.studytonight.com/computer-architecture/ • https://www.javatpoint.com/computer-organization-and-architecture-tutorial • https://www.tutorialspoint.com/computer_organization/index.asp
4	Journals	• IEEE Computer Architecture Letters ISSN: 1556-6056 • ACM SIGARCH Computer Architecture News ISSN:0163-5964 • IEEE Transactions on Computers ISSN: 0018-9340
5	Supplementary Reading	• Study Material of Web Course Developed for NPTEL , Computer Organization and Architecture, https://nptel.ac.in/courses/106103068/pdf/coa.pdf
6	Practical Components	• Virtual Labs - Digital Electronic Circuits http://vlabs.iitkgp.ernet.in/dec/

Semester	I	Total Credit	4
Course Code	CC 102	Credit Pattern	L-48, T-12, P-0
Course Title	Software Engineering And Project Management		
Course Objectives			
1	To learn and understand the principles of Software Engineering.		
2	To Learn and understand Software Development Life Cycle.		
3.	To apply Design and Testing principles to S/W project development.		
4.	To introduce the tasks and concepts in project management.		
5.	To find out various metrics and its usage.		
Course Outcomes: The students will able to			
1.	Understand the principles of Software Engineering.		
2.	Apply Software Development Life Cycle.		
3.	Design and Testing S/W project.		
4.	Manage Tasks and concepts in project management.		
5.	Use various metrics for better project management.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Software Engineering : Definitions, Characteristics of Software - Software Myths – Software Engineering, A Generic Process Model, Prescriptive Process Models: The Waterfall Model, Incremental Process Models , Evolutionary Process Models , Extreme Programming (XP), Scrum, Requirements Engineering, Requirements Modeling Strategies, SRS (15)	L= 12	
		T=3	P= 0
2	Software Design: The Design Process, designing software with DFD, Class diagrams, State diagram, Sequence diagram, Collaboration diagram, activity diagram, component and deployment diagram, Need for structured programming – Coding standards (15)	L= 12	
		T= 3	P= 0
3	Software Testing: A Strategic Approach to Software Testing, Unit testing, Integrations testing, Validation Testing, System Testing, The Art of Debugging. Testing Techniques: White-Box Testing , Basis Path Testing, Control Structure Testing, Black-Box Testing, Architectures, Object-Oriented Testing Strategies, Object-Oriented Testing Methods, Test Cases and the Class Hierarchy, User Interface Testing. (15)	L= 12	
		T= 3	P= 0
4	Project Management, Planning, Scheduling and Tracking : The Management Spectrum, People, Product, Process, Project, The W5HH Principle, Metrics in the Process and Project Domains (FP & LOC), Software Measurement, Metrics for Project and Software Quality, Risk Management, Project Planning Objectives, Software Project Estimation using COCOMO Model, Defining a Task Set for the Software Project, Selecting Software Engineering Tasks, Defining a Task Network and Scheduling, Definition of maintenance, maintainability, maintenance tasks, maintenance side effects (15)	L=12	
		T= 3	P= 0

Learning Resources		
1	Text Books	1. Roger S Pressman “Software Engineering : A Practitioner’s Approach “ 7th Edition Mcgraw-Hill ISBN: 0073375977 2. Hans - Erik Erikson and Magnus Penker - UML Toolkit 2
2	Reference books	• Ivar Jacobson - Object-oriented Software Engineering • Grady Booch - Object Oriented Analysis and Design with Applications • Ian Sommerville “ Software Engineering” 9th edition Pearson Education ISBN-13: 978-0-13-703515-1 • Glenford J. Myers, The Art of Software Testing, John Wiley & Sons, Inc.
3	Websites	• https://www.ece.rutgers.edu/~marsic/books/SE/links/ • Software Engineering Lectures Easy Engineering Classes
4	Journals	https://link.springer.com/journal/10270 https://www.computer.org/csdl/journal/ts
5	Supplementary Reading	https://www.javatpoint.com/software-engineering-tutorial https://www.guru99.com/software-engineering-tutorial.html https://www.tutorialspoint.com/software_engineering/ https://www.utcluj.ro/media/page_document/78/Foundations%20of%20software%20testing%20-%20ISTQB%20Certification.pdf
6	Practical Components	• Case Studies on software design and modeling to be covered as tutorials.

Semester	I	Total Credit	4
Course Code	CC103	Credit Pattern	L-45, T-8, P-7
Course Title	Object Oriented Programming With C++		
Course Objectives			
1	To teach how to write programs in C language		
2	To explain the data types and structures with their usage		
3.	To demonstrate implementation of flat files using C language		
4.	To introduce and explain the concepts like classes, constructors, destructors, inheritance, overloading, polymorphism and stream I/O operation.		
Course Outcomes: The students will able to			
1.	Write correct programs in C AND C++language		
2.	Understand use of data types and structures		
3.	Utilize Object Oriented Programming concepts to design C++ programs.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Overview of Programming and programming languages: Types of programming Languages, Introduction to C, Structure of C program, variables and constants, modifiers and storage class specifiers. Operators in C, control flow and iterative structures, break, continue and goto statements. Formatted and unformatted input output statements in c, Escape sequence characters. Arrays – definition, different types of arrays, processing elements of array. User defined functions in C – Function declaration, Function call, and Function definition. Pointer – pointer fundamental, pointer declaration, array of pointer, pointer to array, dynamic memory allocation. (15)	L= 11	
		T=2	P= 2
2	Disk input output in C and C++: File structure, Opening and closing file, Creating files, Processing files, File handling using command line arguments, Library functions for file handling, Classes for File Stream Operation, Opening & Closing Files, Sequential Input & output Operation, Search, Random Access. (15)	L= 12	
		T= 2	P= 1
3	Procedural vs. Object Oriented Programming: Difference between structure, union and class. OOP Concepts, Specifying a class, Defining member functions, Data Members, Access Specifiers, C++ program using class, Static data members and functions, objects as Function argument, Constant Object and constant member function, Returning object, Multiple Constructor in a Class, Constructors with Default Arguments, Copy Constructor, Destructor. (15)	L= 11	
		T= 2	P= 2
4	Introduction to polymorphism: Function Overloading, Defining Operator Overloading, Overloading Unary Operator, Overloading Binary Operator, Friend function, Overloading Operator Using Friend function, and Operator function as members V/s Rules for Overloading Operators. Introduction to Inheritance, Defining base and derived Classes, Types of Inheritance, Public, Protected and Private inheritance,	L=11	
		T= 2	P= 2

		Constructors and Destructors in derived Classes, this pointer, dynamic memory management, Pointer to Derived Class Object, Abstract Class, Virtual Function, Pure Virtual Function . (15)	
Learning Resources			
1	Text Books	• C: The Complete Reference: Herbert Schildt • Let us C Solutions: Y.P. Kanetkar • H. M. Deitel, P. J. Deitel, C++ How to Program, Prentice Hall Publication, 5th Edition, • Herbert Schildt, C++ The Complete Reference, Tata McGraw Hill Publishing Co.Ltd, 4th Edition	
2	Reference books	• Spirit Of “C”: Moolish Kooper • C Programming Language: Kernighan & Ritchie. • Bjarne Stronstrup The C++ Programming Language, Addison-Wesley Professional, 4th Edition • Yashavant P. Kanetkar, Let us C++, BPB Publication, 2nd Edition	
3	Websites	• tutorialspoint.com • cplusplus.com • cprogramming.com	
4	Journals	• C/C++ Users Journal • Computer Bits	
5	Supplementary Reading	• Stanley Lippman, Lajoi, C++ Primer, Pearson, 3rd Edition • Al Stevens, Clayton Walnum, C++ Programming Bible, Wiley Publishing	
6	Practical Components	• List of experiments to be executed during laboratory hours	

Semester	I	Total Credit	4
Course Code	CC 104	Credit Pattern	L-45, T-8, P-7
Course Title	Web Design and Development		
Course Objectives			
1	To teach the basic internet concepts and train them to develop internet applications.		
2	Knowledge of the new JavaScript APIs.		
3.	To introduce various tools for web services.		
4	To introduce PHP and MySQL and its usages		
Course Outcomes: The students will able to			
1.	Design and develop internet applications.		
2.	Do JavaScript APIs.		
3.	Use various tools for web services.		
4.	Design and develop web application using PHP and MySQL		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to HTML and CSS: (15) Introduction To HTML, WWW, W3C, Common HTML, Tags Physical & Logical, Some basic tags like , changing background color of page, text color etc., Text formatting tags, Ordered & Unordered Lists Tags, Inserting image, Inserting Links: text, image links, Image mapping , Tables , Frames, Form Introduction with various input control - text box, text area, buttons, List box, radio, checkbox etc. Introduction to HTML5, HTML5 features and Elements: semantic tags, the selector API, new form input controls, improved accessibility Creating drop shadows and rounded corner CSS Introduction To Style sheet, types of style sheets- Inline, External, Embedded CSS, text formatting properties, CSS Border, margin properties, Positioning Use of classes in CSS, color properties, use of <div> and . CSS3 Specifications, CSS3 features selectors	L= 11	
		T=2	P= 2
2	Introduction to JavaScript: (15) Introduction to script, types, Intro of JavaScript, JavaScript identifiers, operators, control & Looping structure, Intro of Array, Array with methods, Math, String, Date Objects with methods User defined & Predefined functions, Working with Frames, Forms and Form elements and the associated events. Form validation, three types of dialog boxes: alert, prompt, confirm, JavaScript Regular Expression	L= 12	
		T= 2	P= 1
3	Introduction to PHP: (15) Concept of PHP, Constants, variables declaration, Comments, Data types, Operators, Command line arguments, Conditional statements, If-else, Switch, Ternary operators, looping statements- For loop, While loop, Do-while loop, Creating arrays, Inserting elements in arrays, Retrieving elements from array, Displaying arrays, Sorting array elements	L= 11	
		T= 2	P= 2

4	PHP and MySQL Connection: (15) Introduction to Databases, Connecting to MySQL database, Creating database, Creating tables, Inserting values in table, displaying, changing, searching, deleting records from the table, SQL queries- insert, select, delete, update, where, order by		L=11	
			T= 2	P= 2
Learning Resources				
1	Text Books	1.Html and css: design and build websites, by jon duckett 2. Javascript and jquery: interactive front-end web development, by jon duckett 3. Learning web design: a beginner’s guide to html, css, javascript, and web graphics, by jennifer niederst robbins		
2	Reference books	1. M. Morris Mano, Computer System Architecture, Pearson, 3 rd Edition 2. M. Morris Mano, Digital Logic and Computer Design, Prentice Hall 3. M. Morris Mano, Michael D. Ciletti, Digital Design, Prentice Hall, 4 th Edition 4. J. P. Hayes, Computer Architecture & Organization, MGH, 3 rd Edition 5. V. Raja Raman & Radhakrishnan, Introduction to Digital Computer Design, PHI 6. Pal Chaudhary, Computer Organization & Design, PHI, 3 rd Edition		
3	Websites	• www.Udemy.com • www.Coursera.com • Www.W3Schools.com • www.Tutorialspoint.com		
4	Journals	1. Wei Willy. Usability tool for analysis of web designs using mouse tracks 2. Advances in Informatics. Springer; 2003 3. Design Studies		
5	Supplementary Reading	1. www.Lynda.com + LinkedIn Learning 2. www.Codecademy.com 3. www.The Odin Project .com		
6	Practical Components	Total 20 practical’s based on Web Design and Development.		

Semester	I	Total Credit	4
Course Code	DSE 101	Credit Pattern	L-48, T-12, P-0
Course Title	A. THEORETICAL COMPUTER SCIENCE (TCS)		
Course Objectives			
1	To comprehend languages, grammars, and computation models		
2	To learn regular languages and context free languages which are crucial to understand how compilers and programming languages are built		
3.	To discuss the concepts of Push Down Automata and Turing Machines		
4	To strengthen rigorous mathematical reasoning skills		
Course Outcomes: The students will able to			
1.	Understand how compilers and programming languages are built		
2.	Demonstrate knowledge of basic mathematical models of computation and describe how they relate to formal languages.		
3.	Apply knowledge of computing and mathematics appropriate to the discipline		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Basic concepts of Automata Theory: (15) Introduction, Alphabets, Strings and Languages, Deterministic Finite Automata (DFA), Nondeterministic Finite Automata (NFA), Representation of NFA and DFA using Transition Tables and State Diagrams. NFA with ϵ -transitions, Equivalence of NFA and DFA, Minimization of DFA.	L= 12	
		T=3	P= 0
2	Regular Expressions and Languages: (15) Introduction, Definition of regular expression, Kleen's Theorem, Equivalence of regular expression and Finite Automata, Pumping Lemma for regular Languages, Closure properties of Regular Languages, Finite Automata with Output: Moore and Mealy Machine, Equivalence of Moore and Mealy Machines.	L= 12	
		T= 3	P= 0
3	Context Free Grammars: (15) Introduction, Definition of Grammar, Classification of Grammars, Chomsky's Hierarchy. Context Free Grammars (CFG) and Context Free Languages (CFL) - Definition, Examples, Parse trees, Ambiguous Grammars, Simplification of Grammars, Normal forms of CFGs: Chomsky Normal Form (CNF) and Greibach Normal Form (GNF), Closure properties of CFLs, Pumping lemma for CFLs.	L= 12	
		T= 3	P= 0
4	Push Down Automata (PDA) and Turing Machines: (15) Introduction, PDA - Definition and Description, Language of PDA, PDA and CFLs, Determinism and Non determinism in PDA, PDA applications. Introduction, Basic Features of a Turing Machine, Language of a Turing Machine, Variants of Turing Machine: Multitapes, Nondeterministic Turing Machine, Universal Turing Machine. Halting problem of Turing Machine.	L=12	
		T= 3	P= 0

Learning Resources		
1	Text Books	• J.E. Hopcraft, R. Motwani, and Ullman, Introduction to Automata theory, Languages and Computation, Pearson Education Asia, 2nd edition • J Martin, Introduction to languages and the theory of computation, Tata McGraw Hill, 3rd Edition
2	Reference books	• C Papadimitrou and C. L. Lewis, Elements and Theory of Computation, PHI • K.L.P. Mishra and N. Chandrashekharan , Theory of Computer Science, PHI • Daniel I.A. Cohen, Introduction to Computer Theory, Second Edition, John Wiley
3	Websites	• https://www.tutorialspoint.com/automata_theory/ • https://www.geeksforgeeks.org/theory-of-computation-automata-tutorials/ • https://www.javatpoint.com/automata-tutorial
4	Journals	• Theoretical Computer Science ISSN: 0304-3975 • Journal of Theoretical & Computational Science ISSN: 2376-130X • Theory of Computing ISSN: 1557-2862
5	Supplementary Reading	• NPTEL Course on Theory of Computation, https://nptel.ac.in/courses/106104028/1# • Automata Theory, https://online.stanford.edu/courses/soe-ycsautomata-automata-theory
6	Practical Components	• Practical based on implementation of Automata Theory

Semester	I	Total Credit	4
Course Code	DSE-101	Credit Pattern	L-45, T-8, P-7
Course Title	B. Cloud Computing		
Course Objectives			
1	To understand the concept of Virtualization and design of cloud Services		
2	To understand cloud computing technologies.		
3.	To introduce the broad perceptive of cloud architecture and model To learn to design the trusted cloud Computing system		
4	To introduce the fundamental ideas of the cloud computing model and its origin		
5.	To introduce the broad perceptive of cloud architecture and model To learn to design the trusted cloud Computing system		
6.	To understand the features of cloud simulator		
Course Outcomes: The students will able to			
1.	Able to identify the architecture and delivery models of cloud computing.		
2.	Able to identify infrastructure.		
3.	Helps to understand security, privacy and interoperability issues.		
4.	Enable to select suitable cloud player		
5.	Enable to apply suitable virtualization concept		
6.	Enable to implement cloud services and set a private cloud		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to cloud computing: (15) Cloud computing definitions, History of cloud, Characteristics and Principles of cloud, SaaS Maturity Model, commercial cloud offerings, cloud storage, live migration, ISO image, Layers and types of clouds, Challenges, Service Models, opportunities and challenges, advantages and disadvantages of cloud computing, Comparison of Cloud computing, Cluster computing and Grid computing; Applications: Technologies and process required when deploying Web services. Service Oriented Architecture (SOA), WSDL structure, protocols used in SOA, web service integration, service catalogs,. Cloud Computing Architecture: Cloud Interoperability and standards, Scalability and Fault tolerance, System Models for Distributed and cloud computing –NIST cloud computing reference model. Cloud Cube Model, Cloud Reference Model, Cloud Models – Service Model(IaaS, PaaS, SaaS), Deployment Model,	L= 11	
		T=2	P= 2
2	Cloud computing costs – Right sizing, auto scaling, and vertical scaling Vs horizontal scaling, service level agreement, service credits, defining licensing models. Capacity planning, steps in capacity planning, baseline measurements, resource ceiling, server instance types, measuring network capacity. Virtualization: Introduction to Virtualization, Characteristics of virtualization, Virtualization and Cloud Computing, Pros and Cons of Virtualization, Types of Virtualization- Implementation Levels of Virtualization - Virtualization Structures - Tools and Mechanisms - Virtualization of CPU, Memory, I/O Devices . Fundamental concepts of	L= 12	
		T= 2	P= 1

	compute ,storage, networking, desktop and application virtualization, Virtualization benefits, server virtualization, Infrastructure Requirements , Virtual LAN(VLAN) and Virtual SAN(VSAN) and their benefits ,Load balancing, benefits of load balancing, load balancing alrgorithms, hypervisor (virtual machine monitor), types of hypervisors, machine imaging, porting applications, challenges in porting applications, simple cloud API, AppZero virtual Application Appliance. (15)		
3	Cloud Infrastructure: (15) Cloud Application Platform: Aneka Framework Overview, Building Aneka Clouds: Infrastructure Organization, Logical Organization, Platform Deployment: Private Cloud Deployment Mode, Public Cloud Deployment Mode, Hybrid Cloud Deployment Mode, Resource provisioning, Inter cloud resource management. Layered Cloud Architecture development, Cloud Security, OSI standard for security model, role and rule management, access control list, specific attacks, sniffing, spoofing, phishing, pharming (DNS Spoofing), cryptography, encryption, decryption, types of cryptography. Format of digital certificate, working of digital signature, Electronic money (Digicash), security mechanism in Digicash, types of electronic money, double-spending problem..	L= 11	
		T= 2	P= 2
4	V Programming Model: (15) Principles of Parallel and Distributed Computing, Paradigms: Map Reduce- Hadoop Library from Apache, Amazon Web Services (AWS), Manjra soft Aneka, Parallel vs. Distributed Computing, centralized vs distributed systems, Difference between distributed and network operating system, Features and characteristics of distributed systems, distributed architectures, system models, Elements of Parallel Computing Hardware Architectures for Parallel Processing, Approaches to Parallel Programming ,Levels of Parallelism, classification of parallel computers, Flynn’s classification, dependency conditions, Bernstein conditions for detection of parallelism, parallelism based on grain size, Handler’s classification, Components of a Distributed System , Architectural Styles for Distributed Computing , Models for Inter-Process Communication, Technologies for Distributed Computing: Remote Procedure Call.	L=11	
		T= 2	P= 2
Learning Resources			
1	Text Books	1. Kumar Saurabh,”Cloud Computing”, Wiley Pub 2. Buyya Selvi,”Mastering Cloud Computing”, TMH pub. 3. Soninky, “Cloud Computing”, Wiley Pub. 4. Kurtz, Vines, “Cloud Security”, Wiley Pub.	
2	Reference books	1. John W.Rittinghouse and James F.Ransome, “Cloud Computing: Implementation, Management, and Security”, CRC Press, 2010. 2. Kumar Saurabh, “Cloud Computing – insights into New-Era Infrastructure”, Wiley India, 2011. 3. George Reese, “Cloud Application Architectures: Building Applications and Infrastructure in the Cloud” O’Reilly 4. Katarina Stanoevska-Slabeva, Thomas Wozniak, Santi Ristol, “Grid and Cloud Computing – A Business Perspective on Technology and Applications”, Springer.	

		5. James E. Smith, Ravi Nair, “Virtual Machines: Versatile Platforms for Systems and Processes”, Elsevier/Morgan Kaufmann.
3	Websites	• https://cloudacademy.com • https://acloud.guru • https://geekflare.com/collections/learn-cloud-computing/
4	Journals	• IEEE Transactions on Cloud Computing (http://ieeexplore.ieee.org/xpl/aboutJournal.jsp?punumber=6245519#AimsScope) • Journal of Cloud Computing: Advances, Systems and Applications (JoCCASA) (http://www.journalofcloudcomputing.com/) • International Journal of Cloud Computing (http://www.inderscience.com/jhome.php?jcode=ijcc) • The International Journal of Cloud Computing (IJCC) (http://www.hipore.com/ijcc/)
5	Supplementary Reading	• https://www.ibm.com/cloud/learn • https://linuxacademy.com/library/search/cloud/ • https://www.lynda.com/Cloud-Computing-training-tutorials/1385-0.html
6	Practical Components	

Semester	I	Total Credit	4
Course Code	DSE-101	Credit Pattern	L-48, T-12, P-0
Course Title	C. Information Security and Cryptography		
Course Objectives			
1	To understand basics of Information security and Cryptography.		
2	To be able to secure a message over insecure channel by various means.		
3	To learn about how to maintain the Confidentiality, Integrity and Availability of a data.		
Course Outcomes: After successful completion of the course, the students would be able to			
1.	Provide security of the data over the network.		
2.	Do research in the emerging areas of cryptography and Information security		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Information Security: (15) Introduction of Information Security, Critical Characteristics of Information, NSTISSC Security Model, Components of an Information System, Securing the Components, Balancing Security and Access, The SDLC, The Security SDLC Security mindset, Computer Security Concepts (CIA), Information Security Policy, Standards and Practices.	L= 12	
		T=3	P= 0
2	Introduction to Cryptography: (15) Threats, risks, consequences, Sources of threats, Attacks classification, Preventive measures, remedial measures Introduction to Cryptography: Security Mechanisms: Security Services, Security Attacks, Security Goals, Symmetric Cipher Model, Various Encryption Techniques: Substitution: (i) Mon alphabetic - Caesar Cipher (ii) Polyalphabetic - Play fair Cipher, Vignere Cipher, Hill Cipher, Transposition: (i) Keyless (ii) Keyed, Steganography	L= 12	
		T= 3	P= 0
3	Block Cipher and Public Key Cryptography: (15) Data Encryption Standard, Block Cipher Modes of Operation:-Electronics Code Book (ECB), Cipher block-chaining mode (CBC), Cipher Feedback Mode (CFB), Output Feedback Mode (OFB), Advanced Encryption Standard, Blowfish Algorithm, RCS Algorithm, Public Key Cryptography (Asymmetric Key Cryptography), RSA Algorithm, Knapsack Algorithm, El-Gamal Algorithm, Key Management - Diffie Hellman Key	L= 12	
		T= 3	P= 0
4	Integrity checks and Authentication algorithms: (15) Authentication Requirement, Authentication Functions, Types of Authentication, and Message Authentication Code (MAC): MD5 Algorithm, SHA Algorithm, HMAC Algorithm, and Digital Certificate. Digital Signature Scheme: RSA, El Gamal, Schnorr, DSS, Needham Schroeder Authentication Protocol. Authentication Applications:	L=12	
		T=3	P= 0

		Kerberos and X.509 - directory authentication service - electronic mail security-pretty good privacy (PGP) - S/MIME		
Learning Resources				
1	Text Books	• Michael E Whitman and Herbert J Mattord, “Principles of Information Security”, Vikas Publishing House, New Delhi, 2003 • William Stallings, Cryptography and network security, Pearson Education.		
2	Reference books	• Micki Krause, Harold F. Tipton, “ Handbook of Information Security Management”, Vol 1-3 CRC Press LLC, 2004. • Stuart Mc Clure, Joel Scrambray, George Kurtz, “Hacking Exposed”, Tata McGraw-Hill, 2003 • Matt Bishop, “ Computer Security Art and Science”, Pearson/PHI, 2002. • Wade Trappe, Lawrence C Washington, “ Introduction to Cryptography with coding theory”, Pearson • W. Mao, “Modern Cryptography – Theory and Practice”, Pearson Education. • Charles P. Pfleeger, Shari Lawrence Pfleeger – Security in computing – Prentice Hall of India		
3	Websites	• https://www.khanacademy.org/computing/computer-science/cryptography • https://www.guru99.com/how-to-make-your-data-safe-using-cryptography.html • https://www.geeksforgeeks.org/what-is-information-security/ • https://www.commonlounge.com/		
4	Journals	• Journal of Information Security and Applications • Taylor and Francis : Information Security Journal: A Global Perspective		
5	Supplementary Reading	• <u>Digital Guardian</u> • <u>Schneier on Security</u> • <u>A Few Thoughts on Cryptographic Engineering</u> • https://www.edureka.co/blog/what-is-cryptography/		
6	Practical Components			

Semester		I	Total Credit	4
Course Code		GE 101-A	Credit Pattern	L-45, T-8, P-7
Course Title		FUNDAMENTALS OF MANAGEMENT		
Course Objectives				
1	To Understand the different concept in Management.			
2	To understand the evolution of Management Thought.			
3	To introduce students to CSR.			
Course Outcomes: Students will be able to				
1	Discuss management evolution and how it can affect future managers			
2	Analyze and attain elementary level of skills in management process and functions: planning, organizing, leading, deciding, motivating and controlling.			
3	Evaluate leadership styles to anticipate the consequences of each leadership style			
4	Describe concept of CSR.			

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Management: Management: (15) Definition, Scope. Functions of Management, Managerial Skills, Levels of Management and their functions, Henri Mintzberg- Roles of a Manager, Management and Administration.	L= 12	
		T= 2	P= 1
2	Development in Management Thought: (15) Classical Approach, Scientific Management Approach – Contribution of F. W. Taylor, Henry Fayol, Max Weber’s Bureaucratic Management, Hawthorne Experiment, Systems approach,– Peter Drucker (Drucker’s MBO Philosophy), Characteristics of Management Today	L= 11	
		T= 2	P= 2
3	Planning and Organizing: (15) Planning -Nature, Types, Process and Importance of Planning, Limitations of Planning, Making Planning Effective. Organizing - Meaning, Process of Organizing. Organization Structure- Mechanistic and Organic, Virtual Organizations- Characteristics, Advantages and Limitations, Departmentalization- on bases of Customer, Geographical area, product, process, function, Span Of Management- Factors considered while deciding span of management, Concept of Responsibility, Authority, Accountability and Delegation	L= 11	
		T= 2	P=2
4	Leadership, Motivation and Controlling: (15) Decision Making – Concept, Process, Types of Decisions Leadership - Types, Qualities of Leader Motivation - Concept – Sources of Motivation – Maslow Hierarchy of Needs Theory – Theory X and Theory Y – Theory Z Controlling - Steps in Control Process – Need – Types of Control Methods – Benefits Concept of CSR – Responsibilities of organizations towards customers, employees, Government and society	L= 11	
		T= 2	P= 2

Learning Resources		
1	Text Books	1. Principles of Management – T Ramasamy 2. Principles of Management – P.C. Tripathi and P.N. Reddy 3. Fred Luthans, Organisational Behavior, McGraw Hill, 11th Edition, 2001
2	Reference books	1. Essentials Of Management – Koontz And Weinrich 2. Modern Management – Certo – Prentice Hall 3. Principles Of Management – L.M. Prasad 4. Principles Of Management – R.M. Srivastava 5. New Era of Management – Richard L. Daft 6. Essentials of Management – Peter Drucker 7. Management – Stephen P. Robins – Prentice Hall 8. Modern Business Administration and Management – S. A. Sherlekar - Himalaya Publication 9. Management Concept and Strategies – J. S. Chandra
3	Websites	1. www.iupindia.in 2. https://iedunote.com 3. http://www.yourarticlelibrary.com
4	Journals	1. Asian Journal of Management 2. AIMS Journal of Management 3. Casefolio The IUP Journal of Management case studies. 4. IUP Journal of Management Case Studies 5. IUP Journal of Organizational Behavior
5	Supplementary Reading	1. South Asian Journal of Practical Research 2. Business India – The Magazine of Corporate World. 3. Articles in Economic Times, Deccan Herald, Times of India
6	Practical Component	1. Study organizational Structure of any company and present in the class. 2. Class debate on different basis of departmentalization 3. Identify any business leader and list his qualities that made him a good leader. 4. Visit any organization and find out how it motivates its employees and discuss in class. 5. Library Exercise on CSR activities undertaken by any one company of your choice. 6. To interview Manager of any local business to understand responsibilities and limitations of manager. 7. Identifying a job profile and list the various types abilities required for that job and also the personality traits/attributes required for that job. 8. Management games on Team building will be conducted. 9. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed. 10. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Semester	I	Total Credit	4
Course Code	GE 101-B	Credit Pattern	L-45, T-8, P-7
Course Title	ENVIRONMENT AND DEVELOPMENT		
Course Objectives			
1	To make the students to understand the basics functional areas of Environment.		
2	To understand the procedural part getting environmental clearance to any new project.		
3	To develop the Environment Management System for an industry.		
Course Outcomes: The students will able to			
1	Differentiate biotic and abiotic components of ecosystem & able to understand concept of habitat, interactions in between different components & their Interrelationships.		
2	Develop ability of identification of local issues related with natural resources.		
3	Adopt various pollution control techniques.		
4	Students will know the protocol & prepare for EIA & EMS Reports.		
5	Students will know various environmental policies as well as National & International Organizations involved.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Ecological concepts : (15) Introduction to Environmental Science as a multi-disciplinary, its scope and necessity; General Accounts of Biosphere and Limits of Biosphere; Concepts of Ecosystem, Structure and Functions: Principles of Organism-environment relationship; Concept of habit and habitat; Types of Ecosystem; Biogeochemical cycles (carbon, nitrogen phosphorous and sulphur).	L= 11	
		T= 2	P=2
2	Natural Resources: (15) Concept and classification of natural resources. Natural resources of India with special reference to occurrence distribution and use of water resources, soil resources, land resources, classification of Mineral resources and use (Bauxite, Iron Ore, Asbestos and Mica)	L= 12	
		T=2	P=1
3	Environmental Pollution and control: (15) Definition, sources of air pollution, classification of air pollutants. Effect of air pollution and acid rain, global warming, ozone depletion. Noise Pollution: Definition, Sources of noise pollution. Effect of noise pollution on human-beings. Noise control measures. Definition, sources and concept of water pollution Effects of pollution. Water Pollution Control Methods.	L= 11	
		T=2	P= 2
4	Environmental Policy: (15) Government policies in the protection and development of environment-environmental considerations in economic planning and development in India. National environmental policy. United Nations Environmental Programme (UNEP), International Union	L=11	
		T=2	P=2

		for conservation of Nature and Natural Resources (IUCN), World Wide Fund for Nature (WWF), Case Study on Silent Valley, Sardar Sarovar, Tehri Garwal dam.		
Learning Resources				
1	Text Books	1. A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 2. A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 3. A Text Book of Environmental Chemistry & Pollution Control, Dara, Chand 4. A Text Book of Ecology, S K Dubey, Dominant Publication 5. A Text Book of Ecology, Tyler Miller, Cengage Learning 6. A Text Book Environmental Studies, Chatawal & Sharma, HPH 7. A Text Book Environmental Science, Joshi & Joshi, APH 8. A Text Book of Environmatal Studies, Nambiar, STP		
2	Reference books	1. Fundamentals of Ecology by Odum, E.P. 2. Desert Ecology by Ishwar Prakash 3. Ecology of Urban India by Pramod Singh 4. Ecology of Rural India by Singh 5. Ecology 2000 by Sir Edmand Hillary 6. Environmental Protection and the Laws by CN Mehta, 1991 7. India's Forests, Myth and Reality by J.B. Lal 1989 8. Legal aspects of Environmental Pollution and its Management by Ed. S.M. Ali, 1992 9. Man – Nature and Environmental Law by GS Nathawal, S. Shastri and JP Vyyar, 1988 10. International Environmental Policy: Emergence and Dimensions by LK Caldwell, 1990 11. Lal's Commentaries on Water, Air Pollution Laws along with the Environmental (Protection) Act and Rules, 1986, 3rd Ed., 1992 Law Publisher – India 12. The Wildlife (Protection) Act, 1972 (with amendment-1991) 13. Our Common Future – WCED, 1991 14. Universal's Environment and Pollution Law Manual by SK Mohanty, 1998.		

		15. A Guide to Implementation of the ISO 14000 Series on Environmental Management (Prentice Hall Ptr Environmental Management and Engineering Series) Har/Dskt Edition 16. Environmental manager's guide to ISO 14000 by <u>Bruce W Perry</u> 17. Implementing ISO 14000 Hardcover – November 1, 1996 by <u>Tom Tibor</u> (Author), <u>Ira Feldman</u> (Author) 18. Environmental Impact Assessment By: Larry W Canter. McGraw-Hill International Editions, 2nd Edn, New York (1996). 19. EIA Theory & Practice By: Peter Wathern. Unwin Hyman, London (1990) 20. Environmental Impact Assessment By: PR Trivedi. APH Publishing Corporation, New Delhi (2004) 21. EIA Practical Solutions to Recurrent Problems By: David P Lawrence. Wiley Interscience Publication (2003)
3	Websites	1. https://www.toppr.com/guides/biology/ecosystem/biogeochemical-cycle/ 2. https://nca2014.globalchange.gov/report/sectors/biogeochemical-cycles 3. https://www.conserve-energy-future.com/what-is-environmental-science-and-its-components.php
4	Journals	1. Current Science, ISSN No. 0011-3891 2. Every Thing About Water 3. Down to Earth 4. Resonance, ISSN No. 0971-8044 5. Journal of Earth System Science, ISSN No .2253-4126
5	Supplementary Reading	1. National Geographic 2. Down to Earth, CSE
6	Practical Components	1. Field visit to study pond water & forest Ecosystem.

Semester	I	Total Credit	4
Course Code	GE 101-C	Credit Pattern	L-45, T-8, P-7
Course Title	INDIAN SOCIAL PROBLEMS AND SOCIAL SERVICES		
Course Objectives			
1	To understand the nature and concept of social problems.		
2	To study the causes and consequences of social problems.		
3	To understand the various social/welfare services provided by GO's & NGO's.		
Course Outcomes: Students will be able to			
1	Understand the application of various social/welfare services provided by GO's & NGO's in respect of Social Problems and Social Services.		
2	Identify the social economic factors and their implications in the implementation of social welfare schemes.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Genesis and nature of various categories of Social Problems: Definition of Social deviance and control, social disorganization and social problems, study and analysis of specific social problems in relation to their nature, causative factors, extent and magnitude. (15)	L= 11	
		T=2	P= 2
2	An overview of major social problems: Juvenile delinquency, Crime, Prostitution, Dowry, AIDS, Beggary-Alcoholism and Drug Addition. Role of the Social worker in identifying the Social Problem and developing strategies for help. (15)	L= 12	
		T=2	P= 1
3	Problems of vulnerable groups: Problems of Children Youth, Aged, Physically and mentally handicapped. Methods of dealing with social problems at the micro and macro level Government and voluntary efforts and people's participation in Developmental activities. (15)	L= 11	
		T=2	P= 2
4	Nature of social conflict in India: Nature of social conflict in India, like ethnic, regional, linguistic, caste and communal, atrocities on scheduled castes and scheduled tribes. (15)	L=11	
		T=2	P= 2

Learning Resources:

1	Text Books	Ahuja R 1993 Indian Social System-Rawat Publication New Delhi.
		Akbar M.J. 1988 Riot After Tiot; Reports on caste & Communal Violence in India New Delhi : Penguin Books.
		Bardhan P. 1984 The Political Economy of Development in India Delhi: Oxford Press.
		Betelle A. 1966 Caste, Class and Power Bombay: Oxford Uni, Press.

		Black C.E. 1966 The Dynamics of Modernization: A study in Comparative History New York : Harper & Row.
		Madan G.R. 1985 Indian Social Problems Vol. I and II Allied Pub. Pvt. Ltd. Bombay.
2	Reference Books	Coser I.A. 1956 The functions of Social Conflict Glencoc Illinois; Free Press.
		Dahrendorf R. 1957 Class & Class ' Conflicts in an Industrialized Society London Routledge & Kegan Paul.
		Dandekar V.M. 1977 Nature of Class Conflict in the Indian Society Bom Bharat Foundation.
		Das A. & Nilkanth V. (Ed.) 1979 Agrarian Relations in India Delhi : Manohar.
3	Website	https://journals.sagepub.com www.ndpublisher.in
4	Journals	International Journal of Social Science Indian Journal of Social Work
5	Supplementary reading	Encyclopedia in Social Work Vol-I & II Dictionary of Social Work
6	Practical Component	Visit to various NGO's Concurrent Field Work

Semester		I	Total Credit	4
Course Code		GE 101-D	Credit Pattern	L-44, T-08, P-08
Course Title		PRINCIPLES OF ECONOMICS		
Course Objectives				
1	To introduce the basic terms and principles of economics			
2	Explain the scope and approach of economic analysis			
Course Outcomes: Students will be able to				
1	The student will understand the application of economics an his personal and professional life.			
2	Identify the economic factors and their implications in the working of different organisations			

Syllabus:

Unit Number		Contents	Number of Sessions	
1		Unit- 1: Introduction and Demand Analysis: (15) Basic Economic Concepts, Definitions of Economics, Branches or approaches to economics, Basic Economic Problems or the Central problems of a Society, Nature of Economic theories and Laws, Solutions to the economic problems. Demand Analysis- Meaning, Types and Determinants of Demand, Demand Function and Law of Demand, Elasticities and Their Utilities.	L= 11	
			T= 2	P= 2
2		Unit- 2: Supply Analysis: (15) Supply Analysis- Meaning, Types and Determinants of Supply, Supply Function and Law of Supply, Elasticities of Supply and Their Utilities.	L= 11	
			T= 2	P= 2
3		Unit- 3: Market Equilibrium: (15) Demand and Supply interaction, Determination of equilibrium, Shifts in demand curve, Shifts in supply curve,	L=11	
			T=2	P=2
4		Unit- 4: Market Structure: (15) Nature of Market Competition, Perfect Competition, Monopolistic Competition, Monopoly and Oligopoly etc, Price And Output Determination In Different Markets	L= 11	
			T= 2	P= 2
Learning Resources				
1	Text Books	1. Ahuja H L(2015), Principles of Economics, S Chand Publisher, New Delhi 2. Dewett KK and Verma(2014), Elements of Economics, Viva Books, New Delhi		

2	Reference books	1. Ahuja H.L, Modern Micro Economics, S Chand& Co., New Delhi, (2000) 2. Paul Samuelson, Economics, Mcgraw Hill Inc, New Delhi, (2000)
3	Websites	www.rbi.org.in www.mygov.gov.in
4	Journals	Arth Samwad Economic and Political Weekly
5	Supplementary Reading	Economics Survey Union Budget of India
6	Practical Component	1. Demand estimation for small vendors in your locality 2. Examining market structure for various products

Semester	I	Total Credit	4
Course Code	AEC-101	Credit Pattern	L-48, T-12, P-0
Course Title	A.DESIGN AND ANALYSIS OF ALGORITHM		
Course Objectives			
1	To provide a solid foundation in algorithm design and analysis.		
2	Become familiar with fundamental data structures and with the manner in which these data structures can best be implemented; become accustomed to the description of algorithms in both functional and procedural styles.		
3	To develop problem solving abilities using mathematical theories.		
4	To apply algorithmic strategies while solving problems. Also expected to understand find out the time complexity of the algorithm.		
5	To study the important algorithmic design paradigms and methods of analysis.		
Course Outcomes: After successful completion of the course, the students would be able to			
1.	Learn good principles of algorithm design;		
2.	To analyze worst-case running times of algorithms using asymptotic analysis.		
3.	Describe the Divide-and-Conquer, Bound and Branch-programming, greedy paradigm and explain when an algorithmic design situation calls for it.		
4.	Explain the major graph algorithms and their analyses. Employ graphs to model problems.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Algorithms: (15) Problem solving aspect, top down design, implementation of algorithm, the efficiency of algorithm, analysis of Algorithm (Best - case , Worst-case , Average-case , Amortized analysis), time complexity and space complexity ,Asymptotic notation(O-notation, Omega notation and Theta notation).	L= 12	
		T=3	P= 0
2	Fundamental Algorithms: (15) Exchanging values of two variables, counting, summation of set of numbers, factorial computation, generation of Fibonacci sequence, reversing of the digits of an integer, base conversion. Generating prime numbers, raising number to a large power, finding maximum, minimum from the same, array techniques, array order reversal.	L= 12	
		T= 3	P= 0
3	Searching, Sorting and Graph algorithms: (15) Sequential search, Binary Search, Hash search, Selection sort, Exchange sort, Insertion sort , Radix sort, Quick Sort and Merge Sort, Two ways merge ,Heaps and Heap sort. Simple graph, Multistage graphs, Graph Coloring, Depth -First search, Depth -First search on directed graph, Breadth-First search , Best-First search, path finding problems, shortest path algorithm, topological sort .	L= 12	
		T= 3	P= 0

4	Algorithm Design Methods and Paradigms: (15) Algorithm Design Paradigms : Greedy method- knapsack problem, Minimum cost spanning tree algorithms (prims and kruskals), Divide and Conquer :General Strategy, Exponentiation, Matrix multiplication. Backtracking – n Queen problem, Hamiltonian circuit problem , Branch and Bound – assignment problem and Travelling Salesman problem, dynamic programming – general strategy , Matrix multiplication Complexity and classification of Problems -: NP-HARD AND NP-COMPLETE PROBLEMS: Basic concepts, non-deterministic algorithms, NP-HARD and NP-COMPLETE classes .		L=12	
			T=3	P= 0
Learning Resources				
1	Text Books	• R.G. Dromey, "How to Solve it by Computers", Prentice- Hall of India, 1982 • Horowitz and Sahani, "Fundamentals of Computer Algorithms", Galgotia Publication, 2nd edition.		
2	Reference books	• T. H. Cormen, C. E. Leiserson, R. L. Rivest and C. Stein. "Introduction to Algorithms", Prentice – Hall of India ,2nd edition , 2002. • Weiss, Mark Allen, —"Data Structures and Algorithm Analysis in C", Addison Wesley, 2nd edition , 1999. • D.E Knuth, "Fundamental Algorithms", Narosa Publishing house, 2nd edition		
3	Websites	• https://www.guru99.com/design-analysis-algorithms-tutorial.html • https://nptel.ac.in/courses/106101060/ • http://openclassroom.stanford.edu/MainFolder/CoursePage.php?course=IntroToAlgorithms		
4	Journals	• IEEE Journal of Computing in Science & Engineering (https://ieeexplore.ieee.org/document/6664963) • Springer US :Algorithmica (https://link.springer.com/journal/453) • Science direct : Elsevier - journal of Algorithms (https://www.sciencedirect.com/journal/journal-of-algorithms)		
5	Supplementary Reading	Lecture Notes On Design And Analysis Of Algorithms B ... Lecture Notes For Algorithm Analysis And Design - Cse Iit Delhi		
6	Practical Components			

Semester		I	Total Credit	4
Course Code		AEC-101	Credit Pattern	L-45, T-8, P-7
Course Title		B. Mobile, Wireless and VoIP Security		
Course Objectives				
1	To enable the students to acquire a solid understanding of different components involved in the Wireless Network security techniques and different ways of distributing the multimedia data.			
2	To enable the students to understand and acquire knowledge in security mechanism of wireless systems/ networks.			
3	To emphasis on knowledge-building to solve problems in communication systems.			
4	To provide a complete understanding on concepts, to identify how the algorithm is designed to provide security, as well as what are its pros and cons.			
Course Outcomes: The students will able to				
1.	Interpret the impact of advancement in data transmission for wireless networks			
2.	Outline the working of a real time wireless network			
3.	Analyze the evolution of risks and its impacts; give the recommendation			
4.	Analyze the security vulnerabilities that affect OS and how they can be controlled			
5.	Reproduce the data acquisition phase and illustrate with examples			
6.	Interpret the threats and security holes with VoIP call protocols H.323,SIP and MGCP			
7.	Interpret VoIP best practices to support risk mitigation			
8.	Outline and state the various steps involved in data extraction			

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Mobile Communication: (15) Fundamentals and Importance of Mobile and Telecommunication, Mobility and portability. Need for wireless communication, Working of Wireless Networks and Security Threats, Data Services. Modern wireless communication system, Cell and frequency reuse, Channel assignment, current network security trends, Need for security management in telecom, Physical security and biometrics.	L= 11	
		T=2	P= 2
2	Wireless Security: (15) Basics of Network and Security, Information system and daily developments, Wireless protocols and threats, Internet and web services, Network security principles. Organization security management, Information Security Management System, Understanding risk analysis in wireless network security, Risk management, Approaches to risk analysis. Network Protection, What is VPN Importance of VPN, Web, browser and email security, SSE-CMM.	L= 12	
		T= 2	P= 1
3	VoIP Security: (15) VoIP Concepts and Security Issues, Media Gateway Control Protocol (MGCP), Real Time Transport Protocol (RTP), Unlicensed Mobile Access (UMA). Technical and Procedural controls for VoIP Information Security, Physical security. Authentication, Packet inspection. Antivirus, End user best practices	L= 11	
		T= 2	P= 2

4	Mobile Forensics And Data Extraction: (15) Basics of mobile forensics, Characteristics and architecture of devices, Cellular network characteristics, Purpose of mobile forensics. Mobile tools classification, Capabilities of forensic tools, UICC tools, obstructed devices, Analysis using tools. Life cycle of data forensics. Data Extraction Process: Evidence/Data extraction process - Guidelines and processes, Preservation – Preparation phase, Isolation phase, packing, transporting and storing evidence. Data acquisition, Analysis.		L=11	
			T= 2	P= 2
Learning Resources				
1	Text Books	1. Wireless and Mobile All-IP Networks by Dr. Yi-Bing Lin (Author), Ai-Chun Pang (Author) 2. Voice over IP in Wireless Heterogeneous Networks: Signaling, Mobility and Security (Signals and Communication Technology) 3. Voice over IP Fundamentals		
2	Reference books	1. William Stallings, “Cryptography and Network Security”, 8th Edition, Pearson Education, 2009. 2. Hideki Imai, Mohammad Ghulam Rahman and Kazukuni Kobara, “Wireless Communication s Security”, Artech House Universal Personal Communication, 2006. 3. Tom Karygiannis, Les Owens, “Wireless Network Security 802.11, Bluetooth and Handheld Devices”, National Institute of Standards and Technology, US Dept. of Commerce Special Publication 800-48, 2002. 4. Atul Kahate, “Cryptography and Network Security”, Tata McGraw Hill, 2006. 5. B.A. Forouzan, “Cryptography & Network Security”, Tata McGraw Hill, 2007.		
3	Websites	http://www.wansecuritywireless.com/ https://www.voip-info.org/mobile-voip		
4	Journals	- International Journal of Security and Networks - International Journal of Computer Science and Mobile Computing - A Detail Review on Voice over Internet Protocol (VoIP) - WIRELESS IP TELEPHONY - International Journal of Computer Science and Information Security (IJCSIS), Vol. 7, No. 2, 2010		
5	Supplementary Reading	https://www.researchgate.net/topic/VoIP https://www.juxhub.com/full_course_detail/23/mobile-wireless-and-voip-security https://www.infosecurity-magazine.com/mobile-security/ - VoIP Security - Attacks and Solutions.		
6	Practical Components			

M.Sc.(Computer Science) (Part-I) Semester – II

Semester	II	Total Credit	4
Course Code	CC 201	Credit Pattern	L-48, T-12, P-0
Course Title	Operating System		
Course Objectives			
1	Learn objective and functions of modern operating systems.		
2	To get in-depth knowledge of process management and inter-process communication		
3	Learn the different memory management and input-output techniques.		
Course Outcomes: After successful completion of the course, the students would be able to			
1.	Capable of explaining the basic structure and functioning of operating system.		
2.	Able to point the problems related to process management and synchronization as well as is able to apply learned methods to solve basic problems.		
3.	Capable of explaining the cause and effect related to deadlocks and is able to analyze them related to common circumstances in operating systems.		
4.	Able to explain the basics of memory management, the use of virtual memory in modern Operating systems as well as the structure of the most common file-systems.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Operating System and Process Management Definition of Operating System, Operating system structures, Process Management: Process Concept, Process scheduling, operations on processes, cooperating processes, inter-process communication, and threads overview. CPU Scheduling: Basic Concepts, Scheduling Criteria, Scheduling Algorithms, performance evaluation of scheduling algorithm. (15)	L= 12	
		T=3	P= 0
2	IPC and Deadlocks Process Synchronization: The critical–Section problem, synchronization hardware, and semaphore, classic problems of synchronization (Producer consumer problem) critical regions. Deadlock: System Model, Deadlock Characterization, Resource-Allocation Graph, Methods for Handling Deadlock, Deadlock Prevention, Deadlock Avoidance (Bankers Algorithm), Deadlock Detection. (15)	L= 12	
		T= 3	P= 0
3	Memory Management and File Systems Memory Management: Concept, Memory Management Techniques, Swapping, Contiguous Memory Allocation, Memory Protection, Memory Allocation, Fragmentation, Paging, Basic Method, Segmentation with Paging, Virtual Memory Concept, Demand Paging, Page Replacement algorithm . File systems: File Naming, File Structure, file types, File access, Directory : directory structure, operations, File layout, File systems implementation (Contiguous, linked list, I-node), Free space management, Directory Implementation, (15)	L= 12	
		T=3	P= 0

4	I/O System Disk Structure, Disk scheduling, FCFS Scheduling, SSTF Scheduling, SCAN, CSCAN, Selection of Disk Scheduling Algorithm, Disk Management. Input/output: Principles of I/O hardware, I/O devices, drive controllers, direct memory access, principles of I/O software goals, interrupt handlers, device drivers, device independent I/O software, User space I/O software. (15)		L=12	
			T= 3	P= 0
Learning Resources				
1	Text Books	- Andrew S. Tanenbaum, —Modern Operating Systems , Prentice Hall of India, 2 nd Ed. 2006 - Achyut Godbole, —Operating System , Tata McGraw Hill,3rd Ed.2013 - Abraham Silberschatz, Peter B. Galvin, Greg Gagne,Operating System Concepts – Wiley publication Ninethth Edition 2012		
2	Reference books	- Abraham Siberschatz, Peter Galvin Operating Systems: Concepts - Willey- Sixth edition. - D.M. Dhamdhere, System Programming and Operating Systems -TMH –Second Edition. - William Stallings,Operating Systems: Internals and Design Principles, Seventh Edition, Pearson Publications - Madnick and Donovan , Operating Systems -Tata McGraw-Hill Education		
3	Websites	https://www.guru99.com/operating-system-tutorial.html https://www.studytonight.com/operating-system/ https://www.w3schools.in/operating-system-tutorial/intro/ https://www.w3schools.in/operating-system-tutorial/intro/ https://codescracker.com/operating-system/		
4	Journals	- ACM SIGOPS Operating Systems Review - IEEE Journal : Operating systems support for programmable cluster-based Internet routers.		
5	Supplement ary Reading	IEEE Techonology Navigator - Educational Resources on Operating Systems (https://technav.ieee.org/)		
6	Practical Components			

Semester		II	Total Credit	4
Course Code		CC 202	Credit Pattern	L-45, T-8, P-7
Course Title		Linux Administration and Programming		
Course Objectives				
1	To familiarize the student with Linux operating system environment and basic shell script programming..			
2	To introduce various system calls, Communication utilities in Linux and the Linux administration.			
Course Outcomes : The Students will able to				
1	Write shell script programs in Linux			
2	Use various Filters and editors			
3	Create and manager file access permissions			
4	Use various system calls			
5	Administration of Linux system			

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction of Linux Operating System (15) Overview of Operating System, Types of Operating System, Overview of Network, Introduction to Linux - History, Architecture, Comparison with UNIX, Features and Facilities of Linux, Basic commands in Linux, Files and File Structure - Linux File System, Boot block, Super block, Inode table, Data blocks, Linux standard directories. File naming Conventions, Path, Types of file names , Types of Users, File Commands in Linux, file comparisons, Directory Commands, Text Editors-Functions of a Text Editor, vi Editor, leafpad editor. Checking and monitoring system performance.	L= 11	
		T=2	P=2
2	Ubuntu Linux Administration, File Security, Permissions (15) Installing and Configuring Ubuntu Linux Server and Desktops, Hard Disk Partition Management, Linux File System - ext2 /ext3 / ext4,Dual Boot Windows 7 and Ubuntu Installation, Network Configuration, Protocols, Installation Methods, Creating USB booting, identifying administrative files configuration and log files, Role of system administrator, Managing user accounts, changing permissions and ownerships, Creating and managing groups, modifying group attributes, Disk quota management, Hiding Usernames Displayed on Login Screen, File security & Permissions, becoming super user using su. Locating Files, File Access Permissions [FAP], Viewing and Changing FAPs, Redirection, Filters, Getting system information with uname, host name, umask, kernel. Run levels in Ubuntu.	L= 12	
		T= 2	P= 1
3	Communication in Linux: (15) Backup, restore and Compress utilities - tar, cpio, dump, sync and restore utilities. mesg, who- T, talk, write, wall, finger, chfn, ping, traceroute utilities,, Installation of software's on Linux, IP addressing, features of IPv4, static and dynamic IP addressing, Setting Printer, Scanner, Installing and Configuring of servers on Ubuntu- Telnet, FTP, NFS, Proxy Server, Apache, Samba DHCP Server setup Client setup, dosbox, SSH Server ,XAMP, PHP, Daemons- init, crond, atd, xinetd, inetd, the services file. named, sshd, httpd, System Initialization and Services, Boot Sequence	L= 11	
		T= 2	P= 2
4	Shell Programming (15)	L=11	

		Basics of shell programming, various types of shell available in Linux, comparisons between various shells, shell programming in bash - Conditional and looping statements, Iterations, Command Substitution - expr command, Modifying files Sed, awk command, arithmetic expansion, parameter passing and arguments, Shell variables, system shell variables, shell keywords, Creating Shell programs for automating system tasks, handling files using command line argument. Introduction to system calls.	T= 2	P= 2
Learning Resources				
1	Text Books	Beginning Linux Programming: Neil Mathew Richard Steve Wrox publication. Design of Linux Operating Systems : Maurice Bach Ubuntu on a Dime : James Floyd Kelly		
2	Reference books	Operating System - Linux, NUT Press, PHI Publisher, 2006 Edition Red Hat Linux Bible, Cristopher Negus, Wiley Dreamtech India UNIX Shell Programming by Yeswant Kanetkar, BPB Linux Administration Handbook, Evi Nemeth, Garth Snyder, Trent KHein - Pearson Education. Beginning Linux Programming by Neil Mathew & Richard Stones, Wiley Dreamtech India		
3	Websites	https://www.tutorialspoint.com/operating_system/os_linux.htm https://www.geeksforgeeks.org/unix-file-system www.guru99.com › introduction-linux https://www.reallinuxuser.com		
4	Journals	https://www.linuxjournal.com/ https://www.journals.elsevier.com/computer-networks https://www.reddit.com/r/linux/comments/cnfs48/linux_journal_ceases_publication_an_awkward/ <u>Linux Networking Clearly Explained/ebook</u>		
5	Supplementary Reading	https://nptel.ac.in/courses/117/106/117106113/ Study Material of Web Course Developed for NPTEL Linux Programming & Scripting https://nptel.ac.in/content/syllabus_pdf/117106113.pdf		
6	Practical Components	Internal External Commands and Shell Scripts, Installing and configuring Ubuntu Linux Server and Desktops.		

Semester	II	Total Credit	4
Course Code	CC 203	Credit Pattern	L-45, T-8, P-7
Course Title	.Net Programming		
Course Objectives			
1	To explore the knowledge on different types of applications of .net		
2	To know about the design methodologies with concentration on object oriented concepts.		
3.	Giving the students a complete knowledge on .net framework and .net environment.		
4	To provide the knowledge on developing internet applications and how to design and implement complete applications over the web using web form and MVC technology.		
	Giving the students a quick review on web servers, client side programming, server side programming and various web technologies.		
Course Outcomes: The students will able to			
1.	The syntax and semantics of C# and procedural programming including variable definitions, arithmetic and Boolean expressions, control structures, methods, subroutines, arrays, and references.		
2.	Event-based programming and GUI design		
3.	An idea of what objects are how to design programs using object-oriented design		
	Database management using ADO.net and entity framework technologies		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Overview of .net framework: (15) Overview of .NET binaries and .NET architecture. The role of MSIL and metadata. Understanding CLR, CTS and CLS, .NET base classes, Assemblies- Components of Assembly, Private and Shared Assembly, Visual Studio .NET IDE	L= 12	
		T=3	P= 1
2	C# Programming: (15) C# Programming constructs, C# looping and Conditional constructs, Primitive types, operators and expressions, C# object oriented concepts, Object lifecycle, Initializer, Constructor, Garbage Collector, Interface, Inheritance, polymorphism, properties, Delegates, events, Exception handling in C#	L= 12	
		T= 3	P= 2
3	ADO.net: (15) ADO.net fundamentals, ADO.net architecture, Connection class, Command class, Data Reader class, Transactions, Data components and Data Set, Disconnected Data, Data Bindings.	L= 12	
		T= 3	P= 2
4	ASP.net web forms: (15) Introduction, Request processing pipeline, page life cycle, ASP.net server controls- button, Textbox, Labels, checkbox, Radio Button, list and other web server controls, web.config and global. Sax, Validation controls: Introduction, basic validation controls, Navigation controls, State management- Using view state, session state, application state, cache management, Master page- Creating master page, content pages, accessing master page controls from content page files.	L=12	
		T= 3	P= 2

Learning Resources		
1	Text Books	1. ASP.NET 4.0 programming, J. Kajilal, Tata McGraw-Hill 2. Programming ASP.net, D. Esposito, Microsoft Press (Dreamtech), Reprint 2011. 3. Visual C#.NET, Vijay Nicoel, TMH 4. ASP.NET projects- Building 10 Enterprise Projects- Eric A. Smith 5. C#.Net Developers Guide- Greg Hack, Jason Werry, SaurabhNandu. (SyngRess)
2	Reference books	1. Beginning Visual C#2010, K. Watson, C. Nagel, J.H. Pedersen, J.D. Reid, M. Skinner, Wrox (Wiley)2010 2. Murach's ASP.NET 4 Web Programming with C# 2010, 4th Edition, Anne Boehm, Joel Murach, SPD. 3. Beginning ASP.NET 4 in C# and VB, I. Spanjaars, Reprint 2011 4. Addison Wesley –C# Developers Guide to ASP.Net
3	Websites	• https://www.tutorialspoint.com/vb.net/index.htm • https://www.guru99.com/asp-net-tutorial.html • https://stackify.com/learn-asp-net-tutorials/
4	Journals	• Science of Computer Programming-Methods of Software Design: Techniques and Applications • Programming and Computer Software • <u>Journal of Global Research in Computer Science</u>
5	Supplementary Reading	• https://visualstudio.microsoft.com/vs/features/net-development/ • https://dotnet.microsoft.com/learn • https://www.journals.elsevier.com/science-of-computer-programming
6	Practical Components	• List of experiments to be executed during laboratory hours

Semester	II	Total Credit	4
Course Code	CC 204	Credit Pattern	L-48, T-0, P-12
Course Title	Data and File Structures		
Course Objectives			
1	To find out types and difference between primitive and non-primitive structures		
2	To Design and apply appropriate data structures for solving computing problems.		
3.	To Understand and use various file structures.		
Course Outcomes: The students will able to			
1.	Differentiate between primitive and non-primitive structures		
2.	Design and apply appropriate data structures for solving computing problems.		
3.	Understand and use various file structures		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Data Structure : (15) Data Management concepts, Data types – primitive and non-primitive, Types of Data Structures- Linear & Non Linear Data Structures, implementation of some of the user defined data types such as – rational number, complex number, string, matrix etc.	L= 12	
		T=0	P= 3
2	Stack and Queue : (15) Stack-Definitions & Concepts, Operations on Stacks, Implementation of stack using array and linked list, Applications of Stacks – Parenthesis checker, Infix to postfix conversion, Expression evaluation, Queue-Representation Of Queue, Operations On Queue, Circular Queue, Priority Queue, Array representation of Priority Queue, Double Ended Queue, Applications of Queue.	L= 12	
		T= 0	P= 3
3	Linked List and Tree : (15) Singly Linked List, Doubly Linked list, Circular linked list ,Linked implementation of Stack, Linked implementation of Queue, Applications of linked list.Definitions and Concepts, Representation of binary tree, Binary tree traversal (Inorder, postorder, preorder), Threaded binary tree, Binary search trees, Applications Of Trees-Some balanced tree mechanism, eg. AVL trees, 2-3 trees, Height Balanced, Weight Balance.	L= 12	
		T= 0	P= 3
4	Hashing and File structures : (15) Hashing: The symbol table, Hashing Functions, Collision-Resolution Techniques, File Structure: Concepts of fields, records and files, Sequential, Indexed and Relative/Random File Organization, Indexing structure for index files, hashing for direct files, Multi-Key file organization and access methods.	L=12	
		T= 0	P= 3

Learning Resources		
1	Text Books	- An Introduction to Data Structures with Applications. by Jean-Paul Tremblay & Paul G. Sorenson Publisher-Tata McGraw Hill. - Data Structures using C & C++ -By Ten Baum Publisher – Prentice-Hall International.

2	Reference books	• Fundamentals of Computer Algorithms by Horowitz, Sahni, Galgotia Pub. 2001 ed. • Fundamentals of Data Structures in C++-By Sartaj Sahani. • Data Structures: A Pseudo-code approach with C -By Gilberg&Forouzan Publisher-Thomson Learning.
3	Websites	• https://www.udacity.com/course/data-structures-and-algorithms-nanodegree--nd256 • https://www.edx.org/course/data-structures-fundamentals • https://www.coursera.org/learn/data-structures
4	Journals	• https://jea.acm.org/ • https://technav.ieee.org/tag/500/data-structures
5	Supplementary Reading	• https://www.javatpoint.com/data-structure-tutorial • https://www.geeksforgeeks.org/data-structures/ • https://www.tutorialspoint.com/data_structures_algorithms/
6	Practical Components	• Implementation of various data structures on a computer.

Semester	II	Total Credit	4
Course Code	DSE-201	Credit Pattern	L-45, T-15, P-0
Course Title	A. Big Data And Hadoop		
Course Objectives			
1.	To master the concepts of HDFS and MapReduce framework		
2.	To introducer Hadoop 2.x Architecture		
3.	To introduce data loading techniques using Sqoop and Flume		
4.	To familiarize the student with data loading and data analytics		
5.	To understand HBase and Map Reduce integration		
Course Outcomes: The students will able to			
1.	Master data loading techniques using Sqoop and Flume.		
2.	Setup Hadoop Cluster and write Complex MapReduce programs		
3.	Perform data analytics using Pig, Hive and YARN		
4.	Implement best practices for Hadoop development		
5.	Implement Advanced Usage and Indexing		
6.	Schedule jobs using Oozie.		
7.	Work on a real life Project on Big Data Analytics		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Big Data Overview: Data science, rising and importance of data sciences, big data analytics in industry verticals. Sources of Big Data, 3 V's of Big Data, Benefits of Big Data, Big Data Technologies, classes of Big Data Technologies, Challenges of Big Data, Business Understanding, Data Understanding, Data Preparation, Modeling, Evaluation, Communicating results, Deployment. Overview & analytics life cycle, Need, Structured and multi-structured data analysis, Big-data analytics major components, Analytical models and approaches, Relational and non-relational Databases, Application areas, Design and analysis of Analytics model- Analytics design steps, Understanding different data processing models, Statistical models, Predictive models, Descriptive models. (15)	L= 12	
		T=3	P= 0
2	Introduction to Map Reduce and HDFS: The Hadoop & Tez Ecosystems(Batch Processing), Hadoop Architecture, Hadoop Modules, Advantages of Hadoop, Hadoop Operation Modes, HDFS Concepts, HDFS Data Node and Name Node images, HDFS Read Image and HDFS Write Image, Secondary Name Node, Hadoop configuration files, Map Reduce & HDFS Framework, Yarn, Tez Framework & Internals Task Parallelization for Hadoop (Models), Hadoop Physical & Logical Resource Requirements. Downloading and installing the Ubuntu12.x, Installing Java, Installing	L= 12	
		T= 3	P= 0

	Hadoop, Verifying Hadoop Installation, Creating Cluster, Increasing Decreasing the Cluster size, Monitoring the Cluster Health, Starting HDFS, Starting and Stopping the Nodes. HDFS basic file operations. HDFS commands. The new multi-platform analytical ecosystem. Beyond the data warehouse – Hadoop, NoSQL and analytical RDBMSs, NoSQL DBMSs, Key Value stores, , introduction to MongoDB, Document DBMSs, Column Family DBMSs and Graph databases, Introduction to Hive, hive data types, hive partitioning, hive DDL commands, DML commands. (15)		
3	Introduction to Apache PIG: Features of PIG, Introduction to PIG Data Flow Engine, MapReduce vs PIG, SQL vs PIG, PIG Architecture, Components of Apache Pig, Pig Latin Data Model, Pig Data Types, Basic PIG programming, Pig Operators, Pig Diagnostic Operators, Grouping by multiple columns, Co-group operator, join operator, types of joins, cross operator, union operator, split operator, filter operator, distinct operator, foreach operator, orderby operator, limit operator, Modes of Execution, Introduction to SQOOP, Connect to mySql database, SQOOP import and export commands and Joins in SQOOP, Export to MySQL and HBase. (15)	L= 12	
		T= 3	P= 0
4	Introduction to HIVE, HIVE Meta Store, HIVE Architecture, Tables in HIVE, Managed Tables, External Tables, Hive Data Types, Primitive Types, Complex Types, Partition, Joins in HIVE, HIVE UDF's and UADF's with Programs. Introduction to HBASE, Limitations of Hadoop, HDFS vs HBase, Basic Configurationsof HBASE, Fundamentals of HBase, HBaseDataModel, Table and Row, Column Family and Column Qualifier, Cell and its Versioning, Categories of NoSQL Data Bases, KeyValue Database, Document Database, Column Family Database, HBASE Architecture, HMasterRegion Servers, Regions, MemStore, HDFS vsHBase, Client side buffering or bulk uploads, HBase Designing Tables, HBase Operations, HBase shell (15)	L=12	
		T= 3	P= 0

Learning Resources

1	Text Books	1. Baesens Bart, Analytics In A Big Data World: The Essential Guide To Data Science And Its Applications, Wiley Publisher. Java 8 Programming Black Book 2.. AmbigaDhiraj, Michael Minelli, and Michele Chambers, Big Data Big Analytics: Emerging Business, Wiley CIO Series. Core Java Vol. II (Addison-Wesley) Sun Press ISBN – 981-4058-50-5
2	Reference books	1. Kord Davis, Ethics of Big Data: Balancing Risk and Innovation, O'Reilly. 2. Tom White, Hadoop – A Definitive Guide, O'Reilly. 3. Alan Gates, Programming Pig - Dataflow Scripting with Hadoop, O'Reilly. 4. Jarek Jarcec Cecho and Kathleen Ting, Apache Sqoop Cookbook: Unlocking Hadoop for Your Relational Database, O'Reilly. 5. Lars George, HBase: The Definitive Guide, O'Reilly.

		6. Dean Wampler, Edward Capriolo, and Jason Rutherglen, Programming Hive, O'Reilly. 7. FlavioJunqueira, Benjamin Reed, ZooKeeperDistributed Process Coordination, O'Reilly. 8. HariShreedharan, Using Flume - Flexible, Scalable, and Reliable Data Streaming, O'Reilly MediaJava 2 Programming Black Book by Steven Holzner, Dream Tech Publication
3	Websites	• http://www.coreservlets.com/hadoop-tutorial/ • https://www.cloudera.com • https://hadoop.apache.org/ • https://www.guru99.com/bigdata-tutorials.html
4	Journals	• International Journal of Scientific and Research Publication- A Review Paper on Big Data and Hadoop • Big Data And Hadoop: A Review Paper • International Research Journal of Engineering and Technology (IRJET)- Big Data Processing with Hadoop : A Review • Journal of Big Data- SpringerOpen • Big Data Research
5	Supplementary Reading	• https://cloudxlab.com/ • https://blog.feedspot.com/hadoop_blogs/ • https://cognitiveclass.ai/ • http://hadoop-online-tutorials.com/ • https://journalofbigdata.springeropen.com/
6	Practical Components	

Semester	II	Total Credit	4
Course Code	DSE-201	Credit Pattern	L-48, T-12, P-0
Course Title	B. Computer Graphics		
Course Objectives			
1.	To understand the basics and elements of computer graphics.		
2.	To understand the basic idea of scan conversion techniques and various algorithms in graphic primitive generation.		
3.	To learn basic of 2D and 3D transformation and its techniques .		
4.	To understand and learn the concepts of viewing transformations, clipping, projections and rendering with algorithms		
Course Outcomes: After successful completion of the course, the students would be able to			
1.	Present various aspects of computer graphics		
2.	Design and develop graphics programming.		
3.	Build understanding and problem-solving skills required for graphics applications		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Computer Graphics Primitives: (15) Introduction to Image and Objects, Image Representation, Basic Graphics Pipeline, Bitmap and Vector-Based Graphics, Applications of computer graphics , Graphics hardware- input output devices, display devices(Cathode Ray Tubes, Raster-Scan Display, Random-Scan Display, Flat Panel Display), Input Technology, Coordinate System Overview ,Point and Lines, Scan-Conversion of graphics primitives: Scan-Conversion of a Lines (Digital Differential Analyzer Algorithm, Bresenham's Line Drawing Algorithm, Scan-Conversion of Circle and Ellipse(Bresenham's Method of Circle Drawing, Midpoint Circle Algorithm), Drawing Ellipses and polygons, Polygon Filling Algorithm	L= 12	
		T=3	P= 0
2	Transformations: (15) Introduction to transformations, Transformation Matrix, Types of Transformations in Two-Dimensional Graphics Identity Transformation, Scaling, Reflection, Shear Transformations, Rotation, Translation, Rotation about an Arbitrary Point, Combined Transformation, Homogeneous Coordinates, 2D Transformations using Homogeneous Coordinates 3D transformations: Scaling, Translation, Rotation, Shear Transformations, Reflection, World Coordinates and Viewing Coordinates windowing transformations, Parallel projection - Orthographic Projections, Isometric Projections, Perspective Projections.	L= 12	
		T= 3	P= 0
3	Curves and Surfaces : (15) Introduction to curves, Curve Continuity, Conic Curves, Piecewise Curve Design, Parametric Curve Design, Spline Curve Representation, Bezier Curves, B-Spline Curves, Fractals and its applications. Surface	L= 12	
		T=3	P= 0

	Design : Bilinear Surfaces, Ruled Surfaces, Developable Surfaces, Coons Patch, Sweep Surfaces, Surface of Revolution, Quadric Surfaces, Constructive Solid Geometry, Bezier Surfaces, B-Spline Surfaces, Subdivision Surfaces. Visible Surfaces : Introduction to visible and hidden surfaces.		
4	Viewing, Clipping and Object Rendering : (15) Introduction to Viewing and Clipping - Point clipping, Line clipping, Cohen Sutherland Line Clippings, Polygon Clipping, Viewing and Clipping in three dimensions , Text Clipping, windowing transformations Object Rendering : Introduction Object-Rendering, Light Modeling Techniques, illumination Model Ambient Reflection, Diffuse Reflection, Specular Reflection, Shading- Flat Shading, PolygonMesh Shading, Gaurand Shading Model, Phong Shading, Transparency Effect, Shadows, Texture and Object Representation, Ray Tracing, Ray Casting, Radiosity, Color Models	L=12	
		T= 3	P= 0
Learning Resources			
1	Text Books	• Computer Graphics, R. K. Maurya, John Wiley. • David F. Rogers, Mathematical Elements for Computer Graphics, Tata McGraw Hill Education Pvt, Ltd, 2nd Edition, 2011 • David F. Rogers, Procedural Elements for Computer Graphics, McGraw Hill Book Com., 1988	
2	Reference books	• Donald Hearn, Computer Graphics, Prentice Hall of India Pvt., Ltd., 2nd Edition, 1995 • 2. Edward Angel, Interactive Computer Graphics A Top-Down Approach Using OpenGL, Pearson Education, 5th Edition, 2009 • 3. Suman Chakraborty, Fundamentals of Computer Graphics, Everest Publishing House, 7th Edition, 2010 • 4. N. Krishnamurthy, Introduction to Computer Graphics, Tata McGraw Hill Publishing Company Ltd., 2002	
3	Websites	• https://www.geeksforgeeks.org/computer-graphics-2/ • https://nptel.ac.in/courses/106106090/ • http://www.cse.iitm.ac.in/~vplab/computer_graphics.html	
4	Journals	• IEEE Transactions on Visualization and Computer Graphics (TVCG) • IEEE Computer Graphics and Applications (CG&A) • Elsevier Computers & Graphics -An International Journal of Systems & Applications in Computer Graphics	
5	Supplementary Reading	• www.opengl.org, the OpenGL home page • OpenGL SDK documentation on www.opengl.org • Real-Time Rendering Resources	
6	Practical Components		

Semester	II	Total Credit	4
Course Code	DSE-201	Credit Pattern	L-45, T-15, P-0
Course Title	C. Ethical Hacking and Network Defense		
Course Objectives			
1.	To familiarize the student with ethical hacking concepts and tools.		
2.	To introduce various ethical hacking skills and types of attacks and how do one can have data protection mechanisms		
Course Outcomes: The students will able to			
1.	Will be able to identify the type of hacking attack		
2.	Will be acquainted with ethical hacking skills		
3.	Will be able to use various Protections of Network Security		
4.	Will be able to handle DoS, Web and social engineering attacks And IPR		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction: Introduction to Hacking, Hacking types , Cybercrime and its type, Introduction to basics of Ethical Hacking , ethical hacking terminologies, tools , Ethical hacking Process , Reconnaissance- active and passive, Foot printing- active and passive. Ethical Hacking Skills Fingerprinting and its type, Sniffing , sniffing tools , ARP Poisoning, DNS Poisoning , Enumeration ,Trojan Attacks, TCP/IP Hijacking, Email Hijacking, Password. Hijacking (15)	L= 12	
		T=3	P= 0
2	Email Security and Intellectual Property treats: Email Security: types of threats, spam, countermeasures Intellectual Property Thefts: Introduction, Threats of Intellectual property theft, types of IP Theft attacks. Password cracking Attacks: different password cracking attacks, cracking application passwords, cracking windows NT password, cracking Unix passwords. (15)	L= 12	
		T= 3	P= 0
3	Identity & Denial of Services Attacks: Identity attacks: types of identity thefts, Input validation attacks: Input validation threats, Types of input validation attacks, SQL injection attacks, Denial of Services (DOS) attacks: Introduction, threats of DOS attacks, different DOS attacks, hybrid Dos Attacks, Application specific DOS Attacks, Distributed D. (15)	L= 12	
		T= 3	P= 0
4	Web- Social Engineering And IPR: Introduction, types of social engineering attacks, counter measures. Hacking Web Servers, Web Application Vulnerabilities, Web based Password Cracking Techniques, Hacking Wireless Networks, Hacking Mobile Platforms Evading IDS, Firewalls, Intellectual Property Rights (IPR), IPR ACT, IPR Types , Patents and Copy Right Act. (15)	L=12	
		T=3	P=0

Learning Resources		
1	Text Books	1. Hacking For Dummies 5th Edition, Kevin Beaver - John Wiley & Sons 2. An Unofficial Guide to Ethical Hacking, AnkitFadia – Macmillan India Ltd. 3. Hands-On Ethical Hacking and Network Defense, Michael T. Simpson, Kent Backman, James Corley -Cengage Learning. 4. The Basics of Hacking and Penetration Testing: Ethical Hacking and Penetration Testing Made Easy, Patrick Engebretson, James Broad-Syngress
2	Reference books	1. An Ethical Hacking Guide to Corporate Security, AnkitFadia – Macmillan India Ltd. 2. Ethical Hacking and Penetration Testing Guide, <u>RafayBaloch</u>-Auerbach Publications. 3. Hands-On Ethical Hacking and Network Defense
3	Websites	• https://niccs.us-cert.gov/training/search/city-college-san-francisco/ethical-hacking-and-network-defense • https://www.eccouncil.org/
4	Journals	• Ethical Hacking – Networks and WebsitesUncover Key Concepts of Website and Network Security-Springer • INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH TECHNOLOGY A COMPREHENSIVE STUDY ON ETHICAL HACKING • International Research Journal of Engineering and Technology (IRJET)- Ethical Hacking • International Journal of Computer Science Trends and Technology (IJCTST)- Study Of Ethical Hacking
5	Supplementary Reading	• https://link.springer.com/ • www.nelson.com
6	Practical Components	

Semester	II	Total Credit	4
Course Code	GE 201-A	Credit Pattern	L-45, T-7, P-8
Course Title	FUNDAMENTALS OF ACCOUNTING		
Course Objectives			
1.	To acquaint the students regarding basic accounting concepts.		
2.	To judge students ability to make financial statements.		
Course Outcomes			
	The students will able to learn:		
1.	How to exhibit the basic accounting concepts and its application.		
2.	To demonstrate basis of financial statements analysis.		
3.	To construct of working capital, ratio analysis and cost accounting.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Accounting: (15) Meaning and Definition of Accounting, Parties or Users interested in Accounting, Branches of Accounting, Distinction between Management Accounting and Financial Accounting. Accounting Concepts and Conventions.	L= 11	
		T= 2	P= 1
2	Accounting Terminologies: (15) Basic Accounting terminologies, Classification of Accounts, Introduction to Accounting Process, Various Subsidiary Books and its Importance.	L= 11	
		T= 1	P= 3
3	Introduction to Finance: (15) Concept of Finance, Corporate Finance, Finance Functions and other functions. Structures of the Financial System Financial Management – Meaning and Objectives, Scope and Functions of Financial Management, Financial Planning and Forecasting.	L= 11	
		T= 3	P= 1
4	Financial Statement Analysis: (15) Analysis and interpretation of Financial Statements using the techniques of Ratio Analysis, Working Capital Management – Nature of Working Capital Management, Need for working capital – operating cycle, estimation of working capital requirement – Management of Cash and Receivables. Cost Accounting: Meaning, Scope and Classification of Costs. Marginal Costing: Introduction to Break Even Analysis, Use of Cost-data in Managerial Decision Making.	L=12	
		T= 1	P= 3

Learning Resources

1	Text Books	1. Kapil Sheeba, "Financial Management" Pearson Publication House. 2. Jonathan Berk, Peter, "Financial Management" Pearson Publication House. 3. Sharan Vyuptakesh, "Fundamentals of Financial Management" Pearson Publication.

		4. James C Van harne, "Financial Management & Policy" Pearson Publication House. 5. ICSI : Handbook on Mergers Amalgamations and takeovers.
2	Reference Books	1. Garrison, <i>Managerial Accounting</i>, Tata McGraw 2. Maheshwari, <i>Financial Accounting</i>, Vikas Publishing 3. Khan and Jain, <i>Management Accounting</i>, Tata McGraw 4. Ramchandran, <i>Financial Accounting for Management</i>, Tata McGraw 5. Jawahar Lal, <i>Accounting For Management</i>, Himalaya Publishing 6. J.Madegowda, <i>Accounting For Managers</i>, Himalaya Publishing 7. Introduction to Management Accounting - Horngreen and Sundlem 8. Principles of Management Accounting - Manmohan&Goyal 9. Management Accounting - Dr. E.B. Khedkar, Dr. D.B. Bharati and Dr. A. B. Kharpas. 10. Cost and Management Accounting - S.M.Inamdar 11. Management Accounting - Dr. Mahesh Kulkarni 12. Double Entry Book Keeping - T.S.Grewal 13. Principles and Practice of Cost Accounting – Ashish K. Bhattacharya 14. Management Accounting 3rd Ed. - Khan & Jain 15. Theory & Problems in Management & Cost Accounting - Khan & Jain 16. S.C.Kuchal, "Financial Management", Tata Mcgraw Hill 17. Khan & Jain, "Financial Management", Tata Mcgraw Hill, 6th edition. 18. R.P.Rustagi, "Financial Management", PHI, 10th edition. 19. Garrison, <i>Managerial Accounting</i>, Tata McGraw 20. Maheshwari, <i>Financial Accounting</i>, Vikas Publishing 21. Khan and Jain, <i>Management Accounting</i>, Tata McGraw 22. Ramchandran, <i>Financial Accounting for Management</i>, Tata McGraw 23. JawaharLal, <i>Accounting For Management</i>, Himalaya Publishing 24. J.Madegowda, <i>Accounting For Managers</i>, Himalaya Publishing 25. M.N.Arora, "Cost and Management Accounting", Himalaya Publishing
3	Websites	<u>INFLIBNET</u> http://nlist.inflibnet.ac.in J-GATE http://jgateplus.com EBSCO http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4	Journals	1. Prabhandan: Indian Journal of Management 2. IUP Journals 3. ICSI Journals 4. Finance India 5. Indian Journal of Finance (New Sub.) 6. Journal of Accounting & Finance etc.

5	Supplementary Reading	1. Financial Express 2. Economics Times 3. Business Standard 4. Times of India 5. Indian Express.
6	Practical Component	1. Practical Problems on final account 2. Practical Problems on working capital 3. Practical Problems on decision making 4. Financial statement analysis using Prowess-IQ 5. Companies Financial Reports & Corporate case studies. 6. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed. 7. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Semester		II	Total Credit	4
Course Code		GE 201-B	Credit Pattern	L-45, T-15, P-0
Course Title		DISASTER MANAGEMENT		
Course Objectives				
1	To understand the concept and impact of disasters.			
2	To understand the causes, effects and control measures of disasters.			
Course Outcomes: The students will able to				
1	Know the fundamentals of Disaster Management			
2	Do strategic Management for Natural Disasters.			
3	Do strategic Management for Man Made & Technological Disasters.			
4	Do Pre, Emergency & Post Disaster Management Plan.			

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Hazard and Disaster: (15) Definition, Difference between Hazard and Disaster, Difference between Natural and Man Made Disaster. Disaster Management- Meaning, Nature, Importance, Dimensions and Scope. Classification of Disasters. National Disaster Management Framework, Financial Arrangements for Disaster Management, International Strategy for Disaster Reduction. Disaster Management Act 2005.	L= 11	
		T= 2	P= 2
2	Natural Disasters – causes effects & Control : (15) Natural Disasters- Meaning and nature of natural disasters, their types. Hydrological Disasters - Flood, Flash Flood , Drought, Cloud Burst Geological Disasters- Earthquakes, Landslides, Volcanic Eruptions. Wind Related Disasters- Cyclone, Storm, Tidal Waves.	L= 12	
		T= 2	P= 1
3	Man Made Disasters – causes effects & Control : (15) Man Made Disasters- Meaning of Manmade Disaster, Fire – Building Fire, Coal Fire, Forest Fire, Oil Fire , Accidents- Road, Rail, Air and Sea. Industrial Disasters – Chernobyl- Russia, Fukushima - Japan, Bhopal Gas Tragedy- India. Iraq War and Marine Disasters.	L= 11	
		T= 2	P= 2
4	Disaster Management –: (15) Pre-disaster Planning, Planning During Disaster, Post- Disaster Planning, Disaster Management Cycle, Prediction of Disaster, Hazard Zoning, Physical & Biological Indicators of Hazard, Risk Assessment & Hazard Preparedness Plan, Community Health and Casualty Management. Collection of data for preparation of Hazard Preparedness Plan. Application of Remote Sensing, GIS & GPS in Disaster Management, Role of various organizations- District Disaster Management Committee, National Disaster Management Authority (NDMA), Non-Governmental Organizations, Military operations; Awareness, community participation, forecasting & dissemination of information, Education, training for public in emergency preparedness plan, Rescue & rehabilitation programmes	L=11	
		T= 2	P= 2

Learning Resources		
1	Text Books	1. Textbook Of Environmental Science And Technology by REDDY, BSP publishers, 2019 2. A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 3. A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 4. A Text Book of Ecology, Tyler Miller, Cengage Learning 5. A Text Book Environmental Studies, Chatawal & Sharma, HPH 6. A Text Book Environmental Science, Joshi & Joshi, APH 7. A Text Book of Environmatal Studies, Nambiar, STP
2	Reference books	1. Nuclear Accidents (Man Made Disasters) Mark Mayell Publisher: Lucent Books 2. Management of Man-made Disasters, S. L. Goel, Motilal Banarsidass Publishers Private Limited, New Delhi, ISBN: 8176297151 3. Handbook of Pollution Control Processes By: Robert Noyes. Jaico Publishing House, Mumbai (2003) 4. Fire & Explosion Hazards Handbook of Industrial Chemicals By: TA Davletshina & NP Cheremisinoff, Noyes Publications, Mumbai (2003) 5. Environmental Geology by K. Valdiya, Tata McGraw Hill Publishing Co. 6. Perspectives on Environment by I.R. Manners, M.W. Micksell 7. Our Planet, Our Health by WHO (1992) 8. Report of the Panel on Industry by WHO (1992) 9. Natural Disasters, Author: Claire Watts / Trevor DayPublisher: Dk Publishing, ISBN: 9781465438096 10. Environmental Biology by K.C. Agarwal 11. Resource Book on Chemical (Industrial) Disaster Management, http://nidm.gov.in/PDF/pubs/chemical_mdc.pdf
3	Websites	1. Directory of Institutions and Resource Persons for Landslide Management In India 2. http://nidm.gov.in/PDF/pubs/directory%20landslide.pdf 3. https://www.ifrc.org/en/what-we-do/disaster-management/about-disaster-management/ 4. https://en.wikipedia.org/wiki/Disaster_management_in_India
4	Journals	1. Current Science, ISSN No. 0011-3891 2. Down to Earth 3. Journal of Biosciences, ISSN No. 0250-5991 4. Journal of Environmental Biology, ISSN No. 0254-8704 5. Resonance, ISSN No. 0971-8044 6. Journal of Earth System Science, ISSN No .2253-4126 7. Industrial Safety Chronicle 8. International Journal of Environmental Engineering Science, ISSN No .2229-3094
5	Supplementary Reading	1. Demonstration of Fire & Water Safety.
6	Practical Components	1. Mock drill for various disaster 2. Disaster Management Action Plan

Semester	II	Total Credit	4
Course Code	GE 201	Credit Pattern	L-45, T-8, P-7
Course Title	C. SOCIAL WELFARE AND ADMINISTRATION		
Course Objectives			
1	To develop skills required for NGO’s Management.		
2	To understand the process of Social Welfare administration.		
3	To know the various schemes of social welfare		
Course Outcomes: Students will be able to			
1	Understand the application of various social/welfare services provided by GO’s & NGO’s in respect of systematic implementation of welfare policies		
2	Identify the administrative process and their implications in the implementation of social welfare schemes.		

Unit Number	Contents	Number of Sessions	
1	Definition, scope & Principles of social welfare administration: Role of volunteers in social welfare: i) a sense of urgency ii) self-sacrifice iii) responsibility towards the community vi) dignity and interest in service (15)	L=11	
		T=2	P=2
2	Social Services and Social Welfare Services: State Social Advisory Boards: Composition & Functions of the state & central boards, Programme and Activities of the Board. Management of Human Service Organizations: Constituents of social welfare organization – General body, Managing/Executive committee: Responsibilities and functions of an Executive and office bearers. (15)	L=12	
		T=2	P=1
3	Social Welfare Organizations: Introduction, Definitions and Ingredients of an organization: Authority and Responsibility, Delegation, Decentralization, Public Relations, Communication, Coordination. (15)	L=11	
		T=2	P=2
4	Rules and Regulations for Registration of organization: Functions and qualification of board members. Types of committees. Financial Administration: Financial sources – Grant in aid: welfare services for children, women, handicapped, aged diseased. Community Chest i) Budgeting: meaning, purpose, method and sources. Guiding principles of budget. (15)	L=11	
		T=2	P=2

Learning Resources :		
1	Text Books	1. D. Paul Chowdhry (1992)- Social Welfare Administration, Atma Ram and Sons, Delhi.
		2. S. M. Jha. (2002).- Social Marketing, Himalaya Publishing House, Bangalore.

2	Reference Books	3. S. L. Goel (2003-Public Administration: Theory and Practice, Deep and Deep Publications Pvt. Ltd. New Delhi.
		4. Sameer Dehpande, Nancy R. Lee (2013)-Social Marketing in India, Sage Publications, New Delhi.
3	Website	https://www.scribd.com www.scribd.com
4	Journals	https://onlinelibrary.wiley.com/journal Indian Journal of Social Work
5	Supplementary reading	Encyclopedia in Social Work Vol-I & II Dictionary of Social Work
6	Practical Component	Visit to various NGO's Concurrent Field Work

Semester	II	Total Credit	4		
Course Code	GE 201	Credit Pattern	L-44, T-08, P-08		
Course Title	D. Principles of Micro Economics				
Course Objectives					
1	To explain the microeconomic factors in and economy				
2	To highlight significance if the microeconomic factors				
Course Outcomes: Students will be able to					
1	Understand the micro variables and approach for microeconomic issues				
2	Analyse the process of factor price determination at micro level				
Unit Number	Contents			Number of Sessions	
1	Unit 1. Demand: Cardinal Analysis (15) Introduction, Assumptions, Law of Diminishing Marginal Utility, Demand curve derivation and its properties			L= 11	
				T= 2	P= 2
2	Unit 2.Indifference Curve Analysis: (15) Introduction, Assumptions, Indifference curves, properties, Marginal Rate of Substitution and Budget line, Consumer's Equilibrium			L= 11	
				T= 2	P= 2
3	Unit 3. Factors of Production, Production Functions and Cost Theories: (15) Meaning, Classification, Characteristics and Significance of Land, Labour, Capital and Entrepreneurship, Production Function, Law of Variable Proportion, Laws of Returns to Scale, Cost Curves and properties			L=11	
				T=2	P=2
4	Unit 4. Market Theory: (15) Types of Markets, Perfect Competition, Monopoly, Monopolistic Competition, Oligopoly: Features and price determination			L= 11	
				T= 2	P= 2
Learning Resources					
1	Text Books	- Paul Samuelson(2000), Economics, McGraw Hill Inc, New Delhi, Ahuja H.L, Modern Micro Economics, S Chand& Co., New Delhi, - Koutsyanis (2015), Micro Economics. - Jhingan M.L., Microeconomics, Vrinda Publications, New Delhi.			
2	Reference books	- Robert S Pindyck and Daniel L Rubinfeld(2017), Microeconomics, Pearson Education Ltd., UP - Mankwin Gregory N(2016), Principles of Microeconomics, Cengage Learning India Pvt. Ltd. - Hal R Varian(2015), Microeconomic analysis, Viva Books Pvt. Ltd., New Delhi			
3	Websites	www.rbi.org.in www.mygovt.gov.in www.cmie.com			

4	Journals	Arth Samwad Economic and Political Weekly Indian-Economic-Journal Journal-of Indian-School-of-Political-Economy
5	Supplementary Reading	Economics Survey Union Budget of India
6	Practical Component	1. Conduct consumer survey and identify consumer utility for various consumer goods 2. Review reference books on economics, and prepare a report on liner, cubic and quadratic production functions 3. Visit various service vendors and prepare a report on price determining factors and challenges for their products in the market

Semester	II	Total Credit	4
Course Code	AEC-201	Credit Pattern	L-45, T-15, P-0
Course Title	A. DATABASE MANAGEMENT SYSTEM (DBMS)		
Course Objectives			
1	The main aim is study principles of Design and Development of Database.		
2	To study the key characteristics of a database management system and to know what are the advantages and disadvantages of each DBMS. To understand & make use of a data model(s) for designing and outlining the database schema;		
3.	To understand why Normalization is important and phases of it. To know the features of database transactions; atomicity, consistency, isolation, and durability (ACID); etc		
Course Outcomes: The students will able to			
1.	After studying unit I, students will learn importance of Database concepts and Designing		
2.	The will study different types of Data Modeling Techniques		
3.	They will be able to study design and constraints and techniques		
4.	They will study Normalization phases in database design and importance		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Basic concept Database: (15) Database Users Characteristics of the database Approach Database system. Concepts & architecture Data Model. Schemas & Data Instances DBMS Architecture & Data Independence Data Base languages & Interfaces Data Modeling using the Entity- Relationship Approach.	L= 12	
		T=3	P= 0
2	Data Modeling: (15) Meaning & Concept, High- level conceptual data models for database design; Object-Based, Record-based Concepts, Entity types, entity sets, attributes and keys; relationship types, relationship sets, ER diagrams, Hierarchical Data Model(HDM), Network Data Model (NDM), The Relational Data Model and Relational Database Constraints; Relational model concepts; Relational Database Design; Case study examples	L= 12	
		T= 3	P= 0
3	Relational Alzebra : (15) A formal Query Language, Introduction to Selection Operation, Projection Operation , Union Operation , Cartesian Normalization: Meaning & Functional Dependencies And Normalization For Relational Databases: functional dependencies; normal forms based on primary keys-1NF with example; general definitions of 2nd and 3rd normal forms; Boyce-Codd normal (BCNF) forms, 4 Normal Form.	L= 12	
		T= 3	P= 0
4	Transaction Processing Concepts & Concurrency Control: (15) Introduction to transaction processing; Transaction Problems, Locking techniques, characteristics schedule based on serializability. Two phase locking techniques for concurrency control; Database Re Introduction SQL, Components DML, DDL, DCL with queries. Recovery concepts; recovery techniques	L=12	
		T= 2	P= 0

Learning Resources		
1	Text Books	- Fundamentals of Database Systems Ramez Elmasri and Shamkant B. Navathe, Pearson education. - Database Concepts, Abraham Silberschatz, Henry F Korth, S.Sudarshan, McGraw-Hill
2	Reference books	- C.J. Date, “ An introduction to database systems”, (3rd ed Narosa publishers, 1985), 1997 (reprint) - Ullman, ”Principles of database systems”, (2nd ed. Galgotia, 1984). D. Kroenke, “ Database Processing”, (Galgotia, 1987) - Naveen Prakash, Introduction to database management”, TMH, 1993. - Bobrowski, “ client server architecture and introduction to oracle 7”, 1996.
3	Websites	https://docs.oracle.com/javase/tutorial/jdbc/basics/connecting.html https://searchsqlserver.techtarget.com/definition/database-management-system
4	Journals	Journals in Database Management & Info Retrieval - Springer Database Management List of High Impact Articles PPTs Journals ..
5	Supplementary Reading	https://beginnersbook.com/2015/04/database-applications https://resources.infosecinstitute.com/dumping-a-database-using-sql-injection
6	Practical Components	Case Study Examples as Problem solving

Semester	II	Total Credit	4
Course Code	AEC-201	Credit Pattern	L-45, T-8, P-7
Course Title	B. Cyber Forensics		
Course Objectives			
1	Learn the security issues in a network.		
2	Learn computer forensics.		
3	Learn to understand forensics data.		
Course Outcomes: The students will able to			
1.	Understand security issues in a network.		
2.	Understand computer forensics.		
3.	Interpret forensics data.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Fundamentals of Networking: (15) computer crimes, evidence, extraction, preservation, Fundamentals of Networking, OSI, TCP/IP, IP Addressing, Data storage fundamentals File Systems- FAT/NTFS File System Analysis with Cyber Check, WinHex	L= 11	
		T=2	P= 2
2	Network Forensic: (15) Collecting and analyzing network-based evidence, reconstructing web browsing, email activity, and windows registry changes, intrusion detection, tracking offenders, etc.	L= 12	
		T= 2	P= 1
3	Mobile Network Forensic: (15) Introduction, Mobile Network Technology, Investigations, Collecting Evidence, Where to seek Digital Data for further Investigations, Interpretation of Digital Evidence on Mobile Network.	L= 11	
		T= 2	P= 2
4	Computer crime and Legal issues: (15) Intellectual property, privacy issues, Criminal Justice system for forensic, audit/investigative situations and digital crime scene, investigative procedure/standards for extraction, preservation, and deposition of legal evidence in a court of law.	L=11	
		T= 2	P= 2

Learning Resources

1	Text Books	1. Cyber Forensics by <u>Dejey</u> (Author), <u>Murugan</u> (Author) 2. Cyber Forensics: A Field Manual for Collecting, Examining, and Preserving Evidence of Computer Crime by <u>Albert Marcella Jr.</u> (Author), <u>Doug Menendez</u> (Author) 3. Cybercrime and Digital Forensics 4. The Basics of Digital Forensics: The Primer for Getting Started in Digital Forensics 1st Edition by <u>John Sammon</u> 5. Cyber Forensics: From Data to Digital Evidence

2	Reference books	1. Digital Forensics with Open Source Tools. Cory Altheide and Harlan Carvey, ISBN: 978-1-59749- 586-8, Elsevier publication, April 2011 2. Computer Forensics and Cyber Crime: An Introduction (3rd Edition) by Marjie T. Britz, 2013. 3. Network Forensics: Tracking Hackers Through Cyberspace, Sherri Davidoff, Jonathan Ham Prentice Hall, 2012 4. Guide to Computer Forensics and Investigations (4 th edition). By B. Nelson, A. Phillips, F. Enfinger, C. Steuart. ISBN 0-619-21706-5, Thomson, 2009. 5. Computer Forensics: Hard Disk and Operating Systems, EC Council, September 17, 2009 6. Computer Forensics Investigation Procedures and response, EC-Council Press, 2010 7. File System Forensic Analysis. By Brian Carrier. Addison-Wesley Professional, March 27, 2005 8. Computer Forensics: Investigating Data and Image Files (Ec-Council Press Series: Computer Forensics) by EC-Council (Paperback - Sep 16, 2009) 9. Digital Evidence and Computer Crime, Third Edition: Forensic Science, Computers, and the Internet by Eoghan Casey, 2011
3	Websites	• https://cyberforensicator.com/ • https://www.cdac.in/index.aspx?id=cyber_security • https://www.coursera.org/ • http://mooc.org/
4	Journals	• Fundamentals of Digital Forensics-Theory, Methods, and Real-Life Applications • International Journal of Cyber-Security and Digital Forensics (IJCSDF) • International Journal of Electronic Security and Digital Forensics • Journal of Digital Forensics, Security and Law
5	Supplementary Reading	• https://www.researchgate.net/publication/300474145_Digital_Forensics • https://www.usf.edu/cybersecurity/masters-degree/digital-forensics.aspx • https://www.forensiccontrol.com/resources/free-computer-forensic-tools
6	Practical Components	

Semester	III	Total Credit	4
Course Code	CC 301	Credit Pattern	L-48, T-12, P-0
Course Title	Computer Networks		
Course Objectives			
1	To learn technology behind network architecture with layered organization.		
2	Gain in depth knowledge of network core and network edge		
3	Uniform coverage of principles, architecture, practical insights of networks		
Course Outcomes			
After completion of this course the student will be able to:			
1	Present conceptual aspects of network applications such as web, file transfer, e-mail, and remote access, file sharing.		
2	Understand various protocols such as HTTP, SMTP,POP3,IMAP,FTP, DNS, DHCP and the basic structure of IP V4 , IP V6 Address		
3	Understand routing concept and working of routing protocols such as RIP, OSPF and BGP		
4	Understand layered architecture of TCP/IP model and design network applications		
5	Build understanding and problem-solving skills required for network design		
6	Understanding of wireless networks and protocols		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Computer Networks & Internet Introduction, Identifying Characteristics of Network, Types of Network, Identifying Network Topologies, Merits and Demerits of Topology, Networking Devices, Physical Media and Connectors , Protocols, Network Core, Network Edge, Delay and Loss in Packet Switched Network, VLAN, OSI Model, TCP/IP Protocol Layers and their Service Models, ISP's, Network Operating Systems, Workgroup and Domain	L= 12	
		T=3	P= 0
2	Application Layer Introduction, The Internet, Principles of Network Applications, Client Server Architecture ,Peer to peer Architecture, Hybrid Architecture , Application Layer Protocols, File Transfer and FTP, The World Wide Web HTTP and HTTPS, Electronic Mail in the Internet, Email Addressing, Message Structure MIME- Multipurpose Internet Mail Extensions, SMTP, POP3 , IMAP. Transport Layer	L= 12	
		T= 3	P= 0

	Introduction, Transport Layer Services, Connection Oriented Transport: TCP , Responsibilities and functions of Transport Layer, Flow Control ,Congestion Control ,Multiplexing and De-Multiplexing , TCP Header, Principles of Reliable Data Transfer, RDT Protocols, Connectionless Transport: UDP, Difference between TCP and UDP		
3	Network Layer Introduction, Datagram Networks, Router, Router components and functions, Routing Protocols, Routing in the Internet, Broadcast and Multicast. Firewalls and Internet Access. Data Link Layer and Wireless Network Introduction, 802 standards, Functions of Data Link Layer , Data Link Layer Services, Error Detection and Correction, Types of Error, Multiple Access Protocols, Link Layer Addressing, Ethernet, Switches, Managed and Unmanaged Switches, Introduction to Wireless Network, Wireless Ethernet Standards, Types of Wireless Network, Wi-Max ,	L= 12	
		T= 3	P= 0
4	Network Administration Introduction, Enterprise Network Implementation, Windows Networking, TCP/IP and the Internet, IP addressing ,Features of IPv4 and IPv6, Windows Servers, Configuring the TCP/IP Protocol, ,DHCP Overview, Working of DHCP, DHCP Server, The DHCP Relay Agent, Managing DHCP with DHCP Manager, Binding IP with MAC, Virtual LAN, Rapid Spanning Tree, DNS Service, DNS Server, Terminal Services.	L=12	
		T= 3	P= 0

Learning Resources

1	Text Books	- James F. Kurose and K. W. Ross, Computer Networking: A Top Down Approach, Pearson, 5th Edition 2013 - Craig Hunt & Robert Bruce Thompson, Windows NT TCP/IP Network Administration, O'Reilly Media - Computer Networks Abndrew S. Tanenbaum 4e
2	Reference books	- Tanenbaum, A.S., Computer Networks, Prentice Hall of India Pvt. Ltd, 4th Edition 2005 - Douglas E. Comer, Computer Network and Internets with Internet Applications, Pearson Education Inc., 4th Edition 2004 - Uyless Black, Computer Networks Protocols, Standards and Interfaces, Prentice Hall of India Pvt, Ltd, 2nd Edition - Prakash C. Gupta, Data Communication & Computer Network, Prentice Hall of India Pvt. Ltd.
3	Websites	https://www.geeksforgeeks.org/computer-network-tutorials https://www.studytonight.com/computer-networks/ https://www.tutorialspoint.com/data_communication_computer_network/index.htm

4	Journals	- Journal of Computer Networks and Communications 2011, ISSN: 2090-715X - The International Journal of Computer and Telecommunications Networking ISSN: 1389-1286 https://www.journals.elsevier.com/computer-networks - Journal of Communications and Networks, ISSN 12292370
5	Supplementary Reading	Study Material of Web Course Developed for NPTEL , Computer Networks, https://nptel.ac.in/courses/106/105/106105183/

Semester	III	Total Credit	4
Course Code	CC 302	Credit Pattern	L-48, T-12, P-0
Course Title	Artificial Intelligence		
Course Objectives			
1	To endow with various disciplines of artificial intelligence and its applications		
2	To explore knowledge representation techniques in AI.		
3	To demonstrate machine learning through artificial neural networks		
4	To explain handling uncertainty using fuzzy logic.		
Course Outcomes: The students will able to			
1.	Apply problem solving by intelligent search approach.		
2.	Represent knowledge using AI knowledge representation techniques.		
3.	Design machine learning solution to real life problems.		
4	Derive solutions for problems with uncertainty using fuzzy theory.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Artificial Intelligence and Applications: Introduction, General Problem Solving, Nature of AI Problems, Disciplines of AI, Expert Systems – Characteristics, Knowledge Representation, Architecture, Natural Language Processing - NLP Phases, Parser	L= 12	
		T=3	P= 0
2	Knowledge Representation: Introduction, Propositional Logic, Syntax and Semantics, Interpretations, Properties, Predicate Calculus, WFF, Free and Bound Variables, Normal Forms, Inference Techniques, Resolution, Unification, Modes Pones, Frames, Frame Representation Language, Conceptual Dependency, CD Theory, Script, Semantic Net, Property of Inheritance, Conceptual Graph, Rule Based Representation, Forward and Backward Reasoning	L= 12	
		T= 3	P= 0
3	Problem Solving by Intelligent Search: Introduction, State and Space Search, Depth First Search, Breadth First Search, Mean and Ends Analysis, Heuristic Search Techniques, Hill Climbing, Best First Search, Branch and Bound Search, A*and AO* Algorithm, Game Playing, Min-Max Search Procedure, ALPHA-BETA Pruning	L= 12	
		T= 3	P= 0
4	Soft Computing: Introduction, Basic Concepts of Neural Networks, Model of an Artificial Neuron, Activation Functions, Feedforward Network, Recurrent Network,	L=12	
		T= 3	P= 0

		Learning Methods, Fuzzy Set Theory, Fuzzy Membership, Fuzzy Operations, Fuzzy Logic Systems, Fundamentals of Genetic Algorithms, Evolutionary Process, Life Cycle, Applications		
Learning Resources				
1	Text Books	• Dan W. Patterson, Artificial Intelligence & Expert Systems, Prentice Hall of India, 2005 • S. Rajasekaran, G. A. VijayalakshmiPai, Neural networks, fuzzy logic, and genetic algorithms : synthesis and applications, Prentice-Hall of India, 2003		
2	Reference books	• AmitKonar, Artificial Intelligence & Soft Computing Behavioral & Cognitive Modeling of the Human Brain, CRC Press, New York, 2008 • Elaine Rich, Kerin Knight, Artificial Intelligence, Tata McGraw Hill Publishing Company, New Delhi, 2nd Ed, 2004 • S. N. Sivanandam, Principles of Soft Computing, Wiley India, 2007		
3	Websites	• https://towardsdatascience.com/ • https://www.moralmachine.net/ • https://www.youtube.com/watch?v=kiFfp-HAu64&feature=youtu.be&t=3128		
4	Journals	• Frontiers in Artificial Intelligence https://www.frontiersin.org/journals/artificial-intelligence# • Artificial Intelligence, Elsevier Publishing, ISSN: 0004-3702 • Machine Learning, Springer Publishing, e-ISSN: 1573-0565		
5	Supplementary Reading	• NPTEL Web Course, Artificial Intelligence, https://nptel.ac.in/courses/106/105/106105077/		
6	Practical Components	• https://experiments.withgoogle.com/collection/ai • https://www.ibm.com/in-en/artificial-intelligence		

Semester	III	Total Credit	4		
Course Code	CC 303	Credit Pattern	L-45, T-7, P-8		
Course Title	Java Programming				
Course Objectives					
1	To provide a student with the solid foundation of the syntax and semantics of java Programming and object-oriented concepts in Java.				
2	To familiarize the student to the application of Exception Handling mechanism in Java application				
3	To familiarize the student to the development of console-based and event handling applications in Java				
4	To demonstrate use of multi threaded application development in Java.				
5	To demonstrate interfacing Java application with various Database Management Systems.				
Course Outcomes: Students will be able to;					
1	To design console based application, accessing command-line arguments and parameterized applets.				
2	To design java applications employing streams and exception handling mechanism in Java.				
3	To explore different types of JDBC drivers for connecting and accessing data from different backend database management systems.				
4	To design and develop networked applications in both connection-oriented and connectionless architecture in Java.				
5	To design and implement event handling applications in Java using AWT and Swing.				
Unit Number	Contents			Number of Sessions	
1	OOPS and Exception Handling in JAVA Objects and classes, Inheritance, Interfaces, inner classes, Packages. Introduction to Java Utility classes and collection classes - Date, DateFormat and Gregorian Calendar classes. Using ListInterface, ListIterator and LinkedList classes. Set, Iterator, SortedSet, Map interfaces. HashSet class.Using Vector class, stacks, queues, HashTable. Generating random numbers, Property class. Exception Handling: Exception class hierarchy, Exception Vs Error, try, catch, throw, throws, finally, checked Vs unchecked exceptions, creating custom exception classes.			L= 12	
				T= 2	P= 2
	I/O Streams and Multi threading in Java			L= 11	

2	Significance of streams, various types of Input & Output streams, accessing the file through streams, object serialization. Random Access File. Difference between multi tasking and multi threading, Need for multi threading, thread states and priorities, suspending and resuming threads, synchronization between threads. Inter thread communication and dead locks.	T= 2	P= 2
3	Java Database Connectivity and Networking in Java JDBC overview , JDBC Architecture , Types of JDBC Drivers, DriverManager class, database connection statements , Resultset, transaction, Metadata and Aggregate functions , callable statements, Connection to various back ends Connectionless and Connection-oriented architectures, Client and Server programming, Socket, DatagramSocket and DatagramPacket classes, IP address classes. InetAddress, URL and URLConnection classes.	L= 11 T= 2	P=2
4	Applets and Event Handling in Java Applet and its life cycle, passing parameters to applets, font, color, image classes. ImageObserver. Image processing using PixelGrabber and MemoryImageSource classes. Difference between AWT and Swing. Lightweight and heavy weight components. Pluggable Look and Feel. Swing package and its components., layout managers, various components for GUI. Delegation Event Model, different types of events, event handlers, and adapter classes	L= 11 T= 1	P= 2

Learning Resources

1	Text Books	1. Java Complete Reference by Patric Norton 2. Java 8 Programming Black Book 3. Core Java Vol. I (Addison- Wesley) Sun Press ISBN – 981-405-861-0 4. Core Java Vol. II (Addison- Wesley) Sun Press ISBN – 981-4058-50-5 5. Java in a Nutshell, By Benjamin J Evans, David Flanagan, O'Reilly Media
2	Reference books	1. Thinking in Java, Bruce Eckel,, Addison – Wesley, ISBN: 9814035750 2. Java 2 Programming Black Book by Steven Holzner, Dream Tech Publication 3. A Programmer's Guide to Java SCJP Certification: A Comprehensive Primer By Khalid Azim Mughal, Rolf Rasmussen 4. Inside Java 2 Virtual Machine by Venner's Bill, Mcgraw Hill Education 5. Learning Java by Jonathan Knudsen, Patrick Niemeyer, O'Reilly Media.

3	Websites	https://www.w3schools.com/java/default.asp https://www.tutorialspoint.com/java/index.htm https://www.javatpoint.com/java-tutorial https://beginnersbook.com/java-tutorial-for-beginners-with-examples/ https://www.studytonight.com/java/ https://www.guru99.com/java-tutorial.html
4	Journals	Java Development Journal - www.javadevjournal.com https://www.journaldev.com/ https://ieeexplore.ieee.org/document/714612
5	Practical Component	Practical lab exercises based on Units I to IV

Semester	III	Total Credit	4
Course Code	CC-304	Credit Pattern	L-48, T-6, P-6
Course Title	<i>DATA WARE HOUSING AND DATA MINING</i>		

Course Objectives	
1	To provide students with basic concepts of data warehouse and data mining.
2	To develop abilities to solve real time problem by applying appropriate data mining algorithm.
2	To make students acquaint to different tools and techniques used for Knowledge Discovery in Databases.

Course Outcomes: The students will able to	
1.	Develop acquaintance with the tools and techniques used for Knowledge Discovery in Databases.
2.	Discover interesting patterns from large amounts of data to analyze and extract patterns to solve problems
3.	Evaluate and select appropriate data-mining algorithms
4.	Apply, and interpret and report the output appropriately

Syllabus:

Unit Number	Contents	Number of Sessions	
1	DATA WAREHOUSING Overview and Concepts: Need for data warehousing, The building blocks of a Data warehouse, Data Warehouse Architecture, Extract Transform Load Cycle: ETL overview, Extraction, Loading, Transformation techniques. Reporting and Query tools and Applications, OLAP – the need, Design of the OLAP database, OLAP operations: slice, dice, rollup, drill-down etc.	L= 12	
		T=3	P= 0
2	INTRODUCTION TO DATA MINING AND ASSOCIATION RULE MINING Introduction – Data – Types of Data – Data Mining Functionalities – Classification of Data Mining Systems – Data Mining Task Primitives , Data Mining Applications, Integration of a Data Mining System with a Data Warehouse – Issues –Data Preprocessing. Mining Frequent Patterns, Associations and Correlations –Mining various Kinds of Association Rules – Market Basket Analysis, Apriori Algorithm, FP tree Algorithm, Correlation Analysis.	L= 12	
		T= 1	P= 2
3	CLASSIFICATION Classification and Prediction - Basic Concepts - Decision Tree Induction - Bayesian Classification – Rule Based Classification – Classification by Back	L= 12	
		T= 1	P= 2

	propagation – Support Vector Machines – Associative Classification – Lazy Learners – Other Classification Methods – Prediction.			
4	CLUSTERING AND WEB MINING Cluster Analysis - Types of Data – Categorization of Major Clustering Methods – K-means– Partitioning Methods – Hierarchical Methods – Outlier Analysis – Web Mining: Web Content Mining, Web Structure Mining, Web Usage mining.		L=12	
			T= 1	P= 2
Learning Resources				
1	Text Books	- Alex Berson and Stephen J. Smith, “ Data Warehousing, Data Mining & OLAP”, Tata McGraw – Hill Edition. - Jiawei Han and Micheline Kamber, “Data Mining Concepts and Techniques”, Second Edition, Elsevier		
2	Reference books	- Pang-Ning Tan, Michael Steinbach and Vipin Kumar, “ Introduction To Data Mining”, Person Education, 2007. - K.P. Soman, Shyam Diwakar and V. Ajay “, Insight into Data mining Theory and Practice”, Easter Economy Edition, Prentice Hall of India G. K. Gupta, “ Introduction to Data Mining with Case Studies”, Easter Economy Edition, Prentice Hall of India - Daniel T.Larose, “Data Mining Methods and Models”, Wile-Interscience		
3	Websites	http://guidetodatamining.com/, “A Programmer's Guide to Data Mining” https://www.classcentral.com/course/independent-data-mining-with-weka-1152, “Data Mining with Weka” https://www.geeksforgeeks.org/data-mining/ https://www.tutorialspoint.com/data_mining		
4	Journals	- Inderscience Publisher “International Journal of Business Intelligence and Data Mining” - Inderscience Publisher “International Journal of Knowledge Engineering and Data Mining” - IEEE Transactions on Knowledge and Data Engineering - Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery		
5	Supplementary Reading	https://www.techgig.com/webinar/Understanding-SVM-Support-Vector-Machine-Algorithms-1083 https://www.searchtechnologies.com/blog/web-data-mining-tools-techniques		
6	Practical Components	Experimenting different mining algorithms on available datasets using Weka and R programming.		

Semester		Total Credit	4
Course Code	DSE301	Credit Pattern	L-45, T-7, P-8
Course Title	Optimization Techniques		
Course Objectives: Equip students with the ability to:			
1	To introduce various deterministic decision models and design algorithms and flowcharts for solution.		
2	To equip the students in decision making through operational research techniques.		
Course Outcomes: Students will be able to			
1.	Analyze the data available for decision making.		
2.	Analyze company/organization data for taking management decision.		
Unit Number	Contents		
1	Introduction to Operations Research (OR) Historical Development, Characteristic features of OR, Models in OR, Methods for solving OR models, Methodology of OR, Opportunities and short comings of OR, Introduction to software's in OR. Linear Programming (LP): Mathematical Formulation, Assumptions of LP, Solution by Graphical Method, Special Cases of LP, Solution by Simplex Method-Maximization Problem with less than or equal to constraints, Primal Dual Relationship. Introduction to concept of Integer Programming, Goal Programming etc.		L 11, T 2, P 2
2	Transportation & Assignment Problem Mathematical model of TP, Methods to find initial basic feasible solution (Least Cost Method, Vogel's Approximation Method), Finding Optimal Solution by Modified Distribution Method, Unbalanced transportation problem, Maximization Case of TP. Comparison between Assignment & Transportation Problem, Mathematical model of AP, Hungarian Assignment Method, Solving Minimization-Maximization Problem. Replacement Models: Replacement policies for items that deteriorate with time, replacement policies for items that fail completely		L 11, T 2, P 2
3	Decision Theory Decision under certainty, Decision under risk, Expected value criterion, Decision under uncertainty, Laplace criterion, MaxiMax Criterion, MaxiMin Criterion, MiniMax criterion, MiniMax regret criterion, Decision Making Under Expected Value Principle, Expected Payoff of Perfect Information, Expected Value of Perfect Information (EPPI-EMV-EVPI), Decision making under conflict, Game Theory: Introduction to game theory-Terminologies, Game with pure strategies, Game with mixed strategies, Dominance properties, Solving Game by Graphical Method.		L 12, T 1, P 2
4	CPM-PERT Assumptions, Meaning, Usefulness of CPM-PERT, Network Terminology & Analysis, CPM-PERT Networks, Critical Path Method, Calculation of CPM network, Time estimates of PERT, Earliest Expected time, Latest allowable occurrence time and slack, Probability of meeting scheduled date of completion of project. Sequencing Models: Job sequencing with deadlines, Processing of n jobs through 2 machines, three machines, Processing of n jobs through m machines.		L 11, T 2, P 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Reference books	1. Taha H.A., <i>Operations Research</i> , Tata MacGraw Hill 2. Sharma J.K., <i>Operation Research Theory & Applications</i> , Mac Millan Publication Ltd. 3. Billy E. Gillet: <i>Introduction to Operation Research</i> ,

		4. N.D.Vohra, <i>Quantitative Techniques in Management</i> , Tata MacGraw Hill 5. J.G. Ecker and Michael Kupferschmid: <i>Introduction to Operations Research</i> (1988), John Wiley & Sons.
2	Practical Component	1. Analyzing various decision situations and finding appropriate model for taking decisions. 2. Analyzing real managerial decision problems through various case studies/problems. 3. Identifying various managerial decision situations related to different business organization.

Semester	III	Total Credit	4
Course Code	AEC	Credit Pattern	L-48, T-12, P-0
Course Title	Mobile Computing		
Course Objectives			
1	To introduce challenges in app development for thin clients.		
2	To provide acquaintance with popular Android editors such as Eclipse/Android Studio.		
3	To familiarize the students about android stack, android sdk, application life cycle, and basic components.		
4	To introduce Android's APIs for data storage, retrieval, user preferences, files, databases, and content providers		
5	5. To introduce persistent data storage using SQLite		
Course Outcomes: Students will be able to;			
1	Build android apps in Eclipse/Android Studio.		
2	Design and develop useful Android applications using activities, intent and manifest		
3	Design and develop useful Android applications Utilizing the power of background services, threads, and notifications		
4	Develop applications for data storage and retrieval.		
5	Sharing data between applications using Content Provider.		
Unit Number	Contents		Number of Sessions
1	Basics and Building Bocks of Android Android Overview and History.Android Stack.Android SDK Overview - Platforms, Tools, Versions.Android Project Structure.Creating first project.The manifest file. Layout resource Running your app on Emulator and real device. Introduction to Eclipse/Android Studio.Structure of android manifest file. Building blocks of Android - Activities, Activity lifecycle, Intents, Services, Content Providers, Broadcast Receivers.Views and layouts, Common UI components.Passing data between activities.		L= 12
			T= 3 P= 0
2	Leveraging Anroid UI Components Handling User Events, Complex UI components, Building UI for performance, Menus and Dialogs		L= 12
			T= 3 P= 0
3	Android Services and Broadcast Receivers Broadcast Receivers. What are Broadcast Receivers.Implementing broadcast receiver.System broadcasts and how to use them. Intent Filters.		L= 12
			T= 3 P=0

4	Data Persistence in Android		L= 12	
	Data Persistence- Introducing SQLite, SQLiteOpenHelper and creating a database, Opening and closing a database, Working with cursors Inserts, updates, and deletes		T= 3	P= 0
	Basic Content Providers Content provider MIME types, Searching for content, Adding, changing, and removing content Working with content files			
Learning Resources				
1	Text Books	6. Ian F. Darwin, Android Cookbook, O'Reilly. 7. Marko Gargenta, Learning Android, O'Reilly 8. Pradeep Kothari (Android Application Development (With Kitkat Support), Black Book, Kogent Learning Solutions Inc. 9. W.Frank Ableson, Robi Sen, Chris King, C.Enrique Ortiz, Android in Action 10. Neil Smyth, Android Studio 4.0 Development Essentials - Java Edition: Developing Android Apps Using Android Studio 4.0, Java and Android Jetpack		
2	Reference books	6. G. Blake Meike, Laird Dornin, Masumi Nakamura, and ZigurdMednieks, Programming Android, O'Reilly Java 2 Programming Black Book by Steven Holzner, Dream Tech Publication 7. W.FrankAbleson, RobiSen, Chris King, Android In Action, published by dreamtech Press. 8. Wei-Meng Lee, Beginning Android 4 Application Development, Wrox Publication 9. Reto Meier, Professional Android 4 Application Development, Wrox Publication 10. OnurCinar, Android Apps with Eclipse, Apress 11. Ian G. Clifton, Android User Interface Design, 12. Dave Smith and Jeff Friesen, Android Recipes: A Problem-Solution Approach, Apress		
3	Websites	1. https://www.tutorialspoint.com/android/index.htm 2. https://www.javatpoint.com/android-tutorial 3. https://www.vogella.com/tutorials/android.html 4. https://www.studytonight.com/android/ 5. https://www.tutlane.com/tutorial/android		
4	Journals	1. Journal of Information Technology & Software Engineering, ISSN: 2165-7866		

		2. https://www.engpaper.com/android-system-research-papers.htm 3. SSRG International Journal of Mobile Computing and Application (IJMCA) – (Seventh Sense Research Group)ISSN 2393 – 9141 4. International Journal of Computer Science and Mobile Computing - ISSN: 2320-088X
5	Practical Component	Practical lab excercises based on Units I to IV

SYLLABUS

FOR

M. B. A. (Environment Management)

(Implemented from Academic Year: 2023-24)



School of Environmental Sciences and Management

**CHHATRAPATI SHAHU INSTITUTE OF
BUSINESS EDUCATION AND RESEARCH (CSIBER),
(AN AUTONOMOUS INSTITUTE)**

UNIVERSITY ROAD, KOLHAPUR - 416 004 (M. S.), INDIA

2023

REVISED CURRICULUM OF M. B. A. (ENVIRONMENT MANAGEMENT) PROGRAMME WITH DUAL SPECIALIZATION

The M. B. A. (Environment Management) Programme is of Two-year duration and is divided into Four semesters. Semester I, II will be taught in the First Year of the programme and Semester III & IV during the Second Year of the programme. Student can opt for any one of the following specializations along with Environment i.e. Agri-Business, Finance, Human Resource, Marketing, Production and Systems.

Objectives:

The specific objectives of the programme are:

1. To infuse environmental concepts in all the functional area of business management
2. To provide in-depth knowledge to the students in respect of current business and environmental problems faced by human society and to develop scientific attitude among students based on interdisciplinary approach to enable them to take holistic view in planning and decision-making.
3. To develop managerial competence among students in managing environmental development programs initiated by the Government.
4. To provide students a typical problem-oriented situations in environmental protection, Development and management.
5. To inculcate modern concept of Green Industry to the students for sustainable development.

Eligibility:

Candidates should have passed graduation under 10+2+3 pattern from the recognized University.

Intake: 60

Admission process:

Student will be admitted purely on merit basis through DTE-CET cap round.

Reservation:

Reservation for special categories such as SC, ST, NT, OBC, etc. will be as per the Government of Maharashtra, AICTE and other statutory bodies.

Duration:

The degree of M. B. A. (Environment Management) is a full time course and its duration is of Two Years. The course consists of four semesters. The examination to be held in the First, Second semester will be called Part – I (First Year) and the examination to be held in the third and fourth semester will be called Part – II (Second Year).

If a candidate fails to clear all the theory papers and project report within six years of his/her registration, the past performance will stand automatically nullified. If a candidate discontinues any of the terms (i. e. semester – I to IV) on any account, he/she will be allowed to complete the in-completed terms in the subsequent years subject to the condition that it is within the stipulated time duration of Six years. In addition to the above, once a student's term (semester) is granted, he/she shall be allowed to appear and pass in any of the subsequent examinations held, provided the examinations are within the stipulated period of Six years after registration. In case the term (semester) is not granted the student has to seek fresh admission in the next year and complete the term and pass the examination. This is also within Six years of his/her registration.

Course Completion with Break in Between:

A student who has passed M. B. A. – I and is seeking admission to M. B. A. – II after a long gap (Provided the gap lies within the stipulated duration of Six years) should complete the course syllabus which is in existence at the time he/she has sought the admission for the academic year.

Award of the degree: After successful completion of four semesters of M. B. A. (Environment Management) mark list ledgers will be forwarded to the Shivaji University, Kolhapur, for the award of the degree.

CBCS PATTERN:

M. B. A. (Environment Management) under CBCS pattern carry certain number of credits. Credits normally represent the weightage of a course and are a function of teaching, learning and evaluation strategies such as number of contact hours, the course content, teaching methodology, learning expectations, etc. The credits are based on the number of instructional hours per week, generally 1 credit per one hour of instruction in theory and 1 credit for 2 hours of practical/project work/Field work/internship.

General features of the Choice Based Credit System are:

- a) The M. B. A. (Environment Management) programme is structured in CBCS Pattern
- b) The Programme consists of Compulsory Core and Electives. The core and elective papers deal with the specific discipline.
- c) The relative importance of subjects of study is quantified in terms of credits.
- d) The elective courses are offered within the discipline faculty.
- e) The curricula should be unitized giving equal weightage in terms of contact hours and marks.

- f) Well defined model outline of question paper consisting of Long answers/essay type/ case studies.
- g) The evaluation will be on formative evaluation (Continuous Internal Assessment) and summative evaluation (End Semester Assessment). The final results shall be declared after integration of both.
- h) The declaration of result is based on the grade point average (GPA) earned towards the end of each semester and the Cumulative Grade Point Average (CGPA) earned towards the end of the program.

Outline of Choice Based Credit System:

1. **Core Course:** A course, which should compulsorily be studied by a candidate as a core requirement is termed as a Core course.
2. **Field Project:** Field Project of 4 credits can be completed under the supervision of departmental faculty member. This includes collection of field-based data, analysis, interpretation, referencing, report writing, etc. in the functional area.
2. **Elective Course:** Generally a course which can be chosen from a pool of courses and which may be very specific or specialized or advanced or supportive to the discipline/ subject of study or which provides an extended scope is called an Elective Course.

Credit Pattern:

Every course offered will have three components associated with the teaching-learning process of the course, namely.

Lecture – L, Tutorial- T, Practice - P

Where,

L stands for **Lecture session**.

T stands for **Tutorial session** consisting participatory discussion / self-study/ desk work/ brief seminar presentations by students and such other novel methods that make a student to absorb and assimilate more effectively the contents delivered in the Lecture classes.

P stands for **Practice session** it consists of Hands on experience / Laboratory Experiments / Field Studies / Industrial visits/ Case studies that equip students to acquire the much required skill component.

In terms of credits, every one hour session of L amounts to 1 credit per week and a minimum of two hour session of T or P amounts to 1 credit per week, over a period of one semester of 15 weeks for teaching-learning process. The total duration of a semester is 17 weeks inclusive of semester-end examination.

M. B. A. (Environment Management) consists of all the three components with weightage depending upon the paper.

The total credits earned by a student at the end of the semester upon successfully completing the course are L + T + P. The credit pattern of the course is indicated as L: T: P. If a course is of 4 credits then the different credit distribution patterns in L : T : P format could be :

Theory Papers-	3: 0.5: 0.5
Practical -	1: 0: 3.0
Field Work-	0: 1: 3

If a course is of 2 credits then the different credit distribution patterns in L : T : P format could be :

Theory Papers-	1.5: 0.25: 0.25
Practical-	0.5: 0: 1.50
Field Work -	0: 0.5: 1.5

Teaching programme for each Semester shall consist of:

- a) Theory Lectures: There will be 60 contact hours / paper / semester for four credits ; @ 4 lectures/paper/week and 30 contact hours / paper / semester @ 2 lectures /paper / week , for two credits. Each lecture is of the duration of 60 minutes.
- b) Practical: 1 practical / week. Each practical is of the duration of 3 clock hours, number of students in batches should not exceed 15.

Credit Grade Based Performance Assessment System (CGPA):

I. ASSESSMENT:

Taking into consideration the UGC and AICTE requirements, CSIBER has adopted “Credit Grade Based Performance Assessment System” (CGPA). Each paper is of 100 marks and contact hours for each paper are 60. One credit is allotted to 15 contact hours. All papers are considered as Full credit papers i.e. four credits are allotted to each paper. Practical of 100 marks are considered as four credit

For the paper of 100 marks, the distribution of the marks for theory, practical and project work will be as follows –

i) Internal Marks i.e. Formative evaluation	-	40 Marks
ii) External Marks i.e. Summative evaluation	-	60 marks
1. For the paper of 50 marks. The distribution of the marks will be as follows –

i) Internal Marks i.e. Formative evaluation	-	20 Marks
ii) External Marks i.e. Summative evaluation	-	30 marks
 2. External marks will be given at the time of viva by external and internal and average marks will be calculated out of 60.
- Breakup of Internal Marks i.e. Formative evaluation

Sr. No.	Head	Marks 40	Marks 20
1.	Class Participation	10	5
2.	Field Based Project	10	5
3.	Class Test/ Quiz	10	5
4.	Library Based Assignment	10	5
	Total	40	20

The Internal Marks assessed by the teachers be shown to the students and their signature will be obtained. The Summative assessment of papers will be done by an Internal and External examiner. A difference of more than 20% in the marks awarded by these examiners would necessitate the valuation of the paper by Third examiner. The 'nearest highest' marks will be considered for determining the average mark of such papers.

3. Evaluation of Field Project

Assessment Strategy:

For the paper of 50 marks, the distribution of the marks for theory will be as follows –

- i) Internal Marks i.e. Formative Assessment - 20 Marks
- ii) Examination Marks i.e. Summative Assessment - 30 marks

Breakup of Internal Marks (Formative Assessment)

Sr. No.	Head	Marks Out of 20
1	Individual Viva	05
2	Presentation	10
3	Literature review/ Assignments	05
	Total	20

3.1 Evaluation of Research Methodology

Assessment Strategy:

For the paper of 100 marks, the distribution of the marks for theory will be as follows –

- i) Internal Marks i.e. Formative Assessment - 40 Marks
- ii) Examination Marks i.e. Summative Assessment - 60 marks

Breakup of Internal Marks (Formative Assessment)

Sr. No.	Head	Marks Out of 40
1	Research Participation	10
2	Literature Review and Laboratory/Research Record	10
3	Progress Report	10
4	Research Project Preparation	10
	Total	40

3.2 Evaluation of Research Project (Master Thesis)

Assessment Strategy:

For the paper of 150 marks, the distribution of the marks for theory will be as follows –

- i) Internal Marks i.e. Formative Assessment - 60 Marks
- ii) Examination Marks i.e. Summative Assessment - 90 marks

Breakup of Internal Marks (Formative Assessment)

Sr. No.	Head	Marks Out of 60
1	Research Participation	15
2	Literature Review and Laboratory/Research Record	15
3	Progress Report	15
4	Research Project Preparation	15
	Total	60

- 4. Once the Student passes in the internal marks (Summative evaluation out of 40) and the record is submitted to the examination department, it should be carried forward whenever required and it cannot be improve in any case.
- 5. Students who fail in the internal marks (Formative evaluation out of 40) should reappear for the same and then only the revised marks will be considered for further result calculation.

II. STANDARD OF PASSING:

- 1. In order to pass in a paper/head, a candidate will have to obtain 50% in the internal marks (Formative evaluation), 40% marks in theory, and a minimum of 50% of the marks in aggregate in each paper head.
- 2. To pass the M.B.A. examination, a candidate will have to pass in all Four Semester in Two Parts i.e. Part – I (Semester – I & II) and Part – II (Semester – III & IV).
- 3. A candidate from the first year M.B.A. will be eligible to proceed to the Semester III, if he/she is not having more than 5 (Five) papers backlog of the First Year (that is Semester – I & II).
- 4. A candidate will be permitted to proceed to the second Semester even though he/she fails in one or more subjects of the first Semester.
- 5. A candidate will be permitted to proceed to the Fourth Semester even though he/she fails in one or more subjects in third Semester.
- 6. Semester Performance Index (SPI) will be as follows:

III. GRADING SYSTEM:

a) Four Credit 100 Marks

Grade Table for Semester Examination			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
96-100	S+	10.0	SUPER
91-95	S	9.0	
86-90	E+	8.5	Exemplary
81-85	E	8.0	
76-80	O+	7.5	Outstanding
71-75	O	7.0	
66-70	A+	6.5	Good
61-65	A	6.0	
56-60	B+	5.5	Average
50-55	B	5.0	
--	X	0.0	Defaulter
--	XX	---	Incomplete

b) Two Credit 50 Marks

Grade Table for Semester Examination			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
48-50	S+	10.0	SUPER
46-47	S	9.0	
43-45	E+	8.5	Exemplary
41-42	E	8.0	
38-40	O+	7.5	Outstanding
36-37	O	7.0	
33-35	A+	6.5	Good
31-32	A	6.0	
28-30	B+	5.5	Average
25-27	B	5.0	
--	X	0.0	Defaulter
--	XX	---	Incomplete

- c) **Final Result:** For the final result of the student Cumulative Performance Index (CPI) based on total earned credits vis-à-vis total earned grade points shall be calculated will be as follows. Total earned grade points / Total credits 104.

Result		
CPI	Final Grade	Classification of Final Result.
9.6-10.0	S+	SUPER
9.1-9.5	S	
8.6-9.0	E+	Exemplary
8.1-8.5	E	
7.6-8.0	O+	Outstanding
7.1-7.5	O	
6.6-7.0	A+	Good
6.1-6.5	A	
5.6-6.0	B+	Average
5.0-5.5	B	

Note: An aggregate of 5.0 CPI are required to pass the M. B. A. (Environment Management) program.

IV. CALCULATION OF PERFORMANCE INDICES:

A distinction of the performance of one student from the other student is rather impossible to carry out from the grades obtained by a student in all the courses taken by him in a Semester/year. Hence, the evaluation of various courses is cumulated in two performance indices termed as Semester performance index (SPI) and cumulative performance index (CPI) the explanation of which is given below:

Semester Performance Index (SPI):

The performance of a student in a Semester is indicated by a number called Semester Performance Index (SPI). SPI is the weighted average of all the grade points obtained by him in all the courses registered during the Semester r. If G_i is a grade with numerical equivalent

$$SPI = \frac{\sum C_i \cdot G_i}{\sum C_i}$$

as G_i obtained by a student for the course with credit C_i then, SPI for that Semester is calculated using formula.

Where summation is for all the courses registered by a student in that Semester. SPI is calculated to two decimal places and rounded off. SPI once calculated shall be modified. Generally, for the students failed in regular examinations SPI is calculated only after the declaration of re-examination grades.

Cumulative Performance Index (CPI):

An up-to-date assessment of the overall performance of a student from the first Semester till completion of the programme is obtained by calculating an index called as Cumulative Performance Index (CPI). The CPI is weighted average of the grade points obtained in all the courses registered by a student since the first Semester of the programme.

$$CPI = \frac{\sum_i C_i g_i}{\sum_i C_i}$$

Besides SPI, CPI is also calculated at the end of every semester upto two decimal places and is rounded off. It is necessary to ensure that one course appears only once in calculation of CPI and the denominator in above equation does not exceed the total number of credits registered by him.

Initially there is certain trepidation in the minds of students and there are some difficulties in understanding the mechanics of this system. Therefore, it was decided that for the first year of implementation, on the mark sheets, both, the marks and the grade points and credits should be shown.

V. GRACE MARKS UNDER DIFFERENT ORDINANCE.

S.O. No. 1:-Grace Marks for Passing in each head of Passing (Theory/Practical/ Oral/ Sectional/External/Internal).

The Examinee shall be given the benefit of grace marks only for passing in each head of Passing (Theory/Practical/Oral/Sectional/ in External/ Internal examination as follows.

Head of Passing	Grace Marks
00-50	2
051-100	3
101-150	4
151-200	5
201-250	6
251-300	7
301-350	8
351-400	9
401 and above.	10

Provided that the benefit of such gracing marks in different heads of passing shall not exceed 1% of the aggregate marks in that examination.

Provided further that the benefit of gracing of Marks under this Ordinance shall be applicable only if the candidate passes the entire examination of Semester/year.

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM, CCIIL, NCTE, UGC etc.

S.O. No. 2:- Grace Marks for getting higher Class

A Candidate who passes in all the subjects and heads of passing in the examination without the benefit of either gracing or condonation rules and whose total number of Marks falls short for securing Higher Class or Grade by marks not more than 1% of the aggregate marks of that examination or upto 10 marks, whichever is less, shall be given the required marks to get the next higher class of grade as the case may be.

Provided that benefits of above mentioned grace marks shall not be given, if the candidate fails to secure necessary passing marks in the aggregate head of passing also, if prescribed in the examination concerned.

Provided further that the benefits of above mentioned grace marks shall be given to the candidate for such examination/s only for which provision of award of class has been prescribed. Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM, CCIIL, NCTE, UGC etc.

S.O. No. 3. Condonation

If a candidate fails in one or more head of passing, having passed in all other heads of passing, his/her deficiency of marks in such head of passing may be condoned by not more than 1% at the aggregate marks of that examination or 10 marks of the total Number of marks of that of passing in which he/she is failing whichever is less. However condonation, whether in one head of passing or aggregate head of passing be restricted to maximum upto 10 marks only.

Condonation of deficiency of marks be shown in the statement of Marks in the form of asterisk and Ordinance number.

Provided further that this gracing is concurrent with the rules and guidelines of professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM, CCIIL, NCTE, UGC etc.

**Structure of MBA (Environment Management)
(Implemented from 2023-24)**

M. B. A. - I Year

Semester – I

Choice Code	Name of the Subject	Total Credits	L:T:P	Contact Hours	Int. Marks	Ext. Marks	Total Marks
EM -101	Fundamentals of Ecology and Natural Resources.	4	3:0.5:0.5	60	40	60	100
EM -102	Air and Noise Pollution.	4	3:0.5:0.5	60	40	60	100
EM -103	Financial Accounting.	4	3:0.5:0.5	60	40	60	100
EM -104	Marketing Management.	4	3:0.5:0.5	60	40	60	100
EM- 105	Research Methodology.	4	3:0:0.5:0.5	60	40	60	100
EM -106	Information Technology for Management.	4	3:0.5:0.5	60	40	60	100
Total Credits		24		360	240	360	600

Semester – II

Choice Code	Name of the Subject	Total Credits	L:T:P	Contact Hours	Int. Marks	Ext. Marks	Total Marks
EM -201	Water Pollution.	4	3:0.5:0.5	60	40	60	100
EM -202	Water and Waste Water Engineering.	4	3:0.5:0.5	60	40	60	100
EM -203	Organizational Behavior and Human Resource Management.	4	3:0.5:0.5	60	40	60	100
EM -204	Business Laws.	2	1.5:0.25:0.25	30	20	30	50
EM -205	Business Statistics.	4	3:0.5:0.5	60	40	60	100
EM -206 OR	Environmental Microbiology and Biotechnology.	4	3:0.5:0.5	60	40	60	100
EM -207 OR	Energy Resource Management and Environmental Toxicology.						
EM -208	Disaster Management.						
EM -209	Field Project.	2	0:1:1	30	20	30	50
EM -210	Practical – I.	4	1:0:3	60	40	60	100
Total Credits		28		420	280	420	700

M. B. A. - II Year

Semester – III

Subject Code	Name of the Subject	Full Credits	L:T:P	Contact Hours	Int. Marks	Ext. Marks	Total Marks
EM -301	Solid and Hazardous Waste Management.	4	3:0.5:0.5	60	40	60	100
EM -302	Corporate Environmental Strategies.	2	1.5:0.25:0.25	30	20	30	50
EM -303	Environnemental Impact Assessment (EIA) and Environnent Management System (EMS).	4	3:0.5:0.5	60	40	60	100
EM -304	Practical – II.	4	1:0:3	60	40	60	100
EM- 305	Research Project (Master Thesis).	6	1:1:4	90	60	90	150
EM -306	<u>Any One</u> EM-Spl-I-306-A: International Finance. EM-Spl-I-306-B: Employee Relations and Labour Laws. EM-Spl-I-306-C: Consumer Behavior. EM-Spl-I-306-D: Supply Chain Management. EM-Spl-I-306-E: Indian Agribusiness Management. EM-Spl-I-306-F: Management Information Systems.	4	3:0.5:0.5	60	40	60	100
EM -307	<u>Any One</u> EM-Spl-II-307-A: Direct and Indirect Taxes. EM-Spl-II-307-B: International Human Resource Management. EM-Spl-II-307-C: Services Marketing. EM-Spl-II-307-D: Purchasing and Inventory Management. EM-Spl-II-307-E: Rural Marketing in India. EM-Spl-II-307-F: Information Systems Audit and Control.	4	3:0.5:0.5	60	40	60	100
Total Credits		28		420	280	420	700

Semester- IV

Subject Code	Name of the Subject	Full Credits	L:T:P	Contact Hours	Int. Marks	Ext. Marks	Total Marks
EM -401	Land and Water Management.	4	3:0.5:0.5	60	40	60	100
EM -402	Strategic Management.	4	3:0.5:0.5	60	40	60	100
EM -403	Business Ethics and Corporate Governance.	4	3:0.5:0.5	60	40	60	100
EM -404	Startups and Entrepreneurship Development.	4	3:0.5:0.5	60	40	60	100
EM -405	<u>Any One</u> EM-Spl-I-405-A: Management Control System. EM-Spl-I-405-B: Performance and compensation Management. EM-Spl-I-405-C: Sales and Distribution Management EM-Spl-I-405-D: Project Management. EM-Spl-I-405-E: Agri Production, Supply chain and Logistics Management. EM-Spl-I-405-F: Applied Data Science and Business Analytics using R.	4	3:0.5:0.5	60	40	60	100
EM -406	<u>Any One</u> EM-Spl-II-406-A: Investment and Portfolio Management. EM-Spl-II-406-B: Talent and Human Capital Management. EM-Spl-II-406-C: Advertising and Integrated Marketing Communication. EM-Spl-II-406-D: Quality Management. EM-Spl-II-406-E: Agricultural Marketing, Commodities Markets and Agri- Business. EM-Spl-II-406-F: Software Engineering.	4	3:0.5:0.5	60	40	60	100
Total Credits		24		360	240	360	600

Total Credits

Semesters	Core Credits	Total Credits	Contact Hours	Total marks
I	6 x 4 = 24	24	360	600
II	6x 4 = 24 2 x 2 = 4	28	420	700
III	6 x 1 = 06 5 x 4 = 20 2 x 1= 02	28	420	700
IV	6x4 = 24	24	360	600
Total		104	1560	2600

- Note :**
1. L stands for lectures, T for tutorial and P for practice.
 2. Average Contact hours per semester are 390 contact hours.
 3. Specialization will only be continued if there are 12 students or more opting.

MBA(ENVIRONMENT MANAGEMENT)

SEMESTER – I

Semester	I	Total Credit	4
Course Code	EM - 101	Credit Pattern	L-45, T-8, P-7
Course Title	FUNDAMENTALS OF ECOLOGY AND NATURAL RESOURCES		

Course Objectives

1.	Infuse basic ecological concepts and use scientific skills and knowledge to manage ecological problems.
2.	Sight and accomplish natural resources and its issues with special preference to India.

Course Outcomes: The students will able to

1.	Acquire the knowledge of Environmental Science and its multidisciplinary approach, ecosystem, types of ecosystem and its components.
2.	Interpret the consequences the biogeochemical cycles and human interference in cyclic process.
3.	Develop ability to identify local issues related with environment and natural resources.
4.	Infer about land as a resource its management, classification, importance and about land use pattern.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Environmental Science as a multi-disciplinary subject, its scope and necessity. General Accounts of Biosphere and Limits of Biosphere. Concepts of Ecosystem, Structure and Functions of ecosystem: Principles of organism-environment relationship; Ecological amplitudes, limits and tolerance to stresses.	L= 12	
		T=2	P=1
2	Concept of habitat; Ecological succession & Types of Ecosystem. Ecological energetics, energy flow in the ecosystem and Ecological food chain. Autecology of plant species. Biogeochemical cycles - Carbon, Nitrogen, Phosphorous and Sulphur. Inventories of important elements, Human interference in cyclic process.	L= 11	
		T= 2	P= 2
3	Natural Resources: Structure and composition of the earth, concept of Natural Resources and their classification. Conventional and Non energy resources. Natural Resources of India: Mineral Resources: with special reference to their occurrence, distribution and utilization of metallic minerals and non-metallic minerals. Biological diversity and concept Forest resources: forest cover and types, Major and minor forest products, Marine resources: Food, Mineral and Energy. Water resources: Unique properties water, Concept of hydrological cycles, monsoons Distribution, Classification and sources of surface and groundwater, water resource scenario in India, issues related to water resources.	L= 11	
		T= 2	P= 2
4	Soil Resources Definition and composition of soil, Soil formation process, Soil profile, Components and properties of soil, Classification of soil, Soil erosion Universal Soil Loss Equation (USLE), Land as a	L=11	
		T=2	P= 2

	resource - importance of land formation, basic concept of land, land resources, land cover and land use classification, land characteristics – issues related to land use.		

Learning Resources

1	Text Book	• Fundamentals of Ecology by Odum, E.P. • Environmental Science by Nobel, B.J. and Kormandy, E.J. (1981), The Way the World Works, Prentice-Hall Inc., N.J. • Environmental Science by Turk A., Turk, J. Wittes J.T. and Wittes, R.E. (1978) • Environmental Studies by Anindita Basak, 2009, Dorling Kindersley, New Delhi Publication. • Vogel's Textbook of Quantitative Chemical Analysis, 5th edition, J H Basett, J. Nendham and Denny, R.C. • Textbook Of Remote Sensing & Geographical Inform. Systems by KALI CHARAN, Atlantic Publisiers, 2018 • Text Book Of Soil Science by PAL, CBS publishers, 2018 • Textbook Of Environmental Science And Technology by REDDY, BSP publishers, 2019 • A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 • A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 • Textbook On Biotechnology by Hd Kumar, Affiliated East-West Press Pvt Ltd, 2003
2	Reference books	• Ecology of Urban India by Pramod Singh • Ecology of Rural India by Singh • Ecology 2000 by Sir Edmand Hillary • Environmental Chemistry – II Edition by A.K. De • Principles of Environmental Science by Watt, K.E.F. (1973), McGraw-Hill Book Company, • Basic Ecology by Odum, E.P. (1973) • Manual for field ecology by R. Mishra • Modern concepts of ecology by H.D. Kumar • Plant ecology by Ambhast • Elements of Ecology by Thomas M. Smith and Robert Leo Smith, 2007, • Published by Dorling ,Kindersley, New Delhi. • Ecology and Environment by P.D. Sharma, 2012, Rastogi Publications, Meerut, India. • Mineral Resources by Krishna Swamy • Environmental Geology by KS Valdiya • Energy Resources and Science by Kirwan • Environmental Resources by Mathur • Handbook of Minerals, IBM (1993) • Biodiversity, MacMillan India Ltd., Swaminathan, M. S. and Jana, S. Eds. 1992: Madras

		• Singh, B. K. 2004: Biodiversity Conservation and Management, Mangaldeep • Publications, Jaipur • Hignman, S. <i>et al.</i>, 1999: The Sustainable Forestry Hand Book, Earth Scan • Publications Ltd., London • Puri, G. S. <i>et al.</i>: Forest Ecology, Oxford & IBH, Bombay • Desai, V. : Forest Management in India : Issues and Problems, Himalaya • Publishing House, New Delhi • Singh, A. K. 1987: Forest Resources, Ecology and Environment, Concept • Sarma, P. K.: Forest Resources and their Utilization in India, Mittal Publishers, New Delhi
3	Websites	• https://www.toppr.com/guides/biology/ecosystem/biogeochemical-cycle/ • https://nca2014.globalchange.gov/report/sectors/biogeochemical-cycles • https://www.conserve-energy-future.com/what-is-environmental-science-and-its-components.php • http://www.biologydiscussion.com/natural-resources/natural-resources-of-india-availability-and-problems/16685 • http://www.yourarticlelibrary.com/economics/what-are-the-different-types-of-natural-resources-produced-in-india/2683
4	Journals	• Down to Earth • Every Thing About Water • Journal of Environmental Biology
5	Supplementary Reading	• National Geographic
6	Practical Component	• Field visit to various ecosystems • Group discussions on current topics of natural resource degradation • Debate on various issues

Semester	I	Total Credit	4
Course Code	EM - 102	Credit Pattern	L-45, T-8, P-7
Course Title	AIR AND NOISE POLLUTION		

Course Objectives

1. Make the students aware about the facts of air pollution.
2. Explain the effect and control methods of the air and Noise pollution.

Course Outcomes:

1. Appraisal of present air pollution status.
2. Identify existing and potential sources of air pollution.
3. Identify and Classify existing sources of noise pollution.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Meteorology and Atmosphere: Primary and secondary atmosphere, weather and climate, Atmosphere engine, physical and chemical properties of atmosphere, vertical structure of atmosphere. Meteorological elements – Definition and measurements: Temperature, pressure, humidity, Wind speed and direction, precipitation, forms of precipitation. Atmospheric circulation, Lapse rate – Environmental, dry adiabatic lapse rate and effective. Atmospheric stability: concept and types, pasquill stability classification. Wind rose, heat island effect, Inversion of temperature and turbulence, Mixing heights, plume behavior.	L= 12	
		T=2	P=1
2	Air Pollution: Definition, terminology, sources of air pollution, Classification of air pollutants, Air quality standards, Acid rain, Greenhouse effect and Global Warming, Ozone layer depletion, Dispersion of pollutants in the atmosphere: Gaussian dispersion model, Effect of air pollution and acid rain on plants, animals and property.	L= 11	
		T= 2	P= 2
3	Air Pollution Control : Particulate matter– settling chamber, cyclone, Wet collector, Fabric filter and Electro Static Precipitators Gaseous Pollutants: Adsorption and absorption, Condensation, wet scrubber Mobile sources: Incineration, Adsorption and absorption, alternative fuels Indoor air pollution, Air pollution episodes.	L= 11	
		T= 2	P= 2
4	Noise Pollution: Definition, scope, properties of sound; Theory of noise measurement; Sound pressure, loudness, sound intensity; Hearing mechanism; Threshold noise level, Sources of noise pollution, Effect of noise pollution on human-beings and wildlife, Noise control measures.	L=11	
		T=2	P= 2

Learning Resources

1	Text Book	• A Text Book of Engineering Chemistry, Dara, Chand • A Text Book Environmental Studies, Chatawal & Sharma, HPH • Textbook Of Environmental Science And Technology by REDDY, BSP publishers, 2019 • A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 • A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 • Textbook On Biotechnology by Hd Kumar, Affiliated East-West Press Pvt Ltd, 2003 • Fundamentals of Ecology by Odum, E.P. • Environmental Science by Nobel, B.J. and Kormandy, E.J. (1981), The Way the World Works, Prentice-Hall Inc., N.J. • Environmental Science by Turk A., Turk, J. Wittes J.T. and Wittes, R.E. (1978) • Environmental Studies by Anindita Basak, 2009, Dorling Kindersley, New Delhi Publication. • Vogel's Textbook of Quantitative Chemical Analysis, 5th edition, J H Basett, J. Nendham and Denny, R.C.
2	Reference books	• Air Pollution By: Arthur C Stern. 3rd Edn. Vol. I, II, VI, VII, Academic Press (1986) • Air Quality By: Thad Godish, 3rd Edition, Lewis Publishers, New York (1997) • Understanding Environmental Pollution By: Marquita K Hill. Cambridge University Press (1997) • Pollution: Causes, Effects & Control Edited By: Roy M Harrison. 2nd Edn. The Royal Society of Chemistry Cambridge (1995) • Environmental Chemistry: A Global Perspective By: Gary W vanLoon & Stephen J Duffy. Oxford University Press (2000) • Handbook of Air Pollution Control Engineering & Technology By: John C Mycock, John D McKenna & Louis Theodore. Lewis Publishers, CRC London (1995) • Handbook of Pollution Control Processes By: Robert Noyes. Jaico Publisheing House, Mumbai (2001) • An Introduction to Air Pollution By: RK Trivedy & PK Goel. ABD Publishers Jaipur, India (2003) • Air Pollution By MN Rao & HVN Rao. Tata McGraw-Hill Publishing company Ltd., New Delhi (1994) • Environmental Chemistry By: AK De. 3rd Edn. New Age International (P) Ltd. Pub. (1999) • Environmental Air Pollution and its Control By: GR Chhatwal, MC Mehra, M Satake, T Katyal, Mohan Katyal, T Nagahiro. Anmol

		Publications, Delhi (1993) • Environmental Chemistry By: BK Sharma. Krishna Prakashan Media, Meerut (1994) • Air Pollution by Perkin HG • Air monitoring survey design by Noll KE and Miller TL • Fundamentals of Air Pollution by Stern AC, Henry Wohlers, GR Richard, Boulal, W and William Lowry, P. • Air Pollution by Wack, K and Warner CF • Air Pollution by Sainfeld JH • Air Pollution by HC Pertin • Air Pollution by Strauss • Air Pollution Control Theory by Crawford • The Atmosphere by Tarbuch and Lutgen • The Weather Book by Williams, Jack, USA
3	Website	• http://www.imd.gov.in/Welcome%20To%20IMD/Welcome.php • https://www.niwa.co.nz/education-and-training/schools/students/layers • http://www.indiaenvironmentportal.org.in/category/37/thesaurus/air-pollution-control/ • https://www.environmentalpollutioncenters.org/noise-pollution/
4	Journals	• International Journal of Environmental Engineering Science, ISSN No .2229-3094 • International Journal of Environmental Pollution Control & Management , ISSN No .0975-3842 • Journal of Biosciences, ISSN No. 0250-5991 • Current Science, ISSN No. 0011-3891
5	Supplementary reading	• CPCB reports • MPCB reports
6	Practical Component	• Industrial visit to learn air pollution sources • Noise monitoring during festivals like Ganpati, Navratra and Diwali • Traffic noise monitoring • Traffic air pollution monitoring

Semester	I	Total Credits	4
Course Code	EM - 103	Credit Pattern	L 45, T 8, P 7
Course Title	FINANCIAL ACCOUNTING		
Course Outcomes	The Student Will be able to		
1.	Acquire the requisite theoretical framework for understanding practical problems in Accounting.		
2.	Apply basic accounting principles and concepts for preparation of Financial Statements.		
3.	Evaluate the financial position by preparing the financial statement as per Schedule III.		

Syllabus

Unit Number	Contents	Number of Sessions	
1	Introduction to Accounting: Meaning of Accounting, Branches of Accounting, Users of Accounting Information, Advantages and Limitations of Accounting, Accounting Concepts and Conventions, Introduction of Accounting Standards and IFRS	L = 11	
		T = 2	P = 2
2	Accounting Process: Accounting Cycle, Journal, Ledger, Subsidiary Books of Accounts, Trial Balance Bank Reconciliation Statement: Introduction, Significance and Need of Bank Reconciliation Statement, Causes for Difference between Bank Balance Shown by Cash Book and Pass Book, Preparation of Bank Reconciliation Statement	L = 12	
		T = 2	P = 1
3	Accounting for Depreciation: Meaning of Depreciation, Accounting Concept of Depreciation, Causes of Depreciation, Objectives of Providing Depreciation, Methods of Providing Depreciation – Straight Line Method, Diminishing Balance Method. Funds Flow Statement: Meaning and Definition, Nature of Funds Flow Statement, Utility of Funds Flow Statement, Preparation of Funds Flow Statement	L = 11	
		T = 2	P = 2
4	Financial Statements: Preparation and Understanding of Financial Statements – Balance Sheet and Statement of Profit and Loss and Notes as per Schedule III, Preparation of Cash Flow Statement Introduction of Tally Software Package in Accounting: Creating Companies, Journal Entries and Ledger Accounts	L = 11	
		T = 2	P = 2

Note:

1. Case Studies on each Aspects mentioned in Syllabus need to be discussed
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources

1	Text Books	a. Mukherjee A and Hanif M, (2018), 4th Edition, “Financial Accounting”, Tata McGraw Hill Education Pvt. Ltd. b. Kalpesh Ashar, (2019), 4th Edition, “Financial Accounting”, Vibrant Publishers
2	Reference Books	a. Goyal B K and Tiwari H N, (2019), 7th Edition, “Financial Accounting – Text and Illustrations”, Taxmann Publication Pvt. Ltd. b. Ramchandran N and Ramkumar K, (2020), 5th Edition, “Financial Accounting for Management”, McGraw Hill Education Pvt. Ltd. c. Gupta A, (2022), 7th Edition, “Financial Accounting for Management – An Analytical Perspective”, Dorling Kindersley (India) Pvt. Ltd d. Jawaharlal and Srivastava S, (2017), 1st Edition, “Financial Accounting- Text and Problems, Himalaya Publishing House e. Narayanaswamy R, (2017), 6th Edition, “Financial Accounting – A Managerial Perspective”, PHI Learning Pvt. Ltd. f. Gupta R L And Gupta V K, (2014), 3rd Edition, “Financial Accounting”, Sultan Chand & Sons (P) Ltd. g. Singh Y P and Singhal A, 1st Edition, “Financial Accounting”, Thakur Publication Pvt. Ltd.
3	Websites	a. www.emeritus.org/blog/finance-fundamentals-of-financial-accounting/ b. www.icaai.in/upload/Students/Syllabus2016/Inter/Paper-5 c. www.ddeegjust.ac.in/studymaterial/mba/cp-104 d. www.illumio.com/blogs/illumio-customer-success/2022/02/28/financial-accounting-what-its-importance-examples
4	Research Articles	a. Mert H, Dil S E, 2016, ‘Effects of Depreciation Methods on Performance Measurement Methods : A Case of Energy Sector’, Journal of Economics, Finance and Accounting, Vol. 3 (4), pp 330 – 344 b. Clementina K, Gabriel I, 2015, ‘Bank Reconciliation Statements, Accountability and Profitability of Small Business Organizations’, Research Journal of Finance and Accounting, Vol. 6 (22), pp 21 – 30 b. Khan H F, 2016, ‘Accounting Information System: The Need of Modernization’, International Journal of Management and Commerce Innovations, Vol. 4 (1), pp. 4 -10
5	Journals	a. Journal of Accounting & Finance, b. ICAI Journals c. ICSI Journals
6	Practical Component	a. Practical Problems on Bank Reconciliation Statement c. Practical Problems on Depreciation Accounting d. Practical Problems on Funds Flow Statement e. Practical Problems on preparation of Balance Sheet, Income Statement and Notes as per Schedule III f. Practical Problems on Preparation of Cash Flow Statement

Semester	I	Total Credit	4
Course Code	EM - 104	Credit Pattern	L-45, T-8, P-7
Course Title	MARKETING MANAGEMENT		
Course Objectives:			
1.	To create an awareness about fundamentals of marketing.		
2.	To cover the basic concepts of marketing and develop conceptual abilities and substantive knowledge in marketing through a variety of real-life marketing situations.		
3.	To understand the use of marketing mix in marketing decision making.		
Course Outcomes:			
1.	Discuss conceptual knowledge of Marketing Concepts.		
2.	Analyze marketing situation and provide appropriate solution for the issue.		
3.	Devise Market segmentation strategies for product and services.		
4.	Develop 4Ps of Marketing for Product and Services.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Marketing & Demand Measurement Definition – Importance and Scope – Core concepts of Marketing – Company Orientation Towards Market place; Building Customer Value, satisfaction and loyalty – cultivating customer relationship - Scanning the Marketing Environment Macro – Demographic, Economic, Social – Cultural –Political –Legal- Technology- Natural and Micro environment. Concept of Market Demand and Demand Measurement, estimating current and future demand, Definition, Need & Benefits	L= 11	
		T= 2	P= 2
2	Market Segmentation & Product Mix Market research and its importance – Consumer behavior, Factors affecting Consumer behaviour Consumer and Industrial buying process, Identifying market segments and Targets – base for consumer segmentation, market targeting, evaluating segments. Develop brand positioning, Concept of Product - product levels, product Classification. Product & brand relationship, Branding, Packaging and Labeling. Product Life Cycle – New Product Development -process	L= 12	
		T= 2	P= 1
3	Price, Place & Promotional Mix Importance of pricing, Pricing Objectives, Price Determination Procedure –Methods of Pricing. Importance, Functions of Distribution channels - Introduction to the various Channels of Distribution – Channel Management Decision. – Marketing Communication, AIDA model of Consumer responses, , developing effective communications, Advertising, Sales Promotion, Publicity and Personal Selling, Managing digital communication, Introduction to Digital Marketing framework.	L= 11	
		T= 2	P= 2
4	Marketing Planning & Control Nature, Scope and Contents Of Marketing Plan - Process of planning Concept – Importance- Techniques of control- Annual Plan Control – Profitability Control – Efficiency Control – Strategic Control Marketing Sustainability & Ethics, Green Marketing	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Kotler Philip, "Marketing Management 17th Edition 2015", Prentice Hall of India, New Delhi. 2. Saxena Rajan, "Marketing Management 2nd Edition 2002", Tata McGraw Hill, New Delhi
2	Reference books	1. Kotler, P., (2015) 17th Ed., Marketing Management, Prentice Hall of India, New Delhi. 2. Ferrell, O. C., Hartline, M. D., (2007), 3rd Ed., Marketing Strategy, Thompson Learning, India. Saxena Rajan, "Marketing Management 2nd Edition 2002", Tata McGraw Hill, New Delhi
3	Websites	https://www.ama.org/ https://www.academyofindianmarketing.org/ (Academy of Indian Marketing (AIM) Management Institutions) https://www.ima-india.com/ (https://www.ima-india.com/)
4	Supplementary Reading	Economics Times, Brand Equity Business Standard, The Strategist.
5	Practical Component	1. Student will select any product of their choice and prepare a poster presentation on core concept of Marketing applicable for the product. 2. Student will select any industry of their choice, identify the major companies operating in industry and compare the segmentation strategy used by companies. 3. Group Activity: Students will develop a conceptual new product, identify the target market for the product and develop a marketing plan for the product. 4. Group Activity: Students will prepare an advertisement to promote the conceptual product developed to the target customer.

Semester	I	Total Credits	4
Course Code	EM- 105	Credit Pattern	L=46,T=7, P=7
Course Title	RESEARCH METHODOLOGY		

Course Objectives

1.	To provide an international outlook and assessment of issues relating to the developments and growth in the global, national and micro contexts.
2.	To Develop Analytical skills, for sound understanding of the discipline and analytical ability for research orientations.

Course Outcomes : The students will able to learn:

1.	To Conceptualize a topic of Interest and need to define a problem to be investigated .
2.	Analyze the various methodologies for application to their own research.
3.	Demonstrate applications of the research findings in a meaningful way with validity.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Research Strategies: Empiricism, Deductive and Inductive Inquiry, Philosophical Assumptions in Research. Planning Research Project and Developing Research Questions: Research Thought, Importance, Supervisor, managing Time and Resources, Developing Research Questions Research Design: Reliability, Replicability and validity, Experimental Design, Cross Sectional Design, Case Study Design, Comparative Design Reviewing the Literature for Research: critical reading, systematic review, narrative review, searching online databases, keywords and defining search parameters, referencing, avoiding plagiarism	L=11	
		T=2	P=2
2	Nature of Qualitative Research – Main Steps of Qualitative Research, Reliability and Validity in Qualitative Research, Evaluating Qualitative Research, Credibility, Transferability, Dependability, Confirmability, Preoccupations of Qualitative Researchers, Concepts and theory grounded in data, Critique of Qualitative Research, Contrast and Similarities between Qualitative Research Sampling in Qualitative Research – Levels of Sampling, Purposive Sampling, Theoretical Sampling, Generic Purposive Sampling, Snowball Sampling, Sample Size Determination; Ethnography and Participants Observations, Interviewing in Qualitative Research, Qualitative Data Analysis.	L=12	
		T=2	P=1

3	Introduction to Quantitative Research - Steps in Quantitative Research, Concepts and measurements, Indicators, Reliability of Measures, Stability, Validity of Measures, Connection between Reliability and Validity, Main preoccupants of Quantitative Researchers, Critique of Quantitative Research Sampling in Quantitative Research – Planning a survey, Basic concepts in sampling – population sample, representative sample, sampling bias, probability sample, non – probability sample, sampling error, non – sampling error, Types of probability sample, Types of non – probability sample. Structured Interviewing – Asking questions – open and close ended questions, Self- completion of questionnaires, Quantitative Research using naturally occurring data	L=12	
		T=2	P=2
4	SPSS (Statistical Package for Social Sciences) Statistics – Basic Operations in SPSS, Entering data, Recording and Computing variables, Data Analysis with SPSS, Quantitative Data Analysis – Bivariate analysis, Multivariate analysis. Mixed Method Research – Combining Qualitative and Quantitative Research, Natural Science Model and Qualitative Research, Quantitative Research and Interpretivism, Quantitative Research and Constructionism, Problems with Quantitative/ Qualitative Contrast – behavior vs. meaning, Reciprocal Analysis – Qualitative analysis and Quantitative data, Quantitative analysis of Qualitative data Ethics in Research – Importance of Research Ethics, Ethical principles, Ethical Considerations in Online Research, copyright issues, copyright and photographs, Writing up of Research Project .	L=11	
		T=2	P=2
Learning Resources			
1	Text book	• Bell, E., Bryman, A. & Harley, B. (2019), 2nd Ed., Business Research Methods, Oxford University Press, New Delhi, India • Kothari, C. R. & Garg, G., (2019), 4th Ed., Research Methodology – Methods and Techniques, New Age International Publishers, New Delhi, India • Creswell, J.W., (2014), 3rd Edition, Research Design, Qualitative, Quantitative and Mixed Methods Approaches, Sage Publication, New Delhi, India	

Semester	I	Total Credit	4
Course Code	EM - 106	Credit Pattern	L-45, T-8, P-7
Course Title	INFORMATION TECHNOLOGY FOR MANAGEMENT		
Course Objectives			
1.	To develop students' discipline to manage I.T resources in accordance with business needs.		
2.	To make use of database management system using MS Access.		
3.	To develop the Skill for preparing an effective presentation.		
4.	To understand all aspects of E-Commerce.		
Course Outcomes: Students will be able to;			
1.	Analyze industry data using MS-Excel.		
2.	Develop an effective presentation using software.		
3.	Appreciate importance of IT in Digital Economy.		
4.	Design conceptual models of a database using MS Access for real-life applications and also construct queries, data entry forms using wizard.		

Unit Number	Contents	Number of Sessions	
1	Organizational Performance- I.T. Support and Applications: Concept of I.T., How I.T. supports people and Organizational Activities, Concept of Information Systems (I.S.), Difference between computers and I.S., Doing Business in the Digital Economy, Major I.T. characteristics in Digital Economy, Major capabilities of Computerized Information Systems, Managerial issues in I.T. Management.	L= 11	
		T= 2	P= 2
2	MS- Word- Creating, Formatting, Saving, Printing Documents, Using Visual Aids In Business – Factors To Be Considered Before Creating A Presentation, making presentation using PowerPoint- creating presentation, adding slide, formatting slides, animation, slide transition, adding media, images, charts, tables to presentation, visual media, Designing, setting up the room.	L= 12	
		T= 2	P= 1
3	Data Analysis And Business Module Through Excel – Using Excel Efficiency, Formatting Work Sheet, Naming Cells and Range, Advanced conditional Formatting, Data visualization using Spark lines and Excel Charts, Data , Formula Functions and relative and absolute addressing, SUM, SUMIF, COUNT, COUNTIF, COUNTBLANK Functions, Amortization Tables ,Excel Settings, Basic Data Analysis – Sorting, Summarizing, Filtering, Validating Data, Subtotal	L= 11	
		T= 2	P= 2
4	DBMS and RDBMS, Characteristics Of RDBMS, Role And Responsibilities Of DBA, Using MS Access - Creating A Table, Add and Delete columns Calculation using access, Importing table, Creating query using wizard, Query with relationship, Create Form using Form Wizard, Create reports using report wizard, Computer Network, Network Topologies, Meaning of Network Protocol, Concept of Internet, Intranet and Extranet, e-Commerce– Introduction, Advantages of e-Commerce, Types of e-commerce, e-Governance. Computer Virus- Types of Viruses and remedial measures.	L=11	
		T= 2	P= 2

Learning Resources		
1	Text Books	• Turban, Leidner, McLean, Wetherbe (2013), “Information Technology for Management – Transforming Organizations in the digital Economy”- 6th Edition, John Wiley and Sons. • Humphrey M L, (2019) Microsoft Office
2	Reference books	• Abaunza, Stephany. Microsoft Access User Guide: Effectively Manage All Types Of Databases. Independently published , 2022. • Muthukumern. Information Technology for management. Oxfard Press, 2010. • Ron Plew, Ryan Stephens. Sams Teach Yourself SQL in 21 Days. Sams, 2012. • Schneider, Bob. Hands-On Microsoft Access: A Practical Guide to Improving Your Access Skills. Addison-Wesley Professional, 2010. • Silberchaltz. Database Management System . BPB, 2019.

SEMESTER – II

Semester	II	Total Credit	4
Course Code	EM - 201	Credit Pattern	L-45, T-8, P-7
Course Title	WATER POLLUTION		

Course Objectives

1. Examine the interrelationship between industrial activities and water pollution.
2. Outline the various characteristics and parameters of water for water quality index .
3. Prioritize the scientific, technological, economic and political solutions to waste water treatment.

Course Outcomes: The students will able to

1. Identify sources for surface water, ground water and marine pollution.
2. Analyze parameters and standards for water and waste water.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Water Pollution: Definition, Concept and sources of water pollution. Major Pollution parameters: pH, Solids, Dissolved Oxygen, Chemical Oxygen Demand, Biochemical Oxygen Demand, Trace inorganic, Most Probable Number of Coliform Bacteria. Methods of water sampling, handling and preservation.	L= 11	
		T=2	P=2
2	Characteristics of wastewater generated by industries: pulp and paper, sugar, distillery, textile, dairy, tannery, community (sewage), food processing industry and petrochemical industries.	L= 12	
		T= 2	P=1
3	Eutrophication: Meaning of eutrophication, Causes and effects of eutrophication on water quality. Water quality standards: World Health Organisation, Bureau of Indian Standards (BIS), Indian Council of Medical Research (ICMR).	L= 11	
		T= 2	P= 2
4	Ground Water Pollution, Causes of ground water pollution. Effects of pollutants on ground water table, Path (movement) of pollutants reaching to ground water. Thermal Pollution, concept of thermal pollution, Effects of thermal pollution on water quality and on aquatic flora and fauna. Marine pollution: Causes of marine pollution, Effects of marine pollution on ocean water quality, on marine flora and fauna.	L=11	
		T=2	P= 2

Learning Resources

1	Text Book	• Textbook Of Environmental Science And Technology by REDDY, BSP publishers, 2019 • A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, • A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, • Textbook On Biotechnology by Hd Kumar, Affiliated East-West Press Pvt Ltd, 2003 • Fundamentals of Ecology by Odum, E.P.

		• Environmental Science by Nobel, B.J. and Kormandy, E.J. (1981), The Way the World Works, Prentice-Hall Inc., N.J. • Environmental Science by Turk A., Turk, J. Wittes J.T. and Wittes, R.E. • Environmental Studies by Anindita Basak, 2009, Dorling Kindersley, New Delhi Publication.
2	Reference books	• Environmental Pollution of cadmium by Rohatgi . • Land Pollution, causes and control by Harrusson and Laxon. • Environmental Pollution and Bhopal killing. • Waste Water Treatment by M.N.Rao and A.K. Datta, Oxford and IBH Publication Co. New Delhi, 1978. • Environmental analysis of water, soil air by Saxena. • Water pollution and management by C.K. Vershney. • Responses to oil and chemical marine pollution by Cormack D. (1993), Appl. Science Publishers, New York. • Soil and Water conservation engineering by Schwab, SD, Frevert, RK, Edminster, TW and Barns, KK, John Wiley and Sons. • Analytical chemistry of industrial poisons, Hazards and solvents by Jacons, M.B. (1969) Interscience, New York. • Standard Methods for the Examination of Water and Wastewater (1984): American Public Health Association (APHA, AWWA, WPCF), New York. • Chemical and Biological Methods For Water Pollution Studies by R.K.Trivedy and P.K.Goel, 1984, Environmental publication , Karad, • Water Pollution- Causes, Effects and Control, by P.K.Goel, 1997, New Age Publication, New Delhi.
3	Website	• https://www.lenntech.com/water-pollution-faq.htm • https://www.everythingconnects.org/soil-pollution.html • http://www.fao.org/3/i9183en/i9183en.pdf • https://wwf.panda.org/knowledge_hub/teacher_resources/webfieldtrips/water_pollution/
4	Journals	• Journal of Earth System Science, ISSN No .2253-4126 • Every Thing About Water • Current Science, ISSN No. 0011-3891 • International Journal of Environmental Pollution Control & Management , ISSN No .0975-3842
5	Supplementary reading	• UNEP reports • WHO notifications
6	Practical Component	• Industrial visit to learn water pollution sources • Field visit to water sources

Semester	II	Total Credit	4
Course Code	EM - 202	Credit Pattern	L-45, T-8, P-7
Course Title	WATER AND WASTEWATER ENGINEERING		

Course Objectives

1.	Explain the students the waste water treatments.
2.	Describe the effect and control methods of the effluent and sewage.

Course Outcomes:

1.	Design water treatment plant.
2.	Select appropriate method for water and wastewater treatment.
3.	Grade the existing water and wastewater treatment methods.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Fundamentals of Water Treatment: Flow diagram of general water treatment plant, Water demand, factors affecting water demand, population forecasting, Concept of wastewater flows and variations, Flow measurement and types of notches, Sanitary survey of source, protection of source.	L= 11	
		T=2	P=2
2	Methods of Water Treatment: Unit operation in water treatment: intakes, aeration, Coagulation and flocculation process, common coagulants, Filtration, mechanism of filtration, slow sand, rapid sand and dual media filters, backwashing of filters, Sedimentation, particle settling theory and types of sedimentation tank, Disinfection of water, minor methods of disinfection, ideal disinfectant, Types of hardness and methods of water softening, Iron and manganese removal, fluoridation and de-fluoridation Taste and odor removal .	L= 12	
		T= 2	P=1
3	Waste Water Treatment: General methods of volume and strength reduction of waste water, Flow diagram of general waste water treatment plant, Low cost treatments, stabilization ponds, septic tanks, lagoons. Primary treatments– racks and screens, types of screens, grit removal, types of grit chambers, disposal of grit, oil and grease removal, corrosion, types of corrosion and corrosion control.	L= 11	
		T= 2	P= 2
4	Secondary and Tertiary Treatment Secondary treatments– Trickling filters, types of trickling filters, Activated sludge process, modifications of activated process, Rotating biological contactors, bio-digesters, significance of F/M ratio Tertiary treatment– Wet land and aquatic treatment, Root zone treatment, Reverse osmosis, carbon adsorption, phosphorus removal, nitrogen removal.	L=11	
		T=2	P= 2

Learning Resources

1	Text Book	- Textbook Of Remote Sensing & Geographical Inform. Systems by KALI CHARAN, Atlantic Publisiers, 2018 - Text Book Of Soil Science by PAL, CBS publishers, 2018 - Textbook Of Environmental Science And Technology by REDDY, BSP

		publishers, 2019 • A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 • A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 • Textbook On Biotechnology by Hd Kumar, Affiliated East-West Press Pvt Ltd, 2003 • Fundamentals of Ecology by Odum, E.P. • Environmental Science by Nobel, B.J. and Kormandy, E.J. (1981), The Way the World Works, Prentice-Hall Inc., N.J. • Environmental Science by Turk A., Turk, J. Wittes J.T. and Wittes, R.E. (1978) • Vogel's Textbook of Quantitative Chemical Analysis, 5th edition, J H Basset, J. Nendham and Denny, R.C.
2	Reference books	• Wastewater Engineering Treatment Disposal Reuse, By Metcalf & Eddy, Publisher: Tata-McGraw-Hill Publishing Company Ltd., New Delhi, Fourth Edition, (2010). • A Text Book of Sanitary Engineering, Theory, Design and Practice, By Prof. Vinayak N. Ghorpade, Publisher: Engineering Book Publishing Company, Poona-16 Fourth Edition (1984). • Environmental Engineering: Water Supply, Sanitary Engineering and Pollution, By A. Kamala and D. L. Kanth Rao, Publisher: Tata-Mc. Graw Hill Publishing Company Ltd., New Delhi, (1988). • Fundamentals of Water Supply and Sanitary Engineering, By S. C. Rangwala & K. S. Rangwala, Publisher: Chartor Publishing House, Anand, India, Eleventh Edition, (1986). • Water and Wastewater Technology, By Mark J. Hammer & Mark J. Hammer, Jr., Publisher: Prentice-Hall of India Pvt. Ltd., New Delhi (1998). • Water Supply and Sanitary Engineering Including Environmental Engineering, By G. S. Birdie & J. S. Birdie, Publisher: Dhanpat Rai & Sons, New Delhi, Fifth Edition, (1997).
3	Website	• https://globalhydration.com/waterborne-disease/common-methods-of-water-purification/ • https://www.cdc.gov/healthywater/drinking/public/water_treatment.html • https://www.asce.org/fundamentals-of-water-treatment-processes-physical-chemical-and-biological/ • https://www.organicawater.com/primary-secondary-tertiary-wastewater-treatment-work/
4	Journals	• Current Science, ISSN No. 0011-3891 • Journal of Environmental Biology, ISSN No. 0254-8704 • Resonance, ISSN No. 0971-8044 • Journal of Earth System Science, ISSN No .2253-4126 • Down to Earth
5	Supplementary reading	• CPCB and MPCB reports
6	Practical Component	• Practicals based on this paper will be conducted under Paper No. CC 203 (Practical- II)

Semester	II	Total Credit	4
Course Code	EM - 203	Credit Pattern	L-45, T-8, P-7
Course Title	ORGANIZATIONAL BEHAVIOR AND HUMAN RESOURCE MANAGEMENT		

Course Out Comes: Students will be able to

1.	To study individual and group perspectives of behavior in an organization.
2.	To develop skills in understanding and appreciating individual, inter-personal and group process for increased effectiveness, both within and outside organizations
3.	To enable student to gain insights for effectively managing human resource in the organization
4.	To design and implement different HR functions covered in the course.

Course Outcomes: Students Will Be Able To;

1.	Demonstrate a thorough knowledge of organizational behavior.
2.	Apply relevant contemporary theories, concepts and models in order to analyse organizational environment, cases and issues.
3.	Identify the wide range of sources for attracting and recruiting talent and appropriate process for selecting candidates
4.	Conduct job analysis interview develop job descriptions and job specifications, conduct performance appraisal
5.	Develop, implement and evaluate employee orientation, training and development programs.

Unit Number	Contents	Number of Sessions	
1	Definition and Importance of OB, Perception – Definition, Importance and Factors Influencing Perception, Motivation: Definition, Theories in Motivation- Maslow, Theory X and Y, Z Theory. Individual Perspective: Personality – Determinants of personality, Theories of personality- Type A and B, Big five, Locus of control.	L= 12	
		T= 2	P= 1
2	Attitude – Characteristics, Components, Formation, Concept of Values. Concept of Groups, Stages in Group Development, Types of power, Power and Politics. Human Resource Management- Meaning, Objectives, Scope, Functions, Job Analysis- Job Description and Job Specification.	L= 11	
		T= 2	P=2
3	Concept of Human Resource Planning and importance, Recruitment- Definition, Sources of Recruitment, Employee Selection Process. Training and development- Methods of training and development.	L= 11	
		T= 2	P= 2
4	Performance Appraisal- Methods of Performance Appraisal, Problems in Performance Appraisals and solutions, Factors to be considered for Fixing Compensation, Employee Health, Safety and Welfare.	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Reference books	1. David A. Decenzo, Stephen P. Robbins, Personnel / HRM (3rd Edition), Prentice Hall Of India, New Delhi. 2. Fred Luthans, Organisational Behavior, McGraw Hill, 11th Edition, 2001. 3. Hellrigal, Slocum and Woodman, Organisational Behavior, Cengage Learning, 11th Edition 2007. 4. Ivancevich, Konopaske&Maheson, OranisationlBehaviour& Management, 7th edition, Tata McGraw Hill, 2008. 5. Mc Shane & Von Glinov, OrganisationalBehaviour, 4th Edition, Tata McGraw Hill, 2007. 6. Schermerhorn, Hunt and Osborn, Organisational behavior, John Wiley, 9th Edition, 2008. 7. P G Aquinas, Organisational Behaviour : concepts, realities, applications and challenges, Excel Books. 8. Gary Dessler, Human Resource Management Prentice Hall Of India, New Delhi, Tenth Edition. 9. Bohlander And Snell, Managing Human Resources 13th Edition, Thomson –South Western.
2	Journals	1. IUP Journal of Organisational Behavior 2. Indian Journal of Training and Development 3. Indian Journal of Human Development

Semester	II	Total Credit	2
Course Code	EM - 204	Credit Pattern	L-22, T-4 , P-4
Course Title	BUSINESS LAWS		
Course Objectives			
1.	To enable students to appreciate the relevance of business law to individuals and businesses.		
2.	To equip students with knowledge needed to manage business successfully from legal point of view.		
Course Outcomes: Students will be able to;			
1.	Explain the legal principles of Business Laws.		
2.	To solve legal issues of Business.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	A) Indian Contract Act – 1872: Meaning and sources of law, Definition of contract and essential elements of a valid contract, Modes of discharge of contract, Remedies for breach of contract. B) The Sale of Goods Act – 1932: Definition of Sale, essentials of a valid Sale, Conditions and Warranties, caveat emptor, passing of property, Unpaid seller. C) Consumer Protection Act – 1986: Definition of consumer, complaint, complainant, unfair trade practice, Consumer dispute Redressal Agencies. (15)	L= 11	
		T=1	P=3
2	A) The Companies Act – 2013: Definition of company, kinds of companies, Memorandum of Association, Articles of Association, Boards of Directors: duties and powers, Meetings in a company, Winding up. B) Information Technology Act – 2008: Objectives of IT Act, Digital Signature, E-Governance, Controller, Certifying authority, offences and penalties. C) The Negotiable Instrument Act – 1881: Definition and characteristics of NI, kinds of Negotiable Instruments, Holder and holder in due course, Crossing of Cheque, Discharge of Negotiable Instruments. (15)	L= 11	
		T= 1	P= 3

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.

Learning Resources		
1	Text Books	1. Mercantile Law by N. D. Kapoor 2. Business Law by S. S. Gulshan & G. K. Kapoor
2	Reference books	1. Business Law by Kuchhal M. C. 2. Business Law by K. R. Bulchandani
3	Websites	1. www.lawctopus.com 2. https://indiacorplaw.in
4	Journals	1. India Law Journal 2. Corporate Law reporter 3. India Business Law Journal- Delhi High Court 4. IOSR Journals
5	Supplementary Reading	1. Bare Acts on Consumer Protection Act 1986 2. Bare Act on Information Technology Act 2008
6	Practical Components	1. Case studies to be discussed on all the above topics 2. Seminars to be conducted on the above topics

	II	Total Credit	4
Course Code	EM - 205	Credit Pattern	L-45, T-8, P-7
Course Title	BUSINESS STATISTICS		
Course Outcomes: Students will be able to;			
1.	Provide solution to management decision problems.		
2.	Analyze company/organization data for taking decisions.		
3.	Interpret the relevance of statistical findings for business problem solving and decision making.		
4.	Evaluate the data collected for management decision and provide inference towards it.		
Unit Number	Contents		
1	Measures of Central Tendency: Introduction, Objectives of statistical average, Requisites of a Good Average, Statistical Averages - Arithmetic Mean - Properties of arithmetic mean - Merits and demerits of arithmetic mean, Median - Merits and demerits of median, Mode - Merits and demerits of mode, Measures of Dispersion: Appropriate Situations for the Use of Various Averages, Positional Averages, Dispersion – Range - Quartile deviations, Standard Deviation -Properties of standard deviation, Coefficient of Variation.		L= 11, T 2, P 2
2	Simple Correlation: Introduction , Correlation - Causation and Correlation - Types of Correlation - Scatter diagram - Karl Pearson’s correlation coefficient - Properties of Karl Pearson’s correlation coefficient, Spearman’s Rank Correlation Coefficient Regression: Regression analysis - Regression lines - Regression coefficient, Testing of Hypothesis: Introduction, Simple & Composite, Null & Alternate Hypothesis, Type I and Type II Error, Level of Significance, One Tail & Two Tail, General Procedure of Testing of Hypothesis,		L = 11, T 2, P 2
3	Parametric Tests: Introduction – Assumptions of Parametric Tests, Small Sample t - Test for – Single Sample Mean, Two Sample Means, Single Sample Proportion, Two Sample Proportions. Paired Sample t-Test, Large Sample - Z-Test for - Single Sample Mean, Two Sample Means, Single Sample Proportion, Two Sample Proportions,		L = 12, T 1, P 2
4	Non-Parametric Tests: Introduction – Assumptions of Non-Parametric Tests, – Chi Square Test of Goodness of Fit, Chi-Square Test for Independence of Attributes, One Sample Sign Test, Two Sample Sign Tests, Signed Rank Test, Wilcoxon Mann-Whitney Test (U-Test), Kruskal Wallis Test (H-Test),		L = 11, T 2, P 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. S C Gupta, Fundamentals of Statistics 2. S C Gupta, Business Statistics 3. C R Kothari, Research Methodology – Methods Techniques
2	Reference books	1. N D Vohra, <i>Business Statistics</i>, Tata McGraw Hill 2. G C Beri, <i>Business Statistics</i>, Tata McGraw Hill 3. Devid M Levine etc, <i>Business Statistics – A First Course</i>, Pearson Publication. 4. Ken Black, <i>Business Statistics For Contemporary Decision Making</i>, Wiley 5. Albright, Winston, Zappe, <i>Decision Making Using Microsoft Excel</i>, Cengage Learning.
3	Journals	1. Journal of Indian Business Research 2. International Journal of Statistics & Management Systems 3. International Journal of Statistics and Analysis 4. Calcutta Statistical Association Bulletin 5. Vikalpa: The Journal for Decision Makers
4	Websites	1. www.stattrek.com 2. www.statisticsbyjim.com
5	Supplementary Reading	Glyn Davis & Branko Pecar, <i>Business Statistics Using Excel</i> , Oxford University Press.
6	Practical Component	1. Analyzing collected raw data or online available data. 2. Finding relations among two or more variables and fitting regression equation to predict value of dependent variables.

Semester	II	Total Credit	4
Course Code	EM - 206	Credit Pattern	L-45, T-7, P-8
Course Title	ENVIRONMENTAL MICROBIOLOGY & BIOTECHNOLOGY		
Course Objectives: Equip students with the ability to:			
1.	Equip the students with the application of bio-technology to all Aspects of the Environment.		
2.	Implement the Concept of Green Chemistry for Eco-friendly improved Production technology.		
Course Outcomes: After completion of this course students will have capacity to			
1.	Describe the importance of microbial diversity, beneficial and harmful properties of MOs with potential applications in the innovative environmental management technologies		
2.	Describe and apply existing and emerging technologies like <i>in-situ</i> , <i>ex-situ</i> , & engineered bioremediation, phyto-remediation that are important in the area of environmental clean up / pollution & forest management.		
3.	Demonstrate an awareness about emerging concerns of reductions in fossil fuels through new biotechnological interventions in the harnessing renewable biomass energy.		
4.	Describe and apply biotechnological solutions like bio-plastics, bio-fertilizers, bio-pesticides, bio-mining, biosensors to address present environmental concerns.		

Unit Number	Contents	Number of Sessions	
1	Introduction to the world of microbes & History, Types of Microbes & Microbial structure, Harms & Benefits of MOs with their Environmental Significance. Modern Environmental Microbiology, Microbial Diversity and Metabolism. Microbial Nutrition, Media components, & Media Preparations, Classification of microorganisms according to Nutrition, Enrichment culture technique for the isolation of desired types of microorganism.	L= 11	
		T=2	P=2
2	Microbial population and community dynamics, Microbial growth in closed and open environments, Binary Fission, Generation Time, Growth Curve. Factors Affecting Microbial Growth:- pH, Temperature, Salinity, Moisture Content, Radiation, Heavy Metals, Toxic chemicals etc. Concept & Importance of Pure Culture, Methods of Isolation of Pure Culture Enumeration of MOs in Environmental Samples by Direct and Indirect Methods, Biosafety of GMOs.	L= 11	
		T= 2	P=2
3	Concept and Terminologies in Environmental Biotechnology, Biotechnological approach of environmental pollution abatement, Bioremediation of contaminated sites, <i>in situ</i> , <i>ex situ</i> and engineered, Solid Phase – Composting, Slurry Phase- Bioreactors, Phyto-remediation- Organic & Metal Phyto-remediation, Construction of Wet lands, Rotating Biological Contactors, Biotechnology in the Energy Management, Biomass Energy, Resources, Energy Crops, Biomass Conversion Technologies- Production & Scope of Liquid Fuel, Production & Scope of Biogas, Production & Scope of Biodiesel.	L= 12	
		T= 2	P= 1
4	Biotechnology and Forest Management, Micro-propagation, Artificial Seeds, Plant Improvement, Industrial Biotechnology- Microbes & Industries, Concept of Green chemistry, Immobilized Enzymes for Green Chemistry, Biopolymers and Bioplastics, Bioleaching and Biomining, Biofertilizers, Biosensors, Biofilms, Biosurfactants.	L=11	
		T=2	P= 2

Learning Resources

1	Text Book	• General Microbiology By: SB Sullia & S Shantharam. Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi (1998). • Environmental Biotechnology, Buddolla, Narosa • Environmental Biotechnology, Allen, CBS • Environmental Biotechnology, Fulekar, CRC • Environmental Biotechnology, Scragg, Oxford • Essentials of Biotechnology, Michael Chrichton, MEDTEC • Biotechnology, Smith, Cambridge • Textbook On Biotechnology by Hd Kumar, Affiliated East-West Press Pvt Ltd, 2003 • Fundamentals of Ecology by Odum, E.P. • Environmental Science by Nobel, B.J. and Kormandy, E.J. (1981), The Way the World Works, Prentice-Hall Inc., N.J. • Environmental Science by Turk A., Turk, J. Wittes J.T. and Wittes, R.E. (1978) • Environmental Studies by Anindita Basak, 2009, Dorling Kindersley, New Delhi Publication. • Vogel's Textbook of Quantitative Chemical Analysis, 5th edition, J H Basset, J. Nendham and Denny, R.C.
2	Reference books	• Microbiology By: Michael J Pelczar, Jr; ECS Chan & NR Krieg. Tata McGraw-Hill Edition, New Delhi (1998). • Principles of Microbiology By: Ronald M Atlas 2nd Edn, WCB McGraw-Hill, Boston (1997). • General Microbiology By: RY Stanier, JL Ingraham, ML Wheelis & PR Painter. 5th Edn Macmillan Press Ltd., London (1995). • Microbial Ecology – Fundamentals and Application By: Ronald M Atlas & Richard Bartha. 4th Edn. An Imprint of Addison Wesley Longman, Inc. California (1998). • Microbiology: Fundamentals and Applications By: SS Purohit. 6th Edn. Agro Botanica (1997-98). • Microbiology – Diversity, Disease & Environment By: Abigail A Salyers & Dixie D Whitt. Fitzgerald Science Press, Maryland (2001). • Industrial Microbiology – An Introduction y: Michael J Waites, Neil L Morgan, John S Rockey & Gary Higton. Blackwell Science, London (2002). • Microbiology – A Laboratory Manual (International Students Edition) By: James G Cappuccina & Natalie Sherman. Addison – Wesley Longman, Inc. California (1990). • Renewable Energy, Power for Sustainable Future, Third Edition, Godfrey Boyle, Oxford University Press, (2014). • Environmental Bio-Technology, Second edition , A K Chatterji, Prentice Hall of India Pvt. Ltd., (2007). • Environmental Biotechnology, K Allen , CBS Publishers & Distributers, (2016). • Environmental Biotechnology-Basic Concepts & Applications, Indu Shekhar Thakur, I K International Pvt. Ltd., (2006).

		• Environmental Biotechnology (Industrial Pollution Management), S N Jogdand, Himalaya Publishing House,(2012). • Green Chemistry,Environmentally Benign Reactions, V K Ahluwalia,Ane Books Pvt. Ltd2016).
3	Website	• https://www.britannica.com/technology/biotechnology • https://en.wikipedia.org/wiki/History_of_biotechnology
4	Journals	• International Journal of Environmental Pollution Control & Management , ISSN No .0975-3842 • Journal of Biosciences, ISSN No. 0250-5991 • Journal of Environmental Biology, ISSN No. 0254-8704 • Resonance, ISSN No. 0971-8044 • Current Science, ISSN No. 0011-3891
5	Practical Component	• Practicals based on this paper will be conducted under Paper No. CC 203 (Practical- II)

Semester	II	Total Credit	4
Course Code	EM - 207	Credit Pattern	L-45, T-7, P-8
Course Title	ENERGY RESOURCE MANAGEMENT AND ENVIRONMENTAL TOXICOLOGY		
Course Objectives: Equip students with the ability to:			
1.	Equip with an ability to rephrase the concept and significance of energy resources.		
2.	Summarize the concept and significance of environmental toxicology.		
Course Outcomes: Students will be able to			
1.	Identify and compare various forms and energy resources.		
2.	Compare and contrast conventional and non conventional energy sources and relate technologies for harnessing renewable energy resources.		
3.	Identify and evaluate the toxic chemicals, mutagens, carcinogens and their relationships between exposure and dose-response relationships.		
4.	Evaluate effects on living/physiological systems like neurotoxicity, nephro-toxicity, hepato-toxicity, and reproductive toxicity.		

Unit Number	Contents	Number of Sessions	
1	ENERGY RESOURCE MANAGEMENT Basics of Energy and its various forms, Energy: Energy; work and power, first and second law of thermodynamics, concept of entropy, Energy, Environment and Economics of Development: Resources of energy and energy use pattern in different parts of the world, Indian energy scenario for domestic, agriculture, transport and industrial sector and its impact on the environment.	L= 11	
		T=2	P=2
2	Conventional Energy Sources and Technology: Coal, lignite; petroleum, natural gas, cracking of petroleum, furnace, boiler, turbines, fluidized bed, nuclear energy: fission and fusion energy, Renewable Energy Technology: Solar energy, Wind energy, Ocean energy, Geo-thermal energy, Hydel energy, Biomass Energy, bio-conversion technology, energy recovery from wastes, and environmental impacts of large scale exploitation of renewable energy. Energy Conservation and Energy Economics: Energy analysis: Capital recovery factor, Levelised annual cost, Economic analysis of wind electric generation and thermal power systems.	L= 12	
		T= 2	P=1
3	ENVIRONMENTAL TOXICOLOGY Toxicology - Scope, Definition, Evaluation of toxicity - routes of exposure; Acute, sub acute, chronic toxicity; LC50/LD50/NOEL - concepts and significance, their estimation, Some organ specific toxicity Studies- Neurotoxicity, Nephrotoxicity, Hepatotoxicity, Reproductive toxicity.	L= 11	
		T= 2	P= 2
4	Genotoxicity - Mutations, mutagenic agents, Toxic agents in environment: pesticides, agrochemicals, industrial chemicals, food additives, Safety regulations, legal control.	L=11	
		T=2	P= 2

Learning Resources		
1	Text Books	• A Text book of Forest Texanomy, Singh & Nair, Anmol Publication. • A Text Book of Plant pathology, Sambamurty, I K Intarnetional. • A Text Book Environmental Studies, Chatawal & Sharma, HPH • A Text Book Environmental Science, Joshi & Joshi, APH

		• A Text Book of Environmental Studies, Nambiar, STP • A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 • Textbook Of Environmental Science And Technology by REDDY, BSP publishers, 2019 • Park Textbook of Preventive and Social Medicine, Park Bhanot, Twenty Third edition.
2	Reference Books	• Alternative Energy Resources: The Quest for Sustainable Energy, Paul Kruger. • Wiley, 2006, ISBN 0471772089 • Non Conventional Energy Resources, B.H Khan, Tata McGraw-Hill Education. ISBN 1259081397 • Energy Resources: Availability, Management, and Environmental Impacts, Kenneth J. Skipka, Louis Theodore, CRC Press, 2014 ISBN 1466517417. • Renewable and Alternative Energy Resources: A Reference Handbook Contemporary world issues, Zachary Alden Smith, Katrina D. Taylor, ABC-CLIO, 2008 ISBN 1598840894. • Energy Security and Economic Development in India: a holistic approach, Bala Bhaskar, TERI Press. • Energy Resources Survey in India, Allied Publishers Pvt. Ltd. (1995) • Desai, A. V.: Energy Economics, Wiley Eastern, Bombay. • Tyner, W.E.: Energy Resources and Economic Development in India, Allied Pub. Pvt. Ltd. • Mital, K.M. 1997: Non-conventional Energy System, Wheeler Publishers, New Delhi. • Pachauri, R. K.: Energy, Environment and Development, Vol. I & II, Har Anand Pub. Pvt. Ltd. • Varadarajan, D. B.: Energy Economics, Sterling Publishers. • Edward H. Thorndike, Energy & Environment: A Primer for Scientists and Engineers, Addition-Wesley Publishing Company, Reading, 1976. • Handbook of Toxicology, Third Edition, Michael J. Derelanko, Carol S. Auletta Publisher CRC Press, 2014 ISBN 143989014. • Casarett & Doull's Toxicology: The Basic Science Of Poisons, Curtis Klaassen, Graw Hill Education/Exclusively distd . By Jaypee; 8 edition (2013) • Casarett & Doull's Essentials of Toxicology, Third Edition (Casarett and Doull's Essentials of Toxicology), Curtis Klaassen & John Watkins, McGraw-Hill Education. • Principles and Practice of Toxicology in Public Health Ira S. Richards Jones and Bartlett Publishers • Understanding Environmental Health Nancy Irwin Maxwell (Author) Jones and Bartlett Publishers, Inc.
3	Websites	• https://mnre.gov.in • https://en.wikipedia.org/wiki/Renewable_energy • https://en.wikipedia.org/wiki/Environmental_toxicology • https://www.britannica.com/science/environmental-toxicology • https://openoregon.pressbooks.pub/envirobiology/chapter/6-3-

		environmental-toxicology/
4	Journals	• Current Science, ISSN No. 0011-3891 • Down to Earth • Journal of Biosciences, ISSN No. 0250-5991 • Journal of Environmental Biology, ISSN No. 0254-8704 • Resonance, ISSN No. 0971-8044 • Journal of Earth System Science, ISSN No .2253-4126
5	Practical Component	Practicals based on this paper will be conducted under Paper No. CC 203 (Practical- II)

Semester	II	Total Credit	4
Course Code	EM - 208	Credit Pattern	L-45, T-7, P-8
Course Title	DISASTER MANAGEMENT		
Course Objectives: Equip students with the ability to:			
1.	Understand the concept and significance of disasters.		
2.	Interpret the causes, effects and control measures of disasters.		
Course Outcomes: After completion of this course students will have capacity to			
1.	Recognize the various global and regional environmental concerns due to natural causes and/or human activities, and the impact of these on various forms of life .		
2.	Obtain and communicate information on risks, relief needs and lessons learned from earlier disasters in order to formulate strategies for mitigation in future scenarios.		
3.	Describe and evaluate the environmental, social, economic, legal and organizational aspects influencing vulnerabilities and capacities to face disasters.		
4.	Relate theoretically and practically in the processes of disaster management (disaster risk reduction, response, and recovery).		

Unit Number	Contents	Number of Sessions	
1	Definition of hazard and Disaster, Fundamentals of disasters, Classification of disasters, Disaster Management Act, 2005. Disaster Management - Pre-disaster Planning, Planning During Disaster, Post- Disaster Planning.	L= 11	
		T=2	P=2
2	Natural and Man-made disasters – causes, effects and control Earthquakes, Floods, Droughts, Landslides, Cyclones, Storms, Tornadoes, Coastal & Marine disasters, Air, Water, Road & Rail and Nuclear disasters .	L= 11	
		T= 2	P=2
3	Concept of disaster management, Disaster Management Cycle, Hazard vulnerability, Hazard Zoning, Physical & Biological indicators of hazard, Risk Assessment & Hazard Preparedness Plan, collection of data for preparation of hazard preparedness plan.	L= 11	
		T= 2	P= 2
4	Role of various organizations - District Disaster Management Committee, National Disaster Management Authority (NDMA), NDRF, Non-Governmental Organisations, Military.	L=12	
		T=2	P= 1

Learning Resources

1	Text Books	- Textbook Of Environmental Science And Technology by REDDY, BSP publishers, 2019 - A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 - A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 - A Text Book of Ecology, Tyler Miller, Cengage Learning - A Text Book Environmental Studies, Chatawal & Sharma, HPH - A Text Book Environmental Science, Joshi & Joshi, APH - A Text Book of Environmatal Studies, Nambiar, STP

2	Reference books	• Nuclear Accidents (Man Made Disasters) Mark Mayell Publisher: Lucent Books. • Management of Man-made Disasters, S. L. Goel, Motilal Banarsidass Publishers Private Limited, New Delhi. • Handbook of Pollution Control Processes By: Robert Noyes. Jaico Publishing House, Mumbai (2003). • Fire & Explosion Hazards Handbook of Industrial Chemicals By: TA Davletshina & NP Cheremisinoff, Noyes Publications, Mumbai (2003). • Environmental Geology by K. Valdiya, Tata McGraw Hill Publishing Co. • Perspectives on Environment by I.R. Manners, M.W. Micksell. • Our Planet, Our Health by WHO (1992). • Report of the Panel on Industry by WHO (1992). • Natural Disasters, Author: Claire Watts / Trevor DayPublisher: Dk Publishing, ISBN: 9781465438096. • Environmental Biology by K.C. Agarwal . • Resource Book on Chemical (Industrial) Disaster Management, http://nidm.gov.in/PDF/pubs/chemical_mdc.pdf
3	Websites	• Directory of Institutions and Resource Persons for Landslide Management In India • http://nidm.gov.in/PDF/pubs/directory%20landslide.pdf • https://www.ifrc.org/en/what-we-do/disaster-management/about-disaster-management/ • https://en.wikipedia.org/wiki/Disaster_management_in_India
4	Journals	• Current Science, ISSN No. 0011-3891 • Down to Earth • Journal of Biosciences, ISSN No. 0250-5991 • Journal of Environmental Biology, ISSN No. 0254-8704 • Resonance, ISSN No. 0971-8044 • Journal of Earth System Science, ISSN No .2253-4126 • Industrial Safety Chronicle • International Journal of Environmental Engineering Science, ISSN No .2229-3094
5	Supplementary Reading	• News Paper • Case studies of various disasters • Report of Bhopal Gas Tragedy
6	Practical Component	• Mock drill for various disaster

Semester	II	Total Credit	2
Course Code	EM - 209	Credit Pattern	L-0, T-15, P-15
Course Title	FIELD PROJET		

Course Objectives

1	It is an academic requirement for the students of M.B.A (Environment Mgt.) to undergo Field project for a period of minimum one month during May & June (Summer Vacations) by working & learning from Industry/Organization to gain an experience in the real world situation.

Course Outcomes: After completion of this SIP students will have capability to

1	Select and defend a topic of their Field project and effectively plan, execute, evaluate and discuss their innovative ideas and experiments.
2	Identify systematically the relevant theory and concepts, and relate these to appropriate methodologies and evidences.
3	Apply appropriate techniques and draw appropriate conclusions, develop communication and interpersonal skills.
4	Propose and present scientific approach to solve the problem. Interpret, discuss and communicate scientific results in written form.

Syllabus:

Sr. No.	Contents	Number of Sessions	
1	They will study the working environmental conditions & problems in the organization. Areas for Field Project are- 1 Waste Water Treatment Plant 2. Solid Waste Management Plant 3. Vermicomposting Plant 4. Dairy Industry 5. Textile Industry 6. Sugar Industry 7. Aquatic ecosystem 8. Common Effluent Treatment Plant, 9. Forest Ecosystem 10. Tannery Industry, 11. Wildlife Century 11. Biomedical Waste Management Plant 12. Pesticide Industry 13. Botanical Garden, 14. Agriculture College	L= 0	
		T=15	P=45

Semester	II	Total Credit	4
Course Code	EM - 210	Credit Pattern	L-30, T-0, P-90
Course Title	PRACTICAL - I		

Course Objectives

1. The students should know the experimental procedures for analysis of environmental samples.

Course Outcomes: The students will able to

1. Relate and demonstrate the basic laboratory instruments used in environmental analysis and understand the principle of measurements using those instruments.
2. Identify and describe steps that are included in analysis, like sampling, sample processing, removal of interferences, detection of component of interest and data evaluation.
3. Utilize the technical skills for air sampling, using high volume sampler.
4. Determine water pollution levels using appropriate methodology/ instrumentation.
5. Perceive skills in analytical techniques/experimental for BOD, COD measurements.
6. Interpret the experimental results to study water pollution levels.
7. Apply Screening of microbial cultures in the different areas of environment management and for further entrepreneurship development.
8. Designing & Maintenance of water and waste water treatment plant.
9. Evaluate dispersal of air pollutants by drawing wind rose diagram.
10. Determine water pollution levels using appropriate methodology/ instrumentation.

Syllabus:

Sr. No.	Title	Number of Sessions	
1	Acid Base Titration (Standardization).	L= 15	
2	Determine Na & K from water sample.	T=0	P=45
3	Estimation of Oxides of Nitrogen from ambient air.		
4	Estimation of Sulphur dioxide from ambient air.		
5	Estimation of Nitrate from water using UV-VIS spectrophotometer.		
6	Determine Permanganate Value of water sample.		
7	Estimation of Total hardness, Calcium & Magnesium of water sample.		
8	Estimation of SPM & RPM by using HVS.		
9	Determination of Chlorides, Total Alkalinity, Carbonates & bicarbonates from water sample.		
10	Estimation of pH & EC from given water sample.		
11	Determination of Do & CO ₂ in water & wastewater sample.		
12	Determination of COD from wastewater sample.		
13	Determination of BOD from wastewater sample.		
14	Estimate suitable coagulant dose of water sample using Jar Test.		
15	Determine MPN from water sample.		
16	Determine Residual chlorine & Bleaching Powder Analysis of water sample.		
17	Determine Chlorine dose to a given water sample.		
18	Determine Oil & Grease from water sample.		

19	Determine TS,TDS,TSS from water sample.	
20	Design of Physical unit.	
21	Determination of H ₂ S from wastewater sample.	
22	Determine Inorganic phosphorus in water sample.	
23	Determination Sulphate in water sample.	
24	Determination Hexavalent Chromium in water sample.	
25	Determination of Cultural Characteristics of Microorganisms.	
26	Estimate Standard Plate Count of microorganisms.	
27	Isolation of pure culture of microorganisms.	
28	Determination of Nitrite in water sample.	
29	Estimation of Turbidity of Water sample.	
30	Determination of Boron in the water sample.	
31	Draw Windrose Diagram using wind data.	
32	Examine Gram Staining of bacterial culture.	
33	Demonstration of Motility of bacteria.	
34	Estimation of GPP, NPP of water sample.	
35	Determination of acidity and alkalinity of water sample.	

Learning Resources

1	Reference books	• Water & WasteWater analysis : Dr. R.K. Trivedy & Dr. P.K.Goel • Standard Methods of water & Waste water analysis: APHA • Hand book of Methods in Environmental Studies (Vol.I) : S.K.Maiti • Hand book of Methods in Environmental Studies (Vol.II) : S.K.Maiti • A text book of Soil analysis : Baruah & Barthakur

SEMESTER- III

Semester	III	Total Credit	4
Course Code	EM - 301	Credit Pattern	L-46, T-8, P-6
Course Title	SOLID AND HAZARDOUS WASTE MANAGEMENT		

Course Objectives

1. Illustrate the procedures and practices for Solid Waste Management.
2. Interpret the methods of collection, transportation and disposal of Municipal Solid Waste.

Course Outcomes: The students will able to;

1. Estimate the suitable methods for Solid Waste Management.
2. Compare between the various categories of Solid Waste as per the regulations.
3. Prioritize the appropriate plan for handling and disposal of Hazardous Waste.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Solid Waste Management: Need of solid waste management; Types of solid waste: biodegradable, Industrial solid waste: pulp and paper, sugar, thermal power station, food processing, textile, urban and agricultural. Solid waste treatment: Compaction, dewatering, briquetting, size reduction, separation of organic and inorganic i.e. removal of metals like iron.	L=11	
		T= 2	P= 2
2.	Solid waste disposal methods – Solid waste reuse: Recycling and recovery Solid waste energy recovering, incineration, pyrolysis, biogas generation Solid waste as a source of raw material i.e. light weight bricks from fly ash, composting, etc. Urban Solid Waste: Changing scenario with development, collection, transport & disposal; Separation of waste at source of generation for recovery of plastic, paper & metal, etc.	L= 12	
		T= 2	P= 1
3.	Operation and Maintenance of Effluent Treatment Plant: Operation and monitoring of waste treatment units including primary, secondary and tertiary for industries viz., sugar, pulp and paper, dairy, textile and distillery, Concept of common effluent Treatment Plant (CEPT) Sludge Management. Sewage sludge, industrial sludge, primary and secondary sludge dewatering of sludge, conditioning, Compressible and non-compressible sludge, filtration, filtration aids, Dewatering aids, thickening, centrifugation & drying.	L= 12	
		T= 2	P=1
4.	Hazards and Toxic Waste Management: Sources, characteristics, handling and disposal methods safe to environment Radioactive and Medical waste management. Management of toxic industrial chemicals: Insecticides, cyanide, caustic soda, chlorine, etc. for industries viz. insecticides, caustic soda, chlorine plants, etc.	L=11	
		T= 2	P= 2

Learning Resources		
1	Text Books	• Vogel's Textbook of Quantitative Chemical Analysis, 5th edition, J H Basett, J. Nendham and Denny, R.C. • Textbook Of Environmental Science And Technology by REDDY, BSP publishers, 2019 • A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 • Textbook On Biotechnology by H D Kumar, Affiliated East-West Press Pvt Ltd, 2003
2	Reference books	• A Text Book of Environmental Chemistry & Pollution Control, Dara, Chand • A Text Book of Green Chemistry, Ahluwalia, Narosa • A Text Book of Engineering Chemistry, Dara, Chand
3	Websites	• Integrated Solid Waste Management – Engineering Principles & Management By: Issues by George Tchobanoglous, Hilary Theisen & Samuel A Vigil. McGraw-Hill International Editions, New York (1993). • Solid Waste Management in Developing Countries By: AD Bhide & BB Sunderesan. Indian National Scientific Documentation Centre, New Delhi (1983). • Solid Waste Engineering By: PA Vesilind, William Worrell & R. Thomas Brooks/Cole, Australia (2002). • Infectious Waste Management By: Frank L Cross Jr, Howard E Hesketh, P Kay Rykowski. Technomic Publishing Co Inc. Lancaster, Basel (1990). • Basics of Solid and Hazardous Waste Management Technology By: K.L Shah. Prentice Hall, Ohio (2000). • Industrial and Hazardous Wastes – Health Impacts & Management Plans By: Rajiv K Sinha & Sunil Heart. Pointer Publishers, Jaipur (2004). • Hazardous Waste Management By: MD LaGrega, PL Buckingham, JC Evans & Environmental Resources Management, McGraw-Hill International Edn. Boston (2001).
4	Journals	• http://mpcb.gov.in/images/pdf/part.pdf • https://www.britannica.com/technology/solid-waste-management • https://nptel.ac.in/courses/120108005/module9/lecture9.pdf • https://iwa-network.org/groups/sludge-management/ • http://mimoza.marmara.edu.tr/~orhan.gokyay/enve425/ch1.pdf
5	Supplementary Reading	• Current Science, ISSN No. 0011-3891 • Every Thing About Water • Industrial Safety Chronicle • International Journal of Environmental Engineering Science, ISSN No .2229-3094 • International Journal of Environmental Pollution Control & Management , ISSN No .0975-3842
6	Practical Component	• Manual of handling of hazardous waste • Case studies of waste management
		Practicals based on this paper will be conducted under Paper No. CC 203 (Practical- III)

Semester	III	Total Credit	2
Course Code	EM-302	Credit Pattern	L-22, T-4, P-4
Course Title	CORPORATE ENVIRONMENTAL STRATEGIES		
Course Objectives:			
1	Understand concept and signifiance of corporate environmental strategies.		
2	Interpret concept and signifiance of Environnental Education.		
Course Outcomes: Students will be able to;			
1	Critique CSR for perticular industry.		
2	Relate various international strategies with national strategies.		
3	Appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems.		
4	Understand International efforts for Environment Protection		

Unit Number	Contents		
1	Corporate Environmental Strategies : International efforts for environmental protection : United Nations Environmental Programme (UNEP), International Union for Conservation of Nature & Natural Resources (IUCN), World Wide Fund for Nature (WWF), Stockholm Conference. Rio Conference, Agenda 21, UNFCCC, IPCC, Basel convention; Montreal Protocol, Paris Agreement-2015 etc.	L-11	
		T-2	P-2
2	Business strategy, Marketing strategy, Green marketing, Eco-labelling, Operation of Eco-mark Scheme of Govt. of India, Criteria for eco-mark, Status of eco-mark development, World Trade organization(WTO), General agreement on trade in services (GATS). Global Warming Potential (GWP), Clean development Mechanism (CDM), Corporate Social Responsibility.	L-11	
		T-2	P-2

Learning Resources		
1	Text Books	• A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 • A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 • A Text book of Extension Education, S V Supe, ATPA • A Text book of Agricultural Biotechnology, Ahindra Nag, PHI • A Text Book of Green Chemistry, Ahluwalia, Narosa • A Text Book Environmental Studies, Chatawal & Sharma, HPH • A Text Book Environmental Science, Joshi & Joshi, APH
2	Reference books	• Environmental Management Strategies: The 21st Century Perspective Volume 5 Corporate Environmental Strategy: The Avalanche of Change Since Bhopal Bruce Piasecki Wiley. • Environmental Strategies for Industry: International Perspectives On Research Needs And Policy Implications Corporate Environmental Strategy and Competitive Advantage (New Perspectives in Research on Corporate Sustainability Series) • Environmental Management, N K Uberoi, Published by Excel Books. Publishing House, 2nd Revised edition edition, 2005.

3	Website	• https://unfccc.int/ • https://sustainabledevelopment.un.org/milestones/unced • http://www.ijpmbs.com/uploadfile/2015/0412/20150412030122401.pdf • https://www.wto.org/english/tratop_e/serv_e/gatsqa_e.htm • https://www.wto.org/ • http://www.oecd.org/corporate/mne/ • https://asq.org/quality-resources/iso-14000 • https://www.iso.org/iso-14001-environmental-management.html • http://www.environmentalpollution.in/environmental-audit/environmental-audit-concept-setting-and-process/3890 • https://www.iso.org/iso-9001-quality-management.html
4	Journals	• Current Science, ISSN No. 0011-3891 • Down to Earth • International Journal of Environmental Pollution Control & Management , ISSN No .0975-3842 • Journal of Earth System Science, ISSN No .2253-4126 • Resonance, ISSN No. 0971-8044
5	Supplementary Reading	• The Hindu • Paris Agreement • IPCC reports

Semester	III	Total Credit	4
Course Code	EM - 303	Credit Pattern	L-45, T-8, P-7
Course Title	ENVIRONMENTAL IMPACT ASSESSMENT (EIA) AND ENVIRONMENT MANAGEMENT SYSTEM (EMS)		
Course Objectives			
1.	Apprise concept and signifiante of environmental impact assessment.		
2.	Explain concept and signifiante of Environmental Legislation.		
3.	Discuss various steps in conducting environmental management plan.		
Course Outcomes:			
1.	Design EMP for particular industry.		
2.	Prépare Environnemental Impact Assessment report.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Concept and Components of EIA : Environment and Development, Sustainable development. Definition of EIA, its concept, scope and objectives. Negative and positive, primary and secondary, reversible and irreversible, tangible and intangible impacts, Elements or components of EIA, EIA in developed countries and developing countries, Baseline studies in EIA, Public participation in EIA Prediction of impacts and its methodology.	L=11	
		T= 2	P= 2
2.	Methodologies of EIA : Uncertainties in EIA, Environmental monitoring and environmental management plan, Planning and management of impacts studies, Cost-benefit analysis of the project: present and future worth of project, feasibility report. Preparation, writing and appreciation of EIA reports pertaining to Dam, Mining and other industries, Life Cycle Assessment as environmental management tool, Composition of expert committee Procedure & format of obtaining consent to establish and consent to operate from the State Pollution Control Board (SPCB). Concept of Social Impact Assessment (SIA).	L= 12	
		T= 2	P= 1
3.	Environmental Management System (EMS): Scope, application and benefits of ISO certification; Introduction, terms and definitions, Need for EMS, ISO 14000 (Series) – The Basic Principles; Environmental Management System Requirement - Deming Cycle of continual improvement. Environmental Policy, Environmental aspects and impacts. Environmental objectives. ISO 14001: Preparation of documentation. Steps for certifications; Actual conduct of audit for certification; Implementation of ISO 14000, Reporting of Non conformity and follow audit trails.	L= 11	
		T= 2	P=2

4.	Environmental Auditing : Preamble, scope and objectives of environmental auditing, Applicability of statutory environmental statement audit, Qualities of an environment auditor, Contents of EA report. Preparation of documents for consent to establish/ consent to operate / Renewal, Types of Environmental audits, - Preset audit, Impact assessment audit, compliance audit, Awareness audit and improvement / Green audit. General approach towards environmental audit, preparation of questionnaire for audit, presentation of data and certification	L= 11	
		L=2	L= 2

Learning Resources

1	Text Books	• A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 • A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 • A Text Book Environmental Studies, Chatawal & Sharma, HPH • A Text Book Environmental Science, Joshi & Joshi, APH • A Text Book of Environmatal Studies, Nambiar, STP
1	Reference books	• Environmental Impact Assessment By: Larry W Canter. McGraw-Hill International Editions, 2nd Edn, New York (1996) • EIA Theory & Practice By: Peter Wathern. Unwin Hyman, London (1990) • Environmental Impact Assessment By: PR Trivedi. APH Publishing Corporation, New Delhi (2004) • EIA Practical Solutions to Recurrent Problems By: David P Lawrence. Wiley Interscience Publication (2003) • A Handbook of EIA By: VS Kulkarni, SN Kaul & RK Trivedy. Scientific Publishers (India) • EIA (Available Techniques, Emerging Trends) By: SA Abbasi & DS Arya. Discovery Publishing House, New Delhi (2000) • Environmental Impacts of Agricultural Production Activities By: Larry W Canter. Lewis Publishers, Inc. USA (1986) • Environmental audit by Mhaskar AK • EIA – A Bibliography with abstracts By: B.D. Clark, R. Bisset, P. Wathern (1980), Mansell London • Manners, IR, Micksell MW (1974) Perspectives on Environment Association American Geographers, Pub. 13. • Environmental Assessment and Statements by Harr and Hagerty (1977) • Environmental Auditing by Central Pollution Control Board. • Stoner, Freeman, Gilbert – Management – Prentice Hall of India Ltd., New Delhi – VIth Edition • Kathryan M. Bartol & David C. Martin – Management – Mc Graw – Hill Services in management, Second Edition • Terry – Franklin – Principles of Management – All India Traveler Bookseller • R.S.Gupta, B.D. Sharma, N.S.Bhalla – Principles and Practic of Management – Kalyani Publishers Edition 1990

		• P.C. Tripathi , P.N.Reddy – Principles of Management – Tata Mc Graw – Hill publishing Co. Ltd. Vth Edition • Harold Koontz & Cyril O’ Donnell – Management - Mc Graw – Hill publication. • Environmental audit by Mhaskar AK.
3	Website	• https://www.cbd.int/impact/whatis.shtml • https://nptel.ac.in/courses/120108004/module3/lecture3.pdf • https://nptel.ac.in/courses/120108004/module2/lecture2.pdf • http://mpcb.gov.in/ • https://www.cseindia.org/tag/state-pollution-control-board--(spcb) • https://www.iaia.org/wiki-details.php?ID=23
4	Journals	• Current Science, ISSN No. 0011-3891 • Every Thing About Water • Down to Earth • Industrial Safety Chronicle • International Journal of Environmental Pollution Control & Management , ISSN No .0975-3842 • Resonance, ISSN No. 0971-8044 • Journal of Earth System Science, ISSN No .2253-4126
5	Supplementary Reading	• EIA reports of various developmental projects

Semester	III	Total Credit	4
Course Code	EM - 304	Credit Pattern	L-30, T-0, P-90
Course Title	PRACTICAL - II		

Course Objectives

1. The students should know the experimental procedures for analysis of environmental samples.

Course Outcomes: The students will able to

1. Make the use of personal Protective Equipment's.
2. Determining quality of irrigation water for optimal utilization to avoid further environmental consequences.
3. Recommend gypsum requirement for the preparation of reclamation plans for saline alkali soils.
4. Propose dose of lime for reclamation of an acid soil, by performing laboratory experiments and computing results.
5. Demonstrating Isolation, segregation, characterization and proper utilization of Municipal Solid Waste.
6. Determining quality of irrigation water for optimal utilization to avoid further environmental consequences.
7. Extend use of technical and analytical skills to quantify the level and effects of noise pollution.
8. Interpret the chemical methods used to study environmental processes.
9. Elaborate and Integrate scientific processes to analyze soil samples.
10. Experiment with work safely and competently in an environmental laboratory settings, with confidence.

Syllabus:

Sr. No.	Title	Number of Sessions	
1	Estimation of Biomass production by grassland ecosystem.	L= 15	
2	Study of density & relative density of grassland species.	T=0	P=45
3	Study of Mineral & Rocks.		
4	Measurement of Sound pressure level using Sound Level Meter at given Location.		
5	Determine Water holding capacity, bulk density & moisture content of soil.		
6	Determine Calorific Value of fuel of given wood sample.		
7	Determination of freq. distribution from given set of data.		
8	Determine Wood pyrolysis of wood sample.		
9	Estimation OC & OM from soil.		
10	Determine Volatile fatty acids of a sample.		
11	Determine SVI, MLSS, MLVSS of a sample		
12	Determine Available "P" in soil.		
13	Determine Available "K" in soil.		
14	Determine Available Nitrogen in soil.		
15	Determine Available Sulphur in soil.		

16	Determine Langlier Saturation Index of water sample.	
17	Determine Water Quality Index.	
18	Mechanical analysis of soil & use of Textural triangle.	
19	Determine Wildlife census by block count method.	
20	Site selection criteria under EIA.	
21	Prediction of Impact by Dispersion Model(AIR).	
22	Precipitation Analysis.	
23	Physical & Chemical Characteristics of MSW.	
24	Determine Cation Exchange Capacity of soil sample.	
25	Determination of Gypsum Requirement of soil.	
26	Determination of Lime Requirement of soil.	
27	Determine Iron from water sample.	
28	Estimate the Species diversity Index.	
29	Estimation of Chlorophyll content in leaves.	
30	Demonstration & use of PPE.	
31	Determination of Total Phosphorous from water sample.	
32	Determine the soil rating & fertilizer dosing of agricultural Soil.	
33	Determination of Irrigation water quality by SAR method.	
34	Determination of Total Kjhdhal Nitrogen of water sample.	
35	Determination of Irrigation water quality by pH, EC & Carbonate-bicarbonates values.	

Learning Resources

1	Reference books	• Water & WasteWater analysis : Dr. R.K. Trivedy & Dr. P.K.Goel • Standard Methods of water & Waste water analysis: APHA • Hand book of Methods in Environmental Studies (Vol.I) : S.K.Maiti • Hand book of Methods in Environmental Studies (Vol.II) : S.K.Maiti • A text book of Soil analysis : Baruah & Barthakur

Semester	III	Total Credit	6
Course Code	EM - 305	Credit Pattern	L-15, T-15, P-60
Course Title	RESEARCH PROJET (Master Thesis)		

Course Objectives	
1.	It is an academic requirement of the course to complete Summer Inplant Training by working in industry to learn practical knowledge from various sectors of Environment & allied.
2.	To gain an field experience in the real world situation.

Course Outcomes: After completion of this course students will able to	
1.	Select and defend a topic of their SIP and effectively plan, execute, evaluate and discuss their innovative ideas and experiments.
2.	Systematically identify relevant theory and concepts, and relating these to appropriate methodologies and evidences.
3.	Apply appropriate techniques and drawing appropriate conclusions, developing communication and interpersonal skills.
4.	Propose scientific approach to solve the problem and Interpret, discuss and communicate scientific results in written form.

Syllabus:

	Contents	Number of Sessions	
1	They will study the working environmental conditions & problems in the organization.	L= 15	
		T=0	P=45
	Areas for SIP are-		
	1. Waste Water Treatment		
	2. Solid Waste Management		
	3. Characterization of Effluent		
	4. Air Pollution & Control		
	Technologies		
	5. Noise Pollution		
	6. Toxicological Study		
	7. Industrial Safety		
	8. Disaster Management		
	9. Environmental Auditing		
	10. ISO 14000		
	11. OSHAS-18001		
	12. Energy Management		
	13. Composting		
	14. Wormicomposting		
	15. Bioremediation		
	16. Phyto-remediation		
	17. Water Budget		
	18. Energy Audit		
	19. Carbon Footprint		
	20. Biomedical Waste Management		

Semester	III	Total Credit	4
Course Code	EM -Spl-I- 306 -A	Credit Pattern	L-45, T-6, P-9
Course Title	INTERNATIONAL FINANCE		

Course Outcomes: The students will able to learn:

1.	Assess foreign exchange rates and develop export trade document.
2.	Apply international finance terms in trade.
3.	Evaluate foreign direct investment design.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to International Finance: concept and Principals of International Trade – Theories of International Trade – Comparative Advantage – Absolute Advantage – Hecksher Ohlin Theory – Imitation Gap Theory- Barriers to International Trade –Indian EXIM Policy. Concepts of DTAA and International Taxation.	L=11	
		T=2	P=2
2	Export and Import Finance: Special need for Finance in International Trade –Terms used in International Trade (FOB, CIF, etc.,) – Payment Terms – Letters of Credit and its types – Pre Shipment and Post Shipment Finance – Forfaiting –Deferred Payment Terms – EXIM Bank – ECGC and its schemes – Import Licensing – Financing methods for import of Capital goods.	L=12	
		T=1	P=2
3	Foreign Exchange Markets: Spot Prices and Forward Prices – Factors influencing Exchange rates – The effects of Exchange rates in Foreign Trade – Tools for hedging against Exchange rate variations –Forward, Futures and Currency options -Determination of Foreign Exchange rate and Forecasting – Law of one price – PPP theory – Interest Rate Parity – Exchange rate Forecasting. Two way and three way arbitrage, arbitrage with IRP and PPP.	L=11	
		T=1	P=3
4	Determination and Forecasting of Exchange Rates: Currency risk management – Measuring and Managing Transaction – Translation and Economic Exposure. International Cash Management – Cost Of Capital for Foreign Direct Investment – Designing Global Capital Structure. Foreign Direct Investment – Cost and Benefits. Derivatives in International Trade Important Export trade documents, like Proforma, commercial, legalized, invoice, packaging list, bills of leading, airway bill, insurance policy, export incentive, duty exemptions, export house.	L=11	
		T=2	P=2

Note: Practical Problems to be covered on

1. Calculation Of Foreign Exchange Rates – Forward Rates, Premium Discounts on forward rates
2. Simple problems on pay off from Derivatives
3. Arbitrage

Learning Resources		
1	Text Books	1. Kapil Sheeba, "Financial Management" Pearson Publication House. 2. Jonathan Berk, Peter, "Financial Management" Pearson Publication House. 3. Sharan Vyuptakesh, "Fundamentals of Financial Management" Pearson Publication. 4. James C Van harne, "Financial Management & Policy" Pearson Publication House. 5. ICSI: Handbook on Mergers Amalgamations and takeovers.
2	Reference Books	1. Jeevanandam .C, INTERNATIONAL BUSINESS, M/s Sultan & Chand, Delhi, 2008 2. Sumathi Varma, INTERNATIONAL BUSINESS, <i>Ane, Delhi, 2010</i> 3. P.G. Apte – "Global Business Finance" – Tata McGraw Hills. 4. P.G. Apte – "International Finance Management" – Tata McGraw Hill 5. V.K. Bhalla – "International Financial Management" – Prentice Hall 6. Khan & Jain, "Financial Management", Tata Mcgraw Hill, 6th edition. 7. R.P.Rustagi, "Financial Management", PHI, 10th edition.
3	Websites	<u>INFLIBNET</u> http://nlist.inflibnet.ac.in <u>J-GATE</u> http://jgateplus.com <u>EBSCO</u> http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4	Journals	• Prabhandan: Indian Journal of Management • IUP Journals • ICSI Journals • Finance India • Indian Journal of Finance (New Sub.) • Journal of Accounting & Finance etc.
5	Supplementary Reading	• Financial Express • Economics Times • Business Standard • Times of India • Indian Express.
6	Practical Component	• Calculation Of Foreign Exchange Rates – Forward Rates, Premium Discounts on forward rates • Simple problems on pay off from Derivatives • Problems on arbitrage • Financial statement analysis using Proves-IQ • Companies Financial Reports & Corporate case studies.

Semester	III	Total Credit	4
Course Code	EM -Spl-I- 306 -B	Credit Pattern	L-45, T-8, P-7
Course Title	EMPLOYEE RELATIONS AND LABOUR LAWS		
Course Outcomes : Students will be able to			
1.	Discuss the concepts and theories to manage Industrial Relations and Labor Laws.		
2.	Apply the concept of industrial relations, legal issues to the system in which it operates.		
3.	Solve industrial Related legal issues used in the resolution of conflict.		
4.	Critically evaluate emerging trends in employment law.		
5.	Design the collective bargaining process, including preparation, negotiation, and settlement.		

Unit Number	Contents	Number of Sessions	
1	Industrial Relations and Trade Union:- Industrial Relations:- Concepts of Industrial Relations, Approaches to Industrial Relations, Role of Employer/Management, Trade Union and Government in Industrial Relations. Trade Union:- Purpose, Functions of trade unions, Problems of Trade unions, Measures to strengthen Trade Union, Recognition of Trade Union as Collective Bargaining Agent. Trade Union Act (1926), Standing Order	L=11	
		T=2	P=2
2	Collective Bargaining and Industrial Unrest: - Collective Bargaining:- Structure, Procedure and machinery for collective bargaining process, Negotiation Skills, Productivity Bargaining, emerging trends in collective bargaining. Industrial Unrest: Causes of Industrial Disputes, Prevention and Settlement of Industrial Disputes- Relevant Provisions related to Industrial Disputes Act, 1947. Purpose and procedure of disciplinary action, Meaning and scope of misconduct	L=12	
		T=2	P=1
3	Positive Employee Relations and Labour Laws:- Building positive employee relations, Participative Management:- Workers participation in Management (statutory and Non statutory Schemes), VRS:- Reason and acceptance of VRS, Management of Sexual Harassment and Sexual Harassment Laws in India,	L=11	
		T=2	P=2
4	Social Security for emotional Bondage:- Social Securities in India, ESI Act 1948, Workmen's Compensation Act, Maternity Benefit Act 1961, The employees Provident Fund Act, 1952. Payment of Gratuity Act 1972, and Management of Contract Labour.	L=11	
		T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Mamoria C.B, Dynamics of Industrial relations, Himalaya Publishing House 2. A.M.Sarma, Industrial Relations, Himalaya Publishing House
2	Reference books	1. ArunMonappa, Industrial Relations, Tata McGraw Hill Publishing Company Ltd. 2. Dhyani S.N., Industrial Relations Systems, Printwell Publishers 3. John Fossum, Labour Relations, Development, Structure, Process, McGraw Hill Education 4. Michael R Carrell and Christina Heavrin, Labour Relations and Collective Bargaining- Private and Public Sectors, Merrill 5. PromodVerma, Management of Industrial relations, Reading and Cases, Oxford and IBH Publications 6. Singh B.D., Industrial Relations –Emerging Paradigms, Excel Books 7. Srivastava S.C., Industrial Relations and Labour Laws, Vikas Publishing House Pvt. Ltd.,
3	Websites	1. www.ILO.org 2. www.labour.nic.in 3. www.labourstat.org
4	Journals	1. Indian Journal of Industrial Relations 2. Indian Labour Journal 3. Current Labour Report 4. Labour Law Journal
5	Supplementary Reading	1. Labour Law Journals 2. https://www.thehindubusinessline.com/opinion/the-recognition-question-in-trade-union-law-ep/article24988006.ece 3. https://www.labourfile.org/rights-of-women.aspx/
6	Practical Component	1. Role Play exercise on Collective Bargaining 2. Arrange a debate in the classroom about rights and duties of trade union of workers. 3. Students will draft a standing order for certification for a newly started garments factory employing 300 workers. 4. Students will draft a charge sheet about a list of allegations reported against an employee of an organization. 5. Interaction with Trade Union Leaders to identify challenges faced by them and present in class. 6. Students will prepare a policy document to prevent sexual harassment at workplace. 7. Study the procedure including the documents required for PF and Gratuity benefit. 8. Role Play on Economic Coercion

Semester	III	Total Credit	4
Course Code	EM -Spl-I- 306 -C	Credit Pattern	L-45, T-8, P-7
Course Title	CONSUMER BEHAVIOUR		
Course Objectives:			
1.	Impart conceptual knowledge of Consumer Behavior.		
2.	Equip students to analyze impact of various factors on consumer behavior.		
Course Outcomes: Students will be able to;			
1.	Discuss conceptual knowledge of Consumer Behavior.		
2.	Analyze impact of various factors on consumer behavior.		
3.	Evaluate the impact of social and psychological factors on consumer behavior.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	An Introduction to Consumer Behaviour – Meaning, Consumers’ Impact on Marketing Strategy, Marketing Strategy’s’ Impact on Consumers, Consumer Behaviour as a Field of Study; Consumer and Social Well Being – Business Ethics and Consumer Rights, Consumer Rights and Product Satisfaction, Major Policy Issues Relevant to Consumer Behaviour, Dark Side of Consumer Behaviour; Internal Influences on Consumer Behaviour – Perception – meaning, Stages of Consumer Behaviour; Learning and Memory – meaning, Learning Theories, Memory	L= 11	
		T= 2	P= 2
2	Motivation and Affect – The Motivation Process, Affect, Consumer Involvement; The Self, Gender Identity, The Body; Personality, Brand Personality, Lifestyles and Consumer Identity, Values;	L= 12	
		T= 2	P= 1
3	Power of Attitudes, Formation of Attitudes, Persuasion – change of attitudes; Decision making – Cognitive Decision Making, Habitual Decision Making, Collective Decision Making, Family Decision Making; Situational Effects on Consumer Behaviour, Shopping Experience, Post – purchase satisfaction and Disposal.	L= 11	
		T= 2	P= 2
4	Consumers in Social and Cultural Settings – Groups, Word of Mouth Communications, Opinion Leadership, Social Media Revolution; Income & Social Class – Income and Consumer Identity, Social Class & Consumer Identity, Status Symbols and Social Capital; Subcultures – Ethnic & Racial Subcultures, Religious Subcultures, Family Unit & Age Subcultures, Place Based Subcultures; Culture – Cultural Systems, Cultural Stories & Ceremonies, Sacred & Profane Consumption, Diffusion of Innovations, Fashion System, Global Consumer Culture.	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and videos relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Soloman, M. R. & Panda, T. K., (2020), 13th Ed., Consumer Behaviour, Pearson India, New Delhi, India. 2. Schiffman, L.G, Wisenblit, J. & Kumar, S. R., 11th Ed., Consumer Behaviour, Pearson India, New Delhi, India. 3. Mothersbaugh, D. L., Hawkins, D. I. Kleiserc, S. B., & Mookerzi, C. A., (2002), 14th ed., Consumer Behaviour, McGraw Hill, New Delhi, India. 4. Sarma, S., (2019), 1st Ed., Consumer Behaviour, Dreamtech Press, New Delhi, India. 5. Sahaney, S., (2017), 1st Ed., Consumer Behaviour, Oxford University Press, New Delhi, India. 6. Kumar, S. R., & Krishnamurthy, A, (2020), 1st Ed., Advertising, Brands & Consumer Behaviour – The Indian Context, Sage Publications, New Delhi, India. 7. Batra, S. & Kazmi, H. H., (2008), 1st Ed., Consumer Behaviour: Text & Cases, Excel Books, New Delhi, India.
2	Websites	https://www.ama.org/ https://www.academyofindianmarketing.org/ (Academy of Indian Marketing (AIM) Management Institutions) https://www.ima-india.com/ (https://www.ima-india.com/)
3	Supplementary Reading	Economics Times, Brand Equity Business Standard,
4	Practical Component	Case studies on all units.

Semester	III	Total Credit	4
Course Code	EM -Spl-I- 306 -D	Credit Pattern	L-45, T-7, P-8
Course Title	SUPPLY CHAIN MANAGEMENT		

Course Objectives

1.	To make students understand fundamental concepts and principles of Logistics & Supply Chain Management.
2.	To make students understand supply chain metrics & decisions, supply chain coordination & planning.
3.	To introduce students to Global Supply Chain Operations.

Course Outcomes: Students will be able to

1.	Discuss the evolution of Supply Chain & Logistics and how it can affect organization operations.
2.	Distinguish between various Supply Chain Distribution Strategies and choose effective strategy for organization.
3.	Estimate the Demand in the market to develop Supply Chain Strategy for Organization.
4.	Discuss Global Supply Chain Operation and recent trends in Supply Chain Management.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	INTRODUCTION TO LOGISTICS MANAGEMENT Definition & Meaning of Logistics, Principles of Logistics, Activities of Logistics: Transportation, Warehousing, Packaging, Material Handling. Collaborative Relationship & Alliance, Logistics Outsourcing Activities: 3PL, 4PL, Risk of Outsourcing.	L= 12	
		T= 1	P= 2
2	ESSENTIALS OF SUPPLY CHAIN MANAGEMENT Concept & Definition of Supply Chain, Drivers of SCM, Push/Pull SCM, SC Network Decisions & Designs. Demand Planning & Forecasting, Collaborative Planning Forecasting Replenishment (CPFR), Mass Customization, Role of IT in SC.	L= 11	
		T= 2	P= 2
3	STRATEGIC SUPPLY CHAIN MANAGEMENT Distribution Strategies: Milk Runs, Hub & Spoke System, Cross Docking, Pool Distribution, Direct Shipping. Bullwhip Effect, Recent Trends In Supply Chain: Agile Supply Chain, Green Supply Chain, Lean Supply Chain, E- Supply Chain, E-Commerce Supply Chain. Introduction to Supply Chain Analytics.	L= 11	
		T= 2	P= 2
4	GLOBAL SUPPLY CHAIN OPERATIONS Global SCM, International Transportation: Sea, Air, Land, Multi-Modal Transportation. International Documentation for Import/Export, Customs Clearance Formalities, International Logistics Infrastructure.	L= 11	
		T= 2	P= 2

Learning Resources		
1	Text Books	1. Shah J., Supply Chain Management 2/e: Text and Cases, Pearson Education India 2. Ganapathi S. & Nandi, Logistics Management, Oxford University Press 3. Chopra S., Meindl P. & Karla D., Supply Chain Management, Sixth edition by Pearson Education India 4. Ailawadi S. & Singh R., Logistics Management, Prentice Hall India Learning Private Limited
2	Reference books	1. Simchi-Levi D., Kaminsky P., Designing and Managing the Supply Chain 3rd Edition, McGraw Hill Education 2. Bowerox D., Tata Mcgrawhill Edition "Supply Chain Logistic Management" 3. Chandrasekaran N. , Supply Chain Management: Process, System & Practice, Oxford University Press
3	Websites	1. https://www.managementstudyguide.com/supply-chain-management-articles.htm 2. https://lecturenotes.in/materials/17685-note-of-supply-chain-management-by-dr-panneerselvam-s 3. https://www.aims.education/study-online/supply-chain-management-notes/ 4. http://www.eiilmuniversity.co.in/downloads/Import-Export-Management.pdf 5. http://www.pondiuni.edu.in/storage/dde/downloads/ibiii_exim.pdf
4	Journals	1. Supply Chain Management: An International Journal - Emerald Insight 2. Journal of Supply Chain Management - Wiley Online Library 3. Supply Chain Management Journal 4. The International Journal of Logistics Management - Emerald Insight
5	Supplementary Reading	1. Singh R. , International Trade Logistics, Oxford University Press 2. C. Rama Gopal, Export Import Procedures - Documentation and Logistics, New Age International Publishers 3. https://www.managementstudyguide.com/import-and-export-management-articles.htm
6	Practical Component	1. Studying Supply Chain Distribution of any organization and classifying it according to different types of strategies which are studied and justifying why such system is chosen by that organization. 2. Identifying and visiting local business to study its Logistics & Supply Chain Strategies. 3. Group Discussion on Recent Trends in Supply Chain Management. 4. Identifying and visiting local Import/ Export Agency to study International Documentation required for Import/Export.

Semester	III	Total Credit	4
Course Code	EM -Spl-I- 306 -E	Credit Pattern	L-44, T-8, P-8
Course Title	INDIAN AGRIBUSINESS MANAGEMENT		

Course Out Comes: Students will be able to

1.	Able to understand and identify the trends in the agribusiness sector in India and the world.
2.	Will gain introduction to the necessary skill sets being an agripreneur on various production methods.
3.	Able to review the contribution of national and international organizations in farm sector.
4.	Develop understanding of policy environment in the country.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Agribusiness Management The concept of Agri-business, Historical Review, Scope, Nature of Successful Agri-Business Firm and Challenges, Role of Agriculture in National Economy, Socio-Economic Impact of Agribusiness, Environmental Impact of Agribusiness, Agro-Business Sector: Global Trends, Issues and Challenges.	L= 11	
		T= 2	P= 2
2	Unit 2: Agribusiness Sector in India Growth and Performance of Agricultural Sector, Agricultural Markets in India, Role of Government in Agribusiness Development, Agriculture Technology and its Trends in India, Agro-Based Industries in India: Dairy, Food Processing, Aqua, Sugar, Confectionery, Edible Oils, etc., New Food Processing Policy of India.	L= 11	
		T= 2	P= 2
3	Unit 3: Production Management in Agribusiness: Introduction, Natural Resource Management, Soil Conservation, Biodiversity Conservation, Sustainable Agriculture, Water Resource Management, Labor and Agricultural Wages, Cropping Pattern (Regional Agro-climatic Pattern), Global Positioning System (GPS), Precision Farming, Organic Farming, Sustainable Agricultural Practices in India.	L= 11	
		T= 2	P= 2
4	Unit 4: International Institutions and Agricultural Trade Environment WTO: Functions and Role in Agriculture, FAO: Functions and Role in Agriculture, Agreement on Agriculture (AOA) and India, APEDA and Its Role, Import and Export Procedures for agricultural products in India, Strategies of Exports for agro-based industries. Trend analysis of Agricultural Trade.	L= 11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources

1	Text Books	• Mishra, A., Biswas, D. & Giri, A., (2019), <i>Production Management in Agribusiness</i>. In: H. P. House, <i>AgriBusiness Management</i>. (2019), Himalaya Publishing House, Mumbai (India), pp. 106 -120. • Nagaraja, P. M., (2019), <i>Agricultural Business Management</i>. 1st Ed., Himalaya Publishing House, Mumbai (India) • Diwase, S., (2009), <i>Indian Agriculture and Agribusiness Management</i>. 1st Ed.,

		Krishi Resource Management Network, Pune. • Smitha, D., (2010), <i>Agribusiness Management</i>, Everest Publishing House, Pune. (India)
2	Reference books	• Panigrahy, S. R. et.al., (2020), 3rd Ed., <i>Objective Agribusiness Management</i>, Scientific Publishers, Jodhpur. India • Barnard, L. Freddie, et.al., (2020), 6th Ed., <i>Agribusiness Management</i>, Routledge, UK. • Gupta, Rakhi, et.al., (2017), <i>Advances In Agri-Management: General Management, Business Development And Innovative Practices</i>, New India Publishing Agency, New Delhi. India • Van Fleet, David et.al., (2014), 6th Ed., <i>Agribusiness: Principles of Management</i>. Cengage Learning, USA.
3	Websites	• www.agriculture.gov.in/ • www.manage.gov.in • www.ica.coop/ • www.apeda.gov.in
4	Journals	➤ Agribusiness: an international journal (Wiley Online Library: https://onlinelibrary.wiley.com/journal/15206297) ➤ Agricultural and Resource Economics Review (ABI/INFORM Complete: https://www.cambridge.org/core/journals/agricultural-and-resource-economics-review) ➤ International Food and Agribusiness Management Review (AgEcon Search: https://www.wageningenacademic.com/journals/ifamr/general-information) ➤ Global Journal of Food and Agribusiness Management (https://www.internationalscholarsjournals.org)
5	News Papers	The Hindu Survey of Indian Agriculture The Economic Times Rural Marketing The Times of India The Economic Times Business Standard Outlook Business The Hindu Frontline Business Today Business India Business World

Semester	III	Total Credit	4
Course Code	EM -Spl-I- 306 -F	Credit Pattern	L-45, T-8, P-7
Course Title	MANAGEMENT INFORMATION SYSTEM		

Course Objectives

1. To understand the concept and importance MIS.
2. To make sense of the technical aspects of MS-Excel for creating dashboards.
3. To develop the skills more effectively to visualize the data using Power query.

Course Outcomes: Students will be able to;

1. Construct MIS Dashboards, including the use MIS Infographics.
2. Using Excel Power Query, refined the data using ETL Process.
3. Extract the content of data from website using web scrapping.

Unit Number	Contents	Number of Sessions	
1	MIS Infographics : Drill Down using pivot table, Pareto charts, Infographics Chart, Trend chart using SUMIF, Map Chart using XY-Scatter, KPI using excel, Charts with Hyperlink and conditional formatting, Speedometer Chart, See Saw Chart, MIS-Hyperlink with column and Pie Chart.	L= 11	
		T= 2	P= 2
2	Disboarding Techniques: Dynamic Month Disboarding, Dashboard on day wise report, Sales ranking dashboard, weekly sales dashboard, Daily task reminder dashboard, Year wise report , Dashboard using VLOOKUP, INDEX and COUNTIF, MIS Amazing Dashboard, Gantt Chart with conditional formatting, Small project on MIS Dashboard.	L= 12	
		T= 2	P= 1
3	Power Query - :Introduction and installation, Create connection with excel table, text file and Access Database, Reconnect data with Power Query, Create Pivot table on Multiple Sheets & text data, Merge Multiple sheets, Power Query Home Tab, Transform Data Dynamically, Combine Multiple tables, Transform raw data real job query, Merge Workbooks, Customer calendar, Merge Data Dynamically.	L= 11	
		T= 2	P= 2
4	MIS using VBA and Power BI- VBA Outlook, Sending email through outlook, Outlook with email attachment, Sending Bulk Mail, Introduction to Web Scrapping, Web scrapping loop, Web Scrapping get data from website, Web Scrapping get all links, Web scrapping get exact data from website, VBA Events, Dashboarding using Power BI.	L = 11	
		T= 2	P= 2

Note:

1. For this paper, there is no Theory exam. The evaluation will be based on the Practical Exam. The External Examiner will evaluate the practical exam.
2. Students will have to complete all tutorials, assignments, and lab sessions for internal credits.

Learning Resources

1	Reading References	1. Aarora, Ritu. Mastering Advanced Excel. BPB Publications, 2023. 2. Cascarino, Richard. Auditorsw guid to information system auditing. Agra:Auditorsw guid to information system auditing, 2017. 3. Lalwani, Lokesh. Excel 2019 All-in-one. Mumbai: BPB Publication, 2019. 4. Michael Alexander, John Walkenbach. Excel Dashboards and Reports .Woley, 2029. 5. Microsoft Excel VBA and Macros (Office 2021 and Microsoft 365) (BusinessSkills). Microsoft, 2021. 6. Schwartz. "Microsoft office 2013 - Schwartz." Pearson, 2016. 7. Clark, Dan. Beginning Power BI . APress, 2017. 8. Webb, Christopher. Power Query for Power BI and Excel. Apress, 2016.

Semester	III	Total Credit	4
Course Code	EM -Spl-II- 307 -A	Credit Pattern	L-45, T-6, P-9
Course Title	DIRECT AND INDIRECT TAXES		

Course Objectives

1.	To understand the concept of Indian Income Tax.
2.	To Enable the students to compute taxable income of individual.
3.	To make students aware about various provisions in GST.

Course Outcomes

1.	To summarize tax basics.
2.	To experiment with direct tax provisions.
3.	To aware students about GST Provisions.

Unit No.	Topic	Number of Sessions	
1	Direct Tax Basics: Important definitions, incomes exempt under section 10, deduction from gross total income under chapter VI, Types of Assessee, filling of income tax return, maintenance of accounts and audits of accounts, TDS and TCS	L = 11	
		T = 2	P = 2
2	Computation of income: Computation of income under different heads of income namely – salary, house property, profits and gains from business and profession, income from other sources, Meaning of Presumptive taxation	L = 12	
		T = 1	P = 3
3	Introduction to GST : Existing indirect tax structure in India, Need of constitutional amendment, Important definitions under GST, Concept of supply, interstate and intrastate supply, Levy of GST	L = 11	
		T = 1	P = 2
4	GST Time and Place of supply and Concept of input tax credit: Time and value of supply, Place of supply, Concept of input tax credit, Blocked credit, Input Tax Credit Rules	L = 11	
		T = 2	P = 2

Note:

1. Case studies on each of the aspects mentioned in the syllabus need to be discussed
2. Videos cassettes, CDS and documentary films exhibited.

Learning Resources

1	Text Books	• Singhanian, V. K. and Singhanian, M. (66th edition) <i>Students' guide to Income Tax including GST for AY 2022-23</i>. New Delhi: Taxmann's publication • Singhanian, V. K. and Singhanian, M. (24th edition AY 2022-23) <i>Students' guide to Income Tax including GST Problems & Solutions</i>. New Delhi: Taxmann's publication • Manoharan, T. N. (40th edition, 2023) <i>Students' Handbook on Taxation for AY 2023-24</i>. Mumbai: Snow white publication
2	Reference Books	• Sekar G (2015) <i>Direct Taxes A Ready Referencer AY 2016-17, 16th edition</i>. New Delhi : Taxmann's publication • Goyal, M. (2nd edition 2013) <i>Direct Taxation AY 2013-14</i>. New Delhi : biztantra publication • Myneni, S.R. (2013) <i>Law of Taxation</i>, Allahabad : Allahabad Law

		Agency publication • <i>GST A Complete Perspective</i> (2nd Edition , 2017) Chandigarh: Walter Kluwer's Publications Deloitte
3	Websites	• Income Tax Department, Government of India – www.incometax.gov.in • Income tax and GST informative sites – www.cleartax.in • Income tax and GST informative sites – www.taxguru.in • Income tax and GST informative sites – www.caclub.in • Income tax and GST informative sites – www.taxmann.com • Income tax and GST informative sites – www.indiafilings.com • Income tax and GST informative sites – www.charteredclub.com • Library online Opac Address: http://192.168.1.111:8080/opac
4	Journals	• https://resource.cdn.icai.org/65855cajournal-aug2021-21.pdf - Whether Tax Audit and Presumptive Taxation, by CA Dindayal Dhandaria, ICAI e-Journal August, 2021, Volume 69, No. 10 • https://resource.cdn.icai.org/65857cajournal-aug2021-23.pdf - Section 115BAC of Income Tax Act, 1961: A step towards the New-Normal, by CA. Saurav Somani, ICAI e-Journal August, 2021, Volume 70, No. 10
5	Supplementary Reading	• Financial Express • Economics Times • Business Standard • Times of India • Indian Express.
6	Practical Component	• Practical Problems on Computation of income from Salary, House Property, profits and gains from business and profession and Other source. • Practical Problems on Exemptions and deductions • Case studies on GST time of supply, schedule I and II

Semester	III	Total Credit	4
Course Code	EM -Spl-II- 307 -B	Credit Pattern	L-45, T-8, P-7
Course Title	INTERNATIONAL HUMAN RESOURCE MANAGEMENT		
Course Objectives			
1.	To provide theoretical foundations of International HRM to students.		
2.	To equip students with the knowledge of HRM Practices in Multi-National Companies.		
3.	To enable students to understand the implications of culture on HR Practices in MNCs.		
4.	To enable students to understand HR interventions in successful cross-border Mergers and Acquisitions.		
Course Outcomes : Students will be able to :-			
1.	Describe the different concepts in International HRM.		
2.	Differentiate between International and Domestic HRM.		
3.	Interpret the implications of culture on HR Practices.		
4.	Evaluate different HR interventions in cross-border mergers and acquisitions.		
Unit Number	Contents		Number of Sessions
1	Globalization: Drivers of Globalization, Effects of Globalization on HRM, Concept of IHRM, Model of International HRM, Differences and similarities between DHRM and IHRM, Issues in IHRM, barriers to effective Global HRM,. Concept of culture, characteristics of culture, types of culture- Dominant, sub-culture, organizational and professional cultures.		L= 11
T=2			P= 2
2	Cultural pre-dispositions- Ethno-centricism –Polycentricism – Regio-centricism- Geocentricism. Geert Hofstede’s cultural dimensions, Communication, Leadership and Motivation across cultures, Issues in International Human Resource Planning, International Staffing: Linking staffing with stage of MNC		L= 12
T=2			P= 1
3	Identifying Potential expatriate, selection criteria of Expatriates, Challenges faced by Expatriates, Women Expatriates, Challenges and Advantages of Women expats, Process and Importance of Cross-cultural training, Emerging Trends. Issues in Performance Appraisal in International context. Compensation Management: Objectives, Components of International compensation package.		L= 11
T=2			P= 2
4	Cross-border Mergers and Acquisitions: Motives, HR Interventions in cross border Mergers and acquisitions. Repatriation: Reasons, Process, benefits from returnees – individual and organizational, Challenges of re-entry, Tips for successful repatriation.		L= 11
T= 2			P= 2
Learning Resources			
Reference books	1. <u>Michael Armstrong</u> , <u>Angela Baron</u> , Strategic HRM: The Key to Improved Business Performance. 2. <u>Julia Connell</u> , <u>Stephen Teo</u> , <u>Strategic HRM: Contemporary Issues in the Asia Pacific Region</u> , 3. Rao P.L. International Human Resource Management- Text and Cases, Excel Books. 4. Charles Greer, Strategic HRM- Pearson Education. 5. Monir H. Tayeb, International Human Resource Management - Oxford University Press, 2005.		
	1. Debate on the cultural predispositions multinational context will be conducted in class 2. Write an essay on “The challenges I would face if my company sends to on foreign assignment“. 3. Case based on Recruitment strategy will be discussed and students will be asked to design and present the recruitment strategy for a given company.		

Semester	III	Total Credit	4
Course Code	EM -Spl-II- 307 -C	Credit Pattern	L-45, T-8, P-7
Course Title	SERVICES MARKETING		
Course Objectives:			
1.	To impart knowledge about Services Marketing.		
2.	To develop knowledge and understanding regarding factors affecting Services Marketing.		
3.	To develop quality Services for consumers.		
Course Outcomes: Students will be able to;			
1.	Discuss conceptual knowledge of Services Marketing.		
2.	Apply 7 P's to the concept of services marketing.		
3.	Devise strategies for Services.		
4.	Evaluate strategies for Services.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Services Marketing Why study Services, principal industries of Service Sector, Historical view of Services, Benefits without ownership, four broad categories of services, 7 P's of Services; Framework for developing Service Market Strategies; Three-Stage Model of Service Consumption – Pre-purchase Stage, Service Encounter Stage, Post Encounter Stage; Positioning Services In Competitive Markets – Customer driven Services Marketing Strategy, Segmenting Service markets, Targeting Service Markets, Principles of Positioning;	L= 11	
		T= 2	P= 2
2	Applying 4 P's of Marketing to Services- Developing Service Products and Brands; Distribution of Services, How to distribute Services. Location of Facility, When should Service be delivered; Services Pricing and Revenue Management – Effective Pricing, Foundations of Pricing Strategy, Revenue Management, Fairness and Ethical Concerns in Service Pricing, Putting Service Price into Practice; Service Marketing Communications – Integrated Service Marketing Communications, Defining target audience, specifying objectives, tactical objectives, crafting effective service communication messages, Services Marketing Communication Mix; Managing Customer Interface – designing service processes, developing service blueprint, Service process Redesign, customer participation in Service processes, Self Service technologies; Balancing Demand and Capacity – fluctuations in demand, defining productive service capacity, understanding patterns of demand, Inventory demand through Waiting lines and queuing systems, Customer perception of waiting time, inventory through reservation systems, creating alternative use for otherwise wasted capacity.	L= 12	
		T= 2	P= 1
3	Crafting Service Environment – service environments, purpose, theory, dimensions of service environment; Managing People for Service Advantage, Service employees, frontline work, Cycles of failure, mediocrity & Success, Human resource management, Service culture, Climate and leadership; Managing relationships and Building Loyalty – search for customer loyalty, wheel of loyalty – foundation for customer loyalty, Strategies for developing loyalty, reducing customer defections, enablers of customer loyalty, CRM	L= 11	
		T= 2	P= 2

4	Customer Handling & Service recovery, customer complaint behavior, Customer response to effective service recovery, principles of effective recovery system, service guarantees, discouraging abuse and opportunistic customer behavior; Improving Service quality – meaning, measuring service quality, customer feedback, hard measures of service quality, return on quality; Productivity –defining & measuring, improving service productivity; Integration & Systemic approaches to quality improvement; Building World Class Service Organisation	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and videos relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Lovelock C, Wirtz J, Chatterjee J (2011) 8th Ed, Services Marketing Pearson Publications New Delhi India 2. Lovelock C, Wirtz J, Chatterjee J (2011) 7th Ed, Services Marketing Pearson Publications New Delhi India 3. Zeithmal , V A., Bitner M. J., Gremler D. D., Pandit, A. (2013), 6th Ed., Services Marketing McGraw Hill Publication, New Delhi India.
2	Websites	https://www.ama.org/ https://www.academyofindianmarketing.org/ (Academy of Indian Marketing (AIM) Management Institutions) https://www.ima-india.com/ (https://www.ima-india.com/)
3	Supplementary Reading	Economics Times, Brand Equity Business Standard, HBR
4	Practical Component	Case studies on relevant components

Semester	III	Total Credit	4
Course Code	EM -Spl-II- 307 -D	Credit Pattern	L-45, T-7, P-8
Course Title	PURCHASING AND INVENTORY MANAGEMENT		
Course Objectives			
1.	To make students understand fundamental concepts, principles and practices of purchase management, including the basic functions of materials management.		
2.	To make students knowledgeable about theoretical aspects and practical application of Inventory Management.		
3.	To introduce students to modern concepts and trends in Purchase & Stores Management.		
Course Outcomes: Students will be able to			
1.	Explain basic terms and concepts related to Purchase & Stores Management.		
2.	Discuss the functions and benefits of store management including its safety and security aspects.		
3.	Develop suitable Inventory Model for the organization by determining safety stock requirement.		
4.	Design effective Vendor Development Programme, Vendor Evaluation and Rating Method for the organization.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	PURCHASING MANAGEMENT Introduction to Materials Management, Purchasing: Objectives, Scope, Principles & Procedure, 5R of Purchasing, Responsibilities of Purchasing Manager, Methods of Buying, Centralised & Decentralised Purchasing, Sources of Supply & Supplier Selection, Legal Aspects of Purchasing.	L= 12	
		T= 1	P= 2
2	STORES MANAGEMENT Meaning of Store Management, Functions of Scientific Store Management, Types of Stores, Stores Procedure, Store Location & Layout, Centralised & Decentralised Store, Storage Safety And Security Aspects, Standardization & Variety Reduction, Codification, Stock Taking.	L= 11	
		T= 2	P= 2
3	INVENTORY MANAGEMENT & CONTROL SYSTEM Defining Inventory, The Need of Inventory & Its Control. Inventory Management: Objectives, Functions & Importance. Costs Associated with Inventory, Inventory Models: Basic EOQ Model, Quantity Discount Model, Safety Stock Determination, Replenishment Systems, Fixed Order Quantity (Q Model) Versus Fixed Time Period (P Model). (Numerical Treatment on Inventory Models)	L= 11	
		T= 2	P= 2
4	STRATEGIC MATERIALS MANAGEMENT Vendor-Vendee Relations, Vendor Development, Vendor Evaluation & Rating Methods, Supplier Quality Assurance Programme, Material Accounting & Audit, Inventory Valuation, Worldwide Sourcing, Government Purchasing Practices & Procedure, Materials Management Information System (MMIS)	L= 11	
		T= 2	P= 2

Learning Resources		
1	Text Books	1. Ahuja K., Material Management ,CBS Publishers & Distributors 2. Datta A. , “Materials Management”, Procedure, Text & Cases, Prentice-hallof India Pvt. Ltd, New Delhi. 3. Menon K., Kulkarni S., Purchasing and Inventory Management, SPD Publications 4. Jain K. and Patidar J., Purchasing and Materials Management, S. Chand
2	Reference books	1. Müller M., “Essentials of Inventory Management” Amacom, 2003. 2. Tersine R., “Principles of Inventory and Materials Management” North-Holland, 2007.
3	Websites	1. www.materialsmanagement.info/defscope/index.htm 2. http://www.materialsmanagement.info/inventory/functions-of-inventory.htm 3. https://www.managementstudyguide.com/inventory-management.htm 4. http://www.ispatguru.com/stores-management/
4	Journals	1. Journal of Purchasing and Materials Management - Wiley Online Library 2. Journal of Purchasing & Supply Management - Journals - Elsevier 3. International Journal of Procurement Management (IJPM) 4. International Journal of Purchasing and Materials Management
5	Supplementary Reading	1. Gopalakrishnan P. and Sundaresan M., Material Management: An Integrated Approach, Prentice-Hall of India Pvt.Ltd 2. Monczka R. and Robert B. Handfield, “Purchasing and Supply ChainManagement” 6th Edition, Jan 2015.
6	Practical Component	1. To interview Purchasing Manager of any local business to understand responsibilities and limitations of purchasing manager. 2. To visit any local manufacturing organization study functions of Store Management and storage security and safety aspects. 3. To interview Inventory Manager of any local business to study inventory control technique adopted by the organization. 4. Library Exercise on Materials Management Information System (MMIS) undertaken by any one company of your choice.

Semester	III	Total Credit	4
Course Code	EM -Spl-II- 307 -E	Credit Pattern	L-44, T-8, P-8
Course Title	RURAL MARKETING IN INDIA		

Course Out Comes: Students will be able to

1.	Able to identify, understand and evaluate the trends in the rural and agricultural markets in India.
2.	Will gain necessary skill sets being a rural marketing expert such as developing various marketing strategies for rural markets, able to adopt rural marketing research tools in a rational way etc.
3.	Able to develop Rural Marketing Strategy Model Report on the basis of learning points in the module.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit 1: Introduction to Rural Marketing: Definition, Classification, Nature and Characteristics of Rural Markets, Rural Market Structure and Size, Problems and Constraints in Rural Marketing, Constitution of Rural Markets in India, Recent Trends in Indian Rural Markets.	L= 11	
		T= 2	P= 2
2	Unit 2: Rural Marketing Research Introduction, significance and sources of information, key decisions, approaches and tools of market research- case for innovation, participatory approaches, innovative tools, rural vs urban marketing research, rural research business, challenges in rural marketing research	L= 11	
		T= 2	P= 2
3	Unit 3: Rural Consumer Behavior Rural Consumer: Classification and profile, Rural Consumer Buying Behavior – Major Forces Influencing Rural Consumer Behavior, Changing Characteristics’ of a Rural Consumer, Consumer Buying Process, Opinion Leadership Process, Dissemination of Innovation and Brand Loyalty.	L= 11	
		T= 2	P= 2
4	Unit 4: Rural Marketing Planning and Strategy Development: Rural Segmentation, Market Targeting and Positioning and Procedures in India, Planning For Rural Marketing, Strategic Issues In Rural Marketing: Rural Product Strategy – Rural Pricing Strategy – Rural Distribution Strategy – Rural Promotion Strategy, Introduction to PRA Technique and its importance in Rural Marketing,	L= 11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Ramkishan, I., 2004. “<i>New Perspectives In Rural And Agricultural Marketing</i>”, Jaico Publishing House, 2nd Edition 2. Pradip Kashyap, 2016, “<i>Rural Marketing</i>”, Pearson Publications, Third Edition, 3. Dr. Badi, R., and Prof. Badi, N.V., 2017. “<i>Rural and Agricultural Marketing</i>”, Himalya Publications, New Delhi
2	Reference books	1. Sarwade W.K., 2006. “Agricultural Marketing” Vatsala Baliram Prakashan Kendra, Mumbai 2. Gopalswamy T.P., 2006, “Rural Marketing: Environment Problems and Strategies”, Vikas Publishing House Pvt. Ltd, New Delhi 2006, Third edition, 2009, 3. Verma S.B; Jiloka S.K., 2006, “Rural Agricultural and Marketing”, Deep and Deep Publications, India 4. Kamat M.; Krishnamurthy R., 2003. Rural Marketing, Himalaya 5. Habeeb-ur-Rahman K.S., 2003, “Rural Marketing In India”, Himalaya Publishing House, New Delhi 6. Abbott J.C.; Makcham J.P, 1992. “Agricultural Economics and Marketing in the Tropics”, Elbs with Longman, 2nd Edition. 7. Singh G.N.; Singh D.S., Singh R. I, 1990. “Agricultural Marketing In India, Analysis Planning And Development” Chugh Publications, Allahabad 8. Rajagopal, 1993. “Indian Rural Marketing”, Rawat Publication.
3	Websites	www.agriculture.gov.in www.manage.gov.in www.ica.coop www.apeda.gov.in www.enam.gov.in www.ruralmarketing.in
4	Journals	Rural Marketing Indian Journal of Marketing Vikalpa
5	News Papers and Magazines	Rural Marketing The Times of India The Economic Times Business Standard Outlook Business The Hindu Frontline Business Today Business India Business World Financial Express

Semester	III	Total Credit	4
Course Code	EM -Spl-II- 307 -F	Credit Pattern	L-45, T-8, P-7
Course Title	INFORMATION SYSTEM AUDIT AND CONTROL		

Course Objectives

1. To enable a student to use analytics to solve business problems.
2. To Make Use of I.S Audit Procedures.
3. To develop skills in the theory, techniques and practical issues involved in computer-based information systems control and auditing.

Course Outcomes: Students will be able to;

1. Classify the concepts of computer security, computer security threats and the corresponding remedies.
2. Describe the trend of computer security threats.
3. Develop an audit plan to achieve the IT audit objectives.

Unit Number	Contents	Number of Sessions	
1	Introduction – Overview Of Information System Auditing, Need For Control And Audit Of Computers, Need for Assurance, Effect Of Computers On Auditing, Benefits of IS Audit for An Organization. IT Governance and Auditors. Conducting Information System Audit –Audit Charter And Engagement Letter, A Typical IS Audit Charter	L= 11	
		T= 2	P= 2
2	Audit Planning, Audit Approaches, Risk Assessment, Information Gathering Techniques, Vulnerability, System Security Testing, Development Of Security Requirements Checklist, The Road Map For Setting Up Information System Audit For Bank, The Management Control Framework: Introduction, IT Management Framework.	L= 12	
		T= 2	P= 1
3	Top Management Controls – Evaluating – Evaluating The Planning, Organizing-Policies and procedures, HR Policies and Procedures Relating To Information System, Leading Function, Controlling Function. Audit of Program Development, Audit of Program Modification, Field level input control, Record level input control, Conversion Audit.	L= 11	
		T= 2	P= 2
4	Operational Control Review – Control Requirements for Backup, Backup Procedures, Selection of storage media, Security Measurement Controls – Introduction, Conducting A Security Program, Major Security Threats And Remedial Measures, Need Of Disaster Recovery And Business Continuity, Data Disaster, Virus Disasters, Software Disasters, Data Center Disasters, Core Banking Solution.	L=11	
		T= 2	P= 2

Note: Students will have to complete all tutorials, assignments and lab sessions for internal Credits.

Learning Resources		
1	Reading References	1. Weber, Ron. "Information System Control And Audit." In Information System Control And Audit, by Ron Weber. Delhi: Person, 2016. 2. Cascarino, Richard. Auditors guid to information system auditing. Agra: Shity Bhavan, 2017.

SEMESTER – IV

Semester	IV	Total Credit	4
Course Code	EM - 401	Credit Pattern	L-45, T-8, P-7
Course Title	LAND AND WATER MANAGEMENT		
Course Objectives			
1.	To understand problems and solutions related with land resources.		
2.	To study various aspects of water management.		
Course Outcomes: After studying this course the students will able to			
1.	Identify the concept of optimal land use planning based on capabilities to prevent further degradation and relate these to appropriate methodologies of sustainable land management.		
2.	Describe challenges and give suggestions to manage accelerated soil erosion, ground water recharging and water logging conditions, with the emphasis on prevention, control and reclamation of saline-alkali soils.		
3.	Develop understanding of the hydrology of streams and lake systems and concept of water shed management, and describing the processes of and importance of groundwater flow and aquifer systems.		
4.	Perceive the challenges of maintaining surface and ground water quality, apply their knowledge base and research skills to current issues pertaining to water resource management, and remediation, with emphasis on related economic, social, and public policy dimensions.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Soil Pollution: Importance of Soil resources, Physical, Chemical and Biological Properties of soil. Definition, causes/ sources of soil pollution: agro-chemicals, heavy metals, disposal of city refuse, waste water, soil salinity and water logging. Methods of Soil sampling, Effect of Soil pollution on Flora and Fauna. Control of Soil Pollution: Prevention & Elimination, Soil pollution management.	L=11	
		T= 2	P= 2
2.	Land Management Land classification on the basis of topography, climate, and utilization; Land use patterns in India, Need of Land Management. Spheres of Land Management, Land Productivity, Capability and Capacity, Land Capability Classification as a Guide for Soil Conservation. Desertification with special reference to India, Degradation of Land: causes, effects & control, Acid Soil management, Saline & Alkali Soil Management. Soil Erosion, Methods of Soil Conservation, and Wetlands & Water Logged areas.	L= 12	
		T= 2	P= 1
3.	Water Resources Classification and sources of surface and groundwater; Exploration and exploitation of water resources; Quality of Irrigation Water; Consequences of unskilled irrigation practices, Impact of dam construction on ecosystem and society, Utilization of water resources for energy production, sanitation, drinking, navigation, industries and agriculture; National Water Policy.	L= 11	
		T= 2	P=2

4.	Watershed Management : Water management strategies and problems, Watershed- concept and Classification; Watershed characteristics, concept of Contour Watershed Management structures, Multi-disciplinary water management.	L=11	
		T= 2	P= 2

Learning Resources

1	Text Books	- Text Book Of Soil Science by PAL, CBS publishers, 2018 - Textbook Of Environmental Science And Technology by REDDY, BSP publishers, 2019 - A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 - A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 - A Text Book Environmental Studies, Chatawal & Sharma, HPH - A Text Book Environmental Science, Joshi & Joshi, APH - A Text Book of Environmatal Studies, Nambiar, STP
2	Reference books	- Managing Natural Resources: Focus on Land and Water. Misra H.N, 2014 - Land and Water Management Engineering. Madan K. Jha V.V.N. Murty, 2013. - Land & Water Management Principles. R Suresh, 2008. - Hydrological Measurements for Watershed Research by Wasi Ullah, SK Gupta and SS Dalal. - Watershed Management by JVS Murthy, New age International (P) Ltd, New Delhi. - Ground water Hydrology by Todd,D.K. Willy India Pvt. Ltd, New Delhi,2011. - Ground water hydrology by Todd, David Keith, 2010. - Principle and Practice of Water Management by S.C.Panda Agrobos (India). - Conservation of Water Resources Problems & Prospects, 2008. - Resource Values & Development, 1999 by Amarthysen, Oxford Uni. Press New Delhi. - Soil Geology, Kolay. A. K ., Atlantic Publisher. - Soil Pollution, 2009, Mishra S. C. , APH Publications New Delhi. - Text Book of Soil Science, 2005, Daji J.A. Media Promotors & Publisher , New Delhi. - Introduction to Soil & Water Conservation Engineering, 2002, Mal..B.C. Kalyani Publisher, Ludhiyana. - Land Utilization : Theory & Practice, Mandal R. B. , Concept Publishing. - Environmental Geography Science landuse & Earth, Marsh Willium. M. Jhon Willy & Sons, New York. - Geochemistry, Groundwater & Pollution, 2005, Appcco C.A.S., A.A. Balkema Publishers. - Land Degradation & Desertification, Jha V. C., Rawat Publications, Jaipur. - Hand Book of Ground Water Remediation & Treatment Technology, Cheremisinoff N.P., Crest Publishinh hours, New Delhi. - Land Reforms In India- Performance & Challenges in Gujarat & Maharashtra, Shah Ghanshyam, Sage Publications, New Delhi.

3	Websites	• https://www.sciencedaily.com/terms/sustainable_land_management.htm • http://www.yourarticlelibrary.com/geography/soil-conservation-4-methods-that-must-be-adopted-for-conserving-soil/13910 • https://www.conserve-energy-future.com/methods-of-soil-conservation.php • https://sciencing.com/types-water-resources-5127497.html • https://www.un.org/waterforlifedecade/water_and_sustainable_development.shtml
4	Journals	• Current Science, ISSN No. 0011-3891 • Down to Earth • Every Thing About Water • International Journal of Environmental Engineering Science, ISSN No .2229-3094 • Resonance, ISSN No. 0971-8044 • Journal of Earth System Science, ISSN No .2253-4126
5	Supplementary reading	• Soil Quality Survey • Water Quality Reports of State Government
6	Practical Component	Practicals based on this paper will be conducted under Paper No. CC 203 (Practical- III)

Semester	IV	Total Credit	4
Course Code	EM - 402	Credit Pattern	L-45, T-8, P-7
Course Title	STRATEGIC MANAGEMENT		

Course Objectives	
1.	To familiarize students with strategic management process in detail.
2.	To analyze organizations for strategy formulation and implementation.
3.	To design various types of strategies for a given industry.
4.	To evaluate an industry using various tools and techniques for strategic choice.
5.	To be able to evaluate strategies implemented.
Course Outcomes Students should be able to:	
1.	Discuss various concepts and theories in the field of strategic management.
2.	Formulate various types of strategies for a given industry.
3.	Evaluate an industry using various tools and techniques for strategic choice.
4.	Critique strategies implemented.
5.	Devise strategic approaches to managing a business successfully in a global context

Unit Number	Contents	Number of Sessions	
1	Introduction to Strategic Management & External Environment Introduction to Concept of Strategy and Strategic management; Stages of strategic Management, key terms in Strategic Management; The Strategic Management Model; Benefits and pitfalls of strategic Management; Strategy formulation – Vision and Mission; importance of vision and mission statements; importance of vision and mission statements, characteristics of Mission statements; evaluating and writing mission statements. External environment Audit – purpose and nature; Ten external forces that affect an organisation; Porters Five Forces Model, External Factor Evaluation Matrix, Competitive profile Matrix.	L=11	
		T=2	P=2
2	Internal Analysis & Corporate Strategies Nature of Internal Audit; Integrating strategy and culture; management, marketing, finance, operations audit; Value Chain Analysis; Internal Factor Evaluation Matrix. Strategies in Action – long term objectives; Types of Strategies – levels, integration strategies, Intensive Strategies, Diversification Strategies, defensive Strategies, Michael Porter's Generic Strategies -Blue, red & Purple Ocean strategies Means for achieving strategies.	L=12	
		T=2	P=1
3	Strategic Analysis and Choice Strategic Analysis & Choice Process; Strategy formulation Analytical Framework; SWOT Matrix, Strategic Position and Action Evaluation (SPACE) Matrix, BCG Matrix, Internal- External (IE) Matrix, Grand Strategy Matrix, Quantitative Strategic Planning (QSPM) Matrix; Cultural Aspects of SAC, Politics of SAC. McKinsey's 7s framework Strategy Implementation – Need for clear objectives and policies, allocate resources and manage conflict; Match structure with strategy, Strategic HR, Operations, Marketing, Finance Issues.	L=11	
		T=2	P=2

4	Strategic Evaluation and Key Strategic Management Issues Strategy Evaluation Process Criteria And Methods, Strategy Evaluation Activities, Balanced Score Card, Sources of Strategy Evaluation Information, Characteristics of Effective Strategy Evaluation System, Contingency Planning, Auditing, 21 st Century Challenges in strategic Management; Business Ethics, Social & Environmental Responsibility – Whistle blowing, bribery and workplace balance, Social responsibility Policy, Environmental Sustainability, wildlife Welfare; Global and International Issues – Nature of doing business globally, advantages and disadvantages of doing business globally.	L=11	
		T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. David F R and David F R (2018), 16th Ed, Strategic Management Concepts – A Competitive Advantage Approach, Pearson India Education Services, Noida India. 2. Hoskisson, Hitt, Ireland & Manikuttu, “Strategic Management”- A south Asian Perspective Cengage Learning, 9th Edition. 3. Rao, V. S. P., (2013), 2nd Ed., Strategic Management Text & Cases, Excel Books, New Delhi, India. 4. Thomas Wheelen, T., Hunger J. D, Hofman, A. N., & Banford, C. E., (2018), Concepts in Strategic Management and Business Policy Pearson Publication , New Delhi, India.
2	Websites	www.mckinsey.com/in
3	Supplementary reading	Business Standard : The Strategist supplement Economic Times
4	Practical component	Case studies and assignments on real life situations

Semester	IV	Total Credit	4		
Course Code	EM - 403	Credit Pattern	L-44, T-8, P-8		
Course Title	BUSINESS ETHICS AND CORPORATE GOVERNANCE				
Course Outcomes: At the end of the course Students will be able to					
1.	Describe ethical decision-making framework.				
2.	Analyze ethical and moral issues in life and in Business.				
3.	Examine the evolution of Corporate Governance in India.				
4.	Generalize Principles of Good corporate governance.				
Unit Number	Contents			Number of Sessions	
1	Unit 1: Introduction to Business Ethics Concept of Ethics, Nature and Characteristics of Business Ethics, Doctrine of Karma, Causes of Unethical Behaviour , Work Ethics, Code of conduct for business, Ethical decision making frameworks, Ethical theories: Rights Theories, Justice Theories, Utilitarianism, The Virtue Approach, The Common Good Approach.			L=11	
				T=2	P=2
2	Unit 2: Ethical issues : Identification and Solutions Ethical Dilemma, Resolution of ethical dilemma, Fostering ethics, Whistle blowing concept and policy, Corruption, Bribery. Ethical issues in Global Business, Concept of sustainability reporting, Ethics in various functional areas- Marketing, Advertising, HRM, Accounting, Ethics in environment protection.			L=11	
				T=2	P=2
3	Unit 3 : Introduction to Corporate Governance Corporate Governance – Concept, Objectives, History ,Issues in Corporate Governance, Elements of good Corporate Governance, OCED Principles of Corporate Governance, Corporate citizenship, Corporate Social Responsibility and Stakeholders Role, Triple Bottom line and Carroll's model of CSR.			L=11	
				T=2	P=2
4	Unit 4 : Corporate Governance in India. Naresh Chandra Committee Recommendations, Narayan Murthy Committee Recommendations, The Cadbury Committee, Recommendations in Companies Act 2013, Amendments by Indian regulators pertaining to Corporate Governance. Recent Developments in India- Corporate Governance Score card, Corporate Governance Awards. Role of Board of Directors, Types of Directors and their Functions, Independent Directors- Functions and Role, Ethics committee.			L=11	
				T=2	P=2

Learning Resources		
1	Text Books	1. Business Ethics and Corporate Governance , B.N.Ghosh, Tata Mcgraw Hill
2	Reference books	1. Fernando A.C. , Corporate Governance, Principles, Policies and Practices, Pearson Education 2. Business Ethics and Corporate Governance , B.N.Ghosh, Tata Mcgraw Hill 3. Business and Government , Francis Cherunilam , Himalaya Publishing House 4. Joffy George, The Art of Corporate Governance 5. SEBI Regulations 2015 6. Shaw W.H, Business ethics, Thomson 7. Ferrel O.C., Farrell Linda, Business Ethics, Ethical decision making and cases, Biztantra
3	Websites	www.onlineethics.org www.oecd.org
4	Journals	1. Business Express 2. Bloomberg Business Week 3. Business India
5	Supplementary Reading	1. The Economics Times
6	Practical Component	1. Studying Governance system of any company and classifying it into different types of systems which are studied and justifying why such system is chosen by that organization. 2. Preparing the code of conduct of any five business organization. 3. Class debate on ethical dilemma. 4. Identify three ethical business organizations and list their ethical norms. 5. Library Exercise on Corporate Governance activities undertaken by any of two company

Semester	IV	Total Credit	4
Course Code	EM - 404	Credit Pattern	L-44, T-8, P-8
Course Title	START UPS AND ENTREPRENEURSHIP DEVELOPMENT		
Course Outcomes: At the end of the course Students will be able to			
1.	Describe the concept and types of Start ups.		
2.	Explore the start up ideas and start up India scheme.		
3.	Identify various funding options for start ups.		
4.	Create a start up on the campus.		
Unit Number	Contents	Number of Sessions	
1	Understanding Start ups: Understanding the concept of start up and its economic rationale. The difference between a startup and a small Business, Types of Start Ups: Life style start ups, Small business start ups, Scalable startups (Silicon Valley entrepreneurs), Buyable startups, Social start ups, Technology Startups. Innovative Business Models adopted by startups worldwide. Startup Ecosystems with examples. Indian Start ups in the last ten years. Government policy for MSME and start up India Scheme.	L=11	
		T=2	P=2
2	Innovations and Entrepreneurship: Meaning and definitions of Innovation, Practice of Innovation, Types of Innovation, Process of Innovation, Drucker’s Seven sources of Innovations. Protection of Intellectual Property. Patent laws Meaning, concept, definition. Meaning of trade mark, trade secrets, copyright, patent, geographical indications, brand, logo etc – concept and meaning. Patent law in India. Process of filling IPR in India – patent, trademark, GI, trade mark, copyright, IPR and WTO - TRIPS. Intellectual property management.	L=11	
		T=2	P=2
3.	Design thinking Approach: DT frame works. Phases, Methods and Tools of Design Thinking- Phases: Explore, Empathies, experiment, engage and evolve. Methods- field Observation, deep interviews, needs finding, persona identification. IDEATION USING Deconstruct & Reconstruct. Domain Selection- Startup idea Generation, Screening, Selection. Project in Design Thinking.	L=11	
		T =2	P= 2
4.	Funding Methods for Startups: Stages of Start up Financing, Types of Investors for Startups 1) Friends & Family. 2) Banks & Government Agencies. 3) Angel Investors 4) Boot strapping 5) Accelerators & Incubators 6) Family Offerings 7) Venture Capital Firms. 8) Corporate Investors. Funding for startups through government agencies India. Preparing a Business Plan, Key elements and pitching for investment. Problems and Challenges of startups: Lack of legitimate mentors for Startups, Competition from big players, stringent norms of financiers, marketing problems, human resource management problems, funding problems, delays and project cost escalation. Sustaining and growing the startup.	L=11	
		T=2	P=2

Learning Resources		
1	Text Books	1. Mohanty S.K. (2019) – Fundamentals of Entrepreneurship, Prentice Hall of India 2. Arya K., Entrepreneurship: creating and leading an entrepreneurial organization. By Pearson India. 3. Zimmerer & Scarborough – Essentials of Entrepreneurship & Small Business Management, Prentice Hall of India 4. Allen, K. (2003) Launching New Venture, Cengage Learning 5. Drucker P. (2006), 'Innovation and entrepreneurship'. HarperCollins. 6. Angela Albu ' Fundamentals of Innovation' IntechOpen http://dx.doi.org/10.5772/intechopen.69005
2	Reference books	1. Hisrich P., Irwin.' Entrepreneurship: Starting, Developing and Managing a New Enterprise. PHP 2. Nandan R : 'Unlashing your entrepreneurial Potential' Sage Publication 3. Lall M, 'Entrepreneurship', Excel books 4. Mathew J Manimala :- Entrepreneurship at the Crossroads – Biztantra Pub. 5. Ries E, (2017) 'The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses:' Published By Currency, USA 6. Khandwalla P. (2014) 'Creative Society: Prospects for India'. Vikas Publishing House, Noida 7. Thierry Burger-Helmchen edited (2012) 'Entrepreneurship – Creativity and Innovative Business Models' Published by InTech (pdf)
3	Websites	https://inc42.com/startups/ file:///E:/introduction%20to%20startup.pdf file:///C:/Users/student/Downloads/rebo_use_dp_2016_1613%20(1).pdf https://fi.co/insight/the-most-comprehensive-guide-to-the-silicon-valley-startup-ecosystem-ever-created
4	Journals	EDII, Ahmedabad Reports and Publications.
5	Supplementary Reading	Economic Times Business Standard Online reading of Harvard Business Review, Journal of Business Venturing
6	Practical Component	Case Study on Start Up Business Models and presentation. Visit to Incubations Interaction with Startup entrepreneurs

Semester	IV	Total Credit	4
Course Code	EM-Spl.I-405-A	Credit Pattern	L-45, T-6, P-9
Course Title	MANAGEMENT CONTROL SYSTEM		
Course Outcomes : The students will able to learn			
1.	Apply concept of marginal costing for decision making.		
2.	Analyze various operating and financial leverages to design capital structure.		
3.	Evaluate various types of budgets for managerial decision making.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Management Accounting: Meaning and Scope of Management Accounting In the Context of Changing Business Environment, Human Resource Accounting and Inflation Accounting. Strategic Management Accounting, Introduction of Accounting Information for Transfer Pricing. Methods of Transfer Pricing.	L=11	
		T=2	P=2
2	Marginal Costing: Meaning and scope, uses and advantages, Terminologies in Marginal Costing- Contribution, Margin of Safety, CVP analysis, BEP and Relevant Cost and Decision-Making.	L=12	
		T=1	P=2
3	Leverage Analysis: Meaning & importance of leverage, Types of leverages, Use of leverage in decision making, Measures of Operating and Financial Leverage, Effects of Leverage on Shareholders Returns.	L=11	
		T=1	P=3
4	Budget and Budgetary Control: Concept of Budget, Budgeting and Budgetary Control, Organization for Budgetary control- Budget Centers, Budget Committee, Budget Manual, Budget period, Principal Budget, Advantages and limitations of Budgetary Control System. Types of budget.	L=11	
		T=2	P=2

Note:

1. Case studies on cash budget and flexible budget.
2. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
3. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Kapil Sheeba, "Financial Management" Pearson Publication House. 2. Jonathan Berk, Peter, "Financial Management" Pearson Publication House. 3. Sharan Vyuptakesh, "Fundamentals of Financial Management" Pearson Publication. 4. James C Van harne, "Financial Management & Policy" Pearson Publication House. 5. ICSI : Handbook on Mergers Amalgamations and takeovers.
2	Reference Books	1. V.K. Saxena And C.D. Vashisth: "Advanced Cost And Management Accounting", Sultan Chand And Sons, 6th Edition 2. M.Y. Khan And P.K. Jain, "Cost Accounting", Tata McGraw Hill, Edition 2000 3. Dr. M.K. Kole, "Human Resource Accounting, Institute Of Cost And Works, Accountants Of India", Edition 2000 4. N.K. Prasad, "Cost Accounting" 5. R.P.Rustagi, "Financial Management", PHI, 10th edition. 6. Garrison, Managerial Accounting, Tata McGraw 7. Maheshwari, Financial Accounting, Vikas Publishing 8. Khan and Jain, Management Accounting, Tata McGraw 9. Ramchandran, Financial Accounting for Management, Tata McGraw 10. JawaharLal, Accounting For Management, Himalaya Publishing 11. J.Madegowda, Accounting For Managers, Himalaya Publishing 12. M.N.Arora, "Cost and Management Accounting", Himalaya Publishing
3	Websites	<u>INFLIBNET</u> http://nlist.inflibnet.ac.in <u>J-GATE</u> http://jgateplus.com <u>EBSCO</u> http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4	Journals	• Prabhandan: Indian Journal of Management • IUP Journals • ICSI Journals • Finance India • Indian Journal of Finance (New Sub.) • Journal of Accounting & Finance etc.
5	Supplementary Reading	• Financial Express • Economics Times • Business Standard • Times of India • Indian Express.
6	Practical Component	• Practical Problems on marginal costing and decision making • Practical Problems on leverages • Practical Problems on flexible budget and functional budgets • Financial statement analysis using Proves-IQ • Companies Financial Reports & Corporate case studies.

Semester	IV	Total Credit	4
Course Code	EM-Spl.I-405-B	Credit Pattern	L-45, T-8, P-7
Course Title	PERFORMANCE AND COMPENSATION MANAGEMENT		
Course Outcomes: Students will be able to;			
1.	Gain insights of various conceptual aspects of Compensation, Performance Management and competencies and related law to achieve organizational goals.		
2.	Determine the performance/competency based compensation system for business excellence and solve various cases.		
3	Designing the performance and compensation strategies for attraction, motivation and retaining high quality workforce.		

Syllabus:

Unit Number	Contents	Number of Session	
1	Performance Management: Managing and addressing Employee Performance Problems. Performance Management and Employee Development: Employee Assessment system, Potential Appraisal System:- Development and Retention of high potentials, Role of HR Professionals in Performance management.	L= 12	
		T= 2	P= 1
2	Competency Model, Competency Model Pyramid, Application of competency model into various HRM functions, benefits of using competency mapping model in organizations, Benefits of using competency based performance appraisal system, Taking interviews to gather information, Behavioural Event Interview, process for writing competencies.	L= 11	
		T= 2	P= 2
3	Compensation Management: Wage and Salary Administration: Calculation of Wage, Salary, Perquisites, Cost of Living Index and Dearness Allowance, Designing and operating incentives, fringe and non-financial Benefits,. Job Evaluation:- Major Decisions in Job Evaluation, Job Evaluation Methods	L= 11	
		T= 2	P= 2
4	Employee Contributions: Pay For Performance (PFP): Competency Based Pay, Skill based Pay, Team based pay, Gain and Profit sharing, Merit Pay/Variable Pay, Compensation Strategies for Special Groups. Executive compensation, cafeteria compensation. Laws related to wages and salaries:- Minimum Wages, Payment of Wages, Payment of Bonus.	L= 11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Gerhart B and Rynes S L (2012), first edition, Compensation, Theory, Evidence and Strategic Implications, New Delhi, Sage Publications. 2. Armstrong M. Cummins A, Hastings S, Wood W (2006), 6th Edition, Job Evaluation: A Guide to achieving equal pay, New Delhi, Kogan Page India.
2	Reference books	1. Kohli A Sand Deb T (2009), Third Edition, Performance Management, Oxford University Press, New Delhi. 2. Milkovich G.T, Newman J M and Venkata Ratnam CS (2009), 9th Edition, Compensation, Chennai, McGraw Hill Education, 3. Henderson R I (2017), 10th Edition, Compensation Management in a knowledge based world, Delhi, Pearson. 4. Appa Rao C (2012), First Edition, Performance Management, New Delhi, biztantra 5. Armstrong M, Murlis H (2005), 5th Edition, Reward Management, New Delhi, Kogan Page in association with Hay Group.
3	Websites	1. www.Razorpay.com 2. www.Minthr.com
4	Journals	1. IOSR Journal of Humanities And Social Science 2. Indian Labour Journal
5	Supplementary Reading	1. https://www.toolbox.com/hr/performance-management/articles/what-is-performance-management/ 2. https://www.hibob.com/hr-glossary/compensation-management-planning/ 3. https://www.talentlyft.com/en/resources/what-is-behavioral-based-interview 4. https://www.namanhr.com/services/competency-mapping/
6	Practical Component	1. Students must prepare a comprehensive compensation plan to be offered to Executives. 2. Students must compare and analyze compensation practices in different countries. 3. Students to collect information from different organization regarding the Cost To Company of an employee. 4. Students have to prepare questionnaire for conducting wage survey and carry out wage survey for any selected sector and prepare a report for the same. 5. Students to calculate the bonus amount eligible to an employee working as a HR Executive

Semester	IV	Total Credit	4
Course Code	EM-Spl.I-405-C	Credit Pattern	L-45, T-8, P-7
Course Title	SALES AND DISTRIBUTION MANAGEMENT		
Course Objectives			
1.	To study the sales force management to develop the sales management skills.		
2.	To study concepts in Distribution management.		
3.	Identify and implement appropriate distribution channels.		
Course Outcomes: Students will be able to;			
1.	Evaluate concepts related to sales and distribution.		
2.	Manage sales force effectively.		
3.	Evaluate appropriate use of distribution channels.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit-I : Sales Management – Evolution, Meaning, Objectives, sales management & Control; Personal Selling & Salesmanship – Buyer – Seller Dyads, selling situations, Theories of Selling, SPIN selling, prospecting, sales resistance, Closing sale (sales Funnel); Personnel Selling Objectives –types, analysing market potential, Market Indexes, Sales Potential & Forecasting, Sales Forecasting Methods, converting industry forecast to company forecast, evaluation of forecasts; Personal Selling Strategy – competitive settings, determining Kinds of Sales Personnel, Determining Size of Sales Force; Sales Executive – functions & Qualities; Sales Organisation – Purpose, Setting up organisation, types of Sales Organisational Structures, Field organisation.	L=11	
		T=2	P=2
2	Unit II : Sales force management- recruitment meaning & process, selection process, Sales Training- defining aims, deciding content, selecting training methods, executing training programs; Motivation- meaning, interdependence & Motivation, leadership and Motivation, Communication & Motivation; Compensation of salespeople – devising Sales Compensation Plans, types, Managing Expenses of sales personnel, Sales Meetings and Sales Contests.	L=12	
		T=2	P=1
3	Unit III : Sales Budgets – purpose and procedure; Sales Target, sales Forecast & Sales Budget; Sales territory, Concept, Size, Allocation & Design, Territory Shapes; Sales Quota, procedure for sales quota. Types of sales quota, Methods of setting quota; Sales control and Marketing cost analysis.	L=11	
		T=2	P=2
4	Unit IV : Distribution Management – Introduction-Marketing Channels – channel members, channel functions, designing marketing channels, selecting channel partners, Channel Intensity: Managing Channel Partners – setting cooperative programs, role of manufacturer's sales force, channels partners cooperation, managing channel conflict; Channel Information Systems; E-commerce and Distribution Channel Management.	L=11	
		T=2	P=2

Learning Resources		
1	Text Books	1. Still, R.R., Cundiff E. W., Govoni, N. A. P., & Puri S., (2017) 6th Ed., Sales and Distribution Management, Pearson Education, New Delhi, India. 2. Panda, T. & Sahadev, S., (2019), 3rd Ed., Sales and Distribution Management, Oxford University Press, New Delhi, India. 3. Chunawalla, S. A, (2015), 2nd Ed., Sales and Distribution Management, Himalaya Publication, New Delhi India.
2	Supplementary Reading	1. The Economic Times 2. Business Standard 3. Business TIMES
3	Practical Component	1. Group Activity based on all the units 2. Discussion on Cases related to all units 2. Take business Games & other subject related activities 3. Library assignment on all the units

Semester	IV	Total Credit	4
Course Code	EM-Spl.I-405-D	Credit Pattern	L-45, T-7, P-8
Course Title	PROJECT MANAGEMENT		

Course Objectives

1.	To make students understand fundamental concepts and characteristics of project including the basic roles, responsibilities and functions of project manager.
2.	To Familiarize the Students with various Techniques of project financing and capital budgeting.
3.	To introduce students to project evaluation and termination.

Course Outcomes: Students will be able to

1.	Explain basic concept of Project Management including Project Appraisal, Project Risk Management and use of IT in Project Management.
2.	Select most appropriate Project from available options to the organization by analyzing all the projects on the basis of capital budgeting techniques.
3.	Develop the Project Report of the project undertaken by the organization.
4.	Determine Critical Path of project undertaken by organization and estimate project duration.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	OVERVIEW OF PROJECT MANAGEMENT & SELECTION Concept & Definition of Project, Characteristics of Project, Types of Project, Project Identification, Project Selection & Criteria, Project Life Cycle, Concept & Importance of Project Management, Roles and Responsibilities of Project Manager, Work Breakdown Structure.	L= 12	
		T= 1	P= 2
2	PROJECT APPRAISAL & RISK MANAGEMENT. Concept of Project Appraisal, Technical Appraisal, Commercial Appraisal, Economic Appraisal, Financial Appraisal, Management Appraisal, Social Cost- Benefit Analysis, Introduction to Risk Management, Role of Risk Management in Project Management, Steps in Risk Management.	L= 11	
		T= 2	P= 2
3	PROJECT FINANCING & SCHEDULING Estimating Cost of Project, Components of Cost of Project, Sources of Project Financing, Development of Project Network, Time Estimation, Developing The Project Network Using CPM/PERT, Crashing The Network, Project Review. (Numerical Treatment on CPM/PERT)	L= 11	
		T= 2	P= 2
4	PROJECT PLANNING & EVALUATION Project Evaluation: Concept, Purpose, Advantages. Project Audit: Meaning, Objectives, Phases of Project Audit. Project Quality Management, Project Termination, Project Management Information System (PMIS): Need of Project Management Software, Project Report Writing.	L= 11	
		T= 2	P= 2

Learning Resources		
1	Text Books	1. Gray C. , Project Management: The Managerial Process, Sixth Edition, McGraw Hill Education. 2. Nagrajan K. “Project Management”, New age international publication. 3. Ramakrishna & Kamaraju, Essentials of Project Management, Prentice Hall India Learning Private Limited.
2	Reference books	1. Meredith J. , Samuel J. Mantel Jr. “Project Management- A Managerial Approach” John Wiley and Sons. 2. Gray C., Larson E., “Project Management-The Managerial Process” Tata Mcgraw-Hill Publishing Co Ltd. 3. Wyzoubi R. & Acgary R., “Effective Project management”, Wiley India Pvt.Ltd.
3	Websites	1. https://www.project-management-knowhow.com/ 2. https://www.tutorialspoint.com/pmp-exams/index.htm 3. https://www.managementstudyguide.com/project-management-articles.htm 4. https://www.projectengineer.net/
4	Journals	1. International Journal of Project Management – Elsevier. 2. Project Management Journal PMI. 3. Project Management Journal - Wiley Online Library. 4. International Journal of Project Management ScienceDirect.com.
5	Supplementary Reading	1. Nicholas J. “Project Management For Business And Technology” Prentice Hall Of India Pvt Ltd. 2. Lewis J. “Project Planning, Scheduling And Control” Tata Mcgraw-Hill Publishing Co Ltd.
6	Practical Component	1. Role play to understand roles & responsibilities of project manager. 2. To identify and visit ongoing projects undertaken by any local business to study project appraisal techniques and risk management. 3. To meet project finance personnel from any financial institution to understand project financing and capital budgeting techniques. 4. Library Exercise on Project Report Preparation by studying project reports prepared by any one company of your choice.

Semester	IV	Total Credit	4
Course Code	EM-Spl.I-405-E	Credit Pattern	L-44, T-8, P-8
Course Title	AGRI PRODUCTION, SUPPLY CHAIN AND LOGISTICS MANAGEMENT		

Course Out Comes: Students will be able to

1.	Understand the importance of farm and its resource management.
2.	Review various farming systems, land tenure systems, their impact on productivity in agriculture sector.
3.	Understand the role of Supply chain methods in development of farm and farm allied activities.
4.	Critique the importance of logistics development in development of farm sector and farmer.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit 1: Fundamentals of Farm Management Scope of Modern Agriculture, Special Features of Agricultural and Industrial Production, Difference between Farm and Non-Farm Business Management; Making Small farm more effective, Farm Technology, Gains from Technological Improvements to Producers and Consumers, Mechanization and Automation.	L= 11	
		T= 2	P= 2
2	Unit 2: Theories of Farm Management and Farm Production Systems Farm system Theory: Theory of Farm Management by Objectives, Practices of Farm Management, Farm Production Systems: Peasantry, Proprietorship, Cooperative Farming, Capital Farming, Corporate Farming, Green House Farming and FPOs, Farm Management Tools, Farm Size and Productivity Debate, Measurement of Farm Efficiency.	L= 11	
		T= 2	P= 2
3	Unit 3: Supply Chain Management in Agribusiness Sector Introduction to SCM and Changing Business environment; Nature of association in supply chain, Evolution of SCM in agriculture, Business Process in the Agribusiness supply chain, Supply Chain categories, Integrated supply chains, Supply Networks: TCSCs, Contract Farming, Factors Determining the Nature of supply chains, Agri-Business Supply Chains in India and Case Studies, Success of supply chains.	L= 11	
		T= 2	P= 2
4	Unit 4: Agri-Business and Logistics Management Logistics Management: History and Evolution of Logistics, Elements of Logistics Management, Distribution Management, Distribution Strategies: Pool Distribution; Transport Management, Fleet Management, Service Innovation, Warehousing, Order Processing, Material Handling and Packaging for Logistics (Case Studies Discussion), Third – party Logistics (TPL/3PL), GPS technology.	L= 11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Mishra, A., Biswas, D. & Giri, A., (2019), Production Management in Agribusiness. In: H. P. House, AgriBusiness Management. (2019), Himalaya Publishing House, Mumbai (India), pp. 106 -120. 2. Diwase, S., (2009), Indian Agriculture and Agribusiness Management. 1st Ed., Krishi Resource Management Network, Pune. 3. Altekar RV. 2006. Supply Chain Management: Concepts and Cases. Prentice Hall of India.
2	Reference books	1. Panigrahy, S. R. et.al., (2020), 3rd Ed., Objective Agribusiness Management, Scientific Publishers, Jodhpur. India 2. Van Fleet, David et.al., (2014), 6th Ed., Agribusiness: Principles of Management. Cengage Learning, USA. 3. Monczka R, Trent R & Handfield R. 2002. Purchasing and Supply Chain Management. Thomson Asia. 4. Van Weele AJ. 2000. Purchasing and Supply Chain Management Analysis, Planning and Practice. Vikas Publ. House
3	Websites	www.agriculture.gov.in/ www.manage.gov.in www.ica.coop/ www.apeda.gov.in www.enam.gov.in www.ruralmarketing.in http://indiagovernance.gov.in/docsearch.php?search=Agriculture&from_map=1&type=theme
4	Journals	1. Indian Journal of Agricultural Economics 2. Indian Journal of Agricultural Marketing 3. Journal of Agribusiness 4. Rural Marketing
5	News Papers and Magazines	• Rural Marketing • The Times of India • The Economic Times • Business Standard • Outlook Business • The Hindu • Frontline • Business Today • Business India • Business World • Financial Express

Semester	IV	Total Credit	4
Course Code	EM-Spl.I-405-F	Credit Pattern	L-45, T-8, P-7
Course Title	APPLIED DATA SCIENCE AND BUSINESS ANALYTICS USING R		

Course Objectives

1. To understand and adopt the skills of big data analytics and Business Intelligence to varied aspects of managerial decision making.
2. To enable a student to use analytics to solve business problems.
3. To make use of a language R for applied data science.
4. To Apply BI tools for problem-solving.

Course Outcomes: Students will be able to

1. Identify and describe complex business problems in terms of analytical models.
2. Apply appropriate analytical methods to find solutions to business problems that achieve stated objectives.
3. Apply the knowledge of R gained to data Analytics for real-life applications.

Unit Number	Contents	Number of Sessions	
1	Introduction to Business Analytics, Prerequisites for effective business analytics, Applications of Business Analytics, ETL Process, Role of statistics in Analytics, The R community, The R environment, Installing R, Variables in R.	L= 12	
		T= 2	P= 1
2	Types of Digital Data, Input of data, Output in R, In-built functions in R, Single-mode Data Structure- Create, Data structure Attributes, subscripting data structure.	L= 11	
		T= 2	P= 2
3	Multi-mode data structure- Create, Data structure Attributes, subscripting data structure, Decision making Structures, Importing and Exporting, Predictive analytics, Emergence of Predictive Analytics, Applications of Predictive Analytics .	L= 11	
		T= 2	P= 2
4	Basic Visualization-Pie Chart, Bar Chart, Line Chart, Q-Q Plot, Box-and-Whisker plot, Basic Statistics using R, Time-series Models, Decision Tree, Clustering using R, Machine learning for text data, Building web applications with Shiny.	L= 11	
		T= 2	P= 2

Note:

1. Students Will Have To Complete All Practical Assignments Based On R.
2. Students will have to complete all tutorials, assignments, and lab sessions for internal credits.
3. The evaluation of 60 marks will be based on the practical exam. The external examiner will be assessing the Practical Paper.

Learning Resources

1	Reading References	1. Hadley Wickham, Garrett Golemund. R for Data Science: Import, Tidy, Transform, Visualize, and Model Data. Shroff/O'Reilly, 2017.
		2. Lander, Jared P. R for Everyone: Advanced Analytics and Graphics. 2018: Pearson, n.d.
		3. Ledolter, Johannes. Data Mining and Business Analytics with R. Wiley, 2013.
		4. R N Prasad, Seema Acharya. Fundamentals of Business Analytics. Apress, 2017.
		5. Fundamentals of Business Analytics. Wiley, 2016.
		6. Schniederjans, Marc J. Business Analytics Principles, Concepts, and Applications: What, Why, and How (FT Press Analytics). Person, 2016.
		7. Webb, Christopher. Power Query for Power BI and Excel. Apress, 2016.
		8. Laursen, GHN. Business Analytics for Managers - Taking Business Intelligence Beyond Reporting 2e: Taking Business Intelligence Beyond Reporting. Wiley, 2016.

Semester	IV	Total Credit	4
Course Code	EM-Spl.II-406-A	Credit Pattern	L-45, T-6, P-9
Course Title	INVESTMENT AND PORTFOLIO MANAGEMENT		

Course Objectives	
1.	To have understand on investment and avenues in investment.
2.	To have exposure on analysis, techniques of securities.
3.	To understand various life cycle stages for portfolio management.

Course Outcomes	
1.	Identifying various investment avenues as a small and corporate investor.
2.	To know relationship between security and market portfolio.
3.	To prepare investment plans for individuals during various life cycle stages.

Unit No.	Topic	Number of Sessions	
1	Introduction to Investment: Investment – Basics, Investment categories, Investment avenues, Investment, speculation and gambling, Non marketable financial assets, Money market instruments, Bonds (meaning, valuation of Bonds, Yield to Maturity), Debentures, Equity Shares, Schemes of LIC, Mutual Fund, Financial derivatives (Derivative market, instruments in market, calculations of pay off from options), Real assets, Real estate, Art – antiques & others, Introduction to stock market: Primary & secondary market, Regulations of stock market – companies Act, SEBI, securities contract regulation Act.	L = 11	
		T = 2	P = 1
2	Security Analysis: Fundamental analysis, EIC and CIE Approach, Quantitative and Qualitative Analysis; Technical Analysis, The Dow Theory - Primary Trend, The Secondary Trend, Minor Trend; Chart Analysis (line, bar, Point & figure and Candle stick); Efficient Market Theory – Basic Concepts, Weak form of EMH, Semi strong form, Strong Form, Market Inefficiencies.	L = 11	
		T = 1	P = 2
3	Portfolio Management and performance models: Meaning of Portfolio, Steps of Portfolio Management; Meaning and measurement of return and Risk, types of risks, Portfolio analysis, Portfolio and Single asset Returns and Risk – Mean, Variance, Covariance, coefficient of correlation, Beta (simple problems), Portfolio Markowitz Model, Simple diversification, Risk and return with Different correlation ; Portfolio Risk and Return. Portfolio Performance Models-Sharpe's Performance Index, Treynor's Performance Index	L = 12	
		T = 2	P = 3
4	Preparation of Investment Plans for Individuals: Introduction, Various life cycle stages of individuals- Young unmarried stage, Young married stage- Single earning members, Young married stage- Both earning members, Young married with children stage, Married with older children stage, Pre-retirement stage, Retirement stage, Practical problems or case studies for each stage of life cycle.	L = 11	
		T = 1	P = 3

Note:

1. Case studies on each of the aspects mentioned in the syllabus need to be discussed.
2. Videos cassettes, CDS and documentary films exhibited.

Learning Resources		
1	Text Books	- Prasanna, C. (2017) <i>Investment analysis and portfolio management</i>. New Delhi: Tata McGraw-Hill Education - KEVIN, S. (2022) <i>Security Analysis and portfolio management</i>. S.l.: PHI LEARNING - Talwar, S. (2016) <i>Security Analysis and portfolio management</i>. New Delhi: Cengage Learning
	Reference Books	- Sasidharan, K. and Mathews, A.K. (2011) <i>Security Analysis and portfolio management</i>. New Delhi: Tata McGraw-Hill Education - Dash, A.P. (2013) <i>Security Analysis and portfolio management</i>. New Delhi: I.K International - Agrawal, O.P. (2011) <i>Security Analysis and portfolio management</i>. Mumbai : Himalaya Publishing House
2	Websites	Library online Opac Address: http://192.168.1.111:8080/opac
3	Journals	- Journal of Investment and Management - The Journal of Investing - Dalal Street Investment Journal - The Journal of World Investment & Trade
4	Supplementary Reading	- The Times of India - The Economic Times - Financial Express - Dainik Sakal - Dainik Lokmat
5	Practical Component	- Practical Problems on Risk and return on single asset or portfolio (max 3 securities) - Practical Problems on Payoff Calculation - Practical Problems on Valuation of bond, yield to maturity - Practical Problems on Performance Index : Sharpe's, Treynor's, - Practical problems or case studies for each stage of life cycle

Semester	IV	Total Credit	4
Course Code	EM-Spl.II-406-B	Credit Pattern	L-45, T-8, P-7
Course Title	TALENT AND HUMAN CAPITAL MANAGEMENT		

Course Outcomes :- Students will be able to:	
1.	Describe the concept of Talent and Human Capital Management.
2.	Apply different concepts of Human Capital Management.
3.	Critically evaluate emerging trends in Talent and Human Capital Management.

Unit Number	Contents	Number of Sessions	
1	Talent Management: Acquiring talent, Retaining talent, Nurturing talent, and Developing and Recognizing talent, Separation of Talent. Principles of Talent Management, Talent Management Opportunity and Challenges, Myths about Talent Management, Current Trends in Talent Management. Benefits of Talent Management, Role of Human Resource in Remote Working – Meaning, Importance, Advantages and Disadvantages Employee Engagement: Means to promote Employee Engagement, Relationship with Talent Management.	L= 12	
		T=2	P= 1
2	Concept of Human Capital Management HRD Audit: Characteristics, Scope, Process, Methodology, Documents and outcomes. HR Accounting: Objectives, Methods, Advantages and Limitations. Human Resource Information System: Issues while adopting HRIS, Sub-systems of HRIS, Steps in designing HRIS, Advantages of using HRIS.	L= 11	
		T=2	P= 2
3	Employee empowerment- concept, objectives, Pre-requisites, types, Process, benefits, limitations. Concept of Work Life Integration, Flexi-time as a retention tool, Moonlighting: causes and HR interventions, Succession Management, Workforce Diversity, Green HRM, Employer and Employee Branding	L= 11	
		T=2	P= 2
4	Concept of HR Balanced Scorecard. Role of HRM in Learning organization. Quality circle- constitution and process Quality of Work life- objectives, importance, determinants of Quality of Worklife.	L= 11	
		T=2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.

Learning Resources		
1	Reference books	1. Lyle M. Spencer, Signe M. Spencer, Competence at work –JohnWiley 1993 2. Naik G.P, Competency mapping, Assessment and Growth - IIHRM,2010. 3. Herman Aquinas, Performance Management - Pearson Education,2007. 4. Lance A. Berger &Dorothy. Berger, The Talent Management Hand Book - Tata McGraw Hill.
2	Practical Components	1. Students are expected to conduct a study on how talent is acquired and retained – in various industries – and various strategies followed by the respective companies. 2. Students will collect data about the position of principal, director, and other teachers in your college and prepare a competency dictionary for the said positions. 3. Students will collect data in your college or any other organization using Q 12 instrument and analyze it to find out the engagement level of employees. 4. Students will identify the important positions in your college or any other organization and ascertain the measures if any taken to develop second line of leadership.
3	Journals	1. Harvard Business Review 2. Manpower Journal 3. Human Capital

Semester	IV	Total Credit	4
Course Code	EM-Spl.II-406-C	Credit Pattern	L-45, T-8, P-7
Course Title	ADVERTISING AND INTEGRATED MARKETING COMMUNICATION		
Course Objectives:			
1.	Impart conceptual knowledge about advertising and IMC.		
2.	Make students familiar with advertising and IMC strategies.		
Course Outcomes: Students will be able to;			
1.	Discuss conceptual knowledge of Advertising and IMC.		
2.	Devise Strategies for advertising and IMC.		
3.	Evaluate IMC policies and campaigns.		
4.	Evaluate performance of advertising and IMC strategies.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Strategic Brand Communication – Marketing Foundation, Integrated Marketing Communication; Advertising – Practice of advertising, Evolution of key concepts of Advertising, Advertising world, Changes in practice of advertising; Public Relations - meaning, process and tools, trends in public relations; Direct Response and Promotions – functions and elements of Direct Response Communications, Importance of Promotions, Multiplatform Communications; Brand Communication – meaning, Facets of Impact, Power of Brand Communication; Strategic Research – Process, Methods of Data Collection, Research Trends and Challenges.	L= 11	
		T= 2	P= 2
2	Segmentation and Targeting Audience – Brand Decisions, Influences on Consumer Decisions, Market Segmentation and Targeting, Profiling Markets and Target Audiences; Strategic Planning – meaning – Business Plan and Marketing Plan, Key Strategic Decisions, Consumer Insight and Account Planning; Creative Communication of Brand – Role of Creativity in IMC, Creative Thinking, Key Message Strategy Approaches, Management of Creative Strategy and its Implementation; Promotional Writing – Writer’s Role in Brand Communication, Types of Brand Communication Writing, Writing for Various Media, Challenges for Writers; Visual Communication – Role of Visual Communication, Basics of Design, Essentials of Production for Print, Essentials of Video Production, Web Design Considerations.	L= 12	
		T= 2	P= 1
3	Media in World of Change – Media Basics, Fundamentals of Media Strategy, Changing Patterns of Media Use; Paid Media – Traditional Paid Media, Out of Home Media, Online Advertising; Owned, Interactive and Earned Media – Owned Media, Owned but Interactive Media, Earned Interactive Media; Media Planning and Negotiation – Media Plans, Steps in Media Planning, Media Buying and Negotiation, Media Planning and Buying Trends.	L= 11	
		T= 2	P= 2
4	IMC and Total Communication – IMC Management, Key Concepts of IMC, IMC Campaign Planning, International IMC Campaigns, Managing 360 degree Communication Programs; Evaluating IMC Effectiveness – Brand Communication Impact, Evaluating IMC Message, evaluating Performance of IMC Tools, IMC Campaign Evaluation Challenges; Social Impact, Responsibility and Ethics – Social Impact of Brand Communications, Communicators’ Ethical Responsibilities, Regulation of Brand Communication	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and videos relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Morianty, S., Mitchell, N., Wells, W D & Wood C, (2003), 11th Ed, Advertising and IMC – Principles and Practice, Pearson Education, New Delhi, India. 2. Dutta, K., (2016), Integrated Marketing Communications, 1st Ed., Oxford University Press, New Delhi, India. 3. Shah, K., (2017), 1st Ed, Advertising and Integrated Marketing Communications, McGraw Hill, New Delhi, India. 4. Clow, K. E., & Black, D. E., (2013), 6th Ed, Integrated Advertising, Promotion and Marketing Communications, 5. Blakeman, R., (2018), 3rd Ed, Integrated Marketing Communication, Pearson Education, New Delhi, McGraw Hill, New Delhi, India. 6. Blech, G. E., Blech, M. A. & Purani, K., (2021) 12th Ed, Advertising and Promotion: An Integrated Marketing Communications Perspective, McGraw Hill, New Delhi, India. 7. Shimp, T. & Andrews, J. C., (2005), 9th Ed, Advertising Promotion and Other Aspects of Integrated Marketing Communications, South Western Publishers, New Delhi, India. 8. Juska, J. M., (2021), 2nd Ed, Integrated Marketing Communication: Advertising and Promotion in a Digital World, Routledge Publisher, New Delhi, India.
2	Websites	https://www.ama.org/ https://www.academyofindianmarketing.org/ (Academy of Indian Marketing (AIM) Management Institutions) https://www.ima-india.com/ (https://www.ima-india.com/)
3	Supplementary Reading	Economics Times, Brand Equity Business Standard,
4	Practical Component	Case studies on relevant topics.

Semester	IV	Total Credit	4
Course Code	EM-Spl.II-406-D	Credit Pattern	L-45, T-7, P-8
Course Title	QUALITY MANAGEMENT		

Course Objectives

1.	To make students understand fundamental concepts and principles of quality management, including the basic concept and functions of service quality management.
2.	To make students knowledgeable about theoretical aspects and practical application of statistical quality control techniques.
3.	To introduce students to various quality management awards & its framework.

Course Outcomes: Students will be able to

1.	Explain basic terms and concepts related to Quality Management including Quality Assurance, Cost of Quality & Quality Function Deployment.
2.	Solve problems on Process Control Charts and Interpret on the process capability.
3.	Discuss recent techniques of quality management including Total Quality Management, Six Sigma and Quality Circle.
4.	Make use of quality awards framework to qualify the organization for various quality management awards.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	INTRODUCTION TO QUALITY MANAGEMENT Definitions of Quality, Dimensions of Quality, Meaning of Quality Management, Quality Assurance, Quality of Design, Quality of Conformance, Cost of Quality: Cost of Poor Quality. Introduction to Service Quality, The Service Quality GAP Model, Measuring & Improving Service Quality.	L= 12	
		T= 1	P= 2
2	STATISTICAL QUALITY CONTROL Meaning And Significance of Statistical Quality Control, Need of Acceptance Sampling, Types of Sampling Plans, OC Curve, Introduction To Statistical Process Control & Control Charts, Control Charts for Variable, Control Charts for Attribute. (Numerical Treatment on Control Charts)	L= 11	
		T= 2	P= 2
3	QUALITY IMPROVEMENT TOOLS & TECHNIQUES Total Quality Management: Concept of TQM, Principles of TQM, TQM Model, Implementation of TQM (PDCA Cycle). Six Sigma: Introduction to Six Sigma, Evolution of Six Sigma, DMAIC Model for Implementing Six Sigma. Quality Circles, Benchmarking, Quality Function Deployment.	L= 11	
		T= 2	P= 2
4	QUALITY MANAGEMENT SYSTEM & AWARDS Quality Audit, Quality System Standards, Bureau of Indian Standards, Introduction to ISO, Importance of ISO Certification, ISO 9001 Structure, Deming Prize, Malcolm Baldrige National Quality Award, Rajiv Gandhi National Quality Award, Ramkrishna Bajaj National Quality Award.	L= 11	
		T= 2	P= 2

Learning Resources		
1	Text Books	1. Mitra A., Fundamentals of Quality Control and Improvement, Wiley 2. Panneerselvam R. & Sivasankaran P., Quality Management, Prentice Hall India Learning Private Limited. 3. Bhat S, Total Quality Management – Text and Cases, Himalaya Publishing House, First Edition. 4. Mahajan M., Statistical Quality Control, Dhanpat Rai & Co.
2	Reference books	1. Bedi K., “Quality Management”, Oxford University Press. 2. Hoyle D., Quality Management Essentials, Butterworth-Heinemann.
3	Websites	1. https://www.managementstudyguide.com/total-quality-management-articles.htm 2. https://www.managementstudyguide.com/six-sigma-articles.htm
4	Journals	1. International Journal of Productivity and Quality Management (IJPQM). 2. Journal of Quality Management ScienceDirect.com. 3. Quality Management Journal – Scimago. 4. The TQM Journal information – Emerald.
5	Supplementary Reading	1. Dale H. Besterfield et al, Total Quality Management, Third edition, Pearson Education. 2. Evans & Lindsay, An Introduction to Six Sigma & Process Improvement, Cengage Learning.
6	Practical Component	1. To meet quality control manager of any local manufacturing organization to understand application of Quality Control Tools. 2. Identifying and visiting local ISO Certified organization to understand criteria for getting ISO Certification. 3. Visiting any local service sector business to study its Quality Management Framework. 4. Library Exercise on any one of the Quality Management Awards studied and any one award winning company of your choice.

Semester	IV	Total Credit	
Course Code	EM-Spl.II-406-E	Credit Pattern	L – 44, P - 8 ,T - 8
Course Title	AGRICULTURAL MARKETING, COMMODITIES MARKETS AND AGRI-BUSINESS		

Course Out Comes: Students will be able to	
1.	Identify review the relation between agricultural markets and agriculture development.
2.	Gain introduction to the necessary skill sets by study of agricultural markets and support systems.
3.	Review the importance of agricultural commodities markets in farm sector.
4.	Develop understanding of methods of trading in commodities markets.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit 1: Agricultural Marketing in India Agricultural Marketing and its Process, Classification of Agricultural Markets, Methods of Sales, Marketing Agencies and Marketing of Agricultural Products, Classification of Marketing Functions, Performance Analysis of Marketing of Agricultural Inputs – Fertilizers; Seeds; Agrochemicals; Tractors; Farm Equipment, Irrigation Equipment and Animal Feed.	L= 11	
		T= 2	P= 2
2	Unit 2: Commodities Markets and Commodity Exchanges: An Overview Introduction to Commodity Markets, Marketing of Agricultural Commodities, Physical Market Operations, Introduction to Commodity Exchanges Around the World and In India, Electronic Spot Exchange, Regulation of Commodity Markets in India, Understanding Risk, Managing Risk.	L= 11	
		T= 2	P= 2
3	Unit 3: Commodities Derivatives in India Evolution of Commodity Derivatives: Commodity Derivatives in India, Meaning, Derivative Markets and Its Participants, Economic Importance, Designing Commodity Controls, Types and Classification of Derivatives, Agricultural Derivatives in India: Issues and Challenges	L= 11	
		T= 2	P= 2
4	Unit 4: Trading on Clearing and Settlement on Commodity Exchanges: The Exchange platform, Exchange Membership, Commodity Brokerage, trading systems, participants in Commodity Markets, Role of speculators, Trading mechanism – Margin Trading, Mark to Market, Conflict Management; Arbitration and International Legal provisions, Market Positions, Order Types, Access to Commodity Exchanges, Volume and Open Interest, Clearing House Operations and Risk Management, Procedures, Delivery related issues like delivery centers, Deliverable varieties, Issues related to monitoring and surveillance by exchanges and regulator, Margining Method and the settlement process	L= 11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. MAHAJAN Neeraj and SINGH KAVALJIT, (2015), "A BEGINNER'S GUIDE TO INDIAN COMMODITY FUTURES MARKETS", Madhyam Book Publications, New Delhi. 2. Dr. Chaitnani Nandini Niti, (2019), "Commodity Markets And Derivatives", 2Nd Edition, CENGAGE India Publications. 3. Dr. Chaitnani Nandini Niti, (2009), "Commodity Markets: Operations, Instruments, and Applications", Tata Mc Grow Hill, India
2	Reference books	1. Helyette Geman (2005) Commodities and Commodity Derivatives: Modeling and Pricing for Agriculturals, Metals and Energy. John Wiley & Sons Ltd. 2. Helyette Geman (2009), —Risk Management in Commodity Markets: From Shipping to Agriculturals and Energy, J. Wiley & Sons Ltd. 3. Neil C. Schofield (2007), —Commodity Derivatives: Markets and Applications, John Wiley & Sons Ltd. 4. R.W. Kolb and Overdahl J (2007), Futures, Options, and Swaps, 5th Edition, Blackwell Publishers, Malden MA
3	Websites	www.indiabudget.nic.in www.commodityonline.com www.cmegroup.com/company/cbot.html www.ncdex.com www.mcxindia.com www.icexindia.com
4	Journals	Rural Marketing Vikalpa The Survey of Indian Agriculture Indian Council of Agriculture Research Journal (www.icar.org.in/icar-journals) Journal of Agricultural Marketing (https://ccsniam.gov.in) The State of Agricultural Commodities Markets, Annual publication of FAO
5	News Papers and Magazines	Rural Marketing The Times of India The Economic Times Business Standard Outlook Business The Hindu Frontline Business Today Business India Business World Financial Express

Semester	IV	Total Credit	
Course Code	EM-Spl.II-406-F	Credit Pattern	L – 45, P = 7, T = 8
Course Title	SOFTWARE ENGINEERING		

Course Out Comes: Students will be able to	
1.	To Understand The Nature Of Software Development And Software Life Cycle Process Models, Agile Software Development, SCRUM, And Other Agile Practices.
2.	To Develop The Skill Of Software Design And User-Centric Approach And Principles Of Effective User Interfaces.
3.	To Infer The Need For Project Management And Project Management Life Cycle
Course Outcomes: Students Will Be Able To;	
1.	Needs For Software Specifications Also They Can Classify Different Types Of Software Requirements And Their Gathering Techniques.
2.	Identifying The Role Of SDLC In Software Project Development And They Can Evaluate The Importance Of Software Engineering In PLC.
3.	Familiar With The Different Methods And Techniques Used For Project Management.
4.	Discuss The Parameters Of The Software Project's Success And Failures.

Unit Number	Contents	Number of Sessions	
1	Concept Of Software, Program V/S Software, Software Characteristics, Software Myths, Software Development Life Cycles. Waterfall Model, Prototyping Model, Spiral Model, Coding guidelines, Structured Approach To System Design : Principles of software design, DFD, Data Dictionary, Decision Tree, Decision Table & Structured English, E-R Diagrams.	L= 11	
		T= 2	P= 2
2	Software Requirement and Specification, Characteristics of Good User Interface Design, Concept of white box testing and black-box testing. Object-Oriented Project Design, Introduction: Software Project Management, I.T. Stakeholders, Understanding the project, Project Initiation, Product Life Cycle, Skills and Qualities of Software Project Manager.	L= 12	
		T= 2	P= 1
3	Project Planning - Work Break Down Structure, CASE Tools, Types of Software maintenance, Defining The Project – Deliverables, Objects And Scope, Project Scheduling, Estimating the project – Period Vs Effort, Contingency, Type of costs, Preparing the Project Budget, Defining And Managing The Risk, Managing Information systems, Project Time and Resources.	L= 11	
		T= 2	P= 2
4	Implementation Activities – Forming a Project Team, Managing People And Organizing Teams, Managing Client Expectations, Configuration Management, Identifying Information Systems Project Risks, Evaluating Success- Software Quality Factors, Causes of Failure, Project Success, Measure of end-user satisfaction, Closing the project And Business Continuity, Data Disaster, Virus Disasters, Software Disasters, Data Center Disasters.	L=11	
		T= 2	P= 2

Note:

1. Students will have to complete all tutorials, assignments, and lab sessions for internal credits.

Learning Resources		
1	Text Books	1. Fundamentals Of Software Engineering – Roger Pressman 2. Information Technology Project Management – Jack Marchewka – Wiley India Edition
2	Reading Resources	1. S. Mukherjee. Project Management for Software Development. Jaicob Publishing House, 2008. 2. Bob Hughes, Mike Cotterell. Software Project Management. McGraw-Hill Education, 2015. 3. Ghezzi, Rajib Mall. Fundamentals Of Software Engineering. PHP Learning Pvt Ltd, 2016. 4. Marchewka, JT. Information Technology Project Management. Wiley India Private Limited, 2006. 5. Pressman, Roger. SOFTWARE ENGINEERING: A PRACTITIONER'S APPROACH,. McGraw Hill Education, 2009.
3	Reference books	1. Fundamentals Of Software Engineering - Rajib Mall Ghezzi, Jazayeri Stephen H. Khan 2. Software Requirements And Estimation - Fenton, Ptleeger McGraw Hill 3. Project Management For Software Development - Jaico 4. IT Project Estimation – Paul Coombs. – Cambridge 5. Information System Project Management - John McManus, Trevor Wood- Happer – Pearson. 6. Software Project Management – Bob Hughs , Mike Cotterell – Tata McGrawhill
4	Website	1. www.tutorialspoint.com 2. www.guru99.com 3. www.examupdates.in
5	Journals	1. International Journal of Scientific Computing 2. International Journal of Statistics & Management Systems 3. Chartered Secretary
6	Supplementary Reading	1. Business Line 2. Current affairs in news papers 3. Information system Audit Reports from computer consultancies
7	Practical Component	1. Visit any computer consultant firms and discuss and understand about Software engineering process 2. Case study about Information system Project Planning

SYLLABUS

FOR

M. Sc. (Environment & Safety)

Faculty of Science – Under NEP 2020

(Implemented from Academic Year : 2023-24)



SCHOOL OF ENVIRONMENTAL SCIENCE AND MANAGEMENT

**CHHATRAPATI SHAHU INSTITUTE OF
BUSINESS EDUCATION AND RESEARCH (CSIBER),
(AN AUTONOMOUS INSTITUTE)**

UNIVERSITY ROAD, KOLHAPUR - 416 004 (M. S.), INDIA

2023

CURRICULUM OF M. SC. (ENVIRONMENT & SAFETY) PROGRAMME

The M. Sc. (Environment & Safety) Programme is of Two-year duration and is divided into four semesters. Semester I & II will be taught in the First Year of the programme and Semester III & IV during the second year of the programme with a provision of exit after completion of first year with Post Graduate Diploma in (Environment & Safety) and also re-enter the same programme to Second year of M.Sc. (Environment & Safety) to earn his / her Master's degree within six years from the date of admission to first year.

Programme Objectives:

The specific objectives of Master's Degree Programme are:

- (i) To provide in-depth knowledge to the students in respect of current environmental problems faced by human society and to develop among students scientific attitude based on interdisciplinary approach to enable them to take holistic view in decision taking.
- (ii) To provide students typical problem-oriented situations in environmental protection and management.
- (iii) To develop managerial competence among students in managing environmental development programs sponsored by the Government.
- (iv) To provide inform
- (v) Action about the importance of industrial safety, occupational health and prevention of accidents/incidents which cause loss of life / property.
- (vi) To anticipate, recognize, evaluate and control hazards affecting people, property & Environment.
- (vii) To Work individually/in a team to critically analyse, interpret and address the problems in environment and safety.
- (viii) To integrate ethical, social, current global issues and responsibilities as a professional in the field of Environment and Safety.

Eligibility for Admission:

Graduates in Science discipline, passed under 10+2+3 pattern from any recognized University are eligible to take admission to First year from the academic year 2023-24 and directly to second year, passed with four years of Graduation from the academic year 2027-28.

Intake: 30

Reservation:

Reservation for special categories such as SC, ST, NT, OBC, etc. will be as per the prevailing rules & regulations of Government of Maharashtra.

Admission Procedure for First Year:

All eligible applicants will be required to be present themselves at the Institute for the Written Test, Group Discussion and the Personal Interview at their own cost.

The final selection of students will be on merit on the basis of

Basic Degree	100 marks
Written Test	50 marks
Group Discussion	25 marks
Personal Interview	25 marks
Total:	200 marks

The Written test:

The written test will be held by the Institute, which is one of the criteria for admission.

The written test will be of 2 hours duration having 3 sections viz.

a)	English	30 marks
b)	General knowledge & Intellectual Test	40 marks
c)	Elementary Mathematics	30 marks

(These marks shall be converted out of 50)

On the basis of marks at the degree level and the performance at the written test, the candidate will be selected for Group Discussion and Personal Interview.

The Interview:

- The Interview will consist of Group Discussion (GD) and Personal Interview (PI) to be held by the admission committee.
- The topics for Group Discussion will be notified and a batch of 10 to 12 candidates will be discussing one topic given by the members of the committee. The discussion will take place under strict supervision and the student's ability to express, to understand the problem, to think clearly and to present systematically will be assessed.
- At the time of interview the selection committee will take into consideration normally the candidates academic qualifications as well as personal qualities, aptitude, interest, general knowledge and work experience in the field of management.

- d) The final selection will be strictly done on merit. The committee after conduct of the group discussion and personal interview will prepare the final list of selected candidates.

Direct Admission to Second Year:

Students who have completed four years of Degree Programme can be admitted to directly second year of the PG Programme based on merit.

Duration:

The degree of **M. Sc. (Environment & Safety)** shall be fulltime Programme and its duration shall be of Two Years. The programme consists of four semesters. The examination to be held in the First, Second semester will be called Part – I (First Year) and the examination to be held in the third and fourth semester will be called Part – II (Second Year). There is a provision of exit after completion of first year with Post Graduate Diploma in (Environment & Safety) and re-enter the same programme to Second year of M.Sc. (Environment & Safety) to earn his / her Master's degree within five years from the date of admission to first year.

Award of degree:

At the end of each semester credits earned by the students will be uploaded Academic Bank Credits (ABC) of each student. Student can earn **M. Sc. (Environment & Safety)** degree on redemption of 84 earned credits or 44 credits for PG Diploma. After successful completion of four semesters of **M. Sc. (Environment & Safety)** mark list ledgers will be forwarded to the Shivaji University for the award of Master's degree (minimum of 84 Credits) and PG Diploma after completion of first year (minimum of 44 Credits).

General features of the programme under NEP:

- a) New structure will be implemented with effect from Academic Year 2023-24
- b) Credits offered per Semester will be a Minimum of 20 and a Maximum of 24
- c) **M. Sc. (Environment & Safety)** Programme is based on Major subjects.
- d) Electives selected in the **M. Sc. (Environment & Safety)** are Relevant to OR Supportive of the Major Subject chosen.
- e) The exit option at the end of one year of the **M. Sc. (Environment & Safety)** program will commence from AY 2024-25 with PG Diploma.
- f) The one-year **M. Sc. (Environment & Safety)** Program will begin with effect from Academic Year 2027-28.

- g) Re-entry to complete the M. Sc. (Environment & Safety), after taking the exit option, will be permissible up to 05 years from the date of admission to the program.

Credit Specification:

- i) Theory Course: A minimum of 15 hrs of teaching per credit is required in a semester.
- ii) Laboratory Course / Field Project: A minimum of 30 hrs in Laboratory activities per credit is required in a semester.

Outline of Programme Structure:

1. **Major Courses:** A course which should compulsorily be studied by a candidate as Core Course.
2. **Major Elective:** A course which should compulsorily be studied by a candidate which is in supportive of major course.
3. **Research Methodology:** Research Methodology course of 4 credits is Mandatory in the first semester.
4. **On Job Training (OJT) / Field Project :**
On Job Training as a part of Sem II of 4 credits (Equivalent to 120 hours) can be completed by the students in any industry/ Organization after completion of Sem I Examination i.e during the Diwali vacation (15 days) or Field Project of 4 credits can be completed under the supervision of departmental faculty member. This includes collection of field-based data, analysis, interpretation, referencing, report writing, etc. in the functional area. One full day in week i.e @ of 8 hrs per day for 15 days (120 hrs.) is dedicated to field-based project.
5. Research Project (RP) – I: Research Project – I, of 4 credits as a part of Semester III is designed to acquire special/advanced knowledge in the field of Environment or safety. Research Project (RP) is required to be completed by the student during the summer vacation over a period of 15 days (120 Hours) in any Industry / R & D organization under the supervision of a guide allotted by the Industry or Organization.
6. Research Project (RP) – II: Research Project (RP-Master Thesis) – II of 6 credits (90 Hrs) as a part of Semester IV is a research oriented work, and a candidate studies such a course on his with an advisory support by a teacher / faculty member.
7. Practical: Laboratory based Practical course of 2 credits each is designed for better understanding of the theoretical concepts taught in the class room.
8. Duration of each semester will be 15 weeks.

Credit Pattern:

Every course offered will have three components associated with the teaching-learning process of the course, namely

Lecture - L, Tutorial - T, Practice - P

Where, **L** stands for **Lecture** session, **T** stands for **Tutorial** Session consisting participatory discussion / self-study/ desk work/ brief seminar presentations by students and such other novel methods that make a student to absorb and assimilate more effectively the contents delivered in the Lecture classes and **P** stands for **Practice** Session and it consists of Hands on experience / Laboratory Experiments / Field Studies / Case studies that equip students to acquire the much required skill component.

M. Sc. (Environment & Safety) consists of all the three components with weightage depending upon the paper.

If a course is of 4 credits, then the different credit distribution patterns in L: T: P format could be:

Theory Papers: 3: 0.5: 0.5

Practical: 1: 0: 3.0

I. ASSESSMENT:

Each paper is of 100 marks and contact hours for each paper is 60. One credit is allotted to 15 contact hours for theory papers and one credit is allotted to 30 contact hours for Field Project / Laboratory based course. For the paper of 100 marks. The distribution of the marks for theory, practical and project work will be as follows –

i) Internal Marks i.e. Formative Evaluation - 40 Marks

Breakup of Internal Marks (Formative Evaluation)

Sr. No.	Head	Marks 40	Marks 20
1.	Class Participation	10	5
2.	Library Assignment / Case study	10	5
3.	Test / Quiz / Class Test	10	5
4.	Class Assignment / Seminar	10	5
	Total	40	20

ii) External Marks i.e. Summative Evaluation - 60 marks

External Examination includes joint paper setting by the faculty member teaching the course in the institute and second examiner from another Institute / College / University. The assessment of papers will be done by an Internal and External examiner. A difference of more than **20%** in the marks awarded by these examiners would necessitate the evaluation of the paper by Third examiner. The **‘Two Nearest highest’** marks will be considered for determining the average mark of such papers.

1. Evaluation of Field Project

Assessment Strategy:

For the paper of 50 marks, the distribution of the marks for theory will be as follows –

- i) Internal Marks i.e. Formative Assessment - 20 Marks
- ii) Examination Marks i.e. Summative Assessment - 30 marks

Breakup of Internal Marks (Formative Assessment)

Sr. No.	Head	Marks Out of 20
1	Individual Viva	05
2	Presentation	10
3	Literature review/ Assignments	05
	Total	20

2. Evaluation of Research Methodology

Assessment Strategy:

For the paper of 100 marks, the distribution of the marks for theory will be as follows –

- i) Internal Marks i.e. Formative Assessment - 40 Marks
- ii) Examination Marks i.e. Summative Assessment - 60 marks

Breakup of Internal Marks (Formative Assessment)

Sr. No.	Head	Marks Out of 40
1	Research Participation	10
2	Literature Review and Laboratory/Research Record	10
3	Progress Report	10
4	Research Project Preparation	10
	Total	40

3. Evaluation of Research Project (Master Thesis)

Assessment Strategy:

For the paper of 150 marks, the distribution of the marks for theory will be as follows –

- i) Internal Marks i.e. Formative Assessment - 60 Marks
- ii) Examination Marks i.e. Summative Assessment - 90 marks

Breakup of Internal Marks (Formative Assessment)

Sr. No.	Head	Marks Out of 60
1	Research Participation	15
2	Literature Review and Laboratory/Research Record	15
3	Progress Report	15
4	Research Project Preparation	15
	Total	60

II. STANDARD OF PASSING:

1. In order to pass in a paper / head, a candidate will have to obtain 50% in the internal marks (Formative Evaluation), 40% marks in theory, and a minimum of 50% of the marks in aggregate in each paper head.
2. To pass the M. Sc. examination, a candidate will have to pass in all Four Semester in Two Parts i.e. Part – I (Semester – I & II) and Part – II (Semester – III & IV)
3. A candidate from the first year M. Sc. will be eligible to proceed to the Semester III, if he /she is not having more than 4 (Four) papers backlog of the First Year (that is Semester – I & II).

I Grading System:**Full Credit 100 Marks**

Marks Obtained	Letter Grade	Grade Point
96-100	S+	10.0
91-95	S	9.0
86-90	E+	8.5
81-85	E	8.0
76-80	O+	7.5
71-75	O	7.0
66-70	A+	6.5
61-65	A	6.0
56-60	B+	5.5
50-55	B	5.0
--	X	0.0
--	XX	---

Final Result: For the final result of the student Cumulative Performance Index (CPI) based on total earned credits vis-à-vis total earned grade points shall be calculated will be as follows.

Total earned grade points / Total credits i.e. **84** credits.

Result		
CPI	Final Grade	Classification of Final Result.
9.0 – 10.0	O	Excellent
8.0 – 8.9	A+	Out Standing
7.0 – 7.9	A	Very Good
6.0 – 6.9	A	Good
5.5 – 5.9	B+	Average
5.0 – 5.4	B	Pass
0.0 – 4.9	X	Unsatisfactory (Fail)

CALCULATION OF PERFORMANCE INDICES:

A distinction of the performance of one student from the other student is rather impossible to carry out from the grades obtained by a student in all the courses taken by him in a semester/year. Hence, the evaluation of various courses is cumulated in two performance indices termed as semester performance index (SPI) and cumulative performance index (CPI), the explanation of which is given below:

Semester Performance Index (SPI):

The performance of a student in a semester is indicated by a number called Semester Performance Index (SPI). SPI is the weighted average of all the grade points obtained by him in all the courses registered during the semester. If g_i is a grade with numerical equivalent as g_i obtained by a student for the course with credit C_i then, SPI for that semester is calculated using formula.

$$SPI = \frac{\sum C_i \cdot g_i}{\sum C_i}$$

where summation is for all the courses registered by a student and Semester SPI is calculated to two decimal places and rounded off. SPI once calculated shall never be modified. Generally, for the students failed in regular examinations SPI is calculated only after the declaration of re-examination grades.

Cumulative Performance Index (CPI):

An up-to-date assessment of the overall performance of a student from the first semester till completion of the programme is obtained by calculating an index called as Cumulative Performance Index (CPI).

The CPI is weighted average of the grade points obtained in all the courses registered by a student since the first semester of the programme.

$$CPI = \frac{\sum_i C_i g_i}{\sum_i C_i}$$

Besides SPI, CPI is also calculated at the end of every semester upto two decimal places and is rounded off. It is necessary to ensure that one course appears only once in calculation of CPI and the denominator in above equation does not exceed the total number of credits registered by him.

GRACE MARKS UNDER DIFFERENT ORDINANCE.

S.O. No. 1:-Grace Marks for Passing in each head of Passing (Theory/Practical/Oral/Sessional/External).

The Examinee shall be given the benefit of grace marks only for passing in each head of Passing Theory/Practical/Oral/Sessional/ in External examination as follows.

Head of Passing	Grace Marks
Up to – 50	2
051-100	3
101-150	4
151-200	5
201-250	6
251-300	7
301-350	8
351-400	9
And 401 and above.	10

Subject to the following conditions:

The benefit of such gracing marks in different heads of passing shall not exceed 1% of the aggregate marks in that examination.

The benefit of gracing of Marks under this Ordinance shall be applicable only if the candidate passes the entire examination of Semester.

The gracing is concurrent with the rules and guidelines of UGC and Shivaji University .

S.O. No. 2:- Grace Marks for Getting Higher Class

A Candidate who passes in all the courses and heads of passing in the examination without the benefit of either gracing or condonation rules and whose total number of Marks falls short for securing Second Class/Higer Second Class or First Class by marks not more 1% of the aggregate marks of that examination or up to 10 marks, whichever is less, shall be given the required marks to get the next higher class of grade as the case may be.

Provided that benefits of above mentioned grace marks shall not be given, if the candidate fails to secure necessary passing marks in the aggregate head of passing also, if prescribed in the examination concerned.

Provided further that the benefits of above mentioned grace marks shall be given to the candidate for such examination/s only for which provision of award of class has been prescribed.

Provided further The gracing is concurrent with the rules and guidelines of UGC and Shivaji University .

S.O. No. 3 Condonation

If a candidate fails in more than one head of passing, his/her deficiency of marks in such head of passing may be condoned by not more than 1% at the aggregate marks of the examination. However condonation, whether in one head of passing or aggregate head of passing be restricted to maximum upto 10 marks only.

Condonation of deficiency of marks be shown in the statement of Marks in the form of asterisk and Ordinance number.

Provided further that this gracing is concurrent with the rules and guidelines of UGC.

**Structure of M. Sc. (Environment & Safety)
(Implemented from 2023-24) Under NEP:2020**

M.Sc. - I Year

Semester – I

Choice Code	Subject	Total Credits	L:T:P	Contact Hours	Int. Marks	Ext. Marks	Total Marks
EVS -501	Fundamentals of Ecology and Natural Resources	4	3:0.5:0.5	60	40	60	100
EVS -502	Air and Noise Pollution	4	3:0.5:0.5	60	40	60	100
EVS - 503	Bio-statistics	2	1:5.0.25:0.25	30	20	30	50
EVS - 504E1 OR	Fundamentals of Safety	4	3:0.5:0.5	60	40	60	100
EVS - 505E2	Remote Sensing and GIS						
EVS -506	Research Methodology	4	3:0.5:0.5	60	40	60	100
EVS -507	Practical 1	2	0.5:0:1.5	30	20	30	50
EVS -508	Practical 2	2	0.5:0:1.5	30	20	30	50
	Total Credits	22		330	220	330	550

Semester – II

Subject Code	Subject	Total Credits	L:T:P	Contact Hours	Int. Marks	Ext. Marks	Total Marks
EVS -551	Water Pollution	4	3:0.5:0.5	60	40	60	100
EVS -552	Solid & Hazardous Waste Management	4	3:0.5:0.5	60	40	60	100
EVS - 553	Computer Applications	2	1.5:0.25:0.25	30	20	30	50
EVS - 554E3 OR	Environmental Chemistry	4	3:0.5:0.5	60	40	60	100
EVS - 555E4	Industrial Hygiene and Occupational Health						
EVS -556	OJT/FP Field Work	4	0:2:2	60	40	60	100
EVS -557	Practical 3	2	0.5:0:1.5	30	20	30	50
EVS -558	Practical 4	2	0.5:0:1.5	30	20	30	50
	Total Credits	22		330	220	330	550

Exit option: PG Diploma (44 Credits) after Three Year UG Degree

M.Sc. - II Year

Semester – III

Subject Code	Subject	Total Credits	L:T:P	Contact Hours	Int. Marks	Ext. Marks	Total Marks
EVS -601	Water and Waste Water Engineering	4	3:0.5:0.5	60	40	60	100
EVS -602	Environnemental Impact Assessment (EIA) And Environnent Management System (EMS)	4	3:0.5:0.5	60	40	60	100
EVS -603E5 OR	Disaster and Safety Management	4	3:0.5:0.5	60	40	60	100
EVS -604E6	Environmental Governance						
EVS -605	Research Project - I	4	0:2:2	60	40	60	100
EVS -606	Practical 5	2	0.5:0:1.5	30	20	30	50
EVS -607	Practical 6	2	0.5:0:1.5	30	20	30	50
		20		300	200	300	500

Semester – IV

Subject Code	Subject	Total Credits	L:T:P	Contact Hours	Int. Marks	Ext. Marks	Total Marks
EVS -651	Environmental Biotechnology & Biosafety	4	3:0.5:0.5	60	40	60	100
EVS -652	Land and Water Management	4	3:0.5:0.5	60	40	60	100
EVS -653E7 OR	Forest & Wildlife Management	4	3:0.5:0.5	60	40	60	100
EVS -654E8	Safety Engineering						
EVS -655	Research Project (Master Thesis)-II	6	1:1:4	90	60	90	150
EVS -656	Practical 7	2	0.5:0:1.5	30	20	30	50
	Total Credits	20		300	220	300	500

M. Sc. (Environment & Safety)

Total Credits

Semester	Core Credits	Total Credits	Contact Hours	Total marks
I	4 x 4 = 16 3 x 2 = 06	22	330	550
II	4 x 4 = 16 3 x 2 = 06	22	330	550
III	4 x 4 = 16 2 x 2 = 04	20	300	500
IV	6 x 1 = 06 4 x 3 = 12 1 x 2 = 02	20	300	500
Total		84	1260	2100

M.Sc. (ENVIRONMENT & SAFETY)

SEMESTER – I

Semester	I	Total Credit	4
Course Code	EVS- 501	Credit Pattern	L-45, T-8, P-7
Course Title	FUNDAMENTALS OF ECOLOGY AND NATURAL RESOURCES		

Course Objectives

1.	To critiques basics and fundamentals of environment and ecosystem.
2.	Use scientific literacy and knowledge of ecology to analyze contemporary social and environmental issues.

Course Outcomes: The students will able to

1.	Evaluate differentiate biotic and abiotic components of the ecosystem.
2.	To appreciate multi-disciplinary nature of environmental science.
3.	Assess interrelationships between components of the environment for nutrients & energy.
4.	Infer about land as a resource its management, classification, importance and about land use pattern.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Environmental Science as a multi-disciplinary subject, its scope and necessity. General Accounts of Biosphere and Limits of Biosphere. Concepts of Ecosystem, Structure and Functions of ecosystem: Principles of organism-environment relationship; Ecological amplitudes, limits and tolerance to stresses.	L= 12	
		T=2	P=1
2	Concept of habitat; Ecological succession & Types of Ecosystem. Ecological energetics, energy flow in the ecosystem and Ecological food chain. Autecology of plant species. Biogeochemical cycles - Carbon, Nitrogen, Phosphorous and Sulphur. Inventories of important elements, Human interference in cyclic process.	L= 11	
		T= 2	P= 2
3	Natural Resources: Structure and composition of the earth, concept of Natural Resources and their classification. Conventional and Non energy resources. Natural Resources of India: Mineral Resources: with special reference to their occurrence, distribution and utilization of metallic minerals and non-metallic minerals. Biological diversity and concept Forest resources: forest cover and types, Major and minor forest products, Marine resources: Food, Mineral and Energy. Water resources: Unique properties water, Concept of hydrological cycles, monsoons Distribution, Classification and sources of surface and groundwater, water resource scenario in India, issues related to water resources.	L= 11	
		T= 2	P= 2

4	Soil Resources Definition and composition of soil, Soil formation process, Soil profile, Components and properties of soil, Classification of soil, Soil erosion Universal Soil Loss Equation (USLE), Land as a resource - importance of land formation, basic concept of land, land resources, land cover and land use classification, land characteristics – issues related to land use.	L= 11	
		T= 2	P= 2

Learning Resources

1	Text Book	- Asthana. D. K. (2018). Revised Edition. A Textbook of Environmental Studies, S. Chand Publishers. - Sharma. P. D. (2005). 7th Edition. Ecology and Environment. Rakesh Kumar Rastogi for Rastogi Publication
2	Reference books	- Rana. V. S. (2013). 5th Edition. Essential of Ecology and Environment Science. Asoke K. Ghosh. PHI Learning Private Limited. - Trivedi. P. R. (2012). Ecology. APH Publishing Corporation. - Arora. M. P. (2012). Fifth edition. Ecology. Himalaya Publishing House. - Rees. J. A. (1985), Natural Resources – Allocation, economics and policy, Methuen & company. - Rao. A. A. (2013), Chemistry of Water, New Age International Publishers, New Delhi
3	Websites	https://www.sbsc.in/pdf/resources/1588750812_Unit_1_Introduction_to_environmental_studies.pdf https://nios.ac.in/media/documents/316courseE/ch14.pdf https://redox-college.s3.ap-south-1.amazonaws.com/kmc/2020/Apr/15/qNIN1DCe9tTVkCrO1btf.pdf https://landresources.montana.edu/swm/documents/Final_proof_SW1.pdf https://www.tucson.ars.ag.gov/unit/publications/pdffiles/2122.pdf

Semester	I	Total Credit	4
Course Code	EVS - 502	Credit Pattern	L-45, T-8, P-7
Course Title	AIR AND NOISE POLLUTION		
Course Objectives			
1.	To demonstrate the ability to understand the sources and effects of Air and Noise pollution on ecosystem.		
2.	To impart basic analytical skills for sampling and analysis of air to determine it's quality.		
3.	To develop technical skills of air pollution control equipment.		
4.	To motivate Critical thinking on the global environmental consequences of air pollution.		
Course Outcomes:			
On successful completion of this course at the end of the course student will be able to-			
1.	Demonstrate and correlate chemical processes involved in the Air and Classify and identify the sources of air pollutants.		
2.	Predict the consequences and effects of air pollutant on human health and environment, apply and relate the significance of various air pollution dispersion models.		
3.	Analyze the air quality and relate with air pollution regulation.		
4.	Design various air pollution control equipment and evaluate their use.		

Unit Number	Contents	Number of Sessions	
1	Meteorology and Atmosphere: Primary and secondary atmosphere, weather and climate, Atmosphere engine, physical and chemical properties off atmosphere, vertical structure of atmosphere. Meteorological elements – Definition and measurements: Temperature, pressure, humidity, Wind speed and direction, precipitation, forms of precipitation. Atmospheric circulation Lapse rate – Environmental, dry adiabatic lapse rate and effective. Atmospheric stability: concept and types, pasquill stability classification. wind rose, heat island effect, Inversion of temperature and turbulence, Mixing heights, plume behavior.	L= 12	
		T=2	P=1
2	Air Pollution: Definition, terminology, sources of air pollution Classification of air pollutants, Air quality standards Acid rain, Green house effect and Global Warming Ozone layer depletion, Dispersion of pollutants in the atmosphere: Gaussion dispersion model, Effect of air pollution and acid rain on plants, animals and property.	L= 11	
		T= 2	P= 2

3	Air Pollution Control : Particulate matter– settling chamber, cyclone, Wet collector, Fabric filter and Electro Static Precipitators Gaseous Pollutants: Adsorption and absorption, Condensation, wet scrubber Mobile sources: Incineration, Adsorption and absorption, alternative fuels Indoor air pollution, Air pollution episodes.	L= 11	
		T= 2	P= 2
4	Noise Pollution: Definition, scope, properties of sound; Theory of noise measurement; Sound pressure, loudness, sound intensity; Hearing mechanism; Threshold noise level, Sources of noise pollution, Effect of noise pollution on human-beings and wildlife, Noise control measures.	L=11	
		T=2	P= 2

Learning Resources		
1	Text Book	- Textbook Of Environmental Science And Technology by REDDY, BSP publishers, 2019 - A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 - A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017
2	Reference books	- Understanding Environmental Pollution By: Marquita K Hill. Cambridge University Press (1997) - Handbook of Pollution Control Processes By: Robert Noyes. Jaico Publishsing House, Mumbai (2001) - An Introduction to Air Pollution By: RK Trivedy & PK Goel. ABD Publishers Jaipur, India (2003) - Air Pollution By MN Rao & HVN Rao. Tata McGraw-Hill Publishing company Ltd., New Delhi (1994) - Environmental Air Pollution and its Control By: GR Chhatwal, MC Mehra, M Satake, T Katyal, Mohan Katyal, T Nagahiro. Anmol Publications, Delhi (1993)
3	Website	http://www.imd.gov.in/Welcome%20To%20IMD/Welcome.php https://www.niwa.co.nz/education-and-training/schools/students/layers http://www.indiaenvironmentportal.org.in/category/37/thesaurus/air-pollution-control/ https://www.environmentalpollutioncenters.org/noise-pollution/

4	Journals	• International Journal of Environmental Engineering Science, ISSN No .2229-3094 • International Journal of Environmental Pollution Control & Management , ISSN No .0975-3842 • Journal of Biosciences, ISSN No. 0250-5991 • Current Science, ISSN No. 0011-3891
5	Supplementary reading	• CPCB reports • MPCB reports
6	Practical Component	• Industrial visit to learn air pollution sources • Noise monitoring during festivals like Ganpati, Navratra and Diwali • Traffic noise monitoring • Traffic air pollution monitoring

Semester	I	Total Credit	2
Course Code	CC 503	Credit Pattern	L-22, T-4, P-4
Course Title	Bio- Statistics		
Course Objectives			
1.	To impart the knowledge of statistical methods so that the students would be capable of performing data analysis to support empirical studies on environment.		
Course Outcomes: The students will get			
1.	Conceptual clarity on statistical methods.		
2.	Ability to analyze and interpret data.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Definition, uses and limitations of statistics. Importance of statistics in environmental science. Measurement and levels of measurement. Tabulation and diagrammatic representation of data. Averages and measures of dispersion	L= 11	
		T=2	P=2
2	Correlation Regression analysis Introduction to sampling, Random sampling and stratified sampling, sampling in physical environmental sciences. Introduction to tests of significance. Z, t and Chi square tests.	L= 12	
		T=0	P=3

Learning Resources

1	Text Books	- S Boslaugh & P A Watters, Statistics in a nutshell, O'REILLY, 2008 - R P Hooda , Introduction to statistics, MacMillan, 2002
1	Reference books	- H Frank & S C Altheon, Statistics: Concepts and Applications, Cambridge University Press, 2002 - A S Gaur & S S Gaur, Statistical Methods for practice and research, Response Books, 2006 - K V S Sarma, Statistics made simple: Do it yourself on PC, PHI,2001
2	Journals	- Journal of Agricultural, Biological, and Environmental Statistics. Springer(Available in JSTOR, INFLIBNET NLIST) - The annals of applied statistics (Available in JSTOR, INFLIBNET NLIST)
3	Web sites	https://www.khanacademy.org http://www.statsoft.com/ https://stattrek.com https://www.tutorialspoint.com/statistics/index.htm

Semester	I	Total Credit	4
Course Code	EVS – 504 E1	Credit Pattern	L-45, T-8, P-7
Course Title	FUNDAMENTALS OF SAFETY		

Course Objectives:

1. To introduce basic concepts and fundamentals of Industrial Safety.
2. To understand the application and implementation of Safety in Industrial Sector.
3. To critique the application and implementation of safety in Industrial Sector.

Course Outcomes: The students will able to

1. Evaluate the importance of Health & Occupational Safety. They can plan accordingly, do Safety Audit.
2. Assess the importance of Safety Committee & Legal Requirements.
3. Draft Material Safety Data Sheet and accordingly suggest safety measures in chemical industry.
4. Recognize fire chemistry & implement, use proper fire extinguishers for firefighting.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Health & Safety Management: Introduction to Occupational Health and Safety Management System, Definition, Needs. Principles & Practices of industrial safety, Role of Management in Industrial Safety. Safety Planning: Definition, nature, scope and procedure. Strategic planning and tools of implementation. Employee Participation in Safety. Industrial Safety & Policy Formulation Industrial Safety Auditing & Safety Monitoring: Concept & Importance of Safety Audit, Types of Safety Audit, Standards on Safety Audit, Health & Safety Monitoring: ISO 45001: 2018 (Occupational Health & Safety Management System). OH & S Policy Formulation, Types of Accident & Accidents Prevention: Concept of OH & S Policy, Policy formulation and implementation. Leadership: Role, functions and attributes of a leader. Organizational roles, Responsibilities and authorities. Definitions: Incident, Accident, Injury, Dangerous, Occurrences, Unsafe Acts, Unsafe Conditions, Hazards, Near Miss Situations. Hazard Identification and Risk Assessment (HIRA), Accident Investigation, Cost of Accident- Direct & Indirect, Accidental Reporting, Emergency Evacuation Plan. Accident Prevention: Principles of accident Prevention.	L= 12	
		T=2	P=1

	Behavioral Safety & MIS Behavioral Safety: <i>Human behavior:</i> Individual differences, perception of danger and acceptance of risk knowledge and responsibility of safety performance. Theories of motivation and their application to safety, role of supervisors and safety departments in motivation. <i>Organizational Behavior:</i> Conflict & Frustration, Identification of situations, leading to conflict and frustration and techniques of management. <i>Employee Participation in Safety:</i> Purpose, areas of participation, methods, Role of trade union in Health and Safety Protection. Safety Committees & its legal requirements Structure and functions. Safety Promotion and Safety Awards and Suggestion Schemes, Safety Competitions, Safety Incentives, Publicity Schemes, Audio Visual Publicity, other Promotional Methods. Management information System: Sources of information on Safety, Health and Environment Protection. Compilation and collation of information, Analysis & use of modern methods of programming, storing and retrieval of MIS for Safety, Health and Environment. Status and future goals of computer utilization in Safety, Health and Environment (SHE) Services in Industries.	L= 11	
		T= 2	P= 2
2		L= 11	
		T= 2	P= 2
3	Safety in Chemical Industries, processes & unit Operations U.N, MISHC and other classification of chemicals. Safety in chemical industry & Fire Safety. Use of Material Safety Data Sheets (MSDS). Hazard in Unit Processes and Unit Operations: Control, precautions and prevention. Specific safety measures for certain chemical industry like fertilizer, insecticide, pesticide, explosives, polymer plants.	L= 11	
		T= 2	P= 2
Unit- (11)	IV: Fire Safety Management: Chemistry of fire, Classification of fires, Common causes and factors affecting of industrial fires, Prevention of fire. Portable Fire Extinguishers (Water type, Carbon-dioxide Type, Foam Type, Dry Chemical Type Extinguishers, ABC type), Maintenance of Fire Extinguishers. Special Industrial fire detection and alarms. Sprinkler systems. Special safety precautionary measures for control of fire and explosion in handling/ processing flammable liquids, gases, vapors, mists and dusts etc. Fixed Fire Fighting Installations (Hydrant/ Sprinklers/ Major Foam pourer/ Steam Drenching/ CO2 flooding/ DCP spraying) Fire Emergency Action Plan, On-Site & Off-Site Emergency Plan.	L=11	
		T=2	P= 2
4			

Learning Resources

1	Text Books	• Deshmukh L. M. (2016), Industrial Safety Management- Hazard Identification and Risk Management, Mc Graw Hill Education (India) Pvt. Ltd. Chennai.
2	Reference books	• Mishra R. K. (2012), Safety Management, AITBS Publishers, India • Kalia H. L., Singh A., Ravishankar S. and Kamat S. V. (2015), Essentials of Safety Management, Himalaya Publishing House • Sarma A. M. (2012), Industrial Health and Safety Management, Himalaya Publishing House • ISO 45001 : 2018 standard copy • Dhar D.M. (2014), Industrial Safety Management, Everest Publishing House • Grimaldi J. V. and Simonds R. H., 5th Edition, AITBS • Jadhav R. (2018), Fire Safety Management, Oxford Book Company, • Das A. K. (2014), Principles of Fire Safety Engineering, Understanding Fire and Fire Protection, PHI Learning Pvt. Ltd.
3	Websites	• www.nsc.org.in • www.osha.gov • www.ilo.org • www.ohsonline.com • www.worldsafety.org
4	Journals	• International Journal of Occupational Safety and Ergonomics. ISSN : 2376-9130 • International Journal of Occupational Safety and Health. ISSN : 2091-0878 • Journal of Industrial Safety Engineering. ISSN : 2395-6674
5	Supplementary Reading	• Industrial Safety Chronicle, Published by National Safety Council., Mumbai.
6	Practical Components	• Visit to various Industry to study safety aspects. • Demonstration of Fire Safety.

Semester	I	Total Credit	4
Course Code	EVS-505 E2	Credit Pattern	L-45, T-8, P-7
Course Title	REMOTE SENSING AND GIS		

Course Objectives

1.	Understand basic concepts of Remote Sensing and GIS.
2.	Describe applications of GIS in the field of Environmental Science.

Course Outcomes: The students will able

1.	Define remote sensing and GIS.
2.	Explain EMR, Energy interactions and types of Aerial photographs.
3.	Elaborate applications of GIS in Environmental science.
4.	Make use of GIS for various applications.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	I. Remote Sensing: Unit-I: Definition and Scope of Remote Sensing, Indian Space programme . In situ and Remote sensing, Electromagnetic spectrum- Electromagnetic spectrum, Transmission, Absorption, Reflection, Energy interaction with earth surface and atmosphere, Aerial photography- Classification Of Aerial Photographs , Types of aerial photographs, Geometry of Aerial photograph, Scale and Relief Displacement, overlap, drift crab, Principal Point and Conjugate Principal, Point of Aerial Photographs, Stereoscopy- Stereoscope, stereoscopic photograph, Parallax, elements of aerial photo interpretation and Applications of Aerial Photographs.	L= 12	
		T=2	P=1
2	Satellite imageries-Scanners, pixels, grey levels, bands . Introduction, Remote Sensing Satellites- Meteorological Remote Sensing Satellite (Polar and Geostationary Satellites), Non Meteorological RS Satellites (Landsat, Spot, IRS), Resolution (Spectral and Spatial and Frequency of Coverage) , Satellite data products and selection of satellite data; Data Reception Archiving and distribution. Digital Image Processing, Data Integration, Analysis and Presentation. Applications of Remote Sensing: Environmental Science	L= 11	
		T=2	P=2
3	Unit-II . Geographical Information System (GIS): Definition of GIS, Capabilities and advantages of GIS, Sources of data, types of data, hardware requirement, components of GIS., Data structure, Raster and Vector data models, advantages and disadvantages of vector data and raster data, GIS packages, Application of GIS in Environmental Management.	L= 11	
		T=2	P=2
4	Unit III GIS Analysis and Computer Fundamentals: Topology: Error and editing; GIS data quality: errors, policies. Vector data analysis: Buffering, Overlay analysis (point in polygon, line in polygon, polygon in polygon etc.); Network analysis; Terrain analysis: DEM, DTM and TIN; Interpolation techniques in GIS; Raster data analysis; Non-spatial data: Database Management system (DBMS)	L= 11	
		T=2	P=2

Learning Resources		
1	Text Books	- Textbook Of Remote Sensing & Geographical Inform. Systems by KALI CHARAN, Atlantic Publisiers, 2018 - Textbook Of Remote Sensing by Mukharjee Sumitra , published by Macmillan India Ltd.,2004 - Textbook Of Remote Sensing & GIS by Meena K.L. , Published by Paradise Publisher, Jaipur, 2020
2	Reference books	- Principles of Photogeology by P. Singh - Principles of Remote Sensing by Currain Paul, Published by English Language Society, Longman, 1985 - Fundamentals of Photo geology by SN Pandey - Remote Sensing and Image Interpretation:-Tomas M.Lillesand and Ralph W.Keifer John Wiley and sons Inc.New York. - Principles of Remote Sensing:-A.N.Gatel and S.Singh, Scientific Publishers (India). Jodhpur (1999Edition). - DeMers, Michael N.,2000. Fundamentals of Geographic Information System (2nd Ed.) (Wiley Student Edition). New York: Jhon Wiley & Sons, Inc. - Kraak, Menno-Jan and Ormeling, Ferjan. 2004. Cartography – Visualization of Geospatial Data (2n d Ed.) (Pearson Education Low Price Edition). Pearson Education. - Schuurman, Nadine. 2000. “Trouble in the Heart land: GIS and its Critics in the 1990s.” Progress in Human Geography, vol. 24, no. 4, pp.569-590. - Schuurman, Nadine and G. Pratt. 2002. “Care of the Subject: Feminism and Critiques of GIS.” Gender, Place and Culture, vol. 9, no. 3, pp. 291-299. - Remote Sensing & GIS by Chandra A. M., Narosa Publishing, New Delhi, 2017
3	Websites	https://oceanservice.noaa.gov/facts/remotesensing.html https://gisgeography.com/what-gis-geographic-information-systems/ https://www.esri.com/en-us/what-is-gis/overview
4	Journals	- Current Science, ISSN No. 0011-3891 - Journal of Earth System Science, ISSN No .2253-4126 - Journal of Biosciences, ISSN No. 0250-5991
5	Magazine	Down to Earth
6	Practical Components	- Geo Referencing - Practical Based on theory Paper

Semester	I	Total Credits	4
Course Code	EM- 105	Credit Pattern	L=46,T=7, P=7
Course Title	RESEARCH METHODOLOGY		

Course Objectives	
1.	To provide an international outlook and assessment of issues relating to the developments and growth in the global, national and micro contexts.
2.	To Develop Analytical skills, for sound understanding of the discipline and analytical ability for research orientations.

Course Outcomes : The students will able to learn:	
1.	To Conceptualize a topic of Interest and need to define a problem to be investigated .
2.	Analyze the various methodologies for application to their own research.
3.	Demonstrate applications of the research findings in a meaningful way with validity.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Research Strategies: Empiricism, Deductive and Inductive Inquiry, Philosophical Assumptions in Research. Planning Research Project and Developing Research Questions: Research Thought, Importance, Supervisor, managing Time and Resources, Developing Research Questions Research Design: Reliability, Replicability and validity, Experimental Design, Cross Sectional Design, Case Study Design, Comparative Design Reviewing the Literature for Research: critical reading, systematic review, narrative review, searching online databases, keywords and defining search parameters, referencing, avoiding plagiarism	L=11	
		T=2	P=2
2	Nature of Qualitative Research – Main Steps of Qualitative Research, Reliability and Validity in Qualitative Research, Evaluating Qualitative Research, Credibility, Transferability, Dependability, Confirmability, Preoccupations of Qualitative Researchers, Concepts and theory grounded in data, Critique of Qualitative Research, Contrast and Similarities between Qualitative Research Sampling in Qualitative Research – Levels of Sampling, Purposive Sampling, Theoretical Sampling, Generic Purposive Sampling, Snowball Sampling, Sample Size Determination; Ethnography and Participants Observations, Interviewing in Qualitative Research, Qualitative Data Analysis.	L=12	
		T=2	P=1

3	Introduction to Quantitative Research - Steps in Quantitative Research, Concepts and measurements, Indicators, Reliability of Measures, Stability, Validity of Measures, Connection between Reliability and Validity, Main preoccupants of Quantitative Researchers, Critique of Quantitative Research Sampling in Quantitative Research – Planning a survey, Basic concepts in sampling – population sample, representative sample, sampling bias, probability sample, non – probability sample, sampling error, non – sampling error, Types of probability sample, Types of non – probability sample. Structured Interviewing – Asking questions – open and close ended questions, Self- completion of questionnaires, Quantitative Research using naturally occurring data	L=12	
		T=2	P=2
4	SPSS (Statistical Package for Social Sciences) Statistics – Basic Operations in SPSS, Entering data, Recording and Computing variables, Data Analysis with SPSS, Quantitative Data Analysis – Bivariate analysis, Multivariate analysis. Mixed Method Research – Combining Qualitative and Quantitative Research, Natural Science Model and Qualitative Research, Quantitative Research and Interpretivism, Quantitative Research and Constructionism, Problems with Quantitative/ Qualitative Contrast – behavior vs. meaning, Reciprocal Analysis – Qualitative analysis and Quantitative data, Quantitative analysis of Qualitative data Ethics in Research – Importance of Research Ethics, Ethical principles, Ethical Considerations in Online Research, copyright issues, copyright and photographs, Writing up of Research Project	L=11	
		T=2	P=2
Learning Resources			
1	Text book	• Bell, E., Bryman, A. & Harley, B. (2019), 2nd Ed., Business Research Methods, Oxford University Press, New Delhi, India • Kothari, C. R. & Garg, G., (2019), 4th Ed., Research Methodology – Methods and Techniques, New Age International Publishers, New Delhi, India • Creswell, J.W., (2014), 3rd Edition, Research Design, Qualitative, Quantitative and Mixed Methods Approaches, Sage Publication, New Delhi, India	

Semester	I	Total Credit	2
Course Code	EVS – 507	Credit Pattern	L-15, T-0, P- 45
Course Title	Practical 1		

Course Objectives

1. The students should know the experimental procedures for analysis of environmental samples.

Course Outcomes: After completion of this course students will have capability to

1. Develop methodology for sample collection, processing and preservation for environmental analysis.
2. Make use of glassware, their appropriate cleaning, preparation and standardization of solutions.
3. Plan analytical techniques/experiments/ classical methods with easy to run experiments.
4. Interpret the experimental results to study environmental processes.

Syllabus:

Sr. No.	Title of the Experiment	Number of Sessions	
1	Standardization Titration	L= 15	
2	Estimation of Biomass	T = 0	P =45
3	Determination of Minimum Number of Quadrates		
4	Determination of Minimum size of Quadrates		
5	Determination of Species Diversity Index		
6	Determination of Frequency Distribution		
7	Determination of Density & Relative Density		
8	Estimation of Chlorophyll		
9	Wood Pyrolysis		
10	Determination of GPP/NPP/RR		
11	Determination of Frequency & Relative Frequency		
12	Determination of Biological Index of Pollution		
13	Determination of Calorific Value of Fuel wood		
14	Organic Carbon & Organic Matter in soil		
15	Determination of Acidity & Alkalinity of Water		

Learning Resources

1	Reference books	• Water & WasteWater analysis : Dr. R.K. Trivedy & Dr. P.K.Goel (1984).. • Standard Methods of water & Waste water analysis: APHA. • Hand book of Methods in Environmental Studies (Vol.I) : S.K.Maiti. • Hand book of Methods in Environmental Studies (Vol.II) : S.K.Maiti. • A text book of Soil analysis : Baruah & Barthakur.

Semester	I	Total Credit	2
Course Code	EVS - 508	Credit Pattern	L-15, T-0, P- 45
Course Title	Practical 2		

Course Objectives

1. The students should know the experimental procedures for analysis of environmental samples.

Course Outcomes: After completion of this course students will have capacity to

1. Relate and demonstrate the basic laboratory instruments used in environmental analysis and understand the principle of measurements using those instruments.
2. Experiment with work safely and competently in an environmental laboratory settings, with confidence.
3. Identify and describe steps that are included in analysis, like sampling, sample processing, removal of interferences, detection of component of interest and data evaluation.
4. Utilize the technical skills for air sampling, using high volume sampler.

Syllabus:

Sr. No.	Title of the Experiment	Number of Sessions	
1	Wind Energy Calculation	L= 15	
2	Turbidity measurement by Nephelometer	T = 0	P = 45
3	Verification of Beers Law in Spectrophotometry		
4	Determination of pH of Water & Soil		
5	Determination of EC of water & Soil		
6	Determination of Na/K by Flame photometer		
7	Identification of Rocks & Minerals		
8	Sound Level Measurement		
9	Determination of NO _x		
10	Determination of SO _x		
11	Statistics Practicals-1		
12	Statistics Practicals-2		
13	Statistics Practicals-3		
14	Statistics Practicals-4		
15	High Volume Sampler		

Learning Resources

1	Reference books	• Water & WasteWater analysis : Dr. R.K. Trivedy & Dr. P.K.Goel • Standard Methods of water & Waste water analysis: APHA • Hand book of Methods in Environmental Studies (Vol.I) : S.K.Maiti • Hand book of Methods in Environmental Studies (Vol.II) : S.K.Maiti • A text book of Soil analysis : Baruah & Barthakur

SEMESTER –II

Semester	II	Total Credit	4
Course Code	EVS - 551	Credit Pattern	L-45, T-8, P-7
Course Title	WATER POLLUTION		

Course Objectives	
1.	Appraise different challenges of water pollution.
2.	Use scientific literacy and knowledge of water to analyse contemporary social and water pollution issues.
3.	To prioritize the scientific, technological, economic and political solutions to waste water treatment.

Course Outcomes: The students will able to	
1.	To classify the sources of water pollution and arrange sampling for water and waste water analysis.
2.	To identify the issues associated with water pollution due to local industries.
3.	To assess water quality on studying the associated parameters.
4.	To critique the causes of ground water, thermal and marine pollution.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Definition, concept and sources of water pollution. Major pollution parameters: pH, solids, dissolved oxygen, chemical oxygen demand, biochemical oxygen demand, trace inorganics, most probable number of coliform bacteria. Methods of water sampling, handling and preservation.	L= 11	
		T=2	P=2
2	Characteristics of wastewater generated by industries: pulp and paper, sugar, distillery, textile, dairy, tannery, community (sewage), food processing and petrochemical industries.	L= 12	
		T= 2	P= 1
3	Eutrophication: meaning of eutrophication, causes and effects of eutrophication on water quality. Water quality standards: world health organization, bureau of Indian standards (BIS), Indian council of medical research (ICMR).	L= 11	
		T= 2	P= 2
4	Ground water pollution, causes of ground water pollution. Effects of pollutants on ground water table, path (movement) of pollutants reaching to ground water. Thermal pollution, concept of thermal pollution, effects of thermal pollution on water quality and on aquatic flora and fauna. Marine pollution: causes of marine pollution, effects of marine pollution on ocean water quality and on marine flora and fauna.	L=11	
		T=2	P= 2

Learning Resources		
	Text Books	• Rao M. N. (2007). 3rd Edition. Waste Water Treatment. CBS Publishers & Distributors Pvt Ltd. New Delhi. • Purohit S.S. & Agrawal A. K. (2004). 1st Edition. Environmental Pollution Causes, Effects, and Control. Shyam Printig Press. Jodhpur.
	Reference books	• Goel P. K. (2016). 2nd Edition. Water Pollution Causes, Effects, and Control. New Age International Publishers. New Delhi. Chapter-1, 7, pp. 1-8, 54 - 59. • Khopkar S. M. (2015). 2nd Edition. Environmental Pollution Monitoring and Control. New Age International Publishers. New Delhi. Chapter-9, pp. 226-235. • Metcalf and Eddy. (2003). 4th Edition. Wastewater Engineering Treatment and Reuse. Tata McGraw Hill Education Private Limited. New Delhi. Chapter-2, pp.81- 89. • Purohit S.S. & Agrawal A. K. (2004). 1st Edition. Environmental Pollution Causes, Effects, and Control. Shyam Printig Press. Jodhpur. Chapter- 2. pp. 62 - 66.
	Websites	• https://www.who.int/about • https://www.who.int/about/what-we-do#:~:text=WHO%20works%20worldwide%20to%20promote,better%20health%20and%20well%2Dbeing. • https://www.bis.gov.in/ • https://www.icmr.gov.in/ • https://en.wikipedia.org/wiki/Thermal_pollution#:~:text=Thermal%20pollution%2C%20sometimes%20called%20%22thermal,waterr%20caused%20by%20human%20influence.

Semester	II	Total Credit	4
Course Code	EVS-552	Credit Pattern	L-45, T-8, P-7
Course Title	Solid & Hazardous Waste Management		

Course Objectives

1.	To introduce the concept, procedure and practices for solid waste management.
2.	To evaluate the method of collection transportation and disposal of municipal solid waste.
3.	To Critique the fundamentals of solid waste management.

Course Outcomes: The students will able to

1.	Evaluate suitable methods for Solid Waste Management.
2.	Assess the Comparison between the various categories of Solid Waste as per the regulations.
3.	Do strategic Management for handling and disposal of Hazardous Waste.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Solid Waste Management: Introduction, Sources, Need, Types, Composition of solid waste. Solid waste generation from Industries, Agriculture and Domestic sector: Segregation, Collection, Storage, handling, Transportation of Hazardous waste. Solid waste treatment: Compaction, dewatering, briquetting, size reduction, Solid waste disposal methods – 5R Principle Solid waste energy recovering, Incineration, Pyrolysis, Biogas generation, Solid waste as source of raw material- Lightweight bricks from fly ash, composting, etc.	L= 11	
		T=2	P=2
2	Sludge Management: Organic and inorganic sludge, sewage sludge, industrial sludge, primary and secondary sludge. Dewatering of sludge, conditioning, Compressible and non-compressible sludge, filtration, filtration aids, Dewatering aids, thickening, centrifugation, drying.	L= 11	
		T= 2	P= 2
3	Hazardous Waste Management: Definition, identification and classification of hazardous solid waste. Characteristics of Hazardous waste: toxicity, reactivity, flammability, radioactivity, corrosivity, genetic activity, explosivity. Transboundary movement and Management of wastes, Impact of Hazardous waste on the surrounding environment. Waste avoidance and Waste minimization, Adopting the green process. Bio-medical: Definition, Sources of generation, Need of separation. Categories, Color coding System. Storage, transportation, Treatment methods and Disposal. E-Waste: Sources of generation, categories. Segregation, Transportation, Treatment methods and Disposal.	L= 11	
		T= 2	P= 2

	Constituents of E-wastes, recycling of e-waste and its environmental consequences,		
4	Radioactive Waste: Natural and manmade sources of radiations, Types of nuclear radiations, Radiation hazards and safety, Internal and external radiation hazards, biological effects of radiations: The interaction of radiations with biological cells, various stages, somatic and genetic effects, maximum permissible dose-ICRP Recommendations, safe handling methods, personal dosimetry, nuclear reactor safety, radiation protecting materials. Chernobyl, Three mile & Fukushima nuclear reactor accidents as case studies. Management of radioactive waste- High level and Low-level wastes, liquids, solids and gases.	L=12	
		T=2	P= 1

Learning Resources

1	Text Books	Murali Krishna I. V. and Manickam Valli, (2015), Environment Management, BS Publications, Hyderabad 500 095.
2	Reference books	- Cherry PM, (2016), Solid and Hazardous Waste Management, CBS Publishers and Distributors Pvt. Ltd. New Delhi 110 002, India. - Sulphey M. M. and Safeer M. M, (2015), Third Edition, Introduction to Environment Management, PHI Learning Private limited, Delhi 110 092. - Rajaram Vasudevan and Siddiqui Faisal Zia, (2016), Solid and Liquid Waste Management, PHI Learning Private limited, Delhi 110 092. - Goel P. K. (2016), Water pollution, new age international publishers, New Delhi.
3	Websites	http://mpcb.gov.in/images/pdf/part.pdf https://www.britannica.com/technology/solid-waste-management https://nptel.ac.in/courses/120108005/module9/lecture9.pdf https://iwa-network.org/groups/sludge-management/
4	Journals	- International Journal of Environmental Engineering Science, ISSN No 2229-3094 - International Journal of Environmental Pollution Control & Management, ISSN No .0975-3842
5	Supplementary Reading	Industrial Safety Chronicle. Published by National Safety Council., Mumbai

Semester	II	Total Credit	2
Course Code	EVS - 553	Credit Pattern	L-23, T-2, P-5
Course Title	COMPUTER APPLICATIONS		

Course Objectives	
1.	Learn basic concepts of Windows operation system.
2.	Learn basic word processing skills with Microsoft Word, how to gathering and analysis data using MS-Excel and presenting data with MS-PowerPoint

Course Outcomes: The students will able	
1.	Understand Computer Fundamentals in detail.
2.	Manage the desktop, files, folders using control panel and other utilities.
3.	Create & present data in Word, PowerPoint and Excel.
4.	Use various features and tools of MSOffice, and use different formulas and functions.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Computer Fundamentals: Computer Definition, characteristics, Generations, Block Diagram, Concept of Hardware and Software , Input devices- Keyboard, mouse, scanning devices MICR, OMR, OCR. Output Devices- Monitor, Printers (Impact and non impact), Selection of printer and paper for output depending upon user requirements. Memory-concept, primary memory – RAM-SRAM, DRAM, ROM- PROM, EPROM, EEPROM, cache memory, Secondary memory- floppy disk, hard disk, Optical storage devices, Windows OS- Operating system- definition, functions, features, Windows. Working with Windows OS- start menu, control panel, Standard icons- my computer, recycle bin, network places etc. Windows terms – desktop, folder, drives, Cut copy and paste operations, Computer Application in Environment Management.	L= 12	
		T=1	P=2
2	.MS Word : Introduction and feature , Creating word document, Editing features, Text formatting options, page formatting –adding header and footer, page number, insert page break, blank page, cover page, page orientation, print options. Working with tables, creating Table of Contents, Mail merge, shortcut keys, cursor control keys. MS Excel : Basics of Excel – Ribbon, Workbook, worksheet, Format options, templates, data validation , sorting and filtering of data ,Functions- Count and Sum, Logical, Date and Time, Text, Lookup and References, financial and statistical functions, using formula , Charts-column, pie, bar, line, scatter plot, data series MS PowerPoint: Features, factors to be considered for effective presentation, Creating Basic presentation, Editing and formatting options, inserting picture, chart, table, audio and video to slide, using animation and slide transition, using hyperlinks.	L= 11	
		T=1	P=3

Learning Resources		
1	Text Books	• Computer Fundamentals by P. K. Sinha&PritiSinha, 5th edition, BPB pub. • Computer Fundamentals by Balguruswami • Microsoft Office 2013 All-In-One For Dummies By Peter Weverka, Wiley India Pvt Ltd, ISBN 10: 812654175X • Microsoft Office 2010 Digital Classroom by AGI Creative Team John Wiley & Sons; Pap/Psc edition (1 March 2011) ISBN-10: 0470577770 • Operating System Concepts: International Student Version By <u>Silberschatz</u> Wiley; Eighth edition (20 April 2009) ISBN-10: 8126520515
2	Reference books	• Microsoft Office 2010 Bible By <u>John Walkenbach</u> Wiley India Private Limited (28 September 2010) ISBN-10: 8126528397 • Microsoft Windows Operating System Essentials By <u>Tom Carpenter</u> John Wiley & Sons (9 February 2012) ISBN-10: 1118195523 • Microsoft Windows Operating System Essentials By <u>Tom Carpenter</u> ISBN: 978-1-118-19552-9 • Fundamentals Of Computers 5Ed By V. Rajaraman Publisher: Phi Learning Pvt Ltd ISBN 10: 8120340114
3	Websites	• https://www.zuaneducation.co • www.klientsolutes.com • https://www.udemy.com • https://koreinfotech.com • https://www.homeandlearn.co
4	Journals	• Compute Journals by Oxford University Press – ISSN: 0010-4620 (print); 1460-2067 (web) • Journals in computer Science. • Journal of Information Technology, ISSN No .2253-4126 • Journals in Computer Science - Elsevier
5	Supplementary Reading	• Various articles • Various Magazine on Information Technology
6	Practical Components	• Total eight practical sessions on MS-Word, MS-Excel and MS-PowerPoint

Semester	II	Total Credit	4
Course Code	EVS- 554 E3	Credit Pattern	L-45, T-8, P-7
Course Title	ENVIRONMENTAL CHEMISTRY		

Course Objectives	
1.	To impart basic analytical and technical skills to work effectively in various fields of Environment.
2.	To develop analytical skills for the analysis of water, air and soil sampling.
3.	To motivate critical thinking to solve complex problems viz. Sample collection, processing, method of analysis, data interpretation, and team-based problem solving etc.
4.	To demonstrate an ability to conduct experiments in the environment disciplines with mastery of appropriate techniques and proficiency using core chemical methods and instrumental methods of analysis.

Course Outcomes: After completion of this course students will have capacity to	
1.	Have a firm foundation in the fundamentals and application of current chemical and scientific knowledge in different areas of Environmental Management.
2.	Demonstrate and relate chemical processes involved in the environment and concept of sampling and chemical analysis for monitoring of environmental pollution and related issues.
3.	Design, analyze and carry out scientific experiments and interpret data to provide solutions to different Environmental problems.
4.	Independently carry out experiment to solve practical problems and present a substantial technical report, clearly communicate the results of scientific work in oral, written and electronic format.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Concept & Scope of Environmental Chemistry Fundamentals of Environmental Analytical Chemistry , Particals, ions & radicals in the atmosphere, chemical speciation, Gibbs Energy, Chemical Potential, Chemical equilibria, , Solubility products, Carbonate system, unsaturated & saturated hydrocarbons, radioisotopes , Chemistry of the Inorganic & organic chemicals in the environment, thermochemical & photochemical reactions in the atmosphere, Pesticides & their classification, Biochemical aspects of heavy metals(Hg, Cd, Pb, Cr) & metalloids(As, Se). Qualitative & Quantitative Analysis, Major steps involved in chemical Analysis, Equilibrium & Kinetic Methods. Air Monitoring -High Volume Sampler (HVS) & Stack Monitoring Kit.	L= 11	
		T=2	P=2
2	Classical Methods of Analysis Volumetry-Concept of Standard Solutions, Primary & Secondary Standards , Expression of Concentration of Solution, Preparation & standardization of reagents, Classification of Volumetric Methods-Acid base titrations, Complexometric Titrations, Redox titrations, Precipitation titrations ,Gravimetry-Precipitation Methods. Separative Techniques - Precipitation & Filtration, Fractional Distillation,	L= 11	
		T= 2	P= 2

	Ion Exchange Separation, Masking & Solvent Extraction. Electro-analytical Methods -Principle, Components & Working of pH Meter, Conductivity Meter.		
3	Chromatographic Techniques For Separation, Identification & Characterization of Chemical Compounds - Paper Chromatography, Thin Layer Chromatography (TLC), Adsorption Column Chromatography, Ion Exchange Column Chromatography, High Performance Liquid Chromatography (HPLC), Gas Chromatography (GLC & GSC), GC-MS, Gel Filtration Chromatography.	L= 11	
		T= 2	P= 2
4	Spectrophotometric Methods - Colorimetry, Spectrophotometry, UV-VIS Spectrophotometer, Beer-Lamberts Law, Applications & Limitations, Nephelometry-Turbidimetry, Flame Techniques- Flame Emission Spectrophotometry & Atomic Absorption Spectrophotometry (AAS), Electrophoresis, SEM.	L=12	
		T=2	P= 1

Learning Resources

1	Text Books	• Vogel's Textbook of Quantitative Chemical Analysis, 5th edition, J H Basett, J. Nendham and Denny, R.C. • A Text Book of Environmental Chemistry & Pollution Control, Dara, Chand. • A Text Book of Green Chemistry, Ahluwalia, Narosa
2	Reference books	• Handbook of Analytical Instruments, Khandpur R.S. • Environmental Pollution Analysis, Khopkar S.M. • Instrumental methods of Chemical Analysis, B K Sharma. • Instrumental methods of analysis, Willard, Meritt, Dean and Settle. • Environmental Chemistry, A.K.De, New age International, 8th Edition, 2017. • Instrumental Methods of Analysis, B. Sivasankar, Oxford University Press, 2015. • Basic Concepts of Analytical Chemistry, S.M. Khopkar, New Age International Publishers, 3rd edition, 2008.
3	Websites	• https://www.niwa.co.nz/education-and-training/schools/students/layers • https://sustainabledevelopment.un.org/milestones/unced • http://www.imd.gov.in/Welcome%20To%20IMD/Welcome.php
4	Journals	• International Journal of Environmental Pollution Control & Management , ISSN No .0975-3842 • Current Science, ISSN No. 0011-3891 • Down to Earth
5	Supplementary Reading	• Down to Earth
6	Practical Components	• Field visit to Laboratories.. • Practicals based of this paper will be conducted (Practical I&II)

Semester	II	Total Credit	4
Course Code	EVS – 555 E4	Credit Pattern	L-45, T-8, P-7
Course Title	INDUSTRIAL HYGIENE AND OCCUPATIONAL HEALTH		

Course Objectives

1.	To infuse Importance of Ergonomics at workplace.
2.	To provide in-depth knowledge with application of Industrial hygiene, Occupational and Ergonomics at work place.
3.	To develop awareness regarding Occupational Diseases & their control.
4.	To critique the Industrial Hygiene and Occupational Health.

Course Outcomes: The students will able to

1.	Well known about types of hazards, their control & PPEs.
2.	Get detail knowledge of Occupational Diseases & their control.
3.	Understand Nutritional Requirements.
4.	Understand importance of Ergonomics at workplace.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Industrial Hygiene: Definition of Industrial Hygiene, Work Site Analysis & job hazards, Types of Hazards, (Air Contaminants, Chemical Hazards, Biological Hazards, Physical Hazards, Ergonomic Hazards) Industrial Hazards (Anticipation, Recognition, Evaluation & Control) Control of Hazards: Elimination, Substitution, Engineering Controls, Administrative Controls. 5 S concept, Industrial Waste Disposal, Route of entry to human system, recognition, evaluation and control of basic hazards, concepts of dose response relationship, bio-chemical action of toxic substances. Concept of threshold, limit values, air sampling strategies, personal exposure monitoring. Personal Protective Equipment: Need for Personal Protection Equipment (PPE), PPE Selection: Applicable standards, supply, use, care & maintenance Types of PPE: Non-respiratory personal protective devices: Head protection, Ear protection. Face and Eye protection, Hand protection, Foot protection, Body protection. Respiratory personal protective devices: Classification and Selection of respiratory personal protective devices, Personal hygiene. Instructions and training for the use, maintenance and care of self-contained breathing apparatus and open circuits & close unit breathing apparatus, PPE Testing Procedures and Standards.	L= 12	
		T=2	P=1

2	Occupational Health and Hazards : Definition : As per WHO, Common Occupational Diseases & Occupations involving risk of contracting these disease, Occupational Health Management Services at the work place. List of notifiable diseases Schedule III of Factories Act - 1948. Adverse health effects of noise, vibration, cold, heat stress, improper illumination. Thermal radiation, ionizing & non-ionizing radiations. Permissible threshold exposure limits of radiations - short term and long-term effects of radiation exposures – Preventive and control measures. Pre-employment, periodic medical examination of workers. Medical surveillance for control of occupational diseases and health records. Physiological Tests for Assessment of Occupational Health.	L= 11	
		T= 2	P= 2
3	Nutrition and Health: Physiology of respiration, cardiac cycle, muscle contraction, nerve conduction system, etc. Assessment of Workload based on Human Physiological reactions. Permissible limits of load for manual lifting and carrying. Working posture: Its effect on cardio-vascular and Musculo-skeletal system and implications on health. Nutrition and its importance in manual work. Assessment of Work Capacity, Fatigue and Rest Allowances. Nutrition: Nutritional requirements and the Diets Work, Exercise and Physical Fitness. Work capacity, Factors affecting on work capacity and work performance.	L= 11	
		T= 2	P= 2
4	Ergonomics: Introduction to Ergonomics, Definition, Aims and Scope, Constituents of Ergonomics, Application of Ergonomics in industry for Safety, Ergonomics of Automation / Assembly, Ergonomics of Rehabilitation while assigning alternate jobs. Man-machine Mechanism. Anthropometry and fundamental of bio-mechanics: Basic and applied aspects: Anthropometric measurements and their usefulness in industry. Ergonomic Design of Work Station: Concept of workstation and its design. Improving safety and productivity through work station design. Technical and engineering control measures. Economics consideration.	L=11	
		T=2	P= 2

Learning Resources		
1	Text Books	• Deshmukh L. M., Industrial Safety Management, Current Science, ISSN No. 0011-3891McGraw Hill Education Publication, 1st July, 2017 • Gupta A.K., Industrial Safety & Environment by ISBN: 9788131804544
2	Reference books	• Jayamani C. V. and Vasanthagopal R. 2012, Environment Management, New century publications New Delhi India. • Haldar S. K. 2017, Industrial and Occupational Health, CBS Publisher and Distributors PVT. LTD. • Confer Robert G. and Confer Thomas R. Occupational Health and Safety (Terms, Definitions and Abbreviations), Lewis's publishers Florida. • Rana S V S, 2007, Environmental Pollution Health and Toxicology, Narosa publishing house, New Delhi.3 • Bhadury Bikash, 2000, Managing the workforce, Sage publications ltd, New Delhi.
3	Websites	• www.nsc.org.in • www.osha.gov • www.ohsonline.com • www.worldsafety.org
4	Journals	• International Journal of Occupational Safety and Ergonomics. ISSN : 2376-9130 • International Journal of Occupational Safety and Health. ISSN : 2091-0878 • Journal of Industrial Safety Engineering. ISSN : 2395-6674
5	Supplementary Reading	• Industrial Safety Chronicle, Published by National Safety Council., Mumbai

Semester	II	Total Credit	4
Course Code	EVS - 556	Credit Pattern	L-0, T-30, P-30
Course Title	OJT/FP Field Work		

Course Objectives

1.	It is an academic requirement for the students of M Sc (Environmental Science) to undergo OJT / FP for a period of minimum 15 days by working & learning from Industry/Organization to gain an experience in the real world situation.

Course Outcomes: The students will able to

1.	Select and defend a topic of their SIP and effectively plan, execute, evaluate and discuss their innovative ideas and experiments.
2.	Identify systematically the relevant theory and concepts, and relate these to appropriate methodologies and evidences.
3.	Apply appropriate techniques and draw appropriate conclusions, develop communication and interpersonal skills.
4.	Propose and present scientific approach to solve the problem. Interpret, discuss and communicate scientific results in written form.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	They will study the working environmental conditions & problems in the organization.	L =0	
	Areas for SIP are-	T=30	P=30
	1.Waste Water Treatment		
	2. Solid Waste Management		
	3. Characterization of Effluent Technologies		
	4. Air Pollution & Control		
	5.Noise Pollution		
	6. Toxicological Study		
	7. Industrial Safety		
	8. Disaster Management		
	9.Environmental Auditing		
	10. ISO 14000		
	11. OSHAS-18001		
	12. Energy Management		
	13. Composting		
	14. Wormicomposting		
	15. Bioremediation		
	16. Phyto-remediation		
	17. Water Budget		
	18. Energy Audit		
	19. Carbon Footprint		
	20. Biomedical Waste Management		

Semester	II	Total Credit	2
Course Code	EVS - 557	Credit Pattern	L-15, T-0, P-45
Course Title	Practical 3		

Course Objectives

1. The students should know the experimental procedures for analysis of environmental samples.

Course Outcomes: After completion of this course students will have capability to

1. Make use of water sampling methods, processing and preservation of water samples.
2. Determine water pollution levels using appropriate methodology/ instrumentation.
3. Perceive skills in analytical techniques/experimental for BOD, COD measurements.
4. Interpret the experimental results to study water pollution levels.

Syllabus:

Sr. No.	Title of the Experiment	Number of Sessions	
1	Determination of Nitrates by UV/ VIS	L = 15	
2	Determination of TS/TDS/TSS in Water	T = 0	P = 45
3	Determination of Ammonical Nitrogen in Water		
4	Estimation of Boron in Water		
5	Determination of DO & CO ₂ in water		
6	Water Quality Index		
7	Sampling Procedure, Preservation and handling of soil & water sample		
8	Determination of COD in water		
9	Determination of Iron by Chemical method		
10	Determination of Water Holding Cap., Bulk Density, Moisture content of soil		
11	Determination of BOD		
12	Determination of H ₂ S in water		
13	Determination of Oil & Grease in water		
14	Interpretation of Aerial Photographs		
15	Determination of Scale of Areal Photograph		

Learning Resources

1	Reference books	• Water & WasteWater analysis : Dr. R.K. Trivedy & Dr. P.K.Goel • Standard Methods of water & Waste water analysis: APHA • Hand book of Methods in Environmental Studies (Vol.I) : S.K.Maiti • Hand book of Methods in Environmental Studies (Vol.II) : S.K.Maiti • A text book of Soil analysis : Baruah & Barthakur

Semester	II	Total Credit	2
Course Code	EVS-558	Credit Pattern	L-15, T-0, P-45
Course Title	Practical 4		

Course Objectives

1. The students should know the experimental procedures for analysis of environmental samples.

Course Outcomes: After completion of this course students will have capability to

1. Make use of designing of water and waste water treatment plant.
2. Experiment with the maintenance of water and waste water treatment plant.
3. Perceive computer applications for the interpretation and presentation of results.
4. Make the use of personal Protective Equipment's .

Syllabus:

Sr. No.	Title	Number of Sessions	
1	Determination of Permanganate value	L = 15	
2	Determination of Chlorine Dose	T = 0	P =45
3	Determination of SVI/MLSS/MLVS		
4	Determination of Residual Chlorine/B P Analysis		
5	Determination of Volatile Fatty Acids		
6	Personal Protective Equipment's		
7	Coagulation-flocculation-- Jar Test		
8	Computer-I		
9	Design of Physical Unit		
10	Computer-II		
11	Thin Layer Chromatography		
12	Computer-III		
13	Hardness, Calcium & Magnesium of Water		
14	Computer-IV		
15	Sulphates in Water		

Learning Resources

1	Reference books	• Water & WasteWater analysis : Dr. R.K. Trivedy & Dr. P.K.Goel • Standard Methods of water & Waste water analysis: APHA • Hand book of Methods in Environmental Studies (Vol.I) : S.K.Maiti • Hand book of Methods in Environmental Studies (Vol.II) : S.K.Maiti • A text book of Soil analysis : Baruah & Barthakur

M.Sc (ENVIRONMENT& SAFETY)-II
SEMESTER III

Semester	III	Total Credits	4
Course Code	EVS 601	Credit Pattern	L-45, T-8, P-7
Course Title	WATER AND WASTEWATER ENGINEERING		

Course Objectives

1. Explain to the students the various waste water treatments.
2. Describe the effects and control methods of the effluent and sewage.

Course Outcomes:

1. Select appropriate method for water and wastewater treatment.
2. Grade the existing water and wastewater treatment methods.
3. Design water treatment plant.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Fundamentals of Water Treatment Flow diagram of general water treatment plant, Water demand, factors affecting water demand, population forecasting, Concept of wastewater flows and variations, Flow measurement and types of notches, Sanitary survey of source, protection of sources.	L= 11	
		T=2	P=2
2	Methods of Water Treatment Unit operation in water treatment: intakes, aeration, Coagulation and flocculation process, common coagulants, Filtration, mechanism of filtration, slow sand, rapid sand and dual media filters, backwashing of filters, Sedimentation, particle settling theory and types of sedimentation tank, Disinfection of water, minor methods of disinfection, ideal disinfectant, Types of hardness and methods of water softening, Iron and manganese removal, fluoridation and de-fluoridation, Taste and odor removal.	L= 12	
		T= 2	P=1
3	Waste Water Treatment General methods of volume and strength reduction of waste water, Flow diagram of general waste water treatment plant, Low cost treatments, stabilization ponds, septic tanks, lagoons, Primary treatments– racks and screens, types of screens, grit removal, types of grit chambers, disposal of grit, oil and grease removal, corrosion, types of corrosion and corrosion control.	L= 11	
		T= 2	P= 2
4	Secondary and Tertiary Treatment Secondary treatments– Trickling filters, types of trickling filters, Activated sludge process, modifications of activated process, Rotating biological contactors, bio-digesters, significance of F/M ratio. Tertiary treatment– Wet land and aquatic treatment, Root zone treatment, Reverse osmosis, carbon adsorption, phosphorus removal, nitrogen removal.	L=11	
		T=2	P= 2

Learning Resources		
1	Text Books	1. Metcalf & Eddy, Wastewater Engineering Treatment Disposal Reuse, Publisher: Tata-McGraw-Hill Publishing Company Ltd., New Delhi, Fourth Edition. 2. S. C. Rangwala & K. S. Rangwala, Fundamentals of Water Supply and Sanitary Engineering, Publisher: Chartor Publishing House, Anand, India, Eleventh Edition.
2	Reference Books	1. Prof. Vinayak N. Ghorpade, A Text Book of Sanitary Engineering, Theory, Design and Practice, Publisher: Engineering Book Publishing Company, Poona-16 Fourth Edition. 2. A. Kamala and D. L. Kanth Rao, Environmental Engineering: Water Supply, Sanitary Engineering and Pollution, Publisher: Tata-Mc. Graw Hill Publishing Company Ltd., New Delhi. 3. Mark J. Hammer & Mark J. Hammer, Jr., Water and Wastewater Technology, Publisher: Prentice-Hall of India Pvt. Ltd., New Delhi. 4. G. S. Birdie & J. S. Birdie, Water Supply and Sanitary Engineering Including Environmental Engineering, Publisher: Dhanpat Rai & Sons, New Delhi, Fifth Edition.
3	Website	1. https://globalhydration.com/waterborne-disease/common-methods-of-water-purification/ 2. https://www.cdc.gov/healthywater/drinking/public/water_treatment.html 3. https://www.organicawater.com/primary-secondary-tertiary-wastewater-treatment-work/
4	Journals	1. Current Science, ISSN No. 0011-3891 2. Journal of Environmental Biology, ISSN No. 0254-8704 3. Resonance, ISSN No. 0971-8044
5	Supplementary reading	1. Central Pollution Control Board(CPCB), New Delhi reports 2. Maharashtra Pollution Control Board(MPCB), Mumbai reports
6	Practical Component	Practical based on this paper will be conducted under Paper No. CC 203 (Practical- II)

Semester	III	Total Credit	4
Course Code	EVS – 602	Credit Pattern	L-45, T-8, P-7
Course Title	ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT SYSTEM		

Course Objectives

1.	Apprise concept and significance of environmental impact assessment.
2.	Discuss various steps in conducting environmental management plan.

Course Outcomes: The students will able to

1.	Design EMP for particular industry.
2.	Prepare Environmental Impact Assessment report.
3.	Design EMS for particular Industry.
4.	Prepare Environmental Audit reports of a industry.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit- I. Fundamentals of Environmental Impact Assessment: Development vis-à-vis environment, Sustainable development, Definition of EIA, its concept, scope and objectives. Negative and positive, primary and secondary, reversible and irreversible, tangible and intangible impacts, Elements or components of EIA, Baseline studies in EIA, Prediction of impacts and its methodology, EIA in developed countries and developing countries, Public participation in EIA, Composition of expert committee.	L= 12	
		T=2	P=1
2	Methodologies of EIA, Uncertainties in EIA, Environmental monitoring and environmental management plan, Planning and management of impacts studies, Cost-benefit analysis of the project: present and future worth of project, feasibility report, Preparation, writing and appreciation of EIA reports pertaining to Dam, Mining and other industries. Concept of Social Impact Assessment (SIA).	L= 11	
		T= 2	P= 2
3	Unit- III: Environmental Management System (EMS): Scope, application and benefits of ISO certification; Introduction, terms and definitions, Need for EMS, ISO 14000 (Series) – The Basic Principles; Environmental Management System Requirement - Deming Cycle of continual improvement. Environmental Policy, Environmental aspects and impacts. Environmental objectives. ISO 14001: Preparation of documentation. Steps for certifications; Actual conduct of audit for certification; Implementation of ISO 14000, Reporting of Non conformity and follow audit trails.	L= 11	
		T= 2	P= 2
4	Unit-IV : Environmental Auditing : Preamble, scope and objectives of environmental auditing, Applicability of statutory environmental statement audit, Qualities of an environment auditor, Contents of EA report. Preparation of documents for consent to establish/ consent to operate / Renewal, Types of Environmental audits, - Preset audit, Impact assessment audit, compliance audit, Awareness audit and improvement / Green audit. General approach towards environmental	L=11	
		T=2	P= 2

		audit, preparation of questionnaire for audit, presentation of data and certification.		
Learning Resources				
1	Text Books	• A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 • A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 • A Text Book Environmental Studies, Chatawal & Sharma, HPH • A Text Book Environmental Science, Joshi & Joshi, APH • A Text Book of Environmatal Studies, Nambiar, STP		
2	Reference books	• Environmental Impact Assessment By: Larry W Canter. McGraw-Hill International Editions, 2nd Edn, New York (1996) • EIA Theory & Practice By: Peter Wathern. Unwin Hyman, London (1990) • Environmental Impact Assessment By: PR Trivedi. APH Publishing Corporation, New Delhi (2004) • EIA Practical Solutions to Recurrent Problems By: David P Lawrence. Wiley Interscience Publication (2003) • A Handbook of EIA By: VS Kulkarni, SN Kaul & RK Trivedy. Scientific Publishers (India) • EIA (Available Techniques, Emerging Trends) By: SA Abbasi & DS Arya. Discovery Publishing House, New Delhi (2000) • Environmental Impacts of Agricultural Production Activities By: Larry W Canter. Lewis Publishers, Inc. USA (1986) • Environmental audit by Mhaskar AK • EIA – A Bibliography with abstracts By: B.D. Clark, R. Bisset, P. Wathern (1980), Mansell London • Manners, IR, Micksell MW (1974) Perspectives on Environment Association American Geographers, Pub. 13. • Environmental Assessment and Statements by Harr and Hagerty (1977) • Environmental Auditing by Central Pollution Control Board. • Stoner, Freeman, Gilbert – Management – Prentice Hall of India Ltd., New Delhi – VIth Edition • Kathryan M. Bartol & David C. Martin – Management – Mc Graw – Hill Services in management, Second Edition • Terry – Franklin – Principles of Management – All India Traveler Bookseller • R.S.Gupta, B.D. Sharma, N.S.Bhalla – Principles and Practic of Management – Kalyani Publishers Edition 1990 • P.C. Tripathi , P.N.Reddy – Principles of Management – Tata Mc Graw – Hill publishing Co. Ltd. Vth Edition • Harold Koontz & Cyril O’ Donnell – Management - Mc Graw – Hill publication.		

		• Environmental audit by Mhaskar AK • A Bibliography with abstracts y B.D. Clark, R. Bisset, P. Wathern (1980), Mansell London • Manners, IR, Micksell MW (1974) Perspectives on Environment Association American Geographers, Pub, 13. • Environmental Impact Assessment by Canter, L. (1977), McGraw Hill • Environmental Assessment and Statements by Harr and Hagerty (1977) • Environmental Auditing by Central Pollution Control Board
3	Websites	• https://www.cbd.int/impact/whatis.shtml • https://nptel.ac.in/courses/120108004/module3/lecture3.pdf • https://nptel.ac.in/courses/120108004/module2/lecture2.pdf • http://mpcb.gov.in/ • https://www.cseindia.org/tag/state-pollution-control-board--(spcb) • https://www.iaia.org/wiki-details.php?ID=23
4	Journals	• Current Science, ISSN No. 0011-3891 • Every Thing About Water • Down to Earth • Industrial Safety Chronicle • International Journal of Environmental Pollution Control & Management , ISSN No .0975-3842 • Resonance, ISSN No. 0971-8044 • Journal of Earth System Science, ISSN No .2253-4126
5	Supplementary Reading	• CPCB Report • MPCB Report
6	Practical Components	• Project report preparation on EIA & EMS

Semester	III	Total Credit	4
Course Code	EVS – 603 E5	Credit Pattern	L-45, T-7, P-8
Course Title	DISASTER & SAFETY MANAGEMENT		
Course Objectives: Equip students with the ability to:			
1.	To critique the concept and impact of disasters		
2.	To evaluate the causes, effects and control measures of disasters		
Course Outcomes: After completion of this course students will have capacity to			
1.	Evaluate responsibilities of disaster prevention, preparedness, response, and recovery.		
2.	Assess the importance of governmental and non-governmental organizations.		
3.	Do strategic Management for Man Made & Technological Disasters.		
4.	Relate theoretically and practically in the processes of disaster management (disaster risk reduction, response, and recovery)		

Unit Number	Contents	Number of Sessions	
1	Definition of hazard and Disaster, Fundamentals of disasters, Classification of disasters, Disaster Management Act, 2005. Disaster Management - Pre-disaster Planning, Planning During Disaster, Post- Disaster Planning.	L= 11	
		T=2	P=2
2	Natural and Man-made disasters – causes, effects and control Earthquakes, Floods, Droughts, Landslides, Cyclones, Storms, Tornadoes, Coastal & Marine disasters, Air, Water, Road & Rail and Nuclear disasters .	L= 11	
		T= 2	P=2
3	Concept of disaster management, Disaster Management Cycle, Hazard vulnerability, Hazard Zoning, Physical & Biological indicators of hazard, Risk Assessment & Hazard Preparedness Plan, collection of data for preparation of hazard preparedness plan.	L= 11	
		T= 2	P= 2
4	Role of various organizations - District Disaster Management Committee, National Disaster Management Authority (NDMA), National Disaster Response Force (NDRF), Non-Governmental Organizations, Military.	L=12	
		T=2	P= 1

Learning Resources		
1	Text Books	- Pandey M. (2014), Disaster Management, Wiley Publisher, New Delhi, 1st Edition. - Dhawan N. G., Khan A. S. (2014), Disaster Management and Preparedness, CBS Publishers & Distributors, New Delhi, 1st Edition.
2	Reference books	- Asthana N. C. & Asthana P. (2014), Disaster Management, Aavishkar Publishers & Distributors, Jaipur, 1st Edition. - Satsangi A. (2017), Disaster Management and Environmental Education, Book Enclave Publisher, Jaipur, 1st Edition
3	Websites	- Directory of Institutions and Resource Persons for Landslide Management In India http://nidm.gov.in/PDF/pubs/directory%20landslide.pdf https://www.ifrc.org/en/what-we-do/disaster-management/about-disaster

Semester	III	Total Credit	4
Course Code	EVS – 604 E6	Credit Pattern	L-45, T-8, P-7
Course Title	Environmental Governance		

Course Objectives:

1.	To develop understanding about climate, and to create awareness about impacts of climate change.
2.	To observe projected trends and impacts of Climate Change.
3.	To analyse climate scenario and consequences.
4.	To develop understanding of sustainable development goals and suggest mitigation measures at national and international level.

Course Outcomes: The students will able to

1.	Analyse and interpret the current climate change issues, consequences, challenges, debates and implications.
2.	Think critically and contribute to research in solving environmental problems associated with global climate change.
3.	Develop an understanding of perspectives on Sustainable Development Goals and their relevance.
4.	Explain the observed and projected trends and impacts in the climate & Provide rationale for climate change mitigation and propose actions in key sectors.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Environmental Education: Definition, Need, Objectives of Environmental education, Status of Environmental Education in New Education policy. Government policies and role of various institutions in protection and development of environment. Environmental considerations in economic planning and development in India. NCEP and district environmental committee. Emerging environmental concerns in India-Case study of Silent Valley, Sardar Sarovar project, Tehri Garwal dams. Global Environment Conservation Strategy: United Nations Environmental Programme (UNEP), Intergovernmental Panel on Climate Change (IPCC), International Union for conservation of Nature and Natural Resources (IUCN) World Wide Fund for Nature (WWF). Stockholm Conference (UNCHE), World Commission on Environment and Development (WCED) – “Our Common Future”, Rio-Conference (UNCED)	L = 12	
		T=2	P=1
2	Environmental Acts-I: Constitutional provisions regarding environment protection: Article 47 (Directive principles of State Policies), Article 48A (1942 Amendment),	L=11	

	Article 51A(g) (Fundamental duties) The Wild Life (Protection) Act, 1972 The Water (Prevention and Control of Pollution) Act, 1974. The Air (Prevention and Control of Pollution) Act, 1981. Forest (Conservation) Act, 1980.	T=2	P=2
3	Environmental Acts-II: The environment (Protection) Act, 1986., Public Liability Insurance Act, 1991., Industrial Wastes and Law, Sec. 12 of Factories Act, (1948) and rules framed there under. Hazardous waste (Management & Handling) Rule, 1989, Noise Pollution and Law, Sec. 119 and 120 of the Motor Vehicles Act (1989) and rules framed there under. Note: any amendment to the act impinging time to time is to be covered.	L=11 T=2	P=2
4	Sustainable Development : Introduction to Sustainable Development: Glimpse into History and Current practices - Broad introduction to SD - its importance, need, impact and implications; definition coined; evolution of SD perspectives (MDGs AND SDGs) over the years; recent debates; 1987 Brundtland Commission and outcome. Global Warming Potential (GWP), Concept of clean development mechanism (CDM), carbon trading, carbon footprint, Concept of Corporate Social Responsibility, CSR guidelines.	L= 12 T=2	P=1 P=1

Learning Resources

1	Text Books	- Krausman Paul R. James W. Cain, Wildlife Management and Conservation: Contemporary Principles and Practices, JHU Press New Delhi - Hosetti B, Concepts in Wildlife Management, B Daya Publishing House, 2nd Revised edition, 2005
2	Reference books	- Dr. Asthana D. K. and Dr. Asthana meera (2006) A textbook of Environmental Studies, S. Chand Publication, Ram Nagar New Delhi-110 055 - Rana S.V.S, Essentials of Ecology and Environmental Science, Fifth Edition, PHI Learning Private limited Delhi 110092, 2015 - Ghosh Roy M. K., Sustainable Development, Environment energy and water resource, 2015 KASA Digital, Delhi - Ganesamurthy V.S. Environmental status and Policy in India, New Century publication New Delhi India.2009. - Kevin H. Deal, Wildlife and Natural Resource Management 2017 4th edition CENGAGE publications Delhi 110091 - Devis Lawrence S., K. Norman Johnson, Pete Bettinger, Theodore E. Howard, Forest Management, CBS Publisher and Distributors pvt. Ltd.

3	Websites	• http://www.fao.org/forestry/sfm/85084/en/ • http://moef.gov.in/wildlife/ • https://www.iucn.org/ • https://www.worldwildlife.org/
4	Journals	• Journal of Environmental Biology, ISSN No. 0254-8704 • Journal of Biosciences, ISSN No. 0250-5991
5	Supplementary Reading	• National Forest Policy India.
6	Practical component	• Field Visit to various forest and wildlife areas.

Semester	III	Total Credit	4
Course Code	EVS -605	Credit Pattern	L-0, T-15, P-45
Course Title	RESEARCH PROJET - I		

Course Objectives

1.	It is an academic requirement for the students of M. Sc. (Environment & Safety) to undergo Summer Inplant Training for a period of minimum one month during May & June (Summer Vacations) by working & learning from Industry/Organization to gain an experience in the real world situation.

Course Outcomes: After completion of this SIP students will have capability to

1.	Select and defend a topic of their SIP and effectively plan, execute, evaluate and discuss their innovative ideas and experiments.
2.	Identify systematically the relevant theory and concepts, and relate these to appropriate methodologies and evidences.
3.	Apply appropriate techniques and draw appropriate conclusions, develop communication and interpersonal skills.
4.	Propose and present scientific approach to solve the problem. Interpret, discuss and communicate scientific results in written form.

Syllabus:

	Contents	Number of Sessions	
1	They will study the working environmental conditions & problems in the organization.	L= 0	
	Areas for SIP are-	T=15	P=45
	1.Waste Water Treatment	2. Solid Waste Management	
	3. Characterization of Effluent Technologies	4. Air Pollution & Control	
	5.Noise Pollution	6. Toxicological Study	
	7. Industrial Safety	8. Disaster Management	
	9.Environmental Auditing	10. ISO 14000	
	11. OSHAS-18001	12. Energy Management	
	13. Composting	14. Wormicomposting	
	15. Bioremediation	16. Phyto-remediation	
	17. Water Budget	18. Energy Audit	
	19. Carbon Footprint	20. Biomedical Waste Management	

Semester	III	Total Credit	2
Course Code	EVS - 606	Credit Pattern	L-15, T-0, P-45
Course Title	Practical 5		

Course Objectives

1. The students should know the experimental procedures for analysis of environmental samples.

Course Outcomes: After completion of this course students will be able to

1. Extend use of technical and analytical skills to quantify the level and effects of noise pollution.
 2. Interpret the chemical methods used to study environmental processes.
 3. Develop analytical skills to quantify the level and effects of air pollution by conventional methods .
 4. Demonstrating Isolation, segregation, characterization and proper utilization of Municipal Solid Waste.
- Elaborate and Integrate scientific processes to analyze soil samples.

Syllabus:

Sr. No.	Title of the Experiment	Number of Sessions	
1	Inorganic Phosphorous in water	L = 15	
2	Determination of Chloride in Water	T = 0	P = 45
3	Determination of Phenolic Compounds		
4	Prediction of Impact		
5	Determination Total Phosphorous in water		
6	Site Selection		
7	Estimation of PM ₁₀ & PM 2.5 in air		
8	Available Sulphur in Soil		
9	Determination of chemical composition of MSW		
10	Mechanical Analysis of Soil		
11	Determination of Available Phosphorus in soil		
12	Determination of Available Potassium in soil		
13	Determination of Available Nitrogen in soil		
14	Determination of Physical composition of MSW		
15	Determination of SPM/RPM		

Learning Resources

1	Reference books	• Water & Waste Water analysis : Dr. R.K. Trivedy & Dr. P.K.Goel • Standard Methods of water & Waste water analysis: APHA • Hand book of Methods in Environmental Studies (Vol.I) : S.K.Maiti • Hand book of Methods in Environmental Studies (Vol.II) : S.K.Maiti • A text book of Soil analysis : Baruah & Barthakur

Semester	III	Total Credit	2
Course Code	EVS - 607	Credit Pattern	L-15, T-0, P-45
Course Title	Practical 6		

Course Objectives	
1.	The students should know the experimental procedures for analysis of environmental samples.

Course Outcomes: After completion of this course students will	
1.	Make use of methods of Isolation of pure cultures of micro-organisms from environmental samples using appropriate microbial techniques.
2.	Recommend gypsum requirement for the preparation of reclamation plans for saline alkali soils.
3.	Evaluate dispersal of air pollutants by drawing wind rose diagram.
4.	Elaborate and explore Soxlet extraction method as a separative technique.

Syllabus:

Sr.No.	Title of the Experiment	Number of Sessions	
1	Isolation of Pure Culture of MOs	L = 15	
2	Interpretation of Aerial Photographs	T = 0	T = 0
3	Soli rating & Fertilizer dose recommendations		
4	Determination of Carbohydrates from Plant		
5	Soxlet Extraction		
6	Windrose Diagram		
7	Metal Bio-sorption		
8	Gypsum Requirement		
9	Determination of Most Probable Number(MPN)		
10	Determination of Cultural(Colony) Characters		
11	Langilar Saturation Index		
12	Fire Extinguisher Demo		
13	Precipitation Analysis		
14	Determination of nitrite in water		
15	Media Preparation		

Learning Resources		
1	Reference books	- Water & WasteWater analysis : Dr. R.K. Trivedy & Dr. P.K.Goel - Standard Methods of water & Waste water analysis: APHA - Hand book of Methods in Environmental Studies (Vol.I) : S.K.Maiti - Hand book of Methods in Environmental Studies (Vol.II) : S.K.Maiti - A text book of Soil analysis : Baruah & Barthakur

SEMESTER-IV

Semester	IV	Total Credit	4
Course Code	EVS - 651	Credit Pattern	L-45, T-8, P-7
Course Title	ENVIRONMENTAL BIOTECHNOLOGY AND BIO-SAFETY		

Course Objectives :

1.	To understand the world of Microbes from the point of environmental ecosystem interactions.
2.	To isolate and maintain pure cultures of certain micro-organisms to utilize their capabilities in environment Management.
3.	To use Biotechnological Approaches like bioremediation in Industrial /Environmental Pollution Management,
4.	To utilize potential of microbes in Energy Resource Management, Pest Management, Fertilizer Management and Forest Management.

Course Outcomes: After completion of this course students will have capacity to

1.	Describe the importance of microbial diversity, benefits and harms of MOs with potential applications in the innovative environmental management technologies.
2.	Describe and apply existing and emerging technologies like <i>in-situ</i> , <i>ex-situ</i> , & engineered bioremediation, phyto-remediation for environmental clean up and environmental pollution management. Appreciate the scientific, ethical and social issues associated with certain applications of biotechnology in agriculture and forest management.
3.	Demonstrate an awareness about emerging concerns of reductions in fossil fuels through new biotechnological interventions in the harnessing renewable biomass energy. Describe and apply biotechnological solutions like bio-plastics, bio-fertilizers, bio-pesticides, bio-mining, biosensors to address present environmental concerns.
4.	Identify and evaluate the toxic chemicals, mutagens, carcinogens and their relationships between exposure and dose-response relationships. Evaluate effects on living/physiological systems like neurotoxicity, nephro-toxicity, hepato-toxicity, and reproductive toxicity.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Environmental Microbiology Types of Microbes, Harms & Benefits of MOs with their Environmental Significance. Modern Media components & Media Preparations, Methods of Sterilizations, Maintenance of Aseptic Conditions, Enrichment culture technique for the isolation of desired types of microorganism, Microbial growth in closed and open environments, Growth Curve, Factors Affecting Microbial Growth, Methods of Isolation of Pure Culture.	L= 11	
		T=2	P=2
2	Fundamentals of Environmental Biotechnology Concept and Terminologies in Environmental Biotechnology Biotechnological approach of environmental pollution abatement - Bioremediation of contaminated sites, xenobiotics, <i>in situ</i> and <i>ex situ</i> and engineered ,Phytoremediation, Biotechnology and forest management, Industrial Biotechnology, Principles of Green chemistry	L= 11	
		T= 2	P= 2

3	Advanced Environmental Biotechnology Biotechnology and Energy management- Biofuels (Liquid fuels, Biogas and Biodiesel) Novel applications of biotechnology, Integrated Pest Management & Bio-pesticides, Bio-fertilizers, Biopolymers And Bioplastics, Bioleaching and biomining (Biohydrometallurgy), Biosensors, biofilms, biosurfactants	L= 11	
		T= 2	P= 2
4	Bio-Safety & Environmental Toxicology History of biosafety, Risk assessment, Biosafety levels, Personal protective equipment, Laboratory facilities and safety equipment, Disinfection, decontamination, and sterilization, Regulatory compliance, Laboratory security, testing & step by step introduction, emergency response, Administrative controls, Current topics in biosafety, Cartagena Protocol on Bio safety. Biosafety of Indigenous & Genetically Modified Organisms. Toxicology, Evaluation of toxicity –Types and routes of entry of toxicants. Acute, sub acute, & chronic toxicity; Dose and Response- LC50/LD50 estimation, Some organ specific toxicity, Neurotoxicity, Nephrotoxicity, Hepatotoxicity, reproductive toxicity; Carcinogenesis.	L=12	
		T=2	P= 1

Learning Resources

1	Text Books	• Environmental Biotechnology, Buddolla, Narosa • Environmental Biotechnology, Allen, CBS • Environmental Biotechnology, Fulekar, CRC • Environmental Biotechnology, Scragg, Oxford • Essentials of Biotechnology, Michael Chrichton, MEDTEC • Biotechnology, Smith, Cambridge
2	Reference books	• Microbiology By: Michael J Pelczar, Jr; ECS Chan & NR Krieg. Tata McGraw-Hill Edition, New Delhi (1998) • Principles of Microbiology By: Ronald M Atlas 2nd Edn, WCB McGraw-Hill, Boston (1997) • General Microbiology By: RY Stanier, JL Ingraham, ML Wheelis & PR Painter. 5th Edn Macmillan Press Ltd., London (1995) • Microbial Ecology – Fundamentals and Application By: Ronald M Atlas & Richard Bartha. 4th Edn. An Imprint of Addison Wesley Longman, Inc. California (1998) • Microbiology: Fundamentals and Applications By: SS Purohit. 6th Edn. Agro Botanica (1997-98) • General Microbiology By: SB Sullia & S Shantharam. Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi (1998) • Microbiology – Diversity, Disease & Environment By: Abigail A Salyers & Dixie D Whitt. Fitzgerald Science Press, Maryland (2001) • Industrial Microbiology – An Introduction y: Michael J Waites, Neil L Morgan, John S Rockey & Gary Higton. Blackwell Science, London (2002) • Microbiology – A Laboratory Manual (International Students

		Edition) By: James G Cappuccina & Natalie Sherman. Addison – Wesley Longman, Inc. California (1990) • Environmental Microbiology – A Laboratory Manual By: Ian L Pepper, CP Gerba & JW Brendercke, Academic Press, New York (1995) • Harish Kumar, 2001: Environmental Health Hazards, Ivy Publishing House, Delhi • Chermisinoff, N. P. and Graffia, M. L. 2003: Environmental Health and Safety Management, Jaico Publishing House, Mumbai • Hoffman, D. J. <i>et al.</i>, Eds. 1995: Hand Book of Ecotoxicology, Lewis, London • de Vries, J. Ed. 1997: Food Safety and Toxicology, CRC Press, London • Rose, J. Ed. 1998: Environmental Toxicology, Gordon and Breach Science Publishers, Australia • Klaassen, C. D. Ed. 1996: Casarett & Doull's Toxicology V Ed., McGraw-Hill, New York • Dell'Omo, G. Ed. 2002: Behavioral Ecotoxicology, John Wiley & Sons Ltd., U. K. • Santra, S.C. (2007) Environment Science, New Central Book Agency, Calcutta.
3	Websites	• https://www.britannica.com/technology/biotechnology • https://en.wikipedia.org/wiki/History_of_biotechnology
4	Journals	• International Journal of Environmental Pollution Control & Management , ISSN No .0975-3842 • Journal of Biosciences, ISSN No. 0250-5991 • Journal of Environmental Biology, ISSN No. 0254-8704 • Resonance, ISSN No. 0971-8044 • Current Science, ISSN No. 0011-3891
5	Supplementary Reading	• Down to Earth • National Geographic.
6	Practical Components	• Practicals based on this paper will be conducted under Paper No. Practical VII & VIII.

Semester	IV	Total Credit	4
Course Code	EVS - 652	Credit Pattern	L-45, T-8, P-7
Course Title	LAND AND WATER MANAGEMENT		

Course Objectives

1.	To train students in Soil and surface water hydrology as a prerequisite for soil, land & water resource management
2.	To impart in-depth knowledge of soil processes and hydrologic processes, data collection and management, and estimation of parameters
3.	To develop students for application of methods of soil, land & hydrology management to field problems
4.	To assess and simulate soil & groundwater potential for remediation

Course Outcomes: After completion of this course students will be able to

1.	Identify & Describe the concept of optimal land use planning based on capabilities to prevent further degradation and relate these to appropriate methodologies of sustainable land management.
2.	Discovering challenges and give suggestions to manage accelerated soil erosion, ground water recharging and water logging conditions, with the emphasis on prevention, control and reclamation of saline-alkali soils. Prepare a plan for reclamation of degraded area.
3.	Demonstrate the hydrology of streams and lake systems and concept of water shed management, and describing the processes of and importance of groundwater flow and aquifer systems.
4.	Describe & Evaluate the challenges of maintaining surface and ground water quality, apply their knowledge base and research skills to current issues pertaining to water resource management, and remediation, with emphasis on related economic, social, and public policy dimensions.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Soil Pollution: Importance of Soil resources, Physical, Chemical and Biological Properties of soil. Definition, causes/ sources of soil pollution: agro-chemicals, heavy metals, disposal of city refuse, waste water, soil salinity and water logging. Fate of pollutants in Soil, Methods of Soil sampling, Effect of Soil pollution on Flora and Fauna, Control Of Soil Pollution: Prevention & Elimination, Concept of Soil health, Soil pollution control through Soil health management	L= 11	
		T=2	P=2
2	Land classification on the basis of topography, climate, and utilization; Land use patterns in India, Need of Land Management Spheres of Land Management, Land Productivity, Capability and Capacity Land Capability Classification as a Guide for Soil Conservation Desertification with special reference to India, Degradation of Land: causes, effects & control, Acid Soil management, Saline & Alkali Soil Management, Soil Erosion, Methods of Soil Conservation, Wetlands & Water Logged areas	L= 11	
		T= 2	P= 2

3	Water Resources and Sustainable Development Classification and sources of surface and groundwater; Exploration and exploitation of water resources; Quality of Irrigation Water; Consequences of unskilled irrigation practices, Planning, execution and after effects of man-made reservoirs; Utilization of water resources for energy production, sanitation, drinking, Navigation, industries and agriculture; National Water Policy	L= 11	
		T= 2	P= 2
4	Water management strategies and problems Watershed- concept and Classification; Watershed characteristics, Watershed Management, Multi-disciplinary water management; Quantitative Techniques of Water Resources Planning and Management; Regional Water Quality Management; Use of remote sensing in land and water management; Integrated approached towards water, soil and land management.	L=12	
		T=2	P= 1

Learning Resources

1	Text Books	• Text Book Of Soil Science by PAL, CBS publishers, 2018 • Textbook Of Environmental Science And Technology by REDDY, BSP publishers, 2019 • A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 • A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 • A Text Book Environmental Studies, Chatawal & Sharma, HPH • A Text Book Environmental Science, Joshi & Joshi, APH • A Text Book of Environmatal Studies, Nambiar, STP
2	Reference Books	• Hydrological Measurements for Watershed Research by Wasi Ullah, SK Gupta and SS Dalal • Watershed Management by JVS Murthy, New age International (P) Ltd, New Delhi • Ground water Hydrology by Todd,D.K. Willy India Pvt. Ltd, New Delhi,2011 • Ground water hydrology by Todd, David Keith, 2010 • Principle and Practice of Water Management by S.C.Panda Agrobos (India) • Conservation of Water Resources Problems & Prospects, 2008 • Resource Values & Development, 1999 by Amarthysen, Oxford Uni. Press New Delhi • Soil Geology, Kolay. A. K ., Atlantic Publisher • Soil Pollution, 2009, Mishra S. C. , APH Publications New Delhi • Introduction to Soil & Water Conservation Engineering, 2002, Mal..B.C. Kalyani Publisher, Ludhiyana. • Land Utilization : Theory & Practice, Mandal R. B. , Concept Publishing • Environmental Geography Science landuse & Earth, Marsh William. M. Jhon Willy & Sons, New York.

		• Geochemistry, Groundwater & Pollution, 2005, Appcco C.A.S., A.A. Balkema Publishers. • Land Degradation & Desertification, Jha V. C., Rawat Publications , Jaipur. • Hand Book of Ground Water Remediation & Treatment Technology, Cheremisinoff N.P., Crest Publishinh hours, New Delhi • Land Reforms In India- Performance & Challenges in Gujarat & Maharashtra, Shah Ghanshyam, Sage Publications, New Delhi. • Wet lands of India : Ecology & Threats (Volume 1-III), Abbasi S. A. , Discovery Publishing house, New Delhi. • Land Reclamation Maachinary, 1988, T> Barshchou , MIR Publishers Moscow. • Waste Land Development & their Utilization., Shankar Narayan K.A, Scientific Publisher, Jodhpur. • Basic & Applied Soil Mechanics., 1991, Rajan Gopal , Willy Eastern Ltd.,
3	Websites	• https://www.sciencedaily.com/terms/sustainable_land_management.htm • http://www.yourarticlelibrary.com/geography/soil-conservation-4-methods-that-must-be-adopted-for-conserving-soil/13910 • https://www.conserve-energy-future.com/methods-of-soil-conservation.php • https://sciencing.com/types-water-resources-5127497.html • https://www.un.org/waterforlifedecade/water_and_sustainable_development.shtml
4	Journals	• Current Science, ISSN No. 0011-3891 • Down to Earth • Every Thing About Water • International Journal of Environmental Engineering Science, ISSN No .2229-3094 • Resonance, ISSN No. 0971-8044 • Journal of Earth System Science, ISSN No .2253-4126
5	Supplementary Reading	• CPCB Report • MoEF Report
6	Practical Components	• Practicals Based on this,-- Practical VII & VIII

Semester	IV	Total Credit	4
Course Code	EVS- 653 E7	Credit Pattern	L-45, T-8, P-7
Course Title	FOREST AND WILDLIFE MANAGEMENT		

Course Objectives

1. Understand the importance of Forest & wildlife.
2. Describe management methods for conservation & protection of forest & wildlife.

Course Outcomes: The students will able to

1. Explain importance of forest with its ecological functions.
2. Develop a plan for forest management.
3. Describe forest conservation strategies.
4. Distinguish between various wildlife conservation projects.
5. Prepare a strategy for conservation of wildlife at local to international level.
6. Elaborate various conservation practices at national level.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	FOREST MANAGEMENT Unit I: Forest and ecological balance. Productive, protective & regulatory benefits of forest, forest ecology, forest environment and development. Forest economics, Demand and supply of forests resources, Exploitation of forests, Deforestation. Joint Forest Management, Nursery establishment & measuring forest.	L= 11	
		T=2	P=1
2	Unit II : Forest Management strategies vis-à-vis ecological balance. Protection/conservation forestry & Extension forestry. Afforestation: Concept & practices of Social forestry - Agro-forestry , forest and tribal, waste land development, Forest development corporation, Endangered species, concept of Biosphere reserves, rhyosphere flora and its role in forestry.	L= 11	
		T= 3	P= 0
3	Unit III : Wildlife as a Resource, threats to wildlife, wildlife environment, methods of study, Wildlife wealth of India, Endangered fauna of India, Wildlife diseases, Concept & Criteria of Ecological Sensitive Zone, Wildlife conservation and management strategy, Application of tissue culture in conservation of plant and animal species, wildlife censuses methods, censuses analysis & interpretation.	L= 11	
		T=2	P= 2
4	Unit IV : Measures of Conservation of wildlife: National Parks, Sanctuaries and facilities, National and international organizations, eco sensitive zones-concepts & criteria's. Improvement and development of wildlife environment, Project Tiger, Tiger Reserves in India, Crocodile Breeding, Project Elephant, Save Barasingha, Investigation and identification of potential and prospective threats.	L= 12	
		T=2	P= 2

Learning Resources		
1	Text Books	- Wildlife Management and Conservation: Contemporary Principles and Practices, Paul R. Krausman, James W. Cain, JHU Press - Fundamentals of Wildlife Management, Author: Rajesh Gopal, Publisher: Natraj - Concepts in Wildlife Management, by B.B. Hosetti (Author), Daya Publishing House, 2nd Revised edition edition, 2005 - A Text Book of Ecology, S K Dubey, Dominant Publication - A Text Book of Plant pathology, Sambamurty, I K Intarnetional. - A Text book of Agricultural Biotechnology, Ahindra Nag, PHI
2	Reference books	- Environmental Management Strategies: The 21st Century Perspective Volume 5(Environmental Management and Engineering Series) Gabriele Crognale (Author) Publisher: Prentice Hall, 1999. - Environmental Strategies for Industry: International Perspectives On Research Needs And Policy Implications (The Greening of Industry Ne Island Press; 4th edition (twork Series), Kurt Fischer (Editor), Johan Schot (Editor). - Corporate Environmental Strategy and Competitive Advantage (New Perspectives in Research on Corporate Sustainability Series) Hardcover – Import, 27 Jul 2005 by Sanjay Sharma (Editor), J. Alberto Aragon-Correa (Editor), Edward Elgar Publishing Ltd (27 July 2005). - Forest Management and Planning Peter Bettinger, Pete Bettinger, Kevin Boston, Jacek P. Siry, Donald L. Grebner, Academic Press, 2010. - Forest Management and Planning Peter Bettinger, Pete Bettinger. Forest Management in India, S.S. Negi, Published by Bishen Singh Mahendra Pal Singh, 2011. - Wildlife Management and Conservation: Contemporary Principles and Practices, Paul R. Krausman, James W. Cain, JHU Press. Fundamentals of Wildlife Management, Author: Rajesh Gopal, Publisher: Natraj. - Wildlife Management and Conservation: Contemporary Principles and Practices, Paul R. Krausman, James W. Cain, JHU Press.
3	Websites	http://www.fao.org/forestry/sfm/85084/en/ https://en.wikipedia.org/wiki/Forest_management http://www.legalserviceindia.com/article/1215-Forest-Management-In-India.html https://unfccc.int/process/transparency-and-reporting/greenhouse-gas-data/greenhouse-gas-data-unfccc/global-warming-potentials. http://moef.gov.in/wildlife/ https://www.iucn.org/ https://www.worldwildlife.org/
4	Journals	- Current Science, ISSN No. 0011-3891 - Down to Earth - Journal of Environmental Biology, ISSN No. 0254-8704 - Journal of Biosciences, ISSN No. 0250-5991
5	Supplement ary Reading	National Forest PolicyS

Semester	IV	Total Credit	4
Course Code	EVS – 654 E8	Credit Pattern	L-45, T-8, P-7
Course Title	SAFETY ENGINEERING		

Course Objectives

1. To critique safety aspects with respect to industrial safety.
2. To assess the importance and applications of safety engineering in industrial sector.

Course outcomes: the students will able to

1. Examine the safety in use of machinery & importance of guarding.
2. Choose the safety measures while handling & storage of materials.
3. Demonstrate the safety aspects when working at height.
4. Examine the safety in industrial operation like heat, stress & electrical hazards.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Machine operation and guarding Definition of engineering, safety engineering, machine guarding. Principles in machine guarding. Ergonomics of machine guarding. Type of guards and selection. Built-in-safety devices, maintenance and repairs of guards, incidental safety devices and tools. safety in the use of machines Safety in the use of 1) power presses ,2) shearing, 3) bending, 4) rolling, 5) drawing, 6) turning, 7) boring, 8) milling, shaping, 9) planning broaching, planting, 10) grinding. Need for selection and care of cutting tools. Preventive maintenance, periodic checks for safe operation.	L= 11	
		T=2	P=2
2	Material handling and storage of materials Manual : Kinetics of manual handling. Lifting and carrying of objects of different shapes, size and weight. Safe use of accessories for manual handling. Safety in stacking and unshackling floor loading conditions. Layout condition for safety in storage. Mechanical : Lifting machinery, lifts and hoists, signaling, inspection and maintenance. Safety in design and construction, operation, inspection and maintenance of industrial trucks, lifting tackles and loose gears, conveyors. Safety features, safe locations, testing, inspection and maintenance of lifting tackles, safe working load for all mechanical material handling equipment. The competent persons in relation to safety legislation - duties and responsibilities.	L= 11	
		T= 2	P= 2
3	Working at different levels Working at heights : Ladders of different types, scaffolds of different types, other safety requirements while working at heights. Working in confined spaces &	L= 11	
		T= 2	P= 2

	working underground Hand tools and power tools inspection, maintenance and repair of tools. Detectable causes of tool failures. Tempering, safe use of various types of hand tools used for metal cutting, wood cutting, miscellaneous cutting work, noise and vibration: continued and impulse noise. Noise isolation. Noise absorption techniques, silences. Practical aspects of control of noise.		
4	Safety in industrial operation Industrial lighting & illumination : Purpose of lighting. Benefits of good illumination, sources and types of artificial lighting. Principles of good illumination. Recommended optimum standards of illumination. Design of lighting installation. Standards relating to lighting and colour. Ventilation and heat stress : Natural ventilation, mechanical ventilation. Air conditioning. Control of heat exposures at source, dilution and local ventilation. Purpose of ventilation. Thermal comfort. Indices of heat stress. Thermal limits for comfort, efficiency and freedom from health risk recommended values for air changes required for various areas as per factories act, 1948 and national standards. Is: 3103-1975-code of practice for industrial ventilation. Electrical hazards: hazards of electrical energy. Safe limits of amperages, voltages. Safe distance from lines. Capacity and protection of conductor. Joints and connections. Means of cutting off power. Overload and short circuit protection. No load protection. Earth fault protection. Earth insulation and continuity tests. Protection against surge and voltage fluctuation. Types of protection for electrical equipment in hazardous atmosphere.	L=12	
		T=2	P= 1

Learning Resources

1	Text Books	- Mishra. R. K. (2013). Construction Safety. Aitbs Publishers, India. - Haldar. S. K. (2022). Occupational Health and Hygiene in Industry. CBS Publishers and Distributors pvt. Ltd
2	Reference Books	- Whiting. N. E., Spellman. F.R. (1999). Safety Engineering: Principles and Practices. Government Institutes. - Gupta. A. (2006). Industrial Safety and Environment. Laxmi Publications Limited. New Delhi. - Rao. S. S, and Jain R .K. (2000). Industrial Safety, Health and Environment Management Systems. Khanna Publishers. New Delhi. - Poonia. M. P. (2019). First Edition. Industrial Safety and Maintenance Management. Khanna Publishers. New Delhi. India.
3	Websites	www.nsc.org.in www.osha.gov www.ilo.org www.ohsonline.com www.worldsafety.org

Semester	IV	Total Credit	6
Course Code	EVS -655	Credit Pattern	L-0, T-15, P-45
Course Title	RESEARCH PROJET (Master Thesis)-II		

Course Objectives

1.	It is an academic requirement for the students of M Sc (Environmental Science) to undergo Summer Inplant Training for a period of minimum one month during May & June (Summer Vacations) by working & learning from Industry/Organization to gain an experience in the real world situation.

Course Outcomes: After completion of this SIP students will have capability to

1.	Select and defend a topic of their SIP and effectively plan, execute, evaluate and discuss their innovative ideas and experiments.
2.	Identify systematically the relevant theory and concepts, and relate these to appropriate methodologies and evidences.
3.	Apply appropriate techniques and draw appropriate conclusions, develop communication and interpersonal skills.
4.	Propose and present scientific approach to solve the problem. Interpret, discuss and communicate scientific results in written form.

Syllabus:

Sr. No	Contents	Number of Sessions	
1	They will study the working environmental conditions & problems in the organization.	L= 0	
	Areas for SIP are-	T=15	P=45
	1.Waste Water Treatment		
	2. Solid Waste Management		
	3. Characterization of Effluent		
	4. Air Pollution & Control		
	Technologies		
	5.Noise Pollution		
	6. Toxicological Study		
	7. Industrial Safety		
	8. Disaster Management		
	9.Environmental Auditing		
	10. ISO 14000		
	11. OSHAS-18001		
	12. Energy Management		
	13. Composting		
	14. Wormicomposting		
	15. Bioremediation		
	16. Phyto-remediation		
	17. Water Budget		
	18. Energy Audit		
	19. Carbon Footprint		
	20. Biomedical Waste Management		

Semester	IV	Total Credit	2
Course Code	EVS - 656	Credit Pattern	L-15, T-0, P-45
Course Title	Practical 7		

Course Objectives

1. Understand the experimental procedures for analysis of environmental samples.

Course Outcomes: After completion of this course students will be capable of

- 1.. Determining quality of irrigation water for optimal utilization to avoid further environmental consequences.
2. Apply Screening of microbial cultures in the different areas of environment management and for further entrepreneurship development.
3. Propose dose of lime for reclamation of an acid soil, by performing laboratory experiments and computing results.
4. Isolation of Phosphorous Solubilizing Bacteria from Environment.

Syllabus:

Sr. No.	Title of the Experiment
1	Standard Plate Count (SPC)
2	Determination of Lime Requirement
3	Determination of Cation Exchange Capacity(CEC) of Soil
4	Demonstration of Starch hydrolysis by microbial Cultures
5	Determination of Gram Character of bacterial Culture
6	Demonstration of Motility in bacteria
7	Determination of Irrigation Water Quality by pH, EC & Carbonate-bicarbonates values
8	Determination of LD 50
9	Determination of Irrigation Water Quality by SAR method
10	Determination of Hexavalent Chromium
11	Immobilization of Micro-organisms
12	Determination of Total Kjeldahl Nitrogen (TKN)
13	Zooplanktons & Phytoplanktons
14	Isolation of P Solubilizing MOs
15	Paper Chromatography

Learning Resources

1	Reference books	• Water & WasteWater analysis : Dr. R.K. Trivedy & Dr. P.K.Goel • Standard Methods of water & Waste water analysis: APHA • Hand book of Methods in Environmental Studies (Vol.I) : S.K.Maiti • Hand book of Methods in Environmental Studies (Vol.II) : S.K.Maiti • A text book of Soil analysis : Baruah & Barthakur

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Chh Shahu Institute of Business Education & Research Kolhapur
(An Autonomous Institute under UGC Act.)



Structure & Syllabus of the MCA Program Under the Faculty of Science
(Revised and Effective from 2020-21)
C.B.C.S. Pattern

INTRODUCTION:

The M.C.A. programme is of two-year duration, named as M.C.A. (Part-I), M.C.A. (Part-II), in Faculty of Science. Each year is divided into two semesters for the convenience of teaching and examination. In each semester, there will be teaching for 15 weeks followed by an End-of-Semester (EOS) examination. The teaching for Semesters -I, III will be held between 1st July and 31st October, and the teaching for Semesters-II and IV will be held between 1st December and 31st March.

The students are supposed to undergo summer Internship in organization for 60 days After Semester-II and before Semester-III, they are supposed to submit a report about the same along with organizational certificate. Also they are supposed to present the same in semester-III end semester examination.

ELIGIBILITY:

1. A candidate for being eligible for admission to MCA programme (Faculty of Science) must have passed Bachelors Degree Examination of the Shivaji University or any other University recognized by A.I.U. (Association of Indian Universities) with minimum of **aggregate 50% marks for open category and 45% for Reserve category**.
2. Having studied Mathematics at 12th examination or having studied Mathematics as one of the subject at graduation level examination.
3. The candidates who have done B.C.A. are also eligible.
4. In order to become eligible for admission to MCA programme, the candidate has undergo the process prescribed by DTE-Maharashtra from time to time.

DURATION:

The programme of the study of the degree of M.C.A. shall be full time programme and its duration shall be of Two Years. The programme consists of Four Semesters. The examination to be held in the First and Second Semester will be called Part – I (First Year), the examination to be held in the Third and Fourth Semester will be called Part – II (Second Year) .

If a candidate fails to clear all the theory papers, practical, term papers and project report within **Six** years of his/her registration, the past performance will stand automatically nullified.

If a candidate discontinues any of the terms (i.e. Semester – I to IV) on any account, will be allowed to complete the incompleted terms in the subsequent years subject to it is within the stipulated time duration of **Six** years.

In addition to the above, once a student's term (Semester) is granted, he/she shall be allowed to appear and pass in any of the subsequent examinations held, provided the examinations are within the stipulated period of **Six** years.

In case the term (Semester) is not granted the student has to seek fresh admission in the next year and complete the term and pass the examination, this too within **Six** years of his/her registration.

- **Programme Completion with Break in Between :**

A student who has passed M.C.A.–I and is seeking admission to M.C.A.–II after a long gap (Provided the gap lies within the stipulated duration of **Six** years) should complete the programme syllabus which is in existence at the time he has sought the admission for the academic year

- **Programme Educational Objectives (PEO):**

Within 3-5 years of education, graduates of MCA programme of CSIBER institute will be able to:

1. Design and develop quality software using emerging technologies as per industry standards
2. Exhibit lifelong learning capabilities with concern to drastic changes in emerging technologies.
3. Exhibit successful professional career by providing software solutions for complex problems in a time-bound manner.
4. Adopt themselves to the constantly evolving technology by peer reviewing, by working collaboratively and developing expertise in emerging fields.

• **Programme Outcomes:**

PO 1: Apply the knowledge of computing and mathematics to understand problems in different domains.

PO 2: Analyze problems to identify and understand the requirements appropriate to its solution.

PO 3: To Design and develop a computer-based solution to meet desired requirements with understanding of social concerns.

PO 4: Design and conduct experiments to identify alternative solutions and interpret results.

PO 5: Use current tools and techniques, advanced technological frameworks to enhance computing skills.

PO 6: Understanding professional, ethical, legal, security and social issues and responsibilities.

PO 7: Work effectively as an individual and in a team with diverse and multidisciplinary professionals to accomplish a common goal.

PO 8: Communicate effectively, comprehend and write effective reports and make effective presentations.

ASSESSMENT:

Taking into considerations of the UGC and AICTE requirements SIBER has adopted “Choice Based Credit System.” (CBCS). Each course is of 100 marks and contact hours for each course is 60/45/30. One credit is allotted to 15 contact hours. All courses are considered as Full credit course i.e. **FOUR** credits are allotted to each course.

For Theory paper of 100 marks (Four credits) the distribution of the marks will be as follows –

- Internal Marks i.e. Concurrent evaluation - 40 Marks
- External Marks i.e. End examination - 60 marks

For Practical paper of 100 marks (Four credits) the distribution of the marks will be as follows –

- Practical Examination - 40 Marks
- External Marks i.e. End examination - 60 marks

Breakup of Internal Marks i.e. Concurrent evaluation -

Sr. No.	Head	Marks
1.	Class Participation	10 Marks
2.	Moodle Test (Minimum One Test Per Unit)	10 Marks
3.	Seminar /Article Review (Based on Emerging Trends in Information Technology and Computer Science)	10 Marks
4.	Case Study / Term Paper	10 Marks
5.	Total	40 Marks

Each student is expected to appear for a minimum **FIVE** Class Test to be conducted on moodle. A student has to submit one library based assignment, two case studies, one article reading, one seminar for each

course in the syllabus. The final internal marks will be calculated using the heads shown in above table. **The internal marks obtained by the student has to be disclosed and signed by the student.**

For Practical examination of 40 marks there shall be three questions of 15 marks each, the student has to attempt any two. 10 marks reserved for journal.

▪ Journal marks	-	10 Marks
• Practical Marks i.e. End examination	-	30 Marks

The practical examination should be considered as one head of passing i.e. 40 marks.

For the Project Work of 100 marks, the distribution of the marks will be as follows –

▪ Internal Examiner	-	30 Marks
▪ External Examiner	-	30 Marks
▪ Seminar/Term Paper	-	40 Marks

For Theory Paper Assessment

1. The assessment of papers will be done by an Internal and External examiner. A difference of more than **20%** in the marks awarded by these examiners would necessitate the valuation of these paper by the Third examiner. The **‘nearest’** marks will be considered for determining the average mark of such papers.
2. The examiners should submit the marks on separate sheets supplied to them. No marks should be entered directly in the inside pages of the answer book.
3. Once the Student passed in the internal marks (Concurrent evaluation out of 40) and submitted to the examination department, should be carried forward whenever required.
4. Students who failed in the internal marks (Concurrent evaluation out of 40) in such cases student should reappear for the same, then only the revised marks will be considered further calculation.
5. There shall be seven questions, question no.1 and 7 shall be compulsory and from question no. 2 to 6 student has to attempt any 3. Equal weightage should be given to each unit.

STANDARD OF PASSING:

1. In order to pass in each passing head, a candidate will have to obtain 50% in the internal marks (Concurrent evaluation), 40% marks in theory, and minimum of 50% of the marks in aggregate in passing head.
2. To pass the M.C.A. examination, a candidate will have to pass in all Four Semester in Two Parts i.e. Part – I (Semester – I to II) and Part – II (Semester – III & IV)
3. To pass the Project work / Seminar course/ Term paper a candidate must obtain a minimum of 50% of the total marks. If a candidate fails in the seminar / project report/ term paper and its viva-voce, he/she will be required to join the particular seminar / project report/ term paper and its viva-voce as a fresh candidate in the subsequent year.
4. A candidate from first year MCA will be eligible to proceed to the semester III ,if he/she is not having more than five courses backlog (25% of passing heads) from the first year (i.e. Semester I and II)
6. Semester Performance Index (SPI)/Cumulative Performance Index(CPI) will be as follows.

Grading System:

Full Credit 100 Marks

Grade Table for Trimester/Semester Examination			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
96-100	S+	10	SUPER
91-95	S	9.0	
86-90	E+	8.5	Exemplary

81-85	E	8.0	
76-80	O+	7.5	Outstanding
71-75	O	7.0	
66-70	A+	6.5	Good
61-65	A	6.0	
56-60	B+	5.5	Average
50-55	B	5.0	
--	X	0	Defaulter
--	XX	---	Incomplete

Half Credit 50 Marks

Grade Table for Trimester/Semester Examination			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
48 – 50	S+	10.0	SUPER
46 – 47	S	9.0	
43 – 45	E+	8.5	Exemplary
41 – 42	E	8.0	
38 – 40	O+	7.5	Outstanding
36 – 37	O	7.0	
33 – 35	A+	6.5	Good
31 – 32	A	6.0	
28 – 30	B+	5.5	Average
25 – 27	B	5.0	
--	X	0.0	Defaulter
--	XX	---	Incomplete

6. Final Result: For the final result of the student Cumulative Performance Index (CPI) based on total earned credits vis-à-vis total earned grade points shall be calculated will be as follows.

Total earned grade points / Total credits i.e. **126** credits.

Result		
CPI	Final Grade	Classification of Final Result.
9.6-10.0	S+	SUPER
9.1-9.5	S	
8.6-9.0	E+	Exemplary
8.1-8.5	E	
7.6-8.0	O+	Outstanding
7.1-7.5	O	
6.6-7.0	A+	Good
6.1-6.5	A	
5.6-6.0	B+	Average
5.0-5.5	B	

Note: An aggregate of **5.0** credit points are required to pass the M.C.A. program.

CALCULATION OF PERFORMANCE INDICES:

A distinction of the performance of one student from the other student is rather impossible to carry out from the grades obtained by a student in all the courses taken by him in a semester/year. Hence, the evaluation of various courses is cumulated in two performance indices termed as semester performance index (SPI) and cumulative performance index (CPI), the explanation of which is given below:

Semester Performance Index (SPI):

The performance of a student in a semester is indicated by a number called Semester Performance Index (SPI). SPI is the weighted average of all the grade points obtained by him in all the courses registered during the semester. If G_i is a grade with numerical equivalent as G_i obtained by a student for the course with credit C_i then, SPI for that semester is calculated using formula.

$$SPI = \frac{\sum C_i G_i}{\sum C_i}$$

Where summation is for all the courses registered by a student in that Semester SPI is calculated to two decimal places and rounded off. SPI once calculated shall never be modified. Generally, for the students failed in regular examinations SPI is calculated only after the declaration of re-examination grades.

Cumulative Performance Index (CPI):

An up-to-date assessment of the overall performance of a student from the first semester till completion of the programme is obtained by calculating an index called as Cumulative Performance Index (CPI). The CPI is weighted average of the grade points obtained in all the courses registered by a student since the first semester of the programme.

$$CPI = \frac{\sum C_i G_i}{\sum C_i}$$

Besides SPI, CPI is also calculated at the end of every semester upto two decimal places and is rounded off. It is necessary to ensure that one course appears only once in calculation of CPI and the denominator in above equation does not exceed the total number of credits registered by him.

GRACE MARKS UNDER DIFFERENT ORDINANCE.

S.O. No. 1:-Grace Marks for Passing in each head of Passing (Theory/Practical/Oral/Sessional/External/Internal).

The Examinee shall be given the benefit of grace marks only for passing in each head of Passing (Theory/Practical/Oral/Sessional/ in External /Internal examination as follows.

Head of Passing	Grace Marks
Upto -50	2
051-100	3
101-150	4
151-200	5
201-250	6
251-300	7
301-350	8
351-400	9
And 401 and above.	10

Provided that the benefit of such gracing marks in different heads of passing shall not exceed 1% of the aggregate marks in that examination.

Provided further that the benefit of gracing of Marks under this Ordinance shall be applicable only if the candidate passes the entire examination of Trimester/Semester.

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM, and CCI. NCTE, UGC etc.

S.O. No. 2:- Grace Marks for getting higher Class

A Candidate who passes in all the courses and heads of passing in the examination without the benefit of either gracing or condonation rules and whose total number of Marks falls short for securing Second Class/Highest Second Class or First Class by marks not more 1% of the aggregate marks of that examination or up to 10 marks, whichever is less, shall be given the required marks to get the next higher class of grade as the case may be.

Provided that benefits of above mentioned grace marks shall not be given, if the candidate fails to secure necessary passing marks in the aggregate head of passing also, if prescribed in the examination concerned.

Provided further that the benefits of above mentioned grace marks shall be given to the candidate for such examination/s only for which provision of award of class has been prescribed.

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM, and CCI. NCTE, UGC etc.

S.O. No. 3 Condonation

If a candidate fails in more than one head of passing, his/her deficiency of marks in such head of passing may be condoned by not more than 1% at the aggregate marks of the examination. However condonation, whether in one head of passing or aggregate head of passing be restricted to maximum upto 10 marks only.

Condonation of deficiency of marks be shown in the statement of Marks in the form of asterisk and Ordinance number

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM, and CCI. NCTE, UGC etc..

VERIFICATION OF MARKS (Only Theory Papers)

Candidates who feel that the marks secured by them are less than their expectations, shall be allowed to apply for the verification of marks by paying the requisite fee of Rs.100/- per paper (Only Theory papers),

A candidate shall apply for verification within 7 days from declaration of the Result. This facility will be available only for maximum of three papers of that particular examination only.

BACKLOG:

1. A candidate will be permitted to proceed to the second Semester even though he/she fails in one or more courses of the first semester, provided the first semester term is granted..
2. The students who have a backlog of not more than **five courses (25% of passing heads)** in the First year examination (Semester I & II) will be eligible to be admitted to the Second year (III Semester) of M.C.A.
3. A Candidate will be permitted to proceed to the Fourth Semester even though he/she fails in one or more courses of the third semester, provided the third semester term is granted.

**CHHATRPATI SHAHU INSTITUTE OF BUSINESS EDUCATION AND RESEARCH
(CSIBER)
University Road, Kolhapur – 416 004
Out Line Theory Question paper for all the programmes
(Four Unit Course)**

Class:**Course Name:****Paper no. :****Time: Three hours****Total marks: 60****INSTURUCTIONS:**

1. Question no. 1 is **COMPULSORY**
2. Attempt any **FOUR** from Q. No.2 to Q. No.7.
3. Figures to right indicate **FULL** marks

- Q. 1.: Case study / Problems / Program (Based on Unit I to IV) **(12)**
- Q.2 : Long Question / Brief answer Questions A and B (Based on Unit I) **(12)**
- Q.3 : Long Question / Brief answer Questions A and B (Based on Unit II) **(12)**
- Q.4 : a) Question (Based on Unit III) **(06)**
 b) Question (Based on Unit III) **(06)**
- Q.5 : a) Question (Based on Unit IV) **(06)**
 b) Question (Based on Unit IV) **(06)**
- Q.6 : a) Question (Based on Unit I or III) **(06)**
 b) Question (Based on Unit II or IV) **(06)**
- Q.7 : Write Short Answers **(12)**
- a) Based on Unit I (3 Marks)
 b) Based on Unit II (3 Marks)
 c) Based on Unit III (3 Marks)
 d) Based on Unit IV (3 Marks)

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**CHHATRPATI SHAHU INSTITUTE OF BUSINESS EDUCATION AND RESEARCH
(CSIBER)****University Road, Kolhapur – 416 004****Out Line Theory Question paper for all the programmes
(Two Unit course)****Class :****Course Name :****Paper no. :****Time : Two hours****Total marks : 30****INSTURUCTIONS:**

4. Question no. 1 is **COMPULSORY**
5. Attempt any Three from Q. No.2 to Q. No.5.
6. Figures to right indicate **FULL** marks

Q. 1.: Case study / Problems / Program (Based on Unit I or II) **(6)**

Q.2 : Long Answer Question (Based on Unit I) **(8)**

Q.3 : Long Answer Question (Based on Unit II) **(8)**

Q.4 : a) Brief Answer Question (Based on Unit I) **(4)**

b) Brief Answer Question (Based on Unit II) **(4)**

Q.5 : a) Brief Answer Question (Based on Unit II) **(4)**

b) Brief Answer Question (Based on Unit I) **(4)**

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NATURE OF PRACTICAL QUESTION PAPER

Time : 2 Hours

Total Marks : 40

Instructions:

1. Attempt any two questions.
2. **10 Marks are reserved for journal**

Q. 1: (15 Marks)

Q. 2: (15 Marks)

Q. 3: (15 Marks)

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MCA-I Semester-I

Nature of choice	Course Code	Course Name	Credits	Contact Hours	Int./Pract. Marks	Ext. Marks	Total Marks
Core Courses (CC)	CC-101	Computer Architecture and Operating system	3:1:0	60	40	60	100
	CC-102	Software engineering and Object Oriented Design	3:1:0	60	40	60	100
	CC-103	Design and Analysis of Algorithms	3:1:0	60	40	60	100
Core Practical Courses	CC-104	Programming with 'C'	3:1:0	60	40	60	100
	CC-105	Web Design and Development	3:1:0	60	40	60	100
Discipline Specific Elective (DSE)	DSE-I (Any One)	A. Programming with Python.	3:1:0	60	40	60	100
		B. Programming with R.					
Ability Enhancement course (AEC)	AEC-I	Business Communication	2:0:0	30	50	00	50
		Total Credits	26	390	290	360	650

M. C. A. - I Semester-II

Nature of choice	Course Code	Subject	Credits	Hours	Int./Pract Marks	Ext. Marks	Total Marks
Core Courses (CC)	CC-201	Relational Database Management Systems	3:1:0	60	40	60	100
	CC-202	Mathematical & Statistical Foundation	3:1:0	60	40	60	100
	CC-203	Linux Administration & Programming	3:1:0	60	40	60	100
Core Practical Courses	CC-204	Data and File structures	3:1:0	60	40	60	100
	CC-205	Core Java	3:1:0	60	40	60	100
	Project-I	Mini Project-I and Term Paper	0:1:3	60	40	60	100
Discipline Specific Elective (DSE)	DSE-II (Any One)	A. Full Stack Web Development	3:1:0	60	40	60	100
		B. Theoretical Computer Science					
Ability Enhancement course (AEC)	AEC-II	Soft Skills & Personality Development	2:0:0	30	50	00	50
		Total Credits	30	450	330	420	750

M. C. A. - II Semester-III**Specializations given under : DSE****DS : Data Science****NS : Network Security**

Nature of choice	Course Code	Course Name	Credits	Hours	Int./Pract Marks	Ext. Marks	Total Marks
Core Courses (CC)	CC-301	Computer Communication and Network	3:1:0	60	40	60	100
	CC-302	Software Project Management and Quality Assurance	3:1:0	60	40	60	100
	CC-303	Ethical Hacking	3:1:0	60	40	60	100
Core Practical Courses	CC-304	Advanced Web Technologies.	3:1:0	60	40	60	100
	CC-305	.Net Programming	3:1:0	60	40	60	100
	Project-II	Industrial/Mini Project-II	0:1:3	60	40	60	100
Discipline Specific Elective (DSE)	DSE-III	DS-I. Data Warehousing & Data Mining	3:1:0	60	40	60	100
		NS-I. Network Administration					
Discipline Specific Elective (DSE)	DSE-IV	DS-II. R for data Science	3:1:0	60	40	60	100
		NS-II. Information and Network Security					
Ability Enhancement course (AEC)	AEC-III	Software design Patterns	2:0:0	30	20	30	50
	AEC-IV	Internship Presentation	0:0:2	30	--	50	50
		Total Credits	36	510	300	600	900

M. C. A. - II Semester-IV

Nature of choice	Course Code	Course Name	Credits	Hours	Int./Pract. Marks	Ext. Marks	Total Marks
Core Courses (CC)	CC-401	Artificial Intelligence	3:1:0	60	40	60	100
	CC-402	Mobile Computing	3:1:0	60	40	60	100
	CC-403	Block chain Technology	3:1:0	60	40	60	100
Core Practical Courses	CC-404	Web development using ASP.Net	3:1:0	60	40	60	100
	CC-405	Advanced Java	3:1:0	60	40	60	100
	Project-III	Mini Project-III Industrial Seminars	0:1:3	60	40	60	100
Discipline Specific Elective (DSE)	DSE-V	DS-III. Machine Learning using Python	3:1:0	60	40	60	100
		NS-III. Cloud Computing					
Discipline Specific Elective (DSE)	DSE-VI	DS-IV. Big Data Analytic	3:1:0	60	40	60	100
		NS-IV. Database and Web Security					
Ability Enhancement Course(AEC)	AEC-V	Internet of things	2:0:0	30	20	30	50
		Total Credits	34	525	340	510	850

Total Credits:

Semesters	Core Credits	DSE	AEC	Total
I	5x 4 = 20	1 x 4= 4	1 x 2= 2	26
II	6 x 4 = 24	1 x 4= 4	1 x 2= 2	30
III	6x 4 = 24	2x 4= 8	1 x 2= 2 1 x 2= 2	36
IV	6x 4 = 24	2x 4= 8	1 x 2= 2	34
Total	92	24	10	126
Percentage	73.01	19.04	7.95	100
Total marks	2300	600	250	3150

Semester	I	Total Credit	4	
Course Code	CC101	Credit Pattern	L-48, T-12, P-0	
Course Title	COMPUTER ARCHITECTURE AND OPERATING SYSTEM			
Course Objectives				
1	To feature a strong emphasis on the fundamentals underlying digital circuit design			
2	To explore computer design components like Boolean Algebra, Logic Circuits and Computer Organization			
3.	Learn objective and functions of modern operating systems.			
4.	To get in-depth knowledge of process management and inter-process communication and learn the different memory management			
Course Outcomes: The students will be able to				
1.	Build understanding and problem-solving skills required for digital circuit design			
2.	Learn the Computer Architecture concepts like Boolean Algebra, Logic Circuits and Organization			
3.	Capable of explaining the basic structure and functioning of operating system and able to point the problems related to process management and synchronization as well as is able to apply learned methods to solve basic problems.			
4.	Able to explain the cause,effect related to deadlocks and to analyze them related to common circumstances in operating systems. Capable to explain the basics of memory management, the use of virtual memory in modern operating systems as well as the structure of the most common file-systems.00000000			
Unit Number	Contents		Number of Sessions	
1	Boolean Algebra and Logic Circuits Boolean Algebra: Binary Logic, Logic Gates, Postulates of Boolean Algebra, Boolean Function, Algebraic Simplification, Karnaugh Maps Combinational Circuits: Half Adder, Full Adder, Decoder, Encoder, Multiplexer, Sequential Circuits: Flip Flops - SR, D and JK, Registers, Counters		L= 12	
			T= 3	P= 0
2	Computer Organization Memory Organization: Memory Hierarchy, Main Memory, Auxiliary memory, Associative Memory, Cache memory, Virtual Memory CPU Organization: CPU Building Blocks, Registers, Addressing Modes, Instruction sets Control Organization: Micro Programmed Control, Micro Instructions, Micro Operation Address Sequencing Input-Output Processing: Input/ Output Devices, Input-Output Interface, Modes of Transfer		L= 12	
			T=3	P=0
3	Operating System Concepts Definition of Operating System, Operating system structures, Process Concept, Process scheduling, inter-process, communication, and threads overview. CPU Scheduling: Scheduling and Criteria, Scheduling Algorithms, performance evaluation of scheduling algorithm. Process Synchronization: The critical–Section problem, synchronization hardware, and semaphore, classic problems of synchronization(Producer consumer problem) critical regions. Deadlock: System Model, Deadlock Characterization, Resource-Allocation Graph, Methods for Handling Deadlock, Deadlock Prevention, Deadlock Avoidance (Bankers Algorithm), Deadlock Detection.		L= 12	
			T= 3	P= 0
4	Memory Management, File Systems, Disk Manaement Memory Management: Concept, Memory Management Techniques, Swapping, Contiguous Memory Allocation, Memory Protection, Memory Allocation, Fragmentation, Paging, Basic Method, Segmentation with Paging, Virtual Memory Concept, Demand Paging, Page Replacement algorithm . File systems: File Naming, File Structure, file types, File access, Directory : directory structure, operations, File layout, File systems implementation (Contiguous, linked list, I-node). Disk Structure, Disk scheduling, FCFS Scheduling, SSTF Scheduling, SCAN, CSCAN. Selection of Disk Scheduling Algorithm.		L= 12	
			T= 3	P= 0

Learning Resources		
1	Text Books	• M. Morris Mano, Computer System Architecture, Pearson, 3rd Edition • M. Morris Mano, Digital Logic and Computer Design, Prentice Hall • Andrew S. Tanenbaum, —Modern Operating Systems, Prentice Hall of India, 2 nd Ed. 2006 • Achyut Godbole, —Operating System, Tata McGraw Hill, 3rd Ed. 2013
2	Reference books	• J. P. Hayes, Computer Architecture & Organization, MGH, 3rd Edition • Pal Chaudhary, Computer Organization & Design, PHI, 3rd Edition • William Stallings, Computer Organization and Architecture: Designing for Performance, PHI, 7th Edition • Abraham Silberschatz, Peter Galvin Operating Systems: Concepts - Wiley- Sixth edition. • D.M. Dhamdhere, System Programming and Operating Systems -TMH – Second Edition. • William Stallings, Operating Systems: Internals and Design Principles, Seventh Edition, Pearson Publications • Madnick and Donovan, Operating Systems -Tata McGraw-Hill Education
3	Websites	• https://www.studytonight.com/computer-architecture/ • https://www.tutorialspoint.com/computer_organization/index.asp • https://www.geeksforgeeks.org/introduction-of-operating-system-set-1/ • https://www.javatpoint.com/os-tutorial • https://nptel.ac.in/courses/106/105/106105214/
4	Journals	• IEEE Computer Architecture Letters ISSN: 1556-6056 • ACM SIGARCH Computer Architecture News ISSN:0163-5964 • Journal of Operating Systems Development & Trends http://stmjournals.com/Journal-of-Operating-Systems-development-and-Trends.html eISSN: 2454–9355
5	Supplementary Reading	• Study Material of Web Course Developed for NPTEL, Computer Organization and Architecture, https://nptel.ac.in/courses/106103068/pdf/coa.pdf • Study material on operating system, https://www.cse.iitb.ac.in/~mythili/os/
6	Practical Components	• Virtual Labs - Digital Electronic Circuits http://vlabs.iitkgp.ernet.in/dec/

Semester	I	Total Credit	4	
Course Code	CC 102	Credit Pattern	L-48, T-12, P-0	
Course Title		SOFTWARE ENGINEERING AND OBJECT ORIENTED DESIGN		
Course Objectives				
1	To learn and understand the principles of Software Engineering			
2	To Learn and understand Software Development Life Cycle			
3.	To introduce object oriented concepts and its representation in UML			
4.	To provide knowledge about object oriented model and its constituents			
Course Outcomes: The students will able to				
1.	Compare and select a process model for a software project development			
2.	Analyse and design software of software system			
3.	Understand the usage of UML, its components, notation and syntax			
4.	Choose correct model element and build design for object oriented system			
Unit Number	Contents			Number of Sessions
1	Introduction to Software Engineering : (15) Definitions, Characteristics of Software - Software Myths – Software Engineering, A Generic Process Model, Prescriptive Process Models: The Waterfall Model, Incremental Process Models, Evolutionary Process Models, Extreme Programming (XP), Scrum, Requirements Engineering, Requirements Modelling Strategies, SRS.			L= 12
				T=3
2	Use case and Class model : (15) Overview of UML - views, diagrams, Model elements, UML extensions, Use-case modeling, use cases and actors, identifying use cases and actors, relationship between use cases and actors, drawing use case diagrams, describing the use cases, validating and verifying use case diagram, case studies-II Object Oriented System, Classes, objects and their relationships-concept of classes and objects, identifying the classes, Relationships between classes, Associations, Generalizations, aggregation, Interfaces (protocols), Packages and templates, drawing class diagrams, Case studies			L= 12
				T=3
3	Dynamic Model and Architecture : (15) Dynamic modeling – concept of State of an object, relationship between attribute values states and operations, drawing state diagrams, various concepts related to Sequence diagrams, drawing sequence diagram, concepts related to Collaboration diagrams, drawing collaboration diagram, concepts related to activity diagrams, drawing activity diagram, Logical and Physical Architectures - Component diagram, Deployment diagrams			L= 12
				T=3
4	UML Extension and Real time modeling in UML : (15) Extending UML –, Stereotypes, Constraints, Tagged values. Active objects, processes and threads, real time concepts, special real-time modeling concerns, drawing various UML diagrams for real time systems with real time concepts, case studies.			L= 12
				T=3
Learning Resources				
1	Text Books	- Roger S Pressman “Software Engineering : A Practitioner’s Approach “ 7th Edition Mcgraw-Hill ISBN: 0073375977 - Hans - Erik Erikson and Magnus Penker - UML Toolkit 2		
2	Reference books	- Ivar Jacobson - Object-oriented Software Engineering - Grady Booch - Object Oriented Analysis and Design with Applications - Ian Sommerville “ Software Engineering” 9th edition Pearson Education ISBN-13: 978-0-13-703515-1		
3	Websites	https://www.ece.rutgers.edu/~marsic/books/SE/links/ - Software Engineering Lectures Easy Engineering Classes		
4	Journals	https://link.springer.com/journal/10270 https://www.computer.org/csdl/journal/ts		
5	Supplementary Reading	https://www.javatpoint.com/software-engineering-tutorial https://www.guru99.com/software-engineering-tutorial.html https://www.tutorialspoint.com/software_engineering/		
6	Practical Components	Case Studies on software design, modelling.		

Semester	I	Total Credit	4	
Course Code	CC-103	Credit Pattern	L-48, T-12, P-0	
Course Title	DESIGN AND ANALYSIS OF ALGORITHM			
Course Objectives				
1	To provide a solid foundation in algorithm design and analysis.			
2	Become familiar with fundamental data structures and with the manner in which these data structures can best be implemented; become accustomed to the description of algorithms in both functional and procedural styles.			
3	To develop problem solving abilities using mathematical theories.			
4	To apply algorithmic strategies while solving problems. Also expected to understand find out the time complexity of the algorithm.			
5	To study the important algorithmic design paradigms and methods of analysis.			
Course Outcomes: After successful completion of the course, the students would be able to				
1.	Learn good principles of algorithm design;			
2.	To analyze worst-case running times of algorithms using asymptotic analysis.			
3.	Describe the Divide-and-Conquer, Bound and Branch-programming, greedy paradigm and explain when an algorithmic design situation calls for it.			
4.	Explain the major graph algorithms and their analyses. Employ graphs to model problems.			
Unit Number	Contents		Number of Sessions	
1	Introduction to Algorithms: Problem solving aspect, top down design, implementation of algorithm, the efficiency of algorithm analysis, analysis of Algorithm (Best-case, Worst-case, Average-case, Amortised analysis), time complexity and space complexity, O-notation, Omega notation and Theta notation.		L= 12	
			T=3	P= 0
2	Fundamental and Graph Algorithms: Exchanging values of two variables, counting, summation of set of numbers, factorial computation, generation of Fibonacci sequence, reversing of the digits of an integer, base conversion, Generating prime numbers, raising number to a large power, finding maximum, minimum from the same, array techniques, array order reversal. Simple graph, Multistage graphs, Graph Coloring, Depth -First search, Depth -First search on directed graph, Breadth-First search , Best-First search, path finding problems, shortest path algorithm, topologicalsort		L= 12	
			T= 3	P= 0
3	Algorithm Design Paradigms: Recursive Algorithm design Methods: Tower of Hanoi problem , Algorithm Design Paradigms : Greedy method- knapsack problem, Minimum cost spanning tree algorithms (prims and kruskals), Divide and Conquer : General Strategy, Exponentiation, Matrix multiplication. Backtracking – n Queen problem, Hamiltonian circuit problem , Branch and Bound – assignment problem and Travelling Salesman problem, dynamic programming – general strategy, Matrix chain multiplication		L= 12	
			T= 3	P= 0
4	Sorting & Searching algorithms and Complexities : Sequential search, Binary Search, Hash search, Selection sort, Exchange sort, Insertion sort , Radix sort, Quick Sort and Merge Sort, Two ways merge ,Building Heaps and Heap sort. Complexity and classification of Problems -: NP-HARD AND NP-COMPLETE PROBLEMS: Basic concepts, non-deterministic algorithms, NP-HARD and NP-COMPLETE classes .		L=12	
			T= 3	P= 0

Learning Resources		
1	Text Books	• R.G. Dromey, "How to Solve it by Computers", Prentice- Hall of India, 1982 • Horowitz and Sahani, "Fundamentals of Computer Algorithms", Galgotia Publication, 2nd edition.
2	Reference books	• T. H. Cormen, C. E. Leiserson, R. L. Rivest and C. Stein. "Introduction to Algorithms", Prentice – Hall of India ,2nd edition , 2002. • Weiss, Mark Allen, —"Data Structures and Algorithm Analysis in C", Addison Wesley, 2nd edition , 1999. • D.E Knuth, "Fundamental Algorithms", Narosa Publishing house, 2nd edition
3	Websites	• https://www.guru99.com/design-analysis-algorithms-tutorial.html • https://nptel.ac.in/courses/106101060/ • http://openclassroom.stanford.edu/MainFolder/CoursePage.php?course=IntroToAlgorithms
4	Journals	• IEEE Journal of Computing in Science & Engineering (https://ieeexplore.ieee.org/document/6664963) • Springer US :Algorithmica (https://link.springer.com/journal/453) • Science direct : Elsevier - journal of Algorithms (https://www.sciencedirect.com/journal/journal-of-algorithms)
5	Supplementary Reading	Lecture Notes On Design And Analysis Of Algorithms B ... Lecture Notes For Algorithm Analysis And Design - Cse Iit Delhi

Semester	I	Total Credit	4
Course Code	CC 104	Credit Pattern	L-45, T-8, P-7
Course Title	PROGRAMMING WITH 'C'		
Course Objectives			
1	To teach how to write programs in C language		
2	To explain the data types and structures with their usage		
3.	To demonstrate implementation of flat files using C language		
4.	To demonstrate use of graphics in C language		
Course Outcomes: The students will able to			
1.	Write correct programs in C language		
2.	Understand use of data types and structures		
3.	Implement flat files in C language, Use graphics in C language		
Unit Number	Contents		Number of Sessions
1	Overview of Programming and programming languages, Types of programming Languages, Introduction to C, Features of C, Structure of C program, C Character set, Identifiers and keywords, variables and constants, Variables and their scope, modifiers and storage class specifiers. Unary operators, Binary arithmetic operators, relational operators and Logical operators, size of operator, ternary conditional operator, Operator precedence and associatively Bitwise operators, control flow and iterative structures, break, continue and goto statements. Input and output statements in C, printf, scanf functions, getchar, putchar, getch, getche functions, gets, puts functions, Escape sequence characters, Format specifiers		L= 11
			T= 2 P= 2
2	Arrays in C Definition, one dimensional and two dimensional array, declaration, initialization and processing the elements of array, String handling. Functions in C Function declaration (Prototype), Function call, Function header and definition, Passing arguments (actual arguments, formal arguments), Types of function call (call by value, call by reference), Recursion		L= 12
			T= 2 P= 1
3	Pointers and structures in C Pointer fundamental, Pointer declaration, Operations on pointer, Pointer with array and function, character pointer, array of pointer, pointer to array, dynamic memory allocation using dynamic memory allocation functions, Structure – declaration, initialization of structure, array of structure, array within structure, array of structure, structure and pointer, union and enumerated data types.		L= 11
			T= 2 P= 2
4	File Handling and Introduction to Graphics File structure, Opening and closing file, Creating files, Processing files, File handling using command line arguments, Library functions for file handling, Introduction to Graphics in C, Graphics library functions (initgraph, close, getpixel, putpixel, line, rectangle, circle, ellipse.		L=11
			T= 2 P= 2
Learning Resources			
1	Text Books	- C: The Complete Reference: Herbert Schildt - Let us C Solutions: Y.P. Kanetkar	
2	Reference books	- Spirit Of "C": Moolish Kooper. - Programming in C : S. Kochan. - C Programming Language: Kernighan & Ritchie. - Programming in C: R. Hutchison. - Graphics Under C: Y. Kanetkar	
3	Websites	- tutorialspoint.com - cprogramming.com	
4	Journals	- C/C++ Users Journal - Computer Bits	
5	Supplementary Reading	- The C programming language by Brain W. Kernighan - C Programming: A Modern Approach, 2nd Edition 2nd Edition, K. N. King	

Semester	I	Total Credit	4	
Course Code	CC 105	Credit Pattern	L-45, T-8, P-7	
Course Title		WEB DESIGN AND DEVELOPMENT		
Course Objectives				
1	To teach the basic internet concepts and train them to develop internet applications.			
2	Knowledge of the new JavaScript APIs.			
3.	To introduce various tools for web services.			
4	To introduce PHP and MySQL and its usages			
Course Outcomes: The students will able to				
1.	Design and develop internet applications.			
2.	Do JavaScript APIs.			
3.	Use various tools for web services.			
4.	Design and develop web application using PHP and MySQL			
Unit Number	Contents			Number of Sessions
1	Introduction to HTML and CSS: (15) Introduction To HTML, WWW, W3C, Common HTML, Tags Physical & Logical, Some basic tags like , changing background color of page, text color etc., Text formatting tags, Ordered & Unordered Lists Tags, Inserting image, Inserting Links: text, image links, Image mapping , Tables , Frames, Form Introduction with various input control - text box, text area, buttons, List box, radio, checkbox etc. Introduction to HTML5, HTML5 features and Elements: semantic tags, the selector API, new form input controls, improved accessibility Creating drop shadows and rounded corner CSS Introduction To Style sheet, types of style sheets- Inline, External, Embedded CSS, text formatting properties, CSS Border, margin properties, Positioning Use of classes in CSS, color properties, use of <div> and . CSS3 Specifications, CSS3 features selectors			L= 11
				T=2
2	Introduction to JavaScript: (15) Introduction to script, types, Intro of JavaScript, JavaScript identifiers, operators, control & Looping structure, Intro of Array, Array with methods, Math, String, Date Objects with methods User defined & Predefined functions, Working with Frames, Forms and Form elements and the associated events. Form validation, three types of dialog boxes: alert, prompt, confirm, JavaScript Regular Expression			L= 11
				T=2
3	Introduction to PHP: (15) Concept of PHP, Constants, variables declaration, Comments, Data types, Operators, Command line arguments, Conditional statements, If-else, Switch, Ternary operators, looping statements- For loop, While loop, Do-while loop, Creating arrays, Inserting elements in arrays, Retrieving elements from array, Displaying arrays, Sorting array elements			L= 11
				T=2
4	PHP and MySQL Connection: Introduction to Databases, Connecting to MySQL database, Creating database, Creating tables, Inserting values in table, displaying, changing, searching, deleting records from the table, SQL queries- insert, select, delete, update, where, order by			L= 11
				T=2
Learning Resources				
1	Text Books	1.Html and css: design and build websites, by jon duckett 2. Javascript and jquery: interactive front-end web development, by jon duckett 3. Learning web design: a beginner’s guide to html, css, javascript, and web graphics, by jennifer niederst robbins		
2	Reference books	1. M. Morris Mano, Computer System Architecture, Pearson, 3rd Edition 2. M. Morris Mano, Digital Logic and Computer Design, Prentice Hall 3. M. Morris Mano, Michael D. Ciletti, Digital Design, Prentice Hall, 4th Edition 4. J. P. Hayes, Computer Architecture & Organization, MGH, 3rd Edition 5. V. Rajaraman & Radhakrishnan, Introduction to Digital Computer Design, PHI 6. Pal Chaudhary, Computer Organization & Design, PHI, 3rd Edition		
3	Websites	www.Udemy.com www.Coursera.com www.W3Schools.com www.Tutorialspoint.com		
4	Journals	Wei Willy. Usability tool for analysis of web designs using mouse tracks		

		Advances in Informatics. Springer; 2003 Design Studies
5	Supplementary Reading	www.Lynda.com + LinkedIn Learning www. Codeacademy.com www.The Odin Project .com
6	Practical Components	Total 20 practical's based on Web Design and Development.

Semester	I	Total Credit	4	
Course Code	DSE I (A)	Credit Pattern	L-45, T-8, P-7	
Course Title	PROGRAMMING WITH PYTHON			
Course Objectives				
1	To familiarize the student with general computer programming concepts like conditional execution, loops, Python programming language syntax, semantics, and the runtime environment, as well as with general coding techniques and object-oriented programming.			
2	To familiarize numpy ndimensional array, various ways to create numpy array, various numpy array operations			
3.	To familiarize with data visualization using python			
Course Outcomes: The students will able to				
1.	Be fluent in the use of procedural statements — assignments, conditional statements, loops, method calls — and arrays. Be able to design, code, and test small Python programs			
2.	Understand the concepts of object-oriented programming as used in Python: classes, subclasses, properties, inheritance, and overriding.			
3.	Have knowledge of various python data structures and data visualization			
Unit Number	Contents		Number of Sessions	
1	Programming Fundamentals and Overview of Python Introduction, History and overview of Python, Basic features of Python Installation of python, Python IDE's. Variables in python Control Flow (if-then statements, looping) Overview of Object-Oriented Programming (OOP)		L= 11	
			T=2	P= 2
2	DataTypes - strings, lists, tuple, dictionary, operations on these data strcuturs. Organizing code (functions, modules, packages)		L=11	
			T=2	P=2
3	Numpy Introduction to NumPy Understanding the N-dimensional data structure , Basic operations and manipulations on N-dimensional arrays		L= 12	
			T= 2	P= 1
4	Data Visualization: scatter plots, line plots, box plots, bar charts, and histograms with matplotlib		L=11	
			T= 2	P= 2
Learning Resources				
1	Text Books	- Practical Programming: An introduction to Computer Science Using Python, second edition - Programming collective intelligence, O'Reilly publication		
2	Reference books	- Python for Informatics: Exploring Information, Charles Severance - Python for Data Analysis, Wes McKinney, O'Reilly publication - Mastering Python for data science, Samir Madhavan, PACKT		
3	Websites	https://www.python.org https://www.sololearn.com https://realpython.com		
4	Journals	- Python weekly - Pycoders weekly		
5	Supplementary Reading	- Python Programming for the Absolute Beginner, 3rd Edition, Michael Damson - Fluent Python: Clear, Concise, and Effective Programming 1st Edition, by Luciano Ramalho, Kindle Edition, O'Reilly publication - DIVE INTO PYTHON 3 by Mark Pilgrim, Apress publication		
6	Practical Components	List of experiments to be executed during laboratory hours		

Semester	I	Total Credit	4		
Course Code	DSE I (B)	Credit Pattern	L-45, T-7, P-8		
Course Title	PROGRAMMING WITH R				
Course Objectives					
1	To learn and apply R programming				
2	To understand R environment setup				
3.	To explore, analyze and visualize data using R				
4	To use R for effective data analysis				
Course Outcomes: The students will able to					
1.	Program in R and use R for effective data analysis				
2.	Explore, analyze and visualize data using R				
3.	Handle practical issues in programming, reading data into R, accessing R packages, writing R functions				
4.	Apply R Programming for basic data science operation				
Unit Number	Contents			Number of Sessions	
1	Getting started with R R Installation, Getting started with R interface, Basic Syntax, R Data Types, Variables, Objects, Attributes, Vectors, Matrices, Lists, Factors, Data Frame, Data Type Examples, Operators			L= 12	
				T=2	P= 2
2	Loops and Function Decision Making, Control Structures – If statement, If else Statement, Looping Statements – For Loop, While Loop, Functions, Built-in Functions, Argument Matching, Develop R Scripts			L= 11	
				T= 2	P= 2
3	Data and File Handling R Environment, Getting Data into R, Reading and writing Data, Data Frames in detail, Filtering and subsetting Data, R Packages, Statistical analysis with R			L= 11	
				T= 2	P= 2
4	Data Exploration and Visualization Basic Data Summaries, Basic plotting - Histograms, Bar Charts, Scatter Plots, Box Plots, Plot functions, Data Visualization using R packages, Plot using ggplot2			L=11	
				T= 1	P= 2
Learning Resources					
1	Text Books	- Roger D. Peng, R Programming for Data Science, Lulu.com, 2012 - Garrett Grolemond, Hadley Wickham, R for Data Science, O'Reilly First Edition, 2017			
2	Reference books	- Michael J. Crawley, The R Book, Wiley, 2nd Edition - Hadley Wickham, Garrett Grolemond, R for Data Science: Import, Tidy, Transform, Visualize, and Model Data, O'Reilly Media; 1 edition - Murray Aitkin, Brian Francis, John Hinde, and Ross Darnell, Statistical Modelling in R, Oxford University Press; 1 edition, 2009 - Brian Everitt and Torsten Hothorn, A Handbook of Statistical Analyses Using R, Chapman and Hall/CRC; 2 edition			
3	Websites	https://www.tutorialspoint.com/r/index.htm https://data-flair.training/blogs/r-programming-language/ https://www.guru99.com/r-programming-introduction-basics.html			
4	Journals	- ACM Transactions on Programming Languages and Systems ISSN: 0164-0925 - Science of Computer Programming ISSN: 0167-6423 - The art, science, and engineering of software development: ISSN 0740-7459			
5	Supplementary Reading	- R Programming, https://www.coursera.org/learn/r-programming - R Programming , https://www.datacamp.com/tracks/r-programming			
6	Practical Components	R Installation, R Programs based on Data Types, Loops and Functions, Data Visualization			

Semester	I	Total Credit	2
Course Code	AEC-I	Credit Pattern	L-26, T-4
Course Title	BUSINESS COMMUNICATION		
Course Objectives			
1	To familiarize learners with the mechanics of communication.		
2	To develop students written expression of thought and build connections between content areas		
3	To develop students oral communication skills by a variety of communication activities, from informal discussion to formal presentation		
Unit Number	Contents		
1	Effective Business Communication: (15) • Meaning & Definition, Role of communication in today’s business • Effective communication in Formal and Informal Environment • Barriers to communication • Measures to overcome barriers to communication • Non-verbal communication: Nonverbal Cues, Kinesics, Haptic and Proxemics Body language, Facial Expressions • Public Speaking		
2	Business Communication and Technology: (15) • Social Media Communication • Email Writing • Presentations Skills • Group Discussion • □ Critical Thinking		
Practical Components: 1. To be well in Verbal and Non- verbal communication 2. Make students enact and analyze the non-verbal cues 3. Each student to give presentation of 15 minutes (this can be spread throughout the semester) and to be evaluated by the faculty 4. Each Student will give 10 minutes speech on given topic that will be evaluated by the Faculty			
Learning Resources			
1	Recommended Books	1. 1 Business Communication – Lesikar, Flatley, Rentz&Pande, 11/e, TMH, 2010 2. How to win Friends and Influence People by Dale Carnegie 3. Skill with People by Les Giblin 4. The Power of Communication: Skills to Build Trust, Inspire Loyalty, and Lead Effectively, by Helio Fred Garcia, 2012	
2	Reference Books	1. Business Communication - Sehgal M. K &Khetrapal V, Excel BOOKS. 2.. Business Communication – Krizan, Merrier, Jones, 8/e, Cengage Learning, 2012.	

M. C. A. - I Semester-II:

Semester	II	Total Credit	4
Course Code	CC 201	Credit Pattern	L-45, T-8, P-7
Course Title	RELATIONAL DATABASE MANAGEMENT SYSTEM		
Course Objectives			
1	To understand the design of Database aspects and to understand various Data Modeling concepts for better database design.		
2	Also to know various Phases involved in building simple well structured database(s).		
Course Outcomes			
After completion of this course the student will be able to:			
1	The learners will study how to do better database designing and which further enhances powerful and user friendly application development		
Unit Number	Contents		Number of Sessions
1	Database Systems Concepts And Architecture: (15) Introduction and definition of , data, Information & Database, Advantages, schemas and instance; three-schema architecture and data independence; the database system environment; centralized and client/server architecture of DBMSs.		
2	Data Modeling : (15) Meaning & Concept, High- level conceptual data models for database design; Entity types, entity sets, attributes and keys; relationship types, relationship sets, ER diagrams, Hierarchical Data Model(HDM), Network Data Model (NDM), The Relational Data Model and Relational Database Constraints; Relational model concepts; Relational Database Design .		
3	The Relational Algebra And Relational Calculus Unary relational operations: (15) SELECT and PROJECT; relational algebra operations from set theory; Normalization: Meaning & Functional Dependencies And Normalization ForRelational Databases: functional dependencies; normal forms based on primarykeys-1NF with example; general definitions of 2nd and 3rd normal forms; Boyce-Codd normal (BCNF)forms, 4 Normal Form.		
4	Transaction Processing Concepts & Database Recovery : (15) Introduction to transaction processing; Transaction Problems, Locking techniques, characteristics schedule based on serializability. Two phase locking techniques for concurrency control; concurrency control based on timestamp ordering; Database Recovery Techniques: Recovery concepts; Techniques ; Introduction SQL, Components DML, DDL, DCL with queries.		
Learning Resources			
1	References	1. C.J. Date, “ An introduction to database systems”, (3rd edNarosa publishers, 1985), 1997(reprint) 2. Ullman, ”Principles of database systems”, (2nd ed. Galgotia, 1984). 3. D. Kroenke, “ Database Processing”, (Galgotia, 1987) 4. Naveen Prakash, Introduction to database management”, TMH, 1993. 5. Bobrowski, “ client server architecture and introduction to oracle 7”, 19	
2	Text Books	1. Fundamentals of Database Systems RamezElmasri and Shamkant B. Navathe, Pearsoneducation. 2. Database Concepts, Abraham Silberschatz, Henry F Korth, S.Sudarshan, McGraw-Hill	
3	Website	www.oracle/appalication	

Semester	II	Total Credit	4	
Course Code	CC 202	Credit Pattern	L-48, T-0, P-12	
Course Title	MATHEMATICAL AND STATISTICAL FOUNDATION			
Course Objectives				
1	Students will learn basic methods of Discrete Mathematics and apply the basic methods of discrete mathematics in Computer Science. They will be able to use these methods in subsequent courses in the design and analysis of algorithms, software engineering, Artificial Intelligence.			
2	Topics like Propositional and Predicate Calculus provide the foundation for imbedding logical reasoning in computer science.			
Course Outcomes: The students will able to				
1.	Use logical notation to define and reason about fundamental mathematical concepts such as sets, relations, and functions			
2.	Reason mathematically about basic data types and structures (such as numbers, sets, graphs, and trees) used in computer algorithms and systems; 3. Apply graph theory models of data structures and state machines to solve problems of connectivity and constraint satisfaction,			
Unit Number	Contents		Number of Sessions	
1	Set Theory , Relations and Functions: (15) Definition of Sets, Venn Diagrams, complements, Cartesian products, power sets, cardinality, operations on Sets, Basic set Identities, proofs of some general identities on sets ,Principle of Inclusion- exclusion. Relation: Definition, types of relation, composition of relations, domain and range of a relation, closure properties of relation, equivalence relations, Warshall’s algorithm, Pictorial and computer representation of relations. Function: Definition and types of function, inverse of a function, composition of functions, permutations and their properties.		L= 12	
			T=3	P= 0
2	Graph Theory and Logic: (15) Graph Theory: Graph terminology and representation, types of graphs, directed graph, weighted graph, representation of graph,(Adjacency Matrix and Incidence Matrix) ,Bipartite Graphs, Eularian and Hamiltonian Graphs. Propositional logic: Proposition logic, basic logic, logical connectives, truth tables, Converse, Inverse and Contrapositive of a conditional statement, tautologies, contradiction, contingency, normal forms(conjunctive and disjunctive), Logical equivalence and Implications, predicate logic, universal and existential quantification. Theory of inference for Predicate calculus.		L= 12	
			T= 3	P= 0
3	Measures of Central Tendency: (15) Introduction, Objectives of statistical average, Requisites of a Good Average, Statistical Averages - Arithmetic Mean, Median and Mode Measures of Dispersion: Appropriate Situations for the Use of Various Averages, Mean deviation, Standard Deviation -Properties of standard deviation, Coefficient of Variation. Correlation: Karl Pearson’s correlation coefficient. Algorithms to obtain each of these.		L= 12	
			T= 3	P= 0
4	Permutation & Combination: (15) Basic Principle of Counting (BPC), Generalized BPC, Permutations and Combinations, Algorithms to generate permutations and Algorithms to compute number of combinations .Probability: Random experiment, sample space and classification of sample spaces, definition of probability, Properties,		L=12	
			T= 3	P= 0
Learning Resources				
1	Text Books	● Tremblay J.P. and Manohar, R:Discrete Mathematical Structures with applications to Computer Science.(McGraw-Hill book company) ● Discrete Mathematical Structures – Bernard Kolman, Robert Busby, S.C. Ross and Nadeemur-Rehman (Pearson Education) ● Statistical Computing (Statistics: A Series of Textbooks and Monographs) 1st Edition by Kennedy (Author)		

		- Statistics and Computing S C Gupta, Fundamentals of Statistics - Discrete mathematics - Semyour Lipschutz, Marc Lipson (MGH), Schaum's outlines. - Discrete mathematics and its applications - Kenneth H. Rosen (AT&T Bell Labs) - Schaums solved problem series – Lipschutz S. Santha, Discrete Mathematics with combinatorics and graph theory- CENGAGE Learning
2	Reference books	- N D Vohra, Business Statistics, Tata McGraw Hill - G C Beri, Business Statistics, Tata McGraw Hill - Probability and Statistics for Computer Scientists- The Complete Idiot's Guide to Statistics, 2nd Edition by— Robert A. Donnelly Jr. Ph.D. - An Introduction to Statistical Learning: by— Gareth James, Daniela Witten, Trevor Hastie, Robert Tibshirani.
3	Websites	https://nptel.ac.in/courses/106106094 https://www.coursera.org/specializations/discrete-mathematics https://stats.idre.ucla.edu/ www.stat Trek.com www.statisticsbyjim.com
4	Journals	Hindawi Journal of Discrete Mathematics Elsevier – Discrete Mathematics statistics and Computing Journal of Statistical Computation and Simulation A Course in Discrete Structures - Cornell Computer Science
5	Supplementary Reading	Notes on Discrete Mathematics - Computer Science Numerical Issues in Statistical Computing for the Social Scientist Glyn Davis & Branko Pecar, Business Statistics Using Excel, Oxford University Press.
6	Practical Components	Analyzing collected raw data or online available data. Finding relations among two or more variables and fitting regression Components equation to predict value of dependent variables

Semester	II	Total Credit	4
Course Code	CC 203	Credit Pattern	L-44, T-8, P-8
Course Title	LINUX ADMINISTRATION AND PROGRAMMING		
Course Objectives			
1	To familiarize the student with Linux operating system environment.		
2	To demonstrate various Communication utilities and the familiarize with various system calls .		
3	To make them familiarize with various administration tools.		
Course Outcomes			
After completion of this course the student will be able to:			
1	Students will able to differentiate between Linux and other operating systems.		
2	Students will able to install and administer Linux Servers .Use various Filters and editors		
3	Students will able to fine-tune Linux system for better performance.		
4	Students will able to program the system to enhance the abilities.		
Unit Number	Contents	Number of Sessions	
1	Introduction of Linux Operating System Overview of Operating System, Types of Operating System, Overview of Network, Introduction to Linux - History, Architecture, Comparison with UNIX, Features and Facilities of Linux, Basic commands in Linux, Files and File Structure - Linux File System, Boot block, Super block, Inode table, Data blocks, Linux standard directories. File naming Conventions, Path, Types of file names , Types of Users, File Commands in Linux, file comparisons, Directory Commands, Text Editors-Functions of a Text Editor, vi Editor, leafpad editor. Checking and monitoring system performance.	L= 11	
		T=2	P=2
2	Ubuntu Linux Administration, File Security, Permissions Installing and Configuring Ubuntu Linux Server and Desktops, Hard Disk Partition Management, Linux File System - ext2 / ext3,Dual Boot Windows 7 and Ubuntu Installation, Network Configuration, Protocols, Installation Methods, Creating USB booting, identifying administrative files configuration and log files, Role of system administrator, Managing user accounts, changing permissions and ownerships, Creating and managing groups, modifying group attributes, Disk quota management, Hiding Usernames Displayed on Login Screen, File security & Permissions, becoming super user using su. Locating Files, File Access Permissions [FAP], Viewing and Changing FAPs, Redirection, Filters, Getting system information with uname, host name, disk partitions & sizes, users, kernel. Run levels in Ubuntu.	L= 11	
		T= 2	P= 2
3	Package Management, Backup and Restore Utilities in Linux: Backup, restore and Compress utilities - tar, cpio, dump, sync and restore utilities. Installation of software's on Linux, Introduction to Ubuntu Package Management Software – apt, yum, Adding and Removing Software Packages, RPM Package Management, IP addressing, features of IPv4, static and dynamic IP addressing, Setting Printer, Scanner, Installing and Configuring of servers on Ubuntu- Telnet, FTP, NFS, Proxy Server, Apache, Samba DHCP Server setup Client setup, dosbox, SSH Server ,XAMP, PHP, Daemons- init, crond, atd, xinetd, inetd, the services file. named, sshd, httpd, System Initialization and Services, Boot Sequence Network, ,	L= 11	
		T= 2	P= 2
4	Shell Programming Basics of shell programming, various types of shell available in Linux, comparisons between various shells, shell programming in bash - Conditional and looping statements, Iterations, Command Substitution - expr command, Modifying files Sed, awk command, arithmetic expansion, parameter passing and arguments, Shell variables, system shell variables, shell keywords, Creating Shell programs for automating system tasks, handling files using command line argument. Introduction to system calls.	L=11	
		T= 2	P= 2

Learning Resources		
1	Text Books	Beginning Linux Programming: Neil Mathrew Richard Steve Wrox publication. Design of Linux Operating Systems : Maurice Bach Ubuntu on a Dime : James Floyd Kelly
2	Reference books	Operating System - Linux, NUT Press, PHI Publisher, 2006 Edition Red Hat Linux Bible, Cristopher Negus, Wiley Dreamtech India UNIX Shell Programming by Yeswant Kanetkar, BPB Linux Administration Handbook, Evi Nemeth, Garth Snyder, Trent KHein - Pearson Education. Beginning Linux Programming by Neil Mathew & Richard Stones, Wiley Dreamtech India
3	Websites	https://www.tutorialspoint.com/operating_system/os_linux.htm https://ubuntu.com/ www.guru99.com › introduction-linux
4	Journals	https://www.linuxjournal.com/ https://www.journals.elsevier.com/computer-networks https://www.reddit.com/r/linux/comments/cnfs48/linux_journal_ceases_publication_an_awkward/Linux_Networking_Clearly_Explained/ebook
5	Supplementary Reading	https://nptel.ac.in/courses/117/106/117106113/ Study Material of Web Course Developed for NPTEL Linux Programming & Scripting https://nptel.ac.in/content/syllabus_pdf/117106113.pdf

II		Total Credit	4		
Course Code	CC 204	Credit Pattern	L-48, T-0, P-12		
Course Title		DATA AND FILE STRUCTURES			
Course Objectives					
1	To find out types and difference between primitive and non-primitive structures.				
2	To Design and apply appropriate data structures for solving computing problems.				
3.	To Understand and use various file structures.				
Course Outcomes: The students will able to					
1.	Differentiate between primitive and non-primitive structures.				
2.	Design and create appropriate data structures for solving computing problems.				
3.	Assess and develop new data structure if required.				
4.	Understand and use various file structures.				
Syllabus:					
Unit Number	Contents			Number of Sessions	
1	Introduction to Data Structure : (15) Data Management concepts, Data types – primitive and non-primitive, Types of Data Structures- Linear & Non Linear Data Structures, implementation of some of the user defined data types such as – rational number, complex number, string, matrix etc.			L= 12	
				T=0	P=3
2	Stack and Queue : (15) Stack-Definitions & Concepts, Operations on Stacks, Implementation of stack using array and linked list, Applications of Stacks – Parenthesis checker, Infix to postfix conversion, Expression evaluation, Queue- Representation Of Queue, Operations On Queue, Circular Queue, Priority Queue, Array representation of Priority Queue, Double Ended Queue, Applications of Queue.			L= 12	
				T=0	P=3
3	Linked List and Tree : (15) Singly Linked List, Doubly Linked list, Circular linked list, Linked implementation of Stack, Linked implementation of Queue, Applications of linked list. Definitions and Concepts, Representation of binary tree, Binary tree traversal (Inorder, postorder, preorder), Threaded binary tree, Binary search trees, Applications Of Trees-Some balanced tree mechanism, eg. AVL trees, 2-3 trees, Height Balanced, Weight Balance.			L= 12	
				T=0	P=3
4	Hashing and File structures : (15) Hashing: The symbol table, Hashing Functions, Collision-Resolution Techniques, File Structure: Concepts of fields, records and files, Sequential, Indexed and Relative/Random File Organization, Indexing structure for index files, hashing for direct files, Multi-Key file organization and access methods.			L= 12	
				T=0	P=3
Learning Resources					
1	Text Books	- An Introduction to Data Structures with Applications. by Jean-Paul Tremblay & Paul G. Sorenson Publisher-Tata McGraw Hill. - Data Structures using C & C++ -By Ten Baum Publisher – Prentice-Hall International.			
2	Reference books	- Fundamentals of Computer Algorithms by Horowitz, Sahni,Galgotia Pub. 2001 ed. - Fundamentals of Data Structures in C++-By Sartaj Sahani. - Data Structures: A Pseudo-code approach with C -By Gilberg&Forouzan Publisher- Thomson Learning.			
3	Websites	https://www.udacity.com/course/data-structures-and-algorithms-nanodegree--nd256 https://www.edx.org/course/data-structures-fundamentals https://www.coursera.org/learn/data-structures			
4	Journals	https://jea.acm.org/ https://technav.ieee.org/tag/500/data-structures			
5	Supplementary Reading	https://www.javatpoint.com/data-structure-tutorial https://www.geeksforgeeks.org/data-structures/ https://www.tutorialspoint.com/data_structures_algorithms/			
6	Practical Component	Implementation of various data structures on a computer.			

Semester	II	Total Credit	4	
Course Code	CC 205	Credit Pattern	L-45, T-7, P-8	
Course Title	CORE JAVA			
Course Objectives				
1	To provide a student with the solid foundation of the syntax and semantics of java Programming and object-oriented concepts in Java.			
2	To familiarize the student to the application of Exception Handling mechanism in Java application			
3	To familiarize the student to the development of console-based and event handling applications in Java			
4	To demonstrate use of multi threaded application development in Java.			
5	To demonstrate interfacing Java application with various Database Management Systems.			
Course Outcomes: Students will be able to;				
1	To design console based application, accessing command-line arguments and parameterized applets.			
2	To design java applications employing streams and exception handling mechanism in Java.			
3	To explore different types of JDBC drivers for connecting and accessing data from different backend database management systems.			
4	To design and develop networked applications in both connection-oriented and connectionless architecture in Java.			
5	To design and implement event handling applications in Java using AWT and Swing.			
Unit Number	Contents		Number of Sessions	
1	OOPS and Exception Handling in JAVA Objects and classes, Inheritance, Interfaces, inner classes, Packages. Introduction to Java Utility classes and collection classes - Date, DateFormat and Gregorian Calendar classes. Using ListInterface, ListIterator and LinkedList classes. Set, Iterator, SortedSet, Map interfaces. HashSet class.Using Vector class, stacks, queues, HashTable. Generating random numbers, Property class. Exception Handling: Exception class hierarchy, Exception Vs Error, try, catch, throw, throws, finally, checked Vs unchecked exceptions, creating custom exception classes.		L= 12	
			T= 2	P= 2
2	I/O Streams and Multi threading in Java Significance of streams, various types of Input & Output streams, accessing the file through streams, object serialization. Random Access File. Difference between multi tasking and multi threading, Need for multi threading, thread states and priorities, suspending and resuming threads, synchronization between threads. Inter thread communication and dead locks.		L= 11	
			T= 2	P= 2
3	Java Database Connectivity and Networking in Java JDBC overview , JDBC Architecture , Types of JDBC Drivers, DriverManager class, database connection statements , Resultset, transaction, Metadata and Aggregate functions , callable statements, Connection to various back ends Connectionless and Connection-oriented architectures, Client and Server programming, Socket, DatagramSocket and DatagramPacket classes, IP address classes. InetAddress, URL and URLConnection classes.		L= 11	
			T= 2	P=2
4	Applets and Event Handling in Java Applet and its life cycle, passing parameters to applets, font, color, image classes. ImageObserver.Image processing using PixelGrabber and MemoryImageSource classes.Difference between AWT and Swing. Light weight and heavy weight components. Pluggable Look and Feel. Swing package and its components., layout managers, various components for GUI. Delegation Event Model, different types of events, event handlers, and adapter classes		L= 11	
			T= 1	P= 2
Learning Resources				
1	Text Books	1. aJava Complete Reference by Patric Norton 2. Java 8 Programming Black Book 3. Core Java Vol. I (Addison- Wesley) Sun Press ISBN – 981-405-861-0 4. Core Java Vol. II (Addison- Wesley) Sun Press ISBN – 981-4058-50-5 5. Java in a Nutshell, By Benjamin J Evans, David Flanagan, O'Reilly Media		

2	Reference books	. Thinking in Java, Bruce Eckel,, Addison – Wesley, ISBN: 9814035750 . Java 2 Programming Black Book by Steven Holzner, Dream Tech Publication . A Programmer’s Guide to Java SCJP Certification: A Comprehensive Primer By Khalid Azim Mughal, Rolf Rasmussen . Inside Java 2 Virtual Machine by Venner’s Bill, McGraw Hill Education . Learning Java by Jonathan Knudsen, Patrick Niemeyer, O’Reilly Media.
3	Websites	https://www.w3schools.com/java/default.asp https://www.tutorialspoint.com/java/index.htm https://www.javatpoint.com/java-tutorial https://beginnersbook.com/java-tutorial-for-beginners-with-examples/ https://www.studytonight.com/java/ https://www.guru99.com/java-tutorial.html
4	Journals	Java Development Journal - www.javadevjournal.com https://www.journaldev.com/ https://ieeexplore.ieee.org/document/714612
5	Practical Component	Practical lab exercises based on Units I to IV

Semester		II	Total Credit		4		
Course Code		DSE II (A)	Credit Pattern		L-48, T-12, P-0		
Course Title		Full Stack Web Development					
Course Objectives							
1	To provide complete knowledge of software development technologies such as JavaScript, Node.js, Express.js, Angular.js.						
2	To familiarize application development targeted towards building an end-to-end application employing MongoDB as backend deploying on GitHub.						
3.	To familiarize with responsive website development.						
Course Outcomes: The students will able to							
1.	Implementation of web development technologies in real life						
2.	Build an end-to-end application from scratch						
3.	Prepare for taking up full stack developer job in industry						
Unit Number		Contents				Number of Sessions	
1		Introduction to Full Stack Web Development - Full stack JS. Popular stacks. Advantages and disadvantages of full stack web development. Get Started with Web development using HTML5 programming, Document Object Model (DOM) and HTML Entities and styling with CSS3. Regular Expressions Basic JavaScript concepts. Mastering client-side technologies for building dynamic sites using AJAX and JSON. jQuery programming techniques Twitter bootstrap programming				L= 12	
						T=3	P= 0
2		MEAN stack web development - Data persistence using distributed NoSQL database MongoDB . MongoDB data modeling, data types, creating database. Collection, querying documents, DML commands, projection, indexing, aggregation MVC architecture. Directives, Expressions, controllers, Filters, Tables, HTML DOM, Modules, forms, Views, Scopes, Services, Dependency Injection				L=12	
						T=3	P=0
3		Backend programming with NodeJS - Node package manager. Environment setup for NodeJS. Callback concept. Event loop. Event emitter. Buffers, streams, file system, global objects, utility modules, web module. Express framework, RESTful API. ExpressJS routing, HTTP methods, URL Building, Middleware, Templating, Static files, form data, cookies, sessions, authentication, scaffolding, error handling.				L= 12	
						T= 3	P= 0
4		MERN Stack Web Development - ReactJS environment setup. JSX, components, state, Props validation, component API, component life cycle, forms, events, refs, keys, router, using flux				L=12	
						T=3	P= 0
Learning Resources							
1	Text Books		- Modern Full-Stack Development: Using TypeScript, React, Node.js, Webpack, and Docker by Frank Zammetti, Apress publications - Full-Stack JavaScript Development by Peter Forrest, CreateSpace Independent Publishing Platform (June 6, 2017)				
2	Reference books		- The Full Stack Developer: Your Essential Guide to the Everyday Skills Expected of a Modern Full Stack Web Developer by Chris Northwood, Apress publications - Full-Stack React Projects: Learn MERN stack development by building modern web apps using MongoDB, Express, React, and Node.js, 2nd Edition, Shama Hoque - Full Stack Web Development: Round One - Begin! by Edwin Ross Torres				
3	Websites		https://www.geeksforgeeks.org/what-is-full-stack-development/ https://www.w3schools.com/whatis/whatis_fullstack.asp https://www.tutorialspoint.com/listtutorial/Learn-MEAN-Stack-Development/7966				
4	Journals		- A 12 Week Full Stack Web Course in 2017. Share on ... web programming. Journal of Computing Sciences in Colleges, 26(5):116--121, 2011 - Mean: a full JavaScript stack for web development: conference tutorial ... Publication: Journal of Computing Sciences in CollegesMay 2016.				
5	Supplementary Reading		- The New Era of Full Stack Development, IJERT, Volume 09, Issue 04 (April 2020) https://www.geeksforgeeks.org/what-is-full-stack-development/ https://www.upgrad.com/blog/full-stack-projects-github-beginners/				
6	Practical		List of experiments to be executed during laboratory hours				

Semester	II	Total Credit	4	
Course Code	DSE II (B)	Credit Pattern	L-48, T-12, P-0	
Course Title	THEORETICAL COMPUTER SCIENCE (TCS)			
Course Objectives				
1	To comprehend languages, grammars, and computation models			
2	To learn regular languages and context free languages which are crucial to understand how compilers and programming languages are built			
3.	To discuss the concepts of Push Down Automata and Turing Machines			
4	To strengthen rigorous mathematical reasoning skills			
Course Outcomes: The students will able to				
1.	Understand how compilers and programming languages are built			
2.	Demonstrate knowledge of basic mathematical models of computation and describe how they relate to formal languages.			
3.	Apply knowledge of computing and mathematics appropriate to the discipline			
Unit Number	Contents		Number of Sessions	
1	Basic concepts of Automata Theory Introduction, Alphabets, Strings and Languages, Deterministic Finite Automata (DFA), Nondeterministic Finite Automata (NFA), Representation of NFA and DFA using Transition Tables and State Diagrams. NFA with ϵ -transitions, Equivalence of NFA and DFA, Minimization of DFA.		L= 12	
			T=3	P= 0
2	Regular Expressions and Languages Introduction, Definition of regular expression, Kleen's Theorem, Equivalence of regular expression and Finite Automata, Pumping Lemma for regular Languages, Closure properties of Regular Languages, Finite Automata with Output: Moore and Mealy Machine, Equivalence of Moore and Mealy Machines.		L= 12	
			T= 3	P= 0
3	Context Free Grammars Introduction, Definition of Grammar, Classification of Grammars, Chomosky's Hierarchy. Context Free Grammars (CFG) and Context Free Languages (CFL) - Definition, Examples, Parse trees, Ambiguous Grammars, Simplification of Grammars, Normal forms of CFGs: Chomsky Normal Form (CNF) and Greibach Normal Form (GNF), Closure properties of CFLs, Pumping lemma for CFLs.		L= 12	
			T= 3	P= 0
4	Push Down Automata (PDA) and Turing Machines Introduction, PDA - Definition and Description, Language of PDA, PDA and CFLs, Determinism and Non determinism in PDA, PDA applications. Introduction, Basic Features of a Turing Machine, Language of a Turing Machine, Variants of Turing Machine: Multitapes, Nondeterministic Turing Machine, Universal Turing Machine. Halting problem of Turing Machine.		L=12	
			T= 3	P= 0
Learning Resources				
1	Text Books	- J.E. Hopcraft, R. Motwani, and Ullman, Introduction to Automata theory, Languages and Computation, Pearson Education Asia, 2nd edition - J Martin, Introduction to languages and the theory of computation, Tata McGraw Hill, 3rd Edition		
2	Reference books	- C Papadimitrou and C. L. Lewis, Elements and Theory of Computation, PHI - K.L.P. Mishra and N. Chandrashekharan , Theory of Computer Science, PHI - Daniel I.A. Cohen, Introduction to Computer Theory, Second Edition, John Wiley		
3	Websites	https://www.tutorialspoint.com/automata_theory/ https://www.geeksforgeeks.org/theory-of-computation-automata-tutorials/ https://www.javatpoint.com/automata-tutorial		
4	Journals	- Theoretical Computer Science ISSN: 0304-3975 - Journal of Theoretical & Computational Science ISSN: 2376-130X - Theory of Computing ISSN: 1557-2862		
5	Supplementary Reading	- NPTEL Course on Theory of Computation, https://nptel.ac.in/courses/106104028/1# - Automata Theory, https://online.stanford.edu/courses/soe-yicsautomata-automata-theory		
6	Practical Components	Practical based on implementation of Automata Theory		

Semester	II	Total Credit	2
Course Code	AEC-II	Credit Pattern	L-22, T-8
Course Title	SOFT SKILL AND PERSONALITY DEVELOPMENT		
Course Objectives			
1	Develop effective communication skills		
3	Develop broad career plans		
Course Outcomes			
After r completion of this course the student will be able to:			
1	Match the job requirements and skill sets.		
3	Evaluate the employment market.		
Unit Number	Contents		
1	Personality, Interpersonal and employability skills and Emotional Intelligence: (15) Basic Interaction Skills –Within family, Society. Interpersonal and intrapersonal skills. Types of skills; Decision Making, Articulation Skills, Emotional Intelligence Human relations examples through role – play and cases		
2	Leadership Skills, Team work, Conflict Management ,Interview Skills, Time Management and Stress Management: (15) Leadership skills – Leadership in groups, coaching, strategic management Team work & Team building - Characteristics of an effective team, Essentials of an effective team, Evolution Team. Activities – Team trust, team shape up. Conflict Management – Types of conflicts, how to cope with them Small cases including role – plays will be used as teaching methodology. Interview skills – Introduction, Types of interviews, process of interview, Preparation of the candidate, preparation of the interviewer, common interview questions. Time Management – Importance, Prioritizing tasks, Personal Goal Setting – SMART goals, delegation, Time management in meetings, barriers to time management, identifying and handling time consuming tasks. Activity – Games, role-play, case studies. Stress Management – Understanding stress, Types of stress, symptoms, causes of stress. Managing stress, Techniques of managing stress. Activity – questionnaire to find out the level of stress.		
Learning Resources			
1	Reference Books	• Business Communication – Urmila Rai & S M. Rai, 12/e, Himalaya Publishing House, 2010. • Enhancing Soft Skills – Prof.Dipali Biswas, 1/e, Shroff Publishers & Distributors Pvt. Ltd., 2009. • The ACE of Soft Skills – Gopalaswamy Ramesh & Mahadevan Ramesh, 3/e, Pearson Eductaion, 2012. Successful Career, Soft Skills and Business English – • Varanasi Bhaskara Rao & Y. Kameswari, 1/e, BS Publications, 2010. • Perrsonality Development and Soft Skills - Barun K. Mitra • Emotional Intelligence by Daniel Goleman	

Semester	III	Total Credit	4	
Course Code	CC 301	Credit Pattern	L-48, T-12, P-0	
Course Title	COMPUTER COMMUNICATION AND NETWORK			
Course Objectives				
1	To learn technology behind network architecture with layered organization.			
2	Gain in depth knowledge of network core and network edge			
3.	Uniform coverage of principles, architecture, practical insights of networks			
Course Outcomes: The students will able to				
1.	Present conceptual aspects of network applications such as web, file transfer, e-mail, and remote access, file sharing etc.			
2.	Understand layered architecture of TCP/IP model and design network applications			
3.	Build understanding and problem-solving skills required for network design			
Unit Number	Contents			Number of Sessions
1	Computer Networks & Internet: Introduction, Protocol, Network Core – Circuit Switching and Packet Switching, Network Edge – Connection oriented and Connection less Services, Access Network and Physical Media, Delay and Loss in Packet Switched Network, Protocol Layers and their Service Models, ISP’s			L= 12
				T=3
2	Network Applications and Application Layer: Introduction, Principles of Network Applications, Process communication, Application Layer Protocols, The World Wide Web and HTTP – Connections, Message Formats , Cookies, Web Cache, File Transfer and FTP – Connections, Commands, Electronic Mail – Mail Servers, SMTP, Message Format, Mail Access Protocols, Domain Name System, Socket programming			L= 12
				T= 3
3	Transport Layer and Network Layer: Introduction, Transport Layer Services, Protocols, Multiplexing and Demultiplexing, Connectionless Transport: UDP, Checksum, Principles of Reliable Data Transfer, RDT Protocols, Go-Back-N, Selective Repeat, Connection Oriented Transport: TCP, Flow Control, Connection Management, Datagram Networks, Forwarding Table, Router Architecture, Internet Protocol, IP Datagram Format, Routing Algorithms, Routing in the Internet, IPv6, Broadcast and Multicast			L= 12
				T= 3
4	Data Link Layer and Wireless Network: Introduction, Data Link Layer Services, Adaptors Communicating, Error Detection and Correction, Cyclic Redundancy Check, Multiple Access Links and Protocols - Channel Partitioning, Random Access, Taking Turns, LAN Technologies, Link Layer Addressing, Ethernet, Switches, Introduction to Wireless Network, WiFi			L=12
				T= 3
Learning Resources				
1	Text Books	- James F. Kurose and K. W. Ross, Computer Networking: A Top Down Approach, Pearson, 5th Edition 2013 - Tanenbaum, A.S., Computer Networks, Prentice Hall of India Pvt. Ltd, 4th Edition 2005		
2	Reference books	- Douglas E. Comer, Computer Network and Internets with Internet Applications, Pearson Education Inc., 4th Edition 2004 - Uyless Black, Computer Networks Protocols, Standards and Interfaces, Prentice Hall of India Pvt. Ltd, 2nd Edition		

		Prakash C. Gupta, Data Communication & Computer Network, Prentice Hall of India Pvt. Ltd.
3	Websites	https://www.studytonight.com/computer-networks/ https://www.javatpoint.com/computer-network-tutorial https://www.tutorialspoint.com/data_communication_computer_network/index.htm
4	Journals	- The International Journal of Computer and Telecommunications Networking, Elsevier Publishing, ISSN: 1389-1286 - Journal of Computer Networks and Communications, Hindawi Publishing, ISSN: 2090-7141 - Computer Networks, ScienceDirect, ISSN 1389-1286
5	Supplementary Reading	Web Course Developed for NPTEL, Computer Networks and Internet Protocol, https://nptel.ac.in/courses/106/105/106105183/#
6	Practical Components	NS-3 Network Simulator, https://www.nsnam.org/

Semester	III	Total Credit	4
Course Code	CC 302	Credit Pattern	L-48, T-12, P-0
Course Title	SOFTWARE PROJECT MANAGEMENT AND QUALITY ASSURANCE		
Course Objectives			
1	To introduce the tasks and concepts in project management.		
2	To find out various metrics and its usage		
3.	To understand various methods of quality assurance.		
4.	To find out the activities in software maintenance and configuration management.		
Course Outcomes: The students will able to			
1.	Understand the tasks and concepts in project management.		
2.	Identify and apply project metrics.		
3.	Evaluate and plan quality of software and the process		
4.	Identify and decide activities in software maintenance and configuration management.		
Unit Number	Contents		Number of Sessions
1	Project Management Concepts & Project Metrics: : (15) The Management Spectrum, People, Product, Process, Project, The W5HH Principle, Metrics in the Process and Project Domains (FP & LOC), Software Measurement, Metrics for Project and Software Quality		L= 12 T=3 P=0
2	Software Project Planning, Scheduling and Tracking: : (15) Project Planning Objectives, Software Project Estimation using COCOMO Model, Software Scope and Resources, Empirical Estimation Models, Automated Estimation Tools, Basic Concepts and Relationship Between People and Effort, Defining a Task Set for the Software Project, Selecting Software Engineering Tasks, Defining a Task Network and Scheduling, Earned Value Analysis and Error Tracking. Reactive versus Proactive Risk Strategies, Software Risks (Risk identification, Risk Projection, Risk Refinement, Risk Mitigation), Risks Monitoring and Management.		L= 12 T=3 P=0
3	Software Quality Assurance and Configuration Management: (15) Quality Concepts and Software Quality Assurance, Quality Planning and Control, Software Reviews (Formal Technical Reviews), Software Reliability and Fault Tolerance, The ISO 9000 Quality Standards, The SCM Process, Identification of Objects in the Software Configuration, Six Sigma, Version Control and Change Control.		L= 12 T=3 P=0
4	Software maintenance: (15) Definition of maintenance, Maintenance characteristics, maintainability, maintenance tasks, maintenance side effects, reverse engineering and reengineering. Software configuration management, software reusability., Software Complexity & Reliability.		L= 12 T=3 P=0
Learning Resources			
1	Text Books	Software Project Management: Bob Hughes and Mike Cotterell-Tata McGraw Hill Software Engineering a Practitioner’s approach – Roger S Pressman Tata McGraw Hill, Introduction to Software Project Management & Quality Assurance: By Ince, Dorrel,Helen Sharp & Mark Woodman	
2	Reference books	Software Engineering – Ian Sommerville, Addison Wesley Norman E. Fenton and Shari Lawrence Pfleeger, “Software Metrics” Thomson Mordechai Ben – Menachem and Garry S.Marlist, “Software Quality”, Thomson Asia Ltd Mary Beth Chrissis, Mike Konrad and Sandy Shrum, “CMMI”, Pearson Education (Singapore) Pte Ltd. ISO 9000-3 “Notes for the application of the ISO 9001 Standard to software development”.	
3	Websites	https://www.kandasoft.com/home/softwaredevelopment/project-management.html https://www.gurock.com/testrail/fogbugz-test-management https://kruschecompany.com/quality-assurance-in-projects/	
4	Journals	https://www.researchgate.net https://www.clutejournals.com https://ieeexplore.ieee.org	
5	Supplementary Reading	http://www.softwareqatest.com/ https://www.guru99.com/software-quality-assurance-test-audit-review-makes-your-life-easy.html	

		• https://www.tutorialspoint.com/software_testing_dictionary/quality_assurance.htm
6	Practical Components	Use of some free download tools for project management

Semester	III	Total Credit	4	
Course Code	CC 303	Credit Pattern	L-48, T-12, P-0	
Course Title		Ethical Hacking		
Course Objectives				
1	To familiarize the student with ethical hacking concepts and tools			
2	To introduce various ethical hacking skills and types of attacks			
3.	To know how protect systems from hacking threats			
Course Outcomes: The students will able to				
1.	Will be able to identify the type of hacking attack			
2.	Will be acquainted with ethical hacking skills			
3.	Will be able to use various ethical hacking tools			
Unit Number	Contents			Number of Sessions
1	Introduction: Introduction to Hacking, Hacking types , Cybercrime and its type, Introduction to basics of Ethical Hacking , ethical hacking terminologies, tools , Ethical hacking Process , Reconnaissance- active and passive, Foot printing- active and passive (12)			L= 12
				T=3 P=0
2	Ethical Hackinglls Fingerprinting and its type , steps involved , Sniffing , sniffing tools , ARP Poisoning,DNS Poisoning, Enumeration, Trojan Attacks, TCP/IP Hijacking, Email Hijacking , Password Hijacking, wireless hijacking. (12)			L= 12
				T=3 P=0
3	Email Security and Intellectual Property treats Email Security: types of threats, spam, countermeasures Intellectual Property Thefts: Introduction, Threats of Intellectual property theft, types of IP Theft attacks Identity attacks: types of identity thefts, Input validation attacks : Input validation threats, Types of input validation attacks, SQL injection attacks, Denial of Services(DOS) attacks: Introduction, threats of DOS attacks, different DOS attacks			L= 12
				T=3 P=0
4	Web & Social engineering attacks Buffer Overflows : different types, examples, counter measures. Software Engineering attacks: introduction, types of social engineering attacks, counter measures. Hacking Web Servers, Web Application Vulnerabilities, Web based Password Cracking Techniques, Hacking Wireless Networks, Hacking Mobile Platforms Evading IDS, Firewalls, and Honeypots			L= 12
				T=3 P=0
Learning Resources				
1	Text Books	1. An Ethical Hacking Guide to Corporate Security, AnkitFadia – Macmillan India Ltd. 2. Ethical Hacking and Penetration Testing Guide, RafayBaloch- Auerbach Publications		
2	Reference books	1. Hacking For Dummies 5th Edition, Kevin Beaver - John Wiley & Sons 2. An Unofficial Guide to Ethical Hacking, AnkitFadia – Macmillan India Ltd. 3. Hands-On Ethical Hacking and Network Defense, Michael T. Simpson, Kent Backman, James Corley -Cengage Learning.		
3	Websites	http://www.ijcstjournal.org/volume-2/issue-6/IJCST-V2I6P2.pdf http://www.ijcstjournal.org/volume-2/issue-6/IJCST-V2I6P2.pdf ieeexplore.ieee.org		
4	Journals	Ethical hacking - IBM Journals & Magazine - IEEE Xplore		
5	Supplementar y Reading	On Internet searching URLs		
6	Practical Component	. Case study reports		

Semester	III	Total Credit	4
Course Code	CC 305	Credit Pattern	L-48, T-12, P-0
Course Title	.Net Programming		
Course Objectives			
1	To explore the knowledge on different types of applications of .net		
2	To know about the design methodologies with concentration on object oriented concepts		
3	Giving the students a complete knowledge on .net framework and .net environment.		
4	To introduce a student to an entirely a new way to build distributed, desktop and mobile applications		
Course Outcomes: The students will able to			
1	The syntax and semantics of C# and procedural programming including variable definitions, arithmetic and boolean expressions, control structures, methods, subroutines, arrays, and references.		
2	Event-based programming and GUI design.		
3	An idea of what objects are how to design programs using object-oriented design.		
Unit Number	Contents	Number of Sessions	
1	Overview of .net framework. Overview of .NET binaries and .NET architecture. The role of MSIL and metadata. Understanding CLR, CTS and CLS, .NET base classes , Assemblies- Components of Assembly, Private and Shared Assembly, Visual Studio .NET IDE	L= 12	
		T=3	P= 0
2	C# Programming constructs, C# looping and Conditional constructs, Primitive types, operators and expressions, C# object oriented concepts, Object lifecycle, Initializer, Constructor, Garbage Collector, Interface, Inheritance, polymorphism, properties, Delegates, events, Exception handling in C#	L= 12	
		T= 3	P= 0
3	Type reflections and attribute based programming, review of traditional Win32 thread programming, System.Threading namespace. Introducing Windows Forms, GDI+ namespaces, Windows Form controls.	L= 12	
		T= 3	P= 0
4	ADO.net – ADO.net fundamentals, ADO.net architecture, Connection class, Command class, Data Reader class, Transactions, Data components and Data Set, Disconnected Data, Data Bindings	L=12	
		T= 3	P= 0
Learning Resources			
1	Text Books	1. Beginning Visual C#2010, K. Watson, C. Nagel, J.H. Padderson, J.D. Reid, M. Skinner, Wrox (Wiley)2010 2. Introducing Microsoft .NET – David S. Platt 3. Database Access with C# – Jeffrey P. McManus, Jackie goldstein and Kevin T. Price.	
2	Reference books	1. Visual C#.NET, Vijay Nicoel, TMH 2. C#.Net Developers Guide- Greg Hack, Jason Werry, SaurabhNandu. (SyngRess)	
3	Websites	https://dotnet.microsoft.com/learn/csharp https://guru99.com	

		http://tutorialpoint.com
4	Journals	https://developersjournal.in/category/dotnet/dotnet-core
5	Supplementary Reading	C# 7.0 In A Nutshell: The Definitive Reference , Seventh Edition
6	Practical Components	• List of experiments to be executed during laboratory hours

Semester	III	Total Credit	4		
Course Code	DSE III (DS-I)	Credit Pattern	L-48, T-12, P-0		
Course Title	DATA WARE HOUSING AND DATA MINING				
Course Objectives					
1	To provide students with basic concepts of data warehouse and data mining.				
2	To develop abilities to solve real time problem by applying appropriate data mining algorithm.				
2	To make students acquaint to different tools and techniques used for Knowledge Discovery in Databases.				
Course Outcomes: The students will able to					
2.	Discover interesting patterns from large amounts of data to analyze and extract patterns to solve problems				
3.	Evaluate and select appropriate data-mining algorithms				
4.	Apply, and interpret and report the output appropriately				
Unit Number	Contents			Number of Sessions	
1	DATA WAREHOUSING Overview and Concepts: Need for data warehousing, The building blocks of a Data warehouse, Data Warehouse Architecture, Extract Transform Load Cycle: ETL overview, Extraction, Loading, Transformation techniques. Reporting and Query tools and Applications, OLAP – the need, Design of the OLAP database, OLAP operations: slice, dice, rollup, drill-down etc.			L= 12	
				T=3	P= 0
2	INTRODUCTION TO DATA MINING AND ASSOCIATION RULE MINING Introduction – Data – Types of Data – Data Mining Functionalities – Classification of Data Mining Systems – Data Mining Task Primitives , Data Mining Applications, Integration of a Data Mining System with a Data Warehouse – Issues –Data Preprocessing. Mining Frequent Patterns, Associations and Correlations –Mining various Kinds of Association Rules – Market Basket Analysis, Apriori Algorithm, FP tree Algorithm, Correlation Analysis.			L= 12	
				T= 3	P= 0
3	CLASSIFICATION Classification and Prediction - Basic Concepts - Decision Tree Induction - Bayesian Classification – Rule Based Classification – Classification by Back propagation – Support Vector Machines – Associative Classification – Lazy Learners – Other Classification Methods – Prediction.			L= 12	
				T= 3	P= 0
4	CLUSTERING AND WEB MINING Cluster Analysis - Types of Data – Categorization of Major Clustering Methods – K-means– Partitioning Methods – Hierarchical Methods – Outlier Analysis – Web Mining: Web Content Mining, Web Structure Mining, Web Usage mining.			L=12	
				T= 3	P= 0
Learning Resources					
1	Text Books	- Alex Berson and Stephen J. Smith, “ Data Warehousing, Data Mining & OLAP”, Tata McGraw – Hill Edition. - Jiawei Han and Micheline Kamber, “Data Mining Concepts and Techniques”, Second Edition, Elsevier			
2	Reference books	Pang-Ning Tan, Michael Steinbach and Vipin Kumar, “ Introduction To Data Mining”, Person Education, 2007.			

		• K.P. Soman, Shyam Diwakar and V. Ajay “, Insight into Data mining Theory and Practice”, Easter Economy Edition, Prentice Hall of India • G. K. Gupta, “ Introduction to Data Mining with Case Studies”, Easter Economy Edition, Prentice Hall of India • Daniel T.Larose, “Data Mining Methods and Models”, Wile-Interscience
3	Websites	• http://guidetodatamining.com/, “A Programmer's Guide to Data Mining” • https://www.classcentral.com/course/independent-data-mining-with-weka-1152, “Data Mining with Weka” • https://www.geeksforgeeks.org/data-mining/ • https://www.tutorialspoint.com/data_mining
4	Journals	• Inderscience Publisher “International Journal of Business Intelligence and Data Mining” • Inderscience Publisher “International Journal of Knowledge Engineering and Data Mining” • IEEE Transactions on Knowledge and Data Engineering • Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery
5	Supplementary Reading	• https://www.techgig.com/webinar/Understanding-SVM-Support-Vector-Machine-Algorithms-1083 • https://www.searchtechnologies.com/blog/web-data-mining-tools-techniques
6	Practical Components	• Experimenting different mining algorithms on available datasets using Weka and R programming.

Semester	III	Total Credit	4
Course Code	DSE III (NS- I)	Credit Pattern	L-48, T-12, P-0
Course Title	NETWORK ADMINISTRATION		
Course Objectives			
1	To expose students to introductory networking concepts in the information technology industry		
2	To expose students to the impact of network technology on a business operation		
2	To give students hands-on experience installing, configuring and operating computer hardware and software in a network environment.		
Course Outcomes: The students will able to			
2.	Understand Network Architecture.		
3.	Setup network Infrastructure		
4.	Implement user and group policies		
Unit Number	Contents	Number of Sessions	
1	Introduction to Network Introduction to Network Concepts, Identifying Characteristics of Network , Types of Network, Topologies, Peer to peer and Server-based networks, Networking devices- Hub, switch, Bridge, Routers, Repeaters, gateways, Modems, Access Point, Protocols (IP, TCP/IP, IPX; Ethernet, FTP, Telnet, SSH) transmission media : STP (Shielded Twisted Pair), UTP (Unshielded Twisted Pair) ,Coaxial Cable, Cabling Standards for LAN using UTP Cable, How to do Crimping, Building Straight Through Cable and Cross Cables, Testing Cable Continuity, Optical Fibers, Wireless Transmission, Microwave, Radio Waves, IEEE standard, Configuring the TCP/IP Protocol, Windows Networking..	L= 12	
		T=3	P= 0
2	Server Administration Introduction to Windows server, Network Operating Systems , Installation & configuration of Windows Server. Procedures and standards, Terminal services and remote administration. , Delegating administrative authority, Creating and Managing Accounts, User authentication, User profiles. , Creating, managing and troubleshooting user accounts. , Implementing Group and Computer Accounts , Group policy Management, Creating and managing computer accounts , Managing File Access , Introduction to file systems, Types of File System, Creating and managing shared folders. Managing shared folder permissions, NTFS permissions , Managing Disks and Data Storage , Disk management concepts, Managing partitions & volumes. Disk utilities , Disk quotas , Monitoring Server Performance and Disaster Recovery , Planning disaster recovery, Backing up data, Automated system recovery, The distributed file system, Implementing and Managing Printers, Installing and sharing printers, Configuring and managing printer resources.	L= 12	
		T= 3	P= 0

3	Active Directory Services and Network Monitoring Introduction to Active Directory, Structure of Active Directory, Roles of Active Directory, DAP,LDAP,TREE,FOREST,SITES Create workgroup, Domain, child, Organizational Units, Users & Groups, Configure & Deploy network printers, Set-up & Manage File Sharing and Security, Implement Security, Remote Desktop Administration, Event Viewer, logs, Backup and Recovery, Server and Network Monitoring ,Managing System Reliability and Availability.	L= 12	
		T= 3	P= 0
4	Network Administration Installing and Configuring Terminal Services. Managing servers remotely using terminal services (Remote desktop). Enterprise Network Implementation,IP addressing, features of IPv4, and IPv6, static and dynamic , Router components and functions, Routing Protocols, VLAN, Wi-Fi 802.11 Standards and Wi Max, Backup restoring data, Installing DNS, Implementing DNS in windows networks. Installing and configuring DHCP. Installing and Configuring the DHCP Relay Agent, Telnet Server , SSH Server , NAT, Types of NAT, ACL, Configuring & Implementing VPN, WINS Server.	L=12	
		T= 3	P= 0

Learning Resources

1	Reference books	- James F. Kurose and K. W. Ross, Computer Networking: A Top Down Approach, Pearson, 5th Edition 2013 - Tanenbaum, A.S., Computer Networks, Prentice Hall of India Pvt. Ltd, 4th Edition 2005
3	Websites	www.aboutdebian.com/network.htm - MTA: Windows Server Administration Fundamentals: 98-365 ...https://www.udemy.com › www.tldp.org/LDP/Bash-Beginners-Guide/html/index.html
4	Journals	- The International Journal of Computer and Telecommunications Networking, Elsevier Publishing, ISSN: 1389-1286 - Journal of Computer Networks and Communications, Hindawi Publishing, ISSN: 2090-7141 - Computer Networks, ScienceDirect, ISSN 1389-1286
5	Supplementary Reading	Web Course Developed for NPTEL, Computer Networks and Internet Protocol, https://nptel.ac.in/courses/106/105/106105183/#
6	Practical Components	https://docs.microsoft.com/en-us/learn/certifications/exams/98-365

Semester	IV	Total Credit	4		
Course Code	DSE 1V DS-II	Credit Pattern	L-45, T-7, P-8		
Course Title	R FOR DATA SCIENCE				
Course Objectives					
1	To understand R environment setup				
2	To explore, analyze and visualize data using R				
3.	To use R for machine learning model construction				
4	To develop Data Science solutions to Data Science problems				
Course Outcomes: The students will able to					
1.	Program in R and use of R for effective data analysis				
2.	Explore, analyze, visualize data and construct machine learning models using R				
3.	Handle practical issues in programming, reading data into R, accessing R packages, writing R functions				
4.	Apply R Programming for data science projects				
Unit Number	Contents			Number of Sessions	
1	Getting started with R Overview of R, R Installation, Getting started with R interface, R Nuts and Bolts, Basic Syntax, R Data Types, Control Structures, Functions, Getting Data into R, Data Frames, R Packages			L= 12	
				T=2	P= 2
2	Data Exploration and Visualization Data Exploration in R, Basic Data Summaries, Basic plotting - Histograms, Bar Charts, Scatter Plots, Box Plots, Plot functions, Data Visualization using R packages, Plot using ggplot2			L= 11	
				T= 2	P= 2
3	Practical Machine Learning Introduction, Data Sampling, Data Preprocessing, Supervised Learning, Decision Trees, Artificial Neural Network, Model Selection and Evaluation, Unsupervised Learning, K Means Clustering, Hierarchical Clustering, Dimensionality Reduction, Reinforcement learning			L= 11	
				T= 2	P= 2
4	Data Science Introduction, Data Science Fundamentals, Statistical Foundations, Data Scientist Toolbox, Version Control, Data Science Problems, Time Series and Web Analytics Time Series – Data, Analysis, Visualization, Web Analytics Process, Key Metrics, Social Network Analysis			L=11	
				T= 1	P= 2
Learning Resources					
1	Text Books	- Roger D. Peng, R Programming for Data Science, Lulu.com, 2015 - Hadley Wickham, Garrett Golemund, R for Data Science, O'Reilly First Edition, 2017			
2	Reference books	- Michael J. Crawley, The R Book, Wiley, 2nd Edition - Hadley Wickham, Garrett Golemund, R for Data Science: Import, Tidy, Transform, Visualize, and Model Data, O'Reilly Media; 1 edition - Murray Aitkin, Brian Francis, John Hinde, and Ross Darnell, Statistical Modelling in R, Oxford University Press; 1 edition, 2009 - Brian Everitt and Torsten Hothorn, A Handbook of Statistical Analyses Using R, Chapman and Hall/CRC; 2 edition			
3	Websites	https://www.analyticsvidhya.com/blog/2016/02/complete-tutorial-learn-data-science-scratch/ https://r4ds.had.co.nz/introduction.html https://data-flair.training/blogs/r-tutorial/			
4	Journals	International Journal of Data Science and Analytics, Springer, ISSN: 2364-			

		4168 • Data Science - Methods, Infrastructure, and Applications, IOS Press, ISSN: 2451-8484 • International Journal of Data Science, INDERSCIENCE, ISSN 2053-0811
5	Supplementary Reading	• Data Science Specialization https://www.coursera.org/specializations/jhu-data-science • R Programming , https://www.datacamp.com/tracks/r-programming
6	Practical Components	• R Installation, R Programs based on Data Types, Loops and Functions, Data Visualization

Semester	III	Total Credit	4	
Course Code	DSE-IV NS-II	Credit Pattern	L-48, T-12, P-0	
Course Title	INFORMATION AND NETWORK SECURITY			
Course Objectives				
1	To introduce the concept of network and information security.			
2	To explain various message digest algorithms.			
3	To introduce and explain various public key cryptography algorithms.			
4	To explain techniques for securing email, network and information.			
Course outcomes : After completion of course student will be able to				
1	Recognize the importance of network and information security.			
2	Summarize various hashing techniques for data integrity.			
3	Understand and select correct cryptography algorithm for information security.			
4	Evaluate proper techniques for securing email.			
5	Plan techniques for protecting network.			
6	Evaluate techniques for making information more secure.			
Unit Number	Contents		Number of Sessions	
1	Introduction: Attacks, Services and Mechanisms, Security Attacks, Security Services, Integrity check, digital Signature, authentication, Secret Key Cryptography: Block Encryption, Overview, comparison with DES, Key expansion, IDEA rounds, Uses of Secret key Cryptography; Multiple encryptions DES		L= 12	
			T=3	P= 0
2	Hashing and Public key Cryptography: Length of hash, uses, algorithms (MD2, MD4, MD5, SHS) MD2: Algorithm (Padding, checksum, passes.) Algorithm (padding, stages, digest computation.) Overview, padding, stages, Public key Cryptography: Algorithms, examples, Modular arithmetic (addition, multiplication, inverse, and exponentiation) RSA: generating keys, encryption and decryption. Other Algorithms: PKCS, Diffie-Hellman, El-Gamal signatures, DSS, Zero-knowledge signatures.		L= 12	
			T= 3	P= 0
3	Authentication: Password Based, Address Based, Authentication. Passwords in ddb, Cryptographic Authentication: passwords as keys, protocols, Authentication of People: Verification techniques, passwords, length of passwords, PW distribution, smart cards, And biometrics. Security Policies and Security Handshake Pitfalls: security policy, user issues, Protocol - public key protocols,, use of timestamps, sequence numbers, session keys, one-and two-way public key based authentication.		L= 12	
			T= 3	P= 0
4	System: Kerberos: purpose, authentication, serer and ticket granting server, keys and tickets, names, inter-realm authentication. names. realms. delegation. ticket lifetimes.		L=12	
			T= 3	P= 0

		revoking tickets, multiple Realms, Network Security: Electronic mail security, IP security, Network management security. Security for electronic commerce: SSL, SET System Security: Intruders and Viruses, Firewalls, Intrusion Detection		
Learning Resources				
1	Text Books	1. AtulKahate, Cryptography and Network Security, McGraw Hill. 2. Kaufman, c., Perlman, R., and Speciner, M., Network Security, Private Communication in a public world, 2 nd ed., Prentice Hall PTR., 2002.		
2	Reference books	1. Stallings, W.,Cryptography and Network Security: Principles and Practice, 3 rd ed., Prentice Hall PTR.,2003. 2. Stallings, W. Network security Essentials: Applications and standards, Prentice Hall, 2000. 3. Cryptography and Network Security; McGraw Hill; Behrouz AForouzan. 4. Information Security Intelligence Cryptographic Principles and App. Calabrese Thomson. 5. Securing A Wireless Network Chris Hurley SPD		
3	Websites	• https://www.cisco.com/c/en_in/products/security/what-is-network-security.html • https://www.tutorialspoint.com/information_security_cyber_law/network_security.htm • https://www.edureka.co/blog/what-is-network-security/		
4	Journals	• https://www.journals.elsevier.com/network-security • https://www.sciencedirect.com/journal/network-security • https://www.springer.com/journal/10207		
5	Supplementary Reading	• https://www.win.tue.nl/~tozceleb/2IC60/lecture_notes.pdf • https://www.vssut.ac.in/lecture_notes/lecture1428550736.pdf		

Semester		III	Total Credit		2		
Course Code		AEC III	Credit Pattern		L-24, T-06, P-0		
Course Title		SOFTWARE DESIGN PATTERNS					
Course Objectives							
1	To appreciate the idea behind Design Patterns in handling common problems faced during building an application						
2	To introduce the learner different categories of design patterns.						
3	To develop skills for proper selection of appropriate design pattern.						
Course Outcomes: Students will be able to;							
1	Create software designs that are scalable and easily maintainable						
2	Use creational design patterns in software design for class instantiation						
3	Use structural design patterns for better class and object composition						
4	Use behavioral patterns for better organization and communication between the objects						
5	• Use refactoring to compose the methods for proper code packaging						
Unit Number		Contents				Number of Sessions	
1		Overview of Software design, Design Patters. History of design patterns. Refactoring. Testability, domain-specific languages, dependency injection, SOLID, Usage of design patterns. Types of Design Patterns. The Catalog of Design Patterns, Organizing the Catalog, How Design Patterns Solve Design Problems, How to Select a Design Pattern, Factory patter, Abstract Factory Pattern, Singleton pattern, Builder pattern, Prototype pattern, Adapter Pattern, Bridge pattern, Filter pattern, Composite pattern, Decorator pattern, Façade pattern, Flyweight pattern, Proxy pattern				L= 12	
						T= 3	P= 0
2		Chain of Responsibility, Command pattern, Interpreter pattern, Iterator pattern, Mediator pattern, Observer pattern, State pattern, Strategy pattern, Template pattern, MVC pattern, Business Delegate pattern, Front Controller Pattern, Intercepting Filter pattern, Service Locator pattern, Transfer Object pattern.				L= 12	
						T= 3	P= 0
Learning Resources							
1	Text Books	1. Design Patterns, Elements of Reusable Object-Oriented Software, Erich Gamma, et. al., Addison-Wesley, 1994, ISBN 0-201-63361-2 2. Implementation Patterns, Kent Beck, Addison-Wesley, 2008					

2	Reference books	1. Refactoring to Patterns, Joshua Kerievsky, Addison-Wesley, 2005 2. Patterns of Enterprise Application Architecture, Martin Fowler, Addison-Wesley, 2003 3. Enterprise Integration Patterns, Gregor Hohpe, Bobby Woolf, Addison-Wesley, 2004 4. Pattern-Oriented Software Architecture, Schmidt, et. al., Wiley, 2000 5. Pattern's in Java, Vol –I, Mark Grand, Wiley Dream Tech. 6. Patterns in Java, Vol-II, Mark Grand, Wiley Dream Tech. 7. Java Enterprise Design Patterns Vol-III, Mark Grand, Wiley Dream Tech. 8. Head First Design Patterns, Eric Freeman, O'reilly publications
3	Websites	1. https://www.geeksforgeeks.org/software-design-patterns/ 2. https://www.tutorialspoint.com/design_pattern/index.htm 3. https://www.javatpoint.com/design-patterns-in-java 4. https://howtodoinjava.com/design-patterns/ 5. https://sourcemaking.com/design_patterns
4	Journals	1. https://www.journaldev.com Journal of Big Data – Springer Open Access – 2. Journal of Software Engineering and Applications, ISSN Online: 1945-3124 ISSN Print: 1945-3116 3. https://journals.plos.org,

Semester	IV	Total Credit	4		
Course Code	CC401	Credit Pattern	L-48, T-12, P-0		
Course Title	ARTIFICIAL INTELLIGENCE				
Course Objectives					
1	To endow with various disciplines of artificial intelligence and its applications				
2	To learn knowledge representation techniques in AI.				
3.	To understand of how to develop AI solutions to problems with data				
4.	To explore AI application areas				
Course Outcomes: The students will be able to					
1.	Apply problem solving by intelligent search approach.				
2.	Represent knowledge using AI knowledge representation techniques.				
3.	Design machine learning solution to real life problems.				
4	Understand various disciplines of artificial intelligence and its applications				
Unit Number	Contents			Number of Sessions	
1	Foundations of AI Introduction, AI related terms, Turing Test, Knowledge Representation - Propositional Logic, Predicate Calculus, Frames, Conceptual Dependency, Script, Semantic Net, and Rule Based Representation, Computational Thinking, Ethical Dilemmas			L= 12	
				T=3	P= 0
2	Problem Solving by Intelligent Search Introduction, Nature of AI Problems, State and Space Search, Depth First Search, Breadth First Search, Mean and Ends Analysis, Heuristic Search Techniques, Hill Climbing, Best First Search, Branch and Bound Search, A*and AO* Algorithm, Game Playing, Min-Max Search Procedure, ALPHA-BETA Pruning			L= 12	
				T= 3	P= 0
3	Machine Learning Introduction, Supervised Learning , Artificial Neural Network - Artificial Neuron Model, Activation Functions, Network Architectures, Back Propagation, Unsupervised Learning – K Means Clustering, Dimensionality Reduction, Reinforcement learning			L= 12	
				T= 3	P= 0
4	AI Applied Areas Introduction, Expert Systems – Characteristics, Knowledge Representation, Architecture, Natural Language Processing - NLP Phases, Parser, Chatbots, Autonomous Cars, Robotics			L=12	
				T= 3	P= 0
Learning Resources					
1	Text Books	- Dan W. Patterson, Artificial Intelligence & Expert Systems, Prentice Hall of India, 2005 - Mitchell, Machine Learning, Tata Mcgraw Hill Education Private Limited, 2013			
2	Reference books	- Elaine Rich, Kerin Knight, Artificial Intelligence, Tata McGraw Hill Publishing Company, New Delhi, 2nd Ed, 2004 - AmitKonar, Artificial Intelligence & Soft Computing Behavioral & Cognitive Modeling of the Human Brain, CRC Press, New York, 2008 - Jiawei Han and Micheline Kamber, “Data Mining Concepts and Techniques”, Second Edition, Elsevier S. Rajasekaran, G. A. VijayalakshmiPai, Neural networks, fuzzy logic, and genetic algorithms : synthesis and applications, Prentice-Hall of India, 2003			
3	Websites	https://towardsdatascience.com/ https://www.moralmachine.net/ https://www.youtube.com/watch?v=kiFfp-HAu64&feature=youtu.be&t=3128			
4	Journals	Frontiers in Artificial Intelligence			

		https://www.frontiersin.org/journals/artificial-intelligence# • Artificial Intelligence, Elsevier Publishing, ISSN: 0004-3702 • Machine Learning, Springer Publishing, e-ISSN: 1573-0565
5	Supplementary Reading	• NPTEL Web Course, Artificial Intelligence, https://nptel.ac.in/courses/106/105/106105077/
6	Practical Components	• https://experiments.withgoogle.com/collection/ai • https://www.ibm.com/in-en/artificial-intelligence

Semester	IV	Total Credit	4
Course Code	CC402	Credit Pattern	L-45, T-7, P-8
Course Title	MOBILE COMPUTING		
Course Objectives			
1	To introduce challenges in app development for thin clients.		
2	To provide acquaintance with popular Android editors such as Eclipse/Android Studio.		
3	To familiarize the students about android stack, android sdk, application life cycle, and basic components.		
4	To introduce Android's APIs for data storage, retrieval, user preferences, files, databases, and content providers		
5	To introduce persistent data storage using SQLite		
Course Outcomes: Students will be able to;			
1	Build android apps in Eclipse/Android Studio.		
2	Design and develop useful Android applications using activities, intent and manifest		
3	Design and develop useful Android applications Utilizing the power of background services, threads, and notifications		
4	Develop applications for data storage and retrieval.		
5	Sharing data between applications using Content Provider.		
Unit Number	Contents		Number of Sessions
1	Basics and Building Bocks of Android Android Overview and History.Android Stack.Android SDK Overview - Platforms, Tools, Versions.Android Project Structure.Creating first project.The manifest file. Layout resource Running your app on Emulator and real device. Introduction to Eclipse/Android Studio.Structure of android manifest file. Building blocks of Android - Activities, Activity lifecycle, Intents, Services, Content Providers, Broadcast Receivers.Views and layouts, Common UI components.Passing data between activities.		L= 12
			T= 2 P= 2
2	Leveraging Anroid UI Components Handling User Events, Complex UI components, Building UI for performance, Menus and Dialogs		L= 11
			T= 2 P= 2
3	Android Services and Broadcast Receivers Broadcast Receivers. What are Broadcast Receivers.Implementing broadcast receiver.System broadcasts and how to use them. Intent Filters.		L= 11
			T= 2 P=2
4	Data Persistence in Android Data Persistence- Introducing SQLite, SQLiteOpenHelper and creating a database, Opening and closing a database, Working with cursors Inserts, updates, and deletes Basic Content Providers		L= 11
			T= 2 P= 2

		Content provider MIME types, Searching for content, Adding, changing, and removing content Working with content files		
Learning Resources				
1	Text Books	a. 2. Ian F. Darwin, Android Cookbook, O'Reilly. 3. Marko Gargenta, Learning Android, O'Reilly 4. Pradeep Kothari (Android Application Development (With Kitkat Support), Black Book, Kogent Learning Solutions Inc. 5. W.Frank Ableson, Robi Sen, Chris King, C.Enrique Ortiz, Android in Action 6. Neil Smyth, Android Studio 4.0 Development Essentials - Java Edition: Developing Android Apps Using Android Studio 4.0, Java and Android Jetpack		
2	Reference books	a. 7. G. Blake Meike, Laird Dornin, Masumi Nakamura, and ZigurdMednieks, Programming Android, O'Reilly Java 2 Programming Black Book by Steven Holzner, Dream Tech Publication 8. W.FrankAbleson, RobiSen, Chris King, Android In Action, published by dreamtech Press. 9. Wei-Meng Lee, Beginning Android 4 Application Development, Wrox Publication 10. Reto Meier, Professional Android 4 Application Development, Wrox Publication 11. OnurCinar, Android Apps with Eclipse, Apress 12. Ian G. Clifton, Android User Interface Design, 13. Dave Smith and Jeff Friesen, Android Recipes: A Problem-Solution Approach, Apress		
3	Websites	14. https://www.tutorialspoint.com/android/index.htm 15. https://www.javatpoint.com/android-tutorial 16. https://www.vogella.com/tutorials/android.html 17. https://www.studytonight.com/android/ 18. https://www.tutlane.com/tutorial/android		
4	Journals	a. 19. Journal of Information Technology & Software Engineering, ISSN: 2165-7866 20. https://www.engpaper.com/android-system-research-papers.htm 21. SSRG International Journal of Mobile Computing and Application (IJMCA) – (Seventh Sense Research Group)ISSN 2393 – 9141 22. International Journal of Computer Science and Mobile Computing - ISSN: 2320-088X		
5	Practical Component	Practical lab excercises based on Units I to IV		

Semester	IV	Total Credit	4
Course Code	CC-403	Credit Pattern	L-48, T-12, P-0
Course Title	BIG DATA ANALYTICS		
Course Objectives			
1	To explore vital concepts and working of Blockchain		
2	To introduce Hyperledger Fabric model and its Architecture		
3	To introduce Hyperledger Composer		
4	To Learn Solidity Programming		
5	To Learn Ethereum smart contract		
Course Outcomes: Students will be able to;			
1	Be able to state core Blockchain concepts, benefits, and limitations of blockchain technologies.		
2	Identify a use case for a Blockchain application		
3	Make decisions about the selection of blockchain platform for various applications		
4	Determine real world challenges that blockchain technologies may assist		
5	Implement Smart Contracts		
6	Work with Ethereum Wallet		
Unit Number	Contents		Number of Sessions
1	<u>Blockchain Overview and Introduction</u> Introduction to Blockchain, History and Origin of Blockchain, Properties of Blockchain (Immutability, Decentralized, Enhanced Security, Scalability, Distributed Ledgers, Faster Settlement). Fundamental terminologies (Block, Mining, Double Spending), Concept of Merkle Trees, Major Components of Blockchain, Structure of Block header, Types of Blockchain(Public, Private, Consortium), Public Key Infrastructure and Cryptography (Public Key, Private Key, Hashing, Digital Signature), Distributed systems, Decentralized networks, Consensus (Proof of Work, Proof of Stake, BFT), Blockchain Ecosystem (Blockchain exchanges, Blockchain miners, blockchain developers Mining and the Hashing Race), Working Phases in Blockchain, Application Areas		L= 12
			T= 3 P= 0
2	<u>Concepts of Solidity and Ethereum:</u> Introducing Solidity, Global Variables and Functions, Expressions and Control Structures, Writing Smart Contracts; Functions, Modifiers, and Fallbacks; Exceptions, Events, and Logging; Truffle Basics and Unit Testing; Debugging Contracts. Test and debug smart contracts with Truffle, Ganache, Remix, and MetaMask. Maintaining code quality with different tools. History and Introduction of Ethereum, Concept of Dapps, DAOs, DACs and DASs, power of DAOs, Understanding Ethereum smart contracts, Ethereum wallet, Building Your First DAO, Future of DAOs		L= 12
			T= 3 P= 0
3	<u>Introduction to Hyperledger Family</u> Introduction to Hyperledger and Composer, Problems with existing Blockchain technology, Basics of hyperledger Fabric, Hyperledger Fabric Architecture, Consensus in Hyperledger, Introduction to new consensus algorithm Sumeragi, Hyperledger Components, Chaincode, Exploring Key Projects of Hyperledger Family		L= 12
			T= 3 P=0

4	Use Cases and Future of Blockchain Technology:		L= 12	
	Bletchley: The Modular Blockchain Fabric, Business Blockchain on Bluemix, Watson's Smart Blockchain, Future of Blockchain Technology and it's Industry Impacts		T= 3	P= 0
Learning Resources				
1	Text Books	1. "Blockchain For Dummies", Tiana Laurence, Publisher: Wiley, 1 January 2019 2. "Blockchain Basics: A Non-Technical Introduction in 25 Steps", Authors: Drescher, Daniel, ©2017, Publisher: Apress 3. "Blockchain: Blueprint for a New Economy", Melanie Swan, ©2015, Published by O'Reilly Media 4. "Blockchain for Business with Hyperledger Fabric", Nakul shah, ©2019, bpb publication		
2	Reference books	1. "Basics of Blockchain: A guide for building literacy in the economics, technology, and business of blockchain" : 26 August 2019; by Tom Serres (Author), Bill Wagner (Author), Bettina Warburg (Author) 2. "Essentials of Blockchain Technology", Edited By Kuan-Ching Li, Xiaofeng Chen, Hai Jiang, Elisa Bertino; Copyright Year 2020 3. Solidity Programming Essentials: A beginner's guide to build smart contracts for Ethereum and Blockchain; by Ritesh Modi		
3	Websites	1. https://www.blockchain-council.org/ 2. https://www.ibm.com/in-en/blockchain/getting-started 3. https://www.geeksforgeeks.org/ 4. https://hackernoon.com/		
4	Journals	4. "Bitcoin: A Peer-to-Peer Electronic Cash System" Satoshi Nakamoto October 31, 2008 5. "Scope for the Application of Blockchain in the Public Healthcare of the Russian Federation", Koshechkin K.A., Klimenko G.S., Ryabkov I.V., Kozhin P.B. , ScienceDirect Procedia Computer Science 126 (2018), Pg. No. 1323–1328 , International Conference on Knowledge Based and Intelligent Information and Engineering Systems, KES2018, 3-5 September 2018, Belgrade, Serbia 6. "Reputation-based Byzantine Fault-Tolerance for Consortium Blockchain" Kai Lei*, Qichao Zhang, Limei Xu, Zhuyun Qi † Shenzhen Key Lab for Information Centric Networking & Blockchain Technology (ICNLAB) School of Electronics and Computer Engineering (SECE) Peking University, Shenzhen 518055, P.R. China, 978-1-5386-7308-9/18/\$31.00 ©2018 IEEE 7. "Identity Verification and Management of Electronic Health Records with Blockchain Technology", Yiheng Liang Department of Computer Science Bridgewater State University Bridgewater, Massachusetts, United States of America, 978-1-5386-9138-0/19/\$31.00 ©2019 IEEE		

		8. ComChain: Bridging the Gap Between Public and Consortium Blockchains Guillaume Vizier, Vincent Gramoli University of Sydney vincent.gramoli@sydney.edu.au, 978-1-5386-7975-3/18/\$31.00 ©2018 IEEE
5	Practical Component	1. Implementation of Basic Blockchain Structure 2. Development of Smart Contracts

Semester	IV	Total Credit	4		
Course Code	CC404	Credit Pattern	L-45, T-8, P-7		
Course Title	Web Development using ASP.net				
Course Objectives					
1	To provide the knowledge on developing internet applications and how to design and implement complete applications over the web using web form and MVC technology.				
2	Giving the students a quick review on web servers, client side programming, server side programming and various web technologies.				
3	Giving the students depth knowledge about database management using ADO.net and entity framework technologies				
4	Giving the students hands on exercise on developing ASP.net MVC applications.				
Course Outcomes: The students will able to					
1.	Create web applications using different web application templates.				
2.	Database management using ADO.net and entity framework technologies				
3.	Use various ASP.net server controls like navigation and validation controls				
4.	Implement web application using MVC architecture				
Unit Number	Contents			Number of Sessions	
1	Introduction to web applications - Introduction, understanding role of web server and web browser, HTTP protocol working, Request processing life cycle, ASP.net introduction, ASP.net application life cycle, ASP.net page life cycle. ASP.net architecture, Introduction to various types of Asp.net web applications – web form application, ASP.net web site, MVC application, isvalid and auto postback properties of page. Creating web application in IIS, Converting file system application to IIS application, Using virtual directory			L= 11	
				T=2	P= 2
2	ASP.net server controls – Difference between HTML and ASP.net server controls, ASP.net server controls- button, Textbox, Labels, checkbox, RadioButton, list and other web server controls, web config and global.asax files. Introduction to MasterPage, ContentPlaceHolder and Content tags, Accessing controls of MasterPage in ContentPage, validation controls, Navigation controls, State management- Using view state, session state, application state, cache management			L= 12	
				T= 2	P= 1
3	Managing Database with ADO.Net Entity Framework – ADO.net with web applications, Entity data model, Data manipulation with Entity framework			L= 11	
				T= 2	P= 2
4	ASP.net MVC- overview, Architectural elements, Controllers, views and models, ASPX view engine, Razor view engine, HTML helpers, Annotations, Scaffolding			L=11	
				T= 2	P= 2
Learning Resources					
1	Text Books	• Murach’s ASP.NET 4 Web Programming with C# 2010, 4th Edition, Anne Boehm, Joel Murach, SPD. • Beginning ASP.NET 4 in C# and VB, I. Spanjaars, Reprint 2011 • Addison Wesley –C# Developers Guide to ASP.Net			
2	Reference books	• ASP.NET 4.0 programming, J. Kajilal, Tata McGaw-Hill • Programming ASP.net, D. Esposito, Microsoft Press (Dreamtech), Reprint 2011.			
3	Websites	• tutorialspoint.com • cplusplus.com			
4	Journals	• International Journal of Computer Science and Mobile Computing			
5	Supplementary Reading	• ASP.NET projects- Building 10 Enterprise Projects- Eric A. Smith • Various MOOC courses material on ASP.net			
6	Practical Components	• List of experiments to be executed during laboratory hours			

Semester	IV	Total Credit	4		
Course Code	CC 405	Credit Pattern	L-45, T-7, P-8		
Course Title	ADVANCED JAVA				
Course Objectives					
1	To introduce a student to an entirely a new way to build distributed, desktop and mobile applications.				
2	To provide a student with the solid foundation of the syntax and semantics of java Programming as well as application architecture, data access technology geared to facilitate the development of distributed systems.				
3	To familiarize the student with the development of N-tier web-based applications				
4	To inculcate the skills among student for developing application in par with industry standards.				
5	To familialize student with MVC archiecture and OR mapping tools				
Course Outcomes: Students will be able to;					
1	To design two-tier, three-tier and scalable N-tier web applications.				
2	To design java applications employing various middle tier technolgies.				
3	To design applications by integrating struts2 and hibernate technologies.				
4	To explore dependendency injection and aspect oriented programming features of Spring framework.				
5	To design applications by integrating struts2, hibernate and spring technologies.				
Unit Number	Contents			Number of Sessions	
1	Presentation Tier Technologies Java Servlets: Servlet basics, servlet life cycle , Generic and HTTP servlets, The Servlet API, javax.servlet and javax.servlet.http package, session tracking using session and cookies, web deployment descriptor, web.xml. databases. Request dispatching. JSP(Java Server Pages: Introduction to JSP, Use of JSP, JSP Architecture, JSP tags, Implicit and Explicit objects, Request forward, Request –time include ,use of Beans in JSP and their scopes. Introduction to Eclipse IDE.			L= 12	
				T= 2	P= 2
2	RMI, XML and Java Beans Remote Method Invocation–Introduction , architecture, defining remote objects, creating stubs and skeleton, object serialization, dynamically loaded classes, RMI activation, registrating remote objects, marshaled objects. Introduction to XML for Java, XML processors, costruction & generating XMLdocuments, manipulating DOM structure, Interfacing Databases & XML. Introduction to XSL and XSL syntax. Java Beans: Basics of designing JavaBeans, Java Bean design patterns, creating and using properties, using events to communicate with other components. Introduction to BDK. Parts of BDK. Deploying Java Beans in BDK.			L= 11	
				T= 2	P= 2

3	Struts MVC Framework Struts Framework: An introduction to Struts, building a simple struts application. Action Servlet, Model, view and Controller layers, validator, declarative exception handling, Introduction to struts tag libraries and struts configuration files. Internationalization. AJAX with Struts 2.	L= 11	
		T= 2	P=2
4	Hibernate and Spring Framework Integrating and configuring hibernate. ObjRelation Mapping, Building a simple application. Persistence life cycle. Spring API libraries, Designing spring applications. Spring persistence using JPA. Spring web flow, Using spring MVC to build web pages. Spring plugins for Eclipse. Spring application development using Eclipse IDE.	L= 11	
		T= 1	P= 2
Learning Resources			
1	Text Books	1. Orfali, "The essential Distributed Object Survival Guide".Java 8 Programming Black Book 2. A Complete Reference Struts (Second Edition) - JamesHomes. Tata McGraw-Hill Edition. 3. Struts 2 - Black Book. (Second Edition). Kogent Solutions Inc. dreamtech press. 4. Craig Walls, Spring in Action, Manning Publications; 4th edition 5. Yogesh Prajapati, Vishal Ranapariya Java Hibernate Cookbook, Packt Publishing	
2	Reference books	i. 6. Thinking in Java, Bruce Eckel,, Addison – Wesley, ISBN: 9814035750 7. Java 2 Programming Black Book by Steven Holzner, Dream Tech Publication 8. A Programmer’s Guide to Java SCJP Certification: A Comprehensive Primer By Khalid Azim Mughal, Rolf Rasmussen 9. Inside Java 2 Virtual Machine by Venners Bill, Mcgraw Hill Education 10. Learning Java by Jonathan Knudsen, Patrick Niemeyer, O’Reilly Media.	
3	Websites	11. https://www.javatpoint.com/servlet-tutorial 12. https://www.tutorialspoint.com/jsp/index.htm 13. https://www.journaldev.com/2310/struts-2-tutorial 14. https://www.tutorialspoint.com/hibernate/index.htm 15. https://www.javatpoint.com/spring-tutorial	
4	Journals	16. https://www.journaldev.com/3557 17. International Journal of Computer Science and Mobile Computing - ISSN 2320–088X 18. https://www.pcmag.com 19. https://ieeexplore.ieee.org	
5	Practical Component	a. b. Practical lab excercises based on Units I to IV	

Semester	IV	Total Credit	4
Course Code	DSE- V DS- III	Credit Pattern	L-48, T-4, P-8
Course Title	MACHINE LEARNING WITH PYTHON		
Course Objectives			
1	Provide a concise introduction to the fundamental concepts in machine learning and popular machine learning algorithms		
2	To familiarize various python data structures and python libraries for machine learning		
3	To Provide a concise introduction to the fundamental concepts in machine learning and popular machine learning algorithms		
4	To Provide working knowledge of neural networks and deep learning		
Course Outcomes: After successful completion of the course, the students would be able to			
1.	Identify and explain various concepts of machine learning		
2.	Use various python data structures and python libraries for machine learning		
3.	Analyze and choose supervised and unsupervised machine learning algorithms.		
4.	Students will learn to implement, construct, and validate their own neural network		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Fundamentals Data Analysis: python libraries for machine learning – Numpy, matplotlib, Pandas, Scikit-learn, Scipy, Tensor –flow, Keras Data Analysis: Cleaning Data, Filtering Data, Advanced Grouping, Pivot Tables Data Visualization :Plotting with Matplotlib Scatter Plots Histograms & Bar Plots Custom Visualizations	L= 12	
		T=1	P= 2
2	Fundamental of machine learning:Types of learning – supervised, unsupervised and Reinforcement, Bias and variance hypothesis space and inductive bias, evaluation, cross-validation. Regression – Linear, Non-linear, Simple and Multiple regression, and their applications, model evaluation and accuracy Overfitting & Underfitting, Implementation of regression on dataset using python.	L= 12	
		T= 1	P= 2
3	Classification and Clustering: Classification: KNN, Decision trees, Random forest, Logistic Regression, Support Vector Machine, Neural Network as classifier, classification accuracy metrics. Implementation of classification algorithms in python. Clustering: Different clustering approaches- partition based clustering, hierarchical clustering and density based clustering. Implementation of clustering algorithms.	L= 12	
		T= 1	P= 2
4	Deep Learning : Neural Networks , Activation functions type of ANN: MLP's, CNN, RNN ,Activation functions, Shallow Neural Network , Deep Neural Network , Introduction to Tensor Flow, Keras Framework.	L=12	
		T= 1	P= 2

Learning Resources

1	Text Books	- Machine Learning. Tom Mitchell. First Edition, McGraw- Hill, 1997. - Introduction to Machine Learning Edition 2, by Ethem Alpaydin - Python for Data Analysis: Data Wrangling with Pandas, NumPy, and IPython Book by Wes McKinney - Goodfellow, I., Bengio, Y., and Courville, A., Deep Learning, MIT Press, 2016.
2	Reference books	- Python Machine Learning by Sebastian Raschka - Introduction to Machine Learning with Python - A Guide for Data Scientists, Publisher: Shroff Publishers & Distributors Pvt Ltd - Satish Kumar, Neural Networks: A Classroom Approach, Tata McGraw-Hill Education, 2004.
3	Websites	www.python.org machinelearningmastery.com tutorialspoint.com

4	Journals	1. IEEE xlore digital library 2. International journal of machine learning and computing
5	Supplementary Reading	1. <u>Building Machine Learning Systems with Python</u> - Willi Richert, Luis Pedro Coelho 2. <u>Learning scikit-learn: Machine Learning in Python</u> - Raúl Garreta, Guillermo Moncecchi
6	Practical Components	Implementation of supervised and unsupervised machine learning algorithms using python

Semester	IV	Total Credit	4
Course Code	DSE-V NS-III	Credit Pattern	L-48, T-12, P-0
Course Title	CLOUD COMPUTING		
Course Objectives			
1	To understand the concept of Virtualization and design of cloud Services		
2	To understand cloud computing technologies.		
3.	To introduce the broad perceptive of cloud architecture and model To learn to design the trusted cloud Computing system		
4.	To introduce the fundamental ideas of the cloud computing model and its origin		
5.	To introduce the broad perceptive of cloud architecture and model To learn to design the trusted cloud Computing system		
6.	To understand the features of cloud simulator		
Course Outcomes: The students will able to			
1.	identify the architecture and delivery models of cloud computing.		
2.	identify infrastructure.		
3.	understand security, privacy and interoperability issues.		
4.	select suitable cloud player		
5.	apply suitable virtualization concept		
6.	implement cloud services and set a private cloud		
Unit Number	Contents		Number of Sessions
1	Introduction to cloud computing: Cloud computing definitions, History of cloud, Characteristics and Principles of cloud, SaaS Maturity Model, commercial cloud offerings, cloud storage, live migration, ISO image, Layers and types of clouds, Challenges, Service Models, opportunities and challenges, advantages and disadvantages of cloud computing, Comparison of Cloud computing, Cluster computing and Grid computing; Applications: Technologies and process required when deploying Web services. Service Oriented Architecture (SOA), WSDL structure, protocols used in SOA, web service integration, service catalogs,. Cloud Computing Architecture: Cloud Interoperability and standards, Scalability and Fault tolerance, System Models for Distributed and cloud computing –NIST cloud computing reference model. Cloud Cube Model, Cloud Reference Model, Cloud Models – Service Model(Iaas, Paas, Saas), Deployment Model,		L= 15
			L=12 T=3
2	Cloud Computing Costs – Right sizing, auto scaling, vertical scaling Vs horizontal scaling, service level agreement, service credits, defining licensing models. Capacity planning, steps in capacity planning, baseline measurements, resource ceiling, server instance types, measuring network capacity. Virtualization: Introduction to Virtualization, Characteristics of virtualization, Virtualization and Cloud Computing, Pros and Cons of Virtualization, Types of Virtualization- Implementation Levels of Virtualization - Virtualization Structures - Tools and Mechanisms - Virtualization of CPU, Memory, I/O Devices . Fundamental concepts of compute ,storage, networking, desktop and application virtualization, Virtualization benefits, server virtualization, Infrastructure Requirements , Virtual LAN(VLAN) and Virtual SAN(VSAN) and their benefits ,Load balancing, benefits of load		L= 15
			L=12 T= 3

	balancing, load balancing algorithms, hypervisor (virtual machine monitor), types of hypervisors, machine imaging, porting applications, challenges in porting applications, simple cloud API, AppZero virtual Application Appliance.		
3	Cloud Infrastructure: Cloud Application Platform: Aneka Framework Overview, Building Aneka Clouds: Infrastructure Organization, Logical Organization, Platform Deployment: Private Cloud Deployment Mode, Public Cloud Deployment Mode, Hybrid Cloud Deployment Mode, Resource provisioning, Inter cloud resource management. Layered Cloud Architecture development, Cloud Security, OSI standard for security model, role and rule mangement, access control list, specific attacks, sniffing, spoofing, phishing, pharming (DNS Spoofing), cryptography, encryption, decryption, types of cryptography. Format of digital certificate, working of digital signature, Electronic money (Digicash), security mechanism in Digicash, types of electronic money, double-spending problem..	L= 15	
		L=12	T=3
4	Programming Model: Principles of Parallel and Distributed Computing, Paradigms: Map Reduce- Hadoop Library from Apache, Amazon Web Services (AWS), Parallel vs. Distributed Computing, centralized vs distributed systems, Difference between distributed and network operating system, Features and characteristics of distributed systems, distributed architectures, system models, Elements of Parallel Computing Hardware Architectures for Parallel Processing, Approaches to Parallel Programming ,Levels of Parallelism, classification of parallel computers, Flynn’s classification, dependency conditions, Berstein conditions for detection of parallelism, parallelism based on grain size, Handler’s classification, Components of a Distributed System , Architectural Styles for Distributed Computing , Models for Inter-Process Communication, Technologies for Distributed Computing: Remote Procedure Call.	L=15	
		L=12	T=3
Learning Resources			
1	Text Books	• Kumar Saurabh,”Cloud Computing”, Wiley Pub • Buyya Selvi,”Mastering Cloud Computing”, TMH pub. • Soninky, “Cloud Computing”, Wiley Pub. • Kurtz, Vines, “Cloud Security”, Wiley Pub.	
2	Reference books	• John W.Rittinghouse and James F.Ransome, “Cloud Computing: Implementation, Management, and Security”, CRC Press, 2010. • Kumar Saurabh, “Cloud Computing – insights into New-Era Infrastructure”, Wiley India, 2011. • George Reese, “Cloud Application Architectures: Building Applications and Infrastructure in the Cloud” O'Reilly • Katarina Stanoevska-Slabeva, Thomas Wozniak, Santi Ristol, “Grid and Cloud Computing – A Business Perspective on Technology and Applications”, Springer. • James E. Smith, Ravi Nair, “Virtual Machines: Versatile Platforms for Systems and Processes”, Elsevier/Morgan Kaufmann.	

3	Websites	• https://www.javatpoint.com/cloud-computing-tutorial • https://www.w3schools.in/cloud-computing/cloud-computing/ • https://data-flair.training/blogs/cloud-computing-tutorial/ • https://www.tutorialride.com/cloud-computing/cloud-computing-tutorial.htm • https://www.edx.org/learn/cloud-computing • https://www.coursera.org/browse/information-technology/cloud-computing
4	Journals	• Global Journals – Cloud and Distributed, ISSN Online 0975-4172, ISSN Print 0975-4350, DOI 10.17406/gjcst • International Journal of Cloud Computing, ISSN online 2043-9997, ISSN print 2043-9989 • Journal of Cloud Computing Advances, Systems and Applications, ISSN: 2192-113X (Online) (Springer) • International Journal of Cloud Applications and Computing (IJCAC), ISSN: 2156-1834 EISSN: 2156-1826 DOI: 10.4018/IJCAC
5	Supplementary Reading	• https://en.wikipedia.org/wiki/Cloud_computing • https://www.geeksforgeeks.org/cloud-computing/ • https://www.tutorialspoint.com/cloud_computing/ • https://www.guru99.com/cloud-computing-for-beginners.html
6	Practical Components	• Case Studies • Lab Assignments Sample Case Studies: A case study on cloud storages, - o OneDrive - o Google Drive • A case study on Google App Engine • A case study on determining cloud computing cost. • A case study based on detection of parallelism Lab assignments based on virtualization Installing VMware Workstation Installing Oracle VM Virtual Box and creating virtual machines.

Semester	IV	Total Credit	4
Course Code	DSE-VI DS- IV	Credit Pattern	L-45, T-8, P-7
Course Title	BIG DATA ANALYTICS		
Course Objectives			
1	To master the concepts of HDFS and MapReduce framework		
2	To introduce Hadoop 2.x Architecture		
3	To introduce data loading techniques using Sqoop and Flume		
4	To familiarize the student with data loading and data analytics		
5	To understand HBase and MapReduce integration		
Course Outcomes			
After completion of this course the student will be able to:			
1	Master data loading techniques using Sqoop and Flume.		
2	Setup Hadoop Cluster and write Complex MapReduce programs		
3	Perform data analytics using Pig, Hive and YARN		
4	Implement best practices for Hadoop development		
5	Implement Advanced Usage and Indexing		
6	Schedule jobs using Oozie		
7	Work on a real life Project on Big Data Analytics		
Unit Number	Contents		
1	Big Data Overview, data science, rising and importance of data sciences, big data analytics in industry verticals. Sources of Big Data, 3 V's of Big Data, Benefits of Big Data, Big Data Technologies, classes of Big Data Technologies, Challenges of Big Data, Business Understanding, Data Understanding, Data Preparation, Modeling, Evaluation, Communicating results, Deployment. Overview & analytics life cycle, Need, Structured and multi-structured data analysis, Big-data analytics major components, Analytical models and approaches, Relational and non-relational Databases, Application areas, Design and analysis of Analytics model-Analytics design steps, Understanding different data processing models, Statistical models, Predictive models, Descriptive models. (15)		
2	Introduction to MapReduce and HDFS. The Hadoop & Tez Ecosystems(Batch Processing),, Hadoop Architecture, Hadoop Modules, Advantages of Hadoop, Hadoop Operation Modes, HDFS Concepts, HDFS Data Node and Name Node images, HDFS Read Image and HDFS Write Image, Secondary Name Node, Hadoop configuration files, MapReduce& HDFS Framework, Yarn, Tez Framework & Internals Task Parallelization for Hadoop (Models), Hadoop Physical & Logical Resource Requirements. Downloading and installing the Ubuntu12.x, Installing Java, Installing Hadoop, Verifying Hadoop Installation, Creating Cluster, Increasing Decreasing the Cluster size, Monitoring the Cluster Health, Starting HDFS, Starting and Stopping the Nodes. HDFS basic file operations. HDFS commands. The new multi-platform analytical ecosystem. Beyond the data warehouse – Hadoop, NoSQL and analytical RDBMSs, NoSQL DBMSs, Key Value stores, , introduction to MongoDB, Document DBMSs, Column Family DBMSs and Graph databases, Introduction to Hive, hive data types, hive partitioning, hive DDL commands, DML commands (15)		
3	Introduction to Apache PIG, Features of PIG, Introduction to PIG Data Flow Engine, MapReduce vs PIG, SQL vs PIG, PIG Architecture, Components of Apache Pig, Pig Latin Data Model, Pig Data Types, Basic PIG programming, Pig Operators, Pig Diagnostic Operators, Grouping by multiple columns, Co-group operator, join operator, types of joins, cross operator, union operator, split operator, filter operator, distinct operator, foreach operator, orderby operator, limit operator, Modes of Execution, Introduction to SQOOP, Connect to mySql database, SQOOP import and export commands and Joins in SQOOP, Export to MySQL and HBase. (15)		
4	Introduction to HIVE, HIVE Meta Store, HIVE Architecture, Tables in HIVE, Managed Tables, External Tables, Hive Data Types, Primitive Types, Complex Types, Partition, Joins in HIVE, HIVE UDF's and UADF's with Programs. Introduction to HBASE, Limitations of Hadoop, HDFS vs HBase, Basic Configuration of HBASE, Fundamentals of HBase, HBase Data Model, Table and Row, Column Family and Column Qualifier, Cell and its Versioning, Categories of NoSQL Data Bases, Key Value Database, Document Database, Column Family Database, HBASE Architecture, HMaster Region Servers, Regions, MemStore, HDFS vs HBase, Client side buffering or bulk uploads, HBase Designing Tables, HBase Operations, HBase shell		

		(15)
Learning Resources		
1	Text books	1. Baesens Bart, Analytics In A Big Data World: The Essential Guide To Data Science And Its Applications, Wiley Publisher. Java 8 Programming Black Book 2.. AmbigaDhiraj, Michael Minelli, and Michele Chambers, Big Data Big Analytics: Emerging Business, Wiley CIO Series. Core Java Vol. II (Addison- Wesley) Sun Press ISBN – 981-4058-50-5
2	References	1. Kord Davis, Ethics of Big Data: Balancing Risk and Innovation, O'Reilly. 2. Tom White, Hadoop – A Definitive Guide, O'Reilly. 3. Alan Gates, Programming Pig - Dataflow Scripting with Hadoop, O'Reilly. 4. Jarek Jarcec Cecho and Kathleen Ting, Apache Sqoop Cookbook: Unlocking Hadoop for Your Relational Database, O'Reilly. 5. Lars George, HBase: The Definitive Guide, O'Reilly. 6. Dean Wampler, Edward Capriolo, and Jason Rutherglen, Programming Hive, O'Reilly. 7. Flavio Junqueira, Benjamin Reed, ZooKeeper Distributed Process Coordination, O'Reilly. 8. Hari Shreedharan, Using Flume - Flexible, Scalable, and Reliable Data Streaming, O'Reilly Media Java 2 Programming Black Book by Steven Holzner, Dream Tech Publication

Semester	IV	Total Credit	4
Course Code	DSE-VI NS-IV	Credit Pattern	L-45, T-8, P-7
Course Title	DATABASE AND WEB SECURITY		
Course Objectives			
1	To understand the fundamentals of data models and conceptualize and depict a database system using ER diagram		
2	To make a study of SQL and relational database design		
3	To know about data storage techniques and query processing		
4	To impart knowledge in transaction processing, concurrency control techniques and recovery procedures		
5	To Understand the specialized Databases Course Outcome: At the end of the course, the students will be able to • Understand the basic concepts of the database and data models • Design a database using ER diagrams and map ER into Relations and normalize the relations • Evaluate the performance of DBMS using different types of Queries • Develop simple database applications using normalization • Analyze different special purpose databases and to critique how they differ from tradition		
Course Outcomes			
1	Understanding the database concept and structure, data modeling and development process.		
2	Construct and normalize conceptual data models.		
3	Implement a relational database into a database management system		
4	Use database management system(Oracle SQL Plus).		
5	Become proficient in using query language(SQL).		
Unit Number	Contents		
1	Introduction to Database, Levels of Database Security - Human level, network/user interface, database application program, database system, operating system, and physical level, Authentication and Password Security, Application Security – SQL Injection.		
2	Securing Database-to-Database Communication, Trojans, Encryption, Passwords in scripts, insider/outsider attacks, users, programmers, super users, information leakage.		
3	Introduction to Web Applications and Security, Profiling, Hacking Web Servers, the Threats – Classes of threats, the Hacker’s Workbench, Cryptography and the Web, Digital Identifications.		
4	Privacy- protecting techniques, privacy- protecting technologies, Backups and antitheft. Web Server Security – Host security for servers, .. Securing web applications. Protecting an organization – Network layout, safe hosts in a hostile environment, Intrusion detection.		
Learning Resources			
1	Text books	1. Baesens Bart, Analytics In A Big Data World: The Essential Guide To Data Science And Its Applications, Wiley Publisher.Java 8 Programming Black Book 2.. AmbigaDhiraj, Michael Minelli, and Michele Chambers, Big Data Big Analytics: Emerging Business, Wiley CIO Series.Core Java Vol. II (Addison- Wesley) Sun Press ISBN – 981-4058-50-5	
2	References	Joel Scambray, Mike Shema, Caleb Sima, Hacking Exposed Web Applications, Second Edition • Simson Garfinkel, Gene Spafford, Web Security, Privacy & Commerce, Second Edition • Mike Shema, HackNotes(tm) Web Security Pocket Reference	

		• William R. Cheswick , Steven M., Bellovin, Aviel D. Rubin ,Firewalls and Internet Security • Matt Bishop, “Computer Security: Art and Science”, Pearson Education. • Fundamentals of Database Systems (3rd Ed.) - R.Elmasri, S. Navathe • An Introduction to database systems (5th Ed.) - C. J. Date • Database system concepts – H. Korth , A. Silberschatz 9.

Semester	IV	Total Credit	2
Course Code	AEC - V	Credit Pattern	L-48, T-12, P-0
Course Title	INTERNET OF THINGS		
Course Objectives			
1	Provide an overview of concepts, main trends and challenges of Internet of Things.		
2	Get knowledge of IoT Key Technologies such as RFID, Wireless Networks etc.		
3.	To make students aware of Internet of Things applications.		
4	Develop skills related to the IoT technologies for practical IoT applications.		
Course Outcomes: The students will able to			
1.	Explain and interpret the Internet of Things concepts and applications.		
2.	Use the knowledge and skills acquired during the course for the design of simple IoT		
3.	Analyze applications of IoT in real time scenario		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Fundamental IoT Mechanisms & Key Technologies Introduction, IoT Frameworks, Enabling Technologies of IoT , Sensing and actuating Technology, Basic Nodal Capabilities, Identification of IoT objects and services, Structural aspects of the IoT- Traffic characteristics, Scalability, Interoperability, Security and Privacy, Open architecture, Key IoT Technologies - Device Intelligence, Communication Capabilities, Mobility support, Device Power, Sensor Technology, RFID technology, Satellite Technology	L= 12	
		T=3	P= 0
2	Radio Frequency Identification Technology and Wireless Sensor Networks: RFID - Introduction, Principles of RFID, Components of an RFID System, Reader, RFID tags, RFID middleware Wireless Sensor Networks – Node communication, Node Computation, Node Sensing, Connecting Nodes, Networking Nodes, Securing Communication Technologies for IoT Connectivity	L= 12	
		T= 3	P= 0

Learning Resources

1	Text Books	- Hakima Chaouchi, The Internet of Things: Connecting Objects to the Web, Wiley Publications - Daniel Minoli, Building the Internet of Things with IPv6 and MIPv6 The Evolving World of M2M Communications, Wiley Publications
2	Reference books	- Bernd Scholz-Reiter, Florian Michahelles, Architecting the Internet of Things, Springer - Olivier Hersent, David Boswarthick, Omar Elloumi, The Internet of Things: Key Applications and Protocols, 2nd Edition, Wiley Publications - Parikshit N. Mahalle & Poonam N. Railkar, "Identity Management for Internet of Things", River Publishers - Jan Holler, Vlasios Tsiatsis, Catherine Mulligan, Stefan Avesand, Stamatis Karnouskos, David Boyle, From Machine-to-Machine to the Internet of Things: Introduction to a New Age of Intelligence, 1st Edition, Academic Press, 2014.
3	Websites	https://www.javatpoint.com/iot-internet-of-things https://www.guru99.com/iot-tutorial.html https://www.geeksforgeeks.org/introduction-to-internet-of-things-iot-set-1/
4	Journals	- IEEE Internet of Things Journal, ISSN: 2327-4662 https://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=6488907 - Internet of Things, Elsevier, ISSN: 2542-6605 - Discover Internet of Things, ISSN: 2730-7239

5	Supplementary Reading	• Internet of Things (IoT) Tutorial, https://www.tutorialspoint.com/internet_of_things/index.htm • IoT Tutorial for Beginners, https://data-flair.training/blogs/iot-tutorial/
6	Practical Components	• https://developer.ibm.com/technologies/iot/tutorials/ • https://www.robolab.in/list-of-practicals-for-internet-of-things-iot/

**CHHATRAPATI SHAHU INSTITUTE OF
BUSINESS EDUCATION AND RESEARCH (CSIBER),
(AN AUTONOMOUS INSTITUTE)**

UNIVERSITY ROAD, KOLHAPUR - 416 004 (M. S.), INDIA



**STRUCTURE AND SYLLABUS OF
M.Sc.(Computer Science)
Faculty of Science – Under NEP 2020**

TO BE IMPLEMENTED FROM ACADEMIC YEAR- 2023-24

CURRICULUM OF M. SC. (Computer Science) PROGRAMME

The M. Sc. (Computer Science) is a Full Time Programme of Two-year duration and is divided into four semesters. Semester I & II will be taught in the First Year of the programme and Semester III & IV during the second year of the programme with a provision of exit after successfully completion of first year with Post Graduate Diploma in (Computer Science) and also re-enter the same programme to Second year of M.Sc. (Computer Science) with existing syllabus to earn his / her Master's degree within five years from the date of admission of first year.

PROGRAMME OBJECTIVE:

To develop a comprehensive and advanced knowledge of Computer Science there by enabling graduates to perform more effectively in the work place as well as to enhance their research capability.

ELIGIBILITY FOR ADMISSION:

1. A candidate for being eligible for admission to M.Sc. (COMPUTER SCIENCE) programme (Faculty of Science) must have passed under 10+2+3 pattern with B.C.S., B.Sc. (Computer Science) Degree, B.Sc.(Computer Technology / IT), B.Sc. (Mathematics), B.Sc. (Statistics) , B.Sc.(Electronics), B.Sc.(Physics), B.C.A. (Science Faculty) or B. Sc. Having computer as one of the subject at graduation level Examination of the Shivaji University or any other University recognized by A.I.U. (Association of Indian Universities) with minimum of 50% marks at the final year of examination are eligible to take admission to First year from the academic year 2023-24 and directly to second year, passed with four years of Graduation from the academic year 2027-28.

2. The admission to M.Sc. programme (First Year) will be made on the basis of entrance test conducted by the Institute.

3. The knowledge of Mathematics, Statistics or quantitative techniques up to the level of 12th std. is desirable.

TOTAL INTAKE: 30

Reservation:

Reservation for special categories such as SC, ST, NT, OBC, etc. will be as per the prevailing rules & regulations of Government of Maharashtra.

Direct Admission to Second Year:

Students who have completed four years of Degree Programme can be admitted to directly second year of the PG Programme based on merit, depending upon availability of vacant seats.

DURATION:

M.Sc. (Computer Science) is a full time programme of **TWO** Years duration. The programme consists of Four Semesters. The examination to be held in the First and Second Semester will be called Part – I (First Year) and the examination to be held in the Third and Fourth Semester will be called Part – II (Second Year)

If a candidate fails to clear all heads of passing within **FIVE** years of his/her first year registration, the past performance will stand automatically nullified.

If a candidate discontinues any of the terms (i.e. Semester – I to IV) on any account, will be allowed to complete the incomplete terms in the subsequent years subject to it is within the stipulated time duration of **FIVE** years.

In addition to the above, once a student's term (Semester) is granted, he/she shall be allowed to appear and pass in any of the subsequent examinations held, provided the examinations are within the stipulated period of **FIVE** years.

After taking the admission for FIRST YEAR and the Semester term (Semester – I or II) is NOT granted in this case the student has to seek fresh admission in the next year and complete the term and pass the examination also within **FIVE** years of his/her registration. After taking the admission for FIRST YEAR and the Semester term (Semester – I and II) is NOT granted in this case student performance will be nullified.

After taking the admission for SECOND YEAR and the Semester term (Semester – III and IV) is NOT granted in this case the student has to seek fresh admission in the next year and complete the term and pass the examination also within **FIVE** years of his/her first year registration.

Programme Completion with Break in Between:

A student who has passed M.Sc. (Computer Science) – I and is seeking admission to M.Sc. (Computer Science) – II after a long gap (Provided the gap lies within the stipulated duration of **FIVE** years) should complete the programme **syllabus which is in existence** at the time he has sought the admission for the second year.

Award of degree:

At the end of each semester credits earned by the students will be uploaded Academic Bank Credits (ABC) of each student. Student can earn **M. Sc. (Computer Science)** degree on redemption of 88 earned credits or 44 credits for PG Diploma. After successful completion of four semesters of **M. Sc. (Computer Science)** mark list ledgers will be forwarded to the Shivaji University for the award of Master's degree (minimum of 88 Credits) and PG Diploma after completion of first year (minimum of 44 Credits).

General features of the programme under NEP:

- a) New structure will be implemented with effect from Academic Year 2023-24
- b) Credits offered per Semester will be a Minimum of 20 and a Maximum of 22
- c) **M. Sc. (Computer Science)** Programme is based on Major subjects.
- d) Electives selected in the **M. Sc. (Computer Science)** are Relevant to OR Supportive of the Major Subject chosen.
- e) The exit option at the end of one year of the **M. Sc. (Computer Science)** program will commence from AY 2024-25 with PG Diploma.
- f) The one-year **M. Sc. (Computer Science)** Program will begin with effect from Academic Year 2027-28.
- g) Re-entry to complete the **M. Sc. (Computer Science)**, after taking the exit option, will be permissible up to 05 years from the date of admission to the program as per the existing syllabus.

Credit Specification:

- i) Theory Course: A minimum of 15 hrs of teaching per credit is required in a semester.
- ii) Laboratory Course / Field Project: A minimum of 30 hrs in Laboratory activities per credit is required in a semester.

Outline of Programme Structure :

1. **Major Courses:** A course which should compulsorily be studied by a candidate as Core Course.
2. **Major Elective :** A course which should compulsorily be studied by a candidate which is in supportive of major course.
3. **Research Methodology :** Research Methodology course of 4 credits is Mandatory in the first semester.
4. **On Job Training (OJT) / Field Project :**
On Job Training as a part of Sem II of 4 credits (Equivalent to 120 hours) can be completed by

the students in any industry/ Organization after completion of Sem I Examination i.e during the Diwali vacation (15 days) or Field Project of 4 credits can be completed under the supervision of departmental faculty member. This includes collection of field-based data, analysis, interpretation, referencing, report writing, etc. in the functional area. One full day in week i.e @ of 8 hrs per day for 15 days (120 hrs.) is dedicated to field-based project.

5. Research Project (RP) – I: Research Project – I, of 4 credits as a part of Semester III is designed to acquire special/advanced knowledge in the field of computer science. Research Project (RP) is required to be completed by the student during the summer vacation over a period of 15 days (120 Hours) in any Industry / R & D organization under the supervision of a guide allotted by the Industry or Organization.
6. Research Project (RP) – II : Research Project (RP-Master Thesis) – II of 6 credits (180 Hrs) as a part of Semester IV is a research oriented work, and a candidate studies such a course on his with an advisory support by a teacher / faculty member.
7. Duration of each semester will be 15 weeks.

Credit Pattern:

Every course offered will have three components associated with the teaching-learning process of the course, namely

Lecture - L, Tutorial - T, Practice - P

Where, **L** stands for **Lecture** session, **T** stands for **Tutorial** Session consisting participatory discussion / self-study/ desk work/ brief seminar presentations by students and such other novel methods that make a student to absorb and assimilate more effectively the contents delivered in the Lecture classes and **P** stands for **Practice** Session and it consists of Hands on experience / Laboratory Experiments / Field Studies / Case studies that equip students to acquire the much required skill component.

M. Sc. (Computer Science) consists of all the three components with weightage depending upon the paper.

If a course is of 4 credits, then the different credit distribution patterns in L: T: P format could be:

Theory Papers: 3: 0.5: 0.5

Practical: 1: 0: 3.0

Programme Outcomes

1. Conceptual Knowledge

Nurturing a foundation of comprehensive understanding and analytical thinking.

2. Research and Innovation

Fostering a spirit of research and innovation among students for formulating novel solutions.

3. Collaborative Learning

Imbibing collaboration and leadership skills for individual growth and collective empowerment.

4. Problem Solving and Critical Thinking

Developing critical thinking skills for problem solving and innovative solutions to meet dynamic challenges.

PSO

1. Proficiency in core computing domains

Exhibit proficiency in core computing domains through life long learning.

2. Design of Computational Systems

Apply mathematical foundations, algorithmic principles, and computer science theory in modelling, design and implementation of computational systems.

3. Cutting-Edge Tools Usage

Demonstrate requisite hands-on skills to work with a variety of software tools and frameworks in development of real life projects bearing social relevance and ethics.

4. Proficiency in Application Domain:

Design and development of applications for varied domains and platforms including best practices and industry standards.

ASSESSMENT:

In each programme a course can be either full credit (4 credits) or half credit (2 credits). A full credit course shall be of 60 contact hours duration and a half credit course shall be of 30 contact hours duration.

For Theory paper of 100 marks (Four credits) the distribution of the marks will be as follows –

- Internal Marks i.e. Formative Assessment - 40 Marks
- External Marks i.e. End of Semester examination - 60 marks

For Theory paper of 50 marks (Two credits) the distribution of the marks will be as follows –

- Internal Marks i.e. Formative Assessment - 20 Marks
- External Marks i.e. End of Semester examination - 30 marks

Breakup of Internal Marks i.e. Formative Assessment-

Sr. No.	Head	Full Credit	Half Credit
1.	Class Participation	10 Marks	05 Marks
2.	Objective Test(Minimum One Test Per Unit)	10 Marks	05 Marks
3.	Seminar /Book Review/ Home Assignment/ Class Assignment	10 Marks	05 Marks
4.	Case Study / Term Paper	10 Marks	05 Marks
	Total	40 Marks	20 Marks

The final internal marks will be calculated using the heads shown in above table. **The internal marks obtained by the student have to be disclosed and signed by the student.**

For Practical examination of 40 marks there shall be three questions of 15 marks each, the student has to attempt any two questions and 10 marks reserved for journal.

- Journal marks - 10 Marks
- Practical Marks i.e. End examination - 30 Marks

The practical examination should be considered as one head of passing i.e. 50% marks.

For the Research Project /Field Project of 100 marks, the distribution of the marks will be as follows –

- Internal Examiner - 30 Marks
- External Examiner - 30 Marks
- Project Report - 40 Marks

Sem III – Internship Project Evaluation (4 credits)

Students are required to complete one month internship after Semester II examination and evaluation of the same will be at the end of Semester III. (4 credits)

End of Semester Evaluation (60 Marks)			
	Presentation	Viva	Marks
Internal Examiner	15	15	30
External Examiner	15	15	30
Total			60
Internal Evaluation (40 Marks)			
Project Report			10
Mentor evaluation based on attendance & Progress report			10
Industry Confidential Report			20
Total			40

Semester Integrated – Semester IV – Research Project (Master Thesis) 6 credit project work

Project group size – Max 3

End of Semester Evaluation (60 Marks)			
	Presentation	Viva	Marks
Internal Examiner	15	15	30
External Examiner	15	15	30
Total			60
Internal Evaluation (40 Marks)			
Attendance			10
Progress Report			10
Project Report			20
Total			40

For Theory Paper Assessment

1. The assessment of papers will be done by an Internal and External examiner. A difference of more than **20%** in the marks awarded by these examiners would necessitate the valuation of these papers by the Third examiner. The **‘nearest’** highest marks will be considered for determining the average mark of such papers.

2. Once the Student is passed in the internal head of passing (Formative Assessment out of 40) and marks report submitted to the examination department are not changed in any case, the same should be carried forward whenever required.
3. The students who failed in the internal head of passing (Formative Assessment out of 40) should reappear for the same and the revised marks will be considered for further calculation.
4. There shall be FIVE questions (20 marks each) in question paper and student has to attempt any THREE questions. The detailed question paper nature is included in the syllabus.

STANDARD OF PASSING:

1. In order to pass in each passing head, a candidate should obtain 50% in the internal marks (Formative Assessment), 40% marks in theory, and minimum of 50% of the marks in aggregate in passing head.
2. To pass the M.Sc.(CS). examination, a candidate will have to pass in all Four Semester in Two Parts i.e. Part – I (Semester – I to II) and Part – II (Semester – III & IV)
3. To pass the Research Project /Field Project a candidate must obtain a minimum of 50% of the total marks. If a candidate fails in the seminar / project report/ term paper and its viva-voce, he/she will be required to complete the particular seminar / project report/ term paper and its viva-voce as a fresh candidate in the subsequent year.
4. A candidate from first year M.Sc.(CS) will be eligible to proceed to the semester III ,if he/she is not having more than **THREE** courses backlog (25% of passing heads) from the first year (i.e. Semester I and II)
5. If student passed in the internal head (formative assessment) as well as theory examination but fails in aggregate (total) head of passing in that case student has to appear only for the theory examination.
6. If students fails in internal marks(formative assessment) and passed in the theory examination, in that case students has to complete the internal marks in next subsequent semester at that time student must clear the aggregate head of passing.
6. Semester Performance Index (SPI)/Cumulative Performance Index(CPI) will be as follows.

Grading System:

Full Credit 100 Marks

Grade Table for Trimester/Semester Examination

Marks Obtained	Letter Grade	Grade Point
96-100	S+	10.0

91-95	S	9.0
86-90	E+	8.5
81-85	E	8.0
76-80	O+	7.5
71-75	O	7.0
66-70	A+	6.5
61-65	A	6.0
56-60	B+	5.5
50-55	B	5.0
--	X	0.0
--	XX	---

Half Credit 50 Marks

Grade Table for Trimester/Semester Examination

Marks Obtained	Letter Grade	Grade Point
48 – 50	S+	10.0
46 – 47	S	9.0
43 – 45	E+	8.5
41 – 42	E	8.0
38 – 40	O+	7.5
36 – 37	O	7.0
33 – 35	A+	6.5
31 – 32	A	6.0
28 – 30	B+	5.5
25 – 27	B	5.0
--	X	0.0
--	XX	---

5. Final Result: For the final result of the student Cumulative Performance Index (CPI) based on total earned credits vis-à-vis total earned grade points shall be calculated will be as follows.

Total earned grade points / Total credits i.e. **88** credits.

Result		
CPI	Final Grade	Classification of Final Result.
9.0 – 10.0	E	Excellent
8.0 – 8.9	O	Out Standing
7.0 – 7.9	A+	Very Good
6.0 – 6.9	A	Good
5.5 – 5.9	B+	Average
5.0 – 5.4	B	Pass
0.0 – 4.9	X	Unsatisfactory (Fail)

Note: An aggregate of **5.0** credit points are required to pass the M.Sc. program.

CALCULATION OF PERFORMANCE INDICES:

A distinction of the performance of one student from the other student is rather impossible to carry out from the grades obtained by a student in all the courses taken by him in a semester/year. Hence, the evaluation of various courses is cumulated in two performance indices termed as semester performance index (SPI) and cumulative performance index (CPI), the explanation of which is given below:

Semester Performance Index (SPI):

The performance of a student in a semester is indicated by a number called Semester Performance Index (SPI). SPI is the weighted average of all the grade points obtained by him in all the courses registered during the semester. If G_i is a grade with numerical equivalent as G_i obtained by a student for the course with credit C_i then, SPI for that semester is calculated using formula.

$$SPI = \frac{\sum G_i C_i}{\sum C_i}$$

Where summation is for all the courses registered by a student in that Semester SPI is calculated to two decimal places and rounded off. SPI once calculated shall never be modified. Generally, for the students failed in regular examinations SPI is calculated only after the declaration of re-examination grades.

Cumulative Performance Index (CPI):

An up-to-date assessment of the overall performance of a student from the first semester till completion of the programme is obtained by calculating an index called as Cumulative Performance Index (CPI). The CPI is weighted average of the grade points obtained in all the courses registered by a student since the first semester of th

$$\text{CPI} = \frac{\sum_i C_i g_i}{\sum_i C_i}$$

Besides SPI, CPI is also calculated at the end of every semester upto two decimal places and is rounded off. It is necessary to ensure that one course appears only once in calculation of CPI and the denominator in above equation does not exceed the total number of credits registered by him.

GRACE MARKS UNDER DIFFERENT ORDINANCE.

S.O. No. 1:-Grace Marks for Passing in each head of Passing (Theory/Practical/Oral/ Sessional/External).

The Examinee shall be given the benefit of grace marks only for passing in each head of Passing Theory/Practical/Oral/Sessional/ in External examination as follows.

Head of Passing	Grace Marks
Up to – 50	2
051-100	3
101-150	4
151-200	5
201-250	6
251-300	7
301-350	8
351-400	9
And 401 and above.	10

Provided that the benefit of such gracing marks in different heads of passing shall not exceed 1% of the aggregate marks in that examination.

Provided further that the benefit of gracing of Marks under this Ordinance shall be applicable only if the candidate passes the entire examination of Semester.

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, UGC and Shivaji University etc.

S.O. No. 2:- Grace Marks for getting higher Class

A Candidate who passes in all the courses and heads of passing in the examination without the benefit of either gracing or condonation rules and whose total number of Marks falls short for securing Second Class/Higher Second Class or First Class by marks not more 1% of the aggregate marks of that examination or up to 10 marks, whichever is less, shall be given the required marks to get the next higher class of grade as the case may be.

Provided that benefits of above mentioned grace marks shall not be given, if the candidate fails to secure necessary passing marks in the aggregate head of passing also, if prescribed in the examination concerned.

Provided further that the benefits of above mentioned grace marks shall be given to the candidate for such examination/s only for which provision of award of class has been prescribed.

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, UGC and Shivaji University etc.

S.O. No. 3 Condonation

If a candidate fails in more than one head of passing, his/her deficiency of marks in such head of passing may be condoned by not more than 1% at the aggregate marks of the examination. However condonation, whether in one head of passing or aggregate head of passing be restricted to maximum upto 10 marks only.

Condonation of deficiency of marks be shown in the statement of Marks in the form of asterisk and Ordinance number

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, UGC and Shivaji University etc..

BACKLOG:

1. A candidate will be permitted to proceed to the second Semester even though he/she fails in one or more courses of the first semester, provided the first semester term is granted..
2. The students who have a backlog of not more than **THREE courses (25% of passing heads)** in the First year examination (Semester I & II) will be eligible to be admitted to the Second year (III Semester) of M.Sc. (Comp. Sci.)
3. A Candidate will be permitted to proceed to the Fourth Semester even though he/she fails in one or more courses of the third semester, provided the third semester term is granted.

NO VERIFICATION OF MARKS AND RE-EVALUATION:

As CSIBER adopted the double evaluation system as well as ONSCREEN evaluation system due to this the verification of marks and re-evaluation of Answer book facility is NOT available in CSIBER.

CHHATRPATI SHAHU INSTITUTE OF BUSINESS EDUCATION AND RESEARCH (CSIBER)

University Road, Kolhapur – 416 004

Out Line Theory Question paper for all the programmes

(Four Unit Course)

Class:

Course Name:

Time: Three hours

Paper no. :

Total marks: 60

INSTURUCTIONS:

1. Question no. 1 is **COMPULSORY**
2. Attempt any **ONE** from Q. No. 2 and Q. No. 3.
3. Attempt any **ONE** from Q. No. 4 and Q. No. 5.
4. Figures to right indicate **FULL** marks

		Marks
Q. 1)	Case Study	(20)
Q. 2)	Essay Type Question	(20)
Q. 3)	Essay Type Question	(20)
Q. 4)	a) Long Answer Question b) Long Answer Question	(10) (10)
Q. 5)	a) Long Answer Question b) Long Answer Question	(10) (10)

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CHHATRPATI SHAHU INSTITUTE OF BUSINESS EDUCATION AND RESEARCH (CSIBER)

University Road, Kolhapur – 416 004

Out Line Theory Question paper for all the programmes

(Two Unit Course)

Class:

Course Name:

Paper no. :

Time: Two hours

Total marks: 30

INSTURUCTIONS:

1. Question no. 1 is **COMPULSORY**
2. Attempt any **ONE** from Q. No. 2 and Q. No. 3.
3. Attempt any **ONE** from Q. No. 4 and Q. No. 5.
4. Figures to right indicate **FULL** marks

		Marks
Q. 1)	Case Study	(10)
Q. 2)	Essay Type Question	(10)
Q. 3)	Essay Type Question	(10)
Q. 4)	Long Answer Question	(10)
Q. 5)	Long Answer Question	(10)

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CHHATRPATI SHAHU INSTITUTE OF BUSINESS EDUCATION AND RESEARCH (CSIBER)
University Road, Kolhapur – 416 004

NATURE OF PRACTICAL QUESTION PAPER

Time : 2 Hours

Total Marks : 40

Instructions:

1. **Attempt any TWO questions.**
2. **10 Marks are reserved for journal**

		Marks
Q. 1)	ONE LONG QUSTION / DIVIDE QUESTION INTO TWO BITS	(15)
Q. 2)	ONE LONG QUSTION / DIVIDE QUESTION INTO TWO BITS	(15)
Q. 3)	ONE LONG QUSTION / DIVIDE QUESTION INTO TWO BITS	(15)

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M.Sc. (Computer Science)Course Structure(NEP 2020)**M.Sc.(Computer Science)Part-I Semester I**

Course Code	Course Name	Credits	Contact hours	Int./Pract. Marks	EOS marks	Total Marks
MCS-101	OperatingSystem & Computer Architecture	4	60	40	60	100
MCS-102	Python Programming (Lab)	4	60	40	60	100
MCS-103	Web Design & Development (Lab)	4	60	40	60	100
MCS-104	Design & Analysis of Algorithm	2	30	20	30	50
MCS-105	Research Methodology	4	60	40	60	100
ELCS-106	1 (a) Information Security & Cryptography 1 (b) Object Oriented Analysis and Design	4	60	40	60	100
Total		22	330	220	330	550

M.Sc.(Computer Science)Part-I Semester II

Course Code	Course Name	Credits	Contact hours	Int./Pract. Marks	EOS marks	Total Marks
MCS-201	Database Management System	4	60	40	60	100
MCS-202	Data and File Structures (Lab)	4	60	40	60	100
MCS-203	Dot NET Technology (Lab)	4	60	40	60	100
MCS-204	Data Mining	2	30	20	30	50
MCS-205	Field Project / OJT	4	120	40	60	100
ELCS-206	2 (a) Software Testing & Quality Assurance 2 (b) Ethical Hacking	4	60	40	60	100
Total		22	390	220	330	550

Exit option: PG Diploma (44 Credits) after successful completion of first year (Semester I and Semester II) of PG Degree

M.Sc.(Computer Science)Part-II Semester III

Course Code	Course Name	Credits	Contact hours	Int./Pract. Marks	EOS marks	Total Marks
MCS-301	Computer Communication Network	4	60	40	60	100
MCS-302	Software Engineering and Project Management (Lab)	4	60	40	60	100
MCS-303	Mobile Computing (Lab)	4	60	40	60	100
MCS-304	Cloud Computing	2	30	20	30	50
MCS-305	Internship Project & Viva	4	120	40	60	100
ELCS-306	3 (a) Full Stack Web Development 3 (b) Big Data Analytics	4	60	40	60	100
Total		22	390	220	330	550

M.Sc.(Computer Science)Part-II Semester IV

Course Code	Course Name	Credits	Contact hours	Int./Pract. Marks	EOS marks	Total Marks
MCS-401	Artificial Intelligence	4	60	40	60	100
MCS-402	Linux Administration and Programming (Lab)	4	60	40	60	100
MCS-403	Java Programming (Lab)	4	60	40	60	100
MCS-404	Research Project (Master Thesis)	6	180	40	60	100
ELCS-405	4 (a) Block chain Technology 4 (b) Advanced Web Technology	4	60	40	60	100
Total		22	420	200	300	500

M.Sc. (Computer Science) Course Structure (NEP 2020)

Semester	I	Total Credit	4
Course Code	MSC-101	Credit Pattern	L-48, T-12, P-0
Course Title	COMPUTER ARCHITECTURE AND OPERATING SYSTEM		

Course Objectives	
1	To understand and learn digital circuit design
2	To explore the design of the various functional units and components of Digital Computers.
3.	Learn objective and functions of modern operating systems.
4.	To get in-depth knowledge of process management and inter-process communication and learn the different memory management

Course Outcomes: The students will be able to	
1	Design combinational logic circuits using basic gates and Implement Boolean functions using combinational circuits and sequential circuits.
2	Analyze the principles of computer architecture concepts related to design of processors, memories and I/Os examples drawn from commercially available computers.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Boolean Algebra and Logic Circuits Boolean Algebra: Binary Logic, Logic Gates, Postulates of Boolean Algebra, Boolean Function, Algebraic Simplification, Karnaugh Maps Combinational Circuits: Half Adder, Full Adder, Decoder, Encoder, Multiplexer, Sequential Circuits: Flip Flops - SR, D and JK, Registers, Counters	L= 12	
		T= 3	P= 0
2	Computer Organization Memory Organization: Memory Hierarchy, Main Memory, Auxiliary Memory, Associative Memory, Cache Memory, Virtual Memory CPU Organization: CPU Building Blocks, Registers, Addressing Modes, Instruction Sets Control Organization: Micro Programmed Control, Micro Instructions, Micro Operation, Address Sequencing Input-Output Processing: Input/ Output Devices, Input-Output Interface, Modes of Transfer	L= 12	
		T= 3	P= 0
3	Operating System Concepts Definition of Operating System, Operating system structures, Process Concept, Process scheduling, inter-process, communication, and threads overview. CPU Scheduling: Scheduling and Criteria, Scheduling Algorithms, performance evaluation of scheduling algorithm. Process Synchronization: The critical-Section problem, synchronization hardware, and semaphore, classic problems of		

	synchronization(Producer consumer problem) critical regions. Deadlock: System Model, Deadlock Characterization, Resource-Allocation Graph, Methods for Handling Deadlock, Deadlock Prevention, Deadlock Avoidance (Bankers Algorithm), Deadlock Detection.	L= 12	
		T= 3	P= 0
4	Memory Management, File Systems, Disk Management Memory Management: Concept, Memory Management Techniques, Swapping, Contiguous Memory Allocation, Memory Protection, Memory Allocation, Fragmentation, Paging, Basic Method, Segmentation with Paging, Virtual Memory Concept, Demand Paging, Page Replacement algorithm . File systems: File Naming, File Structure, file types, File access, Directory : directory structure, operations, File layout, File systems implementation (Contiguous, linked list, I-node). Disk Structure, Disk scheduling, FCFS Scheduling, SSTF Scheduling, SCAN, CSCAN, Selection of Disk Scheduling Algorithm,	L= 12	
		T= 3	P= 0

Learning Resources			
1	Text Books	• M. Morris Mano, Computer System Architecture, Pearson, 3rd Edition • M. Morris Mano, Digital Logic and Computer Design, Prentice Hall • Andrew S. Tanenbaum, —Modern Operating Systems , Prentice Hall of India, 2 nd Ed. 2006 • AchyutGodbole, —Operating System , Tata McGraw Hill,3rd Ed.2013	
2	Reference books	• J. P. Hayes, Computer Architecture & Organization, MGH, 3rd Edition • Pal Chaudhary, Computer Organization & Design, PHI, 3rd Edition • William Stallings, Computer Organization and Architecture: Designing for Performance, PHI, 7th Edition • Abraham Siberschatz, Peter Galvin Operating Systems: Concepts - Willey- Sixth edition. • D.M. Dhamdhare, System Programming and Operating Systems -TMH – SecondEdition. • William Stallings,Operating Systems: Internals and Design Principles, Seventh Edition, Pearson Publications • Madnick and Donovan , Operating Systems -Tata McGraw-Hill Education	
3	Websites	• https://www.studytonight.com/computer-architecture/ • https://www.tutorialspoint.com/computer_organization/index.asp • https://www.geeksforgeeks.org/introduction-of-operating-system-set-1/ • https://www.javatpoint.com/os-tutorial • https://nptel.ac.in/courses/106/105/106105214/	
4	Journals	• IEEE Computer Architecture Letters ISSN: 1556-6056 • ACM SIGARCH Computer Architecture News ISSN:0163-5964 • Journal of Operating Systems Development & Trends http://stmjournals.com/Journal-of-Operating-Systems-development-and-Trends.html eISSN: 2454–9355	
5	Supplementary	• Study Material of Web Course Developed for NPTEL , Computer Organization	

	Reading	and Architecture, https://nptel.ac.in/courses/106103068/pdf/coa.pdf • Study material on operating system ,https://www.cse.iitb.ac.in/~mythili/os/
6	Practical Components	• Virtual Labs - Digital Electronic Circuits http://vlabs.iitkgp.ernet.in/dec/

Semester		I	Total Credit	4
Course Code		MSC-102	Credit Pattern	L-48, T-4, P-8
Course Title		PYTHON PROGRAMMING		
Course Objectives				
1	To develop a comprehensive understanding of the fundamental building blocks of Python's core language constructs to wield the power of programming elegance and versatility in creating innovative solutions.			
2	To achieve proficiency in essential Python concepts encompassing arrays, functions, exception handling, and file operations, integral in crafting resilient and sophisticated software solutions.			
3.	To attain mastery in advanced Python topics and Object-Oriented Programming (OOP) principles within Python, fostering the adept implementation of code for optimal and efficient solutions.			
4.	To acquire the requisite skills and comprehensive knowledge essential for constructing dynamic and interactive web applications through the utilization of Flask, enabling proficient web development expertise.			
Course Outcomes: The students will be able to				
1.	proficiently harness and apply Python's data structures, control flow, and modular coding techniques, enabling adept handling of complex challenges through ingenious problem-solving using Python scripting.			
2.	adeptly handle Python's array referencing, function intricacies, exception handling, and file manipulation, fostering comprehensive expertise in data structures, parameter handling, and efficient file I/O and advanced coding proficiency for designing and implementing innovative solutions.			
3.	master Python's Object-Oriented Programming and advanced topics like iterators, closures, decorators, and Regular Expressions exhibiting versatile programming proficiency for implementing novel solutions.			
4.	embark on a dynamic web journey mastering Python Flask, navigating setup, routing, views, forms, validation, and database integration to demonstrate crafting impactful web applications.			

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Programming Fundamentals and Overview of Python - Introduction to Python as a high-level, interpreted versatile programming language, Python's role in various domains, Key features of Python, concise syntax, automatic memory management, and built-in data structures. Applications of Python, structure of python, Indentation and blocks (suites). Installation of python, Python IDE's. Python interpreter, python environment variables. Scope and life time of variables, Data types - strings, lists, tuple,	L= 12	
		T=1	P= 2

	dictionary, and sets. Operations on these data structures. List comprehension, data type conversion, Control and branching statements, different types of operators in python, conditional branching, range() function, Organizing code (functions, modules, packages), module listing, module search path, standard modules. Python scripts.		
2	Defining arrays in python, array referencing , handling positive and negative indices, Defining and calling a function, pass by reference Vs. pass by value, function arguments, required arguments, default arguments, keyword arguments, variable-length arguments, anonymous or lambda functions, applications of lambda functions functional programming tools , Exception Handling Basics Exceptions and assertions, list of standard exceptions, unhandled exceptions, keywords used in exception handling, handling multiple exceptions, finally clause, argument of an exception, nested try blocks, custom exceptions, raising an exception. File Handling Basics Basic I/O functions in python, opening and closing files, attributes of file object, performing file I/O, file positions, renaming and deleting files, functions for manipulating directories.	L= 12	
		T= 1	P= 2
3	Object Oriented Programming in Python OOP terminology, Defining Classes and namespaces, creating instances of a class, built-in class attributes, destroying objects, garbage collection, implementation of encapsulation, access modifiers, inheritance and polymorphism in Python. Overriding methods. Concept of operator overloading, magic methods for operator overloading. Polymorphism with functions and objects Advanced Topics in Python. Iterators in Python, python closures, python decorators, python generators, generator pipeline, return Vs yield Regular Expressions in Python Python RegEx, Specify Pattern Using RegEx, meta characters, special sequences, regular expression function in 're' module, match object, applications of regular expressions.	L= 12	
		T= 1	P= 2
4	Web Development Using Python Flask – Introduction to Python Flask as a lightweight web framework Advantages of using Flask for web development, Setting Up Flask - Installing Flask using pip or a virtual environment Creating a basic Flask application structure, Setting up a development server and running the Flask application Routing and Views: Defining routes and handling URL requests Creating view functions to handle requests and return responses Using decorators to map routes to view functions Handling different HTTP methods (GET, POST, etc.) for different	L=12	
		T= 1	P= 2

		routes Forms and Validation: Handling HTML forms in Flask using the Flask-WTF extension, Creating and validating forms using Flask-WTF Handling form submissions and processing form data, Displaying form validation errors and success messages Database Integration: Connecting Flask applications to databases (e.g., SQLite, MySQL, PostgreSQL), Performing database queries and CRUD operations		
Learning Resources				
1	Text Books	Dawson, G., & Nance, B. (2013). Practical Programming: An Introduction to Computer Science Using Python (2nd ed.). Pragmatic Bookshelf. Segaran, T. (2007). Programming Collective Intelligence. O'Reilly Media. Smith, J. K. (2022). Python Web Development: Building Dynamic and Interactive Websites. Harvard University Press.		
2	Reference books	Severance, C. (2013). Python for Informatics: Exploring Information. CreateSpace Independent Publishing Platform. McKinney, W. (2012). Python for Data Analysis. O'Reilly Media. Madhavan, S. (2015). Mastering Python for Data Science. PACKT Publishing. Bader, D. (2017). Python Tricks: A Buffet of Awesome Python Features. Dan Bader. Downey, A. B. (2015). Think Python: An Introduction to Software Design (2nd ed.). CreateSpace Independent Publishing Platform.		
3	Website	https://www.python.org https://www.sololearn.com https://realpython.com https://flask.palletsprojects.com/		
4	Journals	Cao, Y., Wang, J., & Du, W. (2016). Static Analysis of Python Web Applications for Security and Privacy. In Proceedings of the IEEE Symposium on Security and Privacy (S&P). Xu, L., Chen, J., Cheng, Y., Mao, B., & Luo, X. (2017). VulPecker: An Automated Vulnerability Detection System Based on Code Similarity Analysis for Python. In IEEE Transactions on Dependable and Secure Computing. Egele, M., Kruegel, C., Kirda, E., & Vigna, G. (2018). PyREBox: Towards Understanding Python Obfuscation and Deobfuscation. In Proceedings of the ACM Conference on Computer and Communications Security (CCS).		
5	Supplementary Reading	The official Python documentation for "What's New in Python 3.10" https://docs.python.org/3/whatsnew/3.10.html The Python Software Foundation (PSF) Blog		

		ps://www.python.org/blogs/ Talk Python to Me (talkpython.fm) Python Weekly (pythonweekly.com)
6	Practical Components	Python Package Index, the official repository for Python packages (pypi.org) Real Python (realpython.com) Pysec (pysec.io) Secure Python Programming (securepythonprogramming.org) Django Documentation (https://docs.djangoproject.com/)

Semester	I	Total Credit	4
Course Code	MSC-103	Credit Pattern	L-45, T-8, P-7
Course Title	Web Design and Development		
Course Objectives			
1	To understand the basics of the internet and web terminologies and develop the static web pages.		
2	To build dynamic web pages with validation using JavaScript objects and by applying different event handling mechanisms.		
3.	To develop modern interactive web applications using HTML, CSS, JAVASCRIPT, PHP and MySQL.		
4	To know the usefulness of web services.		
Course Outcomes: The students will be able to			
1.	Describe the concepts of World Wide Web, and the requirements of effective web design.		
2.	Develop web pages using the HTML and CSS features with different layouts as per need of applications.		
3.	Understand the client side scripting by using JavaScript to develop the dynamic web pages.		
4.	Use server side scripting with PHP to generate the web pages dynamically using the database connectivity.		
Unit	Contents		Number of Sessions
1	Introduction to HTML and CSS: (15) Introduction To HTML, WWW, W3C, Common HTML, Tags Physical & Logical, Some basic tags like , changing background color of page, text color etc., Text formatting tags, Ordered & Unordered Lists Tags, Inserting image, Inserting Links: text, image links, Image mapping , Tables , Frames, Form Introduction with various input control - text box, text area, buttons, List box, radio, checkbox etc. Introduction to HTML5, HTML5 features and Elements: semantic tags, the selector API, new form input controls, improved accessibility Creating drop shadows and rounded corner CSS Introduction To Style sheet, types of style sheets- Inline, External, Embedded CSS, text formatting properties, CSS Border, margin properties, Positioning Use of classes in CSS, color properties, use of <div> and . CSS3 Specifications, CSS3 features selectors		L= 11
			T=2 P= 2
2	Introduction to JavaScript: (15) Introduction to script, types, Intro of JavaScript, JavaScript identifiers, operators, control & Looping structure, Intro of Array, Array with methods, Math, String, Date Objects with methods User defined & Predefined functions, Working with Frames, Forms and Form elements and the associated events. Form validation, three types of dialog boxes: alert, prompt, confirm, JavaScript Regular Expression		L= 11
			T=2 P= 2
3	Introduction to PHP: (15) Concept of PHP, Constants, variables declaration, Comments, Data types, Operators, Command line arguments, Conditional statements, If-else, Switch, Ternary operators, looping statements- For loop, While loop, Do-while loop, Creating arrays, Inserting elements in arrays, Retrieving elements from array, Displaying arrays, Sorting array elements		L= 11
			T=2 P= 2

4	PHP and MySQL Connection: Introduction to Databases, Connecting to MySQL database, Creating database, Creating tables, Inserting values in table, displaying, changing, searching, deleting records from the table, SQL queries- insert, select, delete, update, where, order by	L= 11	
		T=2	P= 2
Learning Resources			
1	Text Books	1.Html and css: design and build websites, by jon duckett 2. Javascript and jquery: interactive front-end web development, by jon duckett 3. Learning web design: a beginner’s guide to html, css, javascript, and web graphics, by jennifer niederst robbins	
2	Reference books	1. M. Morris Mano, Computer System Architecture, Pearson, 3rd Edition 2. M. Morris Mano, Digital Logic and Computer Design, Prentice Hall 3. M. Morris Mano, Michael D. Ciletti, Digital Design, Prentice Hall, 4th Edition 4. J. P. Hayes, Computer Architecture & Organization, MGH, 3rd Edition 5. V. Rajaraman & Radhakrishnan, Introduction to Digital Computer Design, PHI 6. Pal Chaudhary, Computer Organization & Design, PHI, 3rd Edition	
3	Websites	☐ www.Udemy.com ☐ www.Coursera.com ☐ www.W3Schools.com ☐ www.Tutorialspoint.com	
4	Journals	☐ Wei Willy. Usability tool for analysis of web designs using mouse tracks ☐ Advances in Informatics. Springer; 2003 ☐ Design Studies	
5	Supplementary Reading	☐ www.Lynda.com + LinkedIn Learning ☐ www. Codeacademy.com ☐ www.The Odin Project .com	
6	Practical Components	Total 20 practical’s based on Web Design and Development.	

Semester	I	Total Credit	2
Course Code	MCS-104	Credit Pattern	L-26, T-4, P-0
Course Title	DESIGN AND ANALYSIS OF ALGORITHM		
Course Objectives :			
1.	To develop problem-solving skills and algorithmic thinking by understanding the fundamental concepts and techniques of algorithms.		
2.	To provide in-depth knowledge of efficiency factors and complexity of algorithms using best-case, worst-case, and average-case analysis.		
3.	To explore and implement fundamental algorithms and master string matching and graph algorithms		
4.	To discuss algorithm design paradigms such as greedy method, divide and conquer, backtracking, and dynamic programming. Gain knowledge of complexity theory and classification of problems.		
Course Outcomes: After successful completion of the course, the students would be able to			
1.	Design efficient algorithmic solutions by applying problem-solving techniques and algorithm design paradigms to address a variety of computational problems.		
2.	Examine the complexity of algorithms using different analysis methods to assess their performance and efficiency. Thereafter classify problems based on complexity		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Fundamentals of Algorithms: Problem solving aspect, top down design, implementation of algorithm, the efficiency of algorithm, analysis of Algorithm, time complexity and space complexity, Asymptotic notation Fundamental algorithms: Exchanging values of two variables, counting, summation of set of numbers, factorial computation, generation of Fibonacci sequence, reversing of the digits of an integer, Generating prime numbers, raising number to a large power, array order reversal. String Matching Algorithms: Brute Force Algorithm, Knuth-Morris-Pratt (KMP) Algorithm, Boyer-Moore Algorithm, Rabin-Karp Algorithm	L= 13	
		T=2	P= 0
	Algorithm Design Paradigms: (15)	L = 13	

2	Algorithm Design Paradigms : Greedy method- knapsack problem, Minimum cost spanning tree algorithms (prims and kruskals) Single source shortest path, Divide and Conquer :General Strategy, Exponentiation, Binary Search ,Quick Sort and Merge Sort. Backtracking – Depth -First search, n Queen problem, , Branch and Bound – assignment problem and Travelling Salesman problem, dynamic programming – general strategy, Matrix chain multiplication Complexity and classification of Problems -: P, NP, NP-HARD AND NP- COMPLETE PROBLEMS	T= 2	P= 0
Learning Resources			
1	Text Books	• Dromey, R.G. (2008). <i>How to solve it by computer</i>. Delhi: Pearson Education. • Cormen, T.H., Charles Eric Leiserson, Rivest, R.L. and Stein, C. (2022). <i>Introduction to algorithms</i>. Cambridge, Massachusett: The Mit Press.	
2	Reference books	• Mark Allen Weiss (1999).<i>Data Structures and Algorithm Analysis in C (2nd Edition)</i>. Singapore: Addison Wesley Longman,Inc. • Horowitz, E., Sahni, S. and Rajasekaran, S. (1999). <i>Computer algorithms</i>. New Delhi: Galgotia Publications. • AnanyLevitin (2012). <i>Introduction to the design & analysis of algorithms</i>. Boston ;Montréal: Pearson / Addison-Wesley. • Horowitz, E., SartajSahni and Anderson-Freed, S. (2008). <i>Fundamentals of data structures in C</i>. Hyderabad: University Press.	
3	Websites	• Walker, A. (2023). <i>DAA Tutorial: Design and Analysis of Algorithms</i>. [online] www.guru99.com. Available at: https://www.guru99.com/design-analysis-algorithms-tutorial.html • nptel.ac.in. (n.d.). <i>NPTEL IITm</i>. [online] Available at: https://nptel.ac.in/courses/106101060/ • GeeksforGeeks. (n.d.). <i>Design and Analysis of Algorithms</i>. [online] Available at: https://www.geeksforgeeks.org/design-and-analysis-of-algorithms/ • openclassroom.stanford.edu. (n.d.). <i>CS 161 - Design and Analysis of Algorithms</i>. [online] Available at: http://openclassroom.stanford.edu/MainFolder/CoursePage.php?course=IntroToAlgorithms.	

4	Journals	• IEEE Journal of Computing in Science & Engineering : (https://ieeexplore.ieee.org/document/6664963) • Springer US :Algorithmica (https://link.springer.com/journal/453)Science direct : • Elsevier - journal of Algorithms (https://www.sciencedirect.com/journal/journal-of-algorithms)

Semester	I	Total Credit	4
Course Code	MSC-105	Credit Pattern	L-48, T-9, P-3
Course Title	RESEARCH METHODOLOGY		

Course Objectives	
1	Conceptualise a topic of interest and need to define a problem to be investigated
2	Analyze Research Methodologies for Application
3.	Order and Synthesize Data from Various Sources
4.	Apply Research Methodology in Their Own Research
5	Develop the ability to present information concisely, with clarity and relevance, using appropriate conventions for different contexts.

Course Outcomes: The students will be able to	
1.	Applying Knowledge and Comprehension in Understanding Research Methodologies.
2.	Application and Analysis of Qualitative Research Methodologies
3.	Evaluating and Critically Analyzing Advanced Quantitative Research
4	Analyzing, Synthesizing, and Reporting with Integrated Mixed Methods in Research

Syllabus:

Unit Number	Contents	Number of Sessions	
1	I The Research Process & Ethics Empiricism, Deductive & Inductive Inquiry ,Philosophical Assumptions in Research ,Planning Research Project and Developing Research Questions: -Research thought, Importance, Supervisor, Managing Time and Resources, Developing Research Question; Research Designs: -Reliability, Replicability and Validity , Experimental Design, Cross – Sectional Design, Case Study Design, Comparative Design ;Reviewing the Literature for Research -Reading Critically, Systematic Review, Narrative Review, Searching Online Databases, Keywords and Defining Search Parameters, Referencing, Avoiding Plagiarism The importance of research ethics, ethical principles, safety in research, avoidance of harm, ethical considerations in a student research project, maintaining anonymity in a student research project, privacy, preventing deception, reciprocity and trust, affiliation and conflict of interest, visual methods and research ethics, ethical considerations in online research, copyright issues, copyright and photographs	L= 8	
		T=3	P= 0

2	II The nature of Qualitative Research : The main steps in Qualitative research ,Concepts & their measurements-Reliability, Evaluating,Credibility, Transferability, Dependability, Confirmability, Preoccupations,Concepts and Theory grounded in data,Contrasts and Similarities between Qualitative Research.; Sampling in Qualitative Research - :Levels of Sampling, Purposive Sampling, Theoretical Sampling, Generic Purposive Sampling, Snowball Sampling, Sample Size Determination. Ethnography and Participants Observations: - Organizational Ethnography, Role of Ethnographers, Active/ Passive, Shadowing, Field notes & field notes, Ethnographic fieldwork, Feminist Ethnography, Global and Multi Site Ethnography, Virtual Ethnography, Visual Ethnography, writing ethnography, Realist tales Interviewing in Qualitative Research: -Structured interview & Types of interviews,Interview contexts & conducting interviews,recording & Transcription.Pros & Cons of Qualitative interviews. Pros & cons of Qualitative interviews;Focus Groups: - Process of Focus Groups Interviews & selection of Group,Framing the interactions ,Focus Group as an Emancipatory method, Limitations of Focus Groups. ;Qualitative Data Analysis: -Thematic Analysis, Grounded Theory, Tools and outcomes of Grounded Theory, Criticism of Grounded Theory, First and Second Order Analysis, Coding, Steps and Considerations in Coding, Turning Data into Fragments, Critique of Coding, Secondary analysis of Qualitative data	L= 12	
		T=3	P= 0
3	III . Introduction to Quantitative Research: - Steps in Quantitative Research, Concepts and Measurements, Reliability & Validity of measures ,Main Preoccupations ,The critique of quantitative research ; Sampling in Quantitative Research: -Planning a survey, Basic concepts in sampling ,Types of Probability sample,qualities of probability sample, absolute and relative sample size, Types of Non-Probability Sample , limits and generalization, sampling issues for online surveys Structured Interviewing,interview contexts, conducting interviews, leaving the interview, training the supervision, Other approaches to structured interviewing ,Problems with structured interviewing ,Asking Questions, types of questions ,advantages and disadvantages,, specific rules when designing questions, common mistakes .Self – Completion of Questionnaires-different kinds of self-completion , Questionnaires,Evaluation of this in relation to structured interview,designing self-completion questionnaire,Email & online surveys ,comparing modes of surveys administration & diaries Quantitative Research using Naturally Occurring Data: - Structured observation, observation schedule, strategies for observing behavior,issues of reliability and validity, criticism of structured observation, content analysis, research questions, Selecting sample content analysis, Coding content analysis,advantages & disadvantages in content analysis Quantitative data Analysis: -Small Research Project, Missing data, types of variables, univariate analysis , Bivariate Analysis ,Multivariate Analysis ,Statistical Significance & comparing means and statistical significance	L= 16	
		T=0	P= 3

	SPSS (Statistical Package for Social Sciences) Statistics: -Basic operations in SPSS, data analysis with SPSS, generating frequency tables, boxplot & charts, Descriptive statistics, generating contingency table- chi-square, and Cramer's V, generating Pearson's r and Spearman's rho, generating scatter diagrams, generating a contingency table with three variables, Saving your data, retrieving your data, printing output		
4	IV . Mixed Method Research: Breaking down the Quantitative and Qualitative Research: -Natural Science model and qualitative research, quantitative research and interpretivism, quantitative research and constructionism, Epistemological and ontological considerations, Problems with quantitative / qualitative contrast, Reciprocal Analysis, Qualification in Qualitative Research – Thematic Analysis, Quasi -quantification in qualitative research, combating anecdotalism through limited quantification, Combining Quantitative and Qualitative Research - arguments against mixed method research, the rise of mixed method research, classifying mixed methods research in terms of priority and sequence, different types of mixed methods design, approaches to mixed methods research, the logic of triangulation, static and procedural features, research issues and participants' perspectives, the problem of generality, interpreting the relationship between variables, different aspects of a phenomenon, quality Issues in Mixed Method Research Writing up Research Project: Writing academically, writing up your research – start early, be persuasive, get feedback, avoid discriminatory language, constructing an argument (Chaptalization of Research Project / Dissertation / Master Thesis), Structure your writing – Title page, Acknowledgements, list of contents, Abstract with keywords, Introduction, Literature Review, Research Methods, Results, Discussion, Conclusion, Recommendations, Further Studies, Future Scope of Research, The challenges and constraints of length, Appendices, References, Bibliography, Proofreading your dissertation, writing up quantitative and qualitative research (Quantitative Research) – Introduction, Role of congruity Theory, Goals of the Present Study, Methods, Results, Discussion, Lessons, (Qualitative Research) – Introduction, Methodology, Research Findings, Discussion, Summary and conclusion, Recommendations, Further Studies, Future scope of the research, lessons, Reflexivity and its implications for writing, Writing differently	L=12	
		T=3	P= 0

Learning Resources		
1	Text Books	- Bell, E., Bryman, A. & Harley, B. (2019), 2nd Ed., Business Research Methods, Oxford University Press, New Delhi, India - Kothari, C. R. & Garg, G., (2019), 4th Ed., Research Methodology – Methods and Techniques, New Age International Publishers, New Delhi, India

2	Reference books	• Creswell, J.W., (2014), 3rd Edition, Research Design, Qualitative, Quantitative and Mixed Methods Approaches, Sage Publication, New Delhi, India • Copper, D. R. & Schindler, P. S., (2011), 9th Ed., Business Research Methods, Tata McGraw Hill, New Delhi, India • Hair Jr., J. F., Black, W.C., Babin, B.J. & Anderson, R.E., (2010), 7th Edition, Multivariate Data Analysis, Prentice Hall, NJ, USA • Malhotra, N.K. & Das, S., (2019), 7th Ed., (Revised), Marketing Research – An Applied Orientation, Pearson Education, New Delhi, India
3	Websites	• "Types of Research Methodology" . [Online]. Available at: https://eduvoice.in/types-research-methodology/#0-what-is-research (Accessed: 4 July 2023) • QuestionPro . Qualitative Research Methods. [Online]. Available at: https://www.questionpro.com/blog/qualitative-research-methods/ (Accessed: 4 July 2023). • QuestionPro . Quantitative Research. [Online]. Available at: https://www.questionpro.com/blog/quantitative-research/ (Accessed: 4 July 2023). • Harvard Catalyst . Community Engagement: Mixed Methods Research. [Online]. Available at: https://catalyst.harvard.edu/community-engagement/mmr/ (Accessed: 4 July 2023). • "SPSS Tutorials" . [Online]. Available at: https://www.spss-tutorials.com/ (Accessed: 4 July 2023).
4	Journal Articles	• Rahman, A. & Muktadir, M.G. (2021). "SPSS: An Imperative Quantitative Data Analysis Tool for Social Science Research." International Journal of Research in Social Sciences (IJRISS), V. 300-302. DOI: 10.47772/IJRISS.2021.51012. • Rahman, A. and Muktadir, M.G. (2021). "SPSS: An Imperative Quantitative Data Analysis Tool for Social Science Research." International Journal of Research and Innovation in Social Science (IJRISS), Volume V, Issue X, October 2021, pp. 300. ISSN 2454-6186. Available at: www.rsisinternational.org. • Aspers, P. and Corte, U. (2019). "What is Qualitative in Qualitative Research." Qualitative Sociology, 42(2), 139-160. doi: 10.1007/s11133-019-9413-7. PMID: 31105362; PMCID: PMC6494783.
5	Supplementary Reading	• Sage Journals (2023). [Online]. Available at: http://qrj.sagepub.com (Accessed: 4 July 2023). • MIT Press Journals (2023.). Quantitative Science Studies. [Online]. Available at: https://direct.mit.edu/qss (Accessed: 4 July 2023). • Smith, J. (2021). Research Methods and Techniques. [Online]. Available at: https://stjosephs.edu.in/upload/seminars_workshop_conference/5ce2422796dff219fc73b614b6b4a48e.pdf (Accessed: 4 July 2023). • https://www.emerald.com/insight/publication/issn/1443-9883
6	Practical Components	• SPSS tutorials: https://www.spss-tutorials.com/ • SPSS Basics: https://www.javatpoint.com/spss • SPSS examples: https://www.ibm.com/docs/SSLVMB_25.0.0/pdf/en/IBM_SPSS_Statistics_Brief_Guide.pdf

Semester	I	Total Credit	4
Course Code	ELCS-106 (a)	Credit Pattern	L-48, T-12, P-0
Course Title	Information Security and Cryptography		
Course Objectives			
1	To introduce information security threats, services and mechanisms.		
2	To explain with examples symmetric and asymmetric cryptography algorithms.		
3	To introduce and explain hashing, digital signature and digital certificate.		
4	To introduce authentication and email security algorithms.		
5	To provide overall know how about information security and cryptography.		
Course Outcomes: After successful completion of the course, the students would be able to			
1.	Conceptually understand information security concepts.		
2.	Select and use correct cryptography and hashing techniques.		
3.	Understand and apply correct authentication mechanism.		
4.	Select, use and apply correct security solution for organization.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Information Security Introduction of Information Security, Critical Characteristics of Information, NSTISSC Security Model, Components of an Information System, Securing the Components, Balancing Security and Access, The SDLC, The Security SDLC Security mindset, Computer Security Concepts (CIA), Information Security Policy, Standards and Practices.	L= 12	
		T=3	P= 0
2	Introduction to Cryptography Threats, risks, consequences , Sources of threats , Attacks classification , Preventive measures, remedial measures Introduction to Cryptography: Security Mechanisms: Security Services, Security Attacks, Security Goals, Symmetric Cipher Model, Various Encryption Techniques: Substitution: (i) Monoalphabetic - Caesar Cipher (ii) Polyalphabetic - Playfair Cipher, Vignere Cipher, Hill Cipher, Transposition: (i) Keyless (ii) Keyed, Steganography	L= 12	
		T= 3	P= 0
3	Block Cipher and Public Key Cryptography Data Encryption Standard, Block Cipher Modes of Operation:-Electronics Code Book (ECB), Cipher block-chaining mode (CBC), Cipher Feedback Mode (CFB), Output Feedback Mode (OFB), Advanced Encryption Standard, Blowfish Algorithm, RCS Algorithm, Public Key Cryptography (Asymmetric Key Cryptography), RSA Algorithm, Knapsack Algorithm, El-Gamal Algorithm, Key Management - Diffie Hellman Key	L= 12	
		T= 3	P= 0
4	Integrity checks and Authentication algorithms Authentication Requirement, Authentication Functions, Types of Authentication, Message Authentication Code (MAC): MD5 Algorithm, SHA Algorithm, HMAC Algorithm, Digital Certificate. Digital Signature Scheme: RSA, El Gamal, Schnorr, DSS, Needham Schroeder Authentication Protocol. Authentication Applications: Kerberos and X.509 - directory authentication service - electronic mail security-pretty good	L=12	
		T= 3	P= 0

	privacy (PGP) - S/MIME		
Learning Resources			
1	Text Books	- Michael E Whitman and Herbert J Mattord, “Principles of Information Security”, Vikas Publishing House, New Delhi, 2003 - William Stallings, Cryptography and network security, Pearson Education.	
2	Reference books	- Micki Krause, Harold F. Tipton, “ Handbook of Information Security Management”, Vol 1-3 CRC Press LLC, 2004. - Stuart Mc Clure, Joel Scrambray, George Kurtz, “Hacking Exposed”, Tata McGraw-Hill, 2003 - Matt Bishop, “ Computer Security Art and Science”, Pearson/PHI, 2002. - Wade Trappe, Lawrence C Washington, “ Introduction to Cryptography with coding theory”, Pearson W. Mao, “Modern Cryptography – Theory and Practice”, Pearson Education. - Charles P. Pfleeger, Shari Lawrence Pfleeger – Security in computing – Prentice Hall of India	
3	Websites	https://www.khanacademy.org/computing/computer-science/cryptography https://www.guru99.com/how-to-make-your-data-safe-using-cryptography.html https://www.geeksforgeeks.org/what-is-information-security/ https://www.commonlounge.com/	
4	Journals	Journal of Information Security and Applications Taylor and Francis : Information Security Journal: A Global Perspective	
5	Supplementary Reading	Digital Guardian Schneier on Security A Few Thoughts on Cryptographic Engineering https://www.edureka.co/blog/what-is-cryptography/	
6	Practical Components		

Semester I		Total Credit	4
Course Code	ELSC-106 (b)	Credit Pattern	L-48, T-0, P-12
Course Title		Object Oriented Analysis and Design	
Course Objectives			
1	To introduce scientific way to design and develop software.		
2	To explain and demonstrate methods for requirement analysis.		
3.	To demonstrate object oriented methods used for software design.		
4.	To introduce project management concepts and techniques.		
Course Outcomes: The students will able to			
1.	Choose and apply the correct method for software development.		
2.	Analyze user requirements for software under consideration.		
2.	Design a software to fulfill user requirements		

3.	Identify and Restate software model for successful project.	
Syllabus:		
Unit Number	Contents	Number of Sessions
1	Introduction Software Engineering and myths, Waterfall Model, Iterative model, Prototyping, Spiral Model, RAD, Extreme Programming (XP), Scrum, Requirement Engineering Fact finding tools and Techniques, SRS.	L= 12 T=0 P= 3
2	Introduction to UML -Views, Diagrams, model elements, extension mechanism, Use Case modeling- Identifying Users and Use cases, Finding relationship between use cases, Drawing Use case diagram, and Writing use case description, Testing use case model.	L= 12 T=0 P= 3
3	Classes, Objects and Relationship Class Diagram and Object diagram- Finding Classes, Understanding Relationship between Classes, Class Diagram and Object diagram- Drawing Class and object diagram. State Diagram-State concept, drawing state diagram.	L= 12 T=0 P= 3
4	Dynamic Modeling in UML Sequence diagram Collaboration diagram, Activity Diagram, Component diagram, Deployment diagram, UML Extension Mechanism-Stereotypes, Tagged Values, Constraints, Software Testing Strategies and Technique.	L= 12 T=0 P= 3
Learning Resources		
1	Text Books	- Juristo, N. and Moreno, A.M. (2014). Basics of Software Engineering Experimentation. - Jacobson, I., Lawson, H.W., Ng, P.-W., McMahon, P.E. and Goedicke, M. (2019). The essentials of modern software engineering : free the practices from the method prisons! [New York, New York], [San Rafael, California]: Association for Computing Machinery ; Morgan & Claypool. - Pressman, R. (2014). Software engineering. New York: Mcgraw-Hill.
2	Reference books	- Witold Suryn (2014). Software quality engineering : a practitioner's approach. Hoboken: Wiley. - Software Engineering. (2016). Cham: Springer International Publishing. - Sommerville, I. (2016). Software Engineering. 10th ed. Hallbergmoos/Germany Pearson.
3	Websites	https://www.codecademy.com/learn/software-design-principles https://www.udemy.com/course/software-engineering-us/ https://www.edx.org/course/software-engineering-basics-for-everyone?index=product&queryID=1eeadc48d45f995d0c4b139f75dcb7b2&position=1&results_level=second-level-results&search_index=product&term=software+engineering&campaign=Software

		+Engineering+Basics+for+Everyone&source=edX&product_category=course&placement_url=https%3A%2F%2Fwww.edx.org%2Fsearch
4	Journals	• https://link.springer.com/article/10.1007/s10664-022-10255-x • https://link.springer.com/article/10.1007/s10664-023-10288-w • https://link.springer.com/article/10.1007/s10664-022-10208-4
5	Supplementary Reading	• https://repository.dinus.ac.id/docs/ajar/Software_Engineering_-_Pressman.pdf • https://www.vssut.ac.in/lecture_notes/lecture1428551142.pdf • https://www.tutorialspoint.com/software_engineering/software_engineering_tutorial.pdf
6	Practical Component	.

M. Sc. (CS) Part-I Semester II

MCS-201 (CS), Part I Semester II			
Semester	II	Total Credit	4
Course Code	MCS-201	Credit Pattern	L-48, T-10, P-2
Course Title	DATABASE MANAGEMENT SYSTEM		
Course Objectives			
1	To understanding the database concept and structure, data modelling concept and development process.		
2	To Construct and normalize conceptual data models.		
3	Implement a relational database into a database management system		
4	To understand Backup and recovery techniques		
Course Outcomes: After successful completion of the course, the students would be able to			
1	Illustrate relational database management system concepts.		
2	Recognize and outline the structure of application database.		
3	Design and develop structure of application database and queries.		
4	Assess the database design for applications.		

Unit No.	Contents	Number of Sessions	
1	Database Management System Concepts and Data Models: (15) Data, Concept of Database, DBMS, RDBMS, Characteristics of DBMS, Components of DBMS, Three levels of DBMS, Architecture of DBMS, Concept of Data Models- Hierarchical Data Model, Network Data Model, Relational Data Model, ER-Model in DBMS, Concept of Entity, Entity Set, Attributes, Categories of attributes, Concept of Relationship, Types of Relationship: one to one, one to many, many to one and many to many, Responsibilities of DBA,	L= 12	
		T=3	P= 0
2	Concept of Data Abstraction and Normalization: (15) Data Abstraction Three Levels of data abstraction, DBMS Schema, Three Levels of DBMS Schema, DBMS instance, Concept data Independence, Types of data independence, Concept of Normalization, Meaning and Functional dependences, 1NF with example, Concept of 2NF, 3NF, Boyce-codd Normal Form,	L= 12	
		T= 3	P= 0
3	Introduction of SQL: (15) Feature of SQL, Data Types, Fundamental concept of table, Components of SQL- DDL, DML, DCL, TCL, SQL Constraints – Null and Not Null Constraints, Unique Constraints, Default Value, Check Constraints, Primary key Constraints, Foreign Key C Constraints, Where clause, Order By Clause, Group by clause, Having Clause, Logical operators, Relational Operators, Special Operators – In, Between, Like, Dual table concept, SQL functions- Arithmetic, Aggregate, Conversion, Date and Time	L= 12	
		T= 3	P= 0

4	Concept of Sub-queries, Joins and Database Recovery: (15) Virtual Table Creation(Views), sequence, Sub-queries and Nesting sub queries, Joins – Equi join, Inner join, outer join. Transaction problems, Locking techniques, Two phase locking techniques for concurrency control, Concurrency control based on timestamp ordering, Serializability, Database recovery techniques		L=12	
			T= 1	P= 2
Learning Resources				
1	Reference books	Negi, C. (2019). <i>Fundamentals of database management system..</i> Coronel, C. and Morris, S. (2019). <i>Database systems : design, implementation, and management</i> . 13th ed. Australia; United States: Cengage Learning. Basta, A. and Zgola, M. (2020). <i>Database security</i> . Australia: Course Technology. Chaudhary, H. (2018). <i>Hands On Relational Database Management System RDBMS-1000+ MCQ</i> . STCD COMPANY. Kriti Sinha (2016). <i>Structured query language for all RDBMS and PL/SQL (SQL, PL/SQL)</i> . Delhi: Kalpaz Publications. Satinder Bal Gupta and Aditya Mittal (2019). <i>Introduction to database management system</i> . New Delhi: Lasmi Publications Pvt. Ltd.		
2	Text Books	Ramez Elmasri and Navathe, S.B. (2016). <i>Fundamentals of database systems</i> . Hoboken, New Jersey: Pearson. Kroenke, D.M., Auer, D.J., Vandenberg, S.L. and Yoder, R.C. (2020). <i>Database concepts</i> . Hoboken, Nj: Pearson Education, Inc. Tanmay Kasbe (2016). <i>DBMS Concepts - A Practical approach</i> . Educreation Publishing. Silberschatz, A., Korth, H.F. and S Sudarshan (2020). <i>Database system concepts</i> . New York, Ny: Mcgraw-Hill Education.		
3	Websites	https://www.tutorialspoint.com/sql/sql-rdbms-concepts.htm https://www.javatpoint.com/what-is-rdbms https://www.w3schools.com/mysql/mysql_rdbms.asp https://data-flair.training/blogs/sql-rdbms/ https://www.techtarget.com/searchdatamanagement/definition/RDBMS-relational-database-management-system		
4	Journals	Premkumar, G. (2021). Knowledge Based System and Database Management System. <i>Journal of Database Management</i> , 2(4), pp.12–26. doi: https://doi.org/10.4018/jdm.1991100102 . Morrison, P. (2013). Database Security. <i>Network Security</i> , 2003(6), pp.11–12. doi: https://doi.org/10.1016/s1353-4858(03)00610-x . Hartono, N. and Erfina, E. (2021). Comparison of Stored Procedures on Relational Database Management System. <i>Tech-E</i> , [online] 4(2), pp.8–15. doi: https://doi.org/10.31253/te.v4i2.529 . Dwyer, P.A., Jelatis, G.D. and Thuraisingham, B.M. (2017). Multi-level security in database management systems. <i>Computers & Security</i> , 6(3), pp.245–251. doi: https://doi.org/10.1016/0167-4048(87)90105-2 .		

Semester	II	Total Credit	4		
Course Code	MCS-202	Credit Pattern	L-48, T-0, P-12		
Course Title	Data and File Structures				
Course Objectives					
1	Select and use correct data type and data structure.				
2	Organize and test the data structure.				
3.	Design and develop a new data type and data structure.				
4.	Judge and critique appropriateness of data structure.				
Course Outcomes: The students will able to					
1.	Understand what is data type and data structures?				
2.	Select and use appropriate data type and data structure.				
2.	Design and implement appropriate data structures for solving computing problems.				
3.	Understand and use various file structures.				
Unit Number	Contents			Number of Sessions	
1	Introduction to Data Structure : (15) Data types – primitive and non-primitive, Types of Data Structures- Linear & Non Linear Data Structures, implementation of some of the user defined data types such as – rational number, complex number, string, matrix etc. Stack -Definitions & Concepts, Operations on Stacks, Implementation of stack using array and linked list, Applications of Stacks – Parenthesis checker, Infix to postfix conversion, Expression evaluation.			L= 12	
				T=0	P= 3
2	Queue : (15) Queue- Representation Of Queue, Operations On Queue, Circular Queue, Priority Queue, Array representation of Priority Queue, Double Ended Queue, Applications of Queue. Linked List Singly Linked List, Doubly Linked list, Circular linked list, Linked implementation of Stack, Linked implementation of Queue, Applications of linked list.			L= 12	
				T= 0	P= 3
3	Tree : (15) Definitions and Concepts, Representation of binary tree, Binary tree traversal (Inorder, postorder, preorder), Threaded binary tree, Binary search trees, Applications Of Trees-Some balanced tree mechanism, eg. AVL trees, 2-3 trees, Height Balanced, Weight Balance, Huffman tree, Expression tree.			L= 12	
				T= 0	P= 3
4	Hashing and File structures : (15) Hashing: What is hashing and hash table?, Hashing Functions, Hash collision, Collision-Resolution Techniques-rehashing, linear probing, quadratic probing, separate chaining. File Structure: Concepts of fields, records and files, Sequential, Indexed and Relative/Random File Organization, Indexing structure for index files, hashing for direct files, Multi-Key file organization and access methods.			L=12	
				T= 0	P= 3
Learning Resources					

1	Text Books	Narasimha Karumanchi (2017). Data structures and algorithms made easy : to all my readers : concepts, problems, interview questions. Madinaguda, Hyderabad: Careermonk Publications. Saha, S. and Shukla, S.K. (2020). Advanced data structures : theory and applications. Boca Raton: Chapman & Hall/CRC. Brass, P. (2019). Advanced data structures. Cambridge ; New York: Cambridge University Press.
2	Reference books	Data structures. (2016). New Delhi: I.K. International Publishing House Pvt. Ltd. Lipschutz, S. (2014). Data structures. New Delhi: Mcgraw Hill Education (India) Private Limited.
3	Websites	https://www.programiz.com/dsa https://www.geeksforgeeks.org/data-structures/ https://www.cs.usfca.edu/~galles/visualization/Algorithms.html
4	Journals	
5	Supplementary Reading	https://www.javatpoint.com/data-structure-tutorial ps://www.geeksforgeeks.org/data-structures/ https://www.tutorialspoint.com/data_structures_algorithms/
6	Practical Components	Implementation of Rational Number as a data type Complex number as a data type String as a data type Matrix as a data type Stack using array Stack using Linked list Bracket checker using stack Infix to postfix conversion using stack Evaluation of postfix expression using stack Queue using Array Circular queue Priority queue Dqueue/Dual Queue Application of stack in Operating system Singly linked list Singly circularly linked list Doubly linked list Doubly circularly linked list Polynomial arithmetic using linked list Binary tree Traversal of binary tree Hash table using array Hash table using Linked list

semester	II	Total Credit	4
Course Code	MCS-203	Credit Pattern	L-45, T-8, P-7
Course Title	Dot Net Technology		
Course Objectives			
1	Explore the knowledge on different types of applications of .net		
2	Know about the design methodologies with concentration on object oriented concepts.		
3.	Giving the students a complete knowledge on .net framework and .net environment.		
4	Provide the knowledge on developing internet applications and how to design and implement complete applications over the web using web form and MVC technology.		
Course Outcomes: The students will able to			
1	To handle .NET framework and environment which involves teaching its history, components, languages, application models, development tools, best practices, and practical application through projects.		
2	Design methodologies in software development using C# and focus on object-oriented concepts such as encapsulation, inheritance, and polymorphism to create modular, reusable, and maintainable code		
3	To efficiently create, manage, and manipulate data-driven applications using .NET, enabling seamless interaction with relational databases.		
4	Apply knowledge for developing web applications using Web Forms and MVC technology, students must understand how to design and implement complete web applications by mastering page life cycles, event handling, state management ,database connections etc.		

Unit Number	Contents	Number of Sessions	
1	Overview of.netframework: (15) Overview of .NET binaries and .NET architecture. The role of MSIL and metadata. Understanding CLR, CTS and CLS, .NET base classes , Assemblies- Components of Assembly, Private and Shared Assembly, Visual Studio .NET IDE	L= 12	
		T=3	P= 1
2	C#Programming: (15) C# Programming constructs, C# looping and Conditional constructs, Primitive types, operators and expressions, C# object oriented concepts, Object lifecycle, Initializer, Constructor, Garbage Collector, Interface, Inheritance, polymorphism, properties, Delegates, events, Exception handling in C#	L= 12	
		T= 3	P= 2
3	ADO.net: (15) ADO.net fundamentals, ADO.net architecture, Connection class, Command class, Data Reader class, Transactions, Data components and Data Set, Disconnected Data, Data Bindings.	L= 12	
		T= 3	P= 2
	ASP.netwebforms: (15)	L=12	

4	Introduction, Request processing pipeline, page life cycle, ASP.net server controls- button, Textbox, Labels, checkbox, Radio Button, list and other web server controls, web.config and global. Sax, Validation controls: Introduction, basic validation controls, Navigation controls, State management- Using view state, session state, application state, cache management, Master page- Creating master page, content pages, accessing master page controls from content page files.	T= 3	P= 2

Learning Resources

1	Text Books	Albahari, J. (2021). <i>C# 9.0 in a Nutshell : the definitive reference</i> . Beijing ; Boston ; Farnham ; Sebastopol ; Tokyo O'reilly March. Troelsen, A. and Japikse, P. (2022). <i>Pro C# 10 with .NET 6</i> . Apress.
2	Reference books	Nagel, C. (2021). <i>Professional C# And .net</i> . S.L.: Wiley-Blackwell. Miles, R.S. (2018). <i>C# yellow book</i> . Skeet, J. and Lippert, E. (2019). <i>C# in depth</i> . Shelter Island, Ny: Manning Publications Co. Stellman, A. and Greene, J. (2021). <i>Head first C# a learner's guide to real-world programming with c#, xaml, and .net</i> . Sebastopol, CA: O'Reilly Media, Inc.
3	Websites	https://www.tutorialspoint.com/vb.net/index.htm https://www.guru99.com/asp-net-tutorial.html https://stackify.com/learn-asp-net-tutorials/
4	Journals	Science of Computer Programming-Methods of SoftwareDesign: Techniques and Applications Programming and ComputerSoftware Journal of Global Research in ComputerScience
5	Supplementary Reading	https://visualstudio.microsoft.com/vs/features/net-development/ https://dotnet.microsoft.com/learn https://www.journals.elsevier.com/science-of-computer-programming
6	Practical Components	List of experiments to be executed during laboratoryhours

Semester	II	Total Credit	2
Course Code	MCS-204	Credit Pattern	L-48, T-6, P-6
Course Title	DATA MINING		
Course Objectives			
1	To provide students with basic concepts of data warehouse and data mining.		
2	To develop abilities to solve real time problem by applying appropriate data mining algorithm.		
2	To make students acquaint to different tools and techniques used for Knowledge Discovery in Databases.		

Course Outcomes: The students will able to			
1.	Develop acquaintance with the tools and techniques used for Knowledge Discovery in Databases.		
2.	Discover interesting patterns from large amounts of data to analyze and extract patterns to solve problems		
3.	Evaluate and select appropriate data-mining algorithms		
4.	Apply, and interpret and report the output appropriately		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	INTRODUCTION TO DATA MINING AND ASSOCIATION RULE MINING Introduction – Data – Types of Data – Data Mining Functionalities – Classification of Data Mining Systems – Data Mining Task Primitives, Data Mining Applications, Integration of a Data Mining System with a Data Warehouse – Issues –Data Preprocessing. Mining Frequent Patterns, Associations and Correlations –Mining various Kindsof Association Rules – Market Basket Analysis, Apriori Algorithm, FP tree Algorithm, Correlation Analysis.	L= 12	
		T= 1	P= 2
2	CLASSIFICATION Classification and Prediction - Basic Concepts - Decision Tree Induction - Bayesian Classification – Rule Based Classification – Classification by Back propagation – Support Vector Machines – Associative Classification – LazyLearners – Other Classification Methods – Prediction.	L= 12	
		T= 1	P= 2

Learning Resources		
1	Text Books	Alex Berson and Stephen J. Smith, “ Data Warehousing, Data Mining & OLAP”, Tata McGraw – Hill Edition. Jiawei Han and Micheline Kamber, “Data Mining Concepts and Techniques”, Second Edition, Elsevier
2	Reference books	Pang-Ning Tan, Michael Steinbach and Vipin Kumar, “ Introduction To Data Mining”, Person Education, 2007. K.P. Soman, Shyam Diwakar and V. Ajay “, Insight into Data mining Theory and Practice”, Easter Economy Edition, Prentice Hall of India G. K. Gupta, “ Introduction to Data Mining with Case Studies”, Easter Economy Edition, Prentice Hall of India Daniel T.Larose, “Data Mining Methods and Models”, Wile-Interscience
3	Websites	http://guidetodatamining.com/ , “A Programmer's Guide to DataMining” https://www.classcentral.com/course/independent-data-mining-with-weka-1152 , “Data Mining with Weka” https://www.geeksforgeeks.org/data-mining/ https://www.tutorialspoint.com/data_mining
4	Journals	Inderscience Publisher “International Journal of BusinessIntelligence and Data Mining” Inderscience Publisher “International Journal of KnowledgeEngineering and Data Mining” IEEE Transactions on Knowledge and Data Engineering Wiley Interdisciplinary Reviews: Data Mining and KnowledgeDiscovery
5	Supplementary Reading	https://www.techgig.com/webinar/Understanding-SVM-Support-Vector-Machine-Algorithms-1083 https://www.searchtechnologies.com/blog/web-data-mining-tools-techniques
6	Practical Components	Experimenting different mining algorithms on available datasets using Weka and R programming.

Semester II		Total Credit	4
Course Code	ELCS-206 (a)	Credit Pattern	L-48, T-0, P-12
Course Title		Software Testing and Quality Assurance	
Course Objectives			
1	To introduce testing concept and process.		
2	To explain testing strategy for software.		
3.	To demonstrate testing techniques for software.		
4.	To introduce quality concept and procedures for software.		
Course Outcomes: The students will able to			
1.	Recognize and apply appropriate testing strategy for software testing.		
2.	Design and apply test cases for software testing		
2.	Choose and use appropriate software quality concepts.		
3.	Choose or formulate correct tools and techniques to ensure software quality.		
Syllabus:			
Unit Number	Contents		Number of Sessions
1	INTRODUCTION Introduction, Basics of Software Testing, Testing Principles, Goals, Testing Life Cycle, Phases of Testing, Defects, Defect Life Cycle, Defect Report, Test Plan(IEEE format), Importance of testing in software production cycle. TESTING STRATEGIES Test organization, Structure of testing, Measurement tools, Software Testing: GUI testing, Validation testing, Regression testing, Scenario testing, Specification based testing, Adhoc testing, Sanity testing, Smoke testing, Random Testing. Advances in Software Testing Methods		L= 12 T=0 P= 3
2	WHITE BOX TESTING Introduction, Need of white box testing, Testing types, Test adequacy criteria, static testing by humans, Structure - logic coverage criteria, Basis path testing, Graph metrics, Loop Testing, Data flow testing, Mutation Testing, Design of test cases. Testing of Object oriented systems, Challenges in White box testing, Case-study of White-Box testing		L= 12 T=0 P= 3
3	BLACK BOX TESTING Introduction, Need of black box testing, Black box testing Concept, Requirement Analysis, Test case design criteria, Testing Methods, requirement based testing, Positive & negative testing, Boundary value analysis, Equivalence Partitioning class, state based or graph based, cause effect graph based, error guessing, documentation testing & domain testing, design of test cases. Case studies of Black-Box testing.		L= 12 T=0 P= 3
4	QUALITY ASSURANCE Software quality, Quality attribute, Quality Assurance, Quality control & assurance, Methods of quality management, Cost of quality, Quality management, Quality factor, Quality management & project		L= 12 T=0 P= 3

		management, Software quality metrics-TQM, Six Sigma, ISO, SQA Model.	
Learning Resources			
1	Text Books	Ammann, P. and Offutt, J. (2017). Introduction to software testing. Cambridge, United Kingdom ; New York, Ny, Usa: Cambridge University Press. Summers, Boyd L. (2020) Effective Methods for Software Engineering. Boca Raton, Crc Press. O'regan, G. (2019). Concise Guide to Software Testing. Cham Springer International Publishing Imprint, Springer.	
2	Reference books	Shen, J.J. (2019). Software Testing. Black, R. (2015). Advanced Software Testing – Vol.1, 2nd Edition. Rocky Nook, Inc. Jorgensen, P.C. (2018). Software Testing. CRC Press.	
3	Websites	Software security (no date) Thalesgroup.com. Available at: https://cpl.thalesgroup.com/software-monetization/what-is-software-security (Accessed: June 26, 2023). What is Software Security? - CrowdStrike (2022) crowdstrike.com. CrowdStrike. Available at: https://www.crowdstrike.com/cybersecurity-101/security-it-operations/software-security/ (Accessed: June 26, 2023).	
4	Journals	Corradini, D. et al. (2022) “Automated black- box testing of nominal and error scenarios in RESTful APIs,” Software testing, verification & reliability, 32(5). doi: 10.1002/stvr.1808. Le Traon, Y. and Xie, T. (2023) “Model- based testing,” Software testing, verification & reliability, 33(2). doi: 10.1002/stvr.1841	
5	Supplementary Reading	Hamilton, T. (2023) Software Testing Tutorial, Guru99. Available at: https://www.guru99.com/software-testing.html (Accessed: June 26, 2023). Software Testing Tutorial (no date a) www.javatpoint.com. Available at: https://www.javatpoint.com/software-testing-tutorial (Accessed: June 26, 2023). Software Testing Tutorial (no date b) Tutorialspoint.com. Available at: https://www.tutorialspoint.com/software_testing/index.htm (Accessed: June 26, 2023).	
6	Practical Component	Design of test cases for various business applications	

SEM	II	Total Credit	4
Course Code	ELCS-206 (b)	Credit Pattern	L-45, T-8, P-7
Course Title	ETHICAL HACKING		

Course Objectives	
1	To demonstrate a comprehensive understanding of Ethical Hacking techniques.
2	To analyse different attack vectors and vulnerabilities in web applications.
3.	To design network hacking activities
4.	To apply ethical hacking methodologies to exploit system vulnerabilities.
Course Outcomes: The students will be able to	
1.	Demonstrate a comprehensive understanding of Ethical Hacking techniques.
2.	Analyse different attack vectors and vulnerabilities in web applications.
3.	Design network hacking activities
4	Apply ethical hacking methodologies to exploit system vulnerabilities.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Ethical Hacking and Reconnaissance Introduction to ethical hacking and its objectives, Footprinting and reconnaissance techniques, Scanning networks and identifying vulnerabilities, Enumeration and gathering information about systems and services, Introduction to system hacking and gaining unauthorized access	L-11	
		T-2	P-1
2	Malware Threats and Web Application Security Understanding different types of malware and their characteristics, Analysing and combating malware threats, Sniffing techniques and analysing network traffic, Social engineering and its impact on security, Introduction to web application security and vulnerabilities	L-12	
		T-2	P-2
3	Network Hacking Exploiting network vulnerabilities and weaknesses, Denial of Service (DoS) attacks and their impact, Session hijacking techniques and prevention, Hacking web servers and database servers, Wireless network hacking and securing wireless networks	L-11	
		T-2	P-2
4	Cryptography, Vulnerability Analysis, and Countermeasures Fundamentals of cryptography and encryption algorithms, Public key infrastructure (PKI) and digital certificates, Vulnerability analysis and assessment techniques, Penetration testing methodologies and tools, Implementing countermeasures and security best practices	L-11	
		T-2	P-2

Learning Resources		
1	Text Books	• Walker, M. (2020). CEH Certified Ethical Hacker All-in-One Exam Guide.

		McGraw-Hill Education. Harper, A., Regalado, D., Linn, R., Sims, S., Spasojevic, B., Martinez, L., Baucom, M., Eagle, C., & Harris, S. (2020). Gray Hat Hacking: The Ethical Hacker's Handbook. McGraw-Hill Education
2	Reference books	- Kim, P. (2018). The Hacker Playbook 3: Practical Guide to Penetration Testing. Independently published. - Engelbreton, P. (2013). The Basics of Hacking and Penetration Testing: Ethical Hacking and Penetration Testing Made Easy. Syngress - Weidman, G. (2014). Penetration Testing: A Hands-On Introduction to Hacking. No Starch Press
3	Websites	- Hack This Site! https://www.hackthissite.org - OWASP https://www.owasp.org - Metasploit Unleashed https://www.metasploitunleashed.com - Cybrary https://www.cybrary.it - Offensive Security https://www.offensive-security.com
4	Journals	- Eric Filiol, Journal of Computer Virology and Hacking Techniques, Springer, ISSN: 2263-8733 - Tyler Moore, David Pym, Journal of Cybersecurity, Oxford University Press, ISSN 2057-2093
5	Supplementary Reading	- CEH v12 - Certified Ethical Hacking Course, https://www.simplilearn.com/cyber-security/ceh-certification - Ethical Hacking Essentials (EHE), https://www.coursera.org/learn/ethical-hacking-essentials-ehe
6	Practical Components	Laboratory experiments on Footprinting techniques, Scanning networks, Enumeration, System hacking, Sniffing, Social Engineering

M. Sc. (CS) Part-II Semester III

Semester	III	Total Credit	4
Course Code	M	Credit Pattern	L-48, T-12, P-0
Course Title	Computer Communication Network		

Course Objectives

1	To learn technology behind network architecture with layered organization.
2	Gain in depth knowledge of network core and network edge
3	Uniform coverage of principles, architecture, practical insights of networks

Course Outcomes

After completion of this course the student will be able to:

1	Present conceptual aspects of network applications such as web, file transfer, e-mail, and remote access, file sharing.
2	Understand various protocols such as HTTP, SMTP, POP3, IMAP, FTP, DNS, DHCP and the basic structure of IP V4, IP V6 Address
3	Understand routing concept and working of routing protocols such as RIP, OSPF and BGP
4	Understand layered architecture of TCP/IP model and design network applications
5	Build understanding and problem-solving skills required for network design
6	Understanding of wireless networks and protocols

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Computer Networks & Internet Introduction, Identifying Characteristics of Network, Types of Network, Network Topologies, Types of Network Topology, Merits and Demerits of Topology, Networking Devices, Physical Media and Connectors, Protocols, Network Core, Network Edge, Delay and Loss in Packet Switched Network, VLAN, ISP's, Network Operating Systems, OSI Model, TCP/IP Protocol Layers and their Service Models, Workgroup and Domain	L= 12	
		T=3	P= 0
2	Application Layer Introduction, The Internet, Principles of Network Applications, Client Server Architecture, Peer to peer Architecture, Hybrid Architecture, Application Layer Protocols, File Transfer and FTP, The World Wide Web HTTP and HTTPS, Electronic Mail in the Internet, Email Addressing, Message Structure, MIME-Multipurpose Internet Mail Extensions, SMTP, POP3, IMAP. Transport Layer Introduction, Transport Layer Services, Connection Oriented Transport: TCP, Responsibilities and functions of Transport Layer, Flow Control, Congestion Control, Multiplexing and De-Multiplexing, TCP Header, Principles of Reliable Data Transfer, RDT Protocols, Connectionless	L= 12	
		T= 3	P= 0

	Transport: UDP, Difference between TCP and UDP		
3	Network Layer Introduction, Datagram Networks, Responsibilities of Network Layer, Services of Network Layer, Router, Router components and functions, Routing Protocols, Routing in the Internet, Broadcast and Multicast. Firewalls & Internet Access, Network Protocols. Data Link Layer Introduction, 802 standards, Functions of Data Link Layer, Data Link Layer Services, Types of Error, Error Detection and Correction, Multiple Access Protocols, Pure and Slotted ALOHA, CSMA, CSMA/CD Polling, Token Passing, LAN Technologies, Ethernet – Fast and Gigabit Ethernet Link Layer Addressing, Switches, Managed and Unmanaged Switches, Wireless Network Introduction to Wireless Network, Wireless Ethernet Standards, Types of Wireless Network, Wi-Max, Difference between Wi-Fi and Wi Max	L= 12	
		T= 3	P= 0
4	Network Administration Introduction, Enterprise Network Implementation, Windows Networking, TCP/IP and the Internet, IP addressing (Network Part and Host Part Subnet Masks, Network Addresses and, Broadcast Addresses, Loop Back Address, Address Classes), Features of IPv4 and IPv6, Windows Servers, Configuring the TCP/IP Protocol, DHCP Overview, Working of DHCP, DHCP Server, The DHCP Relay Agent, Managing DHCP with DHCP Manager, Binding IP with MAC, Rapid Spanning Tree, DNS, DNS Server, Terminal Services.	L=12	
		T= 3	P= 0

Learning Resources

1	Text Books	James F. Kurose and K. W. Ross, Computer Networking: A Top Down Approach, Pearson, 5 th Edition 2013 Craig Hunt & Robert Bruce Thompson, Windows NT TCP/IP Network Administration, O'Reilly Media Computer Networks Andrew S. Tanenbaum 4e
2	Reference books	Tanenbaum, A.S., Computer Networks, Prentice Hall of India Pvt. Ltd, 4 th Edition 2005 Douglas E. Comer, Computer Network and Internets with Internet Applications, Pearson Education Inc., 4th Edition 2004 Uyless Black, Computer Networks Protocols, Standards and Interfaces, Prentice Hall of India Pvt, Ltd, 2 nd Edition Prakash C. Gupta, Data Communication & Computer Network, Prentice Hall of India Pvt. Ltd.
3	Websites	https://www.geeksforgeeks.org/computer-network- tutorials https://www.studytonight.com/computer-networks/ https://www.tutorialspoint.com/data_communication_computer_network/index.htm

4	Journals	Journal of Computer Networks and Communications 2011, ISSN: 2090-715X The International Journal of Computer and Telecommunications Networking ISSN: 1389-1286 https://www.journals.elsevier.com/computer-networks Journal of Communications and Networks, ISSN 12292370
5	Supplementary Reading	Study Material of Web Course Developed for NPTEL , Computer Networks, https://nptel.ac.in/courses/106/105/106105183/

Semester III		Total Credit	4
Course Code	M	Credit Pattern	L-48, T-0, P-12
Course Title		Software Engineering and Project Management	
Course Objectives			
1	To introduce scientific way to design and develop software.		
2	To demonstrate methods used for software design.		
3.	To introduce and demonstrate techniques used for software testing.		
4.	To introduce project management concepts and techniques.		
Course Outcomes: The students will able to			
1.	Select and apply the correct method for software development.		
2.	Design a software to fulfill user requirements.		
2.	Apply and use a correct method and technique for software testing.		
3.	Apply project management techniques to make it successful.		
Syllabus:			
Unit Number	Contents		Number of Sessions
1	Introduction Software Engineering and myths, Waterfall Model, Iterative model, Prototyping, Spiral Model, RAD, Extreme Programming (XP), Scrum, Requirement Engineering Fact finding tools and Techniques, SRS. Introduction to UML -Views, Diagrams, model elements, extension mechanism, Use Case modeling- Identifying Users and Use cases, Finding relationship between use cases, Drawing Use case diagram, and Writing use case description, Testing use case model		L= 12 T=0 P= 3
2	Classes, Objects and Relationship Class Diagram and Object diagram- Finding Classes, Understanding Relationship between Classes, Class Diagram and Object diagram- Drawing Class and object diagram. Dynamic Modeling in UML State Diagram-State concept, drawing state diagram. Sequence diagram Collaboration diagram, Activity Diagram, Component diagram, Deployment diagram, UML Extension Mechanism-Stereotypes, Tagged Values, Constraints, Software Testing Strategies and Techniques		L= 12 T=0 P= 3

3	Testing objectives, testing strategy – Unit Testing Integration testing, Validation Testing, System Testing, Debugging Process, Testing Techniques- Black Box and White box testing, UI testing. Testing – Object oriented systems and web Applications. Software maintenance Definition of maintenance, Maintenance characteristics, maintainability, maintenance tasks, maintenance side effects, Reverse engineering and reengineering. Software configuration management, Software reusability. Software Complexity & Reliability.	L= 12 T=0 P= 3
4	Software Project Management Need for the proper management of software projects, Management activities, Project planning, Software Size Estimation and Cost Estimation, Software Estimation –Size Estimation, Function Point Analysis, LOC Estimation, COCOMOII Project scheduling Task set for Software project, Defining a task network, Scheduling, Earned value analysis Risk management - Risk Identification, Risk projection, Risk refinement, Risk mitigation, monitoring & management-The RMMM, Managing people	L= 12 T=0 P= 3

Learning Resources

1	Text Books	Juristo, N. and Moreno, A.M. (2014). Basics of Software Engineering Experimentation. Jacobson, I., Lawson, H.W., Ng, P.-W., McMahon, P.E. and Goedicke, M. (2019). The essentials of modern software engineering : free the practices from the method prisons! [New York, New York], [San Rafael, California]: Association for Computing Machinery ; Morgan & Claypool. Pressman, R. (2014). Software engineering. New York: Mcgraw-Hill.
2	Reference books	Witold Suryn (2014). Software quality engineering : a practitioner's approach. Hoboken: Wiley. Software Engineering. (2016). Cham: Springer International Publishing. Sommerville, I. (2016). Software Engineering. 10th ed. Hallbergmoos/Germany Pearson.
3	Websites	https://www.codecademy.com/learn/software-design-principles https://www.udemy.com/course/software-engineering-us/ https://www.edx.org/course/software-engineering-basics-for-everyone?index=product&queryID=1eeadc48d45f995d0c4b139f75dcb7b2&position=1&results_level=second-level-results&search_index=product&term=software+engineering&campaign=Software+Engineering+Basics+for+Everyone&source=edX&product_category=course&placement_url=https%3A%2F%2Fwww.edx.org%2Fsearch
4	Journals	https://link.springer.com/article/10.1007/s10664-022-10255-x https://link.springer.com/article/10.1007/s10664-023-10288-w https://link.springer.com/article/10.1007/s10664-022-10208-4
5	Supplement	https://repository.dinus.ac.id/docs/ajar/Software_Engineering_-

	ary Reading	_Pressman.pdf https://www.vssut.ac.in/lecture_notes/lecture1428551142.pdf https://www.tutorialspoint.com/software_engineering/software_engineering_tutorial.pdf
6	Practical Component	.

Semester	III	Total Credit	4		
Course Code	M	Credit Pattern	L-48, T-12, P-0		
Course Title	Mobile Computing				
Course Objectives					
1	To introduce challenges in app development for thin clients.				
2	To provide acquaintance with popular Android editors such as Eclipse/Android Studio.				
3	To familiarize the students about android stack, android sdk, application life cycle, and basic components.				
4	To introduce Android's APIs for data storage, retrieval, user preferences, files, databases, and content providers				
5	5. To introduce persistent data storage using SQLite				
Course Outcomes: Students will be able to;					
1	Build android apps in Eclipse/Android Studio.				
2	Design and develop useful Android applications using activities, intent and manifest				
3	Design and develop useful Android applications Utilizing the power of background services, threads, and notifications				
4	Develop applications for data storage and retrieval.				
5	Sharing data between applications using Content Provider.				
Unit Number	Contents			Number of Sessions	
1	Basics and Building Bocks of Android Android Overview and History.Android Stack.Android SDK Overview - Platforms, Tools, Versions.Android Project Structure.Creating first project.The manifest file. Layout resource Running your app on Emulator and real device. Introduction to Eclipse/Android Studio.Structure of android manifest file. Building blocks of Android - Activities, Activity lifecycle, Intents, Services, Content Providers, Broadcast Receivers.Views and layouts, Common UI components.Passing data between activities.			L= 12	
				T= 3	P= 0
2	Leveraging Android UI Components Handling User Events, Complex UI components, Building UI for performance, Menus and Dialogs			L= 12	
				T= 3	P= 0
3	Android Services and Broadcast Receivers Broadcast Receivers. What are Broadcast Receivers.Implementing broadcast receiver.System broadcasts and how to use them. Intent Filters.			L= 12	
				T= 3	P=0

4	Data Persistence in Android Data Persistence- Introducing SQLite, SQLiteOpenHelper and creating a database, Opening and closing a database, Working with cursors Inserts, updates, and deletes Basic Content Providers Content provider MIME types, Searching for content, Adding, changing, and removing content Working with content files		L= 12	
			T= 3	P= 0
Learning Resources				
1	Text Books	Kothari, P. (2020). Android Application Development (With Kitkat Support), Black Book (2nd ed.). Kogent Learning Solutions Inc. Darwin, I.F. and To, N. (2017). Android Cookbook: Problems and Solutions for Android Developers (2nd Edition). O'Reilly Media. Horton, J. (2019). Android Programming for Beginners (2nd ed.). Packt Publishing. Burton, M. (2015). Android App Development For Dummies (3rd ed.). Wiley. Gargenta, M. (2014). Learning Android (2nd ed.). Place of publication: O'Reilly.		
2	Reference books	Ableson, W. F., Sen, R., King, C., & Ortiz, C. E. (2011). <i>Android in Action</i> (3rd ed.). Manning. Smyth, N. (2020). <i>Android Studio 4.1 Development Essentials - Kotlin</i> Edition (3rd ed.). Payload Media.a. Smith, D., & Friesen, J. (2014). <i>Android Recipes: A Problem-Solution Approach</i> (3rd ed.). Apress. Griffiths, D. and Griffiths, D. (2017). <i>Head First Android Development: A Brain-Friendly Guide</i> (2nd Edition). O'Reilly Media. Casto, S. (2017). <i>APP SECRETS: How To Create A Million Dollar App. Amazon Digital Services</i>		
3	Websites	https://www.tutorialspoint.com/android/index.htm https://www.javatpoint.com/android-tutorial https://www.vogella.com/tutorials/android.html https://www.studytonight.com/android/ https://www.tutlane.com/tutorial/android		
4	Journals	Journal of Information Technology & Software Engineering, ISSN: 2165-7866 https://www.engpaper.com/android-system-research-papers.htm SSRG International Journal of Mobile Computing and Application (IJMCA) – (Seventh Sense Research Group)ISSN 2393 – 9141 International Journal of Computer Science and Mobile Computing - ISSN: 2320-088X		

5	Practical Component	Practical lab excercises based on Units I to IV

Semester		III	Total Credit	2
Course Code		M	Credit Pattern	L-24, T-06 P-0
Course Title		Cloud Computing		
Course Objectives				
1	To understand cloud computing technologies.			
2	To introduce the broad perceptive of cloud architecture and model To learn to design the trusted cloud Computing system			
3.	To introduce the fundamental ideas of the cloud computing model and its origin			
4.	To introduce the broad perceptive of cloud architecture and model To learn to design the trusted cloud Computing system			
Course Outcomes: The students will able to				
1.	Identify the architecture and delivery models of cloud computing.			
2.	Identify infrastructure required for cloud computing.			
3.	Understand and identify requirements for security, privacy and interoperability.			
4.	select suitable cloud player and implement cloud services and set a private cloud			

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to cloud computing: Cloud computing definitions, History of cloud, Characteristics and Principles of cloud, SaaS Maturity Model, commercial cloud offerings, cloud storage, live migration, Layers and types of clouds, Challenges, Service Models, opportunities and challenges, advantages and disadvantages of cloud computing, Comparison of Cloud computing, Cluster computing and Grid computing; Applications: Technologies and process required when deploying Web services. Service Oriented Architecture (SOA), WSDL structure, protocols used in SOA, web service integration, service catalogs,. Cloud Computing Architecture: Cloud Interoperability and standards, Scalability and Fault tolerance, System Models for Distributed and cloud computing –NIST cloud computing reference model. Cloud Cube Model, Cloud Reference Model, Cloud Models – Service Model(Iaas, Paas, Saas), Deployment Model,	L= 15	
		L=12	T=3
2	Cloud Computing Costs – Right sizing, auto scaling, vertical scaling Vs horizontal scaling, service level agreement, service credits, defining licensing models. Capacity planning, steps in capacity planning, baseline measurements, resource ceiling, Virtualization: Introduction to Virtualization, Characteristics of virtualization, Virtualization and Cloud Computing, Pros and Cons of Virtualization, Types of Virtualization- Implementation Levels of Virtualization - Virtualization Structures - Tools and Mechanisms - Virtualization of CPU, Memory, I/O Devices . Fundamental concepts of compute ,storage, networking, desktop and application	L= 15	
		L=12	T= 3

		virtualization, Virtualization benefits, server virtualization, Infrastructure Requirements , Virtual LAN(VLAN) and Virtual SAN(VSAN) and their benefits ,Load balancing, benefits of load balancing, load balancing algorithms, hypervisor (virtual machine monitor), types of hypervisors, machine imaging, porting applications, challenges in porting applications, simple cloud API, AppZero virtual Application Appliance.		
Learning Resources				
1	Text Books	Gu, J. (2019) Cloud computing architecture: Technologies and practice. 1st ed. Boston, MA: De Gruyter. Le, D.-N. et al. (2018) Cloud Computing and Virtualization. Standards Information Network. Mahmood, Z. (ed.) (2016) Cloud Computing: Challenges, Limitations and R&D Solutions. Cham, Switzerland: Springer International Publishing.		
2	Reference books	Marinescu, D. C. (2018) Cloud computing: Theory and practice. Oxford, England: Morgan Kaufmann. Sehgal, N. K. and Bhatt, P. C. P. (2018) Cloud computing: Concepts and practices. 1st ed. Basel, Switzerland: Springer International Publishing. Wang, L. et al. (eds.) (2017) Cloud computing: Methodology, systems, and applications. London, England: Routledge.		
3	Websites	Eckhardt, J. (2015) "Cloud Computing: -Orientierungshilfe 2.0 des Düsseldorfer Kreises," Datenschutz und Datensicherheit - DuD, 39(3), pp. 176–182. doi: 10.1007/s11623-015-0389-5. Learn cloud computing online (no date) edX. Available at: https://www.edx.org/learn/cloud-computing (Accessed: June 26, 2023). What is Cloud Computing? Tutorial, Definition, Meaning - javatpoint (no date) www.javatpoint.com. Available at: https://www.javatpoint.com/cloud-computing-tutorial (Accessed: June 26, 2023). (No date) Data-flair.training. Available at: https://data-flair.training/blogs/cloud-computing-tutorial/ (Accessed: June 26, 2023).		
4	Journals	Global Journals – Cloud and Disributed, ISSN Online 0975-4172, ISSN Print 0975-4350, DOI 10.17406/gjcost International Journal of Cloud Computing, ISSN online 2043-9997, ISSN print 2043-9989 Journal of Cloud Computing Advances, Systems and Applications, ISSN: 2192-113X (Online) (Springer) International Journal of Cloud Applications and Computing (IJCAC), ISSN: 2156-1834 EISSN: 2156-1826 DOI: 10.4018/IJCAC		
5	Supplementary Reading	https://en.wikipedia.org/wiki/Cloud_computing https://www.geeksforgeeks.org/cloud-computing/ https://www.tutorialspoint.com/cloud_computing/ https://www.guru99.com/cloud-computing-for-beginners.html		

6	Practical Components	Create a free account on cloud and identify various services offered by cloud players.

Semester	III	Total Credit	4
Course Code	EL	Credit Pattern	L-48, T-12, P-0
Course Title	Full Stack Web Development		
Course Objectives			
1	To develop a comprehensive understanding of the MEAN/MERN stack architecture		
2	To gain proficiency in building dynamic and responsive user interfaces using Angular or React frameworks		
3.	To acquire hands-on experience in designing and implementing RESTful APIs using Express.js		
4.	To comprehend how to utilize Node.js as a server-side runtime environment for building scalable and efficient web applications,		
Course Outcomes: The students will able to			
1.	Demonstrate proficiency in building end-to-end web applications using the MEAN/MERN stack		
2.	Apply best practices and industry-standard techniques to design and implement responsive and user-friendly user interfaces using Angular or React		
3.	Develop RESTful APIs using Express.js, implementing CRUD (Create, Read, Update, Delete) operations		
4.	Create and deploy scalable and high-performing web applications using Node.js as the backend runtime environment		
Unit Number	Contents		Number of Sessions
1	Introduction to Node.js: Overview of Node.js and its role in server-side development. Understanding the event-driven, single-threaded nature of Node.js. Exploring the benefits and use cases of Node.js in building scalable applications.		L= 12
	Working with Modules:Introduction to CommonJS modules and the require function. Creating and organizing modules in Node.js applications. Understanding module exports and imports for code reuse.		T=1
	Asynchronous Programming: Understanding the importance of asynchronous programming in Node.js. Working with callbacks, Promises, and async/await for managing asynchronous operations. Utilizing event emitters and event-driven programming in Node.js.		
	Working with Streams and File System:Understanding the concept of streams for efficient data processing. Reading and writing data to files using the File System module. Handling file operations asynchronously.		
			P= 2

	Introduction to MongoDB Introduction to MongoDB: Understanding the basics of MongoDB and its role in modern database systems. Comparing MongoDB to traditional relational databases. Exploring the advantages and use cases of using MongoDB for data storage. Document-Oriented Data Model: Understanding the document-oriented data model used in MongoDB. Working with collections and documents. Exploring the flexibility of schema-less design and dynamic schemas. CRUD Operations: Performing Create, Read, Update, and Delete operations in MongoDB. Using the MongoDB Query Language (MQL) to retrieve and manipulate data. Working with operators, filters, and projections for precise data retrieval. Integrating Node.js with MongoDB, Implementing CRUD operations and data validation.		
2	Introduction to Express.js Introduction to Express.js: Understanding the role of Express.js in building web applications. Comparing Express.js to other web frameworks. Exploring the advantages and use cases of using Express.js. Routing and Middleware: Defining routes and handling HTTP requests in Express.js. Implementing route handlers for different HTTP methods. Working with middleware functions for request processing and response handling. Request and Response Handling: Parsing request bodies and handling form submissions. Managing cookies and session data. Implementing error handling and sending appropriate responses. Middleware Stack: Understanding the concept of middleware in Express.js. Creating custom middleware functions for authentication, logging, or validation. Ordering and chaining middleware for request processing. Express Router: Organizing routes and handlers using the Express Router. Creating modular route handlers and middleware. Implementing nested routers for more complex applications. Working with Databases: Integrating Express.js with databases like MongoDB or MySQL. Using database drivers or ORMs for data retrieval and manipulation. Implementing CRUD operations and handling database errors.	L=12	
		T=1	P=2

3	Introduction to Angular: Understanding the role of Angular in modern web development. Exploring the advantages and use cases of using Angular. Comparing Angular to other frontend frameworks and libraries. Components and Templates: Creating Angular components to define the UI and behavior of application parts. Working with templates and binding syntax for data display and manipulation. Implementing component communication and interaction using input and output properties. Directives and Pipes: Using directives to modify the behavior of HTML elements. Exploring built-in directives like ngIf, ngFor, and ngStyle. Creating custom directives to extend Angular's functionality. Working with pipes for data transformation and formatting. Dependency Injection: Understanding the concept of dependency injection in Angular. Configuring providers and injecting dependencies into components and services. Utilizing hierarchical injectors and dependency scopes. Services and Data Management: Creating services to encapsulate business logic and data operations. Using services for data retrieval, manipulation, and communication with backend APIs. Implementing data sharing between components using services. Routing and Navigation: Setting up routing in Angular applications for multiple views and navigation. Defining routes, route parameters, and query parameters. Implementing route guards for authentication and authorization. Forms and Validation: Working with Angular forms to capture and validate user input. Implementing template-driven forms and reactive forms. Validating form data using built-in validators and custom validation functions.	L= 12	
		T= 1	P= 2
4	Introduction to React.js: Understanding the role of React.js in modern web development. Exploring the advantages and use cases of using React.js. Comparing React.js to other frontend frameworks and libraries. Components and JSX: Creating React components to define the UI and behavior of application parts. Working with JSX syntax for declarative rendering of components. Understanding the virtual DOM and its role in efficient rendering. Props and State: Passing data and properties between components using	L=12	
		T=1	P= 2

	props. Managing component-specific data and state using React's state management. Updating state and triggering component re-rendering. Component Lifecycle: Understanding the lifecycle methods of React components. Utilizing lifecycle hooks for initialization, updating, and unmounting of components. Handling side effects and performing cleanup operations. Handling Events: Adding event handlers to components for user interaction. Responding to user input and updating component state. Preventing default behavior and propagating events. Conditional Rendering and List Rendering: Implementing conditional rendering based on component state or props: Rendering lists of data using map() and key attribute. Handling dynamic content and iterating over data collections. Forms and Controlled Components: Managing form inputs and handling user input: Controlling form state using controlled components. Validating form data and providing user feedback.		

Learning Resources

1	Text Books	Iriarte Koroliova, E.W. (2020). MERN Quick Start Guide: Build web applications with MongoDB, Express.js, React, and Node. Packt Publishing. ISBN: 978-1839215414. Haviv, A.Q. (2021). MEAN Web Development: Expert Full Stack JavaScript. Apress. ISBN: 978-1484270597. McDowell, G.L., & Deshpande, M. (2020). Learning MERN: Create web applications using MongoDB, Express.js, React, and Node.js. Packt Publishing. ISBN: 978-1838984841.
2	Reference books	Koroliova, E.W.I. (2020). MERN Quick Start Guide: Build web applications with MongoDB, Express.js, React, and Node. Packt Publishing. Hoque, S. (2020). Full-Stack React Projects: Learn MERN stack development by building modern web applications. Packt Publishing. Uzayr, S.B. (2020). MEAN Stack Development Projects: Develop real-world MEAN stack applications for web and mobile. Packt Publishing. Derks, R. (2020). MERN Essentials: Build universal apps using the MERN stack. Packt Publishing.
3	Websites	MongoDB Official Website: https://www.mongodb.com/ Express.js Official Website: https://expressjs.com/ Angular Official Website: https://angular.io/ React Official Website: https://reactjs.org/ https://www.geeksforgeeks.org/what-is-full-stack-development/ https://www.w3schools.com/whatis/whatis_fullstack.asp https://www.tutorialspoint.com/listtutorial/Learn-MEAN-Stack-Development/7966

4	Journals	Journal of Web Engineering (JWE) - Available at: http://www.rintonpress.com/journals/jwe/ International Journal of Web Services Research (IJWSR) - Available at: https://www.igi-global.com/journal/international-journal-web-services-research/1079 International Journal of Computer Science and Information Security (IJCSIS) - Available at: http://www.ijcsis.org/ Journal of Web Development (JWD) - Available at: http://www.journalofwebdevelopment.com/ International Journal of Web Information Systems (IJWIS) - Available at: https://www.emerald.com/insight/publication/issn/1744-0084
5	Supplementary Reading	Subramanian, V. (2019). Pro MERN Stack: Full Stack Web App Development with Mongo, Express, React, and Node. Apress. Haviv, A.Q. (2016). MEAN Web Development. Packt Publishing. Banks, A. and Porcello, E. (2020). Learning React: Modern Patterns for Developing React Apps. O'Reilly Media.
6	Practical Component	MEAN Stack Tutorial by FreeCodeCamp Link: https://www.youtube.com/watch?v=PFP0oXNNveg&list=PLWKjhJtqVAbnZtkAI3BqcYxKnfWn_C704 MEAN Stack CRUD Operations by Academind Link: https://www.youtube.com/watch?v=0ZSqSa-1G5Q "MERN Stack Tutorial" by Traversy Media Link: https://www.youtube.com/watch?v=7CqJlxBYj-M&list=PLlilGF-RfqbbiTGgA77tGO426V3hRF9iE Building a MERN Stack Login and Registration System by Dev Ed Link: https://www.youtube.com/watch?v=4_ZiJGY5F38

Semester	III	Total Credit	2
Course Code	EL	Credit Pattern	L-48, T-12, P-0
Course Title	Big Data Analytics		
Course Objectives			
1.	Exploring the big data for Business Intelligence		
2.	Examine big data analytics business case studies.		
3.	Discuss Big Data Management		
4.	Develop map-reduce analytics using Hadoop and related tools		
Course Outcomes: The students will able to			
1.	Enumerate the usage of big data in specific business domains.		
2.	Manage Big data through NoSQL		
3.	Install and configure Haddop & HDFS		
4.	Perform Hadoop Analytics through the usage of Hadoop		

Syllabus:

Unit Number		Contents	Number of Sessions	
1		UNDERSTANDING BIG DATA: Introduction: Understanding Big data,Evolution,Failure of Traditional databases, Sources ,different types of data,Big data infrastructure, Lifecycle,technologies,Data storage concepts: Cluster Computing,Distribution Models, Distributed file system,Relational & Non relational, Databases,Scaling up and scaling down Storages,Processing & Managing Big Data, Big data Analytics & Terminologies,Big data Analysis techniques,Big data technologies: Introduction to Hadoop ,open source technologies, cloud and big data, mobile business intelligence	L= 12	
			T=3	P= 0
2		Introduction to Hadoop Introduction, Hadoop and its Ecosystem, Hadoop Distributed File System, MapReduce Framework and Programming Model, Hadoop Yarn, Hadoop Ecosystem Tools. Hadoop Distributed File System Basics HDFS Design Features, Components, HDFS User Commands. Essential Hadoop Tools Using Apache Pig, Hive, Sqoop, Flume, Oozie, HBase	L= 12	
			T= 3	P= 0
3		Introduction, Estimating the relationships, Outliers, Variances, Probability Distributions, and Correlations, Regression analysis, Finding Similar Items, Similarity of Sets and Collaborative Filtering, Frequent Itemsets and Association Rule Mining. Text,	L= 12	
			T= 3	P= 0
4		Network Analysis: Web Content, Link, and Social Network Analytics: Introduction, Text mining, Web Mining, Web Content and Web Usage Analytics, Page Rank, Structure of Web and analyzing a Web Graph, Social Network as Graphs and Social Network Analytics:	L= 12	
			T= 3	P= 0
Learning Resources				
1	Text Books	Balusamy, B., R, N. A., Kadry, S., Gandomi, A. H. (2021). <i>Big Data Concepts, Technology, and Architecture</i> . 1st Edition. Wiley. White, T. (2012). <i>Hadoop: The Definitive Guide</i> . 3rd Edition. O'Reilly. Sammer, E. (2012). <i>Hadoop Operations</i> . 1st Edition. Shroff. Kamal, R., & Saxena, P. (2019). <i>Big Data Analytics, Introduction to Hadoop, Spark, and Machine-Learning</i> . Paperback. Place of publication: Publisher.		
2	Reference books	George, L. (2011). <i>HBase: The Definitive Guide</i> . 1st Edition. Shroff/O'Reilly. Padalia, N. (2015). <i>Apache Cassandra Essentials</i> . Packt Publishing Limited. Capriolo, E., Wampler, D., Rutherglen, J. (2012). <i>Programming Hive</i> . O'Reilly.		
3	Websites	https://towardsdatascience.com/understanding-big-data-the-seven-vs-of-big-data-6c8e076f6986		

		https://www.datacamp.com/community/tutorials/introduction-nosql-databases https://hadoop.apache.org/docs/stable/hadoop-mapreduce-client/hadoop-mapreduce-client-core/MapReduceTutorial.html https://www.tutorialspoint.com/hbase/index.htm
4	Journals/Articles	Journal on Big Data. (n.d.). Open Access. ISSN: 2579-0048 (print), ISSN: 2579-0056 (online). Publication Frequency: Quarterly. Chen, E., Ahmed, R., & Zhang, A. (2015). Understanding Big Data: Analytics for Enterprise Class Hadoop and Streaming Data. Big Data Research, 2(4), 145-162. doi: 10.1016/j.bdr.2015.09.006. Almeida, P. S., Almeida, J. P., Baquero, C., Fonte, V., & Preguiça, D. (2017). NoSQL Databases: A Survey and Decision Guidance. ACM Computing Surveys, 50(1), 1-35. doi: 10.1145/3131277. Chen, E., Ahmed, R., & Zhang, A. (2015). Understanding Big Data: Analytics for Enterprise Class Hadoop and Streaming Data. Big Data Research, 2(4), 145-162. doi: 10.1016/j.bdr.2015.09.006.
5	Supplementary Reading	https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/big-data-the-next-frontier-for-innovation Chamberlin, D. B., & Reinhardt, M. M. (2013). "MongoDB: A Document-Oriented NoSQL Database." Communications of the ACM, 56(4), 54-63. Tutorialspoint.com. (n.d.). Hadoop Tutorial. [Online] Available at: [https://www.tutorialspoint.com/hadoop/index.htm] [Accessed: June 26, 2023]. https://www.youtube.com/watch?v=J-cSy5MeMOA https://www.simplilearn.com/what-is-hive-article
6	Practical Components	Installation of Hadoop File manipulation in Hadoop Practise exercises

M. Sc. (CS) Part-II Semester IV

Semester	IV	Total Credit	4
Course Code	M	Credit Pattern	L-45, T-8, P-7
Course Title	ARTIFICIAL INTELLIGENCE		

Course Objectives

1	To endow with various disciplines of artificial intelligence and its applications
2	To apply supervised and unsupervised machine learning techniques
3.	To develop basic text classification models using natural language processing techniques
4.	To demonstrate neural network model for data analysis

Course Outcomes: The students will be able to

1.	Endow with various disciplines of artificial intelligence and its applications
2.	Apply supervised and unsupervised machine learning techniques
3.	Develop basic text classification models using natural language processing techniques
4	Demonstrate neural network models for data analysis

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Foundations of AI Introduction, Key milestones in AI, Turing Test, Knowledge representation, Branches of AI - Symbolic AI, Machine learning, Natural language processing, Computer vision, Problem-solving and search algorithms - State and Space Search, Informed and uninformed search algorithms	L-11	
		T-2	P-0
2	Machine Learning Basics of machine learning, Supervised learning, Unsupervised learning, Reinforcement learning, Linear regression, Logistic regression, Decision trees, Random forests, K-means clustering, Evaluation and validation of machine learning models	L-12	
		T-2	P-3
3	Natural Language Processing and Computer Vision Natural Language Processing - NLP Phases, Parser, Text preprocessing, Tokenization, Stemming, Language modelling, Sentiment analysis, Image preprocessing, Feature extraction, Object detection	L-11	
		T-2	P-2
4	Advanced Topics in AI Deep learning and neural networks, Convolutional neural networks (CNNs), Recurrent neural networks (RNNs), Expert systems, AI Chatbots, Autonomous cars, Ethical considerations and societal impact of AI	L-11	
		T-2	P-2

Learning Resources

1	Text Books	Russell, R. & Norvig, P. (2022). Artificial Intelligence: A Modern Approach (4th Global ed). Pearson.

		Han, J., & Kamber, M. (2022). Data Mining: Concepts and Techniques (4th ed.). Elsevier. Goodfellow, I., Bengio, Y., & Courville, A. (2016). Deep Learning. MIT Press (1 st ed).
2	Reference books	Patterson, D. W. (2022). Artificial Intelligence & Expert Systems (13th Indian Reprint). PHI. Rich, E., & Knight, K. (2017). Artificial Intelligence (3rd Edition). Tata McGraw Hill Publishing Company. Mitchell, T. M. (2017). Machine Learning. Tata McGraw Hill Education.
3	Websites	IBM AI Education, mindSpark Learning, IBM Education Online Institute, https://www.mymindsparklearning.org/ibm-ai-education Data Science platform for publishing work, and sharing knowledge https://towardsdatascience.com/ AI Moral Machine, https://www.moralmachine.net/
4	Journals	Artificial Intelligence, An International Journal, Elsevier, ISSN: 0004-3702, https://www.journals.elsevier.com/artificial-intelligence Artificial Intelligence, An International Journal, ScienceDirect, https://www.sciencedirect.com/journal/artificial-intelligence
5	Supplementary Reading	NPTEL Web Course, Artificial Intelligence, https://nptel.ac.in/courses/106/105/106105077/
6	Practical Components	Google AI Experiments, https://experiments.withgoogle.com/collection/ai IBM AI Solutions, https://www.ibm.com/in-en/artificial-intelligence

Semester	IV	Total Credit	4
Course Code	M	Credit Pattern	L-45, T-8, P-7
Course Title	Linux Administration and Programming		
Course Objectives			
1	To familiarize the student with Linux operating system environment and basic shell script programming..		
2	To introduce various system calls, Communication utilities in Linux and the Linux administration.		
Course Outcomes : The Students will able to			
1	Write shell script programs in Linux		
2	Use various Filters and editors		
3	Create and manager file access permissions		
4	Use various system calls		
5	Administration of Linux system		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction of Linux Operating System (15) Overview of Operating System and Network, Types of Operating System, Introduction to Linux - History, Architecture. Comparison with UNIX, Comparison with Windows, Features and Facilities of Linux, Files and File Structure - Linux File System, Boot block, Super block, Inode table, Data blocks. Linux standard directories, File naming Conventions, Path in Linux, Types of file Names, Types of Users, file comparisons, Basic commands in Linux, File Commands in Linux, Directory Commands, System Monitoring and Performance,	L= 11	
		T=2	P=2
2	Ubuntu Linux Administration, File Security, Permissions (15) About Ubuntu, Installing and Configuring Ubuntu Linux Server and Desktops, Hard Disk Partition Management, Linux File System Management ,checklist for installation, Dual Boot Windows 7 and Ubuntu Installation, Creating USB booting, Installation of Linux using USB drive, Installation Methods and Classes, identifying administrative files configuration and log files, Role of system administrator, Managing user accounts, changing permissions and ownerships, Creating and managing groups, modifying group attributes, Disk quota management, Hiding Usernames Displayed on Login Screen, File security & Permissions, becoming super user using su. Locating Files, File Access Permissions [FAP], Viewing and Changing FAPs, Redirection(Input, Output & Error Redirection), Filters (grep, wc, tr, head, tail,) Getting system information with uname, host name, kernel, Run levels in Ubuntu.	L= 12	
		T= 2	P= 1
3	Communication in Linux: (15)	L= 11	
		T= 2	P= 2

	Umask, Archive and Compression, Backup, restore and Compress - tar, cpio, dump, sync and restore, Communicating with other users in Linux - mesg, who- T, talk, write, wall, finger, chfn, SSH, Ping, FTP, Telnet traceroute utilities, Installation of software's on Linux, static and dynamic IP addressing, Administering Printers – Printing in Linux, Scanner, Installing and Configuring of servers on Ubuntu- Telnet, FTP Server, Samba DHCP Server setup Client setup, SSH Server ,XAMP, PHP, dosbox , Networking in Linux System.		
4	Shell (15) Text Editors-Functions of a Text Editor, vi Editor, leafpad editor., Basics of shell programming, various types of shell available in Linux, comparisons between various shells, shell programming in bash - Conditional and looping statements, Iterations, Command Substitution - expr command, Modifying files Sed, awk command, arithmetic operations, parameter passing and arguments, Shell variables, system shell variables, shell keywords, Creating Shell programs for automating system tasks, handling files using command line argument. Introduction to system calls.	L=11	
		T= 2	P= 2

Learning Resources

1	Text Books	Beginning Linux Programming: Neil Mathrew Richard Steve Wrox publication. Design of Linux Operating Systems : Maurice Bach Ubuntu on a Dime : James Floyd Kelly
2	Reference books	Operating System - Linux, NUT Press, PHI Publisher, 2006 Edition Red Hat Linux Bible, Cristopher Negus, Wiley Dreamtech India UNIX Shell Programming by Yeswant Kanetkar, BPB Linux Administration Handbook, Evi Nemeth, Garth Snyder, Trent KHein - Pearson Education. Beginning Linux Programming by Neil Mathew & Richard Stones, Wiley Dreamtech India
3	Websites	https://www.tutorialspoint.com/operating_system/os_linux.htm https://www.geeksforgeeks.org/unix-file-system www.guru99.com > introduction-linux https://www.reallinuxuser.com https://www.shellscript.sh/
4	Journals	https://www.linuxjournal.com/ https://www.journals.elsevier.com/computer-networks https://www.reddit.com/r/linux/comments/cnfs48/linux_journal_ceases_publication_an_awkward/ Linux Networking Clearly Explained/ebook

5	Supplementary Reading	https://nptel.ac.in/courses/117/106/117106113/ Study Material of Web Course Developed for NPTEL Linux Programming & Scripting https://nptel.ac.in/content/syllabus_pdf/117106113.pdf
6	Practical Components	Internal External Commands and Shell Scripts, Installing and configuring Ubuntu Linux Server and Desktops.

Semester	IV	Total Credit	4	
Course Code	M	Credit Pattern	L-45, T-7, P-8	
Course Title	Java Programming			
Course Objectives: During the course study, students will				
1	Gain a comprehensive understanding of Java Servlets and JSP for web development.Learn the concepts, architecture, and life cycle of servlets and JSP. Explore session tracking techniques, web deployment descriptors, XML, Javabeans and RMI concepts.			
2	Master the Struts MVC Framework: Gain proficiency in using the Struts framework for developing Model-View-Controller (MVC) based web applications. Learn to configure and utilize Struts components such as Action Servlet, Interceptors, Validators, and result types.			
3	Acquire knowledge of Hibernate as an Object-Relational Mapping (ORM) tool for database integration in Java applications. Learn how to integrate Hibernate, define persistence mappings, and perform CRUD operations.			
4	Understand the fundamentals of the Spring Framework and its modules for building scalable and maintainable Java applications.			
Course Outcomes: Students will be able to;				
1	Apply Java Servlets and JSP to develop interactive and responsive web pages.			
2	Integrate databases using XML, RMI, and JavaBeans for efficient data managemen			
3	Analyze and evaluate web applications built with the Struts MVC Framework:			
4	Synthesize solutions using Hibernate and Spring Framework:			
Unit Number	Contents			Number of Sessions
1	Core Java Concepts: Objects and classes, Inheritance, Interfaces, inner classes, Packages. Introduction to Java Utility classes and collection classes. Exception Handling: Exception class hierarchy, Exception Vs Error, try, catch, throw, throws, finally, checked Vs unchecked exceptions, creating custom exception classes. I/O Streams and Multi threading in Java :Significance of streams, various types of Input & Output streams, accessing the file through streams, object serialization. Random Access File. Need for multi threading, thread states and priorities, suspending and resuming threads, synchronization between threads. Java Database Connectivity JDBC overview , JDBC Architecture , Types of JDBC Drivers, DriverManager class, database connection statements , Resultset, transaction, Metadata and Aggregate functions , callable statements			L= 12
				T= 1
2	Presentation Tier Technologies Java Servlets: Servlet basics, servlet life cycle , Generic and HTTP servlets, The Servlet API, javax.servlet and javax.servlet.http package, session tracking using session and cookies, web deployment descriptor, web.xml. databases. Request dispatching. JSP(Java Server Pages: Introduction to JSP, Use of JSP, JSP			L= 11
				T= 2

	Architecture, JSP tags, Implicit and Explicit objects, Request forward, Request –time include ,use of Beans in JSP and their scopes. Introduction to Eclipse IDE		
3	Distributed Computing with RMI, XML, and Java Beans Remote Method Invocation–Introduction , architecture, defining remote objects, creating stubs and skeleton, object serialization, dynamically loaded classes, RMI activation, registering remote objects, marshaled objects. Introduction to XML for Java, XML processors, costruction & generating,XML documents, manipulating DOM structure, Java Beans: Basics of designing JavaBeans, Java Bean design patterns, creating and using properties, using events to communicate with other components. Introduction to BDk. Parts of BDk. Deploying Java Beans in BDk.	L= 11	
		T= 2	P=2
4	Struts MVC Framework Struts Framework: An introduction to Struts, building a simple struts application. Action Servlet, Model, view and Controller layers, Interceptors, Result Types, Value Stack, OGNL, validator, declarative exception handling, Introduction to struts tag libraries and struts configuration files. Hibernate and Spring Framework Integrating and configuring hibernate. ObjRelation Mapping, Building a simple application. Persistence life cycle. Spring API libraries, Designing spring applications. Spring persistence using JPA. Spring web flow, Using spring MVC to build web pages.	L= 12	
		T= 1	P= 2
Learning Resources			
1	Text Books	Sharanam Shah, Vaishali Shah (2011). Java EE 6 Server Programming . Mumbai, India: Shroff Publishers & Distributors Pvt. Ltd. Sharanam Shah, Vaishali Shah (2012). Spring 3 for Beginners . Mumbai, India: Shroff Publishers & Distributors Pvt. Ltd.	
2	Reference books	James Homes. A Complete Reference Struts (Second Edition) -. Tata McGraw-Hill Kogent Solutions Inc (2011). Struts 2 - Black Book . New Delhi : Dreamtech press. Prabhu Sunderaraman (2012). Spring 3.0 Black Book New Delhi : Kogent Solutions Inc. Dreamtech press. Yogesh Prajapati, Vishal Ranapariya (2015), Java Hibernate Cookbook , Packt Publishing Steven Holzner . Java 2 Programming Black Book , New Delhi : Dreamtech press. Khalid Azim Mughal, Rolf Rasmussen. A Programmer’s Guide to Java SCJP Certification: A Comprehensive Primer. Marten Deinum, Daniel Rubio, Josh Long, Gary Mak, Apress,(2017)	

		. Spring 5 Recipes: A Problem-Solution Approach , Raja CSP Raman, Ludovic Dewailly(2018) . Building A RESTful Web Service with Spring 5 , - Packt Publishing Elliotte Rusty Harold, W. Scott Means(2004). XML in a Nutshell 3rd Edition , O'Reilly Media, Inc.
3	Websites	https://www.javatpoint.com/servlet-tutorial https://www.tutorialspoint.com/jsp/index.htm https://www.journaldev.com/2310/struts-2-tutorial https://www.tutorialspoint.com/hibernate/index.htm https://www3.ntu.edu.sg/home/ehchua/programming/java/JavaServlets.html https://beginnersbook.com/jsp-tutorial-for-beginners/ https://www.geeksforgeeks.org/introduction-to-jsp/ https://www.w3resource.com/xml/xml.php https://www.guru99.com/xml-tutorials.html https://www.geeksforgeeks.org/introduction-and-working-of-struts-web-framework/ https://www.codejava.net/frameworks/struts/introduction-to-struts-2-framework https://www.edureka.co/blog/remote-method-invocation-in-java/ https://www.javatpoint.com/RMI
4	Journals	https://www.journaldev.com/3557 International Journal of Computer Science and Mobile Computing - ISSN 2320-088X https://www.pcmag.com https://ieeexplore.ieee.org
5	Practical Component	Practical lab exercises based on Units I to IV

Semester	IV	Total Credit	4
Course Code	EL	Credit Pattern	L-48, T-4, P-8
Course Title	Blockchain Technology		
Course Objectives			
1	To gain an in-depth understanding of the underlying concepts and mechanics of Blockchain and Bitcoin		
2	To explore the architecture of Hyperledger Fabric and Hyperledger Composer		
3	To develop proficiency in Solidity and Go programming languages		
4	To acquire hands-on experience in designing, deploying, and interacting with Ethereum smart contracts		
Course Outcomes: Students will be able to;			

1	Demonstrate a comprehensive understanding of blockchain technology.		
2	Evaluate the potential applications and use cases of blockchain technology across various industries		
3	Demonstrate proficiency in designing and implementing smart contracts using blockchain platforms like Ethereum and hyperledger fabric		
4	Collaborate effectively in multidisciplinary teams to develop blockchain-based solutions		
Unit Number	Contents	Number of Sessions	
1	<u>Blockchain Overview and Introduction</u> Introduction to Blockchain, History and Origin of Blockchain, Properties of Blockchain (Immutability, Decentralized, Enhanced Security, Scalability, Distributed Ledgers, Faster Settlement). Fundamental terminologies (Block, Mining, Double Spending), Concept of Merkle Trees, Major Components of Blockchain, Structure of Block header, architecture of blockchain, types of Blockchain (Public, Private, Consortium), generations of blockchain <u>Cryptography in Blockchain</u> Public Key Infrastructure and Cryptography Security Goals – CIA triad, Elliptic Curve Cryptography, advantages of ECC, El-Gamal encryption and decryption, ECC encryption and decryption, cryptographic hash functions, Digital Signature, El-Gamal signature, DSA signature verification, ECC key generation and signature verification, RSA algorithm, <u>Consensus in Blockchain</u> Distributed systems, Decentralized networks, Consensus (Proof of Work, Proof of Stake, BFT), Blockchain Ecosystem (Blockchain exchanges, Blockchain miners, blockchain developers Mining and the Hashing Race), Working Phases in Blockchain, Application Areas. Blockchain forking, Inter Planetary File System (IPFS) Blockchain when to use.	L= 12	
		T= 1	P= 2
2	<u>Concepts of Solidity, Ethereum and Smart Contracts</u> Introducing Solidity, Global Variables and Functions, Expressions and Control Structures, Writing Smart Contracts; Functions, address functions., Modifiers, and Fallbacks, ethereum blockchain paradigm, components of ethereum Smart contract programming, accounts and wallets, types of accounts Exceptions, Events, and Logging; Truffle Basics and Unit Testing; Debugging Contracts. Test and debug smart contracts with Truffle, Ganache, Remix, and MetaMask. Maintaining code quality with different tools. History and Introduction of Ethereum, Concept of Dapps, DAOs, DACs and DASS, power of DAOs, Understanding Ethereum smart contracts, Ethereum wallet, Building Your First DAO, Future of DAOs, Reentrancy Vulnerability, hard fork proposal,	L= 12	
		T= 1	P= 2

3		<u>Introduction to Hyperledger Family</u> Introduction to Hyperledger and Composer, Problems with existing Blockchain technology, Basics of hyperledger Fabric, Hyperledger Fabric Architecture, Consensus in Hyperledger, Introduction to new consensus algorithm Sumeragi, Hyperledger Components, Chaincode, Exploring Key Projects of Hyperledger Family Introduction to Go, features of Go programming, installing Go, Go program structure, data types, variable declaration issues, operators, decision making, control statements, functions, closure, arrays, maps, pointers, structures, creating HTTP server, Go concurrency, Goroutines, waitgroup, mutex, automic variable, Go channel – creting a channel, sending and receiving data from channel	L= 12	
			T= 1	P=2
4		<u>Cryptocurrency</u> Introduction to bitcoin, bitcoin features, bitcoin network, working of bitcoin with blockchain components, bitcoin core architecture, bitcoin full node, bitcoin wallet, bitcoin script, account-based ledger, bitcoin transactions, bitcoin mining, bitcoin validation, multisignature (m out of n), flow of bitcoins, bitcoin addresses, bitcoin payment workflow, bitcoin transaction in blockchain, data storage in bitcoin blockchain, addressing double spending problem. Smart Blockchain, Future of Blockchain Technology and it’s Industry Impacts. Bitcoin Vs. Blockchain	L= 12	
			T= 1	P= 2
Learning Resources				
1	Text Books	Drescher, D. (2017). Blockchain Basics: A Non-Technical Introduction in 25 Steps. Apress. Shah, N. (2019). Blockchain for Business with Hyperledger Fabric. bpb publication. Antonopoulos, A. M. (2017). Mastering Bitcoin, 2nd Edition. O'Reilly Media, Inc.		
2	Reference books	Serres, T., Wagner, B., & Warburg, B. (2019). Basics of Blockchain: A guide for building literacy in the economics, technology, and business of blockchain. Li, K.-C., Chen, X., Jiang, H., & Bertino, E. (Eds.). (2020). Essentials of Blockchain Technology. Modi, R. (2018). Solidity Programming Essentials: A beginner's guide to build smart contracts for Ethereum and Blockchain. Lantz, L. (2015). Bitcoin, the Blockchain, and Their Potential to Change Our World. O'Reilly Media, Inc. Swan, M. (2015). Blockchain: Blueprint for a New Economy. O'Reilly Media.		
3	Websites	https://www.blockchain-council.org/ https://www.ibm.com/in-en/blockchain/getting-started https://www.geeksforgeeks.org/ https://hackernoon.com/		
4	Journals	“Bitcoin: A Peer-to-Peer Electronic Cash System” Satoshi Nakamoto October 31, 2008		

		“Scope for the Application of Blockchain in the Public Healthcare of the Russian Federation”, Koshechkin K.A., Klimenko G.S., Ryabkov I.V., Kozhin P.B. , ScienceDirect Procedia Computer Science 126 (2018), Pg. No. 1323–1328 , International Conference on Knowledge Based and Intelligent Information and Engineering Systems, KES2018, 3-5 September 2018, Belgrade, Serbia “Reputation-based Byzantine Fault-Tolerance for Consortium Blockchain” Lei*, Qichao Zhang, Limei Xu, Zhuyun Qi † Shenzhen Key Lab for Information Centric Networking & Blockchain Technology (ICNLAB) School of Electronics and Computer Engineering (SECE) Peking University, Shenzhen 518055, P.R. China, 978-1-5386-7308-9/18/\$31.00 ©2018 IEEE “Identity Verification and Management of Electronic Health Records with Blockchain Technology”, Yiheng Liang Department of Computer Science Bridgewater State University Bridgewater, Massachusetts, United States of America, 978-1-5386-9138-0/19/\$31.00 ©2019 IEEE ComChain: Bridging the Gap Between Public and Consortium Blockchains Ilaume Vizier, Vincent Gramoli University of Sydney vincent.gramoli@sydney.edu.au, 978-1-5386-7975-3/18/\$31.00 ©2018 IEEE
	Supplementary Reading	CoinDesk (www.coindesk.com) Blockchain.com (www.blockchain.com) Hyperledger (www.hyperledger.org) Binance Academy (www.binance.vision)
5	Practical Component	https://andersbrownworth.com/blockchain/ Remix IDE (remix.ethereum.org) Truffle (www.trufflesuite.com) Solidity (soliditylang.org) Hyperledger (www.hyperledger.org)

Semester	IV	Total Credit	4	
Course Code	EL	Credit Pattern	L-45, T-15, P-0	
Course Title	Advanced Web Technologies			
Course Objectives: During the course study student will				
1	Master the HTML 5 and CSS3 techniques: Explore fundamentals of HTML5; its syntax, structure, and semantic elements of HTML5 and advanced CSS3;properties, selectors and animations, enabling them to create well-structured, visually appealing and responsive web designs.			
2	Implement and Enhance interactivity with Ajax and JQuery :Learn how to use Ajax to create dynamic web applications that can communicate with servers asynchronously. Also learn how to leverage jquery's powerful features to manipulate the Document Object Model (DOM), handle events, create and perform AJAX requests, enabling faster and more interactive user experiences.			
3	Proficient in using Bootstrap: Learn how to leverage its grid system, components, and CSS utilities to streamline development and ensure consistent user experiences across devices.			
4	Understand best practices and industry standards: Learn about best practices for web development, including code organization, performance optimization, accessibility considerations, and cross-browser compatibility. They will also gain familiarity with industry-standard tools and workflows			
Course outcomes : After completion of course student will be able to				
1	Apply HTML5 and CSS3 principles to develop well-structured and visually appealing web pages.			
2	Analyze JavaScript and jQuery functionalities to manipulate the DOM, handle events, create animations, and perform AJAX requests			
3	Evaluate JSON data structures and employ AJAX techniques to dynamically update web content and exchange data with server APIs.			
4	Create responsive web designs using Bootstrap by integrating grid systems, components, and CSS utilities to ensure optimal user experiences across multiple devices and screen sizes.			
Unit Number	Contents			Number of Sessions
1	HTML5 and CSS3 Fundamentals: Introduction to HTML5: Overview of HTML5 and its key features. HTML5 Document Structure: Understanding the structure of an HTML5 document, including the doctype declaration, head, and body sections. HTML5 Semantic Elements: Exploring semantic elements such as header, nav, section, article, and footer for better document structure and accessibility. HTML5 Forms and Input Types: Utilizing new form elements and input types introduced in HTML5 for enhanced			L= 12
				T=3 P= 0

	user input and validation. HTML5 support for multimedia: embedding audio and video elements into web pages, controlling playback, and customizing player controls using HTML5 attributes and JavaScript. CSS3 Selectors and Styling: Introduction to CSS3 selectors and advanced styling techniques, including pseudo-classes, pseudo-elements, and attribute selectors. CSS3 Box Model: Understanding the CSS box model and utilizing properties like margin, padding, border, and box-sizing for layout and spacing control. CSS3 Layouts and Flexbox: Implementing responsive layouts using CSS3 layout modules, including Flexbox for flexible and dynamic layouts. CSS3 Transitions and Animations: Applying smooth transitions and animations to elements using CSS3 transition and animation properties. CSS3 Flexibility and Grid Systems: Working with CSS3 frameworks and grid systems for responsive and flexible layouts. CSS3 Transformations and 2D/3D Effects: Applying 2D and 3D transformations to elements and adding visual effects using CSS3 properties.		
2	JQuery Fundamentals and DOM Manipulation Introduction to jQuery: Understanding the purpose and benefits of jQuery in web development. Selecting DOM Elements: Learning various methods to select and manipulate DOM elements using jQuery selectors. Manipulating DOM Elements: Modifying content, attributes, and styles of selected elements using jQuery methods. Handling Events: Binding event handlers to DOM elements and responding to user interactions using jQuery event handling methods. Animation and Effects: Applying animations, transitions, and effects to DOM elements using jQuery's animation and effects methods. DOM Traversal and Manipulation: Navigating the DOM tree, finding parent/child/sibling elements, and manipulating their structure using jQuery methods	L= 11	
		T= 4	P= 0
3	AJAX and JSON in Web Development Introduction to AJAX – Blending of technologies in AJAX. Working of AJAX, Difference between Full postback and partial postbacks, Making Asynchronous Requests: Utilizing the XMLHttpRequest object to send HTTP requests asynchronously and handle responses, AJAX database operations, Security Considerations: Understanding AJAX security vulnerabilities and best practices to prevent common attacks. JSON (JavaScript Object Notation): Exploring the JSON data format, JSON syntax, JSON data types, JSON syntax, JSON data types and its role in data exchange between the client and server. Handling JSON Data: Parsing and serializing JSON data using JavaScript methods and libraries. Using JSON in PHP. AJAX JSON	L= 11	
		T= 4	P= 0

	example.		
4	Bootstrap Web Development Introduction to Bootstrap: Overview of Bootstrap, Benefits and advantages of using Bootstrap. Setting Up Bootstrap: Downloading and installing Bootstrap, Integrating Bootstrap into web projects, Understanding Bootstrap's file structure and dependencies. Responsive Grid System: Introduction to Bootstrap's responsive grid system,Working with containers, rows, and columns,Creating responsive layouts for different screen sizes. Bootstrap Components: Utilizing pre-designed components like navigation bars, buttons, cards, and forms. Bootstrap Navigation and Menus: Creating responsive navigation menus using the navbar component. Adding dropdowns, mega menus, and mobile menu functionality. Bootstrap Forms and Validation: Building forms with Bootstrap's form components and grid system. Form validation using Bootstrap's built-in classes and JavaScript plugins. Bootstrap JavaScript Plugins and Widgets: Enhancing user experience with JavaScript plugins like carousels, modals, tooltips, and accordions. Incorporating interactive widgets such as date pickers, sliders, and typeahead.	L=12	
		T= 3	P= 0
Learning Resources			
1	Text Books	Frain, B. (2020) <i>Responsive web design with HTML5 and CSS develop future-proof responsive websites using the latest HTML5 and CSS techniques</i> . Birmingham: Packt Publishing Limited. Robbins, J.N. (2018) <i>Learning web design: A beginner's guide to HTML, CSS, Javascript, and web graphics</i> . Sebastopol , California: O'Reilly.	
2	Reference books	Robsan, E. and Freeman, E. (2012) <i>Head first HTML with CSS : A learner's guide to creating standards-based web pages</i> . O'Reilly. Dean, J. (2019) <i>Web programming with HTML5, CSS, and JavaScript</i> . Burlington, MA: Jones & Bartlett Learning. Benedetti, R. and Cranley, R. (2011) <i>Head first jquery: A brain-friendly guide</i> . Beijing: O'Reilly. Holdener, A.T. (2011) <i>Ajax: The Definitive Guide ; interactive applications for the web</i> . Beijing: O'Reilly. Bibeault, De_Rosa and Katz (2015) <i>Jquery in action</i> . Shelter Island: Manning Publications. Powell, T.A. (2008) <i>Ajax: The complete reference</i> . New York: McGraw-Hill. Friesen, J. (2019) <i>Java XML and JSON document processing for java SE</i> . Berkeley, CA: Apress. Marrs, T. (2017) <i>JSON at work: Practical data integration for the web</i> . Sebastopol: O'Reilly.	
3	Websites	https://www.w3schools.com/)	

		https://www.tutorialspoint.com/html5/index.htm https://css-tricks.com/ https://www.tutorialspoint.com/css/css3_tutorial.htm https://www.tutorialspoint.com/ajax/index.htm https://learn.jquery.com/ https://www.tutorialspoint.com/jquery/index.htm https://www.json.org/ https://www.tutorialspoint.com/json/index.htm https://getbootstrap.com/docs/ https://www.tutorialspoint.com/bootstrap/index.htm
4	Journals	“International Journal of Web Technology”. Available at: https://doi.org/10.20894/ijwt . “International Journal of Information Technology and web engineering” . Available at: https://doi.org/10.4018/ijitwe .
5	Supplementary Reading	

**CHHATRAPATI SHAHU INSTITUTE OF BUSINESS
EDUCATION & RESEARCH KOLHAPUR**

(An Autonomous Institute under UGC Act)



DEPARTMENT OF COMPUTER STUDIES

**STRUCTURE AND SYLLABUS OF
MASTER OF SCIENCE (CYBER SECURITY)
Programme
M.Sc. (Cyber Security)**

(Revised and Effective from 2021-22 C.B.C.S. Pattern)

M.Sc.(Cyber Security) SYLLABUS (Effective

OBJECTIVE:

To develop a comprehensive and advanced knowledge of Computer Science thereby enabling graduates to perform more effectively in the work place as well as to enhance their research capability.

INTRODUCTION:

The **M.Sc. (Computer Science in Cyber Security)** is offered on full-time basis. The duration of the programme is of two years. Each year is divided into two semesters for the convenience of teaching and evaluation. In each semester, except the last, there will be teaching for 15 weeks followed by end-of-semester examination (EOS). The teaching for Semesters I, and III will be held between 1st July to 25th November, and the teaching of Semester II will be held between 1st January to 25th April. Semester IV that is the last semester of the programme, is reserved for industrial project. During this semester a student is expected to work on an industrial project for a period of about 120 days and submit a report to the Examination Department for evaluation.

ELIGIBILITY:

- 1) A candidate for being eligible for admission to **M.Sc. (Computer Science in Cyber Security)** programme (Faculty of Science) must have passed Graduation in any Science Faculty under Shivaji University or any other University recognized by A.I.U. (Association of Indian Universities) 10+2+3 pattern with minimum of 50% marks at the qualifying examination.
- 2) The admission to **M.Sc. (Computer Science in Cyber Security)** programme will be made on the basis of entrance test conducted by the Institute.

DURATION:

The **M.Sc. (Computer Science in Cyber Security)** is a full time TWO years programme consisting of Four Semesters. The pattern of examination will be semester system.

If a candidate fails to clear any of the theory papers, practicals, term papers and project report within **Six** years of his/her registration, the past performance will stand automatically nullified.

M.Sc.(Cyber Security) SYLLABUS (Effective

If a candidate discontinues any of the terms (i.e. Semester – I to IV) will be allowed to complete the term in the subsequent years within the stipulated time duration of **Six** years.

In case the term (Semester) is not granted the student has to seek fresh admission in the next year and complete the term within **Six** years of his/her registration.

. Course Completion with Break in Between :

A student who has passed First Year and is seeking admission to Second Year after a long gap (provided the gap lies within the stipulated duration of **Six** years) should complete the programme syllabus which is in existence at the time he has sought the admission for the academic year.

Programme Outcomes

PO 1: Apply the knowledge of computing, mathematics, and security fundamentals appropriate to the discipline. PO 2: Analyse a problem, and identify and formulate the security requirements appropriate to its solution.

PO 3: Design, implement, and evaluate a computer-based solution to meet desired needs with appropriate consideration for society.

PO 4: Design and conduct experiments, as well as to analyse and interpret results.

PO 5: Use current techniques, skills, and modern tools necessary for computing and security practice. PO 6: Understanding professional, ethical, legal, security and social issues and responsibilities.

PO 7: Function effectively individually and on teams, including diverse and multidisciplinary, to accomplish a common goal.

PO 8: Communicate effectively, comprehend and write effective reports and make effective presentations.

ASSESSMENT:

1. For the theory paper is of 100 marks, the distribution of marks will be—
 - i) Internal Credit(practical/term paper/seminar) - 40Marks
 - ii) Theory Paper - 60 Marks.
2. For the practical paper is of 50 marks, the distribution of marks will be—
 - i) Practical examination - 40 Marks
 - ii) Journal - 10 Marks
3. For Project report (Fourth Semester) the marks will be:—
 - i) Project Report - 100Marks
 - ii) Confidential Report - 100 Marks
 - iii) Viva-Voce - 100Marks
 - iv) Project Presentation. - 100 Marks
1. The assessment of papers will be done by an Internal and External examiner. A difference of more than **20%** in the marks awarded by these examiners would necessitate the valuation of these papers by the Third examiner. The **'nearest'** marks will be considered for determining the average mark of such papers.
2. The criteria for passing each head is as follows-
 - i. Internal/ Term Work/ Seminar/ Term Paper - 50 %
 - ii. Theory/ Practical/ Project - 40 %
 - iii. Combined head of Passing - 50 %
- 3) If the student fails in Term Work/ Internal Passing Heads, he/she will get a chance to improve it in

M.Sc.(Cyber Security) SYLLABUS (Effective

subsequent semesters. Once the marks of Internal/ Term Work/ Seminar/ Term Paper are submitted to the Examination Department it should be carried forward whenever required. If the student clears internal head of passing he/she will not be allowed to improve under any circumstances.

- 4) If a candidate fails in any one of head of passing he/she shall appear for only the head in which he/she has failed.

Breakup of Internal Marks i.e. Concurrent evaluation –

Sr. No.	Head	Marks
1.	Class Participation	10 Marks
2.	Objective Test (Minimum One Test Per Unit)	10 Marks
3.	Seminar /Book Review/ Home Assignment/ Class Assignment	10 Marks

M.Sc.(Cyber Security) SYLLABUS (Effective

4.	Case Study / Term Paper	10 Marks
5.	Total	40 Marks

Each student is expected to appear for a minimum **Four** Class Test. The final internal marks will be calculated using the heads shown in above table. **The internal marks obtained by the student has to be disclosed and signed by the student.**

STANDARD OF PASSING:

- 1) In order to pass in each passing head, a candidate will have to obtain 50% in the internal marks (Concurrent evaluation), 40% marks in theory, and minimum of 50% of the marks in aggregate in passing head.
- 2) To pass the examination, a candidate will have to pass in all Four Semester in Two Parts i.e. Part – I (Semester – I to II) and Part – II (Semester – III & IV).
- 3) To pass the Project work / Seminar course/ Term paper a candidate must obtain a minimum of 50% of the total marks. If a candidate fails in the seminar / project report/ term paper and its viva-voce, he/she will be required to join the particular seminar / project report/ term paper and its viva-voce as a fresh candidate in the subsequent semester.
- 4) A candidate from first year will be eligible to proceed to the semester III ,if he/she is not having more than **FIVE** courses backlog (25% of passing heads) from the first year (i.e. Semester I and II)

M.Sc.(Cyber Security) SYLLABUS (Effective CGPA System:

Full Credit 100 Marks

Grade Table for Trimester/Semester Examination			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
96-100	S+	10	SUPER
91-95	S	9.0	
86-90	E+	8.5	Exemplary
81-85	E	8.0	
76-80	O+	7.5	Outstanding
71-75	O	7.0	
66-70	A+	6.5	Good
61-65	A	6.0	
56-60	B+	5.5	Average
50-55	B	5.0	
--	X	0	Defaulter
--	XX	---	Incomplete

Half Credit 50 Marks

Grade Table for Trimester/Semester Examination			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
48 – 50	S+	10.0	SUPER
46 – 47	S	9.0	
43 – 45	E+	8.5	Exemplary
41 – 42	E	8.0	
38 – 40	O+	7.5	Outstanding
36 – 37	O	7.0	
33 – 35	A+	6.5	Good
31 – 32	A	6.0	
28 – 30	B+	5.5	Average
25 – 27	B	5.0	
--	X	0.0	Defaulter
--	XX	---	Incomplete

5. Final Result: For the final result of the student Cumulative Performance Index (CPI) based on total earned credits vis-à-vis total earned grade points shall be calculated as follows.

Total earned grade points / Total credits i.e. **120** credits.

Result		
CPI	Final Grade	Classification of Final Result.
9.0 – 10.0	S	Extraordinary
8.0 – 8.9	E	Excellent

M.Sc.(Cyber Security) SYLLABUS (Effective

7.0 – 7.9	O	Outstanding
6.0 – 6.9	A	Very Good
5.5 – 5.9	B+	Good
5.0 – 5.4	B	Average
0.0 – 4.9	X	Unsatisfactory (Fail)

CALCULATION OF PERFORMANCE INDICES:

A distinction of the performance of one student from the other student is rather impossible to carry out from the grades obtained by a student in all the courses taken by him in a semester/year. Hence, the evaluation of various courses is cumulated in two performance indices termed as semester performance index (SPI) and cumulative performance index (CPI), the explanation of which is given below:

Semester Performance Index (SPI):

The performance of a student in a semester is indicated by a number called Semester Performance Index (SPI). SPI is the weighted average of all the grade points obtained by him in all the courses registered during the semester. If G_i is a grade with numerical equivalent as G_i obtained by a student for the course with credit C_i then, SPI for that semester is calculated using formula.

$$SPI = \frac{\sum_i C_i G_i}{\sum_i C_i}$$

Where summation is for all the courses registered by a student in that Semester SPI is calculated to two decimal places and rounded off. SPI once calculated shall never be modified. Generally, for the students failed in regular examinations SPI is calculated only after the declaration of re-examination grades.

Cumulative Performance Index (CPI):

An up-to-date assessment of the overall performance of a student from the first semester till completion of the programme is obtained by calculating an index called as Cumulative Performance Index (CPI). The CPI is weighted average of the grade points obtained in all the courses registered by a student since the first semester of the programme.

$$CPI = \frac{\sum_i C_i G_i}{\sum_i C_i}$$

Besides SPI, CPI is also calculated at the end of every semester upto two decimal places and is rounded off. It is necessary to ensure that one course appears only once in calculation of CPI and the denominator in above equation does not exceed the total number of credits registered by him.

GRACE MARKS UNDER DIFFERENT ORDINANCE.

M.Sc.(Cyber Security) SYLLABUS (Effective

S.O. No. 1:-Grace Marks for Passing in each head of Passing (Theory/Practical/Oral/Sessional/External).

The Examiner shall be given the benefit of grace marks only for passing in each head of Passing (Theory/Practical/Oral/Sessional/ in External examination as follows.

Head of Passing	Grace Marks
Upto –50	2
051-100	3
101-150	4
151-200	5
201-250	6
251-300	7
301-350	8
351-400	9
And 401 and above.	10

Provided that the benefit of such gracing marks in different heads of passing shall not exceed 1% of the aggregate marks in that examination.

Provided further that the benefit of gracing of Marks under this Ordinance shall be applicable only if the candidate passes the entire examination of Trimester/Semester.

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM, CCIH. NCTE, UGC etc.

S.O. No. 2:- Grace Marks for getting higher Class

A Candidate who passes in all the subjects and heads of passing in the examination without the benefit of either gracing or condonation rules and whose total number of Marks falls short for securing Second Class/Higher Second Class or First Class by marks not more 1% of the aggregate marks of that examination or up to 10 marks, whichever is less, shall be given the required marks to get the next higher class of grade as the case may be.

Provided that benefits of above mentioned grace marks shall not be given, if the candidate fails to secure necessary passing marks in the aggregate head of passing also, if prescribed in the examination concerned.

Provided further that the benefits of above mentioned grace marks shall be given to the candidate for such examination/s only for which provision of award of class has been prescribed.

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM, CCIL, NCTE, UGC etc.

S.O. No. 3 Condonation

If a candidate fails in more than one head of passing, his/her deficiency of marks in such head of passing may be condoned by not more than 1% at the aggregate marks of the examination. However condonation, whether in one head of passing or aggregate head of passing be restricted to maximum upto 10 marks only.

Condonation of deficiency of marks be shown in the statement of Marks in the form of asterisk and Ordinance number.

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM, CCIL, NCTE, UGC etc..

BACKLOG:

- 1) A candidate will be permitted to proceed to the second Semester even though he/she fails in one or more subjects of the first semester, provided the first semester term is granted..
- 2) The students who have a backlog of not more than **Five courses (25% of passing heads)** in the First year examination (Semester I & II) will be eligible to be admitted to the Second year (III Semester) of M.Sc.(C.S.)
- 3) A Candidate will be permitted to proceed to the Fourth Semester even though he/she fails in one or more subjects of the third semester, provided the third semester term is granted.

CHHATRPATI SHAHU INSTITUTE OF BUSINESS EDUCATION AND RESEARCH (CSIBER)

University Road, Kolhapur – 416 004

Out Line Theory Question paper for all the programmes (Four Unit Course)

Class:

Course Name:

Paper No. :

Time: Three hours

Total marks: 60

INSTURUCTIONS:

1. Question no. 1 is **COMPULSORY**
2. Attempt any **FOUR** from Q. No.2 to Q. No.7.
3. Figures to right indicate **FULL** marks

	Marks
Q. 1) Case study / Problems / Program (Based on Unit I to IV)	(12)
Q. 2) Long Question / Brief answer Questions A and B (Based on Unit I)	(12)
Q. 3) Long Question / Brief answer Questions A and B (Based on Unit II)	(12)
Q. 4)	(12)
a) Question (Based on Unit III)	06
b) Question (Based on Unit III)	06
Q. 5)	(12)
a) Question (Based on Unit IV)	06
b) Question (Based on Unit IV)	06

M.Sc.(Cyber Security) SYLLABUS (Effective

Q. 6)		(12)
a) Question (Based on Unit III)		06
b) Question (Based on Unit IV)		06
Q. 7) Write Short answers		(12)
a) Based on Unit I		03
b) Based on Unit II		03
c) Based on Unit III		03
d) Based on Unit IV		03

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M.Sc.(Cyber Security) SYLLABUS (Effective
CHHATRPATI SHAHU INSTITUTE
OF BUSINESS EDUCATION AND
RESEARCH (CSIBER)

University Road, Kolhapur – 416 004

Out Line Theory
Question paper for all
the programmes (Two
Unit Course)

Class:

Course Name:

Paper No. :

Time: Two hours

Total marks: 30

INSTURUCTIONS:

1. Question no. 1 is **COMPULSORY**
2. Attempt any **THREE** from Q. No.2 to Q. No.5.
3. Figures to right indicate **FULL** marks

	Marks
Q. 1) Case study / Problems / Program (Based on Unit I or II)	(6)
Q. 2) Long Answer Question (Based on Unit I)	(8)
Q. 3) Long Answer Question (Based on Unit II)	(8)
Q. 4)	(8)
a) Brief Answer Question (Based on Unit I)	4
b) Brief Answer Question (Based on Unit II)	4
Q. 5)	(8)
a) Brief Answer Question (Based on Unit II)	4
b) Brief Answer Question (Based on Unit I)	4

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M.Sc.(Cyber Security) SYLLABUS (Effective
CHHATRPATI SHAHU INSTITUTE OF
BUSINESS EDUCATION AND
RESEARCH (CSIBER)

University Road, Kolhapur – 416 004

NATURE OF PRACTICAL QUESTION PAPER

Time : 2 Hours
40

Total Marks :

Instructions:

1. **Attempt any two questions.**
2. 10 Marks are reserved for journal

	Marks
Q. 1)	(15)
Q. 2)	(15)
Q. 3)	(15)

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M.Sc.(Cyber Security) SYLLABUS (Effective from 2021-22)

Course Code	Course Name	Credits	Contact hours	Int./Pract. Marks	EOS marks	Total Marks
CC-101	Operating System	4	60	40	60	100
CC-102	Database Management System	4	60	40	60	100
CC-103	Mathematical Foundation for Security	4	60	40	60	100
CC-104	Python Programming	4	60	40	60	100
CC-105	Secure Programming using C	4	60	40	60	100
DSE-I	A. Secure Software Design	4	60	40	60	100
	B. Identity Access and Management					
AEC- I	a) Cross Platform Skills b) Problem Solving and Logical Skills c) Social Ethics d) Stress Management	2	30	20	30	50
LAB-I	Python Programming	2	60	--	50	50
LAB-II	Secure Programming using C	2	60	--	50	50
	Total	30	510	260	490	750

M. Sc. (Cyber Security) Semester-II

Course Code	Course Name	Credits	Contact hours	Int./Pract. Marks	EOS marks	Total Marks
CC-201	Ethical Hacking	4	60	40	60	100
CC-202	Information Security and Cryptography	4	60	40	60	100
CC-203	Cloud Computing and Security	4	60	40	60	100
CC-204	Web Development	4	60	40	60	100
CC-205	Communication Network & Programming	4	60	40	60	100
DSE-II	A. Machine Learning for Security	4	60	40	60	100
	B. Java for Cyber Security					
GE- I	a) Fundamentals of Management b) Environment and Development c) Indian Social Problems and Services d) Principles of Economics	2	30	20	30	50
AECC-I	Professional Communication Skills	2	30	20	30	50
LAB-III	Web Development	2	60	--	50	50
LAB-IV	Network Programming	2	60	--	50	50
Project - I	Mini Project and Viva-Voce	4	60	40	60	100
	Total	36	600	320	580	900

M.Sc.(Cyber Security) SYLLABUS (Effective**M. Sc. (Cyber Security)
Semester-III**

Course Code	Course Name	Credits	Contact hours	Int./Pract. Marks	EOS marks	Total Marks
CC-301	Cyber Crime and Law	4	60	40	60	100
CC-302	Mobile and Wireless Security	4	60	40	60	100
CC-303	Fundamentals of Block Chain and Crypto Currency	4	60	40	60	100
CC-304	Linux Administration	4	60	40	60	100
CC-305	Penetration Testing	4	60	40	60	100
DSE-III	a) Web Security	4	60	40	60	100
	b) Digital Forensics					
GE-II	a. Entrepreneurship Development b. Disaster Management c. Corporate Social Responsibility d. Basics of Indian Economy	2	30	20	30	50
AEC-II	a. Deployment Skills b. Open Source Platform c. Work Ethics d. Organization Behavior	2	30	50	00	50
AECC- II	Employability Skill	2	30	20	30	50
LAB-V	Linux Administration	2	60	--	50	50
LAB-VI	Penetration Testing	2	60	--	50	50
	Total	34	570	330	520	850

Semester-IV

Course Code	Course Name	Credits	Contact hours	Int./Pract. Marks	EOS marks	Total Marks
CC-401	Industrial Project Report	4	120	--	100	100
CC-402	Industrial Project Viva	4	120	--	100	100
CC-403	Industrial Project Presentation	4	120	--	100	100
CC-404	Industrial Confidential Report	4	120	--	100	100
	Total	16	480	--	400	400

Credit Table

Courses	Semester-I	Semester-II	Semester-III	Semester-IV	Total Credits	Percentage
Core	5 x 4 = 20 2 x 2 = 4	6 x 4 = 24 2 x 2 = 4	5 x 4 = 20 2 x 2 = 4	4 x 4 = 16	92	79.31%

M.Sc.(Cyber Security) SYLLABUS (Effective

DSE	1 x 4 = 4	1 x 4 = 4	1 x 4 = 4	--	12	10.34%
GE	--	1 x 2 = 2	1 x 2 = 2	--	4	03.45%
AEC	1 x 2 = 2	--	1 x 2 = 2	--	4	03.45%
AECC	--	1 x 2 = 2	1 x 2 = 2	--	4	03.45%
Total Credits	30	34	34	16	116	100 %
Marks	750	900	850	400	2900	--

M.Sc.(Cyber Security) SYLLABUS (Effective

Semester	I	Total Credit	4
Course Code	CC-101	Credit Pattern	L-48, T-10, P-2
Course Title	OPERATING SYSTEM		
Course Objectives			
1	To familiarize the student to the operating system fundamentals		
2	To impart in-depth knowledge of process management and inter-process communication		
3	To study the different memory management techniques and File systems		
4	To provide a student with the solid foundation of operating system security and protection		
Course Outcomes: After successful completion of the course, the students would be able to			
1	Illustrate fundamental operating system concepts such as processes, threads, files, semaphores, IPC , shared memory regions, etc.		
2	Analyse important algorithms eg. Process scheduling, Deadlock avoidance and memory management algorithms		
3	Compare different memory management techniques and file Systems		
4	Apply theories of secure operating system in resolving security and access control related real time problems		

Syllabus:

Unit No.	Contents	Number of Sessions	
1	Operating system structures, Process Management: Process and thread concept, Process scheduling , Scheduling Criteria, Scheduling Algorithms, performance evaluation of scheduling algorithm. Process Synchronization: The critical–Section problem, semaphore, classic problems of synchronization(Producer consumer problem).inter-process communication . Deadlock: Deadloc modelling, Methods for Handling Deadlock, Deadlock Prevention, Deadlock Avoidance (Bankers Algorithm), Deadlock Detection.	L= 12	
		T=3	P= 0
2	Memory Management: Concept, Memory Management Techniques, Swapping, Contiguous Memory Allocation, Memory Protection, Memory Allocation, Fragmentation, Paging, Basic Method, Segmentation with Paging, Virtual Memory Concept, Demand Paging, Page Replacement algorithm . File System :File Structure ,Unix File System, Log Structured File System, Andrew File System (AFS), Cryptographic File Systems, Server less Network File Systems, Coda File System, File System Mounting and Sharing, File layout File System implementation and Allocation Methods. Device management - Disk Structure, Disk scheduling I/O Hardware and Kernel I/O Subsystem	L= 12	
		T= 3	P= 0
3	Introduction, Access Control Fundamentals, Multics, Security in Ordinary Operating Systems, Security Goals, Security Kernels, Securing Commercial Operating Systems, Solaris Trusted Extensions, Building a Secure Operating System for Linux, Secure	L= 12	
		T= 3	P= 0

	Capability Systems, Capture Virtual Machine Systems, Systems Resource		
	M.Sc. (Cyber Security) SYLLABUS (Effective		
4	Secure Operating Systems- Security Goals, Trust Model- Threat model- Access Control, Lampson's Access Matrix, Mandatory Protection Systems, Reference Monitor- Secure operating system definition- Assessment Criteria. Security in Windows and Unix: Protection System, Authorization, security Analysis and Vulnerabilities. The security Kernel- Secure Communications Processor, retrofitting security in operating systems, Fault Tolerance Issues, Nessus tool, OpenVas tool, snort tool, NPM Audit tool, CalmAV, Malwarebytes tools.	L=12	
		T= 1	P= 2

Learning Resources		
1	Text Books	- Andrew S. Tanenbaum, —Modern Operating SystemsI, Prentice Hall of India, 2nd Ed. 2006 - Achyut Godbole, —Operating SystemI, Tata McGraw Hill, 3rd Ed. 2013 - Abraham Silberschatz, Peter B. Galvin, Greg Gagne, Operating System Concepts – Wiley publication Ninetth Edition 2012. - Trent Jaeger, “Operating Systems Security”, Morgan & Claypool Publishers, 2008.
2	Reference books	- Abraham Siberschatz, Peter Galvin Operating Systems: Concepts - Willey- Sixth edition. - D.M. Dhamdhare, System Programming and Operating Systems -TMH –Second Edition. - William Stallings, Operating Systems: Internals and Design Principles, Seventh Edition, Pearson Publications - Madnick and Donovan , Operating Systems -Tata McGraw-Hill Education. - Trent Jaeger, “Operating Systems Security”, Morgan & Claypool Publishers, 2008. - Michael J. Palmer, “Guide to Operating Systems Security”, Thomson/Course Technology, 2004.
3	Websites	https://www.guru99.com/operating-system-tutorial.html https://www.studytonight.com/operating-system/ https://www.w3schools.in/operating-system-tutorial/intro/ https://www.w3schools.in/operating-system-tutorial/intro/ https://codescracker.com/operating-system/
4	Journals	ACM SIGOPS Operating Systems Review IEEE Journal : Operating systems support for programmable cluster-based Internet routers.
5	Supplementary Reading	IEEE Techonology Navigator - Educational Resources on Operating Systems (https://technav.ieee.org/)
6	Practical Components	Nessus tool, OpenVas tool, snort tool, NPM Audit tool, CalmAV, Malwarebytes tools.

M.Sc.(Cyber Security) SYLLABUS (Effective

Semester		I	Total Credit	4
Course Code		CC-102	Credit Pattern	L-48, T-10, P-2
Course Title		DATABASE MANAGEMENT SYSTEM		
Course Objectives				
1	Understanding the database concept and structure, data modeling and development process.			
2	Construct and normalize conceptual data models.			
3	Implement a relational database into a database management system			
4	To understand Database Security strategies			
Course Outcomes: After successful completion of the course, the students would be able to				
1	To make a study of SQL and relational database design			
2	To know about data storage techniques and query processing			
3	To impart knowledge in transaction processing, concurrency control techniques and recovery procedures			
4	Learner will study Database Security aspects			

Unit No.	Contents	Number of Sessions	
1	Data, Concept of Database, DBMS, RDBMS, Characteristics of DBMS, Components of DBMS, Three levels of dbms, Architecture of DBMS, Concept of Data Models- Hierarchical Data Model, Network Data Model, Relational Data Model, ER-Model in DBMS, Concept of Entity, Entity Set, Attributes, Categories of attributes, Concept of Relationship, Types of Relationship: one to one, one to many, many to one and many to many, Responsibilities of DBA,	L= 12	
		T=3	P= 0
2	Data Abstraction Three Levels of data abstraction, DBMS Schema, Three Levels of dbms schema, dbms instance, Concept data Independence, Types of data independence, Concept of Normalization, Meaning and Functional dependences, 1NF with example, Concept of 2NF, 3NF, Boyce-codd Normal Form,	L= 12	
		T= 3	P= 0
3	Feature of SQL, Data Types, Fundamental concept of table, Components of SQL- DDL, DML, DCL, TCL, SQL Constraints – Null and Not Null Constraints, Unique Constraints, Default Value, Check Constraints, Primary key Constraints, Foreign Key C Constraints, Where clause, Order By Clause, Group by clause, Having Clause, Logical operators, Relational Operators, Special Operators – In, Between, Like, Dual table concept, SQL functions- Arithmetic, Aggregate, Conversion, Date and Time	L= 12	
		T= 3	P= 0
4	Virtual Table Creation(Views), sequence, Sub-queries and Nesting sub queries, Joins – Equi join, Inner join, outer join. What is database security? Types of data security, Types of attacks, Types of Database Security : Authentication Database Encryption, backup database, Physical Security, Access control	L=12	
		T= 1	P= 2

Learning Resources		
1	Reference books	Joel Scambray, Mike Shema, Caleb Sima, Hacking Exposed Web Applications, Second Edition • Simson Garfinkel, Gene Spafford, Web Security, Privacy & Commerce, Second Edition • Mike Shema, HackNotes(tm) Web Security Pocket Reference • William R. Cheswick, Steven M., Bellovin, Aviel D. Rubin, Firewalls and Internet Security • Matt Bishop, "Computer Security: Art and Science", Pearson Education. • Fundamentals of Database Systems (3rd Ed.) - R. Elmasri, S. Navathe • An Introduction to database systems (5th Ed.) - C. J. Date • Database system concepts – H. Korth, A. Silberschatz
2	Websites	• https://www.guru99.com/operating-system-tutorial.html • https://www.studytonight.com/operating-system/ • https://www.w3schools.in/operating-system-tutorial/intro/ • https://www.w3schools.in/operating-system-tutorial/intro/

Semester	I	Total Credit	4
Course Code	CC-103	Credit Pattern	L-48, T-10, P-2
Course Title	MATHEMATICAL FOUNDATION FOR SECURITY		
Course Objectives			
1	The course is designed to provide a basic understanding and knowledge of Mathematics, Probability and Statistics for Computing.		
2	Students will be able to apply Mathematics and Statistics to solve problems related to Cyber Security		
3	Students will be able to generate pseudo random no.s for block ciphers.		
4	Students will be able to apply coding theory to cyber security problems		
Course Outcomes: After successful completion of the course, the students would be able to			
1	To learn about Number theory including Divisibility, Greatest common divisor and Prime numbers.		
2	To understand and apply Euclidean algorithm, Fermat's theorem and Euler's theorem.		
3	To understand the concept of Algebraic structure including Groups, Rings, Fields and Classifications and to calculate probability based on Baye's theorem.		
4	To calculate probability for discrete random variables and continuous random variables and to apply the concept of Coding.		
5	To use Pseudorandom number generation for Next Bit Predictors and Blum-Blum-Shub Generator.		

Syllabus:

Unit No.	Contents	Number of Sessions	
1	Logic, Graph Theory and Algebra Logic, Mathematical reasoning, Sets, Basics of counting, Relations. Graph Theory: Euler graphs, Hamiltonian paths and circuits, planar graphs, trees, rooted and binary trees, distance and centres in a tree, fundamental circuits and cut sets, graph coloring and applications, chromatic number, chromatic partitioning, chromatic polynomial, matching, vector spaces of a graph. Algebra: groups, cyclic groups, rings, fields, finite fields and their applications to cryptography.	L= 12	
		T=3	P= 0
2	Number Theory Number Theory: Introduction - Divisibility - Greatest common divisor - Prime numbers - Cardinality of Primes, Testing for Primality, Factorization, Fundamental theorem of arithmetic - Mersenne primes - Fermat numbers - Euclidean algorithm - Fermat's theorem - Euler totient function - Euler's theorem. Congruences: Definition - Basic properties of congruences - Residue classes - Chinese remainder theorem, Quadratic Congruence, Exponentiation and Logarithms, Discrete Logarithms	L= 12	
		T= 3	P= 0
3	Probability Theory and Coding Theory PROBABILITY THEORY: Introduction – Concepts of Probability - Conditional Probability - Baye's Theorem - Random Variables – discrete and continuous- central Limit Theorem-Stochastic Process Markov Chain, probability distributions (continuous	L= 12	
		T= 3	P= 0

	and discrete joint probability distributions, the theory of estimation. M.Sc.(Cyber Security) SYLLABUS (Effective CODING THEORY: Introduction - Basic concepts: codes, minimum distance, equivalence of codes, Linear codes - Linear codes - Generator matrices and parity-check matrices - Syndrome decoding – Hamming codes - Hadamard Code - Goppa codes		
4	Integrity checks and Authentication algorithms Pseudorandom Number Generation and Stream Ciphers Principles of Pseudo random Number Generation, Principles of Pseudo random Number Generation using a Block Cipher, Stream Ciphers, RC4 , True Random Number Generators	L=12	
		T= 1	P= 2

Learning Resources		
1	Text Books	- Russell Merris, Combinatorics, Wiley-Interscience series in Discrete Mathematics and Optimisation. - N.Chandrasekaran and M.Umaparvathi, Discrete Mathematics, PHI - Goon A. M., Gupta M. K. and Dasgupta B. (2002): Fundamentals of Statistics, Vol.I & II, 8th Edn. The World Press, Kolkata.
2	Reference books	- Sheldon M Ross, “Introduction to Probability Models”, Academic Press, 2003. - Joseph A. Gallian, ‘Contemporary Abstract Algebra’, Narosa, 1998. - Cryptography and Network Security by William Stallings 5th Edition Pearson Education - Ivan Niven, Herbert S. Zuckerman, and Hugh L. Montgomery, ‘An introduction to the theory of numbers’, John Wiley and Sons 2004. - C.L. Liu, ‘Elements of Discrete mathematics’, McGraw Hill, 2008. - Cryptography and Network Security by Behrouz A. Forouzan TMH Publication
3	Websites	https://www.coursera.org/learn/mathematical-foundations-cryptography https://dsu.edu/programs/mathematical-foundations-of-cryptography.html
4	Journals	- Journal of Cyber Security, oxford Academic, ISSN 2057-2085, EISSN 2057-2093 - Computers and Security, Elsevier, ISSN: 0167-4048 - International Journal of Cyber-Security and Digital Forensics (IJCSDF), ISSN 2305-0012 (online) - Journal of Cybersecurity and Information Management, ISSN (Online) 2690-6775
5	Supplementary Reading	
6	Practical Components	

Semester	I	Total Credit	4
Course Code	CC-104	Credit Pattern	L-48, T-10, P-2
Course Title	PYTHON PROGRAMMING		
Course Objectives			
1	Introduce language constructs in Python		
2	Introduce collection classes and their salient features		
3	Familiarize the student with implementation of object-oriented concepts of Python.		
4	Introduce to security aspects of Python		
Course Outcomes: After successful completion of the course, the students would be able to			
1	Apply knowledge for using collection classes in different use cases.		
2	Implement file-handling and object-oriented programming in Python.		
3	Design patterns containing regular expressions for pattern matching		
4	Program cryptographic applications in Python.		

Syllabus:

Unit No.	Contents	Number of Sessions	
1	Programming Fundamentals and Overview of Python - Introduction, History and overview of Python, why python, Basic features and applications of Python, structure of python, Indentation and blocks (suites). Installation of python, Python IDE's. Python interpreter, python environment variables. Scope of variables, DataTypes - strings, lists, tuple, dictionary, operations on these data structures. List comprehension, data type conversion, Comments in Python, Control and branching statements, different types of operators in python, conditional branching, range() function, Organizing code (functions, modules, packages), module listing, module search path, standard modules. Python scripts.	L= 12	
		T=3	P= 0
2	Defining arrays in python, array referencing , handling positive and negative indices, Defining and calling a function, pass by reference Vs. pass by value, function arguments, required arguments, default arguments, keyword arguments, variable-length arguments, anonymous or lambda functions, functional programming tools, Exception Handling in Python Exceptions and assertions, list of standard exceptions, unhandled exceptions, keywords used in exception handling, handling multiple exceptions, finally clause, argument of an exception, nested try blocks, custom exceptions, raising an exception. File Handling Basics Basic I/O functions in python, opening and closing files, attributes of file object, performing file I/O, file positions, renaming and deleting files, functions for manipulating directories.	L= 12	
		T= 3	P= 0
3	Object Oriented Programming in Python OOP terminology, Defining Classes and namespaces, creating instances of a class, built-in class attributes, destroying objects, garbage collection, implementation of encapsulation, access modifiers, inheritance and polymorphism in Python. Overriding methods. Concept of operator overloading, magic methods for operator overloading. Polymorphism with functions and objects Advanced Topics in Python. Iterators in Python, python closures, python decorators, python generators, generator	L= 12	
		T= 3	P= 0

	pipeline, map, reduce, filter, sorted, Regular Expressions in Python Python RegEx, Specify Pattern Using RegEx, meta characters, special sequences, regular expression function in 're' module, match object, applications of regular expressions.		
4	Information Security in Python – Cryptography with Python, caser cipher, Hacking of Caesar Cipher Algorithm, implementation of ROT13 (Rotate By 13) algorithm, transposition cipher, encryption and decryption of transposition cipher, Pyperclip plugin, encrypting files using pycrypto, Base64 Encoding and Decoding, Difference between ASCII and base64, XOR encryption and decryption, multiplicative cipher, affine cipher, hacking monoalphabetic cipher, simple substitution cipher. Vignere cipher, one time pad cipher. Python modules of Cryptography – cryptography module, uuid, hashlib packages, Symmetric Key and Asymmetric Key Algorithm – Implementation of DES algorithm using pyDES package. Implementation of RSA algorithm using Crypto.PublicKey package.	L=12	
		T= 1	P= 2

Learning Resources		
1	Text Books	- Practical Programming: An introduction to Computer Science Using Python, second edition - Programming collective intelligence, O'Reilly publication - Think Python: An Introduction to Software Design, Allen B. Downey, AbeBooks - Python Tricks: A Buffet of Awesome Python Features, Dan Bader
2	Reference books	- Python for Informatics: Exploring Information, Charles Severance - Python for Data Analysis, Wes McKinney, O'Reilly publication - Mastering Python for data science, Samir Madhavan, PACKT
3	Websites	https://www.python.org https://www.sololearn.com https://realpython.com https://www.tutorialspoint.com/cryptography_with_python/index.htm
4	Journals	
5	Supplementary Reading	
6	Practical Components	

Semester	I	Total Credit	4
Course Code	CC-103	Credit Pattern	L-48, T-10, P-2
Course Title	MATHEMATICAL FOUNDATION FOR SECURITY		
Course Objectives			
1	The course is designed to provide a basic understanding and knowledge of Mathematics, Probability and Statistics for Computing.		
2	Students will be able to apply Mathematics and Statistics to solve problems related to Cyber Security		
3	Students will be able to generate pseudo random no.s for block ciphers.		
4	Students will be able to apply coding theory to cyber security problems		
Course Outcomes: After successful completion of the course, the students would be able to			
1	To learn about Number theory including Divisibility, Greatest common divisor and Prime numbers.		
2	To understand and apply Euclidean algorithm, Fermat's theorem and Euler's theorem.		
3	To understand the concept of Algebraic structure including Groups, Rings, Fields and Classifications and to calculate probability based on Baye's theorem.		
4	To calculate probability for discrete random variables and continuous random variables and to apply the concept of Coding.		
5	To use Pseudorandom number generation for Next Bit Predictors and Blum-Blum-Shub Generator.		

Syllabus:

Unit No.	Contents	Number of Sessions	
1	Logic, Graph Theory and Algebra Logic, Mathematical reasoning, Sets, Basics of counting, Relations. Graph Theory: Euler graphs, Hamiltonian paths and circuits, planar graphs, trees, rooted and binary trees, distance and centres in a tree, fundamental circuits and cut sets, graph coloring and applications, chromatic number, chromatic partitioning, chromatic polynomial, matching, vector spaces of a graph. Algebra: groups, cyclic groups, rings, fields, finite fields and their applications to cryptography.	L= 12	
		T=3	P= 0
2	Number Theory Number Theory: Introduction - Divisibility - Greatest common divisor - Prime numbers - Cardinality of Primes, Testing for Primality, Factorization, Fundamental theorem of arithmetic - Mersenne primes - Fermat numbers -	L= 12	
		T= 3	P= 0

	Maths (Cyber Security) SYLLABUS (Effective 2020-2021) Euclidean Algorithm, Fermat's theorem, Euler's theorem. Congruences: Definition - Basic properties of congruences - Residue classes - Chinese remainder theorem, Quadratic Congruence, Exponentiation and Logarithms, Discrete Logarithms		
3	Probability Theory and Coding Theory PROBABILITY THEORY: Introduction – Concepts of Probability - Conditional Probability - Baye's Theorem - Random Variables – discrete and continuous-central Limit Theorem-Stochastic Process Markov Chain, probability distributions (continuous and discrete), joint probability distributions, theory of estimation,. CODING THEORY: Introduction - Basic concepts: codes, minimum distance, equivalence of codes, Linear codes - Linear codes - Generator matrices and parity-check matrices - Syndrome decoding – Hamming codes - Hadamard Code - Goppa codes	L= 12	
		T= 3	P= 0
4	Integrity checks and Authentication algorithms Pseudorandom Number Generation and Stream Ciphers Principles of Pseudo random Number Generation, Principles of Pseudo random Number Generation using a Block Cipher, Stream Ciphers, RC4 , True Random Number Generators	L=12	
		T= 1	P= 2

Learning Resources		
1	Text Books	- Russell Merris, Combinatorics, Wiley-Interscience series in Discrete Mathematics and Optimisation. - N.Chandrasekaran and M.Umaparvathi, Discrete Mathematics, PHI - Goon A. M., Gupta M. K. and Dasgupta B. (2002): Fundamentals of Statistics, Vol.I & II, 8th Edn. The World Press, Kolkata.
2	Reference books	- Sheldon M Ross, "Introduction to Probability Models", Academic Press, 2003. - Joseph A. Gallian, "Contemporary Abstract Algebra", Narosa, 1998. - Cryptography and Network Security by William Stallings 5th Edition Pearson Education - Ivan Niven, Herbert S. Zuckerman, and Hugh L. Montgomery, 'An introduction to the theory of numbers', John Wiley and Sons 2004. - C.L. Liu, 'Elements of Discrete mathematics', McGraw Hill, 2008. - Cryptography and Network Security by Behrouz A. Forouzan TMH Publication
3	Websites	https://www.coursera.org/learn/mathematical-foundations-cryptography https://dsu.edu/programs/mathematical-foundations-of-cryptography.html
4	Journals	Journal of Cyber Security, oxford Academic, ISSN 2057-2085, EISSN 2057-2093

		M.Sc.(Cyber Security) SYLLABUS (Effective 2017-1948) • International Journal of Cyber-Security and Digital Forensics (IJCSDF), ISSN 2305-0012 (online) • Journal of Cybersecurity and Information Management, ISSN (Online) 2690-6775
5	Supplementary Reading	
6	Practical Components	

Semester	I	Total Credit	4
Course Code	CC-105	Credit Pattern	L-48, T-10, P-2
Course Title	Secure programming with C		
Course Objectives			
1	To teach how to write secure programs in C language		
2	To explain the data types and Vulnerabilities in it		
3	To demonstrate implementation of flat files using C language.		
4	To demonstrate code injection using C language		
Course Outcomes: After successful completion of the course, the students would be able to			
1	Able to write correct programs in C language		
2	Understand use of data types, structures and Vulnerabilities in it		
3	Able to implement flat files in C language,		

Syllabus:

Unit No.	Contents	Number of Sessions	
1	Overview of Programming and programming languages, Types of programming Languages, Introduction to C, Structure of C program, C Character set, Identifiers and keywords, variables and constants, Variables and their scope, modifiers and storage class specifiers. Unary operators, Binary arithmetic operators, relational operators and Logical operators, size of operator, ternary conditional operator, Operator precedence and associativity Bitwise operators, control flow and iterative structures, break, continue and goto statements. Input and output statements in Cgets, puts functions, Escape sequence characters, Format specifiers. Arrays in C - Definition, one dimensional and two dimensional array, declaration, initialization and processing the elements of array, String handling.	L= 12	
		T=3	P= 0
2	Functions in C Function declaration (Prototype), Function call, Function header and definition, Passing arguments (actual arguments, formal arguments), Types of function call (call by value, call by reference), Recursion	L= 12	
		T= 3	P= 0
3	Pointers and structures in C Pointer fundamental, Pointer declaration, Operations on pointer, Pointer with array and function, character pointer, array of pointer, pointer to array, dynamic memory allocation using dynamic memory allocation functions,	L= 12	
		T= 3	P= 0

4	User defined data types Structure – declaration, initialization of structure, array of structure, array within structure, array of structure, structure and pointer, union and enumerated data types. File Handling File structure, Opening and closing file, Creating files, Processing files, File handling using command line arguments, Library functions for file handling,	L=12	
		T= 1	P= 2

Learning Resources		
1	Text Books	• C: The Complete Reference: Herbert Schildt • Let us C Solutions: Y.P. Kanetkar
2	Reference books	• Jon Erickson. Hacking: The Art of Exploitation, 2nd Edition. • Robert Seacord. Secure Coding in C and C++, 1 st Edition. • K. N. King. C Programming. A Modern Approach. W. W. Norton & Company. • Brian Kernighan and Dennis Ritchie. The C Programming Language, 2nd Edition.
3	Websites	tutorialspoint.com cprogramming.com
4	Journals	C/C++ Users Journal Computer Bits
5	Practical Components	List of experiments to be executed during laboratory hours

Semester	I	Total Credit	4
Course Code	DSE-101	Credit Pattern	L-48, T-12, P-0
Course Title	A. SECURE SOFTWARE DESIGN		
Course Objectives			
1	Introduce software security aspects.		
2	Describe security models		
3.	Understand and analyse risks in software engineering		
4.	Design a framework for software security		
Course Outcomes: The students will able to			
1.	Understand various aspects and principles of software security.		
2.	Devise security models for implementing at the design level.		
3.	Identify and analyse the risks associated with s/w engineering and use relevant models to mitigate the risks.		
4.	Design different security strategies for different types of software systems.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Defining computer security, the principles of secure software, trusted computing base, etc, threat modelling, advanced techniques for mapping security requirements into design specifications. Secure software implementation, deployment and ongoing management.	L= 12	
		T=3	P= 0
2	Software design and an introduction to hierarchical design representations. Difference between high-level and detailed design. Handling security with high-level design. General Design Notions. Security concerns designs at multiple levels of abstraction, Design patterns, quality assurance activities and strategies that support early vulnerability detection, Trust models, security Architecture & design reviews.	L= 12	
		T= 3	P= 0
3	Software Assurance Model: Identify project security risks & selecting risk management strategies, Risk Management Framework, Security Best practices/ Known Security Flaws, Architectural risk analysis, Security Testing & Reliability (Penn testing, Risk- Based Security Testing, Abuse Cases, Operational testing , Introduction to reliability engineering, software reliability, Software Reliability approaches, Software reliability modelling.	L= 12	
		T= 3	P= 0
4	Security development frameworks. Security issues associated with the development and deployment of information systems, including Internet-based e-commerce, e-business, and e-service systems, as well as the technologies required to develop secure information systems for enterprises, policies and regulations essential to the security of Enterprise information systems.	L=12	
		T= 3	P= 0

Learning Resources

1	Text Books	W. Stallings, Cryptography and network security: Principles and practice, 5th Edition, Upper Saddle River, NJ:Prentice Hall., 2011 C. Kaufman, r. Perlman, & M. Speciner, Network security: Private communication in a public world, 2nd Edition, Upper Saddle River, NJ:Prentice Hall, 2002 C. P. Pfleeger, S. L. Pfleeger, Security in Computing, 4th Edition, Upper Saddle River,

		M.Sc.(Cyber Security) SYLLABUS (Effective NY:Prentice Hall, 2007 M. Merkow, & J. Breithaupt, Information security: Principles and practices. Upper Saddle River, NJ:Prentice Hall,2005
2	Reference books	Gary McGraw, Software Security: Building Security In, Addison-Wesley, 2006
3	Website	https://www.dwheeler.com/secure-class/ by David A. Wheeler https://www.coursera.org/lecture/software-design-threats-mitigations/secure-software-design-is-goodsoftware-design-dXAT3 by Albert Glock

Semester	I	Total Credit	4
Course Code	DSE-I	Credit Pattern	L-48, T-12, P-0
Course Title	B. Identity Access And Management		
Course Objectives			
1	To understand the fundamentals of the identity and access management		
2	To study security techniques that identify and authenticate anything trying to gain access to any systems.		
3.	To design and implement identity access & management to control access to resources.		
4.	To implement access rights, provide single sign-on mechanism		
Course Outcomes: The students will be able to			
1.	Describe the importance of identity management		
2.	Develop mechanisms to store identity information		
3.	Describe the use of directories to manage identities and explores the methodologies for authentication and access control in depth		
4	Design mechanisms to use identity data for access control		
5	Implement access rights, provide single sign-on mechanism		
6	Describe the effective use of identity access and management		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Identity Access & Management (IAM) Introduction to Identity, Importance of Identity Management, Enterprise or Organizational identities, Electronics and non-electronics Identities, Review of Identity and Access Management: Theory & Practice, Access control, Message authenticity, IAM Service, User Credentials, Authentication, Security Context, Authorization, IAM Role, Role based Access Management, Identity Trust, IAM Session	L= 12	
		T=3	P= 0
2	Authentication and Access control Mechanisms to use Identity Data for Access Control – Authentication and Authorization, Multi Factor authentication (MFA), Provisioning - Principles for the collection of identity data and establishment of entitlements, Role Based Access Control (RBAC)	L= 12	
		T= 3	P= 0
3	Single Sign-On and Federation Authentication Mechanisms – the importance of Single Sign, Single Sign-On Techniques, Access Control, Password Management, Introduction to Single Sign on Methods, Federation Overview, Federation Protocols, Benefits of federated authentication, Governance Risk and Compliance	L= 12	
		T= 3	P= 0
4	Identity Management and Data Store Identity Management Principles, Identity Information Storage Mechanisms, Directories: History of Identity Data Stores, Introduction Lightweight Directory Access Protocol and Enterprise Directories, LDAP Concepts & Architecture, LDAP Replication, Identity Management, Identity Portrayal, Different Identity Management Models, Local Identity, Network Identity, Federated Identity, Global Web Identity, Identity management in IoT – User-Centric Identity Management, Device-Centric Identity Management, Hybrid Identity Management	L=12	
		T= 3	P= 0

M.Sc.(Cyber Security) SYLLABUS (Effective

Learning Resources		
1	Text Books	- Graham Williamson, David Yip, Identity Management: A Primer, MC Press Publisher, 2009, ISBN 978-1583470930 - Omondi Orondo, Identity & Access Management: A Systems Engineering Approach, 2014, ISBN 1499357060
2	Reference books	- Jochen Nickel, Mastering Identity and Access Management with Microsoft Azure, Packt Publishing Ltd. - Ertem Osmanoglu, Identity and Access Management, Elsevier Science, 2013 ISBN: 9780124104334 - Parikshit Mahalle, Identity management for Internet of things by, River Publishers
3	Websites	https://www.simplilearn.com/tutorials/aws-tutorial/aws-iam https://www.javatpoint.com/aws-iam https://www.eccouncil.org/identity-and-access-management/
4	Journals	- Identity and Access Management, ScienceDirect, https://www.sciencedirect.com/topics/computer-science/identity-and-access-management - EURASIP Journal on Information Security, SpringerOpen, https://jis-eurasipjournals.springeropen.com/articles/10.1186/s13635-016-0043-2
5	Supplementary Reading	- TechTarget Network https://searchsecurity.techtarget.com/definition/identity-access-management-IAM-system - AWS Identity and Access Management https://aws.amazon.com/iam/
6	Practical Components	- Identity and Access Management https://tutorialsdodojo.com/aws-identity-and-access-management-iam/ - How to Implement Single Sign On https://auth0.com/learn/how-to-implement-single-sign-on/

M.Sc.(Cyber Security) SYLLABUS (Effective

Semester	I	Total Credit	4
Course Code	AEC- I	Credit Pattern	L-24, T-06, P-00
Course Title	a. Cross Platform Skills		

Course Objectives	
1	
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3	
4	
5	
Course Outcomes	
After completion of this course the student will be able to:	
1	
2	

Unit Number	Contents	Number of Sessions	
1	Benefits and Pitfalls of Cross-platform Apps Development Frameworks for Cross-Platform App Development, React Native, Xamarin, Ionic, Flutter, PhoneGap Build with an API/toolchain that exposes the native SDK of the platform for a single programming language/system (i.e. C# with Xamarin), Build a hybrid HTML5 web app that can execute as an app on the device (i.e. Apache Cordova) Define Apache Cordova, Discuss history & Features of Cordova, List Basic Requirements of Cordova Describe Creating cross-platform applications using HTML5-CSS3-javascript based frameworks in Apache Cordova, List Apache Cordova plug-ins for iOS, Android and Windows based Applications, List Technologies used along with	L=12	
		T=03	P=00

	M.Sc.(Cyber Security) SYLLABUS (Effective 2020) Explain Building Applications in Apache Cordova, Distinguish iOS, Android and Windows application Compilation, Describe Setting up Application files, Managing Local Storage Options, Describe Single Page Applications, Managing UI Templates, view classes, view routing, Discuss Managing Location API, Contacts API, Camera API, Discuss Testing Applications		
2	Introduction to Mobile user Interface Development – Why choose cross-platform mobile development?, UI development Frameworks – Introduction to Ionic Framework – Support and Features – Installing Ionic frameworks – platform supports (iOS and android) – Creating a User Interface project in Ionic – Ionic elements – lists – menus – slide boxes -refreshing – Ionic NetBeans – Building Ionic UI applications – Testing Ionic Applications. Developing full-stack, cross-platform mobile apps using React Native Flutter vs React Native vs Xamarin for Cross Platform Development Introduction to Flutter, Installing VS Code and Dart plugin, installing Dart SDK, Writing first Dart program. Setting up Flutter – Downloading/cloning fullter SDK, Installing Flutter plugin in VS Code. Understanding the structure of Flutter project, Building a simple app from scratch.	L=12	
		T=03	P=00

References		
1	Text books	1.
2	Reference books	1. Flutter Cookbook by by Simone Alessandria and Brian Kayfitz Packt Publishing Limited 2. Ionic : Hybrid Mobile App Development, Sani Yusuf, Rahat Khanna, Hoc Phan, packt publication 3. Learning React Native, Bonnie Eisenman, O'Reilly; 1st edition 4. Xamarin 4 By Example, Matteo Bortolu, Packt Publishing

M.Sc.(Cyber Security) SYLLABUS (Effective

Semester	I	Total Credit	2
Course Code	AEC- I	Credit Pattern	L-24, T-6, P-0
Course Title	b. Problem Solving and Logical Skills		
Course Objectives			
1	To provide a solid foundation in algorithm design and analysis.		
2	Become familiar with fundamental data structures and with the manner in which these data structures can best be implemented; become accustomed to the description of algorithms in both functional and procedural styles.		
3	To develop problem solving abilities using mathematical theories.		
4	To study different logical strategies and techniques		
5	To study the important algorithmic design paradigms and methods of analysis.		

Course Outcomes: After successful completion of the course, the students would be able to	
1.	Reflect upon their own capacity for problem-solving.
2.	Apply algorithmic thinking to understand, define and solve problems
3.	Apply logical skills while solving problems.
4.	Demonstrate problem solving logical inference skills

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Problem solving: Problem Solving– problem definition, Problem identification, Problem analysis, Solution generation, Solution development, Decision making, Solution implementation, Solution evaluation. Algorithmic Thinking Overview: Algorithm – definition, practical examples, properties, representation, algorithms vs programs.	L= 10	
		T=2	P= 0
2	Logical Skills: Analogy basing on kinds of relationships, Simple Analogy; Pattern and Series of Numbers, Letters, Figures. Coding-Decoding of Numbers, Letters, Symbols (Figures), Blood relations. Statements and course of action, Statements and assumption, Cause and effect reasoning, Statements and argument, Drawing inference, Statement and Conclusion. Two premise argument, More than two premise argument using connectives. Application of methods and reasoning principles to evaluate and solve problems.	L= 14	
		T= 4	P= 0

1	Text Books	M.Sc. (Cyber Security) SYLLABUS (Effective 2020) R.G. Denekar, "How to Solve Problems", Prentice- Hall of India, 1982 • Horowitz and Sahani, "Fundamentals of Computer Algorithms", Galgotia Publication, 2nd edition. • R.G Agarwal, "Verbal & Non-Verbal Reasoning Logical Reasoning"
2	Reference books	• T. H. Cormen, C. E. Leiserson, R. L. Rivest and C. Stein. " Introduction to Algorithms", Prentice – Hall of India ,2nd edition , 2002. • Weiss, Mark Allen, —"Data Structures and Algorithm Analysis in C" , Addison Wesley, 2nd edition , 1999. • D.E Knuth, "Fundamental Algorithms", Narosa Publishing house, 2nd edition • Head First Design Patterns • Puzzles to Puzzle you – Shakuntala Devi
3	Websites	• https://www.guru99.com/design-analysis-algorithms-tutorial.html • https://nptel.ac.in/courses/106101060/ • http://openclassroom.stanford.edu/MainFolder/CoursePage.php?course=IntroToAlgorithms • https://www.javatpoint.com/reasoning
4	Journals	• IEEE Journal of Computing in Science & Engineering (https://ieeexplore.ieee.org/document/6664963) • Springer US :Algorithmica (https://link.springer.com/journal/453) • Science direct : Elsevier - journal of Algorithms (https://www.sciencedirect.com/journal/journal-of-algorithms)

M.Sc.(Cyber Security) SYLLABUS (Effective

Semester	I	Total Credit	2
Course Code	AEC-I	Credit Pattern	L-30, T-00, P-00
Course Title	C. Social Ethics		
Course Objectives			
1	To study basic moral ethics of students		
2	To check out learners social ethics learnt by students		
Course Outcomes			
After completion of this course the student will be able to:			
1	Analyse basic moral and social ethics of learners		
2	Assess social, moral , ethical standards practices of learners		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Definition, Nature and Scope of Ethics. Basic Moral Concepts : Good, Right, Ought, Duty, Obligation, Justice and Freedom. Ethical Theories. I : Western (a)Hedonism (b)Intuitionism,(c)Formalism: ,(d)Emotivism: II – Indian (e)Bhagavad Gita: Niskamakarma, Theories of Punishment: Retributive, Deterrent and Reformative. Views of Manu on punishment.	L=12	
		T=03	P=00
2	Business Ethics: Ethical Standards of Business – Immoral and Illegal Practices and their solutions. Environmental Ethics : Man and Nature – Ecological crisis. Genetic Engineering and Cloning and their ethical issues. Ethics of Media: Impact of News Papers – Television and Movies. Social Ethics: Organ Trade, Human trafficking	L=12	
		T=03	P=00

References		
1	Reference books	1. John, S. Mackenzie: <i>A Manual of Ethics</i> . 2. Harold H. Titus : <i>Ethics for Today</i> . 3. Maitra, S.K. : <i>Hindu Ethics</i> .

	M.Sc.(Cyber Security) / SYLLABUS (Effective 2019-2020) 5. Sinha : <i>A Manual of Ethics</i>. 6. Manu: <i>Manava Dharma Sastra or the Institute of Manu : Comprising the Indian System of Duties : Religious and Civil (ed.)</i> G.C. Haughton. 7. Susruta Samhita : Tr. Kaviraj Kunjanlal, Kunjalal Bhishagratha, Chowkamba Sanskrit Series, Vol. I, II and III, Varanasi, Vol. I PP. 16-20, 21-32 and 74-77 only. 8. Caraka Samhita : Tr. Dr. Ram Karan Sarma and Vaidya Bhagavan Dash, Chowkambha Sanskrit Series office, Varanasi, Vol. I, II and III, Vol. I pp. 183 to 191. 9. <u>Ethics, Theory and Contemporary Issues</u> (Third Ed)., Barbara Mackinnon, Wadsworth/Thomson Learning, 2001. 10. <u>Analyzing Moral Issues</u>, Judith A. Boss, Mayfield Publishing Company, 199 11. An Introduction to Applied Ethics (Ed.) John H. Piet and Ayodhya Prasad, Cosmo Publications. a.

M.Sc.(Cyber Security) SYLLABUS (Effective

Semester	I	Total Credit	2
Course Code	AEC-I	Credit Pattern	L-25, T-05
Course Title	D. Stress Management		
Course Objectives			
1	To understand the scientific foundations, nature and symptoms of stress		
2	To assess risk factors of stress		
3.	To develop resilience to stress		
4	To apply stress management techniques		

Course Outcomes: The students will able to	
1.	Comprehend the scientific foundations, nature and symptoms of stress
2.	Discuss risk factors of stress
3.	Develop resilience to stress
4.	Apply stress management techniques

Syllabus:

Unit Number	Contents		Number of Sessions	
1	Scientific Foundations of Stress Stress Sources, Types, Personality Factors and Stress, Stress and Nervous System, Effect of Stress on Immune System, Chronic Stress, Tactics for coping with stress, Fear and Anxiety, Breathing Exercises		L= 11	
			T=4	
2	Developing Resilience to Stress and Relief Strategies Understanding Stress Level, Roles of Thoughts Beliefs and Emotions, Developing Cognitive Coping Skills, Autogenic Training and Progressive Relaxation, Relaxation Techniques, Strategies for Stress Management, Meditation		L= 12	
			T= 3	
Learning Resources				
1	Text Books	- Pratibha Goyal Alok Chakrawal, Stress Management, Studera Press, First Edition 2016 - Martha Davis, Elizabeth Robbins Eshelman, Matthew McKay, The Relaxation & Stress Reduction Workbook, New Harbinger Publications, Sixth Edition 2008		
2	Reference	Robert Schachter (Author), Mindfulness for Stress Management: 50 Ways to Improve Your Mood and Cultivate Calmness, Althea Pr 2019		

	M.Sc.(Cyber Security) SYLLABUS (Effective 2020)	• Stress Management, Rupia Publications India 2017 • Milind Beedkar, Dynamics of Stress Management, deep and deep publications; First edition 2015
3	Websites	• https://nptel.ac.in/courses/121/105/121105009/
4	Journals	• International Journal of Stress Management https://www.apa.org/pubs/journals/str • The Stress Management Journal https://stressstop.com/products/the-stress-management-journal • International Journal of Stress Management https://link.springer.com/journal/10771/volumes-and-issues
5	Supplementary Reading	• https://drive.google.com/file/d/1Tg7zgZNwhK5LCBbulM-HfaSng7OKnikw/view • https://www.routledge.com/rsc/downloads/Mental Health Awareness Week FreeBook (1).pdf
6	Practical Components	• Stress Management Techniques, Strategies & Activities https://positivepsychology.com/stress-management-techniques-tips-burn-out/

Semester	II	Total Credit	4
Course Code	CC-201	Credit Pattern	L-24, T-06, P-00
Course Title	Ethical Hacking		
Course Objectives			
1	To familiarize the student with ethical hacking concepts and tools		
2	To introduce various ethical hacking skills and types of attacks		
3	To know how protect systems from hacking threats		
Course Outcomes			
After completion of this course the student will be able to:			
1	Will be able to identify the type of hacking attack		
2	Will be acquainted with ethical hacking skills		
3	Will be able to use various ethical hacking tools		

Unit No.	Contents	Number of Sessions	
1	Introduction: Introduction to Hacking, Hacking types , Cybercrime and its type, Introduction to basics of Ethical Hacking , ethical hacking terminologies, tools , Ethical hacking Process , Reconnaissance- active and passive, Foot printing- active and passive (12) EthicalHackinglls Fingerprinting and its type , steps involved , Sniffing , sniffing tools , ARP Poisoning,DNS Poisoning, Enumeration, Trojan Attacks, TCP/IP Hijacking, Email Hijacking , Password Hijacking, wireless hijacking. (12)	L= 12	
		T=3	P= 0
2	Email Security and Intellectual Property treats Email Security: types of threats, spam, countermeasures Intellectual Property Thefts: Introduction, Threats of Intellectual property theft, types of IP Theft attacks Identity attacks: types of identity thefts, Input validation attacks : Input validation threats, Types of input validation attacks, SQL injection attacks, Denial of Services(DOS) attacks: Introduction, threats of DOS attacks, different DOS attacks	L= 12	
		T= 3	P= 0
3	Introduction: Introduction to Hacking, Hacking types , Cybercrime and its type, Introduction to basics of Ethical Hacking , ethical hacking terminologies, tools , Ethical hacking Process , Reconnaissance- active and passive, Foot printing- active and passive (12) EthicalHackinglls Fingerprinting and its type , steps involved , Sniffing , sniffing tools , ARP Poisoning,DNS Poisoning, Enumeration, Trojan Attacks, TCP/IP Hijacking, Email Hijacking , Password Hijacking, wireless hijacking. (12)	L= 12	
		T= 3	P= 0
4	Email Security and Intellectual Property treats Email Security: types of threats, spam, countermeasures Intellectual Property Thefts: Introduction, Threats of Intellectual property theft, types of IP Theft attacks Identity attacks: types of identity thefts, Input validation attacks : Input validation	L=12	
		T= 1	P= 2

	threats, Types of Denial of Service (DOS) attacks: Introduction, threats of DOS attacks, different DOS attacks		

References		
1	Text books	2.
2	Reference books	5. Flutter Cookbook by by Simone Alessandria and Brian Kayfitz Packt Publishing Limited 6. Ionic : Hybrid Mobile App Development, Sani Yusuf, Rahat Khanna, Hoc Phan, packt publication 7. Learning React Native, Bonnie Eisenman, O'Reilly; 1st edition 8. Xamarin 4 By Example, Matteo Bortolu, Packt Publishing

Semester	II	Total Credit	4
Course Code	CC-202	Credit Pattern	L-48, T-12, P-0
Course Title	Information Security and Cryptography		
Course Objectives			
1	To understand basics of Information security and Cryptography.		
2	To be able to secure a message over insecure channel by various means.		
2	To learn about how to maintain the Confidentiality, Integrity and Availability of a data.		
Course Outcomes: After successful completion of the course, the students would be able to			
1.	Provide security of the data over the network.		
2.	Do research in the emerging areas of cryptography and Information security		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Information Security Introduction of Information Security, Critical Characteristics of Information, NSTISSC Security Model, Components of an Information System, Securing the Components, Balancing Security and Access, The SDLC, The Security SDLC Security mindset, Computer Security Concepts (CIA), Information Security Policy, Standards and Practices.	L= 12	
		T=3	P= 0
2	Introduction to Cryptography Threats, risks, consequences , Sources of threats , Attacks classification , Preventive measures, remedial measures Introduction to Cryptography: Security Mechanisms: Security Services, Security Attacks, Security Goals, Symmetric Cipher Model, Various Encryption Techniques: Substitution: (i) Monoalphabetic - Caesar Cipher (ii) Polyalphabetic - Playfair Cipher, Vignere Cipher, Hill Cipher, Transposition: (i) Keyless (ii) Keyed, Steganography	L= 12	
		T= 3	P= 0
3	Block Cipher and Public Key Cryptography Data Encryption Standard, Block Cipher Modes of Operation:-Electronics Code Book (ECB), Cipher block-chaining mode (CBC), Cipher Feedback Mode (CFB), Output Feedback Mode (OFB), Advanced Encryption Standard, Blowfish Algorithm, RCS Algorithm, Public Key Cryptography (Asymmetric Key Cryptography), RSA Algorithm, Knapsack Algorithm, El-Gamal Algorithm, Key Management - Diffie Hellman Key	L= 12	
		T= 3	P= 0
4	Integrity checks and Authentication algorithms Authentication Requirement, Authentication Functions, Types of Authentication, Message Authentication Code (MAC): MD5 Algorithm, SHA Algorithm, HMAC Algorithm, Digital Certificate. Digital Signature Scheme: RSA, El Gamal, Schnorr, DSS, Needham Schroeder Authentication Protocol. Authentication Applications: Kerberos and X.509 - directory authentication service - electronic mail security-pretty good privacy (PGP) - S/MIME	L=12	
		T= 3	P= 0

	M.Sc.(Cyber Security) SYLLABUS (Effective		

Learning Resources		
1	Text Books	- Michael E Whitman and Herbert J Mattord, “Principles of Information Security”, Vikas Publishing House, New Delhi, 2003 - William Stallings, Cryptography and network security, Pearson Education.
2	Reference books	- Micki Krause, Harold F. Tipton, “ Handbook of Information Security Management”, Vol 1-3 CRC Press LLC, 2004. - Stuart Mc Clure, Joel Scrambray, George Kurtz, “Hacking Exposed”, Tata McGraw-Hill, 2003 - Matt Bishop, “ Computer Security Art and Science”, Pearson/PHI, 2002. - Wade Trappe, Lawrence C Washington, “ Introduction to Cryptography with coding theory”, Pearson W. Mao, “Modern Cryptography – Theory and Practice”, Pearson Education. - Charles P. Pfleeger, Shari Lawrence Pfleeger – Security in computing – Prentice Hall of India
3	Websites	https://www.khanacademy.org/computing/computer-science/cryptography https://www.guru99.com/how-to-make-your-data-safe-using-cryptography.html https://www.geeksforgeeks.org/what-is-information-security/ https://www.commonlounge.com/
4	Journals	Journal of Information Security and Applications Taylor and Francis : Information Security Journal: A Global Perspective
5	Supplementary Reading	Digital Guardian Schneier on Security A Few Thoughts on Cryptographic Engineering https://www.edureka.co/blog/what-is-cryptography/
6	Practical Components	

Semester	II	Total Credit	4	
Course Code	CC-203	Credit Pattern	L-48, T-12, P-0	
Course Title	Cloud Computing and Security			
Course Objectives				
1	To explore vital concepts in Cloud Computing			
2	To identify the technical foundations of cloud systems architectures			
3	To expose the students to frontier areas of Cloud Computing			
4	To explore Cloud Security fundamentals			
Course Outcomes: Students will be able to;				
1	Articulate various deployment models as well as service models of cloud computing.			
2	Describe cloud security architectures from the perspectives of all the stakeholders			
3	Understand importance shared security responsibilities			
4	Elaborate enterprise security considerations compared to on-premise			
Unit Number	Contents			Number of Sessions
1	<u>Cloud Computing Fundamentals</u> Introduction to Cloud Computing, Essential Characteristics, Cloud Computing Architecture, Cloud Service Models, Cloud Deployment Models, Alternative Deployment Models(Linthicum Model, Cloud Cube Model), Architectural Influences, Technological Influences, Operational Influences, Service Oriented Architecture (SOA), WSDL, Cloud computing costs, Right sizing, auto scaling, vertical scaling Vs horizontal scaling, service level agreement,Capacity planning, steps in capacity planning			L= 12
				T= 3 P= 0
2	<u>Virtualization:</u> Introduction to Virtualization, Characteristics of virtualization, Pros and Cons of Virtualization, Types of Virtualization, Implementation Levels of Virtualization - Virtualization Structures - Tools and Mechanisms - Virtualization of CPU, Memory, I/O Devices . Fundamental concepts of compute ,storage, networking, desktop and application virtualization, Virtualization benefits, server virtualization, Infrastructure Requirements , Virtual LAN(VLAN) and Virtual SAN(VSAN) and their benefits. Load balancing, benefits of load balancing, load balancing algorithms, hypervisor (virtual machine monitor), types of hypervisors, machine			L= 12
				T= 3 P= 0

		M.Sc.(Cyber Security) SYLLABUS (Effective 2020)		
		implementing, migrating, and integrating applications, simple cloud API, AppZero(VAA)		
3		<u>Cloud Computing Security Fundamentals</u> Overview of Cloud security and Security Planning, Vulnerabilities and Attack vectors, Cloud Security Challenges, Cloud Security controls, Cloud secSLAs Cloud Security Alliance (CSA) Model, Cloud information Security Objectives, CIA triad	L= 12	
			T= 3	P=0
4		<u>Software, Infrastructure and Data Security</u> Cloud Security Services, Cloud Security Design Principles, Secure Cloud Software Requirements, Infrastructure Security(Network Level, Host Level, Application Level), Aspects of Data Security, Data Security Mitigation, Provider Data and it's Security, Identity and Access Management(IAM), IAM Challenges, IAM Architecture and Practice, IAM Standards and Protocols for cloud Services	L= 12	
			T= 3	P= 0
Learning Resources				
1	Text Books	1. "Cloud Management and Security", Imad M.Abbadi by Wiley India Pvt, Ltd. 2. "Cloud Computing for Dummies", Judith Hurwitz, Robin Bloor, Marcia Kaufman, Fern Halper, Publisher: Wiley 3. "Cloud Computing: Implementation, Management, and Security", John W. Rittinghouse, James F. Ransome. Publisher: CRC Press		
2	Reference books	1. "Cloud Security: A Comprehensive Guide to Secure Cloud Computing", Ronald L. Krutz and Russell Dean Vines, ©2010 by Wiley India Pvt. Ltd. 2. "Cloud Security and Privacy", Tim Mather, Subra Kumaraswamy, Shahed Latif, ©2009, Published by O'Reilly Media.		
3	Websites	1. https://cloudacademy.com/library/security/ 2. https://www.citrix.com/blogs/ 3. https://www.tutorialspoint.com/ 4. https://www.w3schools.in/		

Semester	III	Total Credit	4
Course Code	CC-204	Credit Pattern	L-48, T-12, P-0
Course Title	Web Development		
Course Objectives			
1	To introduce a student to advanced trends in web technology.		
2	To enable the student to design and develop Rich Internet Applications (RIA)		
3	To understand the role of jQuery, AJAX and JSON in reducing the development time of web application.		
4	To understand the concept of responsive sites and role of Bootstrap technology in designing responsive sites.		
Course outcomes : After completion of course student will			
1	be able to use different HTML5 and CSS3 features for designing webpages with improved UI and UX.		
2	be able to use jQuery library in developing websites		
3	be able to use AJAX for improving performance and response		
4	be able to parse JSON documents and use JSON in software integration		
5	be able to develop responsive sites using mobile first approach of Bootstrap technology.		
Unit Number	Contents	Number of Sessions	
1	Introduction to HTML5, New Features of HTML5, New Elements in HTML5, New Markup Elements, New Form Elements, New Input Type Attribute Values, HTML5 Input Types: Input Type – email, Input Type – url, Input Type – number, Input Type – range, Input Type - Date Pickers, Input Type – search, Input Type – color, HTML5 Form Elements and Attribute	L= 12	
	Audio, Video and Canvas: Audio on the Web, Audio Formats, How It Works, All<audio> Attributes, Video on the Web, Video Formats, How It Works, All <video> Attributes, HTML5 Canvas, What is Canvas? Create a Canvas Element, Draw With JavaScript, Understanding Coordinates, More Canvas Examples CSS3 Introduction, Features, CSS3 Border, Rounded Corner, color, Multi background, Gradients, Text, Drop Shadow, 2D	T=3	P= 0

	& 3D Transitions, Box Sizing, CSS3 User Interface, Flexbox, Filters.		
2	Introduction to JavaScript: Introduction to script, types, Intro of JavaScript, JavaScript identifiers, operators, control & Looping structure, Intro of Array, Array with methods, Math, String, Date Objects with methods User defined & Predefined functions, Working with Frames, Forms and Form elements and the associated events. Form validation, three types of dialog boxes: alert, prompt, confirm, JavaScript Regular Expression	L= 12	
		T= 3	P= 0
3	Concept of PHP, Constants, variables declaration, Comments, Data types, Operators, Command line arguments, Conditional statements, If-else, Switch, Ternary operators, looping statements- For loop, While loop, Do- while loop, Creating arrays, Inserting elements in arrays, Retrieving elements from array, Displaying arrays, Sorting array elements, Introduction to Databases, Connecting to MySQL database, Creating database, Creating tables, Inserting values in table, displaying, changing, searching, deleting records from the table, SQL queries- insert, select, delete, update, where, order by	L= 12	
		T= 3	P= 0
4	jQuery, AJAX and JSON Introduction, Features of jQuery library, jQuery Basics, jQuery Selectors, JQuery Events Methods Introduction to AJAX – Blending of technologies in AJAX. Working of AJAX, Difference between Full postback and partial postbacks, AJAX request and response, Asynchronous request, Role of Javascript, DOM, XML in processing AJAX request, XMLAJAX	L=12	
		T= 3	P= 0

		M.Sc.(Cyber Security) SYLLABUS (Effective 2020) Journal of Internet Technology, e-ISSN 0975 - 9026, 0976 – 2280 (Print) • Journal of Internet Technology, ISSN 1607-9264 • e-ISSN 2079-4029
5	Supplementary Reading	•

Semester	II	Total Credit	4
Course Code	CC-205	Credit Pattern	L-48, T-12, P-0
Course Title		Communication Network and Programming	
Course Objectives			
1	To introduce the basic of computer network and Layered approach.		
2	To introduce the addressing, naming and DNS concepts.		
3.	To introduce network programming approaches.		
4.	To implement network programming using TCP and UDP.		
Course Outcomes: The students will able to			
1.	Understand basic concepts about the network and layered approach.		
2.	Understand and Classify addresses and naming in network.		
3.	Create TCP and UDP clients using network programming.		
4.	Design and Create servers for small services		
Unit Number	Contents		Number of Sessions
1	Network and Web Basics Network, hosts and addresses, Network types, Internet and World Wide Web, Network Models and Layering, OSI Reference Model, TCP/IP, Network protocols, Network standards.		L= 12 T=3 P= 0
2	Network Programming Fundamentals Network architecture, protocol stack and layering, ip addressing and subnet mask, OSI and TCP/IP model, Internet architecture, application programming interface (API), Network addressing, Standard ports, UNIX Networking Commands; netstat, ifconfig, ping, traceroute, tcpdump, sock, telnet, rlogin,ssh etc, client server concepts.		L= 12 T=3 P= 0
3	Sockets Programing Introduction to sockets, Type of sockets(Steam and Datagram), address and port, TCP Socket call and UDP Socket call block diagram, Python Socket Module; socket, bind, listen, accept, connect, read, write, close ,Basic example: TCP echoserver and TCP echoclient, UDP echoserver, UDP echoclient, Python Chat server and Chat client, Handling multiple clients at once; the select module, python Threading module.		L= 12 T=3 P= 0
4	Advanced Network Programing Python and the web, CGI, Twisted (networking framework for Python), some popular python modules: smtplib, httplib, poplib, Programming for the Web; Retrieving web pages with http, Parsing HTML data, XML and XMLRPC, Electronic mail; sending mail, Developing Network server program.		L= 12 T=3 P= 0
Learning Resources			
1	Text Books	• Foundations of Python Network Programming, JOHN GOERZEN. APPRESS Publication	

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2	Reference books	• Python Network Programming, Abhishek Ratan, Abhishek Ratan, Packet Publishing, Paperback edition • Learning Python, David Ascher, Mark Lutz, O'Reilly Publication
3	Websites	• https://www.udemy.com/topic/network-programming/ • https://www.coursera.org/courses?query=computer%20network%20programming
4	Journals	• https://www.tandfonline.com/doi/abs/10.1057/jors.1981.81 • https://www.inderscience.com/jhome.php?jcode=ijcnds
5	Supplementary Reading	• https://www.geektonight.com/network-programming-notes/ • https://www.tutorialsduniya.com/notes/unix-network-programming-notes/ • https://courses.engr.illinois.edu/cs438/sp2018/lectures/lec02_sockets.pdf
6	Practical Components	The implementation of TCP and UDP clients and server .

Semester	II	Total Credit	4
Course Code	DSE-II	Credit Pattern	L-48, T-12, P-0
Course Title	A. Machine Learning For Security		
Course Objectives			
1	To understand basic concepts of the machine learning		
2	To develop problem solving ability using machine learning algorithms		
3.	To detect, analyse and classify malware using machine learning algorithm		
4.	To understand personal and customer web security issues		
Course Outcomes: The students will be able to			
1.	Use of machine learning algorithms for different applications		
2.	Solve the security issues using machine learning techniques		
3.	Provide solution for real time security problems using machine learning algorithms		
4	Develop awareness of latest trends and advances in security using machine learning		
5	Protect Consumer Web problems and provide solution using machine learning		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Machine Learning in Security Introduction to Machine Learning: Supervised Machine Learning, Unsupervised Machine Learning, Semi-supervised Machine Learning, Reinforcement Machine Learning, Regression and its types. Machine Learning Applications, Machine Learning in Security, Spam Fighting: an Iterative Approach, Limitations of Machine Learning in Security	L= 12	
		T=3	P= 0
2	Clustering and Malware Classification Supervised Classification Algorithms: Naive Bayes Classifier, Support Vector Machines (SVM), Decision Trees, Decision Forest, Nearest Neighbour, Neural Network. Practical Considerations in Classification: Selecting a Model Family, Training Data Construction, Feature Selection, Overfitting and Underfitting, Choosing Thresholds and Comparing Models. Clustering: K-means, Hierarchical Clustering, Fuzzy C-Means Clustering, Density-Based Clustering, State of the Art of Clustering Applications.	L= 12	
		T= 3	P= 0
3	Network Traffic Analysis and Malware Detection Network Traffic Analysis: Theory of Network Defence, Building a Predictive Model to Classify Network Attacks, Feature Engineering for Anomaly Detection, Malware Detection using ML, Malware Analysis: Defining Malware Classification, Malware: Feature Generation, Data Collection, Feature Selection, From Features to Classification, How to Get Malware Samples and Labels	L= 12	
		T= 3	P= 0
4	Protecting the Consumer Web Consumer Web: Monetizing the Consumer Web, Types of Abuse and the Data That Can Stop Them - Authentication and Account Takeover, Account Creation, Financial Fraud, Bot Activity, Supervised Learning for Abuse Problems- Labelling Data, Cold Start Versus Warm Start, False Positives and False Negatives, Multiple Responses, Large Attacks, Clustering Abuse- Example: Clustering Spam Domains, Generating Clusters, Scoring Clusters	L=12	
		T= 3	P= 0

M.Sc.(Cyber Security) SYLLABUS (Effective

Learning Resources		
1	Text Books	- Clarence Chio, David Freeman, Machine Learning and Security Protecting Systems with Data and Algorithms, 1st Edition, O'Reilly Publisher, 2018 ISBN-978-1-491-97990-7 - Tony Thomas, Athira P Vijayaraghavan, Sabu Emmanuel, Machine Learning Approaches in Cyber Security Analytics, Springer, 2020 ISBN 978-981-15-1705-1
2	Reference books	- Clarence Chio, David Freeman, Machine Learning and Security, O'Reilly Media, Inc. ISBN: 9781491979907 2018 - Soma Halder, Sinan Ozdemir, Hands-On Machine Learning for Cybersecurity Safeguard your system by making your machines intelligent using the Python ecosystem, Packt Publishing, 2018 ISBN 978-1-78899-228-2 - Mark Stamp, Introduction to Machine Learning with Applications in Information Security, CRC Press, ISBN- 978-1-138-62678-2. - Gupta, Brij Sheng, Quan Z, Machine Learning for Computer and Cyber Security Principles, Algorithms, and Practices, CRC Press, ISBN - 978-1-138-58730-4
3	Websites	https://www.recordedfuture.com/machine-learning-cybersecurity-applications/ https://towardsdatascience.com/machine-learning-for-cybersecurity-101-7822b802790b https://www.sciencedirect.com/topics/computer-science/security-analytics
4	Journals	- Machine Learning with Applications, Elsevier, ISSN: 2666-8270 - Machine Learning, Springer, ISSN 0885-6125 - Journal of Network and Computer Applications, Elsevier, ISSN: 1084-8045
5	Supplementary Reading	- NPTEL Machine Learning, https://nptel.ac.in/courses/106/106/106106202/ - What Is Machine Learning in Security? https://www.cisco.com/c/en/us/products/security/machine-learning-security.html - Machine Learning Cyber Security: How It Works and Companies to Know, https://builtin.com/artificial-intelligence/machine-learning-cybersecurity
6	Practical Components	- Machine Learning Use Cases for Security, https://www.mdsny.com/5-top-machine-learning-use-cases-for-security/ - Using the Power of Deep Learning for Cyber Security (Part 1), https://www.analyticsvidhya.com/blog/2018/07/using-power-deep-learning-cyber-security/

Semester	II	Total Credit	4
Course Code	DSE-II	Credit Pattern	L-45, T-7, P-8
Course Title	B. Java Programming		
Course Objectives			
1	To provide students with the solid foundation of the syntax and semantics of java Programming, object-oriented concepts in Java.		
2	To familiarize the student to the application of Exception Handling mechanism in Java application, and development of console-based, event handling applications in Java		
3	To demonstrate use of multi-threaded application development in Java.		
4	To demonstrate interfacing Java application with various Database Management Systems.		
5	To familiarize students with Java Cryptography Architecture		
Course Outcomes: Students will be able to;			
1	To design console based application, accessing command-line arguments and parameterized applets.		
2	To design java applications employing streams and exception handling mechanism in Java.		
3	To explore different types of JDBC drivers for connecting and accessing data from different backend Database management systems.		
4	To design and develop networked applications in both connection-oriented and connectionless architecture in Java.		
5	To design and implement applications with security features using Java Cryptography		
Unit Number	Contents	Number of Sessions	
1	OOPS and Exception Handling in JAVA Objects and classes, Inheritance, Interfaces, inner classes, Packages. Introduction to Java Utility classes and collection classes - Date, DateFormat and Gregorian Calendar classes. Using List Interface, List Iterator and LinkedList classes. Set, Iterator, SortedSet, Map interfaces. HashSet class. Using Vector class, stacks, queues, HashTable. Generating random numbers, Property class. Exception Handling: Exception class hierarchy, Exception Vs Error, try, catch, throw, throws, finally, checked Vs unchecked exceptions, creating custom exception classes. Java Reflection, Internationalization	L= 12	
		T= 1	P= 2
2	I/O Streams and Multi threading in Java Significance of streams, various types of Input & Output streams, accessing the file through streams, object serialization. Random Access File. Difference between multi tasking and multi threading, Need for multi threading, thread states and priorities, suspending and resuming threads,	L= 11	
		T= 1	P= 2

	synchronization between threads to avoid mutual exclusion and dead locks. M.Sc.(Cyber Security) SYLLABUS (Effective		
3	Java Database Connectivity and Networking in Java JDBC overview , JDBC Architecture , Types of JDBC Drivers, DriverManager class, database connection statements , Resultset, transaction, Metadata and Aggregate functions , callable statements, Connection to various back ends Connectionless and Connection-oriented architectures, Client and Server programming, Socket, DatagramSocket and DatagramPacket classes, IP address classes. InetAddress, URL and URLConnection classes.	L= 11	
		T= 1	P=2
4	Java FX and Java Cryptography Architecture Introduction to Java FX, Java 8 programming language enhancement : Lambda expressions, Method references, Functional interfaces, Stream API, Default methods. Introduction, Architecture, JCA Concepts, Provider class, Security Class, Secure Random, Message Digest, MAC, Signature, Cipher, Key Interfaces, The Key Pair Class Storing, retrieving key ,generating keys, keypair , Digital Signature	L= 11	
		T= 1	P= 2

M.Sc. (Cyber Security) SYLLABUS (Effective

Learning Resources		
1	Text Books	1. Java Complete Reference by Patric Norton 2. Java 8 Programming Black Book 3. Core Java Vol. I (Addison- Wesley) Sun Press ISBN – 981-405-861-0 4. Core Java Vol. II (Addison- Wesley) Sun Press ISBN – 981-4058-50-5 5. Java in a Nutshell, By Benjamin J Evans, David Flanagan, O'Reilly Media
2	Reference books	1. Thinking in Java, Bruce Eckel,, Addison – Wesley, ISBN: 9814035750 2. Java 2 Programming Black Book by Steven Holzner, Dream Tech Publication 3. A Programmer's Guide to Java SCJP Certification: A Comprehensive Primer By Khalid Azim Mughal, Rolf Rasmussen 4. Inside Java 2 Virtual Machine by Venners Bill, Mcgraw Hill Education 5. Learning Java by Jonathan Knudsen, Patrick Niemeyer, O'Reilly Media.
3	Websites	https://www.w3schools.com/java/default.asp https://www.tutorialspoint.com/java/index.htm https://www.javatpoint.com/java-tutorial https://beginnersbook.com/java-tutorial-for-beginners-with-examples/ https://www.studytonight.com/java/ https://www.guru99.com/java-tutorial.html
4	Journals	Java Development Journal - www.javadevjournal.com https://www.journaldev.com/ https://ieeexplore.ieee.org/document/714612
5	Practical Component	Practical lab exercises based on Units I to IV

M.Sc.(Cyber Security) SYLLABUS (Effective

Semester	II	Total Credit	4
Course Code	GE-I	Credit Pattern	L-48, T-12, P-0
Course Title	A. Fundamentals of Management		
Course Objectives			
1	To Understand the different concepts in Management.		
2	To understand the different Functions of Management		
Course Outcomes: The students will able to			
1.	Discuss management functions and how it can affect future managers		
2.	Analyze and attain elementary level of skills in management process and functions: planning, organizing, directing and controlling.		

Syllabus:

Unit Number	Contents		Number of Sessions	
1	Introduction to Management Management- Definition, Scope, Characteristics, Significance. Managerial Skills, Levels of Management and their functions, Henri Mintzberg- Roles of a Manager, Management Vs Administration.		L= 11	
			T=4	P= 0
2	Introduction to Management Management- Definition, Scope, Characteristics, Significance. Managerial Skills, Levels of Management and their functions, Henri Mintzberg- Roles of a Manager, Management Vs Administration.		L= 11	
			T= 4	P= 0
Learning Resources				
1	Text Books	1. Principles of Management – T Ramasamy 2. Principles of Management – P.C. Tripathi and P.N. Reddy 3. Fred Luthans, Organisational Behavior, McGraw Hill, 11th Edition, 2001		
2	Reference books	1. Essentials Of Management – Koontz And Weinrich 2. Modern Management – Certo – Prentice Hall 3. Principles Of Management – L.M. Prasad 4. Principles Of Management – R.M. Srivastava 5. New Era of Management – Richard L. Daft 6. Essentials of Management – Peter Drucker 7. Management – Stephen P. Robins – Prentice Hall 8. Modern Business Administration and Management – S. A. Sherlekar - Himalaya Publication 9. Management Concept and Strategies – J. S. Chandra		

Semester	II	Total Credit	4
Course Code	GE-I	Credit Pattern 63 ~	L-48, T-12, P-0

M.Sc. (Cyber Security) SYLLABUS (Effective

Course Title		B. Environment and Development	
Course Objectives			
1	Understand the basics functional areas of Environment.		
2	Define concepts of pollution, pollutants and natural resources		
3.	Explain historical development of struggle for Environmental protection		
Course Outcomes: The students will able to			
1.	Differentiate biotic and abiotic components of ecosystem & able to understand concept of habitat, interactions in between different components & their Interrelationships.		
2.	Develop ability of identification of local issues related with natural resources.		
3.	Adopt various pollution control techniques.		
4.	Able to know various environmental policies as well as National & International Organizations involved.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Ecological concept and Natural Resources : Introduction to Environmental Science as a multi-disciplinary, its scope and necessity; Concepts of Ecosystem and its Structure and Functions, Principles of Organism-environment relationship; Concept and classification of Natural Resources. Energy Resources, Renewable and Nonrenewable.	L= 11	
		T=4	P= 0
2	Environmental Pollution and Policy: Definition, sources and effects of water pollution. Definition, sources of air pollution, Effect of air pollution and acid rain, climate change, ozone depletion. Definition, Sources of noise pollution. Effect of noise pollution on human-beings. Noise control measures. Government policies in the protection and development of environment. National environmental policy. United Nations Environmental Programme (UNEP).	L= 11	
		T= 4	P= 0

Learning Resources

1	Text Books	- A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 - A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 ~ 64 ~

M.Sc.(Cyber Security) SYLLABUS (Effective

		• A Text Book of Environmental Chemistry & Pollution Control, Dara, Chand • A Text Book of Ecology, S K Dubey, Dominant Publication • A Text Book of Ecology, Tyler Miller, Cengage Learning • A Text Book Environmental Studies, Chatawal & Sharma, HPH • A Text Book Environmental Science, Joshi & Joshi, APH • A Text Book of Environmental Studies, Nambiar, STP
2	Reference books	• Fundamentals of Ecology by Odum, E.P. • Desert Ecology by Ishwar Prakash • Ecology of Urban India by Pramod Singh • Ecology of Rural India by Singh • Ecology 2000 by Sir Edmand Hillary • Environmental Protection and the Laws by CN Mehta, 1991 • India's Forests, Myth and Reality by J.B. Lal 1989 • Legal aspects of Environmental Pollution and its Management by Ed. S.M. Ali, 1992 • Man – Nature and Environmental Law by GS Nathawal, S. Shastri and JP Vyyar, 1988 • International Environmental Policy: Emergence and Dimensions by LK Caldwell, 1990 • Lal's Commentaries on Water, Air Pollution Laws along with the Environmental (Protection) Act and Rules, 1986, 3rd Ed., 1992 Law Publisher – India • The Wildlife (Protection) Act, 1972 (with amendment-1991) • Our Common Future – WCED, 1991 • Universal's Environment and Pollution Law Manual by SK Mohanty, 1998. • A Guide to Implementation of the ISO 14000 Series on Environmental Management (Prentice Hall Ptr Environmental Management and Engineering Series) Har/Dskt Edition • Environmental manager's guide to ISO 14000 by Bruce W Perry • Implementing ISO 14000 Hardcover – November 1, 1996 by Tom Tibor (Author), Ira Feldman (Author) • Environmental Impact Assessment By: Larry W Canter. McGraw-Hill International Editions, 2nd Edn, New York (1996). • EIA Theory & Practice By: Peter Wathern. Unwin Hyman, London (1990) • Environmental Impact Assessment By: PR Trivedi. APH Publishing Corporation, New Delhi (2004) • EIA Practical Solutions to Recurrent Problems By: David P Lawrence. Wiley Interscience Publication (2003)
3	Websites	• https://www.toppr.com/guides/biology/ecosystem/biogeochemical-cycle/ • https://nca2014.globalchange.gov/report/sectors/biogeochemical-cycles • https://www.conserve-energy-future.com/what-is-environmental-science-and-its-components.php
4	Journals	• Current Science, ISSN No. 0011-3891 • Every Thing About Water • Down to Earth • Resonance, ISSN No. 0971-8044 • Journal of Earth System Science, ISSN No .2253-4126
5	Supplementary Reading	• National Geographic • Down to Earth, CSE
6	Practical Components	• Field visit to study pond water & forest Ecosystem.

M.Sc.(Cyber Security) SYLLABUS (Effective

M.Sc. (Cyber Security) SYLLABUS (Effective

Semester	II	Total Credit	2
Course Code	GE-II	Credit Pattern	L-20, T-5, P-5
Course Title	C) INDIAN SOCIAL PROBLEMS AND SOCIAL SERVICES		
Course Outcomes: Students will be able to			
1	Implement various social welfare services provided by GO's & NGO's		
2	Asses the socio- economic factors and their implications of beneficiaries		

Syllabus:

Unit Number	Contents	Number of Session	
1	Genesis and nature of various categories of Social Problems Definition of Social deviance and control, social disorganization and social problems, study and analysis of specifics social problems in relation to their nature, causative factors, extent and magnitude	L=10	
		T=3	P=2
2	An overview of major social problems, Juvenile delinquency, Crime, Prostitution, Dowry, AIDS, Beggary-Alcoholism and Drug Addition.	L=10	
		T=2	P=3

Learning Resources:

1	Text Books	1. Ahuja R 1993 Indian Social System-Rawat Publication New Delhi. 2. Akbar M.J. 1988 Riot After Tiot; Reports on caste & Communal Violence in India New Delhi : Penguin Books. 3. Bardhan P. 1984 the Political Economy of Development in India Delhi: Oxford Press. 4. Betelle A. 1966 Caste, Class and Power Bombay: Oxford Uni, Press. 5. Black C.E. 1966 The Dynamics of Modernization: A study in Comparative History New York: Harper & Row. 6. Madan G.R. 1985 Indian Social Problems Vol. I and II Allied Pub. Pvt. Ltd. Bombay.
2	Reference Books	1. Coser I.A. 1956 The functions of Social Conflict Glencoc Illinois; Free Press. 2. Dahrendorf R. 1957 Class & Class ' Conflicts in an Industrialized Society London Routldge&Kengan Paul. 3. Dandekar V.M. 1977 Nature of Class Conflict in the Indian Society Bom Bharat Foundation. 4. Das A. & Nilkanth V. (Ed.) 1979Agrarian Relations in India Delhi: Manohar.
3	Website	https://journals.sagpub.com www.ndpublisher.in

M.Sc.(Cyber Security) SYLLABUS (Effective

		www.ukessays.com www.open.edu7.sociology
4	Journals	International Journal of Social Science Indian Journal of Social Work
5	Supplementary reading	Encyclopedia in Social Work Vol-I & II Dictionary of Social Work
6	Practical Component	1. Visit to various NGO's 2. Concurrent Field Work 3. Case studies on various social problems 4. Organized Group discussion with problematic 5. Celebrate different days related to Social issues.

M.Sc. (Cyber Security) SYLLABUS (Effective

Semester	II	Total Credit	2
Course Code	AECC-I	Credit Pattern	L-26, T-4
Course Title	Professional Communication Skills		
Course Objectives			
1	To familiarize learners with the mechanics of communication.		
2	To develop students written expression of thought and build connections between content areas		
3	To develop students oral communication skills by a variety of communication activities, from informal discussion to formal presentation		
Unit Number	Contents		
1	Effective Business Communication: (15) ☐ Meaning & Definition, Role of communication in today’s business Basic Grammar and how to use in English Communication Personal Introductions, Facing Audience Verbal and Non-Verbal Communication ☐ Effective communication in Formal and Informal Environment ☐ Barriers to communication ☐ Measures to overcome barriers to communication Understand and use JoHari Window for self development ☐ Non-verbal communication: Nonverbal Cues, Kinesics, Haptic and Proxemics Body language, Facial Expressions How to carry yourself professionally (grooming and dining etiquettes) ☐ Public Speaking		
2	Communication Technology: (15) ☐ Social Media Communication ☐ Email Writing & Professional Writing ☐ Presentations Skills ☐ Group Discussion ☐ Critical Thinking		
Practical Components: 1. To be well in Verbal and Non- verbal communication 2. Make students enact and analyze the non-verbal cues 3. Each student to give presentation of 15 minutes (this can be spread throughout the semester) and to be evaluated by the faculty 4. Each Student will give 10 minutes speech on given topic that will be evaluated by the Faculty			
Learning Resources			
1	Recommend d Books	1. 1 Business Communication – Lesikar, Flatley, Rentz&Pande, 11/e, TMH, 2010 2. How to win Friends and Influence People by Dale Carnegie 3. Skill with People by Les Giblin 4. The Power of Communication: Skills to Build Trust, Inspire Loyalty, and Lead Effectively, by Helio Fred Garcia, 2012	
2	Reference Books	1. Business Communication - Sehgal M. K &Khetrapal V, Excel BOOKS. 2.. Business Communication – Krizan, Merrier, Jones, 8/e, Cengage Learning, 2012.	

Semester	III	Total Credit	4

M.Sc.(Cyber Security) SYLLABUS (Effective

M.Sc.(Cyber Security) SYLLABUS (Effective 2023-24)			
Course Code	CC- 301	Credit Pattern	L-48, T-4, P-8
Course Title	Cyber Crime and Law		
Course Objectives			
1	To introduce the cyber world and cyber law in general.		
2	To explain about the various facets of cyber crimes,		
3	To enhance the understanding of problems arising out of the online transactions and provoke them to find the solutions.		
Course Outcomes: After successful completion of the course, the students would be able to			
1.	The student is able to understand the technicalities of law in the cyber world.		
2.	The student will have extensive knowledge regarding jurisdictional issues in IT Act.		
3.	The student knows the essential legal provisions of internet governance.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction about the concept of cyberspace, Impact of Information Technology in society, Concept of E-Commerce, Types of e-commerce	L= 12	
		T=3	P= 0
2	Freedom of speech in cyberspace, Right to privacy in cyberspace, Right to protection of data, Cyber Defamation, Copyright and software piracy Trademarks and patent issues in cyberspace, Impact of social media in society Social media and cyber crime	L= 12	
		T= 3	P= 0
3	The UNCITRAL Model Law on Electronic Commerce, Salient features of the IT Act, 2000, Jurisdiction issues in cyberspace, Different types of civil offences under the IT Act, Information technology and cyber offences, Concept of extra-territorial jurisdiction, Controller of Certifying Authorities, Cyber Appellate Tribunal, Investigation officer, Indian - Computer Emergency Response Team,	L= 12	
		T= 3	P= 0
4	Electronic Record, E-Governance, E- Contracts, Digital signature/ electronic signature, Amendments to Indian Penal Code, Amendments to Indian Evidence Act, Amendments to Bankers Book Evidence Act, Amendments to Reserve Bank of India Act	L=12	
		T= 3	P= 0

Learning Resources

1	Text Books	1. Dr. Satish Chandra, Cyber Law In India, ABS Books. 2. Ajit Singh, Cyber Law In India Simply In Depth.

M.Sc.(Cyber Security) SYLLABUS (Effective

2	Reference books	3. Prakash Prasad, Handbook of Cyber Law & Cyber Crime Cases in India (eBook), Google Play Book Publisher. 4. Dr. S. R. Myneni, Technology Law (Cyber Law), Asia Law House, Hyderabad 5. Nilakshi Jain, Ramesh Menon, Cyber Security and Cyber Laws, Wiley India Pvt Ltd. Noida.
3	Websites	
4	Journals	
5	Supplementary Reading	

Semester	III	Total Credit	4
Course Code	CC- 302	Credit Pattern	L-48, T-4, P-8
Course Title	Mobile and Wireless Security		
Course Objectives			
1	To learn about securing wireless networks.		
2	Identify and analyze various security issues in wireless mobile communication.		
3	To learn various issues of application level security in wireless environment and its related solution.		
Course Outcomes: After successful completion of the course, the students would be able to			
1.	Familiarize with the issues and technologies involved in designing a wireless and mobile system that is robust against various attacks.		
2.	Gain knowledge and understanding of the various ways in which wireless networks can be attacked and trade-offs in protecting networks.		
3.	Have a broad knowledge of the state-of-the-art and open problems in wireless and mobile security, thus enhancing their potential to do research or pursue a career in this rapidly developing area.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Security Issues in Mobile Communication, Mobile Communication History, Security – Wired Vs Wireless, Wireless Local Area Networks, Wireless Personal Area Networks, WiMAX (Physical layer, Media access control, Mobility and Networking) Security Issues in Mobile Communication: Security Requirements in Wireless and Mobile Communications, Security for Mobile Applications, Advantages and Disadvantages of Application – level Security.	L= 12	
		T=1	P= 2
2	Mobile IPv4, Mobile IPv6, TCP over Wireless Networks, Ad Hoc Networks -	L= 12	

M.Sc. (Cyber Security) SYLLABUS (Effective

	Issues and Routing, Wireless Sensor Networks, Wireless Mesh and Multi-Hop Relay Networks, Mobile Devices Security Requirements, Mobile Wireless network level Security, Server Level Security, Wireless Threats, Some Vulnerabilities and Attack Methods over WLANs, Recent Security Schemes for Wi-Fi Applications	T= 1	P= 2
3	3G and 4G Network, General Packet Radio Services (GPRS), Universal Mobile Telecommunication System (UMTS) Application Level Security in Cellular Networks: Generations of Cellular Networks, Security Issues and attacks in cellular networks, GSM Security for applications, GPRS Security for applications, UMTS security for applications, 3G security for applications, Some of Security and authentication Solutions.	L= 12	
		T= 1	P= 2
4	Radio Frequency Identification (RFID), Introduction to LTE, Security Issues in Wireless Networks Application Level Security in MANETs: MANETs, Some applications of MANETs, MANET Features, Security Challenges in MANETs, Security Attacks on MANETs, External and Internal threats for MANET Applications, Some of the Security Solutions.	L=12	
		T= 1	P= 2

Learning Resources

1	Text Books	1. Pallapa Venkataram, Satish Babu, Wireless and Mobile Network Security, First Edition, Tata McGraw Hill, 2010. 2. Hakima Chaouchi, Maryline Laurent-Maknavicius, Wireless and Mobile Network Security Security Basics, Security in On-the-shelf and Emerging Technologies, Wiley, 2009 3. Tara M. Swaminathan and Charles R. Eldon, Wireless Security and Privacy- Best Practices and Design Techniques, Addison Wesley, 2002.
2	Reference books	• Randall k. Nichols, Panos C. Lekkas: “Wireless Security Models, Threats and Solutions”, 1st Edition, Tata McGraw Hill, 2006. • Bruce Potter and Bob Fleck: “802.11 Security”, 1st Edition, SPD O'REILLY 2005. • James Kempf: “Guide to Wireless Network Security, Springer. Wireless Internet Security – Architecture and Protocols”, 1stEdition, Cambridge University Press, 2008.
3	Websites	• https://www.geeksforgeeks.org/securing-wireless-and-mobile-devices/ • https://www.tutorialspoint.com/wireless_security/index.htm • https://www.javatpoint.com/threat-and-security-issues-in-mobile-computing
4	Journals	1. IEEE Transactions Dependable and Secure Computing 2. IEEE Transactions on Mobile Computing 3. IEEE Transactions on Wireless Communications 4. IEEE/ACM Transactions on Networking 5. Ad Hoc Networks Journal 6. ACM Transactions on Embedded Computing Systems
5	Supplementary Reading	1. Cryptography and Network Security: Principles and Practices by William Stallings (ISBN: 0-13-091429-0) 2. Mobile Communications by Jochen Schiller (ISBN 0321123816)
6	Practical Components	Understanding the implementation of Mobile and wireless security aspects.

Semester	III	Total Credit	4
Course Code	CC-303	Credit Pattern	L-48, T-12, P-0

M.Sc. (Cyber Security) SYLLABUS (Effective

Course Title		Fundamentals of Blockchain and Cryptocurrency			
Course Objectives					
1	To explore vital concepts and working of Blockchain and Bitcoin				
2	To introduce Hyperledger Fabric model and its Architecture				
3	To introduce Hyperledger Composer				
4	To Learn Solidity and Go Programming				
5	To Learn Ethereum smart contract				
Course Outcomes: Students will be able to;					
1	Be able to state core Blockchain concepts, benefits, and limitations of blockchain technologies.				
2	Identify a use case for a Blockchain application				
3	Make decisions about the selection of blockchain platform for various applications				
4	Determine real world challenges that blockchain technologies may assist				
5	Implement Smart Contracts				
6	Work with Ethereum Wallet, bitcoin wallet				
Unit Number	Contents			Number of Sessions	
1	<u>Blockchain Overview and Introduction</u> Introduction to Blockchain, History and Origin of Blockchain, Properties of Blockchain (Immutability, Decentralized, Enhanced Security, Scalability, Distributed Ledgers, Faster Settlement). Fundamental terminologies (Block, Mining, Double Spending), Concept of Merkle Trees, Major Components of Blockchain, Structure of Block header, architecture of blockchain, types of Blockchain (Public, Private, Consortium), generations of blockchain Cryptography in Blockchain Public Key Infrastructure and Cryptography Security Goals – CIA triad, Elliptic Curve Cryptography, advantages of ECC, El-Gamal encryption and decryption, ECC encryption and decryption, cryptographic hash functions, Digital Signature, El-Gamal signature, DSA signature verification, ECC key generation and signature verification, RSA algorithm, Consensus in Blockchain Distributed systems, Decentralized networks, Consensus (Proof of Work, Proof of Stake, BFT), Blockchain Ecosystem (Blockchain exchanges, Blockchain miners, blockchain developers Mining and the Hashing Race), Working Phases in Blockchain, Application Areas. Blockchain forking, Inter Planetary File System (IPFS) Blockchain when to use.			L= 12	
				T= 3	P= 0

M.Sc.(Cyber Security) SYLLABUS (Effective Concepts of Solidity, Ethereum and Smart Contracts)

M.Sc.(Cyber Security) SYLLABUS (Effective)			
2	<u>Concepts of Solidity, Ethereum and Smart Contracts</u> Introducing Solidity, Global Variables and Functions, Expressions and Control Structures, Writing Smart Contracts; Functions, address functions., Modifiers, and Fallbacks, ethereum blockchain paradigm, components of ethereum Smart contract programming, accounts and wallets, types of accounts Exceptions, Events, and Logging; Truffle Basics and Unit Testing; Debugging Contracts. Test and debug smart contracts with Truffle, Ganache, Remix, and MetaMask. Maintaining code quality with different tools. History and Introduction of Ethereum, Concept of Dapps, DAOs, DACs and DASSs, power of DAOs, Understaing Ethereum smart contracts, Ethereum wallet, Building Your First DAO, Future of DAOs, Reentracy Vulnerability, hard fork proposal,	L= 12	
		T= 3	P= 0
3	<u>Introduction to Hyperledger Family</u> Introduction to Hyperledger and Composer, Problems with existing Blockchain technology, Basics of hyperledger Fabric, Hyperledger Fabric Architecture, Consensus in Hyperledger, Introduction to new consensus algorithm Sumeragi, Hyperledger Components, Chaincode, Exploring Key Projects of Hyperledger Family Introduction to Go, features of Go programming, installing Go, Go program structure, data types, variable declaration issues, operators, decision making, control statements, functions, closure, arrays, maps, pointers, structures, creating HTTP server, Go concurrency, Goroutines, waitgroup, mutex, automic variable, Go channel – creting a channel, sending and receiving data from channel	L= 12	
		T= 3	P=0
4	<u>Cryptocurrency</u> Introduction to bitcoin, bitcoin features, bitcoin network, working of bitcoin with blockchain components, bitcoin core architecture, bitcoin full node, bitcoin wallet, bitcoin script, account-based ledger, bitcoin transactions, bitcoin mining, bitcoin validation, multisignature (m out of n), flow of bitcoins, bitcoin addresses, bitcoin payment workflow, bitcoin transaction in blockchain, data storage in bitcoin blockchain, addressing double spending problem. Smart Blockchain, Future of Blockchain Technology and it's Industry Impacts. Bitcoin Vs. Blockchain	L= 12	
		T= 3	P= 0
Learning Resources			

M.Sc.(Cyber Security) SYLLABUS (Effective

1	Text Books	4. "Blockchain For Dummies", Tiana Laurence, Publisher: Wiley, 1 January 2019 5. "Blockchain Basics: A Non-Technical Introduction in 25 Steps", Authors: Drescher, Daniel, ©2017, Publisher: Apress 6. "Blockchain: Blueprint for a New Economy", Melanie Swan, ©2015, Published by O'Reilly Media 7. "Blockchain for Business with Hyperledger Fabric", Nakul shah, ©2019, bpb publication 8. Mastering Bitcoin, 2nd Edition by Andreas M. Antonopoulos, O'Reilly Media, Inc., SBN: 9781491954386
2	Reference books	3. "Basics of Blockchain: A guide for building literacy in the economics, technology, and business of blockchain" : 26 August 2019; by Tom Serres (Author), Bill Wagner (Author), Bettina Warburg (Author) 4. "Essentials of Blockchain Technology", Edited By Kuan-Ching Li, Xiaofeng Chen, Hai Jiang, Elisa Bertino; Copyright Year 2020 5. Solidity Programming Essentials: A beginner's guide to build smart contracts for Ethereum and Blockchain; by Ritesh Modi 6. Programming Bitcoin by Jimmy Song, O'Reilly Media, Inc., ISBN: 9781492031499 7. Bitcoin, the Blockchain, and Their Potential to Change Our World by Lorne Lantz, O'Reilly Media, Inc., ISBN: 9781491917756
3	Websites	5. https://www.blockchain-council.org/ 6. https://www.ibm.com/in-en/blockchain/getting-started 7. https://www.geeksforgeeks.org/ 8. https://hackernoon.com/
4	Journals	1. "Bitcoin: A Peer-to-Peer Electronic Cash System" Satoshi Nakamoto October 31, 2008 2. "Scope for the Application of Blockchain in the Public Healthcare of the Russian Federation", Koshechkin K.A., Klimenko G.S., Ryabkov I.V., Kozhin P.B. , ScienceDirect Procedia Computer Science 126 (2018), Pg. No. 1323–1328 , International Conference on Knowledge Based and Intelligent Information and Engineering Systems, KES2018, 3-5 September 2018, Belgrade, Serbia 3. "Reputation-based Byzantine Fault-Tolerance for Consortium Blockchain" Kai Lei*, Qichao Zhang, Limei Xu, Zhuyun Qi † Shenzhen Key Lab for Information Centric Networking & Blockchain Technology (ICNLAB) School of Electronics and Computer Engineering (SECE) Peking University, Shenzhen 518055, P.R. China, 978-1-5386-7308-9/18/\$31.00 ©2018 IEEE 4. "Identity Verification and Management of Electronic Health Records with

M.Sc.(Cyber Security) SYLLABUS (Effective

		Blockchain Technology”, Yiheng Liang Department of Computer Science Bridgewater State University Bridgewater, Massachusetts, United States of America, 978-1-5386-9138-0/19/\$31.00 ©2019 IEEE 5. ComChain: Bridging the Gap Between Public and Consortium Blockchains Guillaume Vizier, Vincent Gramoli University of Sydney vincent.gramoli@sydney.edu.au, 978-1-5386-7975-3/18/\$31.00 ©2018 IEEE
5	Practical Component	1. Implementation of Basic Blockchain Structure 2. Development of Smart Contracts

Semester	II	Total Credit	4
Course Code	CC 305	Credit Pattern	L-45, T-8, P-7
Course Title	Linux Administration		

Course Objectives	
1	To familiarize the student with Linux operating system environment and basic shell script programming..
2	To introduce various system and user commands, Communication utilities in Linux and the Linux administration.
Course Outcomes : The Students will able to	
1	Execute different Internal and External commands in Linux
2	Use various Filters and editors
3	Create and manager file access permissions
4	Use various Communication Utilities
5	Administration of Linux system

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction of Linux Operating System (15) Overview of Operating System, Types of Operating System, Overview of Network, Introduction to Linux - History, Architecture, Comparison with UNIX, Features and Facilities of Linux, Files and File Structure - Linux File System, Boot block, Super block, Inode table, Data blocks, Linux standard directories. File naming Conventions, Path in Linux, Types of file Names ,Types of Users, Basic commands in Linux, File Commands in Linux, file comparisons, Directory Commands, Checking and monitoring system performance, Text Editors-Functions of a Text Editor, vi Editor, leafpad editor., Basics of shell programming, various types of shell available in Linux.	L= 11	
		T=2	P=2
	Ubuntu Linux Administration, File Security, Permissions (15)	L= 12	

2	M.Sc.(Cyber Security) SYLLABUS (Effective About Ubuntu Linux, Installing and Configuring Ubuntu Linux Server and Desktops, Hard Disk Partition Management, Linux File System - ext2 /ext3 / ext4,Dual Boot Windows 7 and Ubuntu Installation, Installation Methods, Creating USB booting, identifying administrative files configuration and log files, Role of system administrator, Managing user accounts, changing permissions and ownerships, Creating and managing groups, modifying group attributes, Disk quota management, Hiding Usernames Displayed on Login Screen, File security & Permissions, becoming super user using su., File Access Permissions [FAP], Viewing and Changing FAPs, Redirection, Filters, Getting system information with uname, host name, kernel, Run levels in Ubuntu.	T= 2	P= 1
3	Communication in Linux: (15) Umask, Backup, restore and Compress utilities - tar, cpio, dump, sync and restore utilities. msg, who- T, talk, write, wall, finger, chfn, SSH, Ping, FTP, Telnet traceroute utilities,, Installation of software's on Linux, static and dynamic IP addressing, Setting Printer, Scanner, Installing and Configuring of servers on Ubuntu- Telnet, FTP Server, Samba DHCP Server setup Client setup, Networking in Linux System, Introduction to system calls.	L= 11	
		T= 2	P= 2
4	Penetration Testing with Kali Linux (15) Introducing Kali Linux, Installing Kali Linux using VirtualBox or Vmware, configuring Kali Linux, Introducing Kali Linux Interface and Tools, Getting familiar with Vulnerability Scanning, Introduction to basics of Ethical Hacking, Firewalls Gaining and Maintaining Access, Discovering the Open Ports, Vulnerability Scanning, Exploiting the Target System, Cracking the System Passwords, Windows Password Cracking Overview, Password Cracking Tool, Defensive Counter Measures. Netcat and Socat, Wireless Attacks, Hacking Wireless Networks .	L=11	
		T= 2	P= 2

M.Sc.(Cyber Security) SYLLABUS (Effective

Learning Resources		
1	Text Books	Beginning Linux Programming: Neil Mathew Richard Steve Wrox publication. Design of Linux Operating Systems : Maurice Bach Ubuntu on a Dime : James Floyd Kelly
2	Reference books	Operating System - Linux, NUT Press, PHI Publisher, 2006 Edition Red Hat Linux Bible, Cristopher Negus, Wiley Dreamtech India UNIX Shell Programming by YeswantKanetkar, BPB Linux Administration Handbook, EviNemeth, Garth Snyder, Trent KHein - Pearson Education. Beginning Linux Programming by Neil Mathew & Richard Stones, Wiley Dreamtech India
3	Websites	https://www.tutorialspoint.com/operating_system/os_linux.htm https://www.geeksforgeeks.org/unix-file-system www.guru99.com › introduction-linux https://www.reallinuxuser.com
4	Journals	https://www.linuxjournal.com/ https://www.journals.elsevier.com/computer-networks https://www.reddit.com/r/linux/comments/cnfs48/linux_journal_ceases_publication_an_awkward/Linux_Networking_Clearly_Explained/ebook
5	Supplementary Reading	https://nptel.ac.in/courses/117/106/117106113/ Study Material of Web Course Developed for NPTEL Linux Programming & Scripting https://nptel.ac.in/content/syllabus_pdf/117106113.pdf
6	Practical Components	Internal External Commands and Shell Scripts, Installing and configuring Ubuntu Linux Server and Desktops.

Semester	IV	Total Credit	4
Course Code	CC-305	Credit Pattern	L-44, T-4, P-12
Course Title	Penetration Testing		
Course Objectives			
1	To explore various principles and techniques associated with the penetration testing		
2	To introduce different types of penetration testing		
3	To introduce phases included in penetration testing		
4	To Demonstrate penetration testing tools		
Course Outcomes: Students will be able to;			
1	State entire penetration testing process		
2	Prepare virtual lab for Penetration Testing		
3	Utilize Metasploit framework for Investigating vulnerabilities		
4	Capture and filter network traffic by using wireshark tool		
5	Test Web Application security		

M.Sc.(Cyber Security) SYLLABUS (Effective

Unit Number		Contents	Number of Sessions	
1		<u>Introduction to Penetration Testing</u> Concept of Penetration Testing, Types of Penetration Testing, Phases of Penetration Testing, Penetration Testing Vs. Ethical Hacking, Penetration Testing Vs. Vulnerability Assessments, Need of Penetration Testing, Benefits of Penetration Testing, Report Writing, Limitations of Penetration Testing, Remediation and Legal Issues. Creating Penetration Testing Lab.	L= 11	
			T= 1	P= 3
2		<u>Using Kali Linux and Metasploit Framework</u> Installing Kali Linux, Kali Linux Command Line, File System, Data Manipulation, User Privileges and file permissions, Manage Networking, Kali Linux Security tools. Metasploit User Interfaces and Setup, Finding Metasploit Modules, Types of Shells, Msfcli, Metasploit Payloads, Post-Exploitation with Metasploit.	L= 11	
			T= 1	P= 3
3		<u>Security Assessments:</u> Open Source Intelligence Gathering, Port Scanning, Nmap Version Scan to Potential Vulnerability. Capturing Traffic: Capturing and filtering traffic by using wireshark.	L= 11	
			T= 1	P=3
4		<u>Web Application Penetration Testing</u> Web Application Assessment Methodology, Web Application Enumeration, Inspecting URLs, Inspecting Page Content, Viewing Response Headers, Inspecting Sitemaps, Locating Administration Consoles, Web Application Assessment Tools, Exploiting Web-based Vulnerabilities, Cross-Site Scripting (XSS), Directory Traversal Vulnerabilities, File Inclusion Vulnerabilities, SQL Injection	L= 11	
			T= 1	P= 3
Learning Resources				
1	Text Books	9. Weidman, G. (2014, June 14). <i>Penetration Testing: A Hands-On Introduction to Hacking</i> (1st ed.). No Starch Press. 10. Engebretson, P. (2011, August 4). <i>The Basics of Hacking and Penetration Testing: Ethical Hacking and Penetration Testing Made Easy (Syngress Basics Series)</i> (1st ed.). Syngress.		

M.Sc.(Cyber Security) SYLLABUS (Effective

2	Reference books	1. Baloch, R. (2015). <i>Ethical Hacking and Penetration Testing Guide</i>. © 2015 by Taylor & Francis Group, LLC. 2. Hall, G., & Watson, E. (2016, December 28). <i>Hacking: Computer Hacking, Security Testing, Penetration Testing, and Basic Security</i>. CreateSpace Independent Publishing Platform. 3. Kim, P. (2015, June 20). <i>The Hacker Playbook 2: Practical Guide To Penetration Testing</i>. CreateSpace Independent Publishing Platform. 4. Stuttard, Dafydd - Pinto, Marcus [Paperback (2011)]. (2022, October 7). <i>Web Application Hacker's Handbook</i> (2nd, 12) Wiley, Paperback (2011).
3	Web References	9. https://www.tutorialspoint.com/penetration_testing/index.htm 10. https://www.hackingarticles.in/wireshark-for-pentesters-a-beginners-guide/ 11. https://www.dummies.com/article/technology/cybersecurity/penetration-testing-with-burp-suite-and-wireshark-to-uncover-vulnerabilities-270960/
4	Journals	6. P. Shi, F. Qin, R. Cheng and K. Zhu, "The Penetration Testing Framework for Large-Scale Network Based on Network Fingerprint," 2019 International Conference on Communications, Information System and Computer Engineering (CISCE), 2019, pp. 378-381, doi: 10.1109/CISCE.2019.00089. 7. S. Türpe and J. Eichler, "Testing Production Systems Safely: Common Precautions in Penetration Testing," 2009 Testing: Academic and Industrial Conference - Practice and Research Techniques, 2009, pp. 205-209, doi: 10.1109/TAICPART.2009.17.
5.	Practical Components	1. Find and investigate system vulnerabilities 2. Capture network traffic 3. Filter network traffic 4. Asses web application security

MCA-II SEM-III	AEC- II (A)	Deployment Skills	Credits - 2	Contact Hours - 30
COURSE OBJECTIVES				
1. To introduce various technologies to manage continuous change 2. To make them aware about continuous change management process 3. To handle configuration management in effective manner.				
COURSE OUTCOMES				
After Completion of this course students will be able to 1. Apply various technologies for software deployment. 2. Compare different technologies for change management. 3. Decide the technology to use for deployment process. 4. Prepare a strategy for project deployment.				
SYLLABUS				

M.Sc.(Cyber Security) SYLLABUS (Effective

UNIT I	DEvOps : Define Devops, What is Devops, Why Devops?, History of Devops, Devops Stakeholders, Devops Goals, Important terminology, Devops perspective, Devops and Agile, Devops Tools, Configuration management, Continuous Integration and Deployment Chef : Common Chef Terminology (Server, Workstation, Client, Repository etc.) Servers and Nodes Chef Configuration Concepts, How to configure knife, Execute some commands to test connection between knife and workstation, Create organization, Add yourself and node to organization, Create a server and add to organization, Check node details using knife, How to Add Run list to Node, Check node Details, How to create Environments, Add servers to environments, Create roles, Add Roles to organization, Understanding of Attributes, Creating Custom Attributes, Defining in Cookbooks, Understanding the data bags, Creating and managing the data bags, Creating the data bags using CLI and Chef Console, Sample data bags for Creating Users.	L-12	
		T-3	P-0
UNIT II	GIT : What is Git, About Version Control System and Types, Difference between CVCS and DVCS, A short history of GIT, GIT Basics, GIT Command Line, Installing Git, Installing on Linux, Installing on Windows, Initial setup, Git Essentials, Creating repository, Cloning, check-in and committing, Fetch pull and remote, Branching Creating the Branches, switching the branches, merging the branches Docker : What is a Docker, Use case of Docker, Platforms for Docker, Dockers vs. Virtualization, Docker Architecture, Understanding the Docker components, Installing Docker on Linux, Understanding Installation of Docker on windows, Some Docker commands, Provisioning, Downloading Docker images, Uploading the images in Docker Registry and AWS ECS, Understanding the containers, Running commands in container, Running multiple containers, Creating a custom image, Running a container from the custom image, Publishing the custom image, Docker Networking, Accessing containers, Linking containers, Exposing container ports, Container Routing, Installing The Docker compose, Terminology in Docker compose, Build word press site using Docker compose.	L-12	
		T-3	T-3
		T-3	P-0
TEXT BOOKS	1. Effective DevOps: Building A Culture of Collaboration, Affinity, and Tooling at Scale - Jennifer Davis & Ryn Daniels. 2. Practical Git - Confident Git Through Practice- Johan Abildskov, Apress 3. The Docker Book, James Turnbull 4. Automation through Chef Opscode, Ruby and Erlang, Apress		
REFERENCE BOOKS	1. The DevOps Handbook: How to Create World-Class Agility, Reliability, and Security in Technology Organizations - Gene Kim, Jez Humble, Patrick Debois, and John Willis 2. GIT - The Ultimate Guide for Beginners: Learn Git Version Control, Jameson Garner 3. Docker in Action, Jeff Nicoloff		

Semester	III	Total Credit	2
Course Code	AEC- II (B)	Credit Pattern	L-24, T-06, P-00

M.Sc.(Cyber Security) SYLLABUS (Effective

Course Title	Open Source Platform

Course Objectives	
1	Introduce open source paradigm.
2	Comprehend the problems with traditional commercial software.
3	Understand concepts, strategies, and methodologies related to open source software development.
4	Understand the business, economy, societal and intellectual property issues of open source software.
5	Be familiar with open source software products and development tools currently available on the market.
Course Outcomes	
After completion of this course the student will be able to:	
1	Learned the need of open source technology, open source development model, application of open sources, aspects of open source movement
2	The students will be aware about the problems with traditional commercial software.

Unit Number	Contents	Number of Sessions	
1	Introduction to Open Source Need for open Source technology, Open Source Principles, advantages of Open sources application, open source standards, methodology and philosophy , Open Source Development Model Licences and Patents ,FOSS, BSD, Free Software Movement, commercial software vs. Open Source software, Commercial aspects of Open Source movement - Certification courses issues - global and Indian. Copyrights and copy lefts, Application of Open Sources. Problems with traditional commercial software, Where OSS has Succeeded, Open source Successes, Free software, Software License provider, Free Software Vs Open Source Software, Public Domain, History. Why FS is better than OS? Proprietary	L=12	
		T=03	P=00

M.Sc.(Cyber Security) SYLLABUS (Effective

	Vs Open Source Licensing Model Principles and Open Source Methodology History, Open Source Initiative. Open Source Standards, Methodologies, Philosophy, Software Freedom, Open Source Software Development, Licenses, Copyright, Copyleft Patent, Zero Marginal Cost, Income Generation Opportunities		
2	Open Source Ethics Open Source Versus Closed Source, Open Source Government. The Ethics of open Source Social and Financial Impacts of Open Source Technology, Shared Software, Shared Source Open Source Projects Starting and Maintaining an Open Source Project, Open Source Hardware, Open Source design, Open Source Teaching, Pajamas Media/Briefly know as Open Source media Case Studies Appachi, Berkeley Software Distribution, Berkeley Software Distribution, Linux, Mozilla, Firefox, Wikipedia, Joomla!, Google, GNU Compiler Collection, Open Office.	L=12	
		T=03	P=00

References		
1	Text books	- Open Source Paradigm Shift by Tim O'Reilly Publishing - Open Source: Technology and Policy by Fadi P. Deek, James A. M. McHugh, Cambridge University Press
2	Reference books	- Handbook of Open Source Tools by Sandeep Koranne , Springer - Fundamentals of Open Source Software, Rao M. N., Prentice-Hall of India Pvt.Ltd - Open Source Software: Implementation and Management by Kavanagh Paul, Elsevier Science & Technology - Understanding Open Source and Free Software Licensing, Laurent

M.Sc.(Cyber Security) SYLLABUS (Effective

		Andrew M St, O'Reilly Media, Inc, USA

Semester	III	Total Credit	2
Course Code	AEC-II (C)	Credit Pattern	L-24, T-06, P-00
Course Title	Work Ethics		

Course Objectives	
1	To explain explain concept of ethics.
2	To explain characteristics of Good Work Ethics
3	To discuss different ethical theories
4	To discuss OHS and related Acts
Course Outcomes	
After completion of this course the student will be able to:	
1	Develop strong work ethics
2	Apply critical thinking skills.
3	Apply conflict resolution strategies and skills
4	Follow ethical principals
5	Follow OHS Acts

Unit Number	Contents	Number of Sessions	
1	Introduction to Work Ethics: Concept of Work Ethics, Importance of a Good Work Ethic, Positive Work Ethics, Characteristics of Having Good Work Ethics: Character and Honest, Cooperation & Respect, Teamwork, Communication, Positive Thinking, Productivity, Attendance and Punctuality, Appearance & Self-Image. Code of Ethics and Conduct Criteria, Critical Thinking, Equal Employment, Harassment-free Workplace	L=12	
		T=03	P=00

M.Sc.(Cyber Security) SYLLABUS (Effective

2	Environment, Health, and Safety in workplace, OHS Acts, Substance-free Workplace, Confidential Information, Effects of technology on work ethics, Conflicts of Interest, Anti-trust, Fraud, Media Contact, Ethical Theories (Consequential, Utilitarian, Kantian, Egoistic, Deontological, Virtue), Ethical decision making in the workplace, Difficulties in Ethical Decision Making, Work values, Types of work values, Ethical principles of reference, Role of Management in Inculcating Workplace Ethics, Tips to Promote Workplace Ethics,	L=12	
		T=03	P=00
Learning Resources			

1	Text books	"Professional Ethics and Human Values" by Premvir Kapoor, Khanna Book Publishing, ISBN: 9789386173652, 9386173654, Edition: 1, 2019; Pages: 196
2	Reference books	1. "An Essay on Professional Ethics" Second Edition, Author: George Sharswood Release Date: August 20, 2007, Character set encoding: ISO-8859-1 2. "Ethics for A-Level" by Mark Dimmock, Andrew Fisher, Publisher: Open Book Publishers 2017, ISBN-13: 9781783743902, Number of pages: 264 3. "Deep Work: Rules for Focused Success in a Distracted World" by Cal Newport
3	Websites	1. https://www.infobooks.org/pdfview/369-work-ethics-article-university-of-bahrain/ 2. https://www.indeed.com/career-advice/career-development/work-ethic-skills
4	Journals	1. Raymond K. Van Ness, Kimberly Melinsky, Cheryl Buff, and Charles F. Seifert, "Work Ethic: Do New Employees Mean New Work Values?" 2010 Journal of Managerial Issues, 22 (1), 10-34.

M.Sc.(Cyber Security) SYLLABUS (Effective

5	Supplementary Reading	1. https://www.tutorialspoint.com/ 2. https://www.cleverism.com/ 3. https://www.managementstudyguide.com/ 4. https://harappa.education/harappa-diaries/work-ethic-meaning-definition-and-importance/
1	Text books	"Professional Ethics and Human Values" by Premvir Kapoor, Khanna Book Publishing, ISBN: 9789386173652, 9386173654, Edition: 1, 2019; Pages: 196
2	Reference books	1. "An Essay on Professional Ethics" Second Edition, Author: George Sharswood Release Date: August 20, 2007, Character set encoding: ISO-8859-1 2. "Ethics for A-Level" by Mark Dimmock, Andrew Fisher, Publisher: Open Book Publishers 2017, ISBN-13: 9781783743902, Number of pages: 264 3. "Deep Work: Rules for Focused Success in a Distracted World" by Cal Newport

Semester	III	Total Credit	2
Course Code	AEC- II (D)	Credit Pattern	L-30
Course Title	Organization Behavior		

Course Objectives	
1	To help the students to develop cognizance of the importance of human behaviour.
2	To enable students to describe how people behave under different conditions and understand why people behave as they do.
3.	To provide the students to analyse specific strategic human resources demands for future action.
4.	To enable students to synthesize related information and evaluate options for the most logical and optimal solution such that they would be able to predict and control human behaviour and improve results.
Course Outcomes: The students will able to	
1.	CO1: Demonstrate the applicability of the concept of organizational behavior to understand the behavior of people in the organization.
2.	CO2: Demonstrate the applicability of analyzing the complexities associated with management of individual behavior in the organization.

M.Sc.(Cyber Security) SYLLABUS (Effective

3.	CO3: Analyze the complexities associated with management of the group behavior in the organization.
4.	CO4: Demonstrate how the organizational behavior can integrate in understanding the motivation (why) behind behavior of people in the organization.

Syllabus:

Unit Number	Contents	Number of Sessions
1	Introduction, Definition, significance & overview of OB models – Interdisciplinary approach, system approach, contingency approach, personality- meaning, determination of personality, development of personality. Perception – Meaning, perception process, Attitude – components of Attitude, types of attitude, Attitude formation, Values – Types of values. Motivation- concept, theories of motivation, Leadership – styles of leadership, functions of leader, Job stress- sources of stress, effect of stress, coping strategies of stress	L= 15
2	Group formation- group behavior, types of group, stages of group formation, group structure, Group conflicts- and types of conflict- Interpersonal and Intergroup conflicts. Organizational change, Managing change, forces for change in organization, forms of change, Global approach to OB- Issue of culture, managing diversity within and across the culture	L= 15

Learning Resources

1	Text Books	- Robbins, S. P/ Judge, T. A/ Sanghi, S., Organizational Behavior, Pearson Publication - Fred Luthans, Organisational Behavior, McGraw Hill, 11th Edition, 2001.
2	Reference books	- Aswathappa, K., Organisational Behaviour– Text and Problem, Himalaya Publication - Pardeshi, P. C., Organizational Behaviour & Principles & Practice Of Management, Nirali publication

M.Sc.(Cyber Security) SYLLABUS (Effective

Semester	III	Total Credit	4
Course Code	DSE-III (A)	Credit Pattern	L-48, T-10, P-2
Course Title	WEB SECURITY		
Course Objectives			
1	This course introduces you to the field of web security: that is, how to build secure web applications.		
2	The course covers fundamental concepts of web programming, web vulnerability exploitation, web browser design flaws, and a few advanced topics in web privacy.		
3	Given the pervasive insecurity of the modern web landscape, there is a pressing need for programmers and system designers to improve their understanding of web security issues.		
4	Students will be able to Develop secure web applications.		
Course Outcomes: After successful completion of the course, the students would be able to			
1	To learn about Get hands-on experience on web programming		
2	To Design and implement exploits for real security bugs.		
3	To learn cross site scripting, authentication and java Script security.		
4	Student can build and understanding of the most common web attacks and their countermeasures.		

Syllabus:

Unit No.	Contents	Number of Sessions	
1	Introduction to Web security: Definition, purpose of web security, How does web security work, Basics of modern web browser: Browser architecture, benefits of multi –process architecture in browser, how the navigation flow of browser, and Renderer process of web. Introduction to DNS and HTTP: Introduction of DNS, how DNS server works, attacks on DNS, DNS privacy An overview of HTTP, HTTP header. Introduction of same origin policy, inherits the origin, cross origin network access.	L= 12	
		T=3	P= 0
2	Client side attacks and defence: Introduction to HTTP cookies, Creating cookies, Set-Cookie and Cookie headers, Define the lifetime of a cookie. Session attacks: session hijacking Cross-Site Request Forgery: Introduction, Migration technique in CSRF. Cross-Site Scripting Defence. Review of Cross-Site Scripting, Reflected XSS vs. Stored XSS, Injecting down vs. injecting up, XSS defences, UI Denial-of-service attacks, Phishing attacks, Internationalized Domain Names (IDN) and IDN homograph attack defences. Online Tracking: What Can Be Done About it, and Who's Doing it and how online tracking work?	L= 12	
		T= 3	P= 0
3	Server-side attacks and defence :	L= 12	

M.Sc.(Cyber Security) SYLLABUS (Effective

	Introduction to Code injection and command injection, SQL injection and its types, CSRF tokens, how CSRF works? HTTPS and the Lock Icon: Brief overview of HTTPS, Integrating HTTPS into the browser. Brief introduction to Public Key Pinning and how does pinning works. Authentication: What is authentication? Authentication vs. Authorization, General Guidelines for authentication, Web Authentication.	T= 3	P= 0
4	Web security in the real world Local HTTP server security: communicate with a local HTTP server, Remote Code Execution (RCE), Security Architecture of the Chromium Browser, Cross-Origin Read Blocking (CORB). DNS rebinding attacks, defences against rebinding attacks Browser architecture, The rule of 2, multi process architecture of chrome, site isolation, Secure coding practices in java script.	L=12	
		T= 1	P= 2

Learning Resources

1	Text Books	• Html and css: design and build websites, by jon duckett • Javascript and jquery: interactive front-end web development, by jon duckett • Learning web design: a beginner's guide to html, css, javascript, and web graphics, by jennifer niederst robbins
2	Reference books	• Cyber-security Protecting Critical Infrastructures from Cyber Attack and Cyber Warfare, Edited by Thomas A. Johnson Webster University St. Louis, Missouri, USA. • Cryptography and Network Security by William Stallings 5th Edition Pearson Education. • https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers • https://www.usenix.org/legacy/events/sec06/tech/full_papers/xu/xu.pdf
3	Websites	• https://crypto.stanford.edu/safecache/sameorigin.pdf. • https://cheatsheetseries.owasp.org/cheatsheets/Cross_Site_Scripting_Prevention_Cheat_Sheet.html • https://developer.mozilla.org/en-US/docs/Web/HTTP/Overview
4	Journals	• Journal of Cyber Security, oxford Academic, ISSN 2057-2085, EISSN 2057-2093 • Computers and Security, Elsevier, ISSN: 0167-4048 • International Journal of Cyber-Security and Digital Forensics (IJCSDF), ISSN 2305-0012 (online) • Journal of Cybersecurity and Information Management, ISSN (Online) 2690-6775
5	Supplementary Reading	• Handbook of Computer Networks and Cyber Security Principles and Paradigms. Brij B. Gupta ,Gregorio Martinez Perez Dharma P. Agrawal , Deepak Gupta Editors. • Cyber Operations: Building, Defending, and Attacking Modern Computer Networks Second Edition Mike O'Leary.

M.Sc.(Cyber Security) SYLLABUS (Effective

6	Practical Components	

Semester		III MSc-Cyber-Security	Total Credit	4
Course Code		DSE-3-B	Credit Pattern	L-45, T-12, A-3
Course Title		DIGITAL FORENSICS		
Course Outcomes				
1	To assess how to apply forensic analysis tools to recover important evidence for identifying computer crime.			
2	To analyze as well-trained as next-generation computer crime investigators.			
Unit Number		Contents		
1	Computer Forensics -fundamentals, Benefits of forensics, computer crimes, computer forensics evidence and courts, legal concerns and private issues. Understanding Computing Investigations – Procedure for corporate High-Tech investigations, understanding data recovery work station and software, conducting and investigations. Windows Systems Arti-facts: File Systems, Registry, Event logs, Shortcut files, Executable, Network Forensics , Types of network attacks- eavesdropping, spoofing, modification, Cross-site scripting (15)			
2	Data Acquisition- understanding storage formats and digital evidence, determining the best acquisition method, acquisition tools, validating data acquisitions, performing RAID data acquisitions, remote network acquisition tools, other forensics acquisitions tools. Processing crimes and incident scenes, securing a computer incident or crime, seizing digital evidence at scene, storing digital evidence, obtaining digital hash, reviewing case Mobile And Wireless Device Forensics - Introduction to Mobile Technologies - Asynchronous Transfer Mode (ATM), Wireless Application Protocol (WAP). (15)			
3	Computer Forensics tools- software, hardware tools, validating and testing forensic software, addressing data-hiding techniques, performing remote acquisitions, E-Mail investigations- investigating email crime and violations, understanding E-Mail servers, (15)			

M.Sc.(Cyber Security) SYLLABUS (Effective

4	Computer Crimes -Computer virus, and computer worm, Trojan horse, trap door, super zapping, logic bombs. Social media crimes, intellectual property crimes, cyber pornography& child pornography, cyber terrorism, hate speech and cyber security (15)	
Learning Resources		
1	References	1 Bayuk, J. (2010). Cyber Forensics: Understanding information security investigations. Springer Science & Business Media. 2 Casey, E. (2009). Handbook of digital forensics and investigation. Academic Press. 3 Casey, E. (2011). Digital evidence and computer crime: Forensic science, computers and the internet. Academic Press. 4 EC-Council. (2016). Computer forensics: Investigating network intrusions and cybercrime (CHFI). Cengage Learning.
2	Text Books	1 Vacca, J, <i>Computer Forensics, Computer Crime Scene Investigation</i> , 2 nd Ed, Charles River Media, 2005, ISBN: 1-58450-38 2 Holt, T. J., Bossler, A. M., & Seigfried-Spellar, K. C. (2015). Cybercrime and digital forensics 3 Sammons, J. (2012). The basics of digital forensics: The primer for getting started in digital forensics. Elsevier Media.
3	Website	https://ncfs.ucf.edu/ https://www.justice.gov/criminal-ccips

Semester	II	Total Credit	2
Course Code	AEC-II	Credit Pattern	L-22, T-8
Course Title	Employability Skills		
Course Objectives			
1	Develop effective communication skills		
3	Develop broad career plans		
Course Outcomes			
After completion of this course the student will be able to:			
1	Match the job requirements and skill sets.		
3	Evaluate the employment market.		
Unit			

M.Sc.(Cyber Security) SYLLABUS (Effective

Number	Contents
1	Personality, Interpersonal and employability skills and Emotional Intelligence: (15) Basic Interaction Skills –Within family, Society. Interpersonal and intrapersonal skills. Types of skills; Decision Making, Articulation Skills, Emotional Intelligence Human relations examples through role – play and cases
2	Leadership Skills, Team work, Conflict Management ,Interview Skills, Time Management and Stress Management: (15) Leadership skills – Leadership in groups, coaching, strategic management Team work & Team building - Characteristics of an effective team, Essentials of an effective team, Evolution Team. Activities – Team trust, team shape up. Conflict Management – Types of conflicts, how to cope with them Small cases including role – plays will be used as teaching methodology. Interview skills – Preparation pre-during and post interview Resume writing, self grooming for the interviews. Introduction, Types of interviews, process of interview, Preparation of the candidate, preparation of the interviewer, common interview questions. Time Management – Importance, Prioritizing tasks, Personal Goal Setting – SMART goals, delegation, Time management in meetings, barriers to time management, identifying and handling time consuming tasks. Activity – Games, role-play, case studies. Stress Management – Understanding stress, Types of stress, symptoms, causes of stress. Managing stress, Techniques of managing stress. Activity – questionnaire to find out the level of stress.
Learning Resources	
1	Reference Books Business Communication – Urmila Rai & S M. Rai, 12/e, Himalaya Publishing House, 2010. Enhancing Soft Skills – Prof. Dipali Biswas, 1/e, Shroff Publishers & Distributors Pvt. Ltd., 2009. The ACE of Soft Skills – Gopalaswamy Ramesh & Mahadevan Ramesh, 3/e, Pearson Education, 2012. Successful Career, Soft Skills and Business English – Varanasi Bhaskara Rao & Y. Kameswari, 1/e, BS Publications, 2010. Personality Development and Soft Skills - Barun K. Mitra Emotional Intelligence by Daniel Goleman

M.Sc.(Cyber Security) SYLLABUS (Effective

Semester		Total Credit	2
Course Code	GE-II (A)	Credit Pattern	L-22, T-4, P-4
Course Title	Entrepreneurship Development		

Course Objectives

1	To understand the concept and importance of entrepreneurship
2	To develop entrepreneurial skills and abilities among the students to run business efficiently and effectively
3	To provide insights to the students on entrepreneurship opportunities
4	To familiarize students with the support system provided by the government for entrepreneurship.

Course Outcomes: Students will be able to

1	Explain Basic Concept of Entrepreneurship and link the Entrepreneurship with Economic Development.
2	Develop the Business Plan for any kind of new enterprise.
3	Discuss Role of Central and State Government in Entrepreneurship Development.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Entrepreneurship Concept of Entrepreneur & Entrepreneurship, Types of Entrepreneurs, Characteristics and Skills of Successful Entrepreneurs, Entrepreneur Vs Manager, Role of Entrepreneurship In Economic Development, Challenges faced by Entrepreneurs, Role of Central and State Governments in Promoting Entrepreneurship	L= 11	
		T= 2	P= 2
2	Developing Business Plan Sources of Business Ideas, Evaluation of New Business Ideas, Business Idea Feasibility Study, Developing a Business Plan: Contents, Importance, Advantages. Presentation of Business Plan, Sources of Business Finance: Internal and External Funds.	L= 11	
		T= 2	P= 2

Learning Resources

M.Sc.(Cyber Security) SYLLABUS (Effective

1	Text Books	1. S.S. Khanka, Entrepreneurial Development, S. Chand And Company Ltd., New Delhi 2. Dr. R.R. Khan, Entrepreneurial Management, School Of Management Studies, Mumbai 3. M.B. Shukla, Entrepreneurship And Small Business Management, Kitab Mahal, Allahabad
2	Reference books	1. Raj Shankar – “Entrepreneurship: Theory and Practice” – Vijay Nicole Imprints Pvt. Ltd., 2. D. F. Kuratko, T. V. Rao – “Entrepreneurship: A South Asian Perspective” – Cengage Learning 3. David H. Holt, “Entrepreneurship – New Venture Creation”, Prentice Hall, New Delhi
3	Websites	1. www.startupindia.gov.in 2. www.india.gov.in 3. https://www.sidbi.in/ 4. https://www.nstebd.com/ 5. https://www.nsic.co.in/ 6. https://www.makeinindia.com/
4	Journals	1. The Journal of Entrepreneurship Sage India 2. AMC Indian Journal of Entrepreneurship 3. Entrepreneurship Journal - Publishing India 4. https://www.Ediindia.org/the_journal_of_entrepreneurship 5. Journal Of Entrepreneurship, Management And Innovation
5	Supplementary Reading	1. https://articles.bplans.com/a-standard-business-plan-outline/ 2. http://yie.in/ 3. http://tie.org/
6	Practical Component	1. Interview a local entrepreneur and understand attributes behind his/her success 2. Visit to DIC to understand the Government Support 3. Visiting NGOs to understand the concept of Social Entrepreneurship. 4. Interview a local Woman Entrepreneur to understand the challenges faced by her.

Semester	III	Total Credit	2
Course Code	GE-II (B)	Credit Pattern	L-23, T-07, P-0
Course Title	DISASTER MANAGEMENT		
Course Objectives			
1	Understand the concept and impact of disasters.		
2	Describe the causes, effects and control measures of disasters.		

M.Sc.(Cyber Security) SYLLABUS (Effective

Course Outcomes: After completion of this course students will have capacity to

1.	Recognize the various global and regional environmental concerns/hazards due to natural causes and/or human activities, and the impact of these on various forms of life .
2.	Obtain and communicate information on risks, relief needs and lessons learned from earlier disasters in order to formulate strategies for mitigation in future scenarios
3.	Describe and evaluate the environmental, social, economic, legal and organizational aspects influencing vulnerabilities and capacities to face disasters.
4.	Relate theoretically and practically in the processes of disaster management (disaster risk reduction, response, and recovery)

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Disaster Management : Hazard and Disaster, Classification of Disasters. Hydrological Disasters - Flood, Drought, Geological Disasters- Earthquakes, Landslides, Volcanic Eruptions. Wind Related Disasters- Cyclone Biological Disasters : Man Made Disasters : Fire – Industrial, Domestic and wild fire Technological Disasters- Bhopal Gas Tragedy, Chernobyl and Fukushima. Marine and Social Disasters	L= 11	
		T= 4	P= 0
2	Disaster Management : Risk assessment, Disaster Management Act 2005, National Disaster Management Framework, Role of various organisations- National Disaster Management Authority (NDMA), State Disaster Management Authority (SDMA), District Disaster Management Authority (DDMA), Financial Arrangements for Disaster Management, Disaster management cycle, NDRF. Non-Governmental Organisations, community participation, Education, training for public in emergency preparedness plan, Rescue & rehabilitation programmes.	L= 12	
		T= 3	P= 0

Learning Resources

1	Text Books	- Textbook Of Environmental Science And Technology by REDDY, BSP publishers, 2019 - A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 - A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 - A Text Book of Ecology, Tyler Miller, Cengage Learning - A Text Book Environmental Studies, Chatawal & Sharma, HPH - A Text Book Environmental Science, Joshi & Joshi, APH - A Text Book of Environmental Studies, Nambiar, STP
2	Reference books	- Nuclear Accidents (Man Made Disasters) Mark Mayell Publisher: Lucent Books - Management of Man-made Disasters, S. L. Goel, Motilal Banarsidass Publishers Private Limited, New Delhi, ISBN: 8176297151

M.Sc.(Cyber Security) SYLLABUS (Effective

		• Handbook of Pollution Control Processes By: Robert Noyes. Jaico Publishing House, Mumbai (2003) • Fire & Explosion Hazards Handbook of Industrial Chemicals By: TA Davletshina & NP Cheremisinoff, Noyes Publications, Mumbai (2003) • Environmental Geology by K. Valdiya, Tata McGraw Hill Publishing Co. • Perspectives on Environment by I.R. Manners, M.W. Micksell • Our Planet, Our Health by WHO (1992) • Report of the Panel on Industry by WHO (1992) • Natural Disasters, Author: Claire Watts / Trevor Day Publisher: Dk Publishing, ISBN: 9781465438096 • Environmental Biology by K.C. Agarwal • Resource Book on Chemical (Industrial) Disaster Management, http://nidm.gov.in/PDF/pubs/chemical_mdc.pdf • Directory of Institutions and Resource Persons for Landslide Management In India • http://nidm.gov.in/PDF/pubs/directory%20landslide.pdf
3	Websites	• Directory of Institutions and Resource Persons for Landslide Management In India • http://nidm.gov.in/PDF/pubs/directory%20landslide.pdf • https://www.ifrc.org/en/what-we-do/disaster-management/about-disaster-management/ • https://en.wikipedia.org/wiki/Disaster_management_in_India
4	Journals	• Current Science, ISSN No. 0011-3891 • Down to Earth • Journal of Biosciences, ISSN No. 0250-5991 • Journal of Environmental Biology, ISSN No. 0254-8704 • Resonance, ISSN No. 0971-8044 • Journal of Earth System Science, ISSN No .2253-4126 • Industrial Safety Chronicle • International Journal of Environmental Engineering Science, ISSN No .2229-3094
5	Supplementary Reading	• Demonstration of Fire & Water Safety.
6	Practical Components	• Mock drill for various disaster • Disaster Management Action Plan

Semester	IV	Total Credit	2
Course Code	GE	Credit Pattern	L-20, T-5, P-5
Course Title	CORPORATE SOCIAL RESPONSIBILITY		

M.Sc.(Cyber Security) SYLLABUS (Effective

Course Objectives

1	To understand the scope and complexity of corporate social responsibility.
2	To gain knowledge of the impact of CSR implementation on societies
3	To acquire skills to frame and design CSR policies and practices appropriate to the Indian workplace.

Course Outcomes: Students will be able to

1	know the Corporate Social Responsibility of different sector.
2	use the acquired skill for proper sustainable Corporate Social responsibility.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to CSR: Meaning & Definition of CSR, History & evolution of CSR. International framework for corporate social Responsibility, Millennium Development goals, Sustainable development goals, Relationship between CSR and MDGs. United Nations (UN) Global Compact 2011. UN guiding principles on business and human rights.– Globalization and CSR.	L= 10	
		T= 3	P= 2
2	Indian perspectives and approaches: Models of CSR in India,. Initiatives in India. Corporate Governance and CSR , CSR Policy and guidelines , Legal frame work, rules and regulations, Company Act 2013 - relevant provisions of CSR. Role of Government and NGO in CSR. Business Benefits of CSR.	L=10	
		T=2	P=3

Learning Resources

M.Sc.(Cyber Security) SYLLABUS (Effective

1	Text Books	1. Benn & Bolton, (2011). Key concepts in corporate social responsibility. Australia: Sage Publications Ltd. 2. Bradshaw, T. and D. Vogel. (1981). Corporations and their critics: Issues and answers to the problems of corporate social responsibility. New York: McGraw Hill Book Company 3. Brummer, J.J. (1991). Corporate Responsibility and Legitimacy: An interdisciplinary analysis. Westport, CT: Greenwood Press. 4. Cannon, T. (1992). Corporate responsibility (1st ed.) London: Pitman Publishing. 5. Crane, A. et al., (2008). The Oxford handbook of corporate social responsibility. New York: Oxford University Press Inc.
2	Reference books	1. Lourdes Poobala Rayen- Corporate Social responsibility. 2. Ellington. J. (1998). Cannibals with forks: The triple bottom line of 21st century business. New Society Publishers 3. Baxi C.V and Ajit P, Corporate Social Responsibility, Concept & Cases: "The Indian Experience, Excel Books. 4. Reddy S and Stefan S (2004). Corporate Social Responsibility: Sustainable Supply Chains. Hyderabad: ICFAI University Press. 5. Werther, W. B. & Chandler, D. (2011). Strategic corporate social responsibility. Thousand Oaks, CA: Sage
3	Websites	www.forbes.com www.referenceforbusiness.com www.justmeans.com www.corporatesocialresponsibility.org
4	Journals	International Journal of Corporate Social Responsibility Home https://jcsr.springeropen.com Sustainability Accounting, Management and Policy Journal, Emerald, 2010- -World Review of Entrepreneurship, Management and Sustainable Development, Inderscience Publishers, 2005-
5	Supplementary Reading	1. http://www.diegdi.de/CMSHomepage/openwebcms3.nsf/%28ynDK_contentByKey%29/ENTR-7BMDUB/\$FILE/Studies%2026.pdf 2. Modi P.K., Corporate Social Capital Liability. Arise Publishers & Distributors. First editions - 2009 3. Sharma, J.P., Corporate Governance, Business Ethics & CSR, Ane Books Pvt Ltd, New Delhi.
6	Practical Component	Visit to industries to study and record various CSR activities and discuss the same with students and teachers to know the merits and demerits of CSR.

DEPARTMENT OF ECONOMICS

(With Effect from 2021-22)

Semester	III	Total Credit	4

M.Sc.(Cyber Security) SYLLABUS (Effective

Course Code	GE	Credit Pattern	L-44, T- 08, P-08
Course Title	Basics of Indian Economy		

Course Outcomes: Students will be able to

1	Identify the main issues in Indian economic development
2	Critically analyse the Indian economic policy environment

Syllabus:

Unit Number	Contents	Number of Sessions	
1	UNIT-1: Indian Economic Environment: Meaning of underdevelopment, Basic characteristics of India as a developing economy, Major issues of development: Poverty, Unemployment and Inequality, National Income of India: Trends, Growth and Structure.	L= 11	
		T= 2	P= 2
2	UNIT-2: Agriculture and Industrial Sectors in India: Features and importance, Green Revolution, Low productivity of agriculture and government measures, Agricultural Finance: Sources and Problems, Agricultural Marketing, Role of Industrialization, Industries and Five-year plans, Structural transformation, Industrial Policy(1991), MSME, Information Technology (IT) industry: Major issues, Growth and present state in India.	L= 11	
		T= 2	P= 2
3	Unit-3: Tertiary Sector: Foreign Trade in India: Importance, Composition and Direction, SEZ, Indian Financial System: Overview, Progress, Profitability and Present status.	L=11	
		T=2	P=2
4	UNIT-4: Indian Economic Planning and Reforms: Objectives of Economic Planning, Redefining the role of the State, Brief review of Five-Year Plans, New Economic Reforms: Liberalization, Privatization and Globalization, NITI Ayog, Balanced Regional Development.	L= 11	
		T= 2	P= 2

Learning Resources

1	Text Books	- Agarwal A N (2016), Indian Economy, Vikas Publishing House Pvt. Ltd., New Delhi - Gaurav Datt& Ashwini Mahajan (2016), Indian Economy, S. Chand and Company Pvt. Ltd., New Delhi - Misra and Puri (2013), Indian Economy, Himalaya Publishing House Pvt. Ltd., New Delhi.
2	Reference books	- Deepashree (2011), Indian Economy, Ane Books Ovt. Ltd., New Delhi - Uma Kapila (2017), Indian Economy: Performance and Policies, Academic Foundation, New Delhi

M.Sc.(Cyber Security) SYLLABUS (Effective

3	Websites	• www.rbi.org.in • www.mygov.gov.in • www.cmie.com
4	Journals	• Arth Samwad • Economic and Political Weekly • Indian-Economic-Journal • Journal-of Indian-School-of-Political-Economy • Southern Economist • The Economist • Journal of Applied Economics • Indian-Economic-Journal • International Journal of the Economics of Business • Journal-of Indian-School-of-Political-Economy • Agricultural-Economic-Research-Review
5	Supplementary Reading	• Economics Survey • Union Budget of India • Niti Ayog Reports • Economics Times Daily • Business Standard Daily • Business Today Daily • Latest Monetary Policy • Latest Fiscal Policy
6	Practical Component	• Collect Economic Survey of India of last five years and prepare a report on trends in major macro-economic variables of the country • Establish the relationship between sectoral growth patterns and business environment by collecting data on three major sectors of the economy

**CHHATRAPATI SHAHU INSTITUTE OF BUSINESS
EDUCATION & RESEARCH KOLHAPUR**
(An Autonomous Institute under UGC Act)



DEPARTMENT OF COMPUTER STUDIES

**STRUCTURE AND SYLLABUS OF
MASTER OF COMPUTER APPLICATION (MCA)
Program under the Faculty of Science**

TO BE IMPLEMENTED FROM ACADEMIC YEAR- 2023-24

CURRICULUM OF MCA PROGRAMME

The MCA is a Full Time Programme of Two-year duration and is divided into four semesters. Semester I & II will be taught in the First Year of the programme and Semester III & IV during the second year of the programme. In each semester, there will be teaching for 15 weeks followed by an End-of-Semester (EOS) examination.

ELIGIBILITY:

1. A candidate for being eligible for admission to MCA programme (Faculty of Science) must have passed Bachelors Degree Examination of the Shivaji University or any other University recognized by A.I.U. (Association of Indian Universities) with minimum of aggregate 50% marks for open category and 45% for Reserve category.
2. Having studied Mathematics at 12th examination or having studied Mathematics as one of the subject at graduation level examination.
3. The candidates who have completed B.C.A. are also eligible.
4. In order to become eligible for admission to MCA programme, the candidate has undergo the process prescribed by DTE-Maharashtra from time to time.

DURATION:

MCA is a full time programme of **TWO** Years duration. The programme consists of Four Semesters. The examination to be held in the First and Second Semester will be called Part – I (First Year) and the examination to be held in the Third and Fourth Semester will be called Part – II (Second Year)

If a candidate fails to clear all heads of passing within **SIX** years of his/her first year registration, the past performance will stand automatically nullified.

If a candidate discontinues any of the terms (i.e. Semester – I to IV) on any account, will be allowed to complete the incomplete terms in the subsequent years subject to it is within the stipulated time duration of **SIX** years.

In addition to the above, once a student's term (Semester) is granted, he/she shall be allowed to appear and pass in any of the subsequent examinations held, provided the examinations are within the stipulated period of **SIX** years.

After taking the admission for FIRST YEAR and the Semester term (Semester – I or II) is NOT granted in this case the student has to seek fresh admission in the next year and complete the term and pass the examination also within **SIX** years of his/her registration. After taking the admission for FIRST YEAR and the Semester term (Semester – I and II) is NOT granted in this case student performance will be nullified.

After taking the admission for SECOND YEAR and the Semester term (Semester – III and IV) is NOT granted in this case the student has to seek fresh admission in the next year and complete the term and pass the examination also within **SIX** years of his/her first year registration.

- **Programme Completion with Break in Between :**

A student who has passed M.C.A.–I and is seeking admission to M.C.A.–II after a long gap (Provided the gap lies within the stipulated duration of **SIX** years) should complete the programme syllabus which is in existence at the time he has sought the admission for the academic year.

Award of degree:

At the end of each semester credits earned by the students will be uploaded Academic Bank Credits (ABC) of each student. Student can **MCA** degree on redemption of 104 earned credits. After successful completion of four semesters of **MCA** mark list ledgers will be forwarded to the Shivaji University for the award of Master's degree (minimum of 104 Credits).

Credit Specification:

- i) Theory Course: A minimum of 15 hrs of teaching per credit is required in a semester.
- ii) Laboratory Course / Field Project: A minimum of 30 hrs in Laboratory activities per credit is required in a semester.

Credit Pattern:

Every course offered will have three components associated with the teaching-learning process of the course, namely

Lecture - L, Tutorial - T, Practice - P

Where, **L** stands for **Lecture** session, **T** stands for **Tutorial** Session consisting participatory discussion / self-study/ desk work/ brief seminar presentations by students and such other novel methods that make a student to absorb and assimilate more effectively the contents delivered in the Lecture classes and **P** stands for **Practice** Session and it consists of Hands on experience / Laboratory Experiments / Field Studies / Case studies that equip students to acquire the much required skill component.

MCA consists of all the three components with weightage depending upon the paper.

If a course is of 4 credits, then the different credit distribution patterns in L: T: P format could be:

Theory Papers: 3: 0.5: 0.5

Practical: 1: 0: 3.0

- **Programme Outcomes:**

1. **Conceptual Knowledge:** Nurturing a foundation of comprehensive understanding and analytical thinking.
2. **Research and Innovation:** Fostering a spirit of research and innovation among students for formulating novel solutions.
3. **Collaborative Learning:** Imbibing collaboration and leadership skills for individual growth and collective empowerment.
4. **Problem-Solving and Critical Thinking:** Developing critical thinking skills for problem-solving and innovative solutions to meet dynamic challenges.

PSOs

1. **Software Development Competency:** Design, develop, and implement software solutions using appropriate tools and technologies to meet industry standards.
2. **Core Computing Skills:** Demonstrate proficiency in core computing concepts and advance the current state-of-the-art through life long learning
3. **Cutting-Edge Technologies Enactment:** Apply cutting-edge technologies in the rapidly evolving field of computer application bearing social relevance and ethics.
4. **Proficiency in Application Domain:** Design and development of applications for varied domains and platforms using best practices.

ASSESSMENT:

Taking into considerations of the UGC and AICTE requirements SIBER has adopted “Choice Based Credit System.” (CBCS). A course can be either full credit (4 credits) or half credit (2 credits). A full credit course shall be of 60 contact hours duration and a half credit course shall be of 30 contact hours duration.

For Theory paper of 100 marks (Four credits) the distribution of the marks will be as follows –

- Internal Marks i.e. Concurrent evaluation - 40 Marks
- External Marks i.e. End of Semester examination - 60 marks

For Practical paper of 100 marks (Four credits) the distribution of the marks will be as follows –

- Practical Examination - 40 Marks
- External Marks i.e. End of Semester examination - 60 marks

For Theory paper of 50 marks (Two credits) the distribution of the marks will be as follows –

- Internal Marks i.e. Concurrent evaluation - 20 Marks
- External Marks i.e. End of Semester examination - 30 marks

Breakup of Internal Marks i.e. Concurrent evaluation -

Sr. No.	Head	Full Credit	Half Credit
1.	Class Participation	10 Marks	05 Marks
2.	Objective Test(Minimum One Test Per Unit)	10 Marks	05 Marks
3.	Seminar /Book Review/ Home Assignment/ Class Assignment	10 Marks	05 Marks
4.	Case Study / Term Paper	10 Marks	05 Marks
5.	Total	40 Marks	20 Marks

The final internal marks will be calculated using the heads shown in above table. **The internal marks obtained by the student has to be disclosed and signed by the student.**

For Practical examination of 40 marks there shall be three questions of 15 marks each, the student has to attempt any two. 10 marks reserved for journal.

- Journal marks - 10 Marks
- Practical Marks i.e. End examination - 30 Marks

The practical examination should be considered as one head of passing i.e. 40 marks.

For the Project Work of 100 marks, the distribution of the marks will be as follows –

- Internal Examiner - 30 Marks
- External Examiner - 30 Marks
- Seminar / Industrial Seminar - 40 Marks

For Project a group of maximum four students can work on a single project.

For Seminar a group of four students has to select a topic, prepare and present it before the examiners.

Sem III – Internship Project (Master Thesis) Evaluation (6 credits)

Students are required to complete one month internship after Semester II examination and evaluation of the same will be at the end of Semester III. (6 credits)

End of Semester Evaluation (60 Marks)			
	Presentation	Viva	Marks
Internal Examiner	15	15	30
External Examiner	15	15	30
Total			60
Internal Evaluation (40 Marks)			
Project Report			10
Mentor evaluation based on attendance & Progress report			10
Industry Confidential Report			20
Total			40

Semester Integrated – Semester IV - 4 credit project work

Project group size – Max 3

End of Semester Evaluation (60 Marks)			
	Presentation	Viva	Marks
Internal Examiner	15	15	30
External Examiner	15	15	30
Total			60
Internal Evaluation (40 Marks)			
Industrial Seminar Report			20
Industrial Seminar Viva			20
Total			40

For Theory Paper Assessment

- 1) The assessment of papers will be done by an Internal and External examiner. A difference of more than **20%** in the marks awarded by these examiners would necessitate the valuation of these papers by the Third examiner. The '**nearest**' highest marks will be considered for determining the average mark of such papers.
- 2) The examiner should submit the marks on separate sheet after completion of on-screen evaluation.
- 3) Once the Student is passed in the internal head of passing (Concurrent evaluation out of 40) in the report submitted to the examination department, the same should be carried forward whenever required.
- 4) The students who failed in the internal head of passing (Concurrent evaluation out of 40) should reappear for the same and the revised marks will be considered further calculation.
- 5) For AEC (Internal Course):

Internal Marks: Out of 50

- i) Class Participation - 10 Marks
- ii) Quiz/Assignment/Journal - 10 Marks
- iii) Practical courses based on practical examination and for other courses based on viva - 30 Marks

(30 marks evaluation done jointly by internal and external examiners.)

STANDARD OF PASSING:

1. In order to pass in each passing head, a candidate should obtain 50% in the internal marks (Formative evaluation), 40% marks in theory, and minimum of 50% of the marks in aggregate.
2. To pass the M.C.A. examination, a candidate will have to pass in all Four Semester in Two Parts i.e. Part – I (Semester – I to II) and Part – II (Semester – III & IV)
3. To pass the Project work / Seminar course a candidate must obtain a minimum of 50% of the total marks. If a candidate fails in the seminar / project report and its viva-voce, he/she will be required to complete the particular seminar / project report and its viva-voce as a fresh candidate in the subsequent year.
4. A candidate from first year MCA will be eligible to proceed to the semester III ,if he/she is not having more than **FIVE** courses backlog (25% of passing heads) from the first year (i.e. Semester I and II)
5. If student passed in the internal head (formative assessment) as well as theory examination but fails in aggregate (total) head of passing in that case student has to appear only for the theory examination.
6. If students fails in internal marks (formative assessment) and passed in the theory examination, in that case students has to complete the internal marks in next subsequent semester at that time student must clear the aggregate head of passing.
7. Semester Performance Index (SPI)/Cumulative Performance Index (CPI) will be as follows.

Grading System:**Full Credit 100 Marks****Grade Table for Trimester/Semester Examination**

Marks Obtained	Letter Grade	Grade Point
96-100	S+	10.0
91-95	S	9.0
86-90	E+	8.5
81-85	E	8.0
76-80	O+	7.5
71-75	O	7.0
66-70	A+	6.5
61-65	A	6.0
56-60	B+	5.5
50-55	B	5.0
--	X	0.0
--	XX	---

Half Credit 50 Marks**Grade Table for Trimester/Semester Examination**

Marks Obtained	Letter Grade	Grade Point
48 – 50	S+	10.0
46 – 47	S	9.0
43 – 45	E+	8.5
41 – 42	E	8.0
38 – 40	O+	7.5
36 – 37	O	7.0
33 – 35	A+	6.5
31 – 32	A	6.0
28 – 30	B+	5.5
25 – 27	B	5.0
--	X	0.0
--	XX	---

2. Final Result: For the final result of the student Cumulative Performance Index (CPI) based on total earned credits vis-à-vis total earned grade points shall be calculated will be as follows.

Total earned grade points / Total credits i.e. **88** credits.

Result		
CPI	Final Grade	Classification of Final Result.
9.0 – 10.0	E	Excellent
8.0 – 8.9	O	Out Standing
7.0 – 7.9	A+	Very Good
6.0 – 6.9	A	Good
5.5 – 5.9	B+	Average
5.0 – 5.4	B	Pass
0.0 – 4.9	X	Unsatisfactory (Fail)

Note: An aggregate of **5.0** credit points are required to pass the M.Sc. program.

CALCULATION OF PERFORMANCE INDICES:

A distinction of the performance of one student from the other student is rather impossible to carry out from the grades obtained by a student in all the courses taken by him in a semester/year. Hence, the evaluation of various courses is cumulated in two performance indices termed as semester performance index (SPI) and cumulative performance index (CPI), the explanation of which is given below:

Semester Performance Index (SPI):

The performance of a student in a semester is indicated by a number called Semester Performance Index (SPI). SPI is the weighted average of all the grade points obtained by him in all the courses registered during the semester. If G_i is a grade with numerical equivalent as G_i obtained by a student for the course with credit C_i then, SPI for that semester is calculated using formula.

$$SPI = \frac{\sum_{i=1}^n C_i G_i}{\sum_{i=1}^n C_i}$$

Where summation is for all the courses registered by a student in that Semester SPI is calculated to two decimal places and rounded off. SPI once calculated shall never be modified. Generally, for the students failed in regular examinations SPI is calculated only after the declaration of re-examination grades.

Cumulative Performance Index (CPI):

An up-to-date assessment of the overall performance of a student from the first semester till completion of the programme is obtained by calculating an index called as Cumulative Performance Index (CPI). The CPI is weighted average of the grade points obtained in all the courses registered by a student since the first semester.

$$\text{CPI} = \frac{\sum_i C_i g_i}{\sum_i C_i}$$

Besides SPI, CPI is also calculated at the end of every semester upto two decimal places and is rounded off. It is necessary to ensure that one course appears only once in calculation of CPI and the denominator in above equation does not exceed the total number of credits registered by him.

GRACE MARKS UNDER DIFFERENT ORDINANCE.

S.O. No. 1:-Grace Marks for Passing in each head of Passing (Theory/Practical/Oral/ Sessional/External).

The Examinee shall be given the benefit of grace marks only for passing in each head of Passing Theory/Practical/Oral/Sessional/ in External examination as follows.

Head of Passing	Grace Marks
Up to – 50	2
051-100	3
101-150	4
151-200	5
201-250	6
251-300	7
301-350	8
351-400	9
And 401 and above.	10

Subject to the following conditions:

The benefit of such gracing marks in different heads of passing shall not exceed 1% of the aggregate marks in that examination.

The benefit of gracing of Marks under this Ordinance shall be applicable only if the candidate passes the entire examination of Semester.

The gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM, and CCIII. NCTE, UGC etc.

S.O. No. 2:- Grace Marks for Getting Higher Class

A Candidate who passes in all the courses and heads of passing in the examination without the benefit of either gracing or condonation rules and whose total number of Marks falls short for securing Second Class/Higer Second Class or First Class by marks not more 1% of the aggregate marks of that examination or up to 10 marks, whichever is less, shall be given the required marks to get the next higher class of grade as the case may be.

Provided that benefits of above mentioned grace marks shall not be given, if the candidate fails to secure necessary passing marks in the aggregate head of passing also, if prescribed in the examination concerned.

Provided further that the benefits of above mentioned grace marks shall be given to the candidate for such examination/s only for which provision of award of class has been prescribed.

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM, and CCIII. NCTE, UGC etc.

S.O. No. 3 Condonation

If a candidate fails in more than one head of passing, his/her deficiency of marks in such head of passing may be condoned by not more than 1% at the aggregate marks of the examination. However condonation, whether in one head of passing or aggregate head of passing be restricted to maximum upto 10 marks only.

Condonation of deficiency of marks be shown in the statement of Marks in the form of asterisk and Ordinance number

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM, and CCIII. NCTE, UGC etc..

BACKLOG:

1. A candidate will be permitted to proceed to the second Semester unconditionally even though he/she fails in one or more courses of the first semester, provided the first semester term is granted..
2. The students who have a backlog of not more than **five courses (25% of passing heads)** in the First year examination (Semester I & II) will be eligible to be admitted to the Second year (III Semester) of MCA.
3. A Candidate will be permitted to proceed to the Fourth Semester unconditionally even though he/she fails in one or more courses of the third semester, provided the third semester term is granted.

NO VERIFICATION OF MARKS AND RE-EVALUATION:

As CSIBER adopted the double evaluation system as well as ONSCREEN evaluation system due to this the verification of marks and re-evaluation of Answer book facility is NOT available in CSIBER.

CHHATRPATI SHAHU INSTITUTE OF BUSINESS EDUCATION AND RESEARCH (CSIBER)

University Road, Kolhapur – 416 004

Out Line Theory Question paper for all the programmes

(Four Unit Course)

Class:

Course Name:

Paper no. :

Time: Three hours

Total marks: 60

INSTURUCTIONS:

1. Question no. 1 is **COMPULSORY**
2. Attempt any **ONE** from Q. No. 2 and Q. No. 3.
3. Attempt any **ONE** from Q. No. 4 and Q. No. 5.
4. Figures to right indicate **FULL** marks

		Mark s
Q. 1)	Case Study	(20)
Q. 2)	Essay Type Question	(20)
OR		
Q. 3)	Essay Type Question	(20)
Q. 4)	a) Long Answer Question b) Long Answer Question	(10) (10)
OR		
Q. 5)	a) Long Answer Question b) Long Answer Question	(10) (10)

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CHHATRPATI SHAHU INSTITUTE OF BUSINESS EDUCATION AND RESEARCH (CSIBER)

University Road, Kolhapur – 416 004

Out Line Theory Question paper for all the programmes

(Two Unit Course)

Class:

Course Name:

Paper no. :

Time: Two hours

Total marks: 30

INSTURUCTIONS:

1. Question no. 1 is **COMPULSORY**
2. Attempt any **ONE** from Q. No. 2 and Q. No. 3.
3. Attempt any **ONE** from Q. No. 4 and Q. No. 5.
4. Figures to right indicate **FULL** marks

		Marks
Q. 1)	Case Study	(10)
Q. 2)	Essay Type Question	(10)
OR		
Q. 3)	Essay Type Question	(10)
OR		
Q. 4)	Long Answer Question	(10)
Q. 5)	Long Answer Question	(10)

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CHHATRPATI SHAHU INSTITUTE OF BUSINESS EDUCATION AND RESEARCH (CSIBER)
University Road, Kolhapur – 416 004

NATURE OF PRACTICAL QUESTION PAPER

Time : 2 Hours

Total Marks : 40

Instructions:

1. **Attempt any TWO questions.**
2. **10 Marks are reserved for journal**

		Marks
Q. 1)	ONE LONG QUSTION / DIVIDE QUESTION INTO TWO BITS	(15)
Q. 2)	ONE LONG QUSTION / DIVIDE QUESTION INTO TWO BITS	(15)
Q. 3)	ONE LONG QUSTION / DIVIDE QUESTION INTO TWO BITS	(15)

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MCA Course Structure (NEP 2020)

M. C. A. - I Semester-I

Course Code	Course Name	Credits	Contact Hours	Int. Marks	Pract. Marks	Ext. Marks	Total Marks
MCA-101	Object Oriented Software Engineering	4	60	40	--	60	100
MCA-02(P)	Web Design and Development	4	60	--	40	60	100
MCA-03(P)	Programming with 'C'	4	60	--	40	60	100
MCA-104	Design and Analysis of Algorithms	4	60	40	--	60	100
MCA-105	Statistical & Mathematical Application	4	60	40	--	60	100
MCA-106	Research Methodology	4	60	40	--	60	100
Total Credits		24	360	160	80	360	600

M. C. A. - I Semester-II

Course Code	Course Name	Credits	Hours	Int. Marks	Pract Marks	Ext. Marks	Total Marks
MCA-201	Computer Architecture and Operating system	4	60	40	--	60	100
MCA-202(P)	.Net Programming	4	60	--	40	60	100
MCA-203(P)	Java Programming	4	60	--	40	60	100
MCA-204	Relational Database Management Systems	4	60	40	--	60	100
MCA-205	Computer Networks	4	60	40	--	60	100
MCA-206	Advanced Web Technologies	4	60	40	--	60	100
MCA-207	Group Seminar and Project Work I	4	60	40	--	60	100
Total Credits		28	420	200	80	420	700

M. C. A. - II Semester-III

Course Code	Course Name	Credits	Hours	Int. Marks	Pract Marks	Ext. Marks	Total Marks
MCA-301	Software Project Management	2	30	20	--	30	50
MCA-302(P)	Machine Learning with Python	4	60	--	40	60	100
MCA-303(P)	Data and File Structure	4	60	--	40	60	100
MCA-304	Linux Administration	4	60	40	--	60	100
MCA-305	Blockchain Technology	4	60	40	--	60	100
MCA-306	A) Mobile Computing B) Spring Framework C) Computer Graphics	4	60	40	--	60	100
MCA-307	Internship Project and Viva-Voce (Master Thesis)	6	90	40	--	60	100
Total Credits		28	420	180	80	390	650

M. C. A. - II Semester-IV

Course Code	Course Name	Credits	Hours	Int. Marks	Pract Marks	Ext. Marks	Total Marks
MCA-401	Artificial Intelligence	4	60	40	--	60	100
MCA-402(P)	Full Stack Web Development	4	60	--	40	60	100
MCA-403	IOT	4	60	40	--	60	100
MCA-404	Big Data Analytics	4	60	40	--	60	100
MCA-405	A) Cloud Computing B) Introduction to Containers Docker and Kubernetes C) Theoretical Computer Science	4	60	40	--	60	100
MCA-406	Industrial Seminar and Project work Viva-voce	4	60	40	--	60	100
Total Credits		24	360	200	40	360	600

Student undergo internship for duration of 30 days after completion of Sem III examination. The evaluation is done at the time of Sem III.

Semester	I	Total Credit	4
Course Code	MCA-101	Credit Pattern	L-48, T-12, P-0
Course Title		Object Oriented Design Software Engineering	
Course Objectives			
1	To learn and understand the principles of Software Engineering		
2	To Learn and understand Software Development Life Cycle		
3	To introduce object oriented concepts and its representation in UML		
4	To provide knowledge about object oriented model and its constituents		
Course Outcomes: The students will able to			
1	Conceptually understand software and software development process.		
2	Analyze and choose correct model for software system development.		
3	Trace the software requirements to various diagrams in UML.		
4	Prepare software design as per requirements of user.		
Syllabus:			
Unit Number	Contents		Number of Sessions
1	Introduction to Software Engineering : (15) Definitions, Characteristics of Software - Software Myths – Software Engineering, A Generic Process Model, Prescriptive Process Models: The Waterfall Model, Incremental Process Models, Evolutionary Process Models, Extreme Programming (XP), Scrum, Requirements Engineering, Requirements Modelling Strategies, SRS.		L= 12 T=3 P= 0
2	Use case and Class model : (15) Overview of UML - views, diagrams, Model elements, UML extensions, Use-case modeling, use cases and actors, identifying use cases and actors, relationship between use cases and actors, drawing use case diagrams, describing the use cases, validating and verifying use case diagram, case studies-II Object Oriented System, Classes, objects and their relationships-concept of classes and objects, identifying the classes, Relationships between classes, Associations, Generalizations, aggregation, Interfaces (protocols), Packages and templates, drawing class diagrams, Case studies		L= 12 T=3 P= 0
3	Dynamic Model and Architecture : (15) Dynamic modeling – concept of State of an object, relationship between attribute values states and operations, drawing state diagrams, various concepts related to Sequence diagrams, drawing sequence diagram, concepts related to Collaboration diagrams, drawing collaboration diagram, concepts related to activity diagrams, drawing activity diagram, Logical and Physical Architectures - Component diagram, Deployment diagrams		L= 12 T=3 P= 0
4	UML Extension and Real time modeling in UML : (15) Extending UML –, Stereotypes, Constraints, Tagged values. Active objects, processes and threads, real time concepts, special real-time modeling concerns, drawing various UML diagrams for real time systems with real time concepts, case studies.		L= 12 T=3 P= 0
Learning Resources			
1	Text Books	- Roger S Pressman “Software Engineering : A Practitioner’s Approach “ 7th Edition Mcgraw-Hill ISBN: 0073375977 - Hans - Erik Erikson and Magnus Penker - UML Toolkit 2	

2	Reference books	• Ivar Jacobson - Object-oriented Software Engineering • Grady Booch - Object Oriented Analysis and Design with Applications • Ian Sommerville “ Software Engineering” 9th edition Pearson Education ISBN-13: 978-0-13-703515-1
3	Websites	• https://www.ece.rutgers.edu/~marsic/books/SE/links/ • Software Engineering Lectures Easy Engineering Classes
4	Journals	• https://link.springer.com/journal/10270 • https://www.computer.org/csdl/journal/ts
5	Supplementary Reading	• https://www.javatpoint.com/software-engineering-tutorial • https://www.guru99.com/software-engineering-tutorial.html • https://www.tutorialspoint.com/software_engineering/
6	Practical Components	Case Studies on software design, modelling.

Semester	I	Total Credit	4
Course Code	MCA-102(P)	Credit Pattern	L-45, T-8, P-7
Course Title	Web Design and Development		
Course Objectives			
1	To understand the basics of the internet and web terminologies and develop the static web pages.		
2	To build dynamic web pages with validation using Java Script objects and by applying different event handling mechanisms.		
3.	To develop modern interactive web applications using HTML, CSS, JAVASCRIPT, PHP and MySQL.		
4	To know the usefulness of web services.		
Course Outcomes: The students will be able to			
1.	Describe the concepts of World Wide Web, and the requirements of effective web design.		
2.	Develop web pages using the HTML and CSS features with different layouts as per need of applications.		
3.	Understand the client side scripting by using JavaScript to develop the dynamic web pages.		
4.	Use server side scripting with PHP to generate the web pages dynamically using the database connectivity.		
Unit	Contents		Number of Sessions
1	Introduction to HTML and CSS: (15) Introduction To HTML, WWW, W3C, Common HTML, Tags Physical & Logical, Some basic tags like , changing background color of page, text color etc., Text formatting tags, Ordered & Unordered Lists Tags, Inserting image, Inserting Links: text, image links, Image mapping , Tables , Frames, Form Introduction with various input control - text box, text area, buttons, List box, radio, checkbox etc. Introduction to HTML5, HTML5 features and Elements: semantic tags, the selector API, new form input controls, improved accessibility Creating drop shadows and rounded corner CSS Introduction To Style sheet, types of style sheets- Inline, External, Embedded CSS, text formatting properties, CSS Border, margin properties, Positioning Use of classes in CSS, color properties, use of <div> and . CSS3 Specifications, CSS3 features selectors		L= 11
			T=2
2	Introduction to JavaScript: (15) Introduction to script, types, Intro of JavaScript, JavaScript identifiers, operators, control & Looping structure, Intro of Array, Array with methods, Math, String, Date Objects with methods User defined & Predefined functions, Working with Frames, Forms and Form elements and the associated events. Form validation, three types of dialog boxes: alert, prompt, confirm, JavaScript Regular Expression		L= 11
			T=2
3	Introduction to PHP: (15) Concept of PHP, Constants, variables declaration, Comments, Data types, Operators, Command line arguments, Conditional statements, If-else, Switch, Ternary operators, looping statements- For loop, While loop, Do-while loop, Creating arrays, Inserting elements in arrays, Retrieving elements from array, Displaying arrays, Sorting array elements		L= 11
			T=2
4	PHP and MySQL Connection: Introduction to Databases, Connecting to MySQL database, Creating database, Creating tables, Inserting values in table, displaying, changing, searching, deleting records from the table, SQL queries- insert, select, delete, update, where, order by		L= 11
			T=2

Learning Resources		
1	Text Books	1. Html and css: design and build websites, by jon duckett 2. Javascript and jquery: interactive front-end web development, by jon duckett 3. Learning web design: a beginner's guide to html, css, javascript, and web graphics, by jennifer niederst robbins
2	Reference books	1. M. Morris Mano, Computer System Architecture, Pearson, 3rd Edition 2. M. Morris Mano, Digital Logic and Computer Design, Prentice Hall 3. M. Morris Mano, Michael D. Ciletti, Digital Design, Prentice Hall, 4th Edition 4. J. P. Hayes, Computer Architecture & Organization, MGH, 3rd Edition 5. V. Rajaraman & Radhakrishnan, Introduction to Digital Computer Design, PHI 6. Pal Chaudhary, Computer Organization & Design, PHI, 3rd Edition
3	Websites	☐ www.Udemy.com ☐ www.Coursera.com ☐ www.W3Schools.com ☐ www.Tutorialspoint.com
4	Journals	☐ Wei Willy. Usability tool for analysis of web designs using mouse tracks ☐ Advances in Informatics. Springer; 2003 ☐ Design Studies
5	Supplementary Reading	☐ www.Lynda.com + LinkedIn Learning ☐ www. Codeacademy.com ☐ www.The Odin Project .com
6	Practical Components	Total 20 practical's based on Web Design and Development.

SEM		I	Total Credit	4
Course Code		MCA-03(P)	Credit Pattern	L-45, T-7, P-8
Course Title		PROGRAMMING WITH C		
Course Objectives				
1	To apply C programming fundamentals, including syntax, control structures, I/O operations, arrays and functions.			
2	To develop practical applications by integrating of variables, functions, and arrays showcasing adeptness in their effective utilization			
3.	To demonstrate pointers, strings, user defined data types and file handling techniques for data management and application development.			
4.	To illustrate the role of pointers, pre-processors, typedef in program design			
Course Outcomes: The students will be able to				
1.	Apply C programming fundamentals, including syntax, control structures, I/O operations, arrays and functions.			
2.	Develop practical applications by integrating of variables, functions, and arrays showcasing adeptness in their effective utilization.			
3.	Demonstrate pointers, strings, user defined data types and file handling techniques for data management and application development.			
4	Illustrate the role of pointers, pre-processors, typedef in program design			

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to C Programming Overview of C programming language, Setting up the development environment (compiler, IDE), C program structure, Basic syntax, data types, and variables, Input and output operations, Operators and expressions, Conditional statements, Loops	L= 10	
		T=1	P= 2
2	Arrays ad Functions Introduction to arrays and their manipulation, Declaring and accessing arrays, Multidimensional arrays, Defining and calling functions, Function prototypes and headers, Passing arguments: call by value vs. call by reference, Recursion and its applications	L= 11	
		T= 2	P= 2
3	Pointers, and Strings Introduction to pointers and memory addresses, Pointer declaration and initialization, Pointer arithmetic, Pointers and arrays, Dynamic Memory Allocation: malloc, calloc, realloc, and free functions, String manipulation functions, Working with character arrays and strings, Handling strings with pointers,	L= 12	
		T= 2	P= 2
4	Structures, File Handling, and Advanced Topics Structures and Unions, Nested structures and arrays within structures, File handling in C, File structure, File operations, Preprocessor directives, Enumerations and typedef, Bit manipulation, Function pointers, Command line arguments	L=12	
		T= 2	P= 2

Learning Resources

1	Text Books	- Schildt, H., (2017). C: The Complete Reference (4th ed.). McGraw Hill Education. - Kernighan, B. W., Ritchie, D.M., (2015). C Programming Language, Pearson
2	Reference books	- Kanetkar, Y.P., (2020). Let us C Solutions (17th ed.). BPB Publications. - Seacord, R., (2013). Secure Coding in C and C++ (2nd ed.). Addison-Wesley

		Professional.
3	Websites	• C Tutorial, https://www.tutorialspoint.com/cprogramming/index.htm • C Tutorial, https://www.w3schools.com/c/
4	Journals	• Vitek, J. ACM Transactions on Programming Languages and Systems. ISSN: 0164-0925. • Jaeschke, R. The Journal of C Language Translation. ISSN: 1042-5721.
5	Supplementary Reading	• C Programming Language Tutorial, https://www.javatpoint.com/c-programming-language-tutorial
6	Practical Components	• Code::Blocks https://www.codeblocks.org/ • Laboratory experiments on Programming basics, Arrays, Pointers, and Strings, Structure and Union, File Handling.

Semester	I	Total Credit	4
Course Code	MCA-104	Credit Pattern	L-48, T-12, P-0
Course Title	DESIGN AND ANALYSIS OF ALGORITHM		
Course Objectives			
1	To provide a foundation in algorithm design and analysis.		
2	Become familiar with fundamental data structures and with the manner in which these data structures can best be implemented; become accustomed to the description of algorithms in both functional and procedural styles.		
3	To develop problem solving abilities using mathematical theories.		
4	To apply algorithmic strategies while solving problems. Also expected to understand how to find out the time complexity of the algorithm.		
5	To study the important algorithmic design paradigms and methods of analysis.		
Course Outcomes: The students will be able to			
1	Demonstrate good principles of algorithm design.		
2	Examine the sorting and searching techniques		
3	Classify problems and analyze time and space complexities of algorithms		
4	Design algorithms to solve complex problems by applying design paradigms and graph algorithms		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Algorithms: Problem solving aspect, top down design, implementation of algorithm, the efficiency of algorithm analysis, analysis of Algorithm (Best-case, Worst-case, Average-case, Amortised analysis), time complexity and space complexity, O-notation, Omega notation and Theta notation.	L= 12	
		T= 3	P= 0
2	Fundamental and Graph Algorithms: Exchanging values of two variables, counting, summation of set of numbers, factorial computation, generation of Fibonacci sequence, reversing of the digits of an integer, base conversion, Generating prime numbers, raising number to a large power, finding maximum, minimum from the same, array techniques, array order reversal. Simple graph, Multistage graphs, Graph Coloring, Depth -First search, Depth -First search on directed graph, Breadth-First search , Best-First search, path finding problems, shortest path algorithm, topologicalsort	L= 12	
		T= 3	P= 0
3	Algorithm Design Paradigms: Recursive Algorithm design Methods: Tower of Hanoi problem , Algorithm Design Paradigms : Greedy method- knapsack problem, Minimum cost spanning tree algorithms (prims and kruskals), Divide and Conquer : General Strategy, Exponentiation, Matrix multiplication. Backtracking – n Queen problem, Hamiltonian circuit problem , Branch and Bound – assignment problem and Travelling Salesman problem, dynamic programming – general strategy, Matrix chain multiplication	L= 12	
		T= 3	P= 0
4	Sorting & Searching algorithms and Complexities : Sequential search, Binary Search, Hash search, Selection sort, Exchange sort, Insertion sort , Radix sort, Quick Sort and Merge Sort, Two ways merge ,Building Heaps and Heap sort.	L= 12	
		T= 3	P= 0

	Complexity and classification of Problems -: NP-HARD AND NP-COMPLETE PROBLEMS: Basic concepts, non-deterministic algorithms, NP-HARD and NP-COMPLETE classes.		

Learning Resources			
1	Text Books	• R.G. Dromey, "How to Solve it by Computers", Prentice- Hall of India, 1982 • Horowitz and Sahani, "Fundamentals of Computer Algorithms", Galgotia Publication, 2nd edition.	
2	Reference books	• T. H. Cormen, C. E. Leiserson, R. L. Rivest and C. Stein. "Introduction to Algorithms", Prentice – Hall of India, 2nd edition, 2002. • Weiss, Mark Allen, —"Data Structures and Algorithm Analysis in C", Addison Wesley, 2nd edition, 1999. • D.E Knuth, "Fundamental Algorithms", Narosa Publishing house, 2nd edition	
3	Websites	• https://www.guru99.com/design-analysis-algorithms-tutorial.html • https://nptel.ac.in/courses/106101060/ • http://openclassroom.stanford.edu/MainFolder/CoursePage.php?course=IntroToAlgorithms	
4	Journals	• IEEE Journal of Computing in Science & Engineering (https://ieeexplore.ieee.org/document/6664963) • Springer US :Algorithmica (https://link.springer.com/journal/453) • Science direct : Elsevier - journal of Algorithms (https://www.sciencedirect.com/journal/journal-of-algorithms)	
5	Supplementary Reading	Lecture Notes On Design And Analysis Of Algorithms B ... Lecture Notes For Algorithm Analysis And Design - Cselit Delhi	
6	Practical Components		

Semester	I	Total Credit	4
Course Code	MCA-105	Credit Pattern	L-48, T-0, P-12
Course Title	Statistical and Mathematical Application		
Course Objectives : Students will learn			
1	Basic methods of Discrete Mathematics and apply the basic methods of discrete mathematics in Computer Science, which are used in subsequent courses like Design and analysis of algorithms, Software engineering, Artificial Intelligence.		
2.	Topics like Propositional and Predicate Calculus that lays the base in imbedding logical reasoning in computer science.		
3.	Different measures and methods to do statistical analysis.		
4.	The fundamentals of combinatorics and how to apply it in problem solving		
Course Outcomes: After completion of this course the students will able to			
CO1	Analyze relations, construct and use functions and apply these concepts to solve problems.		
CO2	Design and analyze real world problems by applying set theory, propositional logic and predicate logic		
CO3	Demonstrate the basic knowledge of various measures of central tendency, dispersion and relationship between two variables.		
CO4	Apply and Calculate permutations and combinations for problem solving.		
Unit Number	Contents	Number of Sessions	
1	Set Theory, Relations and Functions: (15) Definition of Sets, Venn Diagrams, complements, Cartesian products, power sets, cardinality, operations on Sets, Basic set Identities, proofs of some general identities on sets ,Principle of Inclusion- exclusion. Relation: Definition, types of relation, composition of relations, domain and range of a relation, closure properties of relation, equivalence relations, Warshall’s algorithm, Pictorial and computer representation of relations. Function: Definition and types of function, inverse of a function, composition of functions, permutations and their properties.	L= 12	
		T=3	P= 0
2	Graph Theory and Logic: (15) Graph Theory: Graph terminology and representation, types of graphs, directed graph, weighted graph, representation of graph,(Adjacency Matrix and Incidence Matrix) ,Bipartite Graphs, Eulerian and Hamiltonian Graphs. Propositional logic: Proposition logic, basic logic, logical connectives, truth tables, Converse, Inverse and Contrapositive of a conditional statement, tautologies, contradiction, contingency, normal forms(conjunctive and disjunctive), Logical equivalence and Implications, predicate logic, universal and existential quantification. Theory of inference for Predicate calculus.	L= 12	
		T= 3	P= 0
3	Measures of Central Tendency: (15) Introduction, Objectives of statistical average, Requisites of a Good Average, Statistical Averages - Arithmetic Mean, Median and Mode	L= 12	

		Measures of Dispersion: Appropriate Situations for the Use of Various Averages, Mean deviation, Standard Deviation -Properties of standard deviation, Coefficient of Variation. Correlation: Karl Pearson's correlation coefficient. Algorithms to obtain each of these.	T= 3	P= 0
4		Permutation & Combination: (15) Basic Principle of Counting (BPC), Generalized BPC, Permutations and Combinations, Algorithms to generate permutations and Algorithms to compute number of combinations .Probability: Random experiment, sample space and classification of sample spaces, definition of probability, Properties,	L=12	
			T= 3	P= 0
Learning Resources				
1	Text Books	• Tremblay J.P. and Manohar, R:Discrete Mathematical Structures with applications to Computer Science.(McGraw-Hill book company) • Discrete Mathematical Structures – Bernard Kolman, Robert Busby, S.C. Ross and Nadeemur-Rehman (Pearson Education) • Statistical Computing (Statistics: A Series of Textbooks and Monographs) 1st Edition by Kennedy (Author) • Statistics and Computing S C Gupta, Fundamentals of Statistics • Discrete mathematics - Semyour Lipschutz, Marc Lipson (MGH), Schaum's outlines. • Discrete mathematics and its applications - Kenneth H. Rosen (AT&T Bell Labs) • Schaums solved problem series – Lipschutz • S. Santha, Discrete Mathematics with combinatorics and graph theory- CENGAGE Learning		
2	Reference books	• N D Vohra, Business Statistics, Tata McGraw Hill • G C Beri, Business Statistics, Tata McGraw Hill • Probability and Statistics for Computer Scientists- The Complete Idiot's Guide to Statistics, 2nd Edition by— Robert A. Donnelly Jr. Ph.D. • An Introduction to Statistical Learning: by— Gareth James, Daniela Witten, Trevor Hastie, Robert Tibshirani.		
3	Websites	• https://nptel.ac.in/courses/106106094 • https://www.coursera.org/specializations/discrete-mathematics • https://stats.idre.ucla.edu/ • www.stattrek.com • www.statisticsbyjim.com		
4	Journals	Hindawi Journal of Discrete Mathematics Elsevier – Discrete Mathematics statistics and Computing Journal of Statistical Computation and Simulation A Course in Discrete Structures - Cornell Computer Science		
5	Supplementary Reading	Notes on Discrete Mathematics - Computer Science Numerical Issues in Statistical Computing for the Social Scientist Glyn Davis & Branko Pecar, Business Statistics Using Excel, Oxford University Press.		
6	Practical Components	Analyzing collected raw data or online available data. Finding relations among two or more variables and fitting regression Components equation to predict value of dependent variables		

Semester	I	Total Credit	4
Course Code	MCA-106	Credit Pattern	L-48, T-9, P-3
Course Title	RESEARCH METHODOLOGY		
Course Objectives			
1	Conceptualise a topic of interest and need to define a problem to be investigated		
2	Analyze Research Methodologies for Application		
3.	Order and Synthesize Data from Various Sources		
4.	Apply Research Methodology in Their Own Research		
5	Develop the ability to present information concisely, with clarity and relevance, using appropriate conventions for different contexts.		
Course Outcomes: The students will be able to			
1.	Comprehend and apply knowledge in understanding Research Methodologies and Ethics.		
2.	Analyze and apply the Qualitative Research Methodologies		
3.	Evaluate and critically analyze Advanced Quantitative Research		
4	Synthesize and Report various methods in Research		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	I The Research Process & Ethics Empiricism, Deductive & Inductive Inquiry ,Philosophical Assumptions in Research ,Planning Research Project and Developing Research Questions: - Research thought, Importance, Supervisor, Managing Time and Resources, Developing Research Question; Research Designs: -Reliability, Replicability and Validity , Experimental Design, Cross – Sectional Design, Case Study Design, Comparative Design ;Reviewing the Literature for Research -Reading Critically, Systematic Review, Narrative Review, Searching Online Databases, Keywords and Defining Search Parameters, Referencing, Avoiding Plagiarism The importance of research ethics, ethical principles, safety in research, avoidance of harm, ethical considerations in a student research project, maintaining anonymity in a student research project, privacy, preventing deception, reciprocity and trust, affiliation and conflict of interest, visual methods and research ethics, ethical considerations in online research, copyright issues, copyright and photographs	L= 8	
		T=3	P= 0
2	II The nature of Qualitative Research : The main steps in Qualitative research ,Concepts & their measurements-Reliability, Evaluating,Credibility, Transferability, Dependability, Confirmability, Preoccupations,Concepts and Theory grounded in data,Contrasts and Similarities between Qualitative Research.; Sampling in Qualitative Research - :Levels of Sampling, Purposive Sampling, Theoretical Sampling, Generic Purposive Sampling, Snowball Sampling, Sample Size Determination. Ethnography and Participants Observations: - Organizational Ethnography, Role of Ethnographers, Active/ Passive, Shadowing, Field notes & field notes, Ethnographic fieldwork, Feminist Ethnography, Global and Multi Site Ethnography, Virtual Ethnography, Visual Ethnography, writing ethnography, Realist tales Interviewing in Qualitative Research: -Structured interview & Types of	L= 12	

	interviews, Interview contexts & conducting interviews, recording & Transcription. Pros & Cons of Qualitative interviews. Pros & cons of Qualitative interviews; Focus Groups: - Process of Focus Groups Interviews & selection of Group, Framing the interactions, Focus Group as an Emancipatory method, Limitations of Focus Groups. ; Qualitative Data Analysis: - Thematic Analysis, Grounded Theory, Tools and outcomes of Grounded Theory, Criticism of Grounded Theory, First and Second Order Analysis, Coding, Steps and Considerations in Coding, Turning Data into Fragments, Critique of Coding, Secondary analysis of Qualitative data	T=3	P= 0
3	III . Introduction to Quantitative Research: - Steps in Quantitative Research, Concepts and Measurements, Reliability & Validity of measures, Main Preoccupations, The critique of quantitative research ; Sampling in Quantitative Research: - Planning a survey, Basic concepts in sampling, Types of Probability sample, qualities of probability sample, absolute and relative sample size, Types of Non-Probability Sample, limits and generalization, sampling issues for online surveys Structured Interviewing, interview contexts, conducting interviews, leaving the interview, training the supervision, Other approaches to structured interviewing, Problems with structured interviewing, Asking Questions, types of questions, advantages and disadvantages,, specific rules when designing questions, common mistakes .Self – Completion of Questionnaires-different kinds of self-completion, Questionnaires, Evaluation of this in relation to structured interview, designing self-completion questionnaire, Email & online surveys, comparing modes of surveys administration & diaries Quantitative Research using Naturally Occurring Data: - Structured observation, observation schedule, strategies for observing behavior, issues of reliability and validity, criticism of structured observation, content analysis, research questions, Selecting sample content analysis, Coding content analysis, advantages & disadvantages in content analysis Quantitative data Analysis: - Small Research Project, Missing data, types of variables, univariate analysis, Bivariate Analysis, Multivariate Analysis, Statistical Significance & comparing means and statistical significance SPSS (Statistical Package for Social Sciences) Statistics: - Basic operations in SPSS, data analysis with SPSS, generating frequency tables, boxplot & charts, Descriptive statistics, generating contingency table- chi-square, and Cramer's V, generating Pearson's r and Spearman's rho, generating scatter diagrams, generating a contingency table with three variables, Saving your data, retrieving your data, printing output	L= 16	
		T=0	P= 3
4	IV . Mixed Method Research: Breaking down the Quantitative and Qualitative Research: - Natural Science model and qualitative research, quantitative research and interpretivism, quantitative research and constructionism, Epistemological and ontological considerations, Problems with quantitative / qualitative contrast, Reciprocal Analysis, Qualification in Qualitative Research – Thematic Analysis, Quasi -quantification in qualitative research, combating anecdotalism through limited quantification, Combining Quantitative and Qualitative Research - arguments against mixed method research, the rise of mixed method research, classifying mixed methods research in terms of priority and sequence, different types	L=12	
		T=3	P= 0

	of mixed methods design, approaches to mixed methods research, the logic of triangulation, static and procedural features, research issues and participants' perspectives, the problem of generality, interpreting the relationship between variables, different aspects of a phenomenon, quality Issues in Mixed Method Research Writing up Research Project: Writing academically, writing up your research – start early, be persuasive, get feedback, avoid discriminatory language, constructing an argument (Chaptalization of Research Project / Dissertation / Master Thesis), Structure your writing – Title page, Acknowledgements, list of contents, Abstract with keywords, Introduction, Literature Review, Research Methods, Results, Discussion, Conclusion, Recommendations, Further Studies, Future Scope of Research, The challenges and constraints of length, Appendices, References, Bibliography, Proofreading your dissertation, writing up quantitative and qualitative research (Quantitative Research) – Introduction, Role of congruity Theory, Goals of the Present Study, Methods, Results, Discussion, Lessons, (Qualitative Research) – Introduction, Methodology, Research Findings, Discussion, Summary and conclusion, Recommendations, Further Studies, Future scope of the research, lessons, Reflexivity and its implications for writing, Writing differently		

Learning Resources			
1	Text Books	- Bell, E., Bryman, A. & Harley, B. (2019), 2nd Ed., Business Research Methods, Oxford University Press, New Delhi, India - Kothari, C. R. & Garg, G., (2019), 4th Ed., Research Methodology – Methods and Techniques, New Age International Publishers, New Delhi, India	
2	Reference books	- Creswell, J.W., (2014), 3rd Edition, Research Design, Qualitative, Quantitative and Mixed Methods Approaches, Sage Publication, New Delhi, India - Copper, D. R. & Schindler, P. S., (2011), 9th Ed., Business Research Methods, Tata McGraw Hill, New Delhi, India - Hair Jr., J. F., Black, W.C., Babin, B.J. & Anderson, R.E., (2010), 7th Edition, Multivariate Data Analysis, Prentice Hall, NJ, USA - Malhotra, N.K. & Das, S., (2019), 7th Ed., (Revised), Marketing Research – An Applied Orientation, Pearson Education, New Delhi, India	
3	Websites	"Types of Research Methodology" . [Online]. Available at: https://eduvoice.in/types-research-methodology/#0-what-is-research (Accessed: 4 July 2023) - QuestionPro . Qualitative Research Methods. [Online]. Available at: https://www.questionpro.com/blog/qualitative-research-methods/ (Accessed: 4 July 2023). - QuestionPro . Quantitative Research. [Online]. Available at: https://www.questionpro.com/blog/quantitative-research/ (Accessed: 4 July 2023). - Harvard Catalyst . Community Engagement: Mixed Methods Research. [Online]. Available at: https://catalyst.harvard.edu/community-engagement/mmr/ (Accessed: 4 July 2023). "SPSS Tutorials" . [Online]. Available at: https://www.spss-tutorials.com/ (Accessed: 4 July 2023).	
4	Journal Articles	- Rahman, A. & Muktadir, M.G. (2021). "SPSS: An Imperative Quantitative Data Analysis Tool for Social Science Research." International Journal of Research in Social Sciences (IJRISS), V. 300-302. DOI: 10.47772/IJRISS.2021.51012. - Rahman, A. and Muktadir, M.G. (2021). "SPSS: An Imperative Quantitative Data Analysis Tool for Social Science Research." International Journal of Research and Innovation in Social Science (IJRISS), Volume V, Issue X, October 2021, pp. 300. ISSN 2454-6186. Available at: www.rsisinternational.org. - Aspers, P. and Corte, U. (2019). "What is Qualitative in Qualitative Research." Qualitative Sociology, 42(2), 139-160. doi: 10.1007/s11133-019-9413-7. PMID: 31105362; PMCID: PMC6494783.	

5	Supplementary Reading	• Sage Journals (2023). [Online]. Available at: http://qrj.sagepub.com (Accessed: 4 July 2023). • MIT Press Journals (2023.). Quantitative Science Studies. [Online]. Available at: https://direct.mit.edu/qss (Accessed: 4 July 2023). • Smith, J. (2021). Research Methods and Techniques. [Online]. Available at: https://stjosephs.edu.in/upload/seminars_workshop_conference/5ce2422796dff219fc73b614b6b4a48e.pdf (Accessed: 4 July 2023). • https://www.emerald.com/insight/publication/issn/1443-9883
6	Practical Components	• SPSS tutorials: https://www.spss-tutorials.com/ • SPSS Basics: https://www.javatpoint.com/spss • SPSSexamples:https://www.ibm.com/docs/SSLVMB_25.0.0/pdf/en/IBM_SPSS_Statistics_Brief_Guide.pdf

Semester	II	Total Credit	4
Course Code	MCA-201	Credit Pattern	L-48, T-12, P-0
Course Title	COMPUTER ARCHITECTURE AND OPERATING SYSTEM		
Course Objectives			
1	To understand and learn digital circuit design		
2	To explore the design of the various functional units and components of Digital Computers.		
3	To provide solid foundation of operating systems concepts as processes, threads, files, semaphores, IPC , shared memory regions, etc.		
4	To get in-depth knowledge of process, memory, File System management and learn the different process scheduling, memory management, disk scheduling algorithms		
Course Outcomes: The students will be able to			
1	Design combinational logic circuits using basic gates and Implement Boolean functions using combinational circuits and sequential circuits.		
2	Analyze the principles of computer architecture concepts related to design of processors, memories and I/Os examples drawn from commercially available computers.		
3.	Explain the details the of OS structure ,its functioning and fundamental components and critically evaluate problems related to process scheduling		
4.	Solve and Analyze the problems related to process synchronization, deadlocks, memory management, file and disk management		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Boolean Algebra and Logic Circuits Boolean Algebra: Binary Logic, Logic Gates, Postulates of Boolean Algebra, Boolean Function, Algebraic Simplification, Karnaugh Maps Combinational Circuits: Half Adder, Full Adder, Decoder, Encoder, Multiplexer, Sequential Circuits: Flip Flops - SR, D and JK, Registers, Counters	L= 12	
		T= 3	P= 0
2	Computer Organization Memory Organization: Memory Hierarchy, Main Memory, Auxiliary Memory, Associative Memory, Cache Memory, Virtual Memory CPU Organization: CPU Building Blocks, Registers, Addressing Modes, Instruction Sets Control Organization: Micro Programmed Control, Micro Instructions, Micro Operation, Address Sequencing Input-Output Processing: Input/ Output Devices, Input-Output Interface, Modes of Transfer	L= 12	
		T= 3	P= 0
3	Operating System Concepts Definition of Operating System, Operating system structures, Process Concept, Process scheduling, inter-process, communication, and threads overview. CPU Scheduling: Scheduling and Criteria,	L= 12	

	Scheduling Algorithms, performance evaluation of scheduling algorithm. Process Synchronization: The critical–Section problem, synchronization hardware, and semaphore, classic problems of synchronization(Producer consumer problem) critical regions. Deadlock: System Model, Deadlock Characterization, Resource-Allocation Graph, Methods for Handling Deadlock, Deadlock Prevention, Deadlock Avoidance (Bankers Algorithm), Deadlock Detection.	T= 3	P= 0
4	Memory Management, File Systems, Disk Management Memory Management: Concept, Memory Management Techniques, Swapping, Contiguous Memory Allocation, Memory Protection, Memory Allocation, Fragmentation, Paging, Basic Method, Segmentation with Paging, Virtual Memory Concept, Demand Paging, Page Replacement algorithm . File systems: File Naming, File Structure, file types, File access, Directory : directory structure, operations, File layout, File systems implementation (Contiguous, linked list, I-node). Disk Structure, Disk scheduling, FCFS Scheduling, SSTF Scheduling, SCAN, CSCAN, Selection of Disk Scheduling Algorithm,	L= 12	
		T= 3	P= 0

Learning Resources		
1	Text Books	• M. Morris Mano, Computer System Architecture, Pearson, 3rd Edition • M. Morris Mano, Digital Logic and Computer Design, Prentice Hall • Andrew S. Tanenbaum, —Modern Operating Systems , Prentice Hall of India, 2 nd Ed. 2006 • AchyutGodbole, —Operating System , Tata McGraw Hill,3rd Ed.2013
2	Reference books	• J. P. Hayes, Computer Architecture & Organization, MGH, 3rd Edition • Pal Chaudhary, Computer Organization & Design, PHI, 3rd Edition • William Stallings, Computer Organization and Architecture: Designing for Performance, PHI, 7th Edition • Abraham Siberschatz, Peter Galvin Operating Systems: Concepts - Willey- Sixth edition. • D.M. Dhamdhare, System Programming and Operating Systems -TMH – SecondEdition. • William Stallings,Operating Systems: Internals and Design Principles, Seventh Edition, Pearson Publications • Madnick and Donovan , Operating Systems -Tata McGraw-Hill Education
3	Websites	• https://www.studytonight.com/computer-architecture/ • https://www.tutorialspoint.com/computer_organization/index.asp • https://www.geeksforgeeks.org/introduction-of-operating-system-set-1/ • https://www.javatpoint.com/os-tutorial • https://nptel.ac.in/courses/106/105/106105214/
4	Journals	• IEEE Computer Architecture Letters ISSN: 1556-6056 • ACM SIGARCH Computer Architecture News ISSN:0163-5964 • Journal of Operating Systems Development & Trends http://stmjournals.com/Journal-of-Operating-Systems-development-and-Trends.html eISSN: 2454–9355
5	Supplementary Reading	• Study Material of Web Course Developed for NPTEL , Computer Organization and Architecture, https://nptel.ac.in/courses/106103068/pdf/coa.pdf • Study material on operating system ,https://www.cse.iitb.ac.in/~mythili/os/
6	Practical	• Virtual Labs - Digital Electronic Circuits http://vlabs.iitkgp.ernet.in/dec/

	Components		
Semester	II	Total Credit	4
Course Code	MCA-202(P)	Credit Pattern	L-45, T-8, P-7
Course Title	.Net Programming		
Course Objectives			
1	To explore the knowledge on different types of applications of .net		
2	To know about the design methodologies with concentration on object oriented concepts.		
3.	Giving the students a complete knowledge on .net framework and .net environment.		
4	To provide the knowledge on developing internet applications and how to design and implement complete applications over the web using web form and MVC technology.		
	Giving the students a quick review on web servers, client side programming, server side programming and various web technologies.		
Course Outcomes: The students will able to			
1.	Comprehend and apply knowledge in understanding the.Net framework		
2.	Comprehend & apply the basics and programming constructs of C#		
3.	Analyse & Apply the Database Access to build the dynamic applications.		
	Design & development of Dynamic Web Applications using ASP.net & C#		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Overview of .net framework: (15) Overview of .NET binaries and .NET architecture. The role of MSIL and metadata. Understanding CLR, CTS and CLS, .NET base classes, Assemblies- Components of Assembly, Private and Shared Assembly, Visual Studio .NET IDE	L= 12	
		T=3	P= 1
2	C# Programming: (15) C# Programming constructs, C# looping and Conditional constructs, Primitive types, operators and expressions, C# object oriented concepts, Object lifecycle, Initializer, Constructor, Garbage Collector, Interface, Inheritance, polymorphism, properties, Delegates, events, Exception handling in C#	L= 12	
		T= 3	P= 2
3	ADO.net: (15) ADO.net fundamentals, ADO.net architecture, Connection class, Command class, Data Reader class, Transactions, Data components and Data Set, Disconnected Data, Data Bindings.	L= 12	
		T= 3	P= 2
4	ASP.net web forms: (15) Introduction, Request processing pipeline, page life cycle, ASP.net server controls- button, Textbox, Labels, checkbox, Radio Button, list and other web server controls, web.config and global. Sax, Validation controls: Introduction, basic validation controls, Navigation controls, State management- Using view state, session state, application state, cache management, Master page- Creating master page, content pages, accessing master page controls from content page files.	L=12	
		T= 3	P= 2

Learning Resources		
1	Text Books	1. ASP.NET 4.0 programming, J. Kajilal, Tata McGaw-Hill 2. Programming ASP.net, D. Esposito, Microsoft Press (Dreamtech), Reprint 2011. 3. Visual C#.NET, Vijay Nicoel, TMH 4. ASP.NET projects- Building 10 Enterprise Projects- Eric A. Smith 5. C#.Net Developers Guide- Greg Hack, Jason Werry, SaurabhNandu. (SyngRess)
2	Reference books	1. Beginning Visual C#2010, K. Watson, C. Nagel, J.H. Pedersen, J.D. Reid, M. Skinner, Wrox (Wiley)2010 2. Murach's ASP.NET 4 Web Programming with C# 2010, 4th Edition, Anne Boehm, Joel Murach, SPD. 3. Beginning ASP.NET 4 in C# and VB, I. Spanjaars, Reprint 2011 4. Addison Wesley –C# Developers Guide to ASP.Net
3	Websites	• https://www.tutorialspoint.com/vb.net/index.htm • https://www.guru99.com/asp-net-tutorial.html • https://stackify.com/learn-asp-net-tutorials/
4	Journals	• Science of Computer Programming-Methods of Software Design: Techniques and Applications • Programming and Computer Software • Journal of Global Research in Computer Science
5	Supplementary Reading	• https://visualstudio.microsoft.com/vs/features/net-development/ • https://dotnet.microsoft.com/learn • https://www.journals.elsevier.com/science-of-computer-programming
6	Practical Components	• List of experiments to be executed during laboratory hours

Semester	II	Total Credit	4
Course Code	MCA 203	Credit Pattern	L-45, T-7, P-8
Course Title	Java Programming		
Course Objectives			
1	To provide a student with the solid foundation of the syntax and semantics of java Programming and object-oriented concepts in Java.		
2	To familiarize the student to the application of Exception Handling mechanism in Java application		
3	To familiarize the student to the development of console-based and event handling applications in Java		
4	To demonstrate use of multi-threaded application development in Java.		
5	To demonstrate interfacing Java application with various Database Management Systems.		
Course Outcomes: Students will be able to			
1	Demonstrate object oriented concepts using java programming and explore collection and utility java API		
2	Design and develop console based application, accessing command-line arguments, java applications employing streams, multithreading and exception handling mechanism in Java.		
3	Experiment with different types of JDBC drivers for connecting and accessing data from different database, networked applications in both connection-oriented and connectionless architecture in Java.		
4	To build applications using Java FX and Java 8 features		

Unit Number	Contents	Number of Sessions	
1	OOPS and Exception Handling in JAVA Objects and classes, Inheritance, Interfaces, inner classes, Packages. Introduction to Java Utility classes and collection classes - Date, DateFormat and Gregorian Calendar classes. Using List Interface, List Iterator and LinkedList classes. Set, Iterator, SortedSet, Map interfaces. HashSet class. Using Vector class, stacks, queues, HashTable. Generating random numbers, Property class. Exception Handling: Exception class hierarchy, Exception Vs Error, try, catch, throw, throws, finally, checked Vs unchecked exceptions, creating custom exception classes. Java Reflection, Internationalization	L= 12	
		T= 2	P= 2
2	I/O Streams and Multi threading in Java Significance of streams, various types of Input & Output streams, accessing the file through streams, object serialization. Random Access File. Difference between multi tasking and multi threading, Need for multi threading, thread states and priorities, suspending and resuming threads, synchronization between threads. Inter thread communication and dead locks.	L= 11	
		T= 2	P= 2
3	Java Database Connectivity and Networking in Java JDBC overview , JDBC Architecture , Types of JDBC Drivers, DriverManager class, database connection statements , Resultset, transaction, Metadata and Aggregate functions , callable statements, Connection to various back ends Connectionless and Connection-oriented architectures, Client and Server programming, Socket, DatagramSocket and DatagramPacket classes, IP address classes. InetAddress, URL and URLConnection classes.	L= 11	
		T= 2	P=2
4	Java FX and Java 8 Programming features Introduction to Java FX, Java 8 programming language enhancement : Lambda expressions, Method references, Functional interfaces, Stream API, Default methods, Base64 Encode Decode, Static methods in interface, Optional class, Collectors class, ForEach() method, Parallel array sorting, Nashorn JavaScript Engine, Parallel Array Sorting, Type and Repeating Annotations, IO Enhancements, Concurrency Enhancements, JDBC Enhancements etc.	L= 11	
		T= 1	P= 2

Learning Resources		
1	Text Books	1. Java Complete Reference by Patric Norton 2. Java 8 Programming Black Book 3. Core Java Vol. I (Addison- Wesley) Sun Press ISBN – 981-405-861-0 4. Core Java Vol. II (Addison- Wesley) Sun Press ISBN – 981-4058-50-5 5. Java in a Nutshell, By Benjamin J Evans, David Flanagan, O'Reilly Media
2	Reference books	1. Thinking in Java, Bruce Eckel,, Addison – Wesley, ISBN: 9814035750 2. Java 2 Programming Black Book by Steven Holzner, Dream Tech Publication 3. A Programmer's Guide to Java SCJP Certification: A Comprehensive Primer By Khalid Azim Mughal, Rolf Rasmussen 4. Inside Java 2 Virtual Machine by Venners Bill, Mcgraw Hill Education 5. Learning Java by Jonathan Knudsen, Patrick Niemeyer, O'Reilly Media.
3	Websites	https://www.w3schools.com/java/default.asp https://www.tutorialspoint.com/java/index.htm https://www.javatpoint.com/java-tutorial https://beginnersbook.com/java-tutorial-for-beginners-with-examples/ https://www.studytonight.com/java/ https://www.guru99.com/java-tutorial.html
4	Journals	Java Development Journal - www.javadevjournals.com https://www.journaldev.com/ https://ieeexplore.ieee.org/document/714612
5	Practical Component	Practical lab exercises based on Units I to IV

Semester	II	Total Credit	4
Course Code	MCA-204	Credit Pattern	L-48, T-12, P-0
Course Title	Relational Database Management System		
Course Objectives			
1	To understand the design of Database aspects and to understand various Data Modeling concepts for better database design.		
2	Also to know various Phases involved in building simple well structured database(s).		
Course Outcomes			
After completion of this course the student will be able to:			
1	Assess the Database Concepts, design of Database aspects and to understand various Data Modeling concepts for better database design, Concurrency Control and Backup and Recovery Techniques.		
2	Evaluate various Data Modelling Techniques, Phases involved in building simple well-structured database(s), Transaction Control Management and Backup and Recovery Methods.		
3	Assess database normalization phases for well structured database design.		
4	Analyze and evaluate database recovery and backup methods for ensuring database security.		
Unit Number	Contents		
1	Database Systems Concepts And Architecture: (15) Introduction and definition of , data, Information & Database, Advantages, schemas and instance; three-schema architecture and data independence; the database system environment; centralized and client/server architecture of DBMSs.		
2	Data Modeling : (15) Meaning & Concept, High- level conceptual data models for database design; Entity types, entity sets, attributes and keys; relationship types, relationship sets, ER diagrams, Hierarchical Data Model(HDM), Network Data Model (NDM), The Relational Data Model and Relational Database Constraints; Relational model concepts; Relational Database Design .		
3	The Relational Algebra And Relational Calculus Unary relational operations: (15) SELECT and PROJECT; relational algebra operations from set theory; Normalization: Meaning & Functional Dependencies And Normalization ForRelational Databases: functional dependencies; normal forms based on primarykeys-1NF with example; general definitions of 2nd and 3rd normal forms; Boyce-Codd normal (BCNF)forms, 4 Normal Form.		
4	Transaction Processing Concepts & Database Recovery: (15) Introduction to transaction processing; Transaction Problems, Locking techniques, characteristics schedule based on serializability. Two phase locking techniques for concurrency control; concurrency control based on timestamp ordering; Database Recovery Techniques: Recovery concepts; Techniques ; Introduction SQL, Components DML, DDL, DCL with queries.		

Learning Resources

1	References	1. C.J. Date, “ An introduction to database systems”, (3rd edNarosa publishers, 1985), 1997(reprint) 2. Ullman, ”Principles of database systems”, (2nd ed. Galgotia, 1984). 3. D. Kroenke, “ Database Processing”, (Galgotia, 1987) 4. Naveen Prakash, Introduction to database management”, TMH, 1993. 5. Bobrowski, “ client server architecture and introduction to oracle 7”, 19
2	Text Books	1. Fundamentals of Database Systems RamezElmasri and Shamkant B. Navathe, Pearsoneducation. 2. Database Concepts, Abraham Silberschatz, Henry F Korth, S.Sudarshan, McGraw-Hill
3	Website	www.oracle/appalication

Semester	II	Total Credit	4
Course Code	MCA-205	Credit Pattern	L-48, T-12, P-0
Course Title	COMPUTER NETWORKS		

Course Objectives	
1	To explain the TCP/IP Service model, core and edge of computer networks, and delays in packet-switched networks.
2	To demonstrate various internet applications and corresponding protocols.
3.	To interpret multiplexing and demultiplexing techniques of the transport layer.
4	To analyze multiple access problem and protocols.

Course Outcomes: The students will able to	
1.	Explain the TCP/IP Service model, core and edge of computer networks, and delays in packet-switched networks.
2.	Demonstrate various internet applications and corresponding protocols.
3.	Interpret multiplexing and demultiplexing techniques of the transport layer.
4.	Analyze multiple access problem and protocols.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Computer Networks & Internet: Introduction, Protocol, Network Core – Circuit Switching and Packet Switching, Network Edge – Connection oriented and Connection less Services, Access Network and Physical Media, Delay and Loss in Packet Switched Network, Protocol Layers and their Service Models, ISP's	L= 12	
		T=3	P= 0
2	Network Applications and Application Layer: Introduction, Principles of Network Applications, Process communication, Application Layer Protocols, The World Wide Web and HTTP – Connections, Message Formats , Cookies, Web Cache, File Transfer and FTP – Connections, Commands, Electronic Mail – Mail Servers, SMTP, Message Format, Mail Access Protocols, Domain Name System, Socket programming	L= 12	
		T= 3	P= 0
3	Transport Layer and Network Layer: Introduction, Transport Layer Services, Protocols, Multiplexing and Demultiplexing, Connectionless Transport: UDP, Checksum, Principles of Reliable Data Transfer, RDT Protocols, Go-Back-N, Selective Repeat, Connection Oriented Transport: TCP, Flow Control, Connection Management, Datagram Networks, Forwarding Table, Router Architecture, Internet Protocol, IP Datagram Format, Routing Algorithms, Routing in the Internet, IPv6, Broadcast and Multicast	L= 12	
		T= 3	P= 0
4	Data Link Layer and Wireless Network: Introduction, Data Link Layer Services, Adaptors Communicating, Error Detection and Correction, Cyclic Redundancy Check, Multiple Access Links and Protocols - Channel Partitioning, Random Access, Taking Turns, LAN Technologies, Link Layer Addressing, Ethernet, Switches, Introduction to Wireless Network, WiFi	L=12	
		T= 3	P= 0

Learning Resources		
1	Text Books	- Kurose, J.F. & Ross, K.W., (2017). Computer Networking: A Top Down Approach (7th ed.). Pearson Education. - Tanenbaum, A.S., (2021). Computer Networks (6th ed.). Prentice Hall of India Pvt. Ltd.
2	Reference books	- Douglas, E.C., (2014). Computer Network and Internets with Internet Applications (6th ed.). Pearson Education Inc. - Uyless, B., (2015). Computer Networks Protocols, Standards and Interfaces (3rd ed.). Prentice Hall of India Pvt, Ltd.
3	Websites	- Computer Networks Tutorial, https://www.studytonight.com/computer-networks/ - Computer Network Tutorial, https://www.javatpoint.com/computer-network-tutorial - Data Communication & Computer Network, https://www.tutorialspoint.com/data_communication_computer_network/index.htm
4	Journals	- The International Journal of Computer and Telecommunications Networking, Elsevier Publishing, ISSN: 1389-1286 - Journal of Computer Networks and Communications, Hindawi Publishing, ISSN: 2090-7141 - Computer Networks, ScienceDirect, ISSN 1389-1286
5	Supplementary Reading	Web Course Developed for NPTEL, Computer Networks and Internet Protocol, https://nptel.ac.in/courses/106/105/106105183/#
6	Practical Components	NS-3 Network Simulator, https://www.nsnam.org/

Semester	II	Total Credit	4
Course Code	MCA-206	Credit Pattern	L-48, T-12, P-0
Course Title	Advanced Web Technologies		
Course Objectives			
1	To introduce a student to advanced trends in web technology.		
2	To enable the student to design and develop Rich Internet Applications (RIA)		
3	To understand the role of jQuery, AJAX and JSON in reducing the development time of web application.		
4	To understand the concept of responsive sites and role of Bootstrap technology in designing reponsive sites.		
Course outcomes : After completion of course student will			
1	be able to apply advanced techniques in HTML5 and CSS3 to create modern, interactive, and visually appealing web pages, while critically analyzing their features and functionalities to make informed design decisions.		
2	be able to analyze advanced concepts and methodologies in jQuery, effectively applying them to design, develop, and optimize interactive and dynamic web applications, while critically evaluating their effectiveness and appropriateness in real-world scenarios.		
3	be able to proficiently apply AJAX and JSON technologies to develop efficient and responsive web applications by critically evaluating AJAX's blending of technologies and JSON's syntax to enhance user experiences with jQuery and AJAX integration.		
4	be adeptly employ Bootstrap to design responsive web applications, leveraging its environment setup, grid system, and layout components for efficient interface creation in optimizing web development workflows.		
Unit Number	Contents		Number of Sessions
1	Introduction to HTML5, New Features of HTML5, New Elements in HTML5, New Markup Elements, New Form Elements, New Input Type Attribute Values, HTML5 Input Types: Input Type – email, Input Type – url, Input Type – number, Input Type – range, Input Type - Date Pickers, Input Type – search, Input Type – color, HTML5 Form Elements and Attribute Audio, Video and Canvas: Audio on the Web, Audio Formats, How It Works, All<audio> Attributes, Video on the Web, Video Formats, How It Works, All <video> Attributes, HTML5 Canvas, What is Canvas? Create a Canvas Element, Draw With JavaScript, Understanding Coordinates, More Canvas Examples CSS3 Introduction, Features, CSS3 Border, Rounded Corner, color, Multi background, Gradients, Text, Drop Shadow, 2D & 3D transform, Multi column layout, Animations, Transitions, Box Sizing, CSS3 User Interface, Flexbox, Filters.		L= 12
			T=3 P= 0
2	Introduction, Features of jQuery library, jQuery Basics, jQuery Selectors, JQuery Events Methods and their Syntaxes, jQuery Effects: Fading, Sliding, Animation, Hide and Show, Stop, Chaining, jQuery DOM manipulation methods: get & set content: text(), html(), attr() and val(), jQuery CSS selector methods, jQuery Traversing, jQuery - AJAX: Introduction, load(), get() and post() Methods.		L= 12
			T= 3 P= 0
3	AJAX and JSON		L= 12

	Introduction to AJAX – Blending of technologies in AJAX. Working of AJAX, Difference between Full postback and partial postbacks, AJAX request and response, Asynchronous request, Role of Javascript, DOM, XML in processing AJAX request, XMLHttpRequest object, AJAX database operations, AJAX Security, using jQuery with AJAX control toolkit. Introduction to JSON. JSON syntax, JSON data types, JSON arrays and objects, JSON schema, comparison of JSON with XML. Using JSON in PHP. AJAX JSON example.	T= 3	P= 0
4	Bootstrap Technology Overview of Bootstrap. Environment setup. Bootstrap with CSS, Bootstrap container, Bootstrap grid, Bootstrap tables, forms, Buttons, images, Bootstrap layout components, Bootstrap plugins – modal plugin, dropdown plugin, tab plugin, popover plugin, alert plugin, collapse plugin. Bootstrap Navbar. Twitter Bootstrap, Bootstrap studio.	L=12	
		T= 3	P= 0
Learning Resources			
1	Text Books	HTML and CSS: Design and Build Websites by Jon Duckett jQuery Cookbook: Solutions & Examples for jQuery Developers by Cody Lindley	
2	Reference books	Head First HTML and CSS: A Learner’s Guide to Creating Standards-Based Web Pages – by Elisabeth Robson & Eric Freeman, O Reilly Publications Learning Web Design: A Beginner’s Guide to HTML, CSS, JavaScript, and Web Graphics – by Jennifer Robins, O Reilly Publications Responsive Web Design with HTML5 and CSS: Develop future-proof responsive websites using the latest HTML5 and CSS techniques – by Ben Frain, Packt Publisher Head First jQuery: A Brain-Friendly Guide (Brain-Friendly Guides), Ryan Benedetti, O’Rielly Publication Ajax: The Definitive Guide: Interactive Applications for the Web by Anthony T. Holdener, O’Rielly Publication	
3	Websites	https://www.tutorialspoint.com/html5/index.htm https://www.tutorialspoint.com/css/css3_tutorial.htm https://www.tutorialspoint.com/ajax/index.htm https://www.tutorialspoint.com/jquery/index.htm https://www.tutorialspoint.com/json/index.htm https://www.tutorialspoint.com/bootstrap/index.htm	
4	Journals	<u>International Journal of Web Technology (IJWT)</u> Print ISSN:2278-2389 <u>International Journal of Web Engineering and Technology, ISSN online 1741-9212, ISSN print 1476-1289</u> <u>International Journal of Web and Semantic Technology, e-ISSN 0975 - 9026, 0976 – 2280 (Print)</u> <u>Journal of Internet Technology, ISSN 1607-9264</u> <u>e-ISSN 2079-4029</u>	
5	Supplementary Reading	•	

Semester	III	Total Credit	4
Course Code	MCA-301	Credit Pattern	L-48, T-12, P-0
Course Title		Software Project Management and Quality Assurance	
Course Objectives			
1	To introduce the tasks and concepts in project management.		
2	To find out various metrics and its usage		
3.	To understand various methods of quality assurance.		
4.	To find out the activities in software maintenance and configuration management.		
Course Outcomes: The students will able to			
1.	Understand the tasks and concepts in project management.		
2.	Identify and apply project metrics.		
3.	Evaluate and plan quality of software and the process		
4.	Identify and decide activities in software maintenance and configuration management.		
Unit Number	Contents		Number of Sessions
1	Project Management Concepts & Project Metrics: : (15) The Management Spectrum, People, Product, Process, Project, The W5HH Principle, Metrics in the Process and Project Domains (FP & LOC), Software Measurement, Metrics for Project and Software Quality		L= 12 T=3 P= 0
2	Software Project Planning, Scheduling and Tracking: : (15) Project Planning Objectives, Software Project Estimation using COCOMO Model, Software Scope and Resources, Empirical Estimation Models, Automated Estimation Tools, Basic Concepts and Relationship Between People and Effort, Defining a Task Set for the Software Project, Selecting Software Engineering Tasks, Defining a Task Network and Scheduling, Earned Value Analysis and Error Tracking. Reactive versus Proactive Risk Strategies, Software Risks (Risk identification, Risk Projection, Risk Refinement, Risk Mitigation), Risks Monitoring and Management.		L= 12 T=3 P= 0
3	Software Quality Assurance and Configuration Management: (15) Quality Concepts and Software Quality Assurance, Quality Planning and Control, Software Reviews (Formal Technical Reviews), Software Reliability and Fault Tolerance, The ISO 9000 Quality Standards, The SCM Process, Identification of Objects in the Software Configuration, Six Sigma, Version Control and Change Control.		L= 12 T=3 P= 0
4	Software maintenance: (15) Definition of maintenance, Maintenance characteristics, maintainability, maintenance tasks, maintenance side effects, reverse engineering and reengineering. Software configuration management, software reusability., Software Complexity & Reliability.		L= 12 T=3 P= 0
Learning Resources			
1	Text Books	- Software Project Management: Bob Hughes and Mike Cotterell- Tata McGraw Hill - Software Engineering a Practitioner’s approach – Roger S Pressman Tata McGraw Hill, - Introduction to Software Project Management & Quality Assurance: By Ince, Dorrel,Helen - Sharp & Mark Woodman	

2	Reference books	• Software Engineering – Ian Sommerville, Addison Wesley • Norman E. Fenton and Shari Lawrence Pfleeger, “Software Metrics” Thomson • Mordechai Ben – Menachem and Garry S.Marliss, “Software Quality”, Thomson Asia Ltd • Mary Beth Chrissis, Mike Konrad and Sandy Shrum, “CMMI”, Pearson Education (Singapore) Pte Ltd. • ISO 9000-3 “Notes for the application of the ISO 9001 Standard to software development”.
3	Websites	• https://www.kandasoft.com/home/softwaredevelopment/project-management.html • https://www.gurock.com/testrail/fogbugz-test-management • https://kruschecompany.com/quality-assurance-in-projects/
4	Journals	• https://www.researchgate.net • https://www.clutejournals.com • https://ieeexplore.ieee.org
5	Supplementary Reading	• http://www.softwareqatest.com/ • https://www.guru99.com/software-quality-assurance-test-audit-review-makes-your-life-easy.html • https://www.tutorialspoint.com/software_testing_dictionary/quality_assurance.htm
6	Practical Components	Use of some free download tools for project management

Semester	III	Total Credit	4
Course Code	MCA-302(P)	Credit Pattern	L-48, T-4, P-8
Course Title	Machine Learning with Python		
Course Objectives			
1	Provide a concise introduction to the machine learning paradigms, fundamental concepts in machine learning and popular machine learning algorithms		
2	To familiarize with various python data structures and python libraries for machine learning		
3	To learn to implement different machine learning algorithms in python		
4	To Provide working knowledge of neural networks and deep learning		
Course Outcomes: After successful completion of the course, the students would be able to			
1.	Understand various concepts of machine learning.		
2.	Implement machine learning algorithms using python libraries.		
3.	Analyze and choose appropriate supervised and unsupervised machine learning algorithms for data.		
4.	Implement, construct, and validate their own neural network.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Fundamental of machine learning: Basic definition, Machine Learning Paradigms – supervised, unsupervised and Reinforcement, Bias and variance hypothesis space and inductive bias, evaluation, cross-validation. Python libraries for machine learning: Numpy, matplotlib, Pandas, Scikit-learn.	L= 12	
		T=1	P= 2
2	Regression – Linear, Non-linear, Simple and Multiple regression, and their applications, model evaluation and accuracy, Overfitting & Underfitting, Implementation of regression on dataset using python. Classification: KNN, Decision trees, Random Forest, Logistic Regression, Support Vector Machines. Implementation of classification algorithms in python.	L= 12	
		T= 1	P= 2
3	Bayesian learning: probabilistic reasoning: prior, likelihood and posterior, belief networks: modelling independencies, Markov equivalence in belief networks, hidden Markov models (HMM). Naïve Bayes classifier, learning with hidden variables, Expectation Maximisation (EM). Clustering: Different clustering approaches- partition based clustering, hierarchical clustering and density based clustering. Implementation of clustering algorithms.	L= 12	
		T= 1	P= 2
4	Deep Learning: Neural Networks, Single layer Perceptron, Activation functions, back propagation algorithm, types of ANN: Multilayer Perceptron, CNN, RNN, Shallow Neural Network, Deep Neural Network, Introduction to Tensor Flow, Keras Framework.	L=12	
		T= 1	P= 2

Learning Resources		
1	Text Books	1. Machine Learning. Tom Mitchell. First Edition, McGraw- Hill, 1997. 2. Introduction to Machine Learning Edition 2, by Ethem Alpaydin 3. Python for Data Analysis: Data Wrangling with Pandas, NumPy, and IPython Book by Wes McKinney 4. Goodfellow, I., Bengio,Y., and Courville, A., Deep Learning, MIT Press, 2016.
2	Reference books	• Python Machine Learning by Sebastian Raschka • Introduction to Machine Learning with Python - A Guide for Data Scientists, Publisher: Shroff Publishers & Distributors Pvt Ltd • Satish Kumar, Neural Networks: A Classroom Approach, Tata McGraw-Hill Education, 2004.
3	Websites	• www.python.org • machinelearningmastery.com • tutorialspoint.com
4	Journals	1. IEEE xplore digital library 2. International journal of machine learning and computing
5	Supplementary Reading	1. <u>Building Machine Learning Systems with Python</u> - Willi Richert, Luis Pedro Coelho 2. <u>Learning scikit-learn: Machine Learning in Python</u> - Raúl Garreta, Guillermo Moncecchi
6	Practical Components	Implementation of supervised and unsupervised machine learning algorithms using python

III		Total Credit	4
Course Code	MCA-303(P)	Credit Pattern	L-48, T-0, P-12
Course Title		Data and File Structures	
Course Objectives			
1	To find out types and difference between primitive and non-primitive structures.		
2	To Design and apply appropriate data structures for solving computing problems.		
3.	To Understand and use various file structures.		
Course Outcomes: The students will able to			
1.	Differentiate between primitive and non-primitive structures.		
2.	Design and create appropriate data structures for solving computing problems.		
3.	Assess and develop new data structure if required.		
4.	Understand and use various file structures.		

Syllabus:		
Unit Number	Contents	Number of Sessions
1	Introduction to Data Structure : (15) Data Management concepts, Data types – primitive and non-primitive, Types of Data Structures- Linear & Non Linear Data Structures, implementation of some of the user defined data types such as – rational number, complex number, string, matrix etc.	L= 12 T=0 P= 3
2	Stack and Queue : (15) Stack-Definitions & Concepts, Operations on Stacks, Implementation of stack using array and linked list, Applications of Stacks – Parenthesis checker, Infix to postfix conversion, Expression evaluation, Queue-Representation Of Queue, Operations On Queue, Circular Queue, Priority Queue, Array representation of Priority Queue, Double Ended Queue, Applications of Queue.	L= 12 T=0 P= 3
3	Linked List and Tree : (15) Singly Linked List, Doubly Linked list, Circular linked list, Linked implementation of Stack, Linked implementation of Queue, Applications of linked list. Definitions and Concepts, Representation of binary tree, Binary tree traversal (Inorder, postorder, preorder), Threaded binary tree, Binary search trees, Applications Of Trees-Some balanced tree mechanism, eg. AVL trees, 2-3 trees, Height Balanced, Weight Balance.	L= 12 T=0 P= 3
4	Hashing and File structures : (15) Hashing: The symbol table, Hashing Functions, Collision-Resolution Techniques, File Structure: Concepts of fields, records and files, Sequential, Indexed and Relative/Random File Organization, Indexing structure for index files, hashing for direct files, Multi-Key file organization and access methods.	L= 12 T=0 P= 3

Learning Resources		
1	Text Books	• An Introduction to Data Structures with Applications. by Jean-Paul Tremblay & Paul G. Sorenson Publisher-Tata McGraw Hill. • Data Structures using C & C++ -By Ten Baum Publisher – Prentice-Hall International.
2	Reference books	• Fundamentals of Computer Algorithms by Horowitz, Sahni, Galgotia Pub. 2001 ed. • Fundamentals of Data Structures in C++-By Sartaj Sahani. • Data Structures: A Pseudo-code approach with C -By Gilbert&Forouzan Publisher-Thomson Learning.
3	Websites	• https://www.udacity.com/course/data-structures-and-algorithms-nanodegree--nd256 • https://www.edx.org/course/data-structures-fundamentals • https://www.coursera.org/learn/data-structures
4	Journals	• https://jea.acm.org/ • https://technav.ieee.org/tag/500/data-structures
5	Supplementary Reading	• https://www.javatpoint.com/data-structure-tutorial • https://www.geeksforgeeks.org/data-structures/ • https://www.tutorialspoint.com/data_structures_algorithms/
6	Practical Component	Implementation of various data structures on a computer.

SEM	III	Total Credit	2
Course Code	MCA-304	Credit Pattern	L-44, T-12, P-04
Course Title	LINUX ADMINISTRATION		

Course Objectives	
1	To understand basics of Linux operating system – architecture, file system, directory structure, and commands.
2	To experiment user management, file access permissions and disk management.
3.	To interpret packages and package management in Linux.
4.	To develop shell scripts using programming components

Course Outcomes: The students will be able to	
1.	Understand basics of Linux operating system – architecture, file system, directory structure, and commands.
2.	Experiment user management, file access permissions and disk management.
3.	Interpret packages and package management in Linux.
4	Develop shell scripts using programming components

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Linux, Layered architecture – Kernel, Shell, Utilities, Linux features, Distributions, File systems, Journaling, Directory structure, Disk layout, File types, Types of user, Linux commands: File and Directory commands, Redirection operators, Filters, Grep, Pipe and tee	L= 11	
		T=3	P= 1
2	Installing and configuring Ubuntu Linux desktop, Installation methods – dual boot, something else, Ubuntu desktop customization, User management: Users and groups, System administrator, /etc/passwd, /etc/shadow, Sudo access, Permissions: File and directory permissions, Default permissions, Modifying permissions, Ownership, Disk anatomy, Partition tables, Disk partition tools, Boot sequence, Run level	L= 11	
		T= 3	P= 1
3	Backup, restore and compress utilities – tar, gzip, cpio, dump, sync, restore, Software installation methods - Ubuntu software centre, APT, Synaptic package manager, Downloadable packages, Package management – apt and dpkg, Debian package manager, Installing and Configuring of servers – telnet, ftp, nfs, apache, dhcp, ssh, Linux system daemons,	L= 11	
		T= 3	P= 1
4	Shell scripts basics, Shells, Vim editor, Standard input output, Variable types, Key words, Operators, Control structures, Loops, Command substitution, Variable substitution, awk, sed, expr, Command line arguments, Automating system tasks, Introduction to system calls	L=11	
		T= 3	P= 1

Learning Resources		
1	Text Books	• Shotts Jr., W. E. (2019). The Linux Command Line: A Complete Introduction (2nd ed.). No Starch Press. • Soyinka, W. (2018). Linux Administration: A Beginner's Guide (8th ed.). McGraw-Hill Education. • Negus, C. (2021). Linux Bible (10th ed.). Wiley.
2	Reference books	• Purcell, T., & Childers, M. (2017). Beginning Ubuntu LTS Server Administration: From Novice to Professional (2nd ed.). Apress. • Taylor, J. (2018). Ubuntu Unleashed Covering 18.04, 18.10, 19.04 (13th ed.). Sams Publishing.
3	Websites	• Linux Documentation Project - https://tldp.org/ • Linux.com - https://www.linux.com/ • Ubuntu Documentation: https://help.ubuntu.com/
4	Journals	• Swift., M. M. ACM Transactions on Computer Systems (TOCS). Association for Computing Machinery (ACM). ISSN: 0734-2071
5	Supplementary Reading	• Linux Journal - https://www.linuxjournal.com/ • Ask Ubuntu: https://askubuntu.com/ • Ubuntu Manual: https://ubuntu-manual.org/
6	Practical Components	• Ubuntu Linux installation and experiments on Linux commands, User management, Permissions, Package management

Semester	III	Total Credit	4
Course Code	MCA-305	Credit Pattern	L-48, T-12, P-0
Course Title	Blockchain Technology		
Course Objectives			
1	To explore vital concepts and working of Blockchain		
2	To introduce Hyperledger Fabric model and its Architecture		
3	To introduce Hyperledger Composer		
4	To Learn Solidity Programming		
5	To Learn Ethereum smart contract		
Course Outcomes: Students will be able to;			
1	Be able to state core Blockchain concepts, benefits, and limitations of blockchain technologies.		
2	Identify a use case for a Blockchain application		
3	Make decisions about the selection of blockchain platform for various applications		
4	Determine real world challenges that blockchain technologies may assist		
5	Implement Smart Contracts		
6	Work with Ethereum Wallet		

Unit Number	Contents	Number of Sessions	
1	<u>Blockchain Overview and Introduction</u> Introduction to Blockchain, History and Origin of Blockchain, Properties of Blockchain (Immutability, Decentralized, Enhanced Security, Scalability, Distributed Ledgers, Faster Settlement). Fundamental terminologies (Block, Mining, Double Spending), Concept of Merkle Trees, Major Components of Blockchain, Structure of Block header, Types of Blockchain (Public, Private, Consortium), Public Key Infrastructure and Cryptography (Public Key, Private Key, Hashing, Digital Signature), Distributed systems, Decentralized networks, Consensus (Proof of Work, Proof of Stake, BFT), Blockchain Ecosystem (Blockchain exchanges, Blockchain miners, blockchain developers Mining and the Hashing Race), Working Phases in Blockchain, Application Areas	L= 12	
		T= 3	P= 0
2	<u>Concepts of Solidity and Ethereum:</u> Introducing Solidity, Global Variables and Functions, Expressions and Control Structures, Writing Smart Contracts; Functions, Modifiers, and Fallbacks; Exceptions, Events, and Logging; Truffle Basics and Unit Testing; Debugging Contracts. Test and debug smart contracts with Truffle, Ganache, Remix, and MetaMask. Maintaining code quality with different tools. History and Introduction of Ethereum, Concept of Dapps, DAOs, DACs and DASS, power of DAOs, Understanding Ethereum smart contracts, Ethereum wallet, Building Your First DAO, Future of DAOs	L= 12	
		T= 3	P= 0
3	<u>Introduction to Hyperledger Family</u> Introduction to Hyperledger and Composer, Problems with existing Blockchain technology, Basics of hyperledger Fabric, Hyperledger Fabric Architecture, Consensus in Hyperledger, Introduction to new consensus algorithm Sumeragi, Hyperledger Components, Chaincode, Exploring Key Projects of Hyperledger Family	L= 12	
		T= 3	P=0

4	Use Cases and Future of Blockchain Technology: Bletchley: The Modular Blockchain Fabric, Business Blockchain on Bluemix, Watson's Smart Blockchain, Future of Blockchain Technology and it's Industry Impacts	L= 12	
		T= 3	P= 0

Learning Resources		
1	Text Books	1. "Blockchain For Dummies", Tiana Laurence, Publisher: Wiley, 1 January 2019 2. "Blockchain Basics: A Non-Technical Introduction in 25 Steps", Authors: Drescher, Daniel, ©2017, Publisher: Apress 3. "Blockchain: Blueprint for a New Economy", Melanie Swan, ©2015, Published by O'Reilly Media 4. "Blockchain for Business with Hyperledger Fabric", Nakul shah, ©2019, bpb publication
2	Reference books	1. "Basics of Blockchain: A guide for building literacy in the economics, technology, and business of blockchain" : 26 August 2019; by Tom Serres (Author), Bill Wagner (Author), Bettina Warburg (Author) 2. "Essentials of Blockchain Technology", Edited By Kuan-Ching Li, Xiaofeng Chen, Hai Jiang, Elisa Bertino; Copyright Year 2020 3. Solidity Programming Essentials: A beginner's guide to build smart contracts for Ethereum and Blockchain; by Ritesh Modi
3	Websites	1. https://www.blockchain-council.org/ 2. https://www.ibm.com/in-en/blockchain/getting-started 3. https://www.geeksforgeeks.org/ 4. https://hackernoon.com/
4	Journals	1. "Bitcoin: A Peer-to-Peer Electronic Cash System" Satoshi Nakamoto October 31, 2008 2. "Scope for the Application of Blockchain in the Public Healthcare of the Russian Federation", Koshechkin K.A., Klimenko G.S., Ryabkov I.V., Kozhin P.B. , ScienceDirect Procedia Computer Science 126 (2018), Pg. No. 1323–1328 , International Conference on Knowledge Based and Intelligent Information and Engineering Systems, KES2018, 3-5 September 2018, Belgrade, Serbia 3. "Reputation-based Byzantine Fault-Tolerance for Consortium Blockchain" Kai Lei*, Qichao Zhang, Limei Xu, Zhuyun Qi † Shenzhen Key Lab for Information Centric Networking & Blockchain Technology (ICNLAB) School of Electronics and Computer Engineering (SECE) Peking University, Shenzhen 518055, P.R. China, 978-1-5386-7308-9/18/\$31.00 ©2018 IEEE 4. "Identity Verification and Management of Electronic Health Records with Blockchain Technology", Yiheng Liang Department of Computer Science Bridgewater State University Bridgewater, Massachusetts, United States of America, 978-1-5386-9138-0/19/\$31.00 ©2019 IEEE 5. ComChain: Bridging the Gap Between Public and Consortium Blockchains Guillaume Vizier, Vincent Gramoli University of Sydney vincent.gramoli@sydney.edu.au, 978-1-5386-7975-3/18/\$31.00 ©2018 IEEE
5	Practical Component	1. Implementation of Basic Blockchain Structure 2. Development of Smart Contracts

Semester	III	Total Credit	4
Course Code	MCA-306 (A)	Credit Pattern	L-45, T-7, P-8
Course Title	Mobile Computing		
Course Objectives			
1	To introduce challenges in app development for thin clients.		
2	To provide acquaintance with popular Android editors such as Eclipse/Android Studio.		
3	To familiarize the students about android stack, android sdk, application life cycle, and basic components.		
4	To introduce Android's APIs for data storage, retrieval, user preferences, files, databases, and content providers		
5	To introduce persistent data storage using SQLite		
Course Outcomes: Students will be able to;			
1	Build android apps in Eclipse/Android Studio.		
2	Design and develop useful Android applications using activities, intent and manifest		
3	Design and develop useful Android applications Utilizing the power of background services, threads, and notifications		
4	Develop applications for data storage and retrieval.		
5	Sharing data between applications using Content Provider.		
Unit Number	Contents	Number of Sessions	
1	Basics and Building Bocks of Android Android Overview and History.Android Stack.Android SDK Overview - Platforms, Tools, Versions.Android Project Structure.Creating first project.The manifest file. Layout resource Running your app on Emulator and real device. Introduction to Eclipse/Android Studio.Structure of android manifest file. Building blocks of Android - Activities, Activity lifecycle, Intents, Services, Content Providers, Broadcast Receivers.Views and layouts, Common UI components.Passing data between activities.	L= 12	
		T= 2	P= 2
2	Leveraging Anroid UI Components Handling User Events, Complex UI components, Building UI for performance, Menus and Dialogs	L= 11	
		T= 2	P= 2
3	Android Services and Broadcast Receivers Broadcast Receivers. What are Broadcast Receivers.Implementing broadcast receiver.System broadcasts and how to use them. Intent Filters.	L= 11	
		T= 2	P=2
4	Data Persistence in Android Data Persistence- Introducing SQLite, SQLiteOpenHelper and creating a database, Opening and closing a database, Working with cursors Inserts, updates, and deletes Basic Content Providers Content provider MIME types, Searching for content, Adding, changing, and removing content Working with content files	L= 11	
		T= 2	P= 2

Learning Resources		
1	Text Books	1. Ian F. Darwin, Android Cookbook, O'Reilly. 2. Marko Gargenta, Learning Android, O'Reilly 3. Pradeep Kothari (Android Application Development (With Kitkat Support), Black Book, Kogent Learning Solutions Inc. 4. W.Frank Ableson, Robi Sen, Chris King, C.Enrique Ortiz, Android in Action 5. Neil Smyth, Android Studio 4.0 Development Essentials - Java Edition: Developing Android Apps Using Android Studio 4.0, Java and Android Jetpack
2	Reference books	1. G. Blake Meike, Laird Dornin, Masumi Nakamura, and ZigurdMednieks, Programming Android, O'Reilly Java 2 Programming Black Book by Steven Holzner, Dream Tech Publication 2. W.FrankAbleson, RobiSen, Chris King, Android In Action, published by dreamtech Press. 3. Wei-Meng Lee, Beginning Android 4 Application Development, Wrox Publication 4. Reto Meier, Professional Android 4 Application Development, Wrox Publication 5. OnurCinar, Android Apps with Eclipse, Apress 6. Ian G. Clifton, Android User Interface Design, 7. Dave Smith and Jeff Friesen, Android Recipes: A Problem-Solution Approach, Apress
3	Websites	1. https://www.tutorialspoint.com/android/index.htm 2. https://www.javatpoint.com/android-tutorial 3. https://www.vogella.com/tutorials/android.html 4. https://www.studytonight.com/android/ 5. https://www.tutlane.com/tutorial/android
4	Journals	1. Journal of Information Technology & Software Engineering, ISSN: 2165- 7866 2. https://www.engpaper.com/android-system-research-papers.htm 3. SSRG International Journal of Mobile Computing and Application (IJMCA) – (Seventh Sense Research Group)ISSN 2393 – 9141 4. International Journal of Computer Science and Mobile Computing - ISSN: 2320-088X
5	Practical Component	Practical lab excercises based on Units I to IV

Semester	IV	Total Credit	4		
Course Code	MCA-306 (B)	Credit Pattern	L-48, T-12, P-0		
Course Title	Spring Framework				
Course Objectives					
1	To introduce a student to an entirely a new way to build web applications using Spring Framework				
2	To provide a student with the solid foundation of MVC architecture, dependency Injection				
3	To familiarize the student with the Spring Boot and Spring Angular				
4	To inculcate the skills among student for developing application in par with industry standards.				
5	To familiarize student with Spring Security Concepts				
Course Outcomes: Students will be able ;					
1	To design two-tier, three-tier and scalable N-tier web applications.				
2	To design java applications employing various middle tier technologies.				
3	To explore dependency injection and aspect oriented programming features of Spring framework.				
4	To design Spring Boot and Angular Applications				
5	To explore spring security concepts.				
Unit Number	Contents			Number of Sessions	
1	Introduction to Spring Frame work Spring framework architecture, Environment setup, spring modules, IoC Containers (BeanFactory, Application Context) Spring Bean definations, post processors, life cycle, bean inheritance, Dependency Injection, constructor injection, Setter injections			L= 12	
				T= 2	P= 2
2	Spring Boot Introduction to micro services, spring boot, spring boot features, Building Spring Boot Application, Rest Annotation with In Memory Database & CRUD Operations, Rest Annotation with Relation DB,JPA Repository Concepts, Actuator Concepts, Spring Boot Custom Logging, Spring Boot Profile Components, Auto Configuration.			L= 11	
				T= 2	P= 2
3	Spring Web Spring AOP Concepts, Spring JdbcTemplate, Spring Web MVC framework, Typescript and modern javascript, POM Spring Angular installing Angular CLI, Creating and Launching Angular Application with Angular CLI, Angular Components , generating welcome component, login component, Implementing Routes , Bootstrap, Menu, Footer and Refactoring			L= 11	
				T= 2	P=2
4	Spring Security: Setting up Spring Security, Basic concepts ,Basic Authentication ,Form Based Authentication, Authorization,Role Based Access Control,Attribute Based Access Control,LDAP Based, SSL Security, TLS Security			L= 11	
				T= 1	P= 2

Learning Resources		
1	Text Books	1. Beginning Spring Framework 2 – 2008, Velde, Thomas Van de 2. Expert Spring MVC and Web Flow – 2006, Ladd, Seth 3. Full Stack Java Development with Spring MVC, Hibernate, JQuery, & Bootstrap – 2020, . 4. Craig Walls, Spring in Action, Manning Publications; 4th edition 5. Paul Deck , Spring MVC: A tutorial
2	Reference books	1. Thinking in Java, Bruce Eckel,, Addison – Wesley, ISBN: 9814035750 2. Spring 5 Recipes: A Problem-Solution Approach, Marten Deinum, Daniel Rubio, Josh Long, Gary Mak, Apress, 2017 3. Building A RESTful Web Service with Spring 5, Raja CSP Raman, Ludovic Dewayilly- Packt Publishing, 2018 4. A Programmer's Guide to Java SCJP Certification: A Comprehensive Primer By Khalid Azim Mughal, Rolf Rasmussen 5. Inside Java 2 Virtual Machine by Venners Bill, Mcgraw Hill Education 6. Learning Java by Jonathan Knudsen, Patrick Niemeyer, O'Reilly Media.
3	Websites	1. https://spring.io/guides/tutorials/spring-security-and-angular-js/ 2. https://www.tutorialspoint.com/jsp/index.htm 3. https://www.tutorialspoint.com/spring_boot 4. https://www.javatpoint.com/spring-tutorial
4	Journals	1. https://www.journaldev.com/3557 2. International Journal of Computer Science and Mobile Computing - ISSN 2320-088X 3. https://www.pcmag.com 4. https://ieeexplore.ieee.org
5	Practical Component	Practical lab exercises based on Units I to IV

Semester	III	Total Credit	4
Course Code	MCA-306 (C)	Credit Pattern	L-48, T-12, P-0
Course Title	Computer Graphics		
Course Objectives			
1.	To understand the basics and elements of computer graphics.		
2.	To understand the basic idea of scan conversion techniques and various algorithms in graphic primitive generation.		
3.	To learn basic of 2D and 3D transformation and its techniques .		
4.	To understand and learn the concepts of viewing transformations, clipping, projections and rendering with algorithms		
Course Outcomes: After successful completion of the course, the students would be able to			
1.	Present various aspects of computer graphics		
2.	Design and develop graphics programming.		
3.	Build understanding and problem-solving skills required for graphics applications		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Computer Graphics Primitives Introduction to Image and Objects, Image Representation, Basic Graphics Pipeline, Bitmap and Vector-Based Graphics, Applications of computer graphics , Graphics hardware- input output devices, display devices(Cathode Ray Tubes, Raster-Scan Display, Random-Scan Display, Flat Panel Display), Input Technology, Coordinate System Overview ,Point and Lines, Scan-Conversion of graphics primitives: Scan-Conversion of a Lines (Digital Differential Analyzer Algorithm, Bresenham's Line Drawing Algorithm, Scan-Conversion of Circle and Ellipse(Bresenham's Method of Circle Drawing, Midpoint Circle Algorithm), Drawing Ellipses and polygons, Polygon Filling Algorithm	L= 12	
		T=3	P= 0
2	Transformations Introduction to transformations, Transformation Matrix, Types of Transformations in Two-Dimensional Graphics Identity Transformation, Scaling, Reflection, Shear Transformations, Rotation, Translation, Rotation about an Arbitrary Point, Combined Transformation, Homogeneous Coordinates, 2D Transformations using Homogeneous Coordinates 3D transformations: Scaling, Translation, Rotation, Shear Transformations, Reflection, World Coordinates and Viewing Coordinates windowing transformations, Parallel projection - Orthographic Projections, Isometric Projections, Perspective Projections.	L= 12	
		T= 3	P= 0
3	Curves and Surfaces Introduction to curves, Curve Continuity, Conic Curves, Piecewise Curve Design, Parametric Curve Design, Spline Curve Representation, Bezier Curves, B-Spline Curves, Fractals and its applications. Surface Design : Bilinear Surfaces, Ruled Surfaces, Developable Surfaces, Coons Patch, Sweep Surfaces, Surface of Revolution, Quadric Surfaces, Constructive Solid Geometry, Bezier Surfaces, B-Spline Surfaces, Subdivision Surfaces. Visible Surfaces : Introduction to visible and	L= 12	
		T= 3	P= 0

	hidden surfaces.		
4	Viewing, Clipping and Object Rendering Introduction to Viewing and Clipping - Point clipping, Line clipping, Cohen Sutherland Line Clippings, Polygon Clipping, Viewing and Clipping in three dimensions , Text Clipping, windowing transformations Object Rendering : Introduction Object-Rendering, Light Modeling Techniques, illumination Model Ambient Reflection, Diffuse Reflection, Specular Reflection, Shading- Flat Shading, Polygon Mesh Shading, Gouraud Shading Model, Phong Shading, Transparency Effect, Shadows, Texture and Object Representation, Ray Tracing, Ray Casting, Radiosity, Color Models	L=12	
		T=3	P= 0

Learning Resources

1	Text Books	• Computer Graphics, R. K. Maurya, John Wiley. • David F. Rogers, Mathematical Elements for Computer Graphics, Tata McGraw Hill Education Pvt, Ltd, 2nd Edition, 2011 • David F. Rogers, Procedural Elements for Computer Graphics, McGraw Hill Book Com., 1988
2	Reference books	• Donald Hearn, Computer Graphics, Prentice Hall of India Pvt., Ltd., 2nd Edition, 1995 • 2. Edward Angel, Interactive Computer Graphics A Top-Down Approach Using OpenGL, Pearson Education, 5th Edition, 2009 • 3. Suman Chakraborty, Fundamentals of Computer Graphics, Everest Publishing House, 7th Edition, 2010 • 4. N. Krishnamurthy, Introduction to Computer Graphics, Tata McGraw Hill Publishing Company Ltd., 2002
3	Websites	• https://www.geeksforgeeks.org/computer-graphics-2/ • https://nptel.ac.in/courses/106106090/ • http://www.cse.iitm.ac.in/~vplab/computer_graphics.html
4	Journals	• IEEE Transactions on Visualization and Computer Graphics (TVCG) • IEEE Computer Graphics and Applications (CG&A) • Elsevier Computers & Graphics -An International Journal of Systems & Applications in Computer Graphics
5	Supplementary Reading	• www.opengl.org, the OpenGL home page • OpenGL SDK documentation on www.opengl.org • Real-Time Rendering Resources
6	Practical Components	

Semester	IV	Total Credit	4
Course Code	MCA-401	Credit Pattern	L-48, T-12, P-0
Course Title	ARTIFICIAL INTELLIGENCE		
Course Objectives			
1	To endow with various disciplines of artificial intelligence and its applications		
2	To apply supervised and unsupervised machine learning techniques		
3.	To develop basic text classification models using natural language processing techniques		
4.	To demonstrate neural network model for data analysis		

Course Outcomes: The students will be able to			
1.	Endow with various disciplines of artificial intelligence and its applications		
2.	Apply supervised and unsupervised machine learning techniques		
3.	Develop basic text classification models using natural language processing techniques		
4	Demonstrate neural network models for data analysis		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Foundations of AI Introduction, Key milestones in AI, Turing Test, Knowledge Representation, Branches of AI - Symbolic AI, Machine learning, Natural language processing, Computer vision, Problem-solving and search algorithms - State and Space Search, Informed and uninformed search algorithms	L= 12	
		T=3	P= 0
2	Machine Learning Basics of machine learning, Supervised learning, Unsupervised learning, Reinforcement learning, Linear regression, Logistic regression, Decision trees, Random forests, Artificial Neural Networks, K-means Clustering, Evaluation and validation of machine learning models	L= 12	
		T= 3	P= 0
3	Natural Language Processing and Computer Vision Natural Language Processing - NLP Phases, Parser, Text preprocessing, Tokenization, Stemming, Language modelling, Sentiment analysis, Image preprocessing, Feature extraction, Object detection	L= 12	
		T= 3	P= 0
4	Advanced Topics in AI Deep learning and neural networks, Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), Expert Systems, AI Chatbots, Autonomous Cars, Ethical considerations and societal impact of AI	L=12	
		T= 3	P= 0

Learning Resources		
1	Text Books	- Russell, R. & Norvig, P. (2022). Artificial Intelligence: A Modern Approach (4th Global ed). Pearson. - Han, J., & Kamber, M. (2022). Data Mining: Concepts and Techniques (4th ed.). Elsevier. - Goodfellow, I., Bengio, Y., & Courville, A. (2016). Deep Learning. MIT Press (1st ed).
2	Reference	Patterson, D. W. (2022). Artificial Intelligence & Expert Systems (13th

	books	Indian Reprint). PHI. • Rich, E., & Knight, K. (2017). Artificial Intelligence (3rd Edition). Tata McGraw Hill Publishing Company. • Mitchell, T. M. (2017). Machine Learning. Tata McGraw Hill Education.
3	Websites	• IBM AI Education, mindSpark Learning, IBM Education Online Institute, https://www.mymindsparklearning.org/ibm-ai-education • Data Science platform for publishing work, and sharing knowledge https://towardsdatascience.com/ • AI Moral Machine, https://www.moralmachine.net/
4	Journals	• Artificial Intelligence, An International Journal, Elsevier, ISSN: 0004-3702, https://www.journals.elsevier.com/artificial-intelligence • Artificial Intelligence, An International Journal, ScienceDirect, https://www.sciencedirect.com/journal/artificial-intelligence
5	Supplementary Reading	• NPTEL Web Course, Artificial Intelligence, https://nptel.ac.in/courses/106/105/106105077/
6	Practical Components	• Google AI Experiments, https://experiments.withgoogle.com/collection/ai • IBM AI Solutions, https://www.ibm.com/in-en/artificial-intelligence

Semester	IV	Total Credit	4
Course Code	MCA-402(P)	Credit Pattern	L-48, T-12, P-0
Course Title	FULL STACK WEB DEVELOPMENT USING MEAN STACK AND MERN STACK		

Course Objectives	
1	To discuss fundamentals and architecture of MEAN stack and MERN stack
2	To illustrate single page web application using AngularJS
3.	To use Node.js and ExpressJS programming constructs
4.	To demonstrate cross-platform document-oriented database program using MongoDB
5	To explain component based interactive UIs using ReactJS

Course Outcomes: The students will be able to	
1.	Discuss fundamentals and architecture of MEAN stack and MERN stack (Understand)
2.	Illustrate single page web application using AngularJS (Apply)
3.	Use Node.js and ExpressJS programming constructs (Apply)
4	Demonstrate cross-platform document-oriented database program using MongoDB (Apply)
5	Explain component based interactive UIs using ReactJS (Understand)

Syllabus:

Unit Number	Contents	Number of Sessions	
1	MEAN Stack and MERN Stack – Fundamentals, Components, Architecture AngularJS - Introduction, Features, Environment Setup, Model View Controller Architecture, Data Binding, Directives, Expressions, Controllers, Client Side Routing, Filters, Tables, Modules, Forms, Views	L= 12	
		T=3	P= 0
2	Node.js – Introduction, Node.js Ecosystem, Modules and npm, Programming Model, Event Loop, Asynchronous Coding, Callbacks, Event Emitter, Core Modules, Building the Node Server, Routing, Database Module, File System, Web Module ExpressJS - Introduction, Environment Setup, Application Architecture, Routing, HTTP Methods, URL Building, Middleware, Templating, Static Files, Form Data, Database, Cookies, Authentication, RESTful APIs, Error Handling, Debugging	L= 12	
		T= 3	P= 0
3	MEAN Capstone Project, Development Setup, MongoDB – Overview, Environment Setup, Shell, Create and Drop Database, Create and Drop Collection, Inserting MongoDB using Mongoose, Insert Document, Query Document, Update Document, Delete Document, Projection, Indexing, Aggregation, Replication, Sharding,	L= 12	
		T= 3	P= 0
4	MERN Capstone Project, Development Setup, Range of MERN Applications, ReactJS – Introduction, Installation, Architecture, JSX, Components, Classes, Styling, Properties, State Management, Event Handling, HTTP Client Programming, Server side Rendering, Forms, Router, Redux, React Views	L=12	
		T= 3	P= 0

Learning Resources		
1	Text Books	- Adam Bretz, Colin J. Ihrig, Full Stack Javascript Development with MEAN, SitePoint Ltd, 2014 - Vasan Subramanian, Pro MERN Stack - Full Stack Web App Development with Mongo, Express, React, and Node, APRESS, 2nd Edition 2019
2	Reference books	- Colin J Ihrig, Adam Bretz, Full Stack JavaScript Development With MEAN, O'Reilly UK, 2015 - Shama Hoque, Modern web development using React 16, Node, Express, and MongoDB, Packt Publishing, 2018, - Amos Q. Haviv, MEAN Web Development, Packt Publishing Limited, 2014 - Eddy Wilson Iriarte Koroliova, MERN Quick Start Guide: Build web applications with MongoDB, Express.js, React, and Node, Packt Publishing, 2018
3	Websites	https://www.mongodb.com/ https://expressjs.com/ https://reactjs.org/ https://angularjs.org/ https://nodejs.org/en/
4	Journal Articles	- Andrew John Poulter et al., Using the MEAN stack to implement a RESTful service for an Internet of Things application, IEEE Xplore - Prati Jain, Manjunath C R, Comparative analysis of MEAN stack and MERN stack, Journal of Emerging Technologies and Innovative Research, Vol 9, Issue 8
5	Supplementary Reading	- MongoDB Tutorial, https://www.tutorialspoint.com/mongodb/index.htm - ExpressJS Tutorial, https://www.tutorialspoint.com/expressjs/index.htm - ReactJS Tutorial, https://www.tutorialspoint.com/reactjs/index.htm - AngularJS Tutorial, https://www.tutorialspoint.com/angularjs/index.htm - Node.js Tutorial, https://www.tutorialspoint.com/nodejs/index.htm
6	Practical Components	- How to Use MEAN Stack, https://www.mongodb.com/languages/mean-stack-tutorial - How to Create a MEAN Stack Application, https://www.linode.com/docs/guides/mean-stack-tutorial/ - How to Use MERN Stack: A Complete Guide, https://www.mongodb.com/languages/mern-stack-tutorial - The MERN stack: A complete tutorial, https://blog.logrocket.com/mern-stack-tutorial/

Semester	IV	Total Credit	2
Course Code	MCA-403	Credit Pattern	L-48, T-12, P-0
Course Title	INTERNET OF THINGS		
Course Objectives			
1	Provide an overview of concepts, main trends and challenges of Internet of Things.		
2	Get knowledge of IoT Key Technologies such as RFID, Wireless Networks etc.		
3.	To make students aware of Internet of Things applications.		
4	Develop skills related to the IoT technologies for practical IoT applications.		
Course Outcomes: The students will able to			
1.	Explain and interpret the Internet of Things concepts and applications.		
2.	Use the knowledge and skills acquired during the course for the design of simple IoT		
3.	Analyze applications of IoT in real time scenario		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Fundamental IoT Mechanisms & Key Technologies Introduction, IoT Frameworks, Enabling Technologies of IoT , Sensing and actuating Technology, Basic Nodal Capabilities, Identification of IoT objects and services, Structural aspects of the IoT- Traffic characteristics, Scalability, Interoperability, Security and Privacy, Open architecture, Key IoT Technologies - Device Intelligence, Communication Capabilities, Mobility support, Device Power, Sensor Technology, RFID technology, Satellite Technology	L= 12	
		T=3	P= 0
2	Radio Frequency Identification Technology and Wireless Sensor Networks: RFID - Introduction, Principles of RFID, Components of an RFID System, Reader, RFID tags, RFID middleware Wireless Sensor Networks – Node communication, Node Computation, Node Sensing, Connecting Nodes, Networking Nodes, Securing Communication Technologies for IoT Connectivity	L= 12	
		T= 3	P= 0

Learning Resources

1	Text Books	- Hakima Chaouchi, The Internet of Things: Connecting Objects to the Web, Wiley Publications - Daniel Minoli, Building the Internet of Things with IPv6 and MIPv6 The Evolving World of M2M Communications, Wiley Publications
2	Reference books	- Bernd Scholz-Reiter, Florian Michahelles, Architecting the Internet of Things, Springer - Olivier Hersent, David Boswarthick, Omar Elloumi, The Internet of Things: Key Applications and Protocols, 2nd Edition, Willy Publications - Parikshit N. Mahalle& Poonam N. Railkar, “Identity Management for Internet of Things”, River Publishers - Jan Holler, Vlasios Tsiatsis, Catherine Mulligan, Stefan Avesand, Stamatis Karnouskos, David Boyle, From Machine-to-Machine to the Internet of Things: Introduction to a New Age of Intelligence, 1st Edition, Academic Press, 2014.
3	Websites	https://www.javatpoint.com/iot-internet-of-things https://www.guru99.com/iot-tutorial.html

		• https://www.geeksforgeeks.org/introduction-to-internet-of-things-iot-set-1/
4	Journals	• IEEE Internet of Things Journal, ISSN: 2327-4662 https://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=6488907 • Internet of Things, Elsevier, ISSN: 2542-6605 • Discover Internet of Things, ISSN: 2730-7239
5	Supplementary Reading	• Internet of Things (IoT) Tutorial, https://www.tutorialspoint.com/internet_of_things/index.htm • IoT Tutorial for Beginners, https://data-flair.training/blogs/iot-tutorial/
6	Practical Components	• https://developer.ibm.com/technologies/iot/tutorials/ • https://www.robolab.in/list-of-practicals-for-internet-of-things-iot/

Semester	IV	Total Credit	4
Course Code	MCA-404	Credit Pattern	L-48, T-08, P-04
Course Title	DS-II: Big Data Analytics		
Course Objectives			
1	To master the concepts of HDFS and MapReduce framework		
2	To introduce Hadoop 2.x Architecture		
	To understand concept of LFS and HDFS		
3	To introduce data loading techniques using Sqoop and Flume		
4	To introduce data flow technique using Apache Pig, Hive		
5	To Understand HBase and MapReduce integration		
Course Outcomes			
After completion of this course the student will be able to:			
1	Setup Hadoop single node Cluster		
2	Implement best practices for Hadoop development		
3	Perform data analytics using Pig, Hive		
4	Master data loading techniques using Sqoop and Flume.		
Unit Number	Contents		Number of Sessions
1	Big Data Overview, data science, rising and importance of data sciences, big data analytics in industry verticals. Sources of Big Data, 3 V's of Big Data, Benefits of Big Data, Big Data Technologies, classes of Big Data Technologies, Challenges of Big Data, Business Understanding, Data Understanding, Data Preparation, Modeling, Evaluation, Communicating results, Deployment. Overview & analytics life cycle, Need, Structured and multi-structured data analysis, Big-data analytics major components, Analytical models and approaches, Relational and non-relational Databases, Application areas, Design and analysis of Analytics		L=12
			T=02 P=00
2	Introduction to MapReduce and HDFS. The Hadoop & Tez Ecosystems(Batch Processing), Hadoop Architecture, Hadoop Modules, Advantages of Hadoop, Hadoop Operation Modes, HDFS Concepts, HDFS Data Node and Name Node images, HDFS Read Image and HDFS Write Image, Secondary Name Node, Hadoop configuration files, MapReduce& HDFS Framework, Yarn, Hadoop Physical & Logical Resource Requirements. Downloading and installing the Ubuntu12.x, Installing Java, Installing Hadoop, Verifying Hadoop Installation, Creating Cluster, Increasing Decreasing the Cluster size, Monitoring the Cluster Health, Starting HDFS, Starting and Stopping the Nodes. HDFS basic file operations. HDFS commands. Beyond the data warehouse – Hadoop, NoSQL and analytical DBMSs, NoSQL DBMSs		L=12
			T=02 P=01
3	Introduction to Apache PIG, Features of PIG, Introduction to PIG Data Flow Engine, MapReduce vs. PIG, SQL vs. PIG, PIG Architecture, Components of Apache Pig, Pig Latin Data Model, Pig Data Types, Basic PIG programming, Pig Operators, Pig Diagnostic Operators, Grouping by multiple columns, Co-group operator, join operator, types of joins, cross operator, union operator, split operator, filter operator, distinct operator, foreach		L=12

	operator, orderby operator, limit operator, Modes of Execution, Introduction to SQOOP, SQOOP import and export commands and Joins in SQOOP, Introduction Zookeeper, Data Model, Operations, Introduction to OOZIE, Introduction to Flume, Flume Architecture - Flume Master, Flume Collectors, Flume Agents	T=02	P=02
4	Introduction to HIVE, HIVE Meta Store, HIVE Architecture, Tables in HIVE, Managed Tables, External Tables, Hive Data Types, Primitive Types, Complex Types, Partition, Joins in HIVE, HIVE UDF's and UADF's with Programs. Introduction to HBASE, Limitations of Hadoop, HDFS vs. HBase, Basic Configurations of HBASE, Fundamentals of HBase, HBase Data Model, Table and Row, Column Family and Column Qualifier, Cell and its Versioning, HBASE Architecture, HMaster Region Servers, Regions, MemStore, HDFS vs. HBase, Client side buffering or bulk uploads, HBase Designing Tables, HBase Operations, HBase shell	L=12	
		T=02	P=01

Learning Resources

1	Text books	1. Baesens Bart, Analytics In A Big Data World: The Essential Guide To Data Science And Its Applications, Wiley Publisher. Java 8 Programming Black Book 2. AmbigaDhiraj, Michael Minelli, and Michele Chambers, Big Data Big Analytics: Emerging Business, Wiley CIO Series. Core Java Vol. II (Addison- Wesley) Sun Press ISBN – 981-4058-50-5
2	Reference books	1. Kord Davis, Ethics of Big Data: Balancing Risk and Innovation, O'Reilly. 2. Tom White, Hadoop – A Definitive Guide, O'Reilly. 3. Alan Gates, Programming Pig - Dataflow Scripting with Hadoop, O'Reilly. 4. Jarek Jarcec Cecho and Kathleen Ting, Apache Sqoop Cookbook: Unlocking Hadoop for Your Relational Database, O'Reilly. 5. Lars George, HBase: The Definitive Guide, O'Reilly. 6. Dean Wampler, Edward Capriolo, and Jason Rutherglen, Programming Hive, O'Reilly. 7. Flavio Junqueira, Benjamin Reed, ZooKeeper Distributed Process Coordination, O'Reilly. 8. Hari Shreedharan, Using Flume - Flexible, Scalable, and Reliable Data Streaming, O'Reilly Media Java 2 Programming Black Book by Steven Holzner, Dream Tech Publication
3	Websites	https://www.tutorialspoint.com https://www.guru99.com https://hadoop.apache.org https://intellipaat.com
4	Journals	1. "Big Data Analytics" ISSN:2058-6345(Online), https://link.springer.com/journal/41044 2. "Journal of Big Data" ISSN:2196-1115(Online), https://link.springer.com/journal/40537 3. "Big Data" ISSN:2167-6461, https://home.liebertpub.com/publications/big-data/611/overview
5	Supplementary Reading	• geeksforgeeks • dataflair • w3schools

6	Practical Components	Lab Experiments based on Hadoop File System, Pig and Hive, Sqoop

Semester	IV	Total Credit	4
Course Code	MCA-405 (A)	Credit Pattern	L-48, T-12, P-0
Course Title	Cloud Computing		
Course Objectives			
1	To understand the concept of Virtualization and design of cloud Services		
2	To understand cloud computing technologies.		
3.	To introduce the broad perceptive of cloud architecture and model To learn to design the trusted cloud Computing system		
4.	To introduce the fundamental ideas of the cloud computing model and its origin		
5.	To introduce the broad perceptive of cloud architecture and model To learn to design the trusted cloud Computing system		
6.	To understand the features of cloud simulator		
Course Outcomes: The students will able to			
1.	identify the architecture and delivery models of cloud computing.		
2.	identify infrastructure.		
3.	understand security, privacy and interoperability issues.		
4.	select suitable cloud player		
5.	apply suitable virtualization concept		
6.	implement cloud services and set a private cloud		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to cloud computing: Cloud computing definitions, History of cloud, Characteristics and Principles of cloud, SaaS Maturity Model, commercial cloud offerings, cloud storage, live migration, ISO image, Layers and types of clouds, Challenges, Service Models, opportunities and challenges, advantages and disadvantages of cloud computing, Comparison of Cloud computing, Cluster computing and Grid computing; Applications: Technologies and process required when deploying Web services. Service Oriented Architecture (SOA), WSDL structure, protocols used in SOA, web service integration, service catalogs,. Cloud Computing Architecture: Cloud Interoperability and standards, Scalability and Fault tolerance, System Models for Distributed and cloud computing –NIST cloud computing reference model. Cloud Cube Model, Cloud Reference Model, Cloud Models – Service Model(Iaas, Paas, Saas), Deployment Model,	L= 15	
		L=12	T=3
2	Cloud Computing Costs – Right sizing, auto scaling, vertical scaling Vs horizontal scaling, service level agreement, service credits, defining licensing models. Capacity planning, steps in capacity planning, baseline measurements, resource ceiling, server instance types, measuring network capacity. Virtualization: Introduction to Virtualization, Characteristics of virtualization, Virtualization and Cloud Computing, Pros and Cons of Virtualization, Types of Virtualization- Implementation Levels of Virtualization - Virtualization Structures - Tools and Mechanisms - Virtualization of CPU, Memory, I/O Devices . Fundamental concepts of compute ,storage, networking, desktop and application	L= 15	
		L=12	T= 3

	virtualization, Virtualization benefits, server virtualization, Infrastructure Requirements , Virtual LAN(VLAN) and Virtual SAN(VSAN) and their benefits ,Load balancing, benefits of load balancing, load balancing algorithms, hypervisor (virtual machine monitor), types of hypervisors, machine imaging, porting applications, challenges in porting applications, simple cloud API, AppZero virtual Application Appliance.		
3	Cloud Infrastructure: Cloud Application Platform: Aneka Framework Overview, Building Aneka Clouds: Infrastructure Organization, Logical Organization, Platform Deployment: Private Cloud Deployment Mode, Public Cloud Deployment Mode, Hybrid Cloud Deployment Mode, Resource provisioning, Inter cloud resource management. Layered Cloud Architecture development, Cloud Security, OSI standard for security model, role and rule mangement, access control list, specific attacks, sniffing, spoofing, phishing, pharming (DNS Spoofing), cryptography, encryption, decryption, types of cryptography. Format of digital certificate, working of digital signature, Electronic money (Digicash), security mechanism in Digicash, types of electronic money, double-spending problem..	L= 15	
		L=12	T=3
4	Programming Model: Principles of Parallel and Distributed Computing, Paradigms: Map Reduce- Hadoop Library from Apache, Amazon Web Services (AWS), Parallel vs. Distributed Computing, centralized vs distributed systems, Difference between distributed and network operating system, Features and characteristics of distributed systems, distributed architectures, system models, Elements of Parallel Computing Hardware Architectures for Parallel Processing, Approaches to Parallel Programming ,Levels of Parallelism, classification of parallel computers, Flynn’s classification, dependency conditions, Berstein conditions for detection of parallelism, parallelism based on grain size, Handler’s classification, Components of a Distributed System , Architectural Styles for Distributed Computing , Models for Inter-Process Communication, Technologies for Distributed Computing: Remote Procedure Call.	L=15	
		L=12	T=3

Learning Resources		
1	Text Books	• Kumar Saurabh,”Cloud Computing”, Wiley Pub • Buyya Selvi,”Mastering Cloud Computing”, TMH pub. • Soninky, “Cloud Computing”, Wiley Pub. • Kurtz, Vines, “Cloud Security”, Wiley Pub.
2	Reference books	• John W.Rittinghouse and James F.Ransome, “Cloud Computing: Implementation, Management, and Security”, CRC Press, 2010. • Kumar Saurabh, “Cloud Computing – insights into New-Era Infrastructure”, Wiley India, 2011. • George Reese, “Cloud Application Architectures: Building Applications and Infrastructure in the Cloud” O’Reilly • Katarina Stanoevska-Slabeva, Thomas Wozniak, Santi Ristol, “Grid and Cloud Computing – A Business Perspective on Technology and

		Applications”, Springer. James E. Smith, Ravi Nair, “Virtual Machines: Versatile Platforms for Systems and Processes”, Elsevier/Morgan Kaufmann.
3	Websites	https://www.javatpoint.com/cloud-computing-tutorial https://www.w3schools.in/cloud-computing/cloud-computing/ https://data-flair.training/blogs/cloud-computing-tutorial/ https://www.tutorialride.com/cloud-computing/cloud-computing-tutorial.htm https://www.edx.org/learn/cloud-computing https://www.coursera.org/browse/information-technology/cloud-computing
4	Journals	- Global Journals – Cloud and Distributed, ISSN Online 0975-4172, ISSN Print 0975-4350, DOI 10.17406/gjcst - International Journal of Cloud Computing, ISSN online 2043-9997, ISSN print 2043-9989 - Journal of Cloud Computing Advances, Systems and Applications, ISSN: 2192-113X (Online) (Springer) - International Journal of Cloud Applications and Computing (IJCAC), ISSN: 2156-1834 EISSN: 2156-1826 DOI: 10.4018/IJCAC
5	Supplementary Reading	https://en.wikipedia.org/wiki/Cloud_computing https://www.geeksforgeeks.org/cloud-computing/ https://www.tutorialspoint.com/cloud_computing/ https://www.guru99.com/cloud-computing-for-beginners.html
6	Practical Components	- Case Studies - Lab Assignments Sample Case Studies: A case study on cloud storages, - OneDrive - Google Drive - A case study on Google App Engine - A case study on determining cloud computing cost. - A case study based on detection of parallelism Lab assignments based on virtualization Installing VMware Workstation Installing Oracle VM Virtual Box and creating virtual machines.

Semester	IV	Total Credit	4	
Course Code	MCA-405 (B)	Credit Pattern	L-48, T-12, P-0	
Course Title	Introduction to Containers Docker and Kubernetes			
Course Objectives				
1	Significance of container and Kubernetes			
2	Learn how to manage configuration, sensitive, and persistent data in Kubernetes			
3.	Discuss popular tools and topics surrounding Kubernetes in the ecosystem pertaining to replication, cluster management.			
Course Outcomes: The students will able to				
1.	Deploy single and multiple container applications on Kubernetes			
2.	Use Kubernetes services to structure N-tier applications			
3.	Manage application deployments with rollouts in Kubernetes			
Unit Number	Contents			Number of Sessions
1	Kubernete Basics - OIlverview and architecture of Kubernetes. Need for containers and Kubernete, Key objectives and features of Kubernetes, Difference between Kubernetes and Docker, Pre-requisites for setting up Kubernetes. Kubernet images, creating and scheduling Kubernete jobs, labels and selectors, creating and using a namespace in service. Kubernets Node, Kubernete services, types of services, service without selector, config file with selector, multi port service creation, Kubernets Pod – Single Container Vs, Multi Container Pods.			L= 12
				T=3 P= 0
2	Replication in Kubernetes – Replication controller, replica sets, deployment strategies in Kubernetes, types of Kubernet volumes, creating and configuring a secret, Network policy			L=12
				T=3 P=0
3	Advanced Kubernetes – Kubernetes API, Setting Kubectl, Kubectl Commands, creating an app by downloading and from docker file, app deployment, exposing the app publicly, Ngnix Load Balancer Yaml File, Ngnix Replication Controller Yaml, Frontend Service Yaml File, Frontend Replication Controller Yaml File, Backend Service Yaml File, Backed Replication Controller Yaml File			L= 12
				T= 3 P= 0
4	Kubenetes Cluster setting up Kubernetes cluster, Kubernetes auto scaling, Kubernetes dashboard setup, Creting Kubernete roles for service account, creating Kubernetes service account for API access, Kubernetes monitoring and logging, Kubernetes troubleshooting Setting up Jenkins on Kubernetes cluaster, setting up Jenkins Build Agents on Kubernetes Pods, Building Docker Images In Kubernetes Pod. Stateless and stateful applications.			L=12
				T=3 P= 0
Learning Resources				

1	Text Books	1. Kubernetes by David K. Rensin, O'Reilly Media, Inc., ISBN: 9781491931875 2. Kubernetes: Up and Running, 2nd Edition by Brendan Burns, Joe Beda, Kelsey Hightower, O'Reilly Media, Inc., ISBN: 9781492046530
2	Reference books	1. Kubernetes Best Practices by Brendan Burns, Eddie Villalba, Dave Strelbel, Lachlan Evenson, O'Reilly Media, Inc., ISBN: 9781492056478 2. Networking and Kubernetes by James Strong, Vallery Lancey, O'Reilly Media, Inc., ISBN: 9781492081654 3. Managing Kubernetes by Brendan Burns, Craig Tracey, O'Reilly Media, Inc., ISBN: 9781492033912 4. Programming Kubernetes by Michael Hausenblas, Stefan Schimanski, O'Reilly Media, Inc., ISBN: 9781492047100 5. Managing Cloud Native Data on Kubernetes by Jeff Carpenter, Patrick McFadin, O'Reilly Media, Inc., ISBN: 9781098111397
3	Websites	1. https://www.tutorialspoint.com/kubernetes/index.htm 2. https://www.javatpoint.com/kubernetes 3. https://devopscube.com/kubernetes-tutorials-beginners/ 4. https://www.guru99.com/kubernetes-tutorial.html
4	Journals	1. https://link.springer.com/article/10.1007/s11227-021-03982-3 2. https://iopscience.iop.org/article/10.1088/1757-899X/569/5/052092/pdf 3. https://www.mdpi.com/1424-8220/21/5/1910 4. https://www.emeraldgrouppublishing.com/journal/k
5	Supplementary Reading	1. https://www.aquasec.com/cloud-native-academy/kubernetes-101/kubernetes-tutorials/ 2. https://kubernetes.io/docs/tutorials/kubernetes-basics/ 3. https://www.oreilly.com/content/kubernetes-a-simple-overview/
6	Practical	• List of experiments to be executed during laboratory hours

Semester	IV	Total Credit	4
Course Code	MCA-405 (C)	Credit Pattern	L-48, T-12, P-0
Course Title	Theoretical Computer Science (Tcs)		
Course Objectives			
1	To comprehend languages, grammars, and computation models		
2	To learn regular languages and context free languages which are crucial to understand how compilers and programming languages are built		
3.	To discuss the concepts of Push Down Automata and Turing Machines		
4	To strengthen rigorous mathematical reasoning skills		
Course Outcomes: The students will able to			
1.	Understand how compilers and programming languages are built		
2.	Demonstrate knowledge of basic mathematical models of computation and describe how they relate to formal languages.		
3.	Apply knowledge of computing and mathematics appropriate to the discipline		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Basic concepts of Automata Theory Introduction, Alphabets, Strings and Languages, Deterministic Finite Automata (DFA), Nondeterministic Finite Automata (NFA), Representation of NFA and DFA using Transition Tables and State Diagrams. NFA with ϵ -transitions, Equivalence of NFA and DFA, Minimization of DFA.	L= 12	
		T=3	P= 0
2	Regular Expressions and Languages Introduction, Definition of regular expression, Kleen's Theorem, Equivalence of regular expression and Finite Automata, Pumping Lemma for regular Languages, Closure properties of Regular Languages, Finite Automata with Output: Moore and Mealy Machine, Equivalence of Moore and Mealy Machines.	L= 12	
		T= 3	P= 0
3	Context Free Grammars Introduction, Definition of Grammar, Classification of Grammars, Chomosky's Hierarchy. Context Free Grammars (CFG) and Context Free Languages (CFL) - Definition, Examples, Parse trees, Ambiguous Grammars, Simplification of Grammars, Normal forms of CFGs: Chomsky Normal Form (CNF) and Greibach Normal Form (GNF), Closure properties of CFLs, Pumping lemma for CFLs.	L= 12	
		T= 3	P= 0
4	Push Down Automata (PDA) and Turing Machines Introduction, PDA - Definition and Description, Language of PDA, PDA and CFLs, Determinism and Non determinism in PDA, PDA applications. Introduction, Basic Features of a Turing Machine, Language of a Turing Machine, Variants of Turing Machine: Multitapes, Nondeterministic Turing Machine, Universal Turing Machine. Halting problem of Turing Machine.	L=12	
		T= 3	P= 0

Learning Resources		
1	Text Books	• J.E. Hopcraft, R. Motwani, and Ullman, Introduction to Automata theory, Languages and Computation, Pearson Education Asia, 2nd edition • J Martin, Introduction to languages and the theory of computation, Tata McGraw Hill, 3rd Edition
2	Reference books	• C Papadimitrou and C. L. Lewis, Elements and Theory of Computation, PHI • K.L.P. Mishra and N. Chandrashekharan , Theory of Computer Science, PHI • Daniel I.A. Cohen, Introduction to Computer Theory, Second Edition, John Wiley
3	Websites	• https://www.tutorialspoint.com/automata_theory/ • https://www.geeksforgeeks.org/theory-of-computation-automata-tutorials/ • https://www.javatpoint.com/automata-tutorial
4	Journals	• Theoretical Computer Science ISSN: 0304-3975 • Journal of Theoretical & Computational Science ISSN: 2376-130X • Theory of Computing ISSN: 1557-2862
5	Supplementary Reading	• NPTEL Course on Theory of Computation, https://nptel.ac.in/courses/106104028/1# • Automata Theory, https://online.stanford.edu/courses/soe-ycsautomata-automata-theory
6	Practical Components	• Practical based on implementation of Automata Theory

M.Sc. (Computer Science)Course Structure(NEP 2020)**M.Sc.(Computer Science)Part-I Semester I**

Course Code	Course Name	Credits	Contact hours	Int./Pract. Marks	EOS marks	Total Marks
MCS-101	OperatingSystem & Computer Architecture	4	60	40	60	100
MCS-102	Python Programming (Lab)	4	60	40	60	100
MCS-103	Web Design & Development (Lab)	4	60	40	60	100
MCS-104	Design & Analysis of Algorithm	2	30	20	30	50
MCS-105	Research Methodology	4	60	40	60	100
ELCS-106	1 (a) Information Security & Cryptography 1 (b) Object Oriented Analysis and Design	4	60	40	60	100
Total		22	330	220	330	550

M.Sc.(Computer Science)Part-I Semester II

Course Code	Course Name	Credits	Contact hours	Int./Pract. Marks	EOS marks	Total Marks
MCS-201	Database Management System	4	60	40	60	100
MCS-202	Data and File Structures (Lab)	4	60	40	60	100
MCS-203	Dot NET Technology (Lab)	4	60	40	60	100
MCS-204	Data Mining	2	30	20	30	50
MCS-205	Field Project / OJT	4	120	40	60	100
ELCS-206	2 (a) Software Testing & Quality Assurance 2 (b) Ethical Hacking	4	60	40	60	100
Total		22	390	220	330	550

Exit option: PG Diploma (44 Credits) after successful completion of first year (Semester I and Semester II) of PG Degree

M.Sc.(Computer Science)Part-II Semester III

Course Code	Course Name	Credits	Contact hours	Int./Pract. Marks	EOS marks	Total Marks
MCS-301	Computer Communication Network	4	60	40	60	100
MCS-302	Software Engineering and Project Management (Lab)	4	60	40	60	100
MCS-303	Mobile Computing (Lab)	4	60	40	60	100
MCS-304	Cloud Computing	2	30	20	30	50
MCS-305	Internship Project & Viva	4	120	40	60	100
ELCS-306	3 (a) Full Stack Web Development 3 (b) Big Data Analytics	4	60	40	60	100
Total		22	390	220	330	550

M.Sc.(Computer Science)Part-II Semester IV

Course Code	Course Name	Credits	Contact hours	Int./Pract. Marks	EOS marks	Total Marks
MCS-401	Artificial Intelligence	4	60	40	60	100
MCS-402	Linux Administration and Programming (Lab)	4	60	40	60	100
MCS-403	Java Programming (Lab)	4	60	40	60	100
MCS-404	Research Project	6	180	40	60	100
ELCS-405	4 (a) Block chain Technology 4 (b) Advanced Web Technology	4	60	40	60	100
Total		22	420	200	300	500

M.Sc. (Computer Science in Cyber Security) Course Structure (NEP 2020)**M. Sc. (Computer Science in Cyber Security) Part-I Semester I**

Course Code	Course Name	Credits	Contact hours	Int./Pract. Marks	EOS marks	Total Marks
MSEC-101	Operating System	4	60	40	60	100
MSEC-102	Secure C Programming (Lab)	4	60	40	60	100
MSEC-103	Web Design & Development (Lab)	4	60	40	60	100
MSEC-104	Design and Analysis of Algorithm	2	30	20	30	50
MSEC-105	Research Methodology	4	60	40	60	100
ELSEC-106	1 (a) Cloud Computing and Security 1 (b) Digital Forensic	4	60	40	60	100
	Total	22	330	220	330	550

M. Sc. (Computer Science in Cyber Security) Part-I Semester II

Course Code	Course Name	Credits	Contact hours	Int./Pract. Marks	EOS marks	Total Marks
MSEC-201	Database Management System	4	60	40	60	100
MSEC-202	Java Programming (Lab)	4	60	40	60	100
MSEC-203	Python Programming (Lab)	4	60	40	60	100
MSEC-204	Ethical Hacking	2	30	20	30	50
MSEC-205	Field Project	4	60	40	60	100
ELSEC-206	2 (a) Information Security and Cryptography 2 (b) Machine Learning Security	4	60	40	60	100
	Total	22	330	220	330	550

Exit option: PG Diploma (44 Credits) after successful completion of first year (Semester I and Semester II) of PG Degree

M. Sc. (Computer Science in Cyber Security) Part-II Semester III

Course Code	Course Name	Credits	Contact hours	Int./Pract. Marks	EOS marks	Total Marks
MSEC-301	Secure Software Design	4	60	40	60	100
MSEC-302	Linux Administration and Programming (Lab)	4	60	40	60	100
MSEC-303	Penetration Testing (Lab)	4	60	40	60	100
MSEC-304	IOT Security	2	30	20	30	50
MSEC-305	Internship Project & Viva	4	60	40	60	100
ELSEC-306	3 (a) Web Security 3 (b) Full Stack Web Development	4	60	40	60	100
	Total	22	330	220	330	550

M. Sc. (Computer Science in Cyber Security) Part-II Semester IV

Course Code	Course Name	Credits	Contact hours	Int./Pract. Marks	EOS marks	Total Marks
MSEC-401	Computer Communication Network	4	60	40	60	100
MSEC-402	Dot Net Programming (Lab)	4	60	40	60	100
MSEC-403	Block Chain (Lab)	4	60	40	60	100
MSEC-404	Research Project	6	180	40	60	100
ELSEC-405	4 (a) Mobile and Wireless Security 4 (b) Big Data Analytics	4	60	40	60	100
	Total	22	420	200	300	500

**CHHATRAPATI SHAHU INSTITUTE OF
BUSINESS EDUCATION AND RESEARCH (CSIBER),
(AN AUTONOMOUS INSTITUTE)
UNIVERSITY ROAD, KOLHAPUR - 416 004 (M. S.), INDIA**



**STRUCTURE AND SYLLABUS OF
M.Sc.
(Computer Science in Cyber Security)
Faculty of Science – Under NEP 2020**

TO BE IMPLEMENTED FROM ACADEMIC YEAR- 2023-24

CURRICULUM OF M. SC. (Computer Science in Cyber Security) PROGRAMME

The M. Sc. (Computer Science in Cyber Security) Programme is of Two-year duration and is divided into four semesters. Semester I & II will be taught in the First Year of the programme and Semester III & IV during the second year of the programme with a provision of exit after completion of first year with Post Graduate Diploma in (Computer Science in Cyber Security) and also re-enter the same programme to Second year of M.Sc. (Computer Science in Cyber Security) to earn his / her Master's degree within five years from the date of admission to first year.

PROGRAMME OBJECTIVE:

To develop a comprehensive and advanced knowledge of Computer Science in Cyber Security there by enabling graduates to perform more effectively in the work place as well as to enhance their research capability.

ELIGIBILITY M.Sc.(Cyber Security):

1. A candidate for being eligible for admission to M.Sc. (Computer Science in Cyber Security) programme (Faculty of Science) must have passed under 10+2+3 pattern with any Science graduate level Examination of the Shivaji University or any other University recognized by A.I.U. (Association of Indian Universities) with minimum of 50% marks at the final year of examination are eligible to take admission to First year from the academic year 2023-24 and directly to second year, passed with four years of Graduation from the academic year 2027-28.
2. The admission to M.Sc.(Cyber Security) programme will be made on the basis of entrance test conducted by the Institute.

TOTAL INTAKE: 30

Reservation:

Reservation for special categories such as SC, ST, NT, OBC, etc. will be as per the prevailing rules & regulations of Government of Maharashtra.

Direct Admission to Second Year:

Students who have completed four years of Degree Programme can be admitted to directly second year of the PG Programme based on merit, depending upon availability of vacant seats.

DURATION:

M.Sc. (Computer Science in Cyber Security) is a full time programme of **TWO** Years duration. The programme consists of Four Semesters. The examination to be held in the First and Second Semester will be called Part – I (First Year) and the examination to be held in the Third and Fourth Semester will be called Part – II (Second Year)

If a candidate fails to clear all heads of passing within **FIVE** years of his/her registration, the past

performance will stand automatically nullified.

If a candidate discontinues any of the terms (i.e. Semester – I to IV) on any account, will be allowed to complete the incompleted terms in the subsequent years subject to it is within the stipulated time duration of **FIVE** years.

In addition to the above, once a student's term (Semester) is granted, he/she shall be allowed to appear and pass in any of the subsequent examinations held, provided the examinations are within the stipulated period of **FIVE** years.

After taking the admission for FIRST YEAR and the Semester term (Semester – I and II) is NOT granted in this case the student has to seek fresh admission in the next year and complete the term and pass the examination also within **FIVE** years of his/her registration.

After taking the admission for SECOND YEAR and the Semester term (Semester – III and IV) is NOT granted in this case the student has to seek fresh admission in the next year and complete the term and pass the examination also within **FIVE** years of his/her registration.

Programme Completion with Break in Between:

A student who has passed M.Sc. (Computer Science in Cyber Security) – I and is seeking admission to M.Sc. (Computer Science in Cyber Security) – II after a long gap (Provided the gap lies within the stipulated duration of **FIVE** years) should complete the programme syllabus which is in existence at the time he has sought the admission for the second year.

Award of degree:

At the end of each semester credits earned by the students will be uploaded Academic Bank Credits (ABC) of each student. Student can earn **M. Sc. (Computer Science in Cyber Security)** degree on redemption of 88 earned credits or 44 credits for PG Diploma. After successful completion of four semesters of **M. Sc. (Computer Science in Cyber Security)** mark list ledgers will be forwarded to the Shivaji University for the award of Master's degree (minimum of 88 Credits) and PG Diploma after completion of first year (minimum of 44 Credits).

General features of the programme under NEP:

- a) New structure will be implemented with effect from Academic Year 2023-24
- b) Credits offered per Semester will be a Minimum of 20 and a Maximum of 22
- c) M. Sc. (Computer Science in Cyber Security) Programme is based on Major subjects.
- d) Electives selected in the M. Sc. (Computer Science in Cyber Security) are Relevant to OR Supportive of the Major Subject chosen.
- e) The exit option at the end of one year of the M. Sc. (Computer Science in Cyber Security) program will commence from AY 2024-25 with PG Diploma.
- f) The one-year M. Sc. (Computer Science in Cyber Security) Program will begin with effect from Academic Year 2027-28.

- g) Re-entry to complete the M. Sc. (Computer Science in Cyber Security), after taking the exit option, will be permissible up to 05 years from the date of admission to the program.

Credit Specification:

- i) Theory Course: A minimum of 15 hrs of teaching per credit is required in a semester.
- ii) Laboratory Course / Field Project: A minimum of 30 hrs in Laboratory activities per credit is required in a semester.

Outline of Programme Structure :

- 1. **Major Courses:** A course which should compulsorily be studied by a candidate as Core Course.
- 2. **Major Elective :** A course which should compulsorily be studied by a candidate which is in supportive of major course.
- 3. **Research Methodology :** Research Methodology course of 4 credits is Mandatory in the first semester.

4. **On Job Training (OJT) / Field Project :**

On Job Training as a part of Sem II of 4 credits (Equivalent to 120 hours) can be completed by the students in any industry/ Organization after completion of Sem I Examination i.e during the Diwali vacation (15 days) or Field Project of 4 credits can be completed under the supervision of departmental faculty member. This includes collection of field-based data, analysis, interpretation, referencing, report writing, etc. in the functional area. One full day in week i.e @ of 8 hrs per day for 15 days (120 hrs.) is dedicated to field-based project.

- 5. Research Project (RP) – I: Research Project – I, of 4 credits as a part of Semester III is designed to acquire special/advanced knowledge in the field of Environment or safety. Research Project (RP) is required to be completed by the student during the summer vacation over a period of 15 days (120 Hours) in any Industry / R & D organization under the supervision of a guide allotted by the Industry or Organization.
- 6. Research Project (RP) – II : Research Project (RP-Master Thesis) – II of 6 credits (180 Hrs) as a part of Semester IV is a research oriented work, and a candidate studies such a course on his with an advisory support by a teacher / faculty member.
- 7. Duration of each semester will be 15 weeks.

Credit Pattern:

Every course offered will have three components associated with the teaching-learning process of the course, namely

Lecture - L, Tutorial - T, Practice - P

Where, **L** stands for **Lecture** session, **T** stands for **Tutorial** Session consisting participatory discussion / self-study/ desk work/ brief seminar presentations by students and such other novel methods that make a student to absorb and assimilate more effectively the contents delivered in the Lecture classes and **P** stands for **Practice** Session and it

consists of Hands on experience / Laboratory Experiments / Field Studies / Case studies that equip students to acquire the much required skill component.

M. Sc. (Computer Science in Cyber Security) consists of all the three components with weightage depending upon the paper.

If a course is of 4 credits, then the different credit distribution patterns in L: T: P format could be:

Theory Papers: 3: 0.5: 0.5

Practical: 1: 0: 3.0

Programme Outcomes

1. Conceptual Knowledge

Nurturing a foundation of comprehensive understanding and analytical thinking.

2. Research and Innovation

Fostering a spirit of research and innovation among students for formulating novel solutions.

3. Collaborative Learning

Imbibing collaboration and leadership skills for individual growth and collective empowerment.

4. Problem Solving and Critical Thinking

Developing critical thinking skills for problem solving and innovative solutions to meet dynamic challenges.

PSO

1. Proficiency in core computing domains

Exhibit proficiency in core computing domains in Computer Science with special relevance to security concepts through life long learning

2. Strategic planning for Secure Computational Systems

Apply sound theoretical knowledge and concepts to make the computational systems more secure.

3. Cutting-Edge Technologies and Security Tools Usage

Demonstrate requisite hands-on skills to work with a variety of security tools and frameworks in development of real life projects bearing social relevance and ethics.

4. Proficiency in Security Domain:

Design and development of secured applications for varied domains and platforms including best practices in user experience.

ASSESSMENT:

Taking into considerations of the UGC and AICTE requirements SIBER has adopted “Choice Based Credit System.” (CBCS). A course can be either full credit (4 credits) or half credit (2 credits). A full credit course shall be of 60 contact hours duration and a half credit course shall be of 30 contact hours duration.

For Theory paper of 100 marks (Four credits) the distribution of the marks will be as follows –

- Internal Marks i.e. Formative assessment - 40 Marks
- External Marks i.e. End of Semester examination - 60 marks

For Theory paper of 50 marks (Two credits) the distribution of the marks will be as follows –

- Internal Marks i.e. Formative assessment - 20 Marks
- External Marks i.e. End of Semester examination - 30 marks

Breakup of Internal Marks i.e. Formative assessment -

Sr. No.	Head	Full Credit	Half Credit
1.	Class Participation	10 Marks	05 Marks
2.	Objective Test(Minimum One Test Per Unit)	10 Marks	05 Marks
3.	Seminar /Book Review/ Home Assignment/ Class Assignment	10 Marks	05 Marks
4.	Case Study / Term Paper	10 Marks	05 Marks
	Total	40 Marks	20 Marks

The final internal marks will be calculated using the heads shown in above table. **The internal marks obtained by the student have to be disclosed and signed by the student.**

For Practical examination of 40 marks there shall be three questions of 15 marks each, the student has to attempt any two questions and 10 marks reserved for journal.

- Journal marks - 10 Marks
- Practical Marks i.e. End examination - 30 Marks

The practical examination should be considered as one head of passing i.e. 40 marks.

For the Field Project /Research Project Work of 100 marks, the distribution of the marks will be as follows –

- Internal Examiner - 30 Marks
- External Examiner - 30 Marks
- Project Report - 40 Marks

Sem III – Internship Project Evaluation (4 credits)

Students are required to complete one month internship after Semester II examination and evaluation of the same will be at the end of Semester III. (4 credits)

End of Semester Evaluation (60 Marks)			
	Presentation	Viva	Marks

Internal Examiner	15	15	30
External Examiner	15	15	30
Total			60
Internal Evaluation (40 Marks)			
Project Report			10
Mentor evaluation based on attendance & Progress report			10
Industry Confidential Report			20
Total			40

Semester Integrated – Semester IV Research Project (Master Thesis) - 6 credit project work

Project group size – Max 3

End of Semester Evaluation (60 Marks)			
	Presentation	Viva	Marks
Internal Examiner	15	15	30
External Examiner	15	15	30
Total			60
Internal Evaluation (40 Marks)			
Attendance			10
Progress Report			10
Project Report			20
Total			40

For Theory Paper Assessment

1. The assessment of papers will be done by an Internal and External examiner. A difference of more than **20%** in the marks awarded by these examiners would necessitate the valuation of these papers by the Third examiner. The **‘nearest’** highest marks will be considered for determining the average mark of such papers.
2. Once the Student is passed in the internal head of passing (Formative assessment out of 40) in the report submitted to the examination department, the same should be carried forward whenever required.
3. The students who failed in the internal head of passing (Formative assessment out of 40) should reappear for the same and the revised marks will be considered for further calculation.
4. There shall be SEVEN questions of which Question No.1 shall be COMPULSORY and from question no. 2 to 7 student has to attempt any FOUR questions. Equal weightage should be given to each unit.

STANDARD OF PASSING:

1. In order to pass in each passing head, a candidate should obtain 50% in the internal marks (Formative assessment), 40% marks in theory, and minimum of 50% of the marks in aggregate in passing head.
2. To pass the M.Sc.(CS in Cyber Security). examination, a candidate will have to pass in all Four Semester in Two Parts i.e. Part – I (Semester – I to II) and Part – II (Semester – III & IV)
3. To pass the Project work / Seminar course/ Term paper a candidate must obtain a minimum of 50% of the total marks. If a candidate fails in the seminar / project report/ term paper and its viva-voce, he/she will be required to complete the particular seminar / project report/ term paper and its viva-voce as a fresh candidate in the subsequent year.

4. A candidate from first year M.Sc.(CS in Cyber Security) will be eligible to proceed to the semester III , if he/she is not having more than **THREE** courses backlog (25% of passing heads) from the first year (i.e. Semester I and II)
5. If student passed in the internal head (formative assessment) as well as theory examination but fails in aggregate (total) head of passing in that case student has to appear only for the theory examination.
6. If students fails in internal marks(formative assessment) and passed in the theory examination, in that case students has to complete the internal marks in next subsequent semester at that time student must clear the aggregate head of passing.
6. Semester Performance Index (SPI)/Cumulative Performance Index(CPI) will be as follows.

Grading System:**Full Credit 100 Marks****Grade Table for Trimester/Semester Examination**

Marks Obtained	Letter Grade	Grade Point
96-100	S+	10.0
91-95	S	9.0
86-90	E+	8.5
81-85	E	8.0
76-80	O+	7.5
71-75	O	7.0
66-70	A+	6.5
61-65	A	6.0
56-60	B+	5.5
50-55	B	5.0
--	X	0.0
--	XX	---

Half Credit 50 Marks**Grade Table for Trimester/Semester Examination**

Marks Obtained	Letter Grade	Grade Point
48 – 50	S+	10.0
46 – 47	S	9.0
43 – 45	E+	8.5
41 – 42	E	8.0
38 – 40	O+	7.5
36 – 37	O	7.0
33 – 35	A+	6.5
31 – 32	A	6.0
28 – 30	B+	5.5
25 – 27	B	5.0
--	X	0.0
--	XX	---

5. Final Result: For the final result of the student Cumulative Performance Index (CPI) based on total earned credits vis-à-vis total earned grade points shall be calculated will be as follows.

Total earned grade points / Total credits i.e. **88** credits.

Result		
CPI	Final Grade	Classification of Final Result.
9.0 – 10.0	E	Excellent
8.0 – 8.9	O	Out Standing
7.0 – 7.9	A+	Very Good
6.0 – 6.9	A	Good
5.5 – 5.9	B+	Average
5.0 – 5.4	B	Pass
0.0 – 4.9	X	Unsatisfactory (Fail)

Note: An aggregate of **5.0** credit points are required to pass the M.Sc. program.

CALCULATION OF PERFORMANCE INDICES:

A distinction of the performance of one student from the other student is rather impossible to carry out from the grades obtained by a student in all the courses taken by him in a semester/year. Hence, the evaluation of various courses is cumulated in two performance indices termed as semester performance index (SPI) and cumulative performance index (CPI), the explanation of which is given below:

Semester Performance Index (SPI):

The performance of a student in a semester is indicated by a number called Semester Performance Index (SPI). SPI is the weighted average of all the grade points obtained by him in all the courses registered during the semester. If G_i is a grade with numerical equivalent as G_i obtained by a student for the course with credit C_i then, SPI for that semester is calculated using formula.

$$SPI = \frac{\sum_{i=1}^n C_i G_i}{\sum_{i=1}^n C_i}$$

Where summation is for all the courses registered by a student in that Semester SPI is calculated to two decimal places and rounded off. SPI once calculated shall never be modified. Generally, for the students failed in regular examinations SPI is calculated only after the declaration of re-examination grades.

Cumulative Performance Index (CPI):

An up-to-date assessment of the overall performance of a student from the first semester till completion of the

programme is obtained by calculating an index called as Cumulative Performance Index (CPI). The CPI is weighted average of the grade points obtained in all the courses registered by a student since the first semester of the programme.

Besides SPI, CPI is also calculated at the end of every semester upto two decimal places and is rounded off. It is necessary to ensure that one course appears only once in calculation of CPI and the denominator in above equation does not exceed the total number of credits registered by him.

GRACE MARKS UNDER DIFFERENT ORDINANCE.

S.O. No. 1:-Grace Marks for Passing in each head of Passing (Theory/Practical/Oral/ Sessional/External).

The Examinee shall be given the benefit of grace marks only for passing in each head of Passing Theory/Practical/Oral/Sessional/ in External examination as follows.

Head of Passing	Grace Marks
Up to – 50	2
051-100	3
101-150	4
151-200	5
201-250	6
251-300	7
301-350	8
351-400	9
And 401 and above.	10

Provided that the benefit of such gracing marks in different heads of passing shall not exceed 1% of the aggregate marks in that examination.

Provided further that the benefit of gracing of Marks under this Ordinance shall be applicable only if the candidate passes the entire examination of Semester.

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, UGC and Shivaji University etc.

S.O. No. 2:- Grace Marks for getting higher Class

A Candidate who passes in all the courses and heads of passing in the examination without the benefit of either gracing or condonation rules and whose total number of Marks falls short for securing Second Class/Higher Second Class or First Class by marks not more 1% of the aggregate marks of that examination or up to 10 marks, whichever is less, shall be given the required marks to get the next higher class of grade as the case may be.

Provided that benefits of above mentioned grace marks shall not be given, if the candidate fails to secure necessary passing marks in the aggregate head of passing also, if prescribed in the examination concerned.

Provided further that the benefits of above mentioned grace marks shall be given to the candidate for such examination/s only for which provision of award of class has been prescribed.

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, UGC and Shivaji University etc.

S.O. No. 3 Condonation

If a candidate fails in more than one head of passing, his/her deficiency of marks in such head of passing may be condoned by not more than 1% at the aggregate marks of the examination. However condonation, whether in one head of passing or aggregate head of passing be restricted to maximum upto 10 marks only.

Condonation of deficiency of marks be shown in the statement of Marks in the form of asterisk and Ordinance number

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, UGC and Shivaji University etc..

BACKLOG:

1. A candidate will be permitted to proceed to the second Semester even though he/she fails in one or more courses of the first semester, provided the first semester term is granted..
2. The students who have a backlog of not more than **THREE courses (25% of passing heads)** in the First year examination (Semester I & II) will be eligible to be admitted to the Second year (III Semester) of M.Sc. (Comp. Sci.)
3. A Candidate will be permitted to proceed to the Fourth Semester even though he/she fails in one or more courses of the third semester, provided the third semester term is granted.

CHHATRPATI SHAHU INSTITUTE OF BUSINESS EDUCATION AND RESEARCH (CSIBER)

University Road, Kolhapur – 416 004

Out Line Theory Question paper for all the programmes

(Four Unit Course)

Class:

Course Name:

Paper no. :

Time: Three hours

Total marks: 60

INSTURCTIONS:

1. Question no. 1 is **COMPULSORY**
2. Attempt any **ONE** from Q. No. 2 and Q. No. 3.
3. Attempt any **ONE** from Q. No. 4 and Q. No. 5.
4. Figures to right indicate **FULL** marks

		Marks
Q. 1)	Case Study	(20)
Q. 2)	Essay Type Question	(20)
OR		
Q. 3)	Essay Type Question	(20)
Q. 4)	a) Long Answer Question b) Long Answer Question	(10) (10)
OR		
Q. 5)	a) Long Answer Question b) Long Answer Question	(10) (10)

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CHHATRPATI SHAHU INSTITUTE OF BUSINESS EDUCATION AND RESEARCH (CSIBER)

University Road, Kolhapur – 416 004

Out Line Theory Question paper for all the programmes

(Two Unit Course)

Class:

Course Name:

Paper no. :

Time: Two hours

Total marks: 30

INSTURCTIONS:

1. Question no. 1 is **COMPULSORY**
2. Attempt any **ONE** from Q. No. 2 and Q. No. 3.
3. Attempt any **ONE** from Q. No. 4 and Q. No. 5.
4. Figures to right indicate **FULL** marks

		Marks
Q. 1)	Case Study	(10)
Q. 2)	Essay Type Question	(10)
OR		
Q. 3)	Essay Type Question	(10)
OR		
Q. 4)	Long Answer Question	(10)
Q. 5)	Long Answer Question	(10)

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CHHATRPATI SHAHU INSTITUTE OF BUSINESS EDUCATION AND RESEARCH (CSIBER)
University Road, Kolhapur – 416 004

NATURE OF PRACTICAL QUESTION PAPER

Time : 2 Hours

Total Marks : 40

Instructions:

1. **Attempt any TWO questions.**
2. **10 Marks are reserved for journal**

		Marks
Q. 1)	ONE LONG QUSTION / DIVIDE QUESTION INTO TWO BITS	(15)
Q. 2)	ONE LONG QUSTION / DIVIDE QUESTION INTO TWO BITS	(15)
Q. 3)	ONE LONG QUSTION / DIVIDE QUESTION INTO TWO BITS	(15)

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M.Sc. (Computer Science in Cyber Security) Course Structure (NEP 2020)

M. Sc. (Computer Science in Cyber Security) Part-I Semester I

Course Code	Course Name	Credits	Contact hours	Int./Pract. Marks	EOS marks	Total Marks
MSEC-101	Operating System	4	60	40	60	100
MSEC-102	Secure C Programming (Lab)	4	60	40	60	100
MSEC-103	Web Design & Development (Lab)	4	60	40	60	100
MSEC-104	Design and Analysis of Algorithm	2	30	20	30	50
MSEC-105	Research Methodology	4	60	40	60	100
ELSEC-106	1 (a) Cloud Computing and Security 1 (b) Digital Forensic	4	60	40	60	100
	Total	22	330	220	330	550

M. Sc. (Computer Science in Cyber Security) Part-I Semester II

Course Code	Course Name	Credits	Contact hours	Int./Pract. Marks	EOS marks	Total Marks
MSEC-201	Database Management System	4	60	40	60	100
MSEC-202	Java Programming (Lab)	4	60	40	60	100
MSEC-203	Python Programming (Lab)	4	60	40	60	100
MSEC-204	Ethical Hacking	2	30	20	30	50
MSEC-205	Field Project	4	60	40	60	100
ELSEC-206	2 (a) Information Security and Cryptography 2 (b) Machine Learning Security	4	60	40	60	100
	Total	22	330	220	330	550

Exit option: PG Diploma (44 Credits) after successful completion of first year (Semester I and Semester II) of PG Degree

M. Sc. (Computer Science in Cyber Security) Part-II Semester III

Course Code	Course Name	Credits	Contact hours	Int./Pract. Marks	EOS marks	Total Marks
MSEC-301	Secure Software Design	4	60	40	60	100
MSEC-302	Linux Administration and Programming (Lab)	4	60	40	60	100
MSEC-303	Penetration Testing (Lab)	4	60	40	60	100
MSEC-304	IOT Security	2	30	20	30	50
MSEC-305	Internship Project & Viva	4	60	40	60	100
ELSEC-306	3 (a) Web Security 3 (b) Full Stack Web Development	4	60	40	60	100
	Total	22	330	220	330	550

M. Sc. (Computer Science in Cyber Security) Part-II Semester IV

Course Code	Course Name	Credits	Contact hours	Int./Pract. Marks	EOS marks	Total Marks
MSEC-401	Computer Communication Network	4	60	40	60	100
MSEC-402	Dot Net Programming (Lab)	4	60	40	60	100
MSEC-403	Block Chain (Lab)	4	60	40	60	100
MSEC-404	Research Project (Master Thesis)	6	180	40	60	100
ELSEC-405	4 (a) Mobile and Wireless Security 4 (b) Big Data Analytics	4	60	40	60	100
	Total	22	420	200	300	500

M.Sc. (Computer Science in Cyber Security) Programme Structure
(NEP 2020)

Semester	I	Total Credit	4
Course Code	MSEC-101	Credit Pattern	L-48, T-10, P-2
Course Title	Operating System		
Course Objectives			
1	To familiarize the student to the operating system fundamentals		
2	To impart in-depth knowledge of process management and inter-process communication		
3	To study the different memory management techniques and File systems		
4	To provide a student with the solid foundation of operating system security and protection		
Course Outcomes: After successful completion of the course, the students would be able to			
1	Illustrate fundamental operating system concepts such as processes, threads, files, semaphores, IPC, shared memory regions, etc.		
2	Analyse important algorithms eg. Process scheduling, Deadlock avoidance and memory management algorithms		
3	Compare different memory management techniques and file Systems		
4	Apply theories of secure operating system in resolving security and access control related real time problems		
Syllabus:			
Unit No.	Contents	Number of Sessions	
1	Operating system structures, Process Management: Process and thread concept, Process scheduling, Scheduling Criteria, Scheduling Algorithms, performance evaluation of scheduling algorithm. Process Synchronization: The critical–Section problem, semaphore, classic problems of synchronization (Producer consumer problem), inter-process communication	L= 12	
		T=3	P= 0
2	Deadlock: Deadlock modelling, Methods for Handling Deadlock, Deadlock Prevention, Deadlock Avoidance (Bankers Algorithm), Deadlock Detection. Memory Management: Concept, Memory Management Techniques, Swapping, Contiguous Memory Allocation, Memory Protection, Memory Allocation, Fragmentation, Paging, Basic Method, Segmentation with Paging, Virtual Memory Concept, Demand Paging, Page Replacement algorithm .	L= 12	
		T= 3	P= 0
3	File System, File Structure, Unix File System, Log Structured File System, Andrew File System (AFS), Cryptographic File Systems, Server less Network File Systems, Coda File System, File System Mounting and Sharing, File layout, File System implementation and Allocation Methods. Device management - Disk Structure, Disk scheduling I/O Hardware and Kernel I/O Subsystem	L= 12	
		T= 3	P= 0
4	Security in Operating System: Introduction, Secure Operating System Definition, Security Goals, Trust Model, Threat Model, Multics, Access Control Fundamentals, Lampson's Access Matrix, Mandatory Protection Systems, Reference Monitor, Assessment Criteria, Security in Ordinary Operating Systems, Security Analysis and Vulnerabilities, Security Kernels Nessus Tool, OpenVas Tool, Snort Tool, NPM Audit Tool, ClamAV, Malwarebytes Tools	L=12	
		T= 1	P= 2
Learning Resources			
1	Text Books	• Tanenbaum, A. and Bos, H. (2023), “Modern Operating Systems”.	

		Global Edition. 5th ed. London, England: Pearson Education. • Barbuddhe, V., Zanjat, S. N. and Karmore, B. S. (2020), “Modern Operating Systems”, LAP Lambert Academic Publishing. • Blokdyk, G. (2018), “Secure operating system a clear and concise reference”, 5starcooks.
2	Reference books	• Jones, P. (2018), “Principles of modern operating systems”, North Charleston, SC: Createspace Independent Publishing Platform. • Laursen, E. (2021), “The operating system the operating system: An anarchist theory of the modern state”, Edinburgh, Scotland: AK Press. • Lister, A. (2013), “Fundamentals of operating systems”, 1993rd ed. New York, NY: Springer. • Summers, K. (ed.) (2018), “Modern Operating Systems”, Willford Press
3	Websites	• Operating System Introduction (no date) W3schools.in. Available at: https://www.w3schools.in/operating-system-tutorial/intro/ (Accessed: June 26, 2023). • Operating system tutorial (no date) Studytonight.com. Available at: https://www.studytonight.com/operating-system/ (Accessed: June 26, 2023). • Williams, L. (2023) What is Operating System? Explain Types of OS, Features and Examples, Guru99. Available at: https://www.guru99.com/operating-system-tutorial.html (Accessed: June 26, 2023).
4	Journals	• Li, D. J. et al. (2022) “Secure trusted operating system based on microkernel architecture,” in Proceedings of Sixth International Congress on Information and Communication Technology. Singapore: Springer Singapore, pp. 173–188. • Santana, R. et al. (2016) “A fast and slippery slope for file systems,” ACM SIGOPS Operating Systems Review, 49(2), pp. 27–34. doi: 10.1145/2883591.2883598.
5	Supplementary Reading	• Saunders, G., Hitchens, M. and Varadharajan, V. (2001) “Role-based access control and the access control matrix,” ACM SIGOPS Operating Systems Review, 35(4), pp. 6–20. doi: 10.1145/506084.506085. • Wolthusen, S. D. (2002) “Access and use control using externally controlled reference monitors,” ACM SIGOPS Operating Systems Review, 36(1), pp. 58–69. doi: 10.1145/844166.844170.
6	Practical Components	Nessus tool, OpenVas tool, snort tool, NPM Audit tool, CalmAV, Malwarebytes tools.

SEM	I	Total Credit	4
Course Code	MSEC-102	Credit Pattern	L-45, T-8, P-7
Course Title	SECURE C PROGRAMMING		

Course Objectives	
1	Fundamental Concepts of C Programming such as basic structure of C program, variables, data types, control structures, arrays, functions, structure etc.
2	How to implementing pointers in C application
3.	How design and develop different C applications.
4.	File handling and dynamic memory allocation in C programming.

Course Outcomes: The students will be able to	
1.	Understand basic Structure of the C-PROGRAMMING, declaration and usage of variables, control structures, array etc.
2.	Demonstrate various practical applications by using different concepts of C programming such as variables, constants, control structures , user defined data types including structures and unions to solve problems.
3.	Apply code reusability with functions and pointers and also understand the basics of file handling mechanisms.
4	To design and develop C applications.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to C Programming Overview of C programming language, Setting up the development environment (IDE), Basic syntax, data types, and variables, Input and output operations, Control flow statements: if-else, switch-case, loops, Functions and parameter passing	L-11	
		T-2	P-1
2	Arrays, Pointers, and Strings Introduction to arrays, declaration, initialization, array processing, Pointer and its importance, Array of pointer, Pointer to array, Pointer arithmetic and dynamic memory allocation, String handling and manipulation, Working with character arrays and strings	L-12	
		T-2	P-2
3	Advanced Concepts and File Handling Structures and Unions, Enumerations and typedef, Bit manipulation and bitwise operators, Memory management and dynamic data structures, Preprocessor directives, File handling, File structure, File operation	L-11	
		T-2	P-2
4	Secure Coding Principles in C Introduction to Secure Coding, Common errors in string manipulation, Input Validation and Sanitization, Memory Management and Buffer Overflows, Secure Coding Practices, Integer Security, Error Handling and Exception Management	L-11	
		T-2	P-2

Learning Resources		
1	Text Books	- Schildt, H., (2017). 4th Edition, C: The Complete Reference, McGraw Hill Education - Kernighan, B. W., Ritchie, D.M., (2015). C Programming Language, Pearson
2	Reference	Kanetkar, Y.P., (2020). 17th Edition, Let us C Solutions, BPB

	books	Publications Seacord, R., (2013). 2nd Edition, Secure Coding in C and C++, Addison-Wesley Professional
3	Websites	- C Tutorial, https://www.tutorialspoint.com/cprogramming/index.htm - C Tutorial, https://www.w3schools.com/c/ - C Programming Language Tutorial, https://www.javatpoint.com/c-programming-language-tutorial
4	Journals	- Eric Filiol, Journal of Computer Virology and Hacking Techniques, Springer, ISSN: 2263-8733 - Tyler Moore, David Pym, Journal of Cybersecurity, Oxford University Press, ISSN 2057-2093
5	Supplementary Reading	How to Write Secure Code in C, https://www.perforce.com/sites/default/files/pdfs/how-to-write-secure-code-c.pdf
6	Practical Components	- Code::Blocks https://www.codeblocks.org/ - Laboratory experiments on Programming basics, Arrays, Pointers, and Strings, Structure and Union, File Handling.

Semester	I	Total Credit	4
Course Code	MSEC-102	Credit Pattern	L-45, T-8, P-7
Course Title	Web Design and Development		
Course Objectives			
1	To understand the basics of the internet and web terminologies and develop the static web pages.		
2	To build dynamic web pages with validation using Java Script objects and by applying different event handling mechanisms.		
3.	To develop modern interactive web applications using HTML, CSS, JAVASCRIPT, PHP and MySQL.		
4	To know the usefulness of web services.		
Course Outcomes: The students will be able to			
1.	Describe the concepts of World Wide Web, and the requirements of effective web design.		
2.	Develop web pages using the HTML and CSS features with different layouts as per need of applications.		
3.	Understand the client side scripting by using JavaScript to develop the dynamic web pages.		
4.	Use server side scripting with PHP to generate the web pages dynamically using the database connectivity.		
Unit	Contents		Number of Sessions
1	Introduction to HTML and CSS: (15) Introduction To HTML, WWW, W3C, Common HTML, Tags Physical & Logical, Some basic tags like , changing background color of page, text color etc., Text formatting tags, Ordered & Unordered Lists Tags, Inserting image, Inserting Links: text, image links, Image mapping , Tables , Frames, Form Introduction with various input control - text box, text area, buttons, List box, radio, checkbox etc. Introduction to HTML5, HTML5 features and Elements: semantic tags, the selector API, new form input controls, improved accessibility Creating drop shadows and rounded corner CSS Introduction To Style sheet, types of style sheets- Inline, External, Embedded CSS, text formatting properties, CSS Border, margin properties, Positioning Use of classes in CSS, color properties, use of <div> and . CSS3 Specifications, CSS3 features selectors		L= 11
			T=2 P= 2
2	Introduction to JavaScript: (15) Introduction to script, types, Intro of JavaScript, JavaScript identifiers, operators, control & Looping structure, Intro of Array, Array with methods, Math, String, Date Objects with methods User defined & Predefined functions, Working with Frames, Forms and Form elements and the associated events. Form validation, three types of dialog boxes: alert, prompt, confirm, JavaScript Regular Expression		L= 11
			T=2 P= 2
3	Introduction to PHP: (15) Concept of PHP, Constants, variables declaration, Comments, Data types, Operators, Command line arguments, Conditional statements, If-else, Switch, Ternary operators, looping statements- For loop, While loop, Do-while loop, Creating arrays, Inserting elements in arrays, Retrieving elements from array, Displaying arrays, Sorting array elements		L= 11
			T=2 P= 2
4	PHP and MySQL Connection: Introduction to Databases, Connecting to MySQL database, Creating database, Creating tables, Inserting values in table, displaying, changing, searching, deleting records from the table, SQL queries- insert, select, delete, update, where, order by		L= 11
			T=2 P= 2
Learning Resources			

1	Text Books	1. Html and css: design and build websites, by jon duckett 2. Javascript and jquery: interactive front-end web development, by jon duckett 3. Learning web design: a beginner's guide to html, css, javascript, and web graphics, by jennifer niederst robbins
2	Reference books	1. M. Morris Mano, Computer System Architecture, Pearson, 3rd Edition 2. M. Morris Mano, Digital Logic and Computer Design, Prentice Hall 3. M. Morris Mano, Michael D. Ciletti, Digital Design, Prentice Hall, 4th Edition 4. J. P. Hayes, Computer Architecture & Organization, MGH, 3rd Edition 5. V. Rajaraman & Radhakrishnan, Introduction to Digital Computer Design, PHI 6. Pal Chaudhary, Computer Organization & Design, PHI, 3rd Edition
3	Websites	☐ www.Udemy.com ☐ www.Coursera.com ☐ www.W3Schools.com ☐ www.Tutorialspoint.com
4	Journals	☐ Wei Willy. Usability tool for analysis of web designs using mouse tracks ☐ Advances in Informatics. Springer; 2003 ☐ Design Studies
5	Supplementary Reading	☐ www.Lynda.com + LinkedIn Learning ☐ www. Codeacademy.com ☐ www.The Odin Project .com
6	Practical Components	Total 20 practical's based on Web Design and Development.

Semester	I	Total Credit	4
Course Code	MCES -104	Credit Pattern	L-45, T-15, P-0
Course Title	DESIGN AND ANALYSIS OF ALGORITHM		
Course Objectives			
1.	To provide in-depth understanding of the discipline and to develop learners analytical ability to solve complex problems.		
2.	To familiarize the learner with the data structures in a manner in which these data structures can best be implemented; and to accustomed them to the description of algorithms in both functional and procedural styles.		
3.	To discuss and demonstrate algorithmic design paradigms and methods of analysis.		
4.	To develop among the learners the algorithm design skills by applying algorithmic strategies and mathematical theories to find out the time complexity of the algorithm.		
Course Outcomes: After successful completion of the course, the students would be able to			
1.	Design efficient algorithmic solutions by applying problem-solving techniques and algorithm design paradigms to address a variety of computational problems.		
2.	Examine the complexity of algorithms using different analysis methods to assess their performance and efficiency. Thereafter classify problems based on complexity		

Unit Number	Contents	Number of Sessions	
1	Introduction to Algorithms: Problem solving aspect, top down design, implementation of algorithm, the efficiency of algorithm, analysis of Algorithm, time complexity and space complexity ,Asymptotic notation. Exchanging values of two variables, counting, summation of set of numbers, factorial computation, generation of Fibonacci sequence, reversing of the digits of an integer, base conversion. Generating prime numbers, raising number to a large power, finding maximum, minimum from the same, array techniques, array order reversal.	L= 12	
		T=3	P= 0
2	Algorithm Design Paradigms: Searching, Sorting algorithms: Sequential search, Binary Search, Hash search, Selection sort, Exchange sort, Insertion sort. Graph algorithms: Depth -First search, Breadth-First search , Single source shortest path. Algorithm Design strategies : Greedy method- knapsack problem, Minimum cost spanning tree algorithms (prims and kruskals), Divide and Conquer : General Strategy , Quick Sort and Merge Sort General Strategy, Backtracking – n Queen problem, Branch and Bound – Travelling Salesman problem, dynamic programming – general strategy, Matrix chain multiplication Complexity and classification of Problems -: P, NP, NP-HARD AND NP- COMPLETE PROBLEMS	L = 12	
		T= 3	P= 0
Learning Resources			

1	Text Books	1. Dromey, R.G. (2008). <i>How to solve it by computer</i>. Delhi: Pearson Education. 2. Cormen, T.H., Charles Eric Leiserson, Rivest, R.L. and Stein, C. (2022). <i>Introduction to algorithms</i>. Cambridge, Massachusett: The Mit Press.
2	Reference books	1. Mark Allen Weiss (1999). <i>Data Structures and Algorithm Analysis in C (2nd Edition)</i>. Singapore: Addison Wesley Longman, Inc. 2. Horowitz, E., Sahni, S. and Rajasekaran, S. (1999). <i>Computer algorithms</i>. New Delhi: Galgotia Publications. 3. Anany Levitin (2012). <i>Introduction to the design & analysis of algorithms</i>. Boston ; Montréal: Pearson / Addison-Wesley. 4. Horowitz, E., Sartaj Sahni and Anderson-Freed, S. (2008). <i>Fundamentals of data structures in C</i>. Hyderabad: University Press.
3	Websites	1. Walker, A. (2023). <i>DAA Tutorial: Design and Analysis of Algorithms</i>. [online] www.guru99.com. Available at: https://www.guru99.com/design-analysis-algorithms-tutorial.html 2. nptel.ac.in. (n.d.). <i>NPTEL IITm</i>. [online] Available at: https://nptel.ac.in/courses/106101060/ 3. GeeksforGeeks. (n.d.). <i>Design and Analysis of Algorithms</i>. [online] Available at: https://www.geeksforgeeks.org/design-and-analysis-of-algorithms/ 4. openclassroom.stanford.edu. (n.d.). <i>CS 161 - Design and Analysis of Algorithms</i>. [online] Available at: http://openclassroom.stanford.edu/MainFolder/CoursePage.php?course=IntroToAlgorithms.
4	Journals	1. IEEE Journal of Computing in Science & Engineering : (https://ieeexplore.ieee.org/document/6664963) 2. Springer US :Algorithmica (https://link.springer.com/journal/453) 3. Science direct : Elsevier - journal of Algorithms (https://www.sciencedirect.com/journal/journal-of-algorithms)

Semester	I	Total Credit	4
Course Code	MSEC-105	Credit Pattern	L-48, T-9, P-3
Course Title	RESEARCH METHODOLOGY		

Course Objectives	
1	Conceptualise a topic of interest and need to define a problem to be investigated
2	Analyze Research Methodologies for Application
3.	Order and Synthesize Data from Various Sources
4.	Apply Research Methodology in Their Own Research
5	Develop the ability to present information concisely, with clarity and relevance, using appropriate conventions for different contexts.

Course Outcomes: The students will be able to	
1.	Applying Knowledge and Comprehension in Understanding Research Methodologies.
2.	Application and Analysis of Qualitative Research Methodologies
3.	Evaluating and Critically Analyzing Advanced Quantitative Research
4	Analyzing, Synthesizing, and Reporting with Integrated Mixed Methods in Research

Syllabus:

Unit Number	Contents	Number of Sessions	
1	I The Research Process & Ethics Empiricism, Deductive & Inductive Inquiry ,Philosophical Assumptions in Research ,Planning Research Project and Developing Research Questions: -Research thought, Importance, Supervisor, Managing Time and Resources, Developing Research Question; Research Designs: -Reliability, Replicability and Validity , Experimental Design, Cross – Sectional Design, Case Study Design, Comparative Design ;Reviewing the Literature for Research -Reading Critically, Systematic Review, Narrative Review, Searching Online Databases, Keywords and Defining Search Parameters, Referencing, Avoiding Plagiarism The importance of research ethics, ethical principles, safety in research, avoidance of harm, ethical considerations in a student research project, maintaining anonymity in a student research project, privacy, preventing deception, reciprocity and trust, affiliation and conflict of interest, visual methods and research ethics, ethical considerations in online research, copyright issues, copyright and photographs	L= 8	
		T=3	P= 0

2	II The nature of Qualitative Research : The main steps in Qualitative research ,Concepts & their measurements-Reliability, Evaluating,Credibility, Transferability, Dependability, Confirmability, Preoccupations,Concepts and Theory grounded in data,Contrasts and Similarities between Qualitative Research.; Sampling in Qualitative Research - :Levels of Sampling, Purposive Sampling, Theoretical Sampling, Generic Purposive Sampling, Snowball Sampling, Sample Size Determination. Ethnography and Participants Observations: - Organizational Ethnography, Role of Ethnographers, Active/ Passive, Shadowing, Field notes & field notes, Ethnographic fieldwork, Feminist Ethnography, Global and Multi Site Ethnography, Virtual Ethnography, Visual Ethnography, writing ethnography, Realist tales Interviewing in Qualitative Research: -Structured interview & Types of interviews,Interview contexts & conducting interviews,recording & Transcription.Pros & Cons of Qualitative interviews. Pros & cons of Qualitative interviews;Focus Groups: - Process of Focus Groups Interviews & selection of Group,Framing the interactions ,Focus Group as an Emancipatory method, Limitations of Focus Groups. ;Qualitative Data Analysis: -Thematic Analysis, Grounded Theory, Tools and outcomes of Grounded Theory, Criticism of Grounded Theory, First and Second Order Analysis, Coding, Steps and Considerations in Coding, Turning Data into Fragments, Critique of Coding, Secondary analysis of Qualitative data	L= 12	
		T=3	P= 0
3	III . Introduction to Quantitative Research: - Steps in Quantitative Research, Concepts and Measurements, Reliability & Validity of measures ,Main Preoccupations ,The critique of quantitative research ; Sampling in Quantitative Research: -Planning a survey, Basic concepts in sampling ,Types of Probability sample,qualities of probability sample, absolute and relative sample size, Types of Non-Probability Sample , limits and generalization, sampling issues for online surveys Structured Interviewing,interview contexts, conducting interviews, leaving the interview, training the supervision, Other approaches to structured interviewing ,Problems with structured interviewing ,Asking Questions, types of questions ,advantages and disadvantages,, specific rules when designing questions, common mistakes .Self – Completion of Questionnaires-different kinds of self-completion , Questionnaires,Evaluation of this in relation to structured interview,designing self-completion questionnaire,Email & online surveys ,comparing modes of surveys administration & diaries Quantitative Research using Naturally Occurring Data: - Structured observation, observation schedule, strategies for observing behavior,issues of reliability and validity, criticism of structured observation, content analysis, research questions, Selecting sample content analysis, Coding content analysis,advantages & disadvantages in content analysis Quantitative data Analysis: -Small Research Project, Missing data, types of variables, univariate analysis , Bivariate Analysis ,Multivariate Analysis ,Statistical Significance & comparing means and statistical significance SPSS (Statistical Package for Social Sciences) Statistics: -Basic operations in SPSS,data analysis with SPSS, generating frequency tables ,boxplot & charts, Descriptive statistics,generating contingency table- chi-square, and Cramer’s V, generating Pearson’s r and Spearman’s rho, generating scatter diagrams, generating a contingency table with three variables, Saving your	L= 16	
		T=0	P= 3

	data, retrieving your data, printing output		
4	IV . Mixed Method Research: Breaking down the Quantitative and Qualitative Research: -Natural Science model and qualitative research, quantitative research and interpretivism, quantitative research and constructionism, Epistemological and ontological considerations, Problems with quantitative / qualitative contrast ,Reciprocal Analysis, Qualification in Qualitative Research – Thematic Analysis, Quasi -quantification in qualitative research, combating anecdotalism through limited quantification, Combining Quantitative and Qualitative Research - arguments against mixed method research, the rise of mixed method research, classifying mixed methods research in terms of priority and sequence, different types of mixed methods design, approaches to mixed methods research, the logic of triangulation, static and procedural features, research issues and participants’ perspectives, the problem of generality, interpreting the relationship between variables, different aspects of a phenomenon, quality Issues in Mixed Method Research Writing up Research Project: Writing academically, writing up your research – start early, be persuasive, get feedback, avoid discriminatory language, constructing an argument (Chaptalization of Research Project / Dissertation / Master Thesis), Structure your writing – Title page, Acknowledgements, list of contents, Abstract with keywords, Introduction, Literature Review, Research Methods, Results, Discussion, Conclusion, Recommendations, Further Studies, Future Scope of Research, The challenges and constraints of length, Appendices, References, Bibliography, Proofreading your dissertation, writing up quantitative and qualitative research (Quantitative Research) – Introduction, Role of congruity Theory, Goals of the Present Study, Methods, Results, Discussion, Lessons, (Qualitative Research) – Introduction, Methodology, Research Findings, Discussion, Summary and conclusion, Recommendations, Further Studies, Future scope of the research, lessons, Reflexivity and its implications for writing, Writing differently	L=12	
		T=3	P= 0

Learning Resources			
1	Text Books	- Bell, E., Bryman, A. & Harley, B. (2019), 2nd Ed., Business Research Methods, Oxford University Press, New Delhi, India - Kothari, C. R. & Garg, G., (2019), 4th Ed., Research Methodology – Methods and Techniques, New Age International Publishers, New Delhi, India	
2	Reference books	- Creswell, J.W., (2014), 3rd Edition, Research Design, Qualitative, Quantitative and Mixed Methods Approaches, Sage Publication, New Delhi, India - Copper, D. R. & Schindler, P. S., (2011), 9th Ed., Business Research Methods, Tata McGraw Hill, New Delhi, India - Hair Jr., J. F., Black, W.C., Babin, B.J. & Anderson, R.E., (2010), 7th Edition, Multivariate Data Analysis, Prentice Hall, NJ, USA - Malhotra, N.K. & Das, S., (2019), 7th Ed., (Revised), Marketing Research – An Applied Orientation, Pearson Education, New Delhi, India	
3	Websites	"Types of Research Methodology" . [Online]. Available at: https://eduvoice.in/types-research-methodology/#0-what-is-research (Accessed: 4 July 2023) - QuestionPro . Qualitative Research Methods. [Online]. Available at: https://www.questionpro.com/blog/qualitative-research-methods/ (Accessed: 4	

		July 2023). • QuestionPro . Quantitative Research. [Online]. Available at: https://www.questionpro.com/blog/quantitative-research/ (Accessed: 4 July 2023). • Harvard Catalyst . Community Engagement: Mixed Methods Research. [Online]. Available at: https://catalyst.harvard.edu/community-engagement/mmr/ (Accessed: 4 July 2023). • "SPSS Tutorials" . [Online]. Available at: https://www.spss-tutorials.com/ (Accessed: 4 July 2023).
4	Journal Articles	• Rahman, A. & Muktadir, M.G. (2021). "SPSS: An Imperative Quantitative Data Analysis Tool for Social Science Research." International Journal of Research in Social Sciences (IJRISS), V. 300-302. DOI: 10.47772/IJRISS.2021.51012. • Rahman, A. and Muktadir, M.G. (2021). "SPSS: An Imperative Quantitative Data Analysis Tool for Social Science Research." International Journal of Research and Innovation in Social Science (IJRISS), Volume V, Issue X, October 2021, pp. 300. ISSN 2454-6186. Available at: www.rsisinternational.org. • Aspers, P. and Corte, U. (2019). "What is Qualitative in Qualitative Research." Qualitative Sociology, 42(2), 139-160. doi: 10.1007/s11133-019-9413-7. PMID: 31105362; PMCID: PMC6494783.
5	Supplementary Reading	• Sage Journals (2023). [Online]. Available at: http://qrj.sagepub.com (Accessed: 4 July 2023). • MIT Press Journals (2023.). Quantitative Science Studies. [Online]. Available at: https://direct.mit.edu/qss (Accessed: 4 July 2023). • Smith, J. (2021). Research Methods and Techniques. [Online]. Available at: https://stjosephs.edu.in/upload/seminars_workshop_conference/5ce2422796dff219fc73b614b6b4a48e.pdf (Accessed: 4 July 2023). • https://www.emerald.com/insight/publication/issn/1443-9883
6	Practical Components	• SPSS tutorials: https://www.spss-tutorials.com/ • SPSS Basics: https://www.javatpoint.com/spss • SPSS examples: https://www.ibm.com/docs/SSLVMB_25.0.0/pdf/en/IBM_SPSS_Statistics_Brief_Guide.pdf

Semester	I	Total Credit	4	
Course Code	ELSEC-206 (a)	Credit Pattern	L-48, T-12, P-0	
Course Title	Cloud Computing and Security			
Course Objectives				
1	To explore vital concepts in Cloud Computing			
2	To identify the technical foundations of cloud systems architectures			
3	To expose the students to frontier areas of Cloud Computing			
4	To explore Cloud Security fundamentals			
Course Outcomes: Students will be able to;				
1	Articulate various deployment models as well as service models of cloud computing.			
2	Understand various cloud platform resources, deployment and their usage.			
3	Understand importance of security and responsibilities of various stakeholders.			
4	Elaborate enterprise security considerations compared to on-premise information systems.			
Unit Number	Contents			Number of Sessions
1	<u>Cloud Computing Fundamentals</u> Introduction to Cloud Computing, Essential Characteristics, Cloud Computing Architecture, Cloud Service Models, Cloud Deployment Models, Alternative Deployment Models(Linthicum Model, Cloud Cube Model), Architectural Influences, Technological Influences, Operational Influences, Service Oriented Architecture (SOA), WSDL, Cloud computing costs, Right sizing, auto scaling, vertical scaling Vs horizontal scaling, service level agreement, Capacity planning, steps in capacity planning			L= 12
				T= 3 P= 0
2	<u>Virtualization:</u> Introduction to Virtualization, Characteristics of virtualization, Pros and Cons of Virtualization, Types of Virtualization, Implementation Levels of Virtualization - Virtualization Structures - Tools and Mechanisms - Virtualization of CPU, Memory, I/O Devices . Fundamental concepts of compute ,storage, networking, desktop and application virtualization, Virtualization benefits, server virtualization, Infrastructure Requirements , Virtual LAN(VLAN) and Virtual SAN(VSAN) and their benefits. Load balancing, benefits of load balancing, load balancing algorithms, hypervisor (virtual machine monitor), types of hypervisors, machine imaging, Live Migration, porting applications, challenges in porting applications, simple cloud API, AppZero(VAA)			L= 12
				T= 3 P= 0
3	<u>Cloud Computing Security Fundamentals</u> Overview of Cloud security and Security Planning, Vulnerabilities and Attack vectors, Cloud Security Challenges, Cloud Security controls, Cloud secSLAs Cloud Security Alliance (CSA) Model, Cloud information Security Objectives, CIA triad			L= 12
				T= 3 P=0
4	<u>Software, Infrastructure and Data Security</u> Cloud Security Services, Cloud Security Design Principles, Secure Cloud Software Requirements, Infrastructure Security(Network Level, Host Level, Application Level), Aspects of Data Security, Data Security Mitigation, Provider Data and it's Security, Identity and Access Management(IAM), IAM Challenges, IAM Architecture and Practice, IAM Standards and Protocols for cloud Services			L= 12
				T= 3 P= 0
Learning Resources				
	1. "Cloud Management and Security", Imad M.Abbadi by Wiley India Pvt,			

1	Text Books	Ltd. 2. “Cloud Computing for Dummies”, Judith Hurwitz, Robin Bloor, Marcia Kaufman, Fern Halper, Publisher: Wiley 3. “Cloud Computing: Implementation, Management, and Security”, John W. Rittinghouse, James F. Ransome. Publisher: CRC Press
2	Reference books	1. “Cloud Security: A Comprehensive Guide to Secure Cloud Computing”, Ronald L. Krutz and Russell Dean Vines, ©2010 by Wiley India Pvt. Ltd. 2. “Cloud Security and Privacy”, Tim Mather, Subra Kumaraswamy, Shahed Latif, ©2009, Published by O’Reilly Media.
3	Websites	1. https://cloudacademy.com/library/security/ 2. https://www.citrix.com/blogs/ 3. https://www.tutorialspoint.com/ 4. https://www.w3schools.in/
4	Journals	1. “Quantitative Reasoning about Cloud Security Using Service Level Agreements”, Jesus Luna, Ahmed Taha, Ruben Trapero, and Neeraj Suri, IEEE TRANSACTIONS ON CLOUD COMPUTING, VOL. 5, NO. 3, JULY-SEPTEMBER 2017 2. “Cloud Storage Security Assessment Through Equilibrium Analysis”, Yuzhao Wu, Yongqiang Lyu, and Yuanchun Shi, TSINGHUA SCIENCE AND TECHNOLOGY ISSN: 111007-0214 09/10 pp738–749 DOI: 10.26599/TST.2018.9010127 Volume 24, Number 6, December 2019 3. “Towards Achieving Data Security with the Cloud Computing Adoption Framework”, Victor Chang and Muthu Ramachandran, Member, IEEE; IEEE TRANSACTIONS ON SERVICES COMPUTING, VOL. 9, NO. 1, JANUARY/FEBRUARY 2016 4. “Towards Security-Based Formation of Cloud Federations: A Game Theoretical Approach”, Talal Halabi, Student Member, IEEE and Martine Bellaiche; IEEE TRANSACTIONS ON CLOUD COMPUTING, VOL. 8, NO. 3, JULY-SEPTEMBER 2020 5. “Cloud-Trust—a Security Assessment Model for Infrastructure as a Service (IaaS) Clouds”, Dan Gonzales, Member, IEEE, Jeremy M. Kaplan, Evan Saltzman, Zev Winkelman, and Dulani Woods, IEEE TRANSACTIONS ON CLOUD COMPUTING, VOL. 5, NO. 3, JULY-SEPTEMBER 2017
5	Practical Component	-----

M. Sc. (Computer Science in Cyber Security) Part-I Semester II

Semester	II	Total Credit	4
Course Code	MSEC-201	Credit Pattern	L-48, T-10, P-2
Course Title	DATABASE MANAGEMENT SYSTEM		
Course Objectives			
1	To understanding the database concept and structure, data modelling concept and development process.		
2	To Construct and normalize conceptual data models.		
3	Implement a relational database into a database management system		
4	To understand Database Security strategies		
Course Outcomes: After successful completion of the course, the students would be able to			
1	Illustrate relational database management system concepts.		
2	Recognize and outline the structure of application database.		
3	Design and develop structure of application database and queries.		
4	Assess the database design for applications.		

Unit No.	Contents	Number of Sessions	
1	Data, Concept of Database, DBMS, RDBMS, Characteristics of DBMS, Components of DBMS, Three levels of DBMS, Architecture of DBMS, Concept of Data Models- Hierarchical Data Model, Network Data Model, Relational Data Model, ER-Model in DBMS, Concept of Entity, Entity Set, Attributes, Categories of attributes, Concept of Relationship, Types of Relationship: one to one, one to many, many to one and many to many, Responsibilities of DBA,	L= 12	
		T=3	P= 0
2	Data Abstraction Three Levels of data abstraction, DBMS Schema, Three Levels of DBMS Schema, DBMS instance, Concept data Independence, Types of data independence, Concept of Normalization, Meaning and Functional dependences, 1NF with example, Concept of 2NF, 3NF, Boyce-codd Normal Form,	L= 12	
		T= 3	P= 0
3	Feature of SQL, Data Types, Fundamental concept of table, Components of SQL- DDL, DML, DCL, TCL, SQL Constraints – Null and Not Null Constraints, Unique Constraints, Default Value, Check Constraints, Primary key Constraints, Foreign Key C Constraints, Where clause, Order By Clause, Group by clause, Having Clause, Logical operators, Relational Operators, Special Operators – In, Between, Like, Dual table concept, SQL functions- Arithmetic, Aggregate, Conversion, Date and Time	L= 12	
		T= 3	P= 0
4	Virtual Table Creation(Views), sequence, Sub-queries and Nesting sub queries, Joins – Equi join, Inner join, outer join. What is database security? Types of data security, Types of attacks, Types of Database Security : Authentication Database Encryption, backup database, Physical Security, Access control	L=12	
		T= 1	P= 2

Learning Resources		
1	Reference books	- Negi, C. (2019). <i>Fundamentals of database management system..</i> - Coronel, C. and Morris, S. (2019). <i>Database systems : design,</i>

		<i>implementation, and management</i>. 13th ed. Australia; United States: Cengage Learning. • Basta, A. and Zgola, M. (2020). <i>Database security</i>. Australia: Course Technology. • Chaudhary, H. (2018). <i>Hands On Relational Database Management System RDBMS-1000+ MCQ</i>. STCD COMPANY. • Kriti Sinha (2016). <i>Structured query language for all RDBMS and PL/SQL (SQL, PL/SQL)</i>. Delhi: Kalpaz Publications. • Satinder Bal Gupta and Aditya Mittal (2019). <i>Introduction to database management system</i>. New Delhi: Lasmi Publications Pvt. Ltd.
2	Text Books	• Ramez Elmasri and Navathe, S.B. (2016). <i>Fundamentals of database systems</i>. Hoboken, New Jersey: Pearson. • Kroenke, D.M., Auer, D.J., Vandenberg, S.L. and Yoder, R.C. (2020). <i>Database concepts</i>. Hoboken, Nj: Pearson Education, Inc. • Tanmay Kasbe (2016). <i>DBMS Concepts - A Practical approach</i>. Educreation Publishing. • Silberschatz, A., Korth, H.F. and S Sudarshan (2020). <i>Database system concepts</i>. New York, Ny: Mcgraw-Hill Education.
3	Websites	• https://www.tutorialspoint.com/sql/sql-rdbms-concepts.htm • https://www.javatpoint.com/what-is-rdbms • https://www.w3schools.com/mysql/mysql_rdbms.asp • https://data-flair.training/blogs/sql-rdbms/ • https://www.techtarget.com/searchdatamanagement/definition/RDBMS-relational-database-management-system
4	Journals	• Premkumar, G. (2021). Knowledge Based System and Database Management System. <i>Journal of Database Management</i>, 2(4), pp.12–26. doi:https://doi.org/10.4018/jdm.1991100102. • Morrison, P. (2013). Database Security. <i>Network Security</i>, 2003(6), pp.11–12. doi:https://doi.org/10.1016/s1353-4858(03)00610-x. • Hartono, N. and Erfina, E. (2021). Comparison of Stored Procedures on Relational Database Management System. <i>Tech-E</i>, [online] 4(2), pp.8–15. doi:https://doi.org/10.31253/te.v4i2.529. • Dwyer, P.A., Jelatis, G.D. and Thuraisingham, B.M. (2017). Multi-level security in database management systems. <i>Computers & Security</i>, 6(3), pp.245–251. doi:https://doi.org/10.1016/0167-4048(87)90105-2.

Semester	II	Total Credit	4
Course Code	MSEC-202	Credit Pattern	L-45, T-7, P-8
Course Title	Java Programming		
Course Objectives			
1	To design console based application, accessing command-line arguments and providing solid foundation in Java programming.		
2	To design java applications employing streams and exception handling mechanism in Java.		
3	To explore different types of JDBC drivers for connecting and accessing data from different backend Database management systems.		
4	To design and develop networked applications in both connection-oriented and connectionless architecture In Java.		
5	To design and Implement encryption and secure communication protocols using Java's cryptography libraries.		
Course Outcomes: Students will be able to;			
1	Recall and recognize Java syntax, basic programming concepts, and terminology. And Identify Java keywords, data types, and standard library.		
2	Apply Java programming concepts to solve simple coding problems. Use Java to create applications that demonstrate understanding of OOP principles.		
3	Design and develop Java programs to meet specific requirements. Combine different Java technologies (e.g., GUI, networking) to create integrated solutions.		
4	Analyze Java Cryptography Architecture and debug programs and evaluate the efficiency and effectiveness of algorithms used in Java programs.		
Unit Number	Contents		Number of Sessions
1	OOPS and Exception Handling in JAVA Objects and classes, Inheritance, Interfaces, inner classes, Packages. Introduction to Java Utility classes and collection classes - Date, DateFormat and GregorianCalendar classes. Using List Interface, List Iterator and LinkedList classes. Set, Iterator, SortedSet, Map interfaces. HashSet class. Using Vector class, stacks, queues, HashTable. Generating random numbers, Property class. Exception Handling: Exception class hierarchy, Exception Vs Error, try, catch, throw, throws, finally, checked Vs unchecked exceptions, creating custom exception classes. Java Reflection, Internationalization		L= 12
			T = 1 P= 2
2	I/O Streams and Multi threading in Java Significance of streams, various types of Input & Output streams, accessing the file through streams, object serialization. Random Access File. Difference between multi tasking and multi threading, Need for multi threading, thread states and priorities, suspending and resuming threads, synchronization between threads. Inter thread communication and dead locks.		L= 11
			T = 1 P= 2
3	Java Database Connectivity and Networking in Java JDBC overview , JDBC Architecture , Types of JDBC Drivers, DriverManager class, database connection statements , Resultset, transaction, Metadata and Aggregate functions , callable statements, Connection to various back ends Connectionless and Connection-oriented architectures, Client and Server programming, Socket, DatagramSocket and DatagramPacket classes, IP address classes. InetAddress, URL and URLConnection classes.		L= 11
			T = 1 P= 2
4	Java FX and Java Cryptography Architecture Introduction to Java FX, Java 8 programming language enhancement : Lambda expressions, Method references, Functional interfaces, Stream API, Default methods. Introduction, Architecture, JCA Concepts, Provider class, Security Class, Secure Random, Message Digest, MAC, Signature, Cipher,		L= 11
			T = 1 P= 2

	Key Interfaces, The Key Pair Class Storing, retrieving key ,generating keys, keypair , Digital Signature		

Learning Resources			
1	Text Books	1. Java Complete Reference by Patric Norton 2. Java 8 Programming Black Book 3. Core Java Vol. I (Addison- Wesley) Sun Press ISBN – 981-405-861-0 4. Core Java Vol. II (Addison- Wesley) Sun Press ISBN – 981-4058-50-5 5. Java in a Nutshell, By Benjamin J Evans, David Flanagan, O'Reilly Media	
2	Reference books	1. Thinking in Java, Bruce Eckel,, Addison – Wesley, ISBN: 9814035750 2. Java 2 Programming Black Book by Steven Holzner, Dream Tech Publication 3. A Programmer's Guide to Java SCJP Certification: A Comprehensive Primer By Khalid Azim Mughal, Rolf Rasmussen 4. Inside Java 2 Virtual Machine by Venner's Bill, Mcgraw Hill Education 5. Learning Java by Jonathan Knudsen, Patrick Niemeyer, O'Reilly Media.	
3	Websites	https://www.w3schools.com/java/default.asp https://www.tutorialspoint.com/java/index.htm https://www.javatpoint.com/java-tutorial https://beginnersbook.com/java-tutorial-for-beginners-with-examples/ https://www.studytonight.com/java/ https://www.guru99.com/java-tutorial.html	
4	Journals	Java Development Journal - www.javadevjournals.com https://www.journaldev.com/ https://ieeexplore.ieee.org/document/714612	
5	Practical Component	Practical lab exercises based on Units I to IV	

Course Code	MSEC-203	Credit Pattern	L-48, T-12, P-0
Course Title	PYTHON PROGRAMMING		
Course Objectives			
1	Introduce language constructs in Python		
2	Introduce collection classes and their salient features		
3.	Familiarize the student with implementation of object-oriented concepts of Python.		
4.	Introduce to security aspects of Python		
Course Outcomes: The students will be able to			
1.	proficiently utilize Python fundamentals, including data types, control statements, and code organization techniques, to develop Python scripts for solving real-world problems and demonstrating competency in programming with Python.		
2.	demonstrate proficiency in Python programming, including defining arrays, functions, and handling exceptions, enabling them to develop robust Python scripts for file handling, data manipulation, and error management in real-world applications.		
3.	analyze complex problems to design and implement sophisticated Python solutions using object-oriented programming principles and demonstrate creativity and innovation by integrating advanced Python features like iterators, closures, decorators, generators, and regular expressions to develop robust software applications		
4.	analyze cryptographic algorithms to design secure Python solutions, evaluate encryption techniques for data protection, and create innovative implementations of information security measures, demonstrating proficiency in application-level security practices.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Programming Fundamentals and Overview of Python - Introduction, History and overview of Python, why python, Basic features and applications of Python, structure of python, Indentation and blocks (suites). Installation of python, Python IDE's. Python interpreter, python environment variables. Scope of variables, DataTypes - strings, lists, tuple, dictionary, operations on these data structures. List comprehension, data type conversion, Comments in Python, Control and branching statements, different types of operators in python, conditional branching, range() function, Organizing code (functions, modules, packages), module listing, module search path, standard modules. Python scripts.	L= 12	
		T=3	P= 0
2	Defining arrays in python, array referencing , handling positive and negative indices, Defining and calling a function, pass by reference Vs. pass by value, function arguments, required arguments, default arguments, keyword arguments, variable-length arguments, anonymous or lambda functions, functional programming tools, Exception Handling in Python Exceptions and assertions, list of standard exceptions, unhandled exceptions, keywords used in exception handling, handling multiple exceptions, finally clause, argument of an exception, nested try blocks, custom exceptions, raising an exception. File Handling Basics Basic I/O functions in python, opening and closing files, attributes of file object, performing file I/O, file positions, renaming and deleting files, functions for manipulating directories.	L= 12	
		T= 3	P= 0
3	Object Oriented Programming in Python OOP terminology, Defining Classes and namespaces, creating instances of a class, built-in class attributes, destroying objects, garbage collection, implementation of encapsulation, access modifiers, inheritance and polymorphism in Python. Overriding methods. Concept of operator overloading, magic methods for operator overloading. Polymorphism with functions and objects Advanced Topics in Python. Iterators in Python, python closures, python decorators, python generators, generator pipeline, return Vs yield Regular Expressions in Python	L= 12	
		T= 3	P= 0

	Python RegEx, Specify Pattern Using RegEx, meta characters, special sequences, regular expression function in 're' module, match object, applications of regular expressions.		
4	Information Security in Python – Cryptography with Python, caser cipher, Hacking of Caesar Cipher Algorithm, implementation of ROT13 (Rotate By 13) algorithm, transposition cipher, encryption and decryptrioof transposition cipher, Pyperclip plugin, encrypting files using pycrypto, Base64 Encoding and Decoding, Difference between ASCII and base64, XOR encryption and decryption, multiplicative cipher, affine cipher, hacking monoalphabetic cipher, simple substitution cipher. Vignere cipher, one time pad cipher. Python modules of Cryptography – cryptography module, uuid, hashlib packages, Symmetric Key and Asymmetric Key Algorithm – Implementation of DES algorithm using pyDES package. Implementation of RSA agorithm using Crypto.PublicKey package.	L=12	
		T= 3	P= 0
Learning Resources			
1	Text Books	• Practical Programming: An introduction to Computer Science Using Python, second edition • Programming collective intelligence, O'Reilly publication • Think Python: An Introduction to Software Design, Allen B. Downey, AbeBooks • Python Tricks: A Buffet of Awesome Python Features, Dan Bader	
2	Reference books	• Python for Informatics: Exploring Information, Charles Severance • Python for Data Analysis, Wes McKinney, O'Reilly publication • Mastering Python for data science, Samir Madhavan, PACKT	
3	Website	• https://www.python.org • https://www.sololearn.com • https://realpython.com • https://www.tutorialspoint.com/cryptography_with_python/index.htm	

SEM	II	Total Credit	2
Course Code	MSEC-204	Credit Pattern	L-23, T-4, P-3
Course Title	ETHICAL HACKING		

Course Objectives	
1	To demonstrate a comprehensive understanding of Ethical Hacking techniques.
2	To analyse different attack vectors and vulnerabilities in web applications.
3.	To design network hacking activities
4.	To apply ethical hacking methodologies to exploit system vulnerabilities.

Course Outcomes: The students will be able to	
1.	Demonstrate a comprehensive understanding of Ethical Hacking techniques.
2.	Analyse different attack vectors and vulnerabilities in web applications.
3.	Design network hacking activities
4	Apply ethical hacking methodologies to exploit system vulnerabilities.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to ethical hacking, Footprinting and reconnaissance techniques, Scanning networks and identifying vulnerabilities, Analysing and combating malware threats, Sniffing techniques and analysing network traffic, Social engineering and its impact on security	L-11	
		T-2	P-1
2	Web application security and vulnerabilities, Exploiting network vulnerabilities and weaknesses, Denial of Service (DoS) attacks, Wireless network hacking and securing wireless networks, Vulnerability analysis and assessment techniques	L-12	
		T-2	P-2

Learning Resources		
1	Text Books	- Walker, M. (2020). CEH Certified Ethical Hacker All-in-One Exam Guide. McGraw-Hill Education. - Harper, A., Regalado, D., Linn, R., Sims, S., Spasojevic, B., Martinez, L., Baucom, M., Eagle, C., & Harris, S. (2020). Gray Hat Hacking: The Ethical Hacker's Handbook. McGraw-Hill Education
2	Reference books	- Kim, P. (2018). The Hacker Playbook 3: Practical Guide to Penetration Testing. Independently published. - Engelbreton, P. (2013). The Basics of Hacking and Penetration Testing: Ethical Hacking and Penetration Testing Made Easy. Syngress - Weidman, G. (2014). Penetration Testing: A Hands-On Introduction to Hacking. No Starch Press
3	Websites	- Hack This Site! https://www.hackthissite.org - OWASP https://www.owasp.org - Metasploit Unleashed https://www.metasploitunleashed.com

		• Cybrary https://www.cybrary.it • Offensive Security https://www.offensive-security.com
4	Journals	• Eric Filiol, Journal of Computer Virology and Hacking Techniques, Springer, ISSN: 2263-8733 • Tyler Moore, David Pym, Journal of Cybersecurity, Oxford University Press, ISSN 2057-2093
5	Supplementary Reading	• CEH v12 - Certified Ethical Hacking Course, https://www.simplilearn.com/cyber-security/ceh-certification • Ethical Hacking Essentials (EHE), https://www.coursera.org/learn/ethical-hacking-essentials-ehe
6	Practical Components	• Laboratory experiments on Footprinting techniques, Scanning networks, Enumeration, System hacking, Sniffing, Social Engineering

Semester	II	Total Credit	4
Course Code	ELSEC-206	Credit Pattern	L-48, T-12, P-0
Course Title	ELSEC-206 Information Security and Cryptography		
Course Objectives			
1	Use appropriate techniques for information security		
2	Examine, plan and test security of computer system.		
3	Select correct security mechanisms and tools for computer system protection.		
4.	Investigate and Formulate strategy for computer system protection.		
Course Outcomes: After successful completion of the course, the students would be able to			
1.	Gain understanding and importance of information security.		
2.	Understand and if required design cryptography technique.		
3.	Select and apply appropriate security mechanism and tools to provide security to information technology assets.		
4.	Select appropriate authentication technique.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Information Security Introduction of Information Security, Critical Characteristics of Information, NSTISSC Security Model, Components of an Information System, Securing the Components, Balancing Security and Access, The SDLC, The Security SDLC Security mindset, Computer Security Concepts (CIA), Information Security Policy, Standards and Practices.	L= 12	
		T=3	P= 0
2	Introduction to Cryptography Threats, risks, consequences , Sources of threats , Attacks classification , Preventive measures, remedial measures Introduction to Cryptography: Security Mechanisms: Security Services, Security Attacks, Security Goals, Symmetric Cipher Model, Various Encryption Techniques: Substitution: (i) Monoalphabetic - Caesar Cipher (ii) Polyalphabetic - Playfair Cipher, Vignere Cipher, Hill Cipher, Transposition: (i) Keyless (ii) Keyed, Steganography	L= 12	
		T= 3	P= 0
3	Block Cipher and Public Key Cryptography Data Encryption Standard, Block Cipher Modes of Operation:- Electronics Code Book (ECB), Cipher block-chaining mode (CBC), Cipher Feedback Mode (CFB), Output Feedback Mode (OFB), Advanced Encryption Standard, Blowfish Algorithm, RCS Algorithm, Public Key Cryptography (Asymmetric Key Cryptography), RSA Algorithm, Knapsack Algorithm, El-Gamal Algorithm, Key Management - Diffie Hellman Key	L= 12	
		T= 3	P= 0
4	Integrity checks and Authentication algorithms Authentication Requirement, Authentication Functions, Types of Authentication, Message Authentication Code (MAC): MD5 Algorithm, SHA Algorithm, HMAC Algorithm, Digital Certificate. Digital Signature	L=12	
		T= 3	P= 0

	Scheme: RSA, El Gamal, Schnorr, DSS, Needham Schroeder Authentication Protocol. Authentication Applications: Kerberos and X.509 - directory authentication service - electronic mail security - pretty good privacy (PGP) - S/MIME		

Learning Resources			
1	Text Books	- Whitman, M.E. and Mattord, H.J. (2022). Principles of information security. Boston, Ma: Cengage. - M Amjad (2015). Cryptography and network security. New Delhi: I.K. International Pub. House. - Hobbs, F. (2015). Information security : principles and new concepts. Volume IV. Jersey City, Nj: Clanrye International. - M Thangamani and Chandar, K. (2016). Security in computing. Hauppauge, N.Y.: Nova Science Publisher's Inc.	
2	Reference books	- Micki Krause Nozaki and Tipton, H.F. (2016). Information Security Management Handbook, Sixth Edition, Volume 5. Auerbach Publications.. - Bishop, M.A., Sullivan, E. and Ruppel, M. (2019). Computer security : art and science. Boston: Addison-Wesley. - Trappe, W. and Washington, L.C. (2020). Introduction to cryptography : with coding theory. Hoboken, New Jersey: Pearson Education. - Katz, J. and Lindell, Y. (2020). Introduction to Modern Cryptography. CRC Press.	
3	Websites	- CommonLounge archive (no date) Commonlounge.com. Available at: https://www.commonlounge.com/ (Accessed: June 26, 2023). - Cryptography (no date) Khan Academy. Available at: https://www.khanacademy.org/computing/computer-science/cryptography (Accessed: June 26, 2023).	
4	Journals	'Introduction to information security foundations and applications' (2018) Information Security: Foundations, Technologies and Applications, pp. 3–11. doi:10.1049/pbse001e_ch1. - Anu, V. (2021) 'Information security governance metrics: A survey and taxonomy', Information Security Journal: A Global Perspective, 31(4), pp. 466–478. doi:10.1080/19393555.2021.1922786.	
5	Supplementary Reading	- What is information security? (2018) GeeksforGeeks. Available at: https://www.geeksforgeeks.org/what-is-information-security/ (Accessed: June 26, 2023). - Williams, L. (2023) Cryptography Tutorial: What is Cryptanalysis, RC4 and CrypTool, Guru99. Available at: https://www.guru99.com/how-to-make-your-data-safe-using-cryptography.html (Accessed: June 26, 2023).	

M. Sc. (Computer Science in Cyber Security) Part-I Semester III

Semester	III	Total Credit	4
Course Code	M	Credit Pattern	L-48, T-12, P-0
Course Title	SECURE SOFTWARE DESIGN		
Course Objectives			
1	Introduce software security aspects.		
2	Describe security models		
3.	Understand and analyse risks in software engineering		
4.	Design a framework for software security		
Course Outcomes: The students will able to			
1.	Understand various aspects and principles of software security.		
2.	Devise security models for implementing at the design level.		
3.	Identify and analyse the risks associated with s/w engineering and use relevant models to mitigate the risks.		
4.	Design different security strategies for different types of software systems.		

Syllabus:

Unit Number	Contents	Numb Sessi
1	Defining computer security, the principles of secure software, trusted computing base, etc, threat modelling, advanced techniques for mapping security requirements into design specifications. Secure software implementation, deployment and ongoing management.	L=
		T=3
2	Software design and an introduction to hierarchical design representations. Difference between high-level and detailed design. Handling security with high-level design. General Design Notions. Security concerns designs at multiple levels of abstraction, Design patterns, quality assurance activities and strategies that support early vulnerability detection, Trust models, security Architecture & design reviews.	L=
		T= 3
3	Software Assurance Model: Identify project security risks & selecting risk management strategies, Risk Management Framework, Security Best practices/ Known Security Flaws, Architectural risk analysis, Security Testing & Reliability (Penn testing, Risk- Based Security Testing, Abuse Cases, Operational testing , Introduction to reliability engineering, software reliability, Software Reliability approaches, Software reliability modelling.	L=
		T= 3
4	Security development frameworks. Security issues associated with the development and deployment of information systems, including Internet-based e-commerce, e-business, and e-service systems, as well as the technologies required to develop secure information systems for enterprises, policies and regulations essential to the security of Enterprise information systems.	L=
		T= 3

Learning Resources

1	Text Books	- Ahmad Khan, S., Kumar, R. and Ahmad Khan, R. (2022) Software Security: Conce Practices. Boca Raton: Chapman and Hall/CRC. - Curphey, M. and Hau, B. (2012) Practical Software Security. Sebastopol, CA: O'Re

		Media. • Stallings, W. (2023) Cryptography and network security: Principles and practice, global edition. 8th ed. London, England: Pearson Education. • Waidner, M., Backes, M. and Müller-Quade, J. (eds.) (2014) Development of secure software with security by design: Trends and strategy report. Stuttgart, Germany: Fraunhofer Verlag.
2	Reference books	• Othmane, L., Jaatun, M. G. and Weippl, E. (eds.) (2017) Empirical research for software security: Foundations and experience. New York, NY: Productivity Press. • NATO Advanced Study Institute on Tools for Analysis and Verification of Software and Security (2011 : Bayrischzell, Germany) (2012) Software safety and security: Tools for analysis and verification. Edited by T. Nipkow, O. Grumberg, and B. Hauptmann. Amsterdam, NY: IOS Press. • P. Pfleeger, S. L. Pfleeger, Security in Computing, 4th Edition, Upper Saddle River, NJ:Prentice Hall, 2007 • M. Merkow, & J. Breithaupt, Information security: Principles and practices. Upper Saddle River, NJ:Prentice Hall,2005
3	Website	• https://www.dwheeler.com/secure-class/ by David A. Wheeler • https://www.coursera.org/lecture/software-design-threats-mitigations/secure-software-design-is-goodsoftware-design-dXAT3 by Albert Glock
4.	Journals	• Fernández, E. (2004) “A Methodology for Secure Software Design.,” Software Engineering Research and practice, pp. 130–136. Available at: https://www.researchgate.net/profile/Eduardo_Fernandez8/publication/221610247_A_methodology_for_Secure_Software_Design/links/0deec5277fea402792000000.pdf • Yuce, B., Schaumont, P. and Witteman, M. (2018) “Fault Attacks on Secure Embedded Software: Threats, Design, and Evaluation,” Journal of Hardware and Systems Security 2(2), pp. 111–130. Available at: https://doi.org/10.1007/s41635-018-0038-1. • Viega, J. and McGraw, G. (2001) Building Secure Software: How to Avoid Security Problems the Right Way. Available at: http://ci.nii.ac.jp/ncid/BA55601502
5.	Supplementary readings	• 9bU2f44fPxTVU (2016) 4 principles of secure software design, Application Security Synopsys. Available at: https://www.synopsys.com/blogs/software-security/principles-of-secure-software-design/ (Accessed: June 26, 2023). • Secure SDLC (2020) Snyk. Available at: https://snyk.io/learn/secure-sdlc/ (Accessed: June 26, 2023). • (No date) Udemy.com. Available at: https://www.udemy.com/course/secure-software-design-secure-software-series-course-3-of-8/ (Accessed: June 26, 2023).

Semester	III	Total Credit	4
Course Code	M	Credit Pattern	L-45, T-8, P-7
Course Title	Linux Administration and Programming		

Course Objectives	
1	To familiarize the student with Linux operating system environment and basic shell script programming..
2	To introduce various system calls, Communication utilities in Linux and the Linux administration.
Course Outcomes : The Students will able to	
1	Write shell script programs in Linux
2	Use various Filters and editors
3	Create and manager file access permissions
4	Use various system calls
5	Administration of Linux system

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction of Linux Operating System (15) Overview of Operating System and Network, Types of Operating System, Introduction to Linux - History, Architecture. Comparison with UNIX, Comparison with Windows, Features and Facilities of Linux, Files and File Structure - Linux File System, Boot block, Super block, Inode table, Data blocks. Linux standard directories, File naming Conventions, Path in Linux, Types of file Names, Types of Users, file comparisons, Basic commands in Linux, File Commands in Linux, Directory Commands, System Monitoring and Performance,	L= 11	
		T=2	P=2
2	Ubuntu Linux Administration, File Security, Permissions (15) About Ubuntu, Installing and Configuring Ubuntu Linux Server and Desktops, Hard Disk Partition Management, Linux File System Management ,checklist for installation, Dual Boot Windows 7 and Ubuntu Installation, Creating USB booting, Installation of Linux using USB drive, Installation Methods and Classes, identifying administrative files configuration and log files, Role of system administrator, Managing user accounts, changing permissions and ownerships, Creating and managing groups, modifying group attributes, Disk quota management, Hiding Usernames Displayed on Login Screen, File security & Permissions, becoming super user using su. Locating Files, File Access Permissions [FAP], Viewing and Changing FAPs, Redirection(Input, Output & Error Redirection), Filters (grep, wc, tr, head, tail,) Getting	L= 12	
		T= 2	P= 1

	system information with uname, host name, kernel, Run levels in Ubuntu.		
3	Communication in Linux: (15) Umask, Archive and Compression, Backup, restore and Compress - tar, cpio, dump, sync and restore, Communicating with other users in Linux - mesg, who- T, talk, write, wall, finger, chfn, SSH, Ping, FTP, Telnet traceroute utilities, Installation of software's on Linux, static and dynamic IP addressing, Administering Printers – Printing in Linux, Scanner, Installing and Configuring of servers on Ubuntu- Telnet, FTP Server, Samba DHCP Server setup Client setup, SSH Server ,XAMP, PHP, dosbox , Networking in Linux System.	L= 11	
		T= 2	P= 2
4	Shell Programming (15) Text Editors-Functions of a Text Editor, vi Editor, leafpad editor., Basics of shell programming, various Types of shell available in Linux, comparisons between various shells, shell programming in bash - Conditional and looping statements, Iterations, Command Substitution - expr command, Modifying files Sed, awk command, arithmetic operations, Shell variables, system shell variables, shell keywords, Creating Shell programs for automating system tasks, handling files using command line argument. Introduction to system calls.	L=11	
		T= 2	P= 2

Learning Resources		
1	Text Books	Beginning Linux Programming: Neil Mathrew Richard Steve Wrox publication. Design of Linux Operating Systems : Maurice Bach Ubuntu on a Dime : James Floyd Kelly
2	Reference books	Operating System - Linux, NUT Press, PHI Publisher, 2016 Edition Red Hat Linux Bible, Cristopher Negus, Wiley Dreamtech India UNIX Shell Programming by Yeswant Kanetkar, BPB Linux Administration Handbook, Evi Nemeth, Garth Snyder, Trent KHein - Pearson Education. Beginning Linux Programming by Neil Mathew & Richard Stones, Wiley Dreamtech India
3	Websites	https://www.tutorialspoint.com/operating_system/os_linux.htm https://www.geeksforgeeks.org/unix-file-system www.guru99.com › introduction-linux https://www.reallinuxuser.com https://www.shellscript.sh/
4	Journals	https://www.linuxjournal.com/ https://www.journals.elsevier.com/computer-networks https://www.reddit.com/r/linux/comments/cnfs48/linux_journal_ceases_publicati

		on an awkward/ Linux Networking Clearly Explained/ebook
5	Supplementa ry Reading	https://nptel.ac.in/courses/117/106/117106113/ Study Material of Web Course Developed for NPTEL Linux Programming & Scripting https://nptel.ac.in/content/syllabus_pdf/117106113.pdf
6	Practical Components	Internal External Commands and Shell Scripts, Installing and configuring Ubuntu Linux Server and Desktops.

Semester	III	Total Credit	4
Course Code	M	Credit Pattern	L-44, T-4, P-12
Course Title	Penetration Testing		
Course Objectives			
1	Students will learn the basics of penetration testing, including its purpose, methodologies, and legal and ethical considerations.		
2	Learn various penetration testing techniques such as reconnaissance, scanning, enumeration, exploitation, and post-exploitation.		
3	Students will gain an understanding of common vulnerabilities present in computer networks, operating systems, and applications, and how they can be exploited.		
4	Students will learn how to document their penetration testing activities, including writing comprehensive reports that outline identified vulnerabilities, potential impacts, and recommended countermeasures.		
Course Outcomes: Students will be able to;			
1	State entire penetration testing process		
2	Prepare virtual lab for Penetration Testing		
3	Utilize Metasploit framework for Investigating vulnerabilities		
4	Capture and filter network traffic by using wireshark tool		
5	Test Web Application security		
Unit Number	Contents		Number of Sessions
1	<u>Introduction to Penetration Testing</u> Concept of Penetration Testing, Types of Penetration Testing, Phases of Penetration Testing, Penetration Testing Vs. Ethical Hacking, Penetration Testing Vs. Vulnerability Assessments, Need of Penetration Testing, Benefits of Penetration Testing, Report Writing, Limitations of Penetration Testing, Remediation and Legal Issues. Creating Penetration Testing Lab.		L= 11
			T= 1 P= 3
2	<u>Using Kali Linux and Metasploit Framework</u> Installing Kali Linux, Kali Linux Command Line, File System, Data Manipulation, User Privileges and file permissions, Manage Networking, Kali Linux Security tools. Metasploit User Interfaces and Setup, Finding Metasploit Modules, Types of Shells, Msfcli, Metasploit Payloads, Post-Exploitation with Metasploit.		L= 11
			T= 1 P= 3
3	<u>Security Assessments:</u> Open Source Intelligence Gathering, Port Scanning, Nmap Version Scan to Potential Vulnerability. Capturing Traffic: Capturing and filtering traffic by using wireshark.		L= 11
			T= 1 P=3
4	<u>Web Application Penetration Testing</u> Web Application Assessment Methodology, Web Application Enumeration, Inspecting URLs, Inspecting Page Content, Viewing Response Headers, Inspecting Sitemaps, Locating Administration		L= 11
			T= 1 P= 3

		Consoles, Web Application Assessment Tools, Exploiting Web-based Vulnerabilities, Cross-Site Scripting (XSS), Directory Traversal Vulnerabilities, File Inclusion Vulnerabilities, SQL Injection		
Learning Resources				
1	Text Books	4. Weidman, G. (2014). Penetration Testing: A Hands-On Introduction to Hacking (1st ed.). No Starch Press. 5. Engebretson, P. (2011). The Basics of Hacking and Penetration Testing: Ethical Hacking and Penetration Testing Made Easy (Syngress Basics Series) (1st ed.). Syngress.		
2	Reference books	1. Chuck, W. (2018). Penetration Testing Fundamentals. Pearson IT Certification. 2. Svensson, R. (2016). From Hacking to Report Writing An Introduction to Security and Penetration Testing. Berkeley, Ca Apress Imprint: Apress. 3. Rafay Baloch (2017). Ethical hacking and penetration testing guide. Boca Raton: Auerbach Publications. 4. HARPREET SINGH; HIMANSHU SHARMA (2020). Hands-On Web Penetration Testing With Metasploit;The Subtle Art Of Using Metasploit 5.0 For Web Application Exploitation. [S.l.]: PACKT PUBLISHING. 5. Najera-Gutierrez, G., Juned Ahmed Ansari, Teixeira, D. and Abhinav Singh (2019). Improving your penetration testing skills : strengthen your defense against web attacks with Kali Linux and Metasploit. Birmingham: Packt Publishing 6. Landoll, D. (2021). The Security Risk Assessment Handbook. CRC Press. 7. Khawaja, G. (2018). Practical Web Penetration Testing : Secure Web Applications Using Burp Suite, Nmap, Metasploit, and More. Birmingham: Packt Publishing Ltd.		
3	Web References	5. Tutorialspoint. (n.d.). Penetration Testing Tutorial. Retrieved from https://www.tutorialspoint.com/penetration_testing/index.htm 6. Hacking Articles. (n.d.). Wireshark for Pentesters: A Beginner's Guide. Retrieved from https://www.hackingarticles.in/wireshark-for-pentesters-a-beginners-guide/ 7. Dummies. (n.d.). Penetration Testing with Burp Suite and Wireshark to Uncover Vulnerabilities. Retrieved from https://www.dummies.com/article/technology/cybersecurity/penetration-testing-with-burp-suite-and-wireshark-to-uncover-vulnerabilities-270960/		
4	Journals	6. P. Shi, F. Qin, R. Cheng and K. Zhu, "The Penetration Testing Framework for Large-Scale Network Based on Network Fingerprint," 2019 International Conference on Communications, Information		

		System and Computer Engineering (CISCE), 2019, pp. 378-381, doi: 10.1109/CISCE.2019.00089. 7. Vulnerability Assessment and Penetration Testing through Artificial Intelligence. (2018). International Journal of Recent Trends in Engineering and Research, 4(1), pp.217–224. doi:https://doi.org/10.23883/ijrter.2018.4028.rdd10.
5.	Practical Components	1. Find and investigate system vulnerabilities 2. Capture network traffic 3. Filter network traffic 4. Asses web application security

Semester	III	Total Credit	2	
Course Code	M	Credit Pattern	L-24, T-6, P-0	
Course Title	IOT SECURITY			
Course Objectives				
1	To introduce the concept of Internet of Things.			
2	To unfold technologies used for designing IoT.			
3.	To explain communication tools and techniques used for IoT.			
4	To introduce security aspect of IoT.			
Course Outcomes: The students will able to				
1.	Understand and use IoT.			
2.	Use and apply the knowledge to design simple IoT systems.			
3.	Select and apply appropriate security mechanism for IoT.			
4.	Understand the scenario for use and implementation of IoT.			
Unit Number	Contents			Number of Sessions
1	Fundamental IoT Mechanisms & Key Technologies Introduction, IoT Frameworks, Enabling Technologies of IoT , Sensing and actuating Technology, Structural aspects of the IoT- Traffic characteristics, Scalability, Interoperability, Key IoT Technologies - Device Intelligence, Communication Capabilities, Mobility support, Device Power, RFID - Introduction, Principles of RFID, Components of an RFID, Wireless Sensor Networks – Node communication, Node Computation, Node Sensing, Connecting Nodes, Networking Nodes			L= 12
				T=3 P= 0
2	IoT Security Introduction, IoT Security Requirements, Privacy, Security and Governance Issues, Steps Towards a Secure Platform, Smart Approach. Data Aggregation for the IoT with respect to security in Smart Cities, IoT Privacy Preservation Issues, Attack Models – Attacks to Sensors in IoTs, Attacks to RFIDs in IoTs, Attacks to Network Functions in IoTs, Prevent Unauthorized Access to Sensor Data, M2M Security, IoT Device Security			L= 12
				T= 3 P= 0
Learning Resources				
1	Text Books	- Greengard, S. (2021), “The internet of things”, Cambridge, Massachusetts: The Mit Press. - Fei Hu (2016), “Security and privacy in internet of things (IoTs): models, algorithms, and implementations”, Boca Raton: Crc Press.		
2	Reference books	- King, A. (2021). Programming the Internet of Things. ‘O’Reilly Media, Inc.’ - Shackelford, S.J. (2020), “The Internet of things: what everyone needs to know”, New York: Oxford University Press. - Milenkovic, M. (2020). Internet of Things concepts and system design. Cham Springer. - Rossman, J. (2016), “The Amazon way on IoT: 10 principles for every		

		leader from the world's leading Internet of things strategies", Bellevue, Washington: Clyde Hill Publishing. • Miller, M. (2015), "The Internet of things: how smart TVs, smart cars, smart homes, and smart cities are changing the world", Indianapolis, Indiana: Que.
3	Websites	• www.javatpoint.com. (n.d.). IoT Tutorial Internet of Things Tutorial - Javatpoint. [online] Available at: https://www.javatpoint.com/iot-internet-of-things. • Williams, L. (2019). Internet of Things (IoT) Tutorial for Beginners: Introduction, Basics, Applications. [online] Guru99.com. Available at: https://www.guru99.com/iot-tutorial.html. • GeeksforGeeks. (2018). Introduction to Internet of Things (IoT) Set 1 - GeeksforGeeks. [online] Available at: https://www.geeksforgeeks.org/introduction-to-internet-of-things-iot-set-1/.
4	Journals	• Gao, M. et al. (2023) "Anomaly traffic detection in IoT security using graph neural networks," Journal of information security and applications, 76(103532), p. 103532. doi: 10.1016/j.jisa.2023.103532. • Miao, F. et al. (2023) "Integrated sensor for humidity, temperature, light, and carbon dioxide based on passive RFID," Sensors and actuators. B, Chemical, 390(133913), p. 133913. doi: 10.1016/j.snb.2023.133913. • Prasad, V. K. H. and Periyasamy, S. (2023) "Energy optimization-based clustering protocols in wireless sensor networks and Internet of Things-survey," International journal of distributed sensor networks, 2023, pp. 1–18. doi: 10.1155/2023/1362417.
5	Supplementary Reading	• Islam, U. et al. (2022) "Detection of distributed denial of service (DDoS) attacks in IOT based monitoring system of banking sector using machine learning models," Sustainability, 14(14), p. 8374. doi: 10.3390/su14148374. • Masadeh, S. (2023) "A new encryption system for IoT devices using embedded key cryptosystem," International journal of electronic security and digital forensics, 1(1), p. 1. doi: 10.1504/ijesdf.2023.10046009. • Shoukat, A. et al. (2023) "Design a framework for IoT- Identification, Authentication and Anomaly detection using Deep Learning: A Review," EAI endorsed transactions on smart cities, 7(1), p. e1. doi: 10.4108/eetsc.v7i1.2067.
6	Practical Components	

Semester	III	Total Credit	4
Course Code	EL 3 (a)	Credit Pattern	L-48, T-10, P-2
Course Title	WEB SECURITY		
Course Objectives			
1	This course introduces you to the field of web security: that is, how to build secure web applications.		
2	The course covers fundamental concepts of web programming, web vulnerability exploitation, web browser design flaws, and a few advanced topics in web privacy.		
3	Given the pervasive insecurity of the modern web landscape, there is a pressing need for programmers and system designers to improve their understanding of web security issues.		
4	Students will be able to Develop secure web applications.		
Course Outcomes: After successful completion of the course, the students would be able to			
1	To learn about Get hands-on experience on web programming		
2	To Design and implement exploits for real security bugs.		
3	To learn cross site scripting, authentication and java Script security.		
4	Student can build and understanding of the most common web attacks and their countermeasures.		

Syllabus:

Unit No.	Contents	Number of Sessions	
1	Introduction to Web security: Definition, purpose of web security, How does web security work, Basics of modern web browser: Browser architecture, benefits of multi –process architecture in browser, how the navigation flow of browser, and Renderer process of web. Introduction to DNS and HTTP: Introduction of DNS, how DNS server works, attacks on DNS, DNS privacy An overview of HTTP, HTTP header. Introduction of same origin policy, inherits the origin, cross origin network access.	L= 12	
		T=3	P= 0
2	Client side attacks and defence: Introduction to HTTP cookies, Creating cookies, Set-Cookie and Cookie headers, Define the lifetime of a cookie. Session attacks: session hijacking Cross-Site Request Forgery: Introduction, Migration technique in CSRF. Cross-Site Scripting Defence. Review of Cross-Site Scripting, Reflected XSS vs. Stored XSS, Injecting down vs. injecting up, XSS defences, UI Denial-of-service attacks, Phishing attacks, Internationalized Domain Names (IDN) and IDN homograph attack defences. Online Tracking: What Can Be Done About it, and Who’s Doing it and how online tracking work?	L= 12	
		T= 3	P= 0
3	Server-side attacks and defence : Introduction to Code injection and command injection, SQL injection and its types, CSRF tokens, how CSRF works?	L= 12	
		T=	P= 0

	HTTPS and the Lock Icon: Brief overview of HTTPS, Integrating HTTPS into the browser. Brief introduction to Public Key Pinning and how does pinning works. Authentication: What is authentication? Authentication vs. Authorization, General Guidelines for authentication, Web Authentication.	3	
4	Web security in the real world Local HTTP server security: communicate with a local HTTP server, Remote Code Execution (RCE), Security Architecture of the Chromium Browser, Cross-Origin Read Blocking (CORB). DNS rebinding attacks, defences against rebinding attacks Browser architecture, The rule of 2, multi process architecture of chrome, site isolation, Secure coding practices in java script.	L=12	
		T=1	P= 2

Learning Resources

1	Text Books	- McDonald, M. (2020). Web security for developers. San Francisco No Starch Press, Inc. - Hoffman, A.J. (2020). Web Application Security : exploitation and countermeasures for modern web applications. Beijing: O'reilly. - Shaikh, R. (2019). Cross Site Request Forgery.
2	Reference books	- O'leary, M. and Springerlink (Online Service (2019). Cyber Operations : Building, Defending, and Attacking Modern Computer Networks. Berkeley, Ca: Apress. - Nguyen, N.H. (2018). Essential Cyber Security Handbook In English. Nam H Nguyen. "HTTP Headers." (n.d.). Mozilla Developer Network. Available at: https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers (Accessed: June 25, 2023). - Xu, J. (2006). "Title of the PDF document." In: Proceedings of the XYZ Conference, XYZ '06, pp. 123-134. Available at: https://www.usenix.org/legacy/events/sec06/tech/full_papers/xu/xu.pdf (Accessed: June 25, 2023).
3	Websites	"Cross-Site Scripting Prevention Cheat Sheet." (n.d.). OWASP Cheat Sheet Series. Available at: https://cheatsheetseries.owasp.org/cheatsheets/Cross_Site_Scripting_Prevention_Cheat_Sheet.html (Accessed: June 25, 2023). "HTTP - HTTP Overview." (n.d.). Mozilla Developer Network. Available at: https://developer.mozilla.org/en-US/docs/Web/HTTP/Overview (Accessed: June 25, 2023).
4	Journals	- Libicki, M.C. (2017). Second acts in cyberspace. Journal of Cybersecurity. doi:https://doi.org/10.1093/cybsec/tyw014. - Contents. (2013). Computers & Security, 32, pp.iii-iv.

		doi: https://doi.org/10.1016/s0167-4048(12)00187-3 . International Journal of Cyber-Security and Digital Forensics (IJCSDf), ISSN 2305-0012 (online)
5	Supplementary Reading	Brij Gupta, Gregorio Martinez Pérez, Agrawal, D.P. and Deepak Gupta (2020). Handbook of computer networks and cyber security : principles and paradigms. Cham: Springer.
6	Practical Components	

Semester	III	Total Credit	4
Course Code	EL	Credit Pattern	L-48, T-12, P-
Course Title	Full Stack Web Development		
Course Objectives			
1	To develop a comprehensive understanding of the MEAN/MERN stack architecture		
2	To gain proficiency in building dynamic and responsive user interfaces using Angular or React frameworks		
3.	To acquire hands-on experience in designing and implementing RESTful APIs using Express.js		
4.	To comprehend how to utilize Node.js as a server-side runtime environment for building scalable and efficient applications		
Course Outcomes: The students will be able to			
1.	Demonstrate proficiency in building end-to-end web applications using the MEAN/MERN stack		
2.	Apply best practices and industry-standard techniques to design and implement responsive and user-friendly web applications using Angular or React		
3.	Develop RESTful APIs using Express.js, implementing CRUD (Create, Read, Update, Delete) operations		
4.	Create and deploy scalable and high-performing web applications using Node.js as the backend runtime environment		
Unit Number	Contents		
1	Introduction to Node.js: Overview of Node.js and its role in server-side development. Understanding the event-driven, single-threaded nature of Node.js. Exploring the benefits and use cases of Node.js in building scalable applications. Working with Modules:Introduction to CommonJS modules and the require function. Creating and organizing modules in Node.js applications. Understanding module exports and imports for code reuse. Asynchronous Programming: Understanding the importance of asynchronous programming in Node.js. Working with callbacks, Promises, and async/await for managing asynchronous operations. Utilizing event emitters and event-driven programming in Node.js. Working with Streams and File System:Understanding the concept of streams for efficient data processing. Reading and writing data to files using the File System module. Handling file operations asynchronously. Introduction to MongoDB Introduction to MongoDB: Understanding the basics of MongoDB and its role in modern database systems. Comparing MongoDB to traditional relational databases. Exploring the advantages and use cases of using MongoDB for data storage. Document-Oriented Data Model: Understanding the document-oriented data model used in MongoDB. Working with collections and documents. Exploring the flexibility of schema-less design and dynamic schemas. CRUD Operations: Performing Create, Read, Update, and Delete operations in MongoDB. Using the MongoDB Query Language (MQL) to retrieve and manipulate data. Working with operators, filters, and projections for precise data retrieval.		

	Integrating Node.js with MongoDB, Implementing CRUD operations and data validation.
2	Introduction to Express.js Introduction to Express.js: Understanding the role of Express.js in building web applications. Comparing Express.js to other web frameworks.Exploring the advantages and use cases of using Express.js. Routing and Middleware: Defining routes and handling HTTP requests in Express.js. Implementing route handlers for different HTTP methods. Working with middleware functions for request processing and response handling. Request and Response Handling: Parsing request bodies and handling form submissions. Managing cookies and session data. Implementing error handling and sending appropriate responses. Middleware Stack: Understanding the concept of middleware in Express.js. Creating custom middleware functions for authentication, logging, or validation. Ordering and chaining middleware for request processing. Express Router: Organizing routes and handlers using the Express Router. Creating modular route handlers and middleware. Implementing nested routers for more complex applications. Working with Databases: Integrating Express.js with databases like MongoDB or MySQL. Using database drivers or ORMs for data retrieval and manipulation. Implementing CRUD operations and handling database errors.
3	Introduction to Angular: Understanding the role of Angular in modern web development. Exploring the advantages and use cases of using Angular. Comparing Angular to other frontend frameworks and libraries. Components and Templates: Creating Angular components to define the UI and behavior of application parts. Working with templates and binding syntax for data display and manipulation. Implementing component communication and interaction using input and output properties. Directives and Pipes:Using directives to modify the behavior of HTML elements. Exploring built-in directives like ngIf, ngFor, and ngStyle. Creating custom directives to extend Angular's functionality. Working with pipes for data transformation and formatting. Dependency Injection: Understanding the concept of dependency injection in Angular. Configuring providers and injecting dependencies into components and services. Utilizing hierarchical injectors and dependency scopes.

	Services and Data Management: Creating services to encapsulate business logic and data operations. Using services for data retrieval, manipulation, and communication with backend APIs. Implementing data sharing between components using services. Routing and Navigation: Setting up routing in Angular applications for multiple views and navigation. Defining routes, route parameters, and query parameters. Implementing route guards for authentication and authorization. Forms and Validation: Working with Angular forms to capture and validate user input. Implementing template-driven forms and reactive forms. Validating form data using built-in validators and custom validation functions.
4	Introduction to React.js: Understanding the role of React.js in modern web development. Exploring the advantages and use cases of using React.js. Comparing React.js to other frontend frameworks and libraries. Components and JSX: Creating React components to define the UI and behavior of application parts. Working with JSX syntax for declarative rendering of components. Understanding the virtual DOM and its role in efficient rendering. Props and State: Passing data and properties between components using props. Managing component-specific data and state using React's state management. Updating state and triggering component re-rendering. Component Lifecycle: Understanding the lifecycle methods of React components. Utilizing lifecycle hooks for initialization, updating, and unmounting of components. Handling side effects and performing cleanup operations. Handling Events: Adding event handlers to components for user interaction. Responding to user input and updating component state. Preventing default behavior and propagating events. Conditional Rendering and List Rendering: Implementing conditional rendering based on component state or props: Rendering lists of data using map() and key attribute. Handling dynamic content and iterating over data collections. Forms and Controlled Components: Managing form inputs and handling user input: Controlling form state using controlled components. Validating form data and providing user feedback.
Learning Resources	
1	Text Books - Iriarte Koroliova, E.W. (2020). MERN Quick Start Guide: Build web applications with React, and Node. Packt Publishing. ISBN: 978-1839215414. - Haviv, A.Q. (2021). MEAN Web Development: Expert Full Stack JavaScript. Apress. ISBN: 978-1484270597. - McDowell, G.L., & Deshpande, M. (2020). Learning MERN: Create web applications with Express.js, React, and Node.js. Packt Publishing. ISBN: 978-1838984841.

2	Reference books	• Koroliova, E.W.I. (2020). MERN Quick Start Guide: Build web applications with React, and Node. Packt Publishing. • Hoque, S. (2020). Full-Stack React Projects: Learn MERN stack development with applications. Packt Publishing. • Uzayr, S.B. (2020). MEAN Stack Development Projects: Develop real-world MERN web and mobile. Packt Publishing. • Derks, R. (2020). MERN Essentials: Build universal apps using the MERN stack.
3	Websites	• MongoDB Official Website: https://www.mongodb.com/ • Express.js Official Website: https://expressjs.com/ • Angular Official Website: https://angular.io/ • React Official Website: https://reactjs.org/ □ https://www.geeksforgeeks.org/what-is-full-stack-development/ □ https://www.w3schools.com/whatis/whatis_fullstack.asp □ https://www.tutorialspoint.com/listtutorial/Learn-MEAN-Stack-Development/7
4	Journals	• Journal of Web Engineering (JWE) - Available at: http://www.rintonpress.com/ • International Journal of Web Services Research (IJWSR) - Available at: https://global.com/journal/international-journal-web-services-research/1079 • International Journal of Computer Science and Information Security (IJCSIS) - Available at: http://www.ijcsis.org/ • Journal of Web Development (JWD) - Available at: http://www.journalofwebdevelopment.com/ • International Journal of Web Information Systems (IJWIS) - Available at: https://www.emerald.com/insight/publication/issn/1744-0084
5	Supplementary Reading	• Subramanian, V. (2019). Pro MERN Stack: Full Stack Web App Development with React, Node, and Express. Apress. • Haviv, A.Q. (2016). MEAN Web Development. Packt Publishing. • Banks, A. and Porcello, E. (2020). Learning React: Modern Patterns for Developing Web Applications. No Starch Press.
6	Practical Component	• MEAN Stack Tutorial by FreeCodeCamp Link: https://www.youtube.com/watch?v=PFP0oXNNveg&list=PLWKjhJtqVA • MEAN Stack CRUD Operations by Academind Link: https://www.youtube.com/watch?v=0ZSqSa-1G5Q • MERN Stack Tutorial" by Traversy Media Link: https://www.youtube.com/watch?v=7CqJlxBYj-M&list=PLlIlGF-RfqbbiTGgA77tGO426V3hRF9iE • Building a MERN Stack Login and Registration System by Dev Ed Link: https://www.youtube.com/watch?v=4_ZiJGY5F38

M. Sc. (Computer Science in Cyber Security) Part-II Semester IV

Semester	IV	Total Credit	4
Course Code	M	Credit Pattern	L-48, T-12, P-0
Course Title	Computer Communication Network		

Course Objectives

1	To learn technology behind network architecture with layered organization.
2	Gain in depth knowledge of network core and network edge
3	Uniform coverage of principles, architecture, practical insights of networks

Course Outcomes

After completion of this course the student will be able to:

1	Present conceptual aspects of network applications such as web, file transfer, e-mail, and remote access, file sharing.
2	Understand various protocols such as HTTP, SMTP, POP3, IMAP, FTP, DNS, DHCP and the basic structure of IP V4, IP V6 Address
3	Understand routing concept and working of routing protocols such as RIP, OSPF and BGP
4	Understand layered architecture of TCP/IP model and design network applications
5	Build understanding and problem-solving skills required for network design
6	Understanding of wireless networks and protocols

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Computer Networks & Internet Introduction, Identifying Characteristics of Network, Types of Network, Network Topologies, Types of Network Topology, Merits and Demerits of Topology, Networking Devices, Physical Media and Connectors, Protocols, Network Core, Network Edge, Delay and Loss in Packet Switched Network, VLAN, ISP's, Network Operating Systems, OSI Model, TCP/IP Protocol Layers and their Service Models, Workgroup and Domain	L= 12	
		T=3	P= 0
2	Application Layer Introduction, The Internet, Principles of Network Applications, Client Server Architecture, Peer to peer Architecture, Hybrid Architecture, Application Layer Protocols, File Transfer and FTP, The World Wide Web HTTP and HTTPS, Electronic Mail in the Internet, Email Addressing, Message Structure, MIME-Multipurpose Internet Mail Extensions, SMTP, POP3, IMAP. Transport Layer Introduction, Transport Layer Services, Connection Oriented Transport: TCP, Responsibilities and functions of Transport Layer, Flow Control, Congestion Control, Multiplexing and De-Multiplexing, TCP Header, Principles of Reliable Data Transfer, RDT Protocols, Connectionless Transport: UDP,	L= 12	
		T= 3	P= 0

	Difference between TCP and UDP		
3	Network Layer Introduction, Datagram Networks, Responsibilities of Network Layer, Services of Network Layer, Router, Router components and functions, Routing Protocols, Routing in the Internet, Broadcast and Multicast. Firewalls & Internet Access, Network Protocols. Data Link Layer Introduction, 802 standards, Functions of Data Link Layer, Data Link Layer Services, Types of Error, Error Detection and Correction, Multiple Access Protocols, Pure and Slotted ALOHA, CSMA, CSMA/CD Polling, Token Passing, LAN Technologies, Ethernet – Fast and Gigabit Ethernet Link Layer Addressing, Switches, Managed and Unmanaged Switches, Wireless Network Introduction to Wireless Network, Wireless Ethernet Standards, Types of Wireless Network, Wi-Max, Difference between Wi-Fi and Wi Max	L= 12	
		T= 3	P= 0
4	Network Administration Introduction, Enterprise Network Implementation, Windows Networking, TCP/IP and the Internet, IP addressing (Network Part and Host Part Subnet Masks, Network Addresses and, Broadcast Addresses, Loop Back Address, Address Classes), Features of IPv4 and IPv6, Windows Servers, Configuring the TCP/IP Protocol, DHCP Overview, Working of DHCP, DHCP Server, The DHCP Relay Agent, Managing DHCP with DHCP Manager, Binding IP with MAC, Rapid Spanning Tree, DNS, DNS Server, Terminal Services.	L=12	
		T= 3	P= 0

Learning Resources

1	Text Books	- James F. Kurose and K. W. Ross, Computer Networking: A Top Down Approach, Pearson, 5th Edition 2013 - Craig Hunt & Robert Bruce Thompson, Windows NT TCP/IP Network Administration, O'Reilly Media - Computer Networks Andrew S. Tanenbaum 4e
2	Reference books	- Tanenbaum, A.S., Computer Networks, Prentice Hall of India Pvt. Ltd, 4th Edition 2005 - Douglas E. Comer, Computer Network and Internets with Internet Applications, Pearson Education Inc., 4th Edition 2004 - Uyless Black, Computer Networks Protocols, Standards and Interfaces, Prentice Hall of India Pvt, Ltd, 2nd Edition - Prakash C. Gupta, Data Communication & Computer Network, Prentice Hall of India Pvt. Ltd.
3	Websites	https://www.geeksforgeeks.org/computer-network- tutorials https://www.studytonight.com/computer-networks/ https://www.tutorialspoint.com/data_communication_computer_network/index.htm

4	Journals	- Journal of Computer Networks and Communications 2011, ISSN: 2090-715X - The International Journal of Computer and Telecommunications Networking ISSN: 1389-1286 https://www.journals.elsevier.com/computer-networks - Journal of Communications and Networks, ISSN 12292370
5	Supplementary Reading	Study Material of Web Course Developed for NPTEL , Computer Networks, https://nptel.ac.in/courses/106/105/106105183/

Semester	IV	Total Credit	4
Course Code	M	Credit Pattern	L-45, T-8, P-7
Course Title	.Net Programming		
Course Objectives			
1	Explore the knowledge on different types of applications of .net		
2	Know about the design methodologies with concentration on object oriented concepts.		
3.	Giving the students a complete knowledge on .net framework and .net environment.		
4	Provide the knowledge on developing internet applications and how to design and implement complete applications over the web using web form and MVC technology.		
Course Outcomes: The students will able to			
The syntax and semantics of C# and procedural programming including variable definitions, arithmetic and boolean expressions, control structures, methods, subroutines, arrays, and references.			
Event-based programming and GUI design.			
An idea of what objects are how to design programs using object-oriented design.			
Able to manipulate SQL server and MS ACCESS databases			
Able to implement various cryptographic algorithms in C#			

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Overview of .net framework: (15) Overview of .NET binaries and .NET architecture. The role of MSIL and metadata. Understanding CLR, CTS and CLS, .NET base classes , Assemblies- Components of Assembly, Private and Shared Assembly, Visual Studio .NET IDE	L= 12	
		T=3	P= 1
2	C# Programming: (15) C# Programming constructs, C# looping and Conditional constructs, Primitive types, operators and expressions, C# object oriented concepts, Object lifecycle, Initializer, Constructor, Garbage Collector, Interface, Inheritance, polymorphism, properties, Delegates, events, Exception handling in C#	L= 12	
		T= 3	P= 2
	ADO.net: (15)	L= 12	

3	ADO.net fundamentals, ADO.net architecture, Connection class, Command class, Data Reader class, Transactions, Data components And Data Set, Disconnected Data, Data Bindings.	T= 3	P= 2
4	.Net for cyber security (15) Introduction, overview of .Net framework security features, common security threats and challenges in .NET applications, Input validation and output encoding, Error logging and auditing Cryptography in .NET – Introduction to cryptographic algorithms and concepts, Hashing and message authentication codes (MAC), Symmetric and asymmetric encryption, Authorization and Authentication in .NET	L=12	
		T= 3	P= 2

Learning Resources		
1	Text Books	- Albahari, J. (2021). <i>C# 9.0 in a Nutshell : the definitive reference</i>. Beijing ; Boston ; Farnham ; Sebastopol ; Tokyo O'reilly March. - Troelsen, A. and Japikse, P. (2022). <i>Pro C# 10 with .NET 6</i>. Apress.
2	Reference books	- Nagel, C. (2021). <i>Professional C# And .net</i>. S.L.: Wiley-Blackwell. - Miles, R.S. (2018). <i>C# yellow book</i>. - Skeet, J. and Lippert, E. (2019). <i>C# in depth</i>. Shelter Island, Ny: Manning Publications Co. - Stellman, A. and Greene, J. (2021). <i>Head first C# a learner's guide to real-world programming with c#, xaml, and .net</i>. Sebastopol, CA: O'Reilly Media, Inc. - Viega, J. and Messier, M. (2003). <i>Secure Programming Cookbook for C and C++</i>. 'O'Reilly Media, Inc.'
3	Websites	https://www.tutorialspoint.com/vb.net/index.htm https://www.guru99.com/asp-net-tutorial.html https://stackify.com/learn-asp-net-tutorials/
4	Journals	- Science of Computer Programming-Methods of Software Design: Techniques and Applications Programming and Computer Software Journal of Global Research in Computer Science
5	Supplementary Reading	https://visualstudio.microsoft.com/vs/features/net-development/ https://dotnet.microsoft.com/learn https://www.journals.elsevier.com/science-of-computer-programming
6	Practical Components	List of experiments to be executed during laboratory hours

Semester	IV	Total Credit	4
Course Code	M	Credit Pattern	L-48, T-4, P-8

Course Title		Blockchain		
Course Objectives				
1	To gain an in-depth understanding of the underlying concepts and mechanics of Blockchain and Bitcoin			
2	To explore the architecture of Hyperledger Fabric and Hyperledger Composer			
3	To develop proficiency in Solidity and Go programming languages			
4	To acquire hands-on experience in designing, deploying, and interacting with Ethereum smart contracts			
Course Outcomes: Students will be able to;				
1	Demonstrate a comprehensive understanding of blockchain technology.			
2	Evaluate the potential applications and use cases of blockchain technology across various industries			
3	Demonstrate proficiency in designing and implementing smart contracts using blockchain platforms like Ethereum and hyperledger fabric			
4	Collaborate effectively in multidisciplinary teams to develop blockchain-based solutions			
Unit Number	Contents		Number of Sessions	
1	<u>Blockchain Overview and Introduction</u> Introduction to Blockchain, History and Origin of Blockchain, Properties of Blockchain (Immutability, Decentralized, Enhanced Security, Scalability, Distributed Ledgers, Faster Settlement). Fundamental terminologies (Block, Mining, Double Spending), Concept of Merkle Trees, Major Components of Blockchain, Structure of Block header, architecture of blockchain, types of Blockchain (Public, Private, Consortium), generations of blockchain <u>Cryptography in Blockchain</u> Public Key Infrastructure and Cryptography Security Goals – CIA triad, Elliptic Curve Cryptography, advantages of ECC, El-Gamal encryption and decryption, ECC encryption and decryption, cryptographic hash functions, Digital Signature, El-Gamal signature, DSA signature verification, ECC key generation and signature verification, RSA algorithm, <u>Consensus in Blockchain</u> Distributed systems, Decentralized networks, Consensus (Proof of Work, Proof of Stake, BFT), Blockchain Ecosystem (Blockchain exchanges, Blockchain miners, blockchain developers Mining and the Hashing Race), Working Phases in Blockchain, Application Areas. Blockchain forking, Inter Planetary File System (IPFS) Blockchain when to use.		L= 12	
			T= 1	P= 2
	<u>Concepts of Solidity, Ethereum and Smart Contracts</u> Introducing Solidity, Global Variables and Functions, Expressions and		L= 12	

2	Control Structures, Writing Smart Contracts; Functions, address functions., Modifiers, and Fallbacks, ethereum blockchain paradigm, components of ethereum Smart contract programming, accounts and wallets, types of accounts Exceptions, Events, and Logging; Truffle Basics and Unit Testing; Debugging Contracts. Test and debug smart contracts with Truffle, Ganache, Remix, and MetaMask. Maintaining code quality with different tools. History and Introduction of Ethereum, Concept of Dapps, DAOs, DACs and DASs, power of DAOs, Understanding Ethereum smart contracts, Ethereum wallet, Building Your First DAO, Future of DAOs, Reentrancy Vulnerability, hard fork proposal,	T= 1	P= 2
3	<u>Introduction to Hyperledger Family</u> Introduction to Hyperledger and Composer, Problems with existing Blockchain technology, Basics of hyperledger Fabric, Hyperledger Fabric Architecture, Consensus in Hyperledger, Introduction to new consensus algorithm Sumeragi, Hyperledger Components, Chaincode, Exploring Key Projects of Hyperledger Family Introduction to Go, features of Go programming, installing Go, Go program structure, data types, variable declaration issues, operators, decision making, control statements, functions, closure, arrays, maps, pointers, structures, creating HTTP server, Go concurrency, Goroutines, waitgroup, mutex, atomic variable, Go channel – creating a channel, sending and receiving data from channel	L= 12	
4	<u>Cryptocurrency</u> Introduction to bitcoin, bitcoin features, bitcoin network, working of bitcoin with blockchain components, bitcoin core architecture, bitcoin full node, bitcoin wallet, bitcoin script, account-based ledger, bitcoin transactions, bitcoin mining, bitcoin validation, multisignature (m out of n), flow of bitcoins, bitcoin addresses, bitcoin payment workflow, bitcoin transaction in blockchain, data storage in bitcoin blockchain, addressing double spending problem. Smart Blockchain, Future of Blockchain Technology and its Industry Impacts. Bitcoin Vs. Blockchain	T= 1	P= 2
Learning Resources			
1	Text Books	6. Drescher, D. (2017). Blockchain Basics: A Non-Technical Introduction in 25 Steps. Apress. 7. Shah, N. (2019). Blockchain for Business with Hyperledger Fabric. bpb publication. 8. Antonopoulos, A. M. (2017). Mastering Bitcoin, 2nd Edition. O'Reilly Media, Inc.	

2	Referenc e books	3. Serres, T., Wagner, B., & Warburg, B. (2019). Basics of Blockchain: A guide for building literacy in the economics, technology, and business of blockchain. 4. Li, K.-C., Chen, X., Jiang, H., & Bertino, E. (Eds.). (2020). Essentials of Blockchain Technology. 5. Modi, R. (2018). Solidity Programming Essentials: A beginner's guide to build smart contracts for Ethereum and Blockchain. 6. Lantz, L. (2015). Bitcoin, the Blockchain, and Their Potential to Change Our World. O'Reilly Media, Inc. 7. Swan, M. (2015). Blockchain: Blueprint for a New Economy. O'Reilly Media.
3	Websites	8. https://www.blockchain-council.org/ 9. https://www.ibm.com/in-en/blockchain/getting-started 10. https://www.geeksforgeeks.org/ 11. https://hackernoon.com/
4	Journals	8. "Bitcoin: A Peer-to-Peer Electronic Cash System" Satoshi Nakamoto October 31, 2008 9. "Scope for the Application of Blockchain in the Public Healthcare of the Russian Federation", Koshechkin K.A., Klimenko G.S., Ryabkov I.V., Kozhin P.B. , ScienceDirect Procedia Computer Science 126 (2018), Pg. No. 1323–1328 , International Conference on Knowledge Based and Intelligent Information and Engineering Systems, KES2018, 3-5 September 2018, Belgrade, Serbia 10. "Reputation-based Byzantine Fault-Tolerance for Consortium Blockchain" Kai Lei*, Qichao Zhang, Limei Xu, Zhuyun Qi † Shenzhen Key Lab for Information Centric Networking & Blockchain Technology (ICNLAB) School of Electronics and Computer Engineering (SECE) Peking University, Shenzhen 518055, P.R. China, 978-1-5386-7308-9/18/\$31.00 ©2018 IEEE 11. "Identity Verification and Management of Electronic Health Records with Blockchain Technology", Yiheng Liang Department of Computer Science Bridgewater State University Bridgewater, Massachusetts, United States of America, 978-1-5386-9138-0/19/\$31.00 ©2019 IEEE 12. ComChain: Bridging the Gap Between Public and Consortium Blockchains Guillaume Vizier, Vincent Gramoli University of Sydney vincent.gramoli@sydney.edu.au, 978-1-5386-7975-3/18/\$31.00 ©2018 IEEE

	Supplementary Reading	• CoinDesk (www.coindesk.com) • Blockchain.com (www.blockchain.com) • Hyperledger (www.hyperledger.org) • Binance Academy (www.binance.vision)
5	Practical Component	• https://andersbrownworth.com/blockchain/ • Remix IDE (remix.ethereum.org) • Truffle (www.trufflesuite.com) • Solidity (soliditylang.org) • Hyperledger (www.hyperledger.org)

Semester	IV	Total Credit	4
Course Code	EL	Credit Pattern	L-48, T-4, P-8
Course Title	Mobile and Wireless Security		
Course Objectives			
1	To introduce about mobile and wireless networks.		
2	To understand architecture, components, and protocols in wireless mobile communication.		
3	To identify and analyze various security issues in wireless mobile communication.		
4	To learn various issues of application level security in wireless environment and its related solution.		
Course Outcomes: After successful completion of the course, the students would be able to			
1.	Familiarize with the issues and technologies involved in designing a wireless and mobile system that is robust against various attacks.		
2.	Gain knowledge and understanding of the various ways in which wireless networks can be attacked and trade-offs in protecting networks.		
3.	To understand how to effectively handle the security issues in wireless mobile communication.		
4.	Have a broad knowledge of the state-of-the-art and open problems in wireless and mobile security, thus enhancing their potential to do research or pursue a career in this rapidly developing area.		
Syllabus:			
Unit Number	Contents		Number of Sessions
1	Security Issues in Mobile Communication, Mobile Communication History, Security – Wired Vs Wireless, Wireless Local Area Networks, Wireless Personal Area Networks, WiMAX (Physical layer, Media access control, Mobility and Networking) Security Issues in Mobile Communication: Security Requirements in Wireless and Mobile Communications, Security for Mobile Applications, Advantages and Disadvantages of Application – level Security.		L= 12
			T=1 P= 2
2	Mobile IPv4, Mobile IPv6, TCP over Wireless Networks, Ad Hoc Networks - Issues and Routing, Wireless Sensor Networks, Wireless Mesh and Multi-Hop Relay Networks, Mobile Devices Security Requirements, Mobile Wireless network level Security, Server Level Security, Wireless Threats, Some Vulnerabilities and Attack Methods over WLANs, Recent Security Schemes for Wi-Fi Applications		L= 12
			T=1 P= 2
3	3G and 4G Network, General Packet Radio Services (GPRS), Universal Mobile Telecommunication System (UMTS) Application Level Security in Cellular Networks: Generations of Cellular Networks, Security Issues and attacks in cellular networks, GSM Security for applications, GPRS Security for applications, UMTS security for applications, 3G security for applications, Some of Security and authentication Solutions.		L= 12
			T=1 P= 2

4	Radio Frequency Identification (RFID), Introduction to LTE, Security Issues in Wireless Networks Application Level Security in MANETs: MANETs, Some applications of MANETs, MANET Features, Security Challenges in MANETs, Security Attacks on MANETs, External and Internal threats for MANET Applications, Some of the Security Solutions.	L=12	
		T=1	P= 2
Learning Resources			
1	Text Books	- Rhee, M. Y. (2015), “Wireless Mobile Internet Security”, 2nd ed. Wiley. - Doherty, J. (2021a), “Wireless and mobile device security”, 2nd ed. Sudbury, MA: Jones and Bartlett.	
2	Reference books	- Doherty, J. (2021b), “Wireless and mobile device security + cloud labs”, 2nd ed. Sudbury, MA: Jones and Bartlett. - Pierce, C. (2018), “Resource, mobility, and security management in wireless networks and mobile communications”, North Charleston, SC: Createspace Independent Publishing Platform. - Miller, R. (2023), “Cyber security enforcement and monitoring solutions: Enhanced wireless, mobile and cloud security deployment”, Pastor Publishing - Denko, M. K. and Wougang, I. (eds.) (2020), “Security in next generation mobile and wireless networks”, New York, NY: Springer.	
3	Websites	- Securing wireless and mobile devices (2019) GeeksforGeeks. Available at: https://www.geeksforgeeks.org/securing-wireless-and-mobile-devices/ (Accessed: June 26, 2023). - Threat and Security Issues in Mobile Computing (no date) www.javatpoint.com. Available at: https://www.javatpoint.com/threat-and-security-issues-in-mobile-computing (Accessed: June 26, 2023). - Wireless Security Tutorial (no date) Tutorialspoint.com. Available at: https://www.tutorialspoint.com/wireless_security/index.htm (Accessed: June 26, 2023).	
4	Journals	- Benakappa, Dept. Of Computer Science & Engineering, Jawaharlal Nehru National College of Engineering, Shivamogga, Karnataka, INDIA and Kiran (2022) “Energy aware stable multipath disjoint routing based on Accumulated Trust Value in MANETs,” International journal of computer network and information security, 14(4), pp. 14–26. doi: 10.5815/ijcnis.2022.04.02. - Gupta, C., Singh, R. K. and Mohapatra, A. K. (2022) “An approach for verification of secure access control using security pattern,” Wireless communications and mobile computing, 2022, pp. 1–11. doi: 10.1155/2022/1657627.	
5	Supplementary Reading	- Kundu, S. (2023) “Design and characteristic analysis of uniplanar multiband frequency selective surface for GSM, LTE, WLAN, ISM, WiMAX and X- band applications,” Microwave and optical technology letters. doi: 10.1002/mop.33779. - Schefczik, P. and Wiedemann, A. (2022) “On the estimation of signalling performance and efficiency in UMTS and beyond radio access	

		architectures,” in Performance Modelling and Analysis of Heterogeneous Networks. New York: River Publishers, pp. 245–275.
6	Practical Components	Understanding the implementation of Mobile and wireless security aspects.

Semester	IV	Total Credit	2
Course Code	EL	Credit Pattern	L-48, T-12, P-0
Course Title	Big Data Analytics		
Course Objectives			
1.	Exploring the big data for Business Intelligence		
2.	Examine big data analytics business case studies.		
3.	Discuss Big Data Management		
4.	Develop map-reduce analytics using Hadoop and related tools		
Course Outcomes: The students will able to			
1.	Enumerate the usage of big data in specific business domains.		
2.	Manage Big data through NoSQL		
3.	Install and configure Haddop & HDFS		
4.	Perform Hadoop Analytics through the usage of Hadoop		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	UNDERSTANDING BIG DATA: Introduction: Understanding Big data, Evolution, Failure of Traditional databases, Sources, different types of data, Big data infrastructure, Lifecycle, technologies, Data storage concepts: Cluster Computing, Distribution Models, Distributed file system, Relational & Non relational, Databases, Scaling up and scaling down Storages, Processing & Managing Big Data, Big data Analytics & Terminologies, Big data Analysis techniques, Big data technologies: Introduction to Hadoop, open source technologies, cloud and big data, mobile business intelligence	L= 12	
		T=3	P=0
2	Introduction to Hadoop Introduction, Hadoop and its Ecosystem, Hadoop Distributed File System, MapReduce Framework and Programming Model, Hadoop Yarn, Hadoop Ecosystem Tools. Hadoop Distributed File System Basics HDFS Design Features, Components, HDFS User Commands. Essential Hadoop Tools Using Apache Pig, Hive, Sqoop, Flume, Oozie, HBase	L= 12	
		T= 3	P=0
3	Introduction, Estimating the relationships, Outliers, Variances, Probability Distributions, and Correlations, Regression analysis, Finding Similar Items, Similarity of Sets and Collaborative Filtering, Frequent	L= 12	
		T= 3	P=0

	Itemsets and Association Rule Mining. Text,			
4	Network Analysis: Web Content, Link, and Social Network Analytics: Introduction, Text mining, Web Mining, Web Content and Web Usage Analytics, Page Rank, Structure of Web and analyzing a Web Graph, Social Network as Graphs and Social Network Analytics:		L= 12	
			T= 3	P= 0
Learning Resources				
1	Text Books	1. Balusamy, B., R, N. A., Kadry, S., Gandomi, A. H. (2021). <i>Big Data Concepts, Technology, and Architecture</i>. 1st Edition. Wiley. 2. White, T. (2012). <i>Hadoop: The Definitive Guide</i>. 3rd Edition. O'Reilly. 3. Sammer, E. (2012). <i>Hadoop Operations</i>. 1st Edition. Shroff. 4. Kamal, R., & Saxena, P. (2019). <i>Big Data Analytics, Introduction to Hadoop, Spark, and Machine-Learning</i>. Paperback. Place of publication: Publisher.		
2	Reference books	1. George, L. (2011). <i>HBase: The Definitive Guide</i>. 1st Edition. Shroff/O'Reilly. 2. Padalia, N. (2015). <i>Apache Cassandra Essentials</i>. Packt Publishing Limited. 3. Capriolo, E., Wampler, D., Rutherglen, J. (2012). <i>Programming Hive</i>. O'Reilly.		
3	Websites	• https://towardsdatascience.com/understanding-big-data-the-seven-vs-of-big-data-6c8e076f6986 • https://www.datacamp.com/community/tutorials/introduction-nosql-databases • https://hadoop.apache.org/docs/stable/hadoop-mapreduce-client/hadoop-mapreduce-client-core/MapReduceTutorial.html • https://www.tutorialspoint.com/hbase/index.htm		
4	Journals/Articles	• Journal on Big Data. (n.d.). Open Access. ISSN: 2579-0048 (print), ISSN: 2579-0056 (online). Publication Frequency: Quarterly. • Chen, E., Ahmed, R., & Zhang, A. (2015). Understanding Big Data: Analytics for Enterprise Class Hadoop and Streaming Data. <i>Big Data Research</i>, 2(4), 145-162. doi: 10.1016/j.bdr.2015.09.006. • Almeida, P. S., Almeida, J. P., Baquero, C., Fonte, V., & Preguiça, D. (2017). NoSQL Databases: A Survey and Decision Guidance. <i>ACM Computing Surveys</i>, 50(1), 1-35. doi: 10.1145/3131277. • Chen, E., Ahmed, R., & Zhang, A. (2015). Understanding Big Data: Analytics for Enterprise Class Hadoop and Streaming Data. <i>Big Data Research</i>, 2(4), 145-162. doi: 10.1016/j.bdr.2015.09.006.		
5	Supplementary Reading	• https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/big-data-the-next-frontier-for-innovation • Chamberlin, D. B., & Reinhardt, M. M. (2013). "MongoDB: A Document-Oriented NoSQL Database." <i>Communications of the ACM</i>, 56(4), 54-63.		

		• Tutorialspoint.com. (n.d.). Hadoop Tutorial. [Online] Available at: [https://www.tutorialspoint.com/hadoop/index.htm] [Accessed: June 26, 2023]. • https://www.youtube.com/watch?v=J-cSy5MeMOA • https://www.simplilearn.com/what-is-hive-article
6	Practical Components	• Installation of Hadoop • File manipulation in Hadoop • Practise exercises

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BUSINESSEDUCATION AND RESEARCH,
KOLHAPUR-MAHARASHTRA, INDIA**

(AN AUTONOMOUS INSTITUTE)

CPE Phase III, NAAC A+



STRUCTURE & SYLLABUS

**Under C.B.C.S.
Pattern With Effect
from 2021-2022**

MBA Programme

MASTER OF BUSINESS ADMINISTRATION (MBA Analytics)

PROGRAMME EDUCATIONAL OBJECTIVES (PEOS):

Programme Educational Objectives are broad statements that describe what students are expected to attain within few years of completing their graduation. Programme Educational Objectives are based on the needs of the students undergoing the programme.

The PEOs of MBA Program at CSIBER are as follows;

PEO 1:

Our graduates will develop themselves as professionals contributing effectively and efficiently by applying theories in management and demonstrating team work, effective communication, analytical and creative thinking skills for problem-solving.

PEO 2:

Our graduates will be equipped with leadership and entrepreneurial abilities to enable them to establish themselves as dynamic and innovative business professionals.

PEO 3:

Our graduates will not only be able to adapt to changes in the global environment but also act as change agents in bringing about holistic and sustainable development in the society.

PEO 4:

Our graduates will have highest regard for Personal & Institutional Integrity, Ethical values and Social Responsibility.

GRADUATE ATTRIBUTES for MBA COURSE

1. Problem solving using domain knowledge and quantitative techniques
2. Well versed with soft skills
3. Deal with contemporary issues (innovation, emerging technology, disruption)
4. Entrepreneurial and Leadership abilities.
5. Inter-cultural competency
6. Cater to needs of holistic and sustainable development
7. Develop the capacity for independent and lifelong learning.
8. Global citizenship

Programme Outcomes (POS):

The programme outcomes of MBA program are as follows;

1. Conceptual Knowledge:- Graduates will be able to conceptualize, organize, analyse and resolve complex business problems by using their domain knowledge of management.
2. Leadership and Innovation Skills:- Graduates will be able to adopt and adapt the contemporary trends in their domain area as well as innovations, emerging technology and global changes while leading and managing business.
3. Soft Skills:- Graduates will practice and perform effective communication skills and softskills under various business situations.
4. Entrepreneurial Skills:- Graduates will be able to identify, assess and shape entrepreneurial opportunities and evaluate their potential for starting an enterprise.
5. Stakeholder Concern:- Graduates will address ethical, legal and cultural issues of organizationand society by utilizing their conceptual knowledge.
6. Sustainability:- Graduates will gain ability to take business decisions keeping in mind the need for sustainable and holistic development.
7. Research and Lifelong Learning:- Graduates will be able to participate in active research work, as well as independent and lifelong learning.
8. Problem Solving:- Graduates will possess and use competencies in quantitative and qualitative techniques for problem solving in their respective functional areas.

I. DURATION :

The degree of **MBA** shall be full-time course and its duration shall be of **Two Years**. The course consists of Four Semesters. The examination to be held in the First and Second Semester will be called Part – I (First Year) and the examination to be held in the Third and Fourth Semester will be called Part – II (Second Year).

If a candidate fails to clear all the theory papers and project report within **Six** years of his/her registration, the past performance will stand automatically nullified.

If a candidate discontinues any of the terms (i.e. Semester – I to IV) on any account, he/she will be allowed to complete the incomplete terms in the subsequent years subject to the condition that it is within the stipulated time duration of **Six** years.

In addition to the above, once a student's term (Semester) is granted, he/she shall be allowed to appear and pass in any of the subsequent examinations held, provided the examinations are within the stipulated period of **Six** years.

In case the term (Semester) is not granted the student has to seek fresh admission in the next year and complete the term and pass the examination. This must be done within **Six** years of his/her registration.

Course Completion with Break in Between:

A student who has passed M.B.A. – I and is seeking admission to M.B.A. – II after a long gap (Provided the gap lies within the stipulated duration of **Six** years) should complete the course syllabus which is in existence at the time he is seeking admission for the academic year.

II. ASSESSMENT:

Taking into consideration the UGC and AICTE requirements, C SIBER has adopted –Credit Grade Based Performance Assessment System^{II} (CGPA). Each course is of 100 marks and contact hours for each paper is 60. One credit is allotted to 15 contact hours. All courses of 100 marks are considered as Full credit course with 4 credits. Courses of 50 marks are considered as half credit course and have 2 credits.

For the paper of 100 marks. The distribution of the marks will be as follows –

i) Formative Evaluation i.e. Internal marks	-	40 Marks
ii) Summative Evaluation i.e. Semester-end examination	-	60 marks

2. For the paper of 50 marks. The distribution of the marks will be as follows –

i) Formative Evaluation i.e. Internal marks	-	20 Marks
ii) Summative Evaluation i.e. Semester-end examination	-	30 marks

Breakup of Formative Evaluation (internal marks)

Head	Marks Out of 40	Marks Out of 20
Attendance and Class Participation	10	05
Quiz	10	05
Any Two from given alternatives: 1. Case Study 2. Home assignment 3. Mid-term test 4. Viva voce 5. Library-based assignment 6. Book report 7. Scrap Book 8. Lab. Practical 9. Field-based activity 10. Group Discussion 11. Seminar 12. Group Activity	10 + 10	05 + 05
	40	20

Assessment of AEC courses:

AEC courses will be assessed as follows;

i) Internal Marks i.e. Formative evaluation	-	20 Marks
ii) External Marks i.e. Summative evaluation	-	30 marks

Summative evaluation (out of 30) will be done by panel consisting of one internal and one external member on the basis of viva/ presentation. The Formative evaluation done by the faculty be shown to the students and their signature will be obtained.

3. For the report of Project Work done (100 marks) the distribution of the marks will be as follows –
- | | | |
|---|---|----------|
| i) Project Report (given by faculty mentor) | - | 40 Marks |
| ii) Viva Voce (panel of internal and external examiner) | - | 60 Marks |

The assessment of papers will be done by an Internal and External examiner. A difference of more than **20%** in the marks awarded by these examiners would necessitate the valuation of the paper by Third examiner. The '**nearest**' highest two marks will be considered for determining the average mark of such papers.

4. Once the Student passes in the internal marks (Concurrent evaluation out of 40) and the record is submitted to the examination department, it should be carried forward whenever required and it cannot be improved in any case.

5. Students who fail in the internal marks (Concurrent evaluation out of 40) should reappear for the same, only then the revised marks will be considered for further calculation

Assessment of Lab-Based courses:

1) SEMESTER TWO:

Course name: Advanced Excel

Credits: FOUR

60 marks external- based on practical examination conducted by internal and external faculty.

The practical examination will be of 3 hours duration. The student will be given a choice of six questions of 15 marks each, out of which student will have to solve any four.

40 marks internal evaluation will be as per other 4 credit course in the curriculum.

2) SEMESTER TWO:

Course name: Managerial Decisions using Excel

Credits: TWO

30 marks external- based on practical examination conducted by internal and external faculty. The practical examination will be of 2 hours duration. The student will be given a choice of three questions of 15 marks each, will be asked out of which student can solve any two.

20 marks internal evaluation will be as per other 2 credit course in the curriculum.

3) SEMESTER THREE:

Course name: Business Analytics Using R

Credits: FOUR

60 marks external- based on practical examination conducted by internal and external faculty.

The practical examination will be of 3 hours duration. The student will be given a choice of six questions of 15 marks each, out of which student will have to solve any four.

40 marks internal evaluation will be as per other 4 credit course in the curriculum.

III. STANDARD OF PASSING:

1. In order to pass in a paper/head, a candidate will have to obtain 50% in the Formative Evaluation (Internal Credit), 40% marks in theory, and a minimum of 50% of the marks in aggregate in each paper head.
2. To pass the M.B.A. examination, a candidate will have to pass in all Four Semester in Two Parts i.e. Part – I (Semester – I & II) and Part – II (Semester – III & IV)
3. To pass the Project work a candidate must obtain a minimum of 50% of the Project Report and Viva Voce marks. If a candidate fails in the project report and its viva-voce, he/she will have to reappear for the same in the subsequent semester.

4. A candidate from the first year M.B.A. will be eligible to proceed to the Semester III, if he/she is not having more than **5 (Five)** papers backlog of the First Year (that is Semester – I & II).
5. A candidate will be permitted to proceed to the second Semester even though he/she fails in one or more subjects of the first Semester.
6. The students who have a backlog of not more than **five papers** in the First year (Sem. I & II) examination will be eligible to be admitted to the Second year (IIIrd Semester) of M.B.A.
7. A candidate will be permitted to proceed to the Fourth Semester even though he/she fails in one or more subjects in third Semester.
8. Performance Index (SPI) will be as follows:

Grading System:

There shall be numerical marking for each course, which will be placed into credits. Each subject is classified as a major or minor. The major and minor subjects will be given 2 and 1 credits respectively.

a. Full Credit (100 Marks) Course:

Grade Table for Semester Examination			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
96-100	S+	10.0	SUPER
91-95	S	9.0	
86-90	E+	8.5	Exemplary
81-85	E	8.0	
76-80	O+	7.5	Outstanding
71-75	O	7.0	
66-70	A+	6.5	Good
61-65	A	6.0	
56-60	B+	5.5	Average
50-55	B	5.0	
--	X	0.0	Defaulter
--	XX	---	Incomplete

b. Half Credit (50 Marks) Course:

Grade Table for Semester Examination			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
48-50	S+	10.0	SUPER
46-47	S	9.0	
43-45	E+	8.5	Exemplary
41-42	E	8.0	
38-40	O+	7.5	Outstanding
36-37	O	7.0	
33-35	A+	6.5	Good
31-32	A	6.0	
28-30	B+	5.5	Average
25-27	B	5.0	

--	X	0.0	Defaulter
--	XX	---	Incomplete

9. **Final Result:** For the final result of the student Cumulative Performance Index (CPI) based on total earned credits vis-à-vis total earned grade points shall be calculated will be as follows.
Total earned grade points / Total credits **100**

Result		
CPI	Final Grade	Classification of Final Result.
9.6-10.0	S+	SUPER
9.1-9.5	S	
8.6-9.0	E+	Exemplary
8.1-8.5	E	
7.6-8.0	O+	Outstanding
7.1-7.5	O	
6.6-7.0	A+	Good
6.1-6.5	A	
5.6-6.0	B+	Average
5.0-5.5	B	

Note: An aggregate of **5.0** credit points are required to pass the MBA program.

Grade Table for Semester Examination			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
48-50	S+	10.0	SUPER
46-47	S	9.0	
43-45	E+	8.5	Exemplary
41-42	E	8.0	
38-40	O+	7.5	Outstanding
36-37	O	7.0	
33-35	A+	6.5	Good
31-32	A	6.0	
28-30	B+	5.5	Average
25-27	B	5.0	
--	X	0.0	Defaulter
--	XX	---	Incomplete

IV. CALCULATION OF PERFORMANCE INDICES:

A distinction of the performance of one student from the other student is rather impossible to carry out from the grades obtained by a student in all the courses taken by him in a Semester/year. Hence, the evaluation of various courses is cumulated in two performance indices termed as Semester performance index (SPI) and cumulative performance index (CPI) the explanation of which is given below:

Semester Performance Index (SPI):

The performance of a student in a Semester is indicated by a number called Semester Performance Index (SPI). SPI is the weighted average of all the grade points obtained by him in all the courses registered during the Semester r. If G_i is a grade with numerical equivalent as G_i obtained by a student for the course with credit C_i then, SPI for that Semester is calculated using formula.

$$\text{SPI} = \frac{\sum_1 C_i G_i}{\sum_1 C_i}$$

Where summation is for all the courses registered by a student in that Semester. SPI is calculated to two decimal places and rounded off. SPI once calculated shall be modified. Generally, for the students failed in regular examinations SPI is calculated only after the declaration of re-examination grades.

Cumulative Performance Index (CPI):

An up-to-date assessment of the overall performance of a student from the first Semester till completion of the programme is obtained by calculating an index called as Cumulative Performance Index (CPI). The CPI is weighted average of the grade points obtained in all the courses registered by a student since the first semester of the programme.

$$\text{CPI} = \frac{\sum_1 C_i G_i}{\sum_1 C_i}$$

Besides SPI, CPI is also calculated at the end of every semester upto two decimal places and is rounded off. It is necessary to ensure that one course appears only once in calculation of CPI and the denominator in above equation does not exceed the total number of credits registered by him.

Initially there is certain trepidation in the minds of students and there are some difficulties in understanding the mechanics of this system. Therefore, it was decided that for the first year of implementation, on the mark sheets, both, the marks and the grade points and credits should be shown.

V. GRACE MARKS UNDER DIFFERENT ORDINANCE.

S.O. No. 1:-Grace Marks for Passing in each head of Passing (Theory/Practical/ Oral/ Sectional/External/Internal)

The Examinee shall be given the benefit of grace marks only for passing in each head of Passing (Theory/Practical/Oral/Sectional/ in External Internal examination as follows.

Head of Passing	Grace Marks
Upto -50	2
051-100	3
101-150	4
151-200	5
201-250	6
251-300	7
301-350	8
351-400	9
401 and above.	10

Provided that the benefit of such gracing marks in different heads of passing shall not exceed 1% of the aggregate marks in that examination.

Provided further that the benefit of gracing of marks under this ordinance shall be applicable only if the candidate passes the entire examination of Semester/year.

Provided further that this gracing is concurrent with the rules and guidelines of professional statutory bodies at the all India level such as AICTE and UGC.

S.O. No. 2:- Grace Marks for getting higher Class

A Candidate who passes in all the subjects and heads of passing in the examination without the benefit of either gracing or condonation rules and whose total number of Marks falls short for securing Higher Class or Grade by marks not more than 1% of the aggregate marks of that examination or upto 10 marks, whichever is less, shall be given the required marks to get the next higher class of grade as the case may be.

Provided that benefits of above mentioned grace marks shall not be given, if the candidate fails to secure necessary passing marks in the aggregate head of passing also, if prescribed in the examination concerned.

Provided further that the benefits of above mentioned grace marks shall be given to the candidate for such examination/s only for which provision of award of class has

been prescribed. Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE and UGC.

S.O. No. 3 Condonation

If a candidate fails in one or more head of passing, having passed in all other heads of passing, his/her deficiency of marks in such head of passing may be condoned by not more than 1% at the aggregate marks of that examination or 10 marks of the total Number of marks of that of passing in which he/she is failing whichever is less. However condonation, whether in one head of passing or aggregate head of passing be restricted to maximum upto 10 marks only.

Condonation of deficiency of marks be shown in the statement of Marks in the form of asterisk and Ordinance number

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE and UGC.

MBA (Business Analytics specialization) Programme Structure

**Under C.B.C.S. Pattern
with Effect from 2021-22**

MBA-I (BA), Semester – I

Nature of Choice	Subject Code	Subject	Credits	Contact Hours	Int. Marks	Ext. Marks	Total Marks
Core Component (CC)	CC 101	Perspectives in Management And OB	04	60	40	60	100
	CC 102	Accounting for Business Decisions	04	60	40	60	100
	CC 103	Database Management Systems	04	60	40	60	100
	CC 104	Foundations of Mathematics and Statistics	04	60	40	60	100
	CC 105	Economics for Analysts	04	60	40	60	100
	CC 106	Marketing Management	04	60	40	60	100
Ability Enhancement Course (AECC)	AECC 101	Professional Communication Skills	02	30	20	30	50
Discipline Specific Elective (DSE)	DSE 101 (Any One)	DSE- 101- (A) Programming fundamentals and R DSE- 101- (B) Programming fundamentals and Python	04	60	40	60	100
		Total	30	450	300	450	750

MBA-I (BA), Semester – II

Nature of choice	Subject Code	Subject	Credits	Contact Hours	Int. Marks	Ext. Marks	Total Marks
Core Component (CC)	CC 201	Advanced Excel(Lab-Based)	04	60	40	60	100
	CC 202	Legal Aspects of Business	02	30	20	30	50
	CC 203	Managing Human Resource	04	30	20	30	50
	CC 204	Research Methodology	02	60	40	60	100
	CC 205	Data Warehousing and Data Mining	04	60	40	60	100
	CC 206	Operations Research	04	60	40	60	100
	CC 207	Operation Management	02	30	20	30	50
Ability Enhancement Course (AEC)	AEC201 (Any One)	AEC 201 (A) German AEC 201 (B) Japanese AEC 201 (C) French AEC 201 (D) Selling and Negotiation Skills AEC 201 (G) Digital Marketing AEC 201 (H) Human Values	02	30	20	30	50
Discipline Specific Elective (DSE)	DSE201	DSE 201 (C) Data Exploration and Visualization	04	60	40	60	100
Generic Elective (GE)	GE 201 (Any One)	GE 201 (A) Environment and Development GE 201 (B) Indian Social Problems and Services GE 201 (C) Office Automation GE 201 (D) Principles of Economics	02	30	40	60	100
		Total	30	450	300	450	750

MBA-II (BA), Semester – III

Nature of choice	Subject Code	Subject	Credits	Contact Hours	Int. Marks	Ext. Marks	Total Marks
Core Component (CC)	CC 301	Strategic Management	04	60	40	60	100
	CC 302	Cloud Computing	04	60	40	60	100
	CC 303	Project report and Viva-voce	04	50days + 30	40	60	100
	CC 304 (Any One)	CC Specialization Paper-I List of Choices for CC-304 CC-304-A International Trade and Finance CC-304-B Employee Relations and Labour Law CC-304-C Buying Behaviour CC-304-D Agri- Business, Entrepreneurship and cooperatives CC-304-E Logistics and Supply Chain Management CC-304-F Knowledge Management Systems and ERP	04	30	20	30	50
	CC 305	CC Specialization Paper-II Machine Learning	04	60	40	60	100
	CC 306	Lean Management	02	60	40	60	100
Discipline Specific Elective (DSE)	DSE 301	DSE Specialization Paper I Business Analytics using R	04	60	40	60	100
	DSE 302 (Any One)	DSE Specialization Paper- II List of Choices for DSE- 302: DSE-302-A Direct and Indirect Taxes DSE-302-B Strategic and International Human Resource Management DSE-302-C Marketing Sectors DSE-302-D Rural and Agricultural Marketing DSE-302-E Purchasing and Inventory Management DSE-302-F Information SystemControl and Audit	04	60	40	60	100
Ability Enhancement course (AEC)	AEC- 301 (Any One)	AEC-301-(A): Entrepreneurial skills and Start up AEC- 301-(B): Health and Wellness AEC-301-(C): Tourism Management AEC-301-(D): Change	02	30	20	30	50

		Management					
Generic Elective (GE)	GE-301 (Any One)	GE-301-(A) E Commerce GE-301-(B) Disaster Management GE-301-(C) Corporate Social Responsibility GE- 301 (D) Basics of Indian Economics	02	30	20	30	50
		Total	34	480	340	510	850

MBA-II (BA), Semester – IV

Nature of choice	Subject Code	Subject	Credits	Contact Hours	Int. Marks	Ext. Marks	Total Marks
Core Component (CC)	CC 401	Big Data Analytics	04	60	40	60	100
	CC 402	CC Specialization Paper-I Social Media Analytics	04	60	40	60	100
	CC-Spl-II-402 (Any One)	CC-402- (A) Management Accounting and Control System CC-402- (B) Performance and Compensation Management CC-402- (C) Sales and Distribution Management CC-402- (D) Agri- Production and Supply Chain Management CC-402- (E) Project Management CC-402- (F) Software Engineering and IT Project Management	04	60	40	60	100
Discipline Specific Elective (DSE)	DSE-Spl-II-401	DSE Specialization II Analytics in Functional Areas Of Management	04	60	40	60	100
	DSE-Spl-II-402 (Any One)	DSE-Spl-II-402- (A) Investment And Portfolio Management DSE-Spl-II- 402(B) Talent And Human Capital Management DSE-Spl-II-402-(C) Integrated Marketing Communication DSE-Spl-II-402-(D) Agri Commodity Markets and Agri Business DSE-Spl-II-402-(E) Modern Approaches to Quality Management DSE-Spl-II-402-(F) Applied Data Science and Business Analytics using R	04	60	40	60	100
Ability Enhancement Compulsory course (AECC)	AECC-401	Employability Skills	02	30	20	30	50
		Total	22	330	220	330	550

**Component-wise distribution of MBA curriculum
2021-22**

Component \ Semester	I	II	III	IV	Total	PERCENTAGE
Core Courses	24	22	22	12	80	68.9 %
Discipline Specific Elective	4	4	8	8	24	20.7 %
Ability Enhancement Compulsory Course	2	-	-	2	4	3.5 %
Ability Enhancement Course	-	2	2	-	4	3.5%
Generic Elective	-	2	2	-	4	3.5 %
Total credits:	30	30	34	22	116	100%

MBA - I

SEMESTER - I

Semester	I	Total Credit	4
Course Code	CC-101	Credit Pattern	L-45, T-8, P-7
Course Title	PERSPECTIVES IN MANAGEMENT AND OB		

Course Objectives

1	To make students understand fundamental concepts and principles of management, including the basic roles, skills, and functions of management.
2	To study individual and group perspectives of behavior in an organization.
3	To develop skills in understanding and appreciating individual, inter-personal and group process for increased effectiveness, both within and outside organizations
4	To develop theoretical and practical insights for effectively managing people within the organization

Course Outcomes: Students will be able to:

1	Analyse and attain elementary level of skills in management process and functions: planning, organizing, deciding, directing and controlling
2	Evaluate leadership styles to anticipate the consequences of each leadership styles.
3	Demonstrate a thorough knowledge of organizational behaviour.
4	Apply relevant contemporary theories, concepts and models in order to analyse organisational environment, cases and issues.
5	Develop good team-working skills

Unit Number	Contents	Number of Sessions	
1	Introduction to Management:- Meaning, Functions, Skills and levels of Management. Planning and Organizing: Planning - Nature, Process and Importance of Planning, Limitations of Planning, Making Planning Effective. Organizing - Meaning, Organization Structure- Types, Departmentalization- on bases of Customer, Geographical area, product, process, function, Span Of Management- Factors considered while deciding span of management, Concept of Responsibility, Authority, Accountability and Delegation.	L= 11	
		T= 2	P= 2
2	Directing, and Controlling: Directing - Definition, Characteristics and Importance. Decision Making – Process, Types of Decisions Leadership - Types, Qualities of Leader, Leader vs. Manager Controlling - Steps in Control Process – Need – Types of Control Methods – Benefits of controlling.	L= 12	
		T= 2	P= 1
3	Organizational Behaviour – Introduction, Basic psychological process:-	L=11	

	Perception – Definition, Importance and Factors Influencing Perception, Basic motivational concepts –Importance of Motivation, Theories in Motivation- Maslow, Theory X, Y and Z, Personality – Determinants of personality, Theories of personality- Freud, Erikson; Attitudes – Characteristics, Components, Formation. Values: Types and sources	T=2	P=2
4	Group Dynamics: Concept of Groups, Stages of Group Formation, Factors that Affect Group Behavior. Characteristics of an Effective Team, Power: Sources of Power (Interpersonal sources and Structural sources of power), Political Behaviour in Organization: Political strategies. Managerial Implications using power effectively.	L= 11	
		T= 2	P= 2

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text books	1. Fred Luthans, Organisational Behavior, McGraw Hill, 11th Edition, 2001. 2. Hellrigal, Slocum and Woodman, Organisational Behavior, Cengage Learning, 11th Edition 2007. 3. L.M. Prasad, Principles of Management,
2	Reference books	1. Ivancevich, Konopaske&Maheson, Organisational Behaviour & Management, 7th edition, Tata McGraw Hill, 2008. 2. Mc Shane & Von Glinov, Organisational Behaviour, 4th Edition, Tata McGraw Hill, 2007. 3. Schermerhorn, Hunt and Osborn, Organisational behavior, John Wiley, 9th Edition, 2008. 4. P G Aquinas, Organisational Behaviour : concepts, realities, applications and challenges, Excel Books. 5. Koontz And Weinrich, Essentials of Management 6. Dr. Kiran Nerkar and Dr. Vilas Chopade, Principles of Management 7. L.M. Prasad, Principles of Management, 8. R.M. Srivastava, Principles of Management, 9. Peter Drucker, Essentials of Management 10. Stephen P. Robins, Management, Prentice Hall 11. Sherlekar S.A. Modern Business Administration and Management, Himalaya Publications
3	Practical Component	1. Identifying a job profile and list the various types abilities required for that job and also the personality traits/attributes required for that job. 2. Management games on Team building will be conducted 3. Studying organizational structure of any company and classifying it into different types of organizations which are studied and justifying why such structure is chosen by that organization. 4. Preparing the leadership profiles of any 3 business leaders and studying their leadership qualities. 5. Class debate on different basis of departmentalization
4	Journals	1. IUP Journal of Organisational Behavior 2. Effective Executive 3. IUP Journal of Management Case Studies.
5	Websites	www.managementstudyguide.com/ www.hbr.org
6	Supplementary Reading:	Magazines like: Time, Outlook

Semester	I	Total Credit	4
Course Code	CC 102	Credit Pattern	L-45, T-8, P-7
Course Title	ACCOUNTING FOR BUSINESS DECISIONS		
Course Outcomes: The students will able to			
1.	Apply basic accounting principles and concepts for preparation of financial statements		
2.	Asses funds from operation with the help of funds flow statement		
3.	Evaluate the financial position by preparing the financial statement as per Schedule-III		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Accounting: (15) Accounting as an information system, concepts, convention and principles of Accounting, Types of Business Organizations, Legal Regulatory And Tax Framework., Role of accountant in an organization, Accounting Process. Branches of accounting: Financial, Cost and Management Accounting and their inter-relationships, Introduction of Accounting Standards.	L= 11	
		T= 2	P=2
2	Financial Statement Analysis: (15) Preparation and Understanding of Financial Statements, Exposure to format of schedule III of Public Limited, Introduction of IFRS & Introduction of Tally Software Package in Accounting – Creating Companies, journal entries and ledger accounts.	L= 12	
		T= 2	P= 1
3	Fund Flow and Cash Flow Statement: (15) Preparation of Funds Flow Statement and its analysis and Cash Flow Statement: Various cash and non-cash transactions, flow of cash, difference between cash flow and fund flow, preparation of Cash Flow Statement and its analysis. (As per AS-3).	L= 11	
		T= 2	P= 2
4	Introduction to Cost Accounting & Techniques: (15) Introduction to Cost Accounting, Elements of Cost and Cost Sheet, Use and Importance of Standard Costing, Including Variance Analysis – Materials and Labour Variances. Cost Control Techniques.	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1.	Text Books	1. S N Maheshwari “Introduction to Accountancy” S Chand Publication 2. Prof. V.A. Patil, Dr. P. M. Herekar, “Financial Accounting” Ajab Publication 3. S. C. Gupta, “Advanced Accounts” S Chand Publication. 4. M. G. Patkar, “Book Keeping & Accountancy” 5. G Sekar & B Sarvana Prasath, “CA Inter Padhuka Ready Referencer on Accounting”, Padhuka’s Publication
2.	Reference Books	1. Accountants' Guidebook: A Financial and Managerial Accounting Reference 2. Jae K. Shim, Joel G. Siegel, Nick Dauber CPA, Anique Qureshi; “Accounting handbook” 3. “A Dictionary of Accounting” Oxford Quick Reference Publication
3.	Websites	<u>The Institute of Chartered Accountants of India</u> : www.icai.org <u>The Institute of Company Secretaries of India</u> : www.icsi.edu
4.	Journals	• The Chartered Accountant Journal. • The Chartered Secretary Journal. • The Management Accountant Journal, Printer & Publisher, CMA Kaushik Banerjee, and Editor: CMA Dr Debaprosanna Nandy, ISSN: 09723528. • ICSI Journals • Finance India • Journal of Accounting & Finance
5.	Supplementary Reading	• Financial Express • Economics Times • Business Standard
6.	Practical Component	• Practical Problems on Schedule III • Practical Problems on Fund Flow and Cash Flow Statements • Practical Problems on Cost Sheet • Practical Problems on Standard Costing and Variance Analysis • Financial statement analysis using Prowess-IQ • Companies Financial Reports & Corporate case studies.

Semester	I	Total Credit	4
Course Code	CC 103	Credit Pattern	L-45, T-8, P-7
Course Title	DATABASE MANAGEMENT SYSTEMS (DBMS)		
Course Objectives			

By the end of the course, students should be able to:	
1	Develop Familiarity with the relational database theory, and be able to write relational algebra expressions for queries.
2	Develop familiarity with the basic issues of transaction processing and concurrency control.
3	Understand query evaluation techniques and query optimization.
4	Comprehend design principles for logical design of databases, including the E-R method and normalization approach

Course Outcomes	
1	To make a study of SQL and relational database design
2	To know about data storage techniques and query processing
3	To impart knowledge in transaction processing, concurrency control techniques and recovery procedures

Unit Number	Contents
1	Introduction To Databases And Transactions (12 Hours) Introduction to Databases and Transactions What is database system, purpose of database system, view of data, relational databases, database architecture, transaction management, Data Models The importance of data models, Basic building blocks, Business rules, The evolution of data models, Degrees of data abstraction
2	Database Design (12 Hours) Database Design, ER-Diagram and Unified Modeling Language Database design and ER Model: overview, ER-Model, Constraints, ER-Diagrams, ERD Issues, weak entity sets, Codd's rules, Relational Schemas, Introduction to UML Relational database model: Logical view of data, keys, and integrity rules. Relational Database design: features of good relational database design, atomic domain and Normalization (1NF, 2NF, 3NF).
3	Transaction Management And Concurrency Control (06 Hours) Transaction management: ACID properties, serializability and concurrency control, Lock based concurrency control (2PL, Deadlocks), Time stamping methods, optimistic methods, database recovery management
4	Locking techniques (06 Hours) Characteristics schedule based on serializability. Two phase locking techniques for concurrency control; concurrency control based on timestamp ordering; Database Recovery Techniques: Recovery concepts; Techniques, , database recovery management.
5	Constraints, And Sql (12 Hours) What constraints, types is of constrains, Integrity constraints, data definition, aggregate function, Null Values, nested sub queries, Joined relations. Introduction SQL, Components DML, DDL, DCL with queries.

Learning Resources		
1	Text books	- An introduction to Database Systems, C J Date, Addition-Wesley - Database System Concepts, Abraham Silberschatz, Henry F. Korth& S. Sudarshan, McGraw Hill fifth Edition - Understanding SQL, Martin Gruber, BPB - SQL- PL/SQL, Ivan bayross

Semester	I	Total Credit	4
Course Code	CC 104	Credit Pattern	L-45, T-8, P-7
Course Title	FOUNDATION IN MATHEMATICS AND STATISTICS		
Course Outcomes			
1	Recognize the importance & value of mathematical and statistical thinking		
2	Analyze company/organization data for taking decisions.		
3	Interpret the relevance of statistical findings for business problem solving and decision making.		
4	Evaluate the data collected for management decision and provide inference towards it.		

Unit Number	Contents
1	Fundamentals of Mathematics: Introduction to Set: Sets, Types of sets, Hierarchy of Sets, Venn Diagrams, Set Operations, Some useful and Important Laws, Techniques of Counting: Factorial & Its Notations, Matrices, Determinants: Definition of a Matrix, Types of Matrices, Operations on Matrices, Transpose of a Matrix, Trace of a Matrix, Determinant of Square Matrices, Properties of Determinants, Adjoint of Matrix, Inverse of a Matrix, Application of Matrices, Application of determinants.
2	Measures of Central Tendency: Introduction, Objectives of statistical average, Requisites of a Good Average, Statistical Averages - Arithmetic Mean - Properties of arithmetic mean - Merits and demerits of arithmetic mean, Median - Merits and demerits of median, Mode - Merits and demerits of mode, Measures of Dispersion: Appropriate Situations for the Use of Various Averages, Positional Averages, Dispersion – Range - Quartile deviations, Mean deviation, Standard Deviation -Properties of standard deviation, Coefficient of Variation,
3	Correlation & Regression: Introduction, Correlation - Causation and Correlation - Types of Correlation -Measures of Correlation - Scatter diagram - Karl Pearson's correlation coefficient - Properties of Karl Pearson's correlation coefficient, Spearman's Rank Correlation Coefficient, Regression: Regression analysis - Regression lines - Regression coefficient, Permutation & Combination: Fundamental Principles of Counting, Permutation, Combination, Selection of Permutation or Combination
4	Probability & Probability Distribution: Random experiment, sample space and classification of sample spaces, Classical definition of probability, Properties, Conditional probability, Multiplication law of probability, Baye's theorem, Independence of events, Examples. Random variable, Probability mass function, Cumulative distribution function, Mathematical expectation, Variance, Definition and properties of Binomial, Poisson, Normal distribution-examples,

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. S C Gupta, Fundamentals of Statistics 2. S C Gupta, Business Statistics 3. Sancheti D C, Business Mathematics
2	Reference books	4. N D Vohra, Business Statistics, Tata McGraw Hill 5. G C Beri, Business Statistics, Tata McGraw Hill 6. Devid M Levine etc, Business Statistics – A First Course, Pearson Publication.
3	Journals	1. International Journal of Statistics & Management Systems 2. Calcutta Statistical Association Bulletin 3. Vikalpa: The Journal for Decision Makers
4	Websites	1. Wwww.stattrek.com 2. www.statisticsbyjim.com 3. www.pinkmonkey.com/studyguides/subjects/stats/contents.asp
5	Supplementary Reading	1. Glyn Davis & Branko Pecar, Business Statistics Using Excel, Oxford University Press.
6	Practical Component	1. Analyzing collected raw data or online available data. 2. Finding relations among two or more variables and fitting regression equation to predict value of dependent variables.

Semester	I	Total Credit	4
Course Code	CC 105	Credit Pattern	L-44, T-8, P-8
Course Title	ECONOMICS FOR ANALYSTS		
Course Outcomes: Students will be able to			
1	Describe micro and macroeconomic concepts of business importance		
2	Analyze Economic Variables which influence managerial decision-making process		
3	Asses micro and macro-economic environment of business decision process		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Managerial Economics and Demand Analysis Basic Economic Concepts, Nature And Scope Of Managerial Economics, Objectives Of The Firm And Constraints, Business Decision-Making Model, Tools Of Economic Analysis, Introduction to Consumer Behavior and Utility measurement, Demand Analysis- Meaning, Types And Determinants Of Demand, Demand Function And Law Of Demand, Elasticities And Their Utilities In Managerial Decisions, Demand Forecasting- Meaning, Purpose And Methods, Law of Diminishing Marginal Utility, Basics of Ordinal Utility approach.	L= 11	
		T= 2	P= 2
2	Production & Cost Analysis for Business Decisions Production Analysis- Production Schedules, Production Functions-Short Run And Long Run, Returns To Scale Approach, Marginal Productivity Of Inputs, Optimal Input Combination. Cost Concepts, Cost Function, Cost-Output Relationship, Short Run And Long Run Analysis	L= 12	
		T= 2	P= 1
3	Market Structure and Pricing Concepts Introduction to Market Competition and its Nature, Perfect Competition, Monopolistic Competition, Monopoly and Oligopoly etc, Price and Output Determination in different Markets, Pricing practices: Cost plus pricing, incremental pricing, multiple product pricing, product line pricing, specific pricing problems	L= 11	
		T= 2	P= 2
4	ational Income and Macro-Economic Policies	L=11	

	Introduction to National income, Basic Concepts, Estimation of NI and Difficulties, Circular Flow Of Aggregate Income and Expenditure, NI as a Measure of Economic Development In Comparison with other Indicators. Role and function of Money Market: Composition and instruments. RBI role and functions. Capital Markets: Role and functions, Regulatory role of SEBI. Objectives and Instruments of Monetary And Fiscal Policies, Recent Issues In Monetary And Fiscal Policies	T= 2	P= 2

Note:

1. Case studies on each of the aspects mentioned in the syllabus need to be discussed
2. Necessary Audio and Video case studies must be shown in the class.

Learning Resources		
1	Text Books	1. D.N. Dwivedi , Managerial Economics, Vikas Publication House, New Delhi 2. Dominick Salvatore, Managerial Economics, Mcgraw Hill Inc, New York, (2000) 3. Deviga Vengedasalam, Karunagaran Madhavan Principles of Economics (Third Edition) Oxford University Press, 2014 4. Mithani D M (2016) Managerial Economics : Theory And Applications, Himalaya Publishing House
2	Reference books	1. Paul Samuelson, Economics, Mcgraw Hill Inc, New Delhi, (2000) 2. Peterson & Lewis, Managerial Economics, Prentice Hall India Ltd, New Delhi, (2001). 3. H.L. Ahuja, 2004, Modern Micro Economics Theory and Practices, Ed.12, S.Chand, New Delhi. 4. Timothy C.G. Fisher, David Prentice and Rober Waschik, Managerial Economics - A Strategic Approach, Routledge, 2010.
3	Websites	https://www.rbi.org.in/home.aspx http://finmin.nic.in/ http://nptel.ac.in/courses/110101005/3 http://indiabudget.nic.in/budget.asp https://www.cmie.com/ Economic and Political Weekly
4	Journals	Journal of Applied Economics Indian-Economic-Journal International Journal of the Economics of Business Journal-of Indian-School-of-Political-Economy Agricultural-Economic-Research-Review
5	Supplementary Reading	Economics Times Daily Business Standard Daily Business Today Daily Latest Monetary Policy Report Latest Fiscal Policy Report
6	Practical Component	1. Visit to medium scale vendor at your near point. Collect data on a specific product sales and price. Estimate its elasticity 2. Meet a manufacturer and collect data on production inputs and prepare his short term and long term returns conditions. 3. List out the business as per market structure characteristics. Collect information on their product base 4. Collect data on national income from national income statistics and apply three methods of national income estimation and measure the trends in national income.

Semester	I	Total Credit	4
Course Code	CC 106	Credit Pattern	L-45, T-8, P-7
Course Title	MARKETING MANAGEMENT PAPER- I		
Course Objectives:			
1	To create an awareness about fundamentals of marketing		
2	To cover the basic concepts of marketing and develop conceptual abilities and substantive knowledge in marketing through a variety of real-life marketing situations.		
3	To understand the use of marketing mix in marketing decision making		
Course Outcomes: Students will be able to;			
1.	Discuss conceptual knowledge of Marketing Concepts.		
2.	Analyze marketing situation and provide appropriate solution for the issue.		
3.	Devise Market segmentation strategies for product and services.		
4.	Develop 4Ps of Marketing for Product and Services.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Marketing & Demand Measurement Definition – Importance and Scope – Core-concepts of Marketing – Company Orientation Towards Market place - Scanning the Marketing Environment Macro – Demographic, Economic, Social – Cultural – Political –Legal- Technology- Natural and Micro environment. Concept of Market Demand and Demand Measurement, Definition, Need & Benefits	L= 11	
		T= 2	P= 2
2	Market Segmentation & Product Mix Bases for market Segmentation, Segmentation of Consumer goods, Industrial goods and services. Effective segmentation criteria, Evaluating & Selecting Target Markets, differentiation, Positioning. Consumer and Business buying process. Concept of Product, Classification- Levels of Product– Product Life Cycle – New Product Development -Branding, Packaging and Labeling,	L= 12	
		T= 2	P= 1
3	Price, Place & Promotional Mix Importance of pricing, Pricing Objectives, Price Determination Procedure –Methods of Pricing. Importance, Functions of Distribution channels - Introduction to the various Channels of Distribution – Channel Management Decision. - Advertising, Sales Promotion, Publicity and Personal Selling, Impact of Technology & Internet on Promotion.	L= 11	
		T= 2	P= 2
4	Marketing Planning & Control Nature, Scope and Contents Of Marketing Plan - Process of planning Concept – Importance- Techniques of control- Annual Plan Control – Profitability Control – Efficiency Control – Strategic Control	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Kotler Philip, “Marketing Management 17th Edition 2015”, Prentice Hall of India, New Delhi. 2. Saxena Rajan, “Marketing Management 2nd Edition 2002”, Tata McGraw Hill, New Delhi
2	Reference books	1. Station W.J. Etzel M.J., “Fundamentals of Marketing – 10th Edition 1994” , McGraw Walker B.J., Hill International Editions. 2. Srinivasan R., “Case Studies in Marketing”, Prentice Hall, New Delhi, 2000 3. Kaushal H., “Case Study Solutions in Marketing”, McMillan India 2001 4. V.S.Ramaswamy and S.Namakumari -Marketing Management –Macmillan Business Books 5. Arunkumar, M Meenakshi- Marketing Management-Vikas Publication 6. Walkar, Boyd, Mullins And Larreche. "Marketing Strategy. A Decision Forced Approach", Tata McGraw Hill 4th Edition.
3	Websites	https://www.ama.org/ https://www.academyofindianmarketing.org/ (Academy of Indian Marketing (AIM) Management Institutions) https://www.ima-india.com/ (https://www.ima-india.com/) https://www.mrsi.co.in (Market Research Society Of India: MRSI) www.rmai.in/ (Rural Marketing Association of India: RMAI)
4	Journals	Indian journal of marketing Journal of digital marketing Journal of Marketing: SAGE Journals
5	Supplementary Reading	Economics Times, Brand Equity Business Standard, The Strategist.
6	Practical Component	1. Student will select any product of their choice and prepare a poster presentation on core concept of Marketing applicable for the product. 2. Student will select any industry of their choice, identify the major companies operating in industry and compare the segmentation strategy used by companies. 3. Group Activity: Students will develop a conceptual new product, identify the target market for the product and develop a marketing plan for the product. 4. Group Activity: Students will prepare an advertisement to promote the conceptual product developed to the target customer.

Semester	I	Total Credit	2
Course Code	AECC-101	Credit Pattern	L-26, T-4
Course Title	Professional Communication Skills		
Course Objectives			
1	To familiarize learners with the mechanics of communication.		
2	To develop students written expression of thought and build connections between content areas		
3	To develop students oral communication skills by a variety of communication activities, from informal discussion to formal presentation		
Unit Number	Contents		
1	Effective Business Communication: (15) ☐ Meaning & Definition, Role of communication in today’s business Basic Grammar and how to use in English Communication Personal Introductions, Facing Audience Verbal and Non-Verbal Communication ☐ Effective communication in Formal and Informal Environment ☐ Barriers to communication ☐ Measures to overcome barriers to communication Understand and use JoHari Window for self development ☐ Non-verbal communication: Nonverbal Cues, Kinesics, Haptic and Proxemics Body language, Facial Expressions How to carry yourself professionally (grooming and dining etiquettes) ☐ Public Speaking		
2	Communication Technology: (15) ☐ Social Media Communication ☐ Email Writing & Professional Writing ☐ Presentations Skills ☐ Group Discussion ☐ Critical Thinking		
Practical Components: 1. To be well in Verbal and Non- verbal communication 2. Make students enact and analyze the non-verbal cues 3. Each student to give presentation of 15 minutes (this can be spread throughout the semester) and to be evaluated by the faculty 4. Each Student will give 10 minutes speech on given topic that will be evaluated by the Faculty			
Learning Resources			
1	Recommend ed Books	1. 1 Business Communication – Lesikar, Flatley, Rentz&Pande, 11/e, TMH, 2010 2. How to win Friends and Influence People by Dale Carnegie 3. Skill with People by Les Giblin 4. The Power of Communication: Skills to Build Trust, Inspire Loyalty, and Lead Effectively, by Helio Fred Garcia, 2012	
2	Reference Books	1. Business Communication - Sehgal M. K &Khetrapal V, Excel BOOKS. 2.. Business Communication – Krizan, Merrier, Jones, 8/e, Cengage Learning, 2012.	

Semester	I	Total Credit	4
Course Code	DSE-101-(A)	Credit Pattern	L-45, T-8, P-7
Course Title	PROGRAMMING FUNDAMENTALS AND R		

Course Objectives	
1	To learn programming in R and use R for effective data analysis
2	To understand R environment setup
3	To explore, analyze and visualize data using R
4	To build statistical models and use them to analyze data
Course Outcomes	
After completion of this course the student will be able to:	
1	program in R and use R for effective data analysis
2	install and configure software necessary for data analytics
3	handle practical issues in programming, reading data into R, accessing R packages, writing R functions
4	explore, analyze and visualize data using R
5	build statistical models and use them to analyze data

Unit Number	Contents	Number of Sessions	
1	Programming Fundamentals and Overview of R (15) Introduction, Algorithm, Flowchart, Programming Languages, History and Overview of R, Basic features of R, R Resources, Limitations of R	L= 11	
		T= 2	P= 2
2	Getting started with R (15) R Installation, Getting started with R interface, Basic Syntax, R Data Types, Variables, Objects, Attributes, Vectors, Matrices, Lists, Factors, Operators, Getting data into R, Data Frames, R Environment	L= 12	
		T= 2	P= 1
3	Loops and Function (15) Manage Data Frames with R Packages, Decision Making, Control Structures – If Else, Looping Statements – For Loop, While Loop, Functions, Loop Functions, Argument Matching, Develop R Scripts, Dates and Times, Data Interfaces, Removing NA Values	L=11	
		T=2	P=2
4	Data Visualization and Statistical Modeling (15) Introduction, Data Visualization using R packages, Visualizing Distributions, Plots for Data Visualization, Basic Statistical Analysis, Model Basics, Primary R Functions, R objects for Statistical modeling, Model building, Visualizing Models	L= 11	
		T= 2	P= 2

Learning Resources		
1	Text Books	- Roger D. Peng, R Programming for Data Science, Lulu.com, 2012 - Garrett Grolemund, Hadley Wickham, R for Data Science, O'Reilly First Edition, 2017
2	Reference books	- Michael J. Crawley, The R Book, Wiley, 2nd Edition - Hadley Wickham, Garrett Grolemund, R for Data Science: Import, Tidy, Transform, Visualize, and Model Data, O'Reilly Media; 1 edition - Murray Aitkin, Brian Francis, John Hinde, and Ross Darnell, Statistical Modelling in R, Oxford University Press; 1 edition, 2009 - Brian Everitt and Torsten Hothorn, A Handbook of Statistical Analyses Using R, Chapman and Hall/CRC; 2 edition
3	Websites	https://www.tutorialspoint.com/r/index.htm https://data-flair.training/blogs/r-programming-language/ https://www.guru99.com/r-programming-introduction-basics.html
4	Journals	- ACM Transactions on Programming Languages and Systems ISSN :0164-0925 - Science of Computer Programming ISSN: 0167-6423 - The art, science, and engineering of software development: ISSN 0740-7459
5	Supplementary	R Programming, https://www.coursera.org/learn/r-programming

	Reading	R Programming , https://www.datacamp.com/tracks/r-programming
6	Practical Components	R Installation, R Programs based on Data Types, Loops and Functions, Statistical Modelling

Semester	I	Total Credit	4
Course Code	DSE 101-B	Credit Pattern	L-45, T-8, P-7
Course Title	PROGRAMMING FUNDAMENTALS AND PYTHON		

Course Objectives	
1.	To understand computer programming fundamentals – algorithms and flowcharts
2.	To use data types, control structures, looping statements, and functions for Python programs through example
3.	To demonstrate data visualization using plots from matplotlib
4.	To illustrate data handling with pandas dataframe
5.	To explain data import from multiple sources

Course Outcomes: The students will able to	
1.	Discuss computer programming fundamentals – algorithms and flowcharts
2.	Use data types, control structures, looping statements, and functions for Python programs through example
3.	Demonstrate data visualization using plots from matplotlib
4.	Illustrate data handling with pandas dataframe
5.	Explain data import from multiple sources

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Programming Fundamentals and Overview of Python Introduction, Algorithm, Flowchart, Introduction to types of Software, History and Overview of Python, Basic features of Python, Python Resources, Python Installation, IDEs	L= 11	
		T=2	P= 2
2	Getting started with Python Python Programming Environment, Data Types - Number, String, List, Tuple, Dictionary, Attributes, Methods Control Structures – If Else, Looping Statements – For Loop, While Loop, Functions, Python Scripts File Handling, Overview of Object-Oriented Programming (OOP)	L= 12	
		T= 2	P= 1
3	Numpy and Matplotlib Python packages, Introduction to NumPy, ndarray object and its attributes, Understanding the N-dimensional data structure, Basic operations and manipulations on N-dimensional arrays, indexing, slicing Data visualization: plotting with matplotlib scatter plots, line plots, box plots, bar charts and histograms with matplotlib	L= 11	
		T= 2	P= 2

	Customizing plots: important attributes and arguments		
4	Data Handling with Pandas Pandas data structures: Series and DataFrames, Read and write tabular data, Filtering subset of a table, indexing, slicing, Exploring dataframe – attributes and methods, combining rows and columns, handling missing values, Basic Statistical Analysis, accessing data from multiple sources, Introduction to web analysis	L=11	
		T= 2	P= 2

Learning Resources

1	Text Books	• Practical Programming: An introduction to Computer Science Using Python, second edition • Programming collective intelligence, O'Reilly publication
2	Reference books	• Python for Informatics: Exploring Information, Charles Severance • Python for Data Analysis, Wes McKinney, O'Reilly publication • Mining the social web, Matthew A. Russett, O'Reilly publication • Mastering Python for data science, Samir Madhavan, PACKT
3	Websites	• https://www.python.org • https://pandas.pydata.org/ • https://matplotlib.org/
4	Supplementary Reading	• Python Programming for the Absolute Beginner, 3rd Edition, Michael Damson • Fluent Python: Clear, Concise, and Effective Programming 1st Edition, by Luciano Ramalho, Kindle Edition, O'Reilly publication • DIVE INTO PYTHON 3 by Mark Pilgrim, Apress publication
5	Practical Components	• Python installation, developing scripts, working with python packages

MBA - I

SEMESTER II

Semester	II	Total Credit	4
Course Code	CC 201	Credit Pattern	L-45, T-8, P-7
Course Title	ADVANCED MS-EXCEL		

Course Objectives	
1	To taught approaches to the challenges of data analysis from a more holistic perspective
2	To provide more hands-on the relevant ideas of data analysis using advanced features of MS-Excel.
3	To understand the process of Business Data Analysis techniques using Advanced MS-Excel
Course Outcomes: Students will be able to;	
1	Construct formulas, including the use of built-in functions, and relative and absolute references.
2	Apply basic principles of laying out Excel models for decision making
3	Using Excel evaluate the financial profitability and effectiveness of investment projects and amortization

Unit Number	Contents	Number of Sessions	
1	Structure of the function: working with text function, manipulating text, extracting substring, Advanced lookup operations, excel data types, working with list, consolidate data, Formula Errors, If Function, What if Analysis-Goal Seek, Sensitivity Analysis- one and two-way data table, Import a database table	L= 11	
		T= 2	P= 2
2	using a query to screen external data, Data Mining using Advanced Pivot Table, Introduction to macros, Statistical tolls in excel, Excel Financial tolls- NPV, IRR, Create a macro using visual basic editor, Formula Errors, create a custom function, execute the task, display a message, request user input for a macro, assign macro to menu, run a macro for as a Workbook Open, Excel Modeling	L= 12	
		T= 2	P= 1
3	An introduction to VBA Macro, Variables in VBA, VBA IF Else Statement, VBA Excel- Cells, Range and Offset, With...End With statement, , Error Handling VBA, Debugging VBA Code, Select Case and LOOPS in VBA, VBA Arrays, VBA Events, VBA dialog box basics, Advanced Find and Replace, Advanced Report Development	L= 11	
		T= 2	P= 2
4	VBA- User Forms and Controls, Add a form control to a worksheet, customize form controls with macros, create a custom dialog box, and capture input from a custom dialog box, Validate input from a dialog box. Install Excel Add-ins, Advanced Filter, Scenario Manager, Solver, Integration case using Access and Excel, Creating Dashboard.	L=11	
		T= 2	P= 2

Note:

1. For this paper, there is no Theory exam. The evaluation will be based on the Practcal Exam
2. Students will have to complete all tutorials, assignments, and lab sessions for internal credits

Learning Resources

1	Text Books	1. –Microsoft office 2007 - Schwartz 2. Excel 2007 Step by Step – Microsoft Press PHI 3. Data analysis and decision Making – Albright Winston 4. VBA and Macros Excel 200 – Bill Jelen, Tracy, Syrstad 5. Excel 2010 Bible- Jhon Walkenbeach 6. Pivot Table data crunching - Bill Delen 7. Excel 2010 Formulas - - Jhon Walkenbeach 8.
2	Reference books	1. Excel Dashboards and Reports -John Walkenbach and Michael J. Alexander 2. Microsoft Excel 2013 Building Data Models with PowerPivot -Alberto Ferrari and Marco Russo 3. Excel Charts - John Walkenbach
3	Website	1. www.tutorialspoint.com 2. https://support.microsoft.com/ www.examupdates.in 3. https://www.educba.com/advanced-excel-formulas-and-functions 4. https://chandoo.org/wp/excel-dashboards
4	Journals	1. International Journal of Statistics & Management Systems
6	Practical Component	1. Scenario-based particles based on each unit 2. Visiting any firm and understanding the implementation of advanced MS-Excel

Semester	II	Total Credit	2
Course Code	CC 202	Credit Pattern	22L+ 2 T + 6P
Course Title	LEGAL ASPECTS OF BUSINESS		
Course Objectives			
1	To enable students to appreciate the relevance of business law to individuals and businesses.		
2	To equip students with knowledge needed to manage business successfully from legal point of view.		
Course Outcomes: Students will be able to;			
	1. Explain the legal principles of Business Laws 2. To solve legal issues of Business.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	A) Indian Contract Act – 1872: Meaning and sources of law, Definition of contract and essential elements of a valid contract, Modes of discharge of contract, Remedies for breach of contract. B) The Sale of Goods Act – 1932: Definition of Sale, essentials of a valid Sale, Conditions and Warranties, caveat emptor, passing of property, Unpaid seller. C) Consumer Protection Act – 1986: Definition of consumer, complaint, complainant, unfair trade practice, Consumer dispute Redressal Agencies. (15)	L= 11	
		T=1	P=3
2	A) The Companies Act – 2013: Definition of company, kinds of companies, Memorandum of Association, Articles of Association, And Boards of Directors: duties and powers, Meetings in a company, Winding up. B) Information Technology Act – 2008: Objectives of IT Act, Digital Signature, E-Governance, Controller, Certifying authority, offences and penalties. C) The Negotiable Instrument Act – 1881: Definition and characteristics of NI, kinds of Negotiable Instruments, Holder and holder in due course, Crossing of Cheque, Discharge of Negotiable Instruments. (15)	L= 11	
		T= 1	P= 3

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Mercantile Law by N. D. Kapoor 2. Business Law by S. S. Gulshan & G. K. Kapoor
2	Reference books	1. Business Law by Kuchhal M. C. 2. Business Law by K. R. Bulchandani
3	Websites	1. www.lawctopus.com 2. https://indiacorplaw.in
4	Journals	1. India Law Journal 2. Corporate Law reporter 3. India Business Law Journal- Delhi High Court 4. IOSR Journals
5	Supplementary Reading	1. Bare Acts on Consumer Protection Act 1986 2. Bare Act on Information Technology Act 2008
6	Practical Components	1. Case studies to be discussed on all the above topics 2. Seminars to be conducted on the above topics

Semester	II	Total Credit	4
Course Code	CC 203	Credit Pattern	L-45, T-8, P-7
Course Title	MANAGING HUMAN RESOURCE		
Course Objectives:			
1	To develop conceptual foundation about different HR systems.		
2	To enhance knowledge about the functions of HRM in an organization.		
3	To identify how to gain competitive advantage through managing people in the organization.		
Course Outcomes:- Students will be able to:			
1	Describe the different concepts in HRM.		
2	Perform the different processes in HRM like procurement, development, compensation and maintenance.		
3	Determine the solutions for HR related issues in the organization.		
4	Develop job analysis reports and training calendars.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Human Resource Management Concepts (15) Meaning, Objectives, Scope, Functions, Difference between personnel Management and Human Resource Management, Job Analysis, Job Description and Job Specification,, Concept of Human Resource Planning and its Process,	L= 11	
		T= 2	P= 2
2	Employee Procurement and Development (15) Recruitment: - Definition, Sources Of Recruitment, Employee Selection – Essential and Process. Concept of Placement and Orientation. Mobility of Employees:- Internal and External. Concept of training and development, difference between training and Development, Methods of training and development.	L= 12	
		T= 2	P= 1
3	Performance and Career Management: (15) Career Planning- Benefits of Career Planning, Career Anchor, Career stages, Suggestions for effective career development. Basic Concepts In Performance Appraisal, Methods Of Performance Appraisal, Problems And Solution of Performance Appraisals	L= 11	
		T= 2	P= 2
4	Compensation Management and Maintenance of Human (15) Compensation Management:- Concept, Factors To Be Considered for Fixing Compensation , Components of compensation. Health, Safety and Welfare Provisions as per Factories Act 1948.	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources

1	Text Books	1. K. Ashwathappa, Human Resource Management. 2. Bohlander And Snell, Managing Human Resources 13th Edition, Thomson – South Western. 3. David A. Decenzo, Stephen P. Robbins, Personnel / HRM (3rd Edition), Prentice Hall Of India, New Delhi. 4. S. C. Srivastava ,Industrial Relations and Labour Laws, Vikas Publishing House
2	Reference books	1. Gary Dessler, Human Resource Management Prentice Hall Of India, New Delhi, Tenth Edition. 2. Mathis, Jackson, Tripathy, Human Resource Management: A South-Asian Perspective, Cengage Learning. 3. S. D. Punekar, Labour Welfare, Trade Unions and Industrial Relations By (13th Edition), Himalaya Publishing House. 4. N.D.Kapoor—Commercial Law—Sultan Chand publishers, New Delhi.
3	Websites	1. www.citehr.com 2. www.peoplesmatters.com 3. www.hrmguide.net
4	Journals	1. Indian Journal of Training and Development 2. Indian Journal of Human Development 3. Personnel Today 4. Manpower Journal
5	Supplementary Reading:	Articles available on topics on : www.hbr.com
6	Practical Component:	1. Visit an organization and prepare Job analysis report of any position. 2. Prepare advertisement as part of recruitment for given position. 3. Debate Pros and cons of different training methods

Semester	II	Total Credit	2
Course Code	CC 204	Credit Pattern	22L+8TP
Course Title	RESEARCH METHODOLOGY		
Course Objectives			
1	To expose the students to various methods of research and enable them to understand the Importance of research in management decision-making process.		
2	To Equip students with knowledge neededto Interpret The Research Findings.		
Course Outcomes: Students will be able to;			
Explain fundamental concepts of research methodology			
Develop Research Report			

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Research & Research Design Meaning, objectives & Motivation in research. Use of research in functional areas of Management. Types of research – Research process, relevance & scope of research in management. Research Design- Features of good Design, Types of Research Design, Sampling Design- Census vs. Sample, Characteristics of good sampling Design. Different types of sample Design. Measurement & scaling techniques- Errors in measurement. Test of sound measurement, scaling & Scale construction techniques for Attitude Measurement.	L= 11	
		T=4	P=0
2	Methods of data collection, Analysis of Data & Report writing: Methods of data collection – Primary data –Collection of secondary data. Data Processing-Editing, Coding and Tabulation of data. Data analysis and Interpretation. Formats of Research Report, Methods and importance of Citation & bibliography in Research, Ethical issues in Research and plagiarism. Use of ICT tools for conducting of research.	L= 11	
		T= 4	P= 0

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources

1	Text Books	1. C.R. Kothari Research Methodology Methods And Techniques, Wiley Eastern. 2. G.C. Beri: Marketing Research Tata Mcgraw Hill Publishing Company Limited, New Delhi, 2000
2	Reference books	2. Goode And Hatt : Methods In Social Research, Mc-Graw Hill, Kogakusha Ltd., New York. 3. V.P. Michael: Research Methodology In Management, Himalaya Publishing House, Mumbai, 1985. 4. Kerlinger. Fred N.: Foundations Of Behavioural Research, New York, Holt, Rinehart And Winston, 1973. 5. Donald S. Tull, Del I Hawkins: Marketing Research, Prentice Hall Of India, New Delhi, 1996. 6. Hans Raj: Theory And Practice In Social Research, Surjeet Publications, Delhi
3	Websites	1. https://www.spss-tutorials.com/basics/ 2. https://www.nielsen.com/in/en/
4	Journals	1. The Journal for Decision Makers - Vikalpa 2. Indian journal of marketing
5	Supplementary Reading	1. Journal of Business Research – Elsevier 2. https://www.iresearchservices.com 3. Economics Times, 4. Business Standard,
6	Practical Component	1. Students will actually conduct research and submit the research report using following guidelines. 2. Identify the research problem of your choice. 3. Formulate it into a Research title. 4. Collect at least five published research paper and conduct the review of that research paper. 5. Identify different variables that can be studied in the stated research problem. 6. Prepare at least five hypotheses on the research problem. 7. Suggest Research design to conduct the research on the problem. (Sampling Design and Data Collection method). 8. Collection, analysis and interpretation of data. 9. Writing a detail research report using citation and bibliography

Semester	II	Total Credit	4
Course Code	CC 205	Credit Pattern	L-48, T-08, P-4
Course Title	DATA WAREHOUSING AND DATA MINING		

Course Objectives	
1	To provide students with basic concepts of data warehouse and data mining.
2	To develop abilities to solve real time problem by applying appropriate data mining algorithm.
3	To make students acquaint to different tools and techniques used for Knowledge Discovery in Databases.

Course Outcomes: The students will able to			
1	Explain concept of data warehouse and ETL process.		
2	Develop acquaintance with the tools and techniques used for Knowledge Discovery in Databases.		
3	Discover interesting patterns from large amounts of data to analyze and extract patterns to solve problems.		
4	Evaluate and select appropriate data-mining algorithms.		
5	Apply Web Data mining techniques on problem domain data for better insights of data. interpret and report the output appropriately.		
Unit Number	Contents	Number of Sessions	
1	DATA WAREHOUSING Overview and Concepts: Need for data warehousing, The buildingblocks of a Data warehouse , Data Warehouse Architecture, Extract Transform Load Cycle: ETL overview, Extraction, Loading, Transformation techniques. Reporting and Query tools and Applications, OLAP – the need, Design of the OLAP database, OLAP operations: slice, dice, rollup, drill-down etc.	L= 12	P= 0
		T= 3	
2	INTRODUCTION TO DATA MINING AND ASSOCIATIONRULE MINING Introduction – Data – Types of Data – Data Mining Functionalities – Classification of Data Mining Systems – Data Mining Task Primitives, Data Mining Applications, Integration of a Data MiningSystem with a Data Warehouse – Issues –Data Preprocessing. Mining Frequent Patterns, Associations and Correlations –Miningvarious Kinds of Association Rules – Market Basket Analysis, Apriori Algorithm, FP tree Algorithm, Correlation Analysis.	L= 12	P= 0
		T= 3	
3	CLASSIFICATION Classification and Prediction - Basic Concepts - Decision Tree Induction - Bayesian Classification – Rule Based Classification –Classification by Back propagation – Support Vector Machines – Associative Classification – Lazy Learners – Other Classification	L= 12	P= 2
		T= 1	

	Methods – Prediction.		
4	CLUSTERING AND WEB MINING Cluster Analysis - Types of Data – Categorization of Major Clustering Methods – K-means– Partitioning Methods – Hierarchical Methods – Outlier Analysis – Web Mining: Web Content Mining, Web Structure Mining, and Web Usage mining.	L=12	
		T= 1	P= 2

Learning Resources		
1	Text Books	1. Alex Berson and Stephen J. Smith, — Data Warehousing, Data Mining & OLAP, Tata McGraw – Hill Edition. 2. Jiawei Han and Micheline Kamber, –Data Mining Concepts and Techniques, Second Edition, Elsevier
2	Reference books	• Pang-Ning Tan, Michael Steinbach and Vipin Kumar, — Introduction To Data Mining, Person Education, 2007. • K.P. Soman, Shyam Diwakar and V. Ajay –, Insight into Data mining Theory and Practice, Eastern Economy Edition, Prentice Hall of India • G. K. Gupta, — Introduction to Data Mining with Case Studies, Eastern Economy Edition, Prentice Hall of India • Daniel T.Larose, –Data Mining Methods and Models, Wiley-Interscience
3	Websites	• http://guidetodatamining.com/, –A Programmer's Guide to Data Mining • https://www.classcentral.com/course/independent-data-mining-with-weka-1152, –Data Mining with Weka • https://www.geeksforgeeks.org/data-mining/ • https://www.tutorialspoint.com/data_mining
4	Journals	• Inderscience Publisher –International Journal of Business Intelligence and Data Mining • Inderscience Publisher –International Journal of Knowledge Engineering and Data Mining” • IEEE Transactions on Knowledge and Data Engineering • Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery
5	Supplementary Reading	• https://www.techgig.com/webinar/Understanding-SVM-Support-Vector-Machine-Algorithms-1083 • https://www.searchtechnologies.com/blog/web-data-mining-tools-techniques
6	Practical Components	• Experimenting different mining algorithms on available datasets Using and R programming.

Semester	II	Total Credit	4
Course Code	CC 206	Credit Pattern	L-45, T-8, P-7
Course Title	OPERATIONS RESEARCH		
Course Outcomes: Students will be able to;			
1. Identify operational research models from the verbal description of the real system. 2. Evaluate various managerial decision problems in functional areas of organization. 3. Construct Operation Research models and solving it using special solution algorithms. 4. Solve various managerial decision problems in functional areas of organization.			

Unit Number	Contents	
1	Introduction to Operations Research (OR) Historical Development, Characteristic features of OR, Models in OR, Methods for solving OR models, Methodology of OR, Opportunities and short comings of OR, Introduction to software's in OR. Linear Programming (LP)-I: Mathematical Formulation, Assumptions of LP, Solution by Graphical Method, Special Cases of LP, Solution by Simplex Method-Maximization Problem with less than or equal to constraints, Primal Dual Relationship. Introduction to concept of Integer Programming, Goal Programming etc.	L 11, T 2, P 2
2	Transportation & Assignment Problem Mathematical model of TP, Methods to find initial basic feasible solution (Least Cost Method, Vogel's Approximation Method), Finding Optimal Solution by Modified Distribution Method, Unbalanced transportation problem, Maximization Case of TP. Comparison between Assignment & Transportation Problem, Mathematical model of AP, Hungarian Assignment Method, Solving Minimization-Maximization Problem Queuing: General structure of a queuing system, Operating characteristics of a queuing system, Kendall's Notations for representing models, Classification of queuing models (M/M/1): (/ FCFS),	L 12, T1, P 2
3	Decision Theory Decision under certainty, Decision under risk, Expected value criterion, Decision under uncertainty, Laplace criterion, MaxiMax Criterion, MaxiMin Criterion, MiniMax criterion, MiniMax regret criterion, Decision Making Under Expected Value Principle, Expected Payoff of Perfect Information, Expected Value of Perfect Information (EPPI-EMV-EVPI), Decision making under conflict, Game Theory: Introduction to game theory-Terminologies, Game with pure strategies, Game with mixed strategies, Dominance properties, Solving Game by Graphical Method.	L 11, T 2, P 2
4	CPM-PERT Assumptions, Meaning, Usefulness of CPM-PERT, Network Terminology & Analysis, CPM-PERT Networks, Critical Path Method, Calculation of CPM network, Time estimates of PERT, Earliest Expected time, Latest allowable occurrence time and slack, Probability of meeting scheduled date of completion of project. Simulation: Definition, Steps in simulation process, Monte Carlo simulation, Simulation of an inventory system, simulation of a queuing system. Advantages and Disadvantages of simulation	L 11, T 2, P 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Sharma J K, Operations Research 2. Sharma S D, Operations Research
2	Reference books	1. N.D. Vohra: Quantitative Techniques in Management (1990), Tata MacGraw Hill 2. R. Panneerselvam: Operations Research (2002), Prentice Hall of India. 3. J.K. Sharma: Operations Research Problems and Solutions (2004), Macmillan India. 4. J.G. Ecker and Michael Kupferschmid: Introduction to Operations Research (1988), John Wiley & Sons. 5. Hamdy A. Taha: Operations Research (2002), Pearson Education.
3	Journals	1. IUP Journal of Operations Management 2. Journal of Operations & Strategic Planning (New) 3. Vikalpa: The Journal for Decision Makers
4	Websites	1. http://www.pondiuni.edu.in/storage/dde/downloads/mbaii_qt.pdf
5	Supplementary Reading	1. Albright, Winston, Zappe, Decision Making Using Microsoft Excel, Cengage Learning.
6	Practical Component	1. Analyzing various decision situations and finding appropriate model for taking decisions. 2. Analyzing real managerial decision problems through various case studies/problems. 3. Identifying various managerial decision situations related to different business organization.

Semester	II	Total Credit	2
Course Code	CC 207	Credit Pattern	
Course Title	OPERATIONS MANAGEMENT		

Course Objectives	
1	To make students understand fundamental concepts Operations Management, including Production Planning & Control, Quality Management.
2	To familiarize the students with various techniques of facilities location, layout & supply chain Management.
3	To introduce students to the modern concept & recent trends in Operations Management.

Course Outcomes: Students will be able to	
1	Illustrate basic terms and concepts related to Production & Operations Management
2	Plan effective plant location & layout for the organization.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	AN OVERVIEW OF OPERATIONS MANAGEMENT Concept of Operations Management, Types of Production System, Objectives and Scope of Operations Management, Manufacturing Operations (Goods) versus Service Operations, Operations in Service Sector, Decisions in Operations Management.	L= 12	
		T= 1	P=2
2	OPERATIONS SYSTEM DESIGN Facility Location: Importance, Factors Affecting Location Decision. Facility Layout: Importance, Types of layout. Functional Areas of Operations Management: Inventory Management, Logistics & Supply Chain Management, Quality Management	L= 11	
		T= 2	P= 2

Learning Resources		
1	Text Books	1. K. Shridhara Bhat, Production and Operations Management, Himalaya Publishing House 2. Anmol Bhatia, Industrial Engineering and Operations Management, S.K. Kataria& Sons 3. R. B. Khanna, Production And Operations Management, PHI
2	Reference books	1. Alan Muhjemenn, John Oakland And Keith Lockyer: Production And Operations Management, (Sixth Edition), Pearson Education 2. S. A. Chunawalla And D. R. Patel: Production And Operations Management, Himalaya Publishing House, Mumbai. 3. R. Paanneerselvam, Production And Operations Management,

		Eastern Economy Edition 4. K. C. Jain, P. L. Verma, Prabhat Kartikey, Production and Operations Management, Dreamtech Press
3	Websites	1. https://learn.saylor.org/course/view.php?id=86 2. https://www.managementstudyguide.com/production-and-operations-management-articles.htm
4	Journals	1. Journal of Operations Management – Elsevier 2. Journal of Operations Management - Wiley Online Library 3. Journal of Operations Management ScienceDirect.com 4. International Journal of Services and Operations Management (IJSOM)
5	Supplementary Reading	1. Martand Telsang, Industrial Engineering and Production Management, S. Chand
6	Practical Component	1. Role play to understand role of operations management department in organization 2. Studying Production process of any local manufacturing organization and classifying it into different types of production. 3. Identifying and visiting any local business to study its Location & Layout Strategies. 4. Library Exercise on Recent Trends in Operations Management undertaken by any one company of your choice.

Semester	II	Total Credit	2
Course Code	AEC 201 (A)	Credit Pattern	L-22, T-4, P-4
Course Title	GERMAN		

Course Objectives	
1	To create an awareness about a foreign language
2	To understand the basic script of the language
3	To understand the culture and tradition of the country
Course Outcomes: Students will be able to;	
1	Use basic words & sentences in German Language
2	Develop basic vocabulary in German Language..

Syllabus:

Unit Number	Contents
1	Introduction (Name, country, living place, languages etc.), Asking the person's information, Greeting German Alphabets, Number (1-100), Giving and asking information related to number (age, telephone number, mobile number etc. Difference between formal and informal, Personal Pronouns, verb conjugation Europa-Countries, capitates and languages Learning about the things in the class room, Definite, indefinite, negative articles Possessive Articles with the reference of all the nouns learnt in the last lecture Watching timing learning
2	Conjugation of strong verbs, Use of separable verbs in the sentences Routine activities, Questions related to time, (use of prepositions am, pm) Eating and drinking (Grocery, fruits, vegetables, beverages), Learning of vocabulary related to eating and drinking, Use of accusative in the sentence Learning the professions, Telling about and asking for the professions Ordinal number Verbs- haben, sein

	Revising the syllabus

Note:

1. There will not be any fixed text book for the above given syllabus
2. The extra notes will be provided to the students to complete the required syllabus.

Semester	II	Total Credit	2
Course Code	AEC 201(B)	Credit Pattern	L-22, T-4, P-4
Course Title	JAPANESE		

Course Objectives

1	To create an awareness about a foreign language
2	To understand the basic script of the language
3	To understand the culture and tradition of the county
Course Outcomes: Students will be able to;	
1	Use basic words & sentences in Japanese Language
2	Develop basic vocabulary in Japanese Language..

Syllabus:

Unit Number	Contents
1	Introduction to Japan as country and language basics. Hiragana Script, Hiragana Activity, Katakana Script, Katakana Activity, Cultural Ethics and Survival Greetings, Classroom Language (Speaking), Number system, Vocab for Daily Uses, Grammar, Calendar Family Tree, Grammar
2	Self-Introduction, Introduction to Japanese Work-Culture Grammar, Introduction to -Kanjill, Visit Restaurant'(Speaking), Visit guest's house' (Speaking), Shopping' (Speaking), Farewell

Learning Resources

1	Reference books	1. Living Language Ultimate Japanese Beginner-Intermediate 2. The Kanji Learner's Dictionary by Jack Halpern 3. Japanese from zero 1 and 2 by George Tromphy 4. Basic Japanese by Eriko Sato 5. Handbook of Japanese verbs by Taeko Kamiya 6. Japanese- English, English- Japanese Dictionary by Seigo Nakao 7. Modern Japanese vocabulary A Guide for 21st century student by Edward Trimell 8. Minna no Nihongo Series 9. Seiichi Makino Michio Tsutsui Biiks (Dictionary) 10. Genki An Integrated Course in Elementary Japanese 11. Improving your communication skills 12. 12Pod 101 series (audio)

Semester	II	Total Credit	2
Course Code	AEC 201 (C)	Credit Pattern	L-22, T-4, P-4
Course Title	FRENCH		

Course Objectives	
1	To create an awareness about a foreign language
2	To understand the basic script of the language
3	To understand the culture and tradition of the country
Course Outcomes: Students will be able to;	
1	Use basic words & sentences in French Language
2	Develop basic vocabulary in French Language..

Syllabus:

Unit Number	Contents
1	Introduction (Name, country, living place, languages etc.), Asking the person's information, Greetings and Salutations, French Alphabets, French Accents, Numbers (1-1000), Giving and asking information related to numbers (age, telephone number, mobile number etc.) Difference between formal and informal, Personal Pronouns, Verb conjugations Countries, nationalities, capitals and languages Articles, Prepositions, Colours Gender, Nouns and Pronouns, Singular Plural Possessive Pronouns, Family Vocabulary Telling Time, Days of the week, Months of the Year, Parts of the Day About France and Francophone Countries, French Culture and Etiquettes, French Monuments
2	Conjugation of ER, IR and RE verbs, Use verbs in the sentences Routine activities, Questions related to time, (use of prepositions am, pm) Eating and drinking (Grocery, fruits, vegetables, beverages), Learning of vocabulary related to eating and drinking, Use of accusative in the sentence Learning the professions, Telling about and asking for the professions

	Ordinal numbers Negative Sentences, Interrogatives Describing Oneself, Family Simple Letter Writing and Essay Writing Revising the syllabus

Note:

1. There will not be any fixed text book for the above given syllabus
2. The extra notes will be provided to the students to complete the required syllabus.

Learning Resources

1	Reference books	1. Echo A1 Méthode de Français – Goyalsaab Publishers 2. Le Flambeau , Méthode de Français –Preeti Bhutani 3. Saison 1 Méthode de français- Alliance française 4. Larousse French Dictionary-W.R.Goyal

Semester	II	Total Credit	2
Course Code	AEC 201 (D)	Credit Pattern	L-22, T-4, P-4
Course Title	SELLING AND NEGOTIATION SKILLS		
Course Objectives			
Course Outcomes: Students will be able to;			
1	Describe new challenges and opportunity in selling and negotiation skills		
2	Apply & analyze different skills in Negotiation Process		

Unit Number	Contents	Number of Session	
1	Unit-I Nature & Role of Selling: Definition meaning Importance & objectives of Selling. Role in the context of organization – survival and growth. Types of Selling – Direct & Indirect selling, Missionary, Sales Team/group selling Merchandising, Telesales, Franchise selling, Consultative selling, factors Influencing on Personal Motivation on selling. Personal Selling Skills : Definition & Meaning, Personal Selling Process – Time & Contact management - Understanding buying motives of consumers before & Deal closing - Techniques of taking Follow up (To be supplemented by live exercises on personal selling)	L= 11	
		T= 2	P= 2
2	Unit-II Negotiation Skills and Process of Negotiation: What is negotiation, What makes a good negotiator, Process of Negotiation, Integrative Vs. Distributive Negotiation, Ground rules of effective Negotiation, BATNA (Best alternative a negotiated agreement).	L= 11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources

1	Text Books	1. Karen Mantyla – Consultative Sales Power 2. Virden J.Thornton- Prospecting the Key to Sales Success 3. .Michael R.Carrell & Christina Heavrin- Negotiating Essentials theory, Skills & Practices
2	Reference books	1. Kim Tasso – Selling Skills For Professionals – Viva Publication 2. David S. Hames- Negotiation – Sage Publication
4	Journals	1. Current Index of Management Marketing 2. Current Contents in Management Marketing.

Semester	III	Total Credit	2
Course Code	AEC 201 (G)	Credit Pattern	L7+T6+P17
Course Title	DIGITAL MARKETING		

Course Objectives	
1	To make students understand the traditional and new communication/marketing approaches to Create competitive advantage in the Digital world.
2	To understand how the emergence of the technology will affect marketing, value creation, and consumer perceptions.
Course Outcomes: Students will be able to;	
1.	Explain emerging trends in digital marketing
2.	Demonstrate usage of digital marketing techniques.

Syllabus:

Unit Number	Contents	Number of Session	
1	Introduction to digital marketing: Introduction to digital marketing; Internet Marketing, Digital Marketing Framework; Domains of Digital Marketing, affiliate marketing. Website creation & hosting : Websites – their types and classification; Use of CMS for website creation; Wordpress website creation :- adding posts, pages, making categories, adding menu, Creating commercial /business website, adding contact forms, linking website to social media	L= 4	
		T= 3	P= 8
2	Search Engine Optimization SEO –meaning, process and tools; affiliate marketing. Organic & inorganic search, search engine Marketing (SEM), Email marketing; Google Adds, Social Media marketing (Instagram & Facebook), creating Facebook page & Instagram page	L= 3	
		T= 3	P= 9

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Understanding Digital Marketing: Marketing Strategies for Engaging the Digital Generation by Damian Ryan, Calvin Jone. Kogan Page. 2. Fundamentals of Digital Marketing; Puneet Singh Bhatia; Pearson Publication 3. Marketing 2012 by William M. Pride, O. C. Ferrell, Cengage Learning.
2	Reference books	1. DigiMarketing: The Essential Guide to New Media and Digital Marketing by Kent Wertime, Ian Fenwick 2. Web Analytics 2.0: The Art of Online Accountability and Science of Customer Centricity by Avinash Kaushik 3. Social Media Marketing : Tracey L tuten & Michael R Solomon; adapted by Bikramjit Rishi; Sage Publication 4. Digital Transformation Strategies ; Theory & Practice; Srinivas R Pingali, Shankar Prakash & Jyothi R Korem: Sage Publication
3	Websites	Digital Marketing MOOC on Swayam. https://www.dmaglobal.com/ (Digital Marketing Association)
4	Journals	• Digital Marketing - The Marketing Journal • Journal of Digital & Social Media Marketing: Ingenta Connect Publication • Digital Marketing Journal – Medium
5	Supplementary Reading	Digital Marketing Association Google Digital Garage
6	Practical Component	1. Case study discussion on success stories of use of digital marketing mix 2. Assignment on preparing a digital marketing plan for small scale business. 3. Group Activity- Visit any service industry of your choice in Kolhapur And submit a plan on opportunities to use digital marketing technique to promote the business.

Semester	II	Total Credit	2
Course Code	AEC 201 (H)	Credit Pattern	L-22, T-4, P-4
Course Title	HUMAN VALUES		
	Objectives To study all dimensions of human being – thought, behaviour, work and realisation. • To study all levels of human living – individual, family, society, nature and existence.		
	Course outcome 1. A student of this course will relate and interpret existence of physical facility, relationship and right understanding. 2. A student of this course relate to the context of life and human being.		
	Knowing human values: Unit 1 To know universal values & its connection with human being. Rationality and rational values. Natural & verifiable values. All-encompassing values dimensions & levels. Right Understanding, Relationship and Physical Facility. Understanding the Human Being (As Co-existence of Self and Body). Understanding harmony in family.		
	Unit 2. Applying human values . Self-exploration & aspirations. Understanding harmony in nature & society. Harmony among the four orders, Physical, Bio , Animal ,Human order Understanding Ways of fulfilling them with human values		
	Instructions		
	References Books /websites HUMAN VALUES 1 Naagarazan, R.S. Textbook On Professional Ethics & Human Values.-- New Delhi: New Age International (P) Ltd,Publisher's New Delhi, 2006. XIV; 137 P. ISBN : 8122418554. 174.4 NAA. 57443 2 Modi, Ishwar Human Values and Social Change (Essays in Honour of Dr. T.K.N. Unnithan).-- Jaipur: Rawat Publications, 2000. 447 P. ISBN : 817033604X. 303.4 MOD. 33829 3 Naagarazan, R.S. Textbook on Professional Ethics and Human Values.-- New Delhi: New Age International Publishers, 2008. ix; 169 P. ISBN : 9788122419382.		

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Changing Human Values and Leadership Styles.-- Jaipur:
Printwell Publishers Distributors, 1999. 124 P.
ISBN : 8170444950.
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- 5 Raghavan, M.P.
Professional Ethics and Human Values.-- Chennai: Scitech
Publications (India) Pvt, Ltd., 2009. 1.1 to 5.36 P.
ISBN : 9788183710329.
174 RAG.
64379
- 6 Gogate, S.B.
Human Values and Professional Ethics.-- Noida: Vikas
Publishing House Pvt, Ltd., 2011. xvi; 326 P.
ISBN : 9788125937135.
174 GOG.
64848
- 7 Gogate, S.B.
Human Values & Professional Ethics.-- Delhi: Vikas
Publishing House Pvt, Ltd., 2011. xvi; 326 P.
ISBN : 9788125937135.
174 GOG.
65892
- 8 Bhola, Payal
Human Values & Professional Ethics.-- Agra-02:
Y.K.Publishers,, 2011. 223 P.
ISBN : 9789380668062.
174 BHO/GAR.
67967
- 9 Saxena, Abhay
Human Values and Professional Ethics.-- New Delhi: Vayu
Education of India, 2010. x; 170 P.
ISBN : 9789380712437.
174.9 SAX/SHA.
68765
- 10 Gogate, S.B.
Human Values & Professional Ethics.-- Delhi: Vikas
Publishing House Pvt, Ltd., 2011. xvi; 326 P.
ISBN : 9788125937135.
174.4 GOG.
69510

- 11 Govindarajan, M.
Professional Ethics and Human Values.-- Delhi: PHI
Learning Pvt, Ltd., 2013. xii; 132 P.
ISBN : 9788120348165.
174 GOV.
73239

- 12 Tripathi, A.N.
Human Values.-- New Delhi: New Age International (P)
Ltd., Publishers, 2012. xii; 327 P.
ISBN : 9788122425895.
303.4 TRI.
57357

- 13 Raghavan, M.P.
Professional Ethics and Human Values.-- Chennai: Scitech
Publications (India) Pvt, Ltd., 2013. 1.1 to 6.11 P.
ISBN : 9788183714990.
174 RAG.

- 14 Subramanian, R.
Professional Ethics: Includes Human Values.-- New Delhi:
Oxford University Press,, 2017. xiv; 457 P.
ISBN : 9780199475070.
174 SUB.

- 15 Shukla, Tanu
Human Values and Professional Ethics.-- New DELhi:
Cangage Learning, 2018. xviii; 411 P.
ISBN : 9789386858764.
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https://www.youtube.com/watch?v=Ug4JIJxLSmk&ab_channel=Vidya-mitra
https://www.facebook.com/Gurgaon_KIIT/videos/day-4-pt-1-aicte-sponsored-online-
<http://kierandonaghy.com/seven-best-short-films-introduce-values/>
https://www.youtube.com/watch?v=Kz_qGJmTMY&ab_channel=MindToolsVideos

Semester	II	Total Credit	4
Course Code	DSE 201 (C)	Credit Pattern	L-48, T-06, P-06
Course Title	DATA EXPLORATION AND VISUALIZATION		

Course Objectives	
1.	To discuss the basics concepts of R
2.	To use basic plots and exploration for effective data analysis
3.	To illustrate univariate, bivariate, multivariate analysis
4.	To demonstrate dimensionality reduction, principal components, and clustering
5.	To discuss web analytics and social network analysis

Course Outcomes: The students will able to	
1.	Discuss the basics concepts of R
2.	Use basic plots and exploration for effective data analysis
3.	Illustrate univariate, bivariate, multivariate analysis
4.	Demonstrate dimensionality reduction, principal components, and clustering
5.	Discuss web analytics and social network analysis

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Getting started with R Overview of R, R Installation, Getting started with R interface, R Nuts and Bolts, Basic Syntax, R Data Types, Control Structures, Functions, Getting Data into R, Data Frames, R Packages	L= 12	
		T=1	P= 2
2	Exploratory Data Analysis (EDA) Role of EDA, Data Exploration in R, Frequency Tables, Data Sampling, Data Preprocessing, Data Cleaning, Data Visualization, Basic plotting - Histograms, Bar Charts, Scatter Plots, Box Plots	L= 12	
		T= 1	P= 2
3	Data Visualization Univariate Analysis, Bivariate Analysis, Multivariate Analysis Summary Statistics, Correlation and Regression Analysis, Data Dimensionality, Principal Component Analysis, Cluster Analysis, Clustering Objects	L= 12	
		T= 2	P= 1
4	Time Series and Web Analytics Introduction, Web Analytics Process, Google Analytics, Key Metrics, Data Sources, Segmentation, Server Log File Analysis, Time Series – Data, Analysis, Visualization, Social Network Analysis – Networks, Tie Strength, Key Players, Cohesion	L=12	
		T= 2	P= 1

Learning Resources		
1	Text Books	- Wickham, Hadley, and Garrett Grolemund., R for Data Science, O'Reilly, 2017 - Schmuller, Joseph, Statistical Analysis with R for Dummies, Wiley, 2017
2	Reference books	- Chang, W, R Graphics Cookbook, O'Reilly Media Inc. 2013 - Michael Mahoney, Introduction to Data Exploration and Analysis with R, https://bookdown.org/mikemahoney218/LectureBook/ - Elena N. Ieno, Alain F. Zuur, A Beginner's Guide to Data Exploration and Visualization with R, Highland Statistics Ltd, 2015
3	Websites	http://uc-r.github.io/gda https://www.sanfoundry.com/r-programming-quiz-online/ https://towardsdatascience.com/data-exploration-and-visualization-with-r-ggplot-7f33c10ec1c http://www.rdatamining.com/docs/data-exploration-and-visualization-with-r
4	Journals	- IEEE Transactions on Knowledge and Data Engineering ISSN: 1041-4347 - Big Data Mining and Analytics ISSN: 2096-0654 - IEEE Intelligent Systems ISSN: 1541-1672
5	Supplementary Reading	- Data Visualization in R, https://www.datacamp.com/courses/data-visualization-in-r - Exploratory Data Analysis in R: Case Study, https://www.datacamp.com/courses/exploratory-data-analysis-in-r-case-study
6	Practical Components	Practicals on Basic Plotting, Data Normalization, Data Visualization, Time Series Analysis and Web Analytics

Semester	II	Total Credit	2
Course Code	GE 201(B)	Credit Pattern	L-23, T-07, P-0
Course Title	ENVIRONMENT AND DEVELOPMENT		

Course Objectives	
1	Understand the basics functional areas of Environment.
2	Define concepts of pollution, pollutants and natural resources
3	Explain historical development of struggle for Environmental protection

Course Outcomes: The students will able to	
1.	Differentiate biotic and abiotic components of ecosystem & able to understand concept of habitat, interactions in between different components & their Interrelationships.
2.	Develop ability of identification of local issues related with natural resources.
3.	Adopt various pollution control techniques.
4.	Able to know various environmental policies as well as National & International Organizations involved.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Ecological concept and Natural Resources : Introduction to Environmental Science as a multi-disciplinary, its scope and necessity; Concepts of Ecosystem and its Structure and Functions, Principles of Organism-environment relationship; Concept and classification of Natural Resources. Energy Resources, Renewable and Nonrenewable.	L= 11	
		T= 3	P=0
2	Environmental Pollution and Policy: Definition, sources and effects of water pollution. Definition, sources of air pollution, Effect of air pollution and acid rain, climate change, ozone depletion. Definition, Sources of noise pollution. Effect of noise pollution on human-beings. Noise control measures. Government policies in the protection and development of environment. National environmental policy. United Nations Environmental Programme (UNEP).	L= 12	
		T= 4	P= 0

Learning Resources

1	Text Books	• A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 • A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 • A Text Book of Environmental Chemistry & Pollution Control, Dara, Chand • A Text Book of Ecology, S K Dubey, Dominant Publication • A Text Book of Ecology, Tyler Miller, Cengage Learning • A Text Book Environmental Studies, Chatawal & Sharma, HPH • A Text Book Environmental Science, Joshi & Joshi, APH • A Text Book of Environmatal Studies, Nambiar, STP
2	Reference books	• Fundamentals of Ecology by Odum, E.P. • Desert Ecology by Ishwar Prakash • Ecology of Urban India by Pramod Singh • Ecology of Rural India by Singh • Ecology 2000 by Sir Edmand Hillary • Environmental Protection and the Laws by CN Mehta, 1991 • India's Forests, Myth and Reality by J.B. Lal 1989 • Legal aspects of Environmental Pollution and its Management by Ed. S.M. Ali, 1992 • Man – Nature and Environmental Law by GS Nathawal, S. Shastri and JP Vyyar, 1988 • International Environmental Policy: Emergence and Dimensions by LK Caldwell, 1990 • Lal's Commentaries on Water, Air Pollution Laws along with the Environmental (Protection) Act and Rules, 1986, 3rd Ed., 1992 Law Publisher – India • The Wildlife (Protection) Act, 1972 (with amendment-1991) • Our Common Future – WCED, 1991 • Universal's Environment and Pollution Law Manual by SK Mohanty, 1998. • A Guide to Implementation of the ISO 14000 Series on Environmental Management (Prentice Hall Ptr Environmental Management and Engineering Series) Har/Dskt Edition • Environmental manager's guide to ISO 14000 by <u>Bruce W Perry</u> • Implementing ISO 14000 Hardcover – November 1, 1996 by <u>Tom Tibor</u> (Author), <u>Ira Feldman</u> (Author) • Environmental Impact Assessment By: Larry W Canter. McGraw-Hill International Editions, 2nd Edn, New York (1996). • EIA Theory & Practice By: Peter Wathern. Unwin Hyman, London (1990) • Environmental Impact Assessment By: PR Trivedi. APH Publishing Corporation, New Delhi (2004) • EIA Practical Solutions to Recurrent Problems By: David P Lawrence. Wiley Interscience Publication (2003)
3	Websites	• https://www.toppr.com/guides/biology/ecosystem/biogeochemical-

		cycle/ • https://nca2014.globalchange.gov/report/sectors/biogeochemical-cycles • https://www.conserve-energy-future.com/what-is-environmental-science-and-its-components.php
4	Journals	• Current Science, ISSN No. 0011-3891 • Every Thing About Water • Down to Earth • Resonance, ISSN No. 0971-8044 • Journal of Earth System Science, ISSN No .2253-4126
5	Supplementary Reading	• National Geographic • Down to Earth, CSE
6	Practical Components	• Field visit to study pond water & forest Ecosystem.

Semester	II	Total Credit	2
Course Code	GE 201(C)	Credit Pattern	L-20, T-5, P-5
Course Title	INDIAN SOCIAL PROBLEMS AND SOCIAL SERVICES		

Course Outcomes: Students will be able to

1	Implement various social welfare services provided by GO's & NGO's
2	Asses the socio- economic factors and their implications of beneficiaries

Syllabus:

Unit Number	Contents	Number of Session	
1	Genesis and nature of various categories of Social Problems Definition of Social deviance and control, social disorganization and social problems, study and analysis of specifics social problems in relation to their nature, causative factors, extent and magnitude	L=10	
		T=3	P=2
2	An overview of major social problems, Juvenile delinquency, Crime, Prostitution, Dowry, AIDS, Beggary-Alcoholism and Drug Addition.	L=10	
		T=2	P=3

Learning Resources:

1	Text Books	- Ahuja R 1993 Indian Social System-Rawat Publication New Delhi. - Akbar M.J. 1988 Riot after Tiot; Reports on caste & Communal Violence in India New Delhi: Penguin Books. - Bardhan P. 1984 the Political Economy of Development in India Delhi: Oxford Press. - Betelle A. 1966 Caste, Class and Power Bombay: Oxford Uni, Press. - Black C.E. 1966 The Dynamics of Modernization: A study in Comparative History New York: Harper & Row. - Madan G.R. 1985 Indian Social Problems Vol. I and II Allied Pub. Pvt. Ltd. Bombay.
2	Reference Books	- Coser I.A. 1956 the functions of Social Conflict Glencoc Illinois; Free Press. - Dahrendorf R. 1957 Class & Class ' Conflicts in an Industrialized Society London Routldge&Kengan Paul. - Dandekar V.M. 1977 Nature of Class Conflict in the Indian Society Bom Bharat Foundation. - Das A. & Nilkanth V. (Ed.) 1979Agrarian Relations in India Delhi: Manohar.
3	Website	https://journals.sagpub.com www.ndpublisher.in www.ukessays.com www.open.edu7.sociology
4	Journals	International Journal of Social Science

		Indian Journal of Social Work
5	Supplementary reading	Encyclopedia in Social Work Vol-I & II Dictionary of Social Work
6	Practical Component	1. Visit to various NGO's 2. Concurrent Field Work 3. Case studies on various social problems 4. Organized Group discussion with problematic 5. Celebrate different days related to Social issues.

Semester	II	Total Credit	2
Course Code	GE 201(D)	Credit Pattern	L-30, T-8, P-7
Course Title	OFFICE AUTOMATION		
Course Objectives			
1	To teach basic concepts about computers and peripheral devices		
2	To explain the concept of computer languages and features of operating system		
3	To demonstrate use of Word processor for documentations.		
4	To explain effective use of presentation technology.		
5	To demonstrate use of spreadsheet for analysis of data		
Course Outcomes			
After completion of this course the student will be able to:			
1	Understand basic concepts and computer terminology.		
2	Use operating system features		
3	Prepare proper documents		
4	Prepare effective presentation		
5	Analyze any data with the help of spreadsheets.		

Unit Number	Contents		
1	Introduction to Computer, Concept of Operating System & Word Processing Definition of Computer, Characteristics & Limitations of Computer, Generations of Computer, Block Diagram of Computer, Concept of Hardware and Software, Operating System: Function of Operating System, Types of O.S., Features of Windows Operating System, Default Icons on Desktop – My Computer, Recycle Bin, My Network Places and Internet Explorer, Important Terms in Windows – Icons, Desktop, Folder, Star Button, Concept of Cut, Copy and Paste operation, Concept of Start Button MS-Word: Component of MS-Word window, Page-Setup in MS-Word, How of Print Document, Formatting the Document, Inserting & Formatting table, Inserting various objects in the document, Mail-Merge Utility, Cursor Control Keys,	L=3	
		T=1	P=0
2	Data Analysis Through Excel and Presentation Techniques. MS-Excel: Features Of Excel, Formatting Work Sheet- Formatting cell, conditional formatting, Lookup Functions, IF, SUM, SUMIF, SUMIFS, COUNT, COUNTIF, COUNTIFS, COUNTBLANK Functions, Function For Financial Decision – PV, FV, PMT, PPMT, IPMT Functions, TEXT Functions, Date and Time Functions, Decision Making Using – GoalSeek, Scenario Manager, Basic Data Analysis – Sorting, Summarizing, Filtering, Validating Data, Summarizing Data With Chart, Describe Data Using Pivot Table, MS-PowerPoint: Factors To Be Considered Before Creating A Presentation, Creating and	L=3	
		T=1	P=0

		setting Presentations With PowerPoint, Applying Animation Effects, Slide Transition Effects, Views In PowerPoint, Use of Text, Images, ClipArt's, Hyperlinks, Video and Audio and Action Buttons In Presentation,		
Learning Resources				
1	Text books	1. Computer Fundamentals by P. K. Sinha & Priti Sinha, 5th edition, BPB pub. 2. Computer Fundamentals by Balguruswami 3. Microsoft Office 2013 All-In-One For Dummies By Peter Weverka, Wiley India Pvt Ltd, ISBN 10: 812654175X 4. Microsoft Office 2010 Digital Classroom by AGI Creative Team John Wiley & Sons; Pap/Psc edition (1 March 2011) ISBN-10: 0470577770 5. Operating System Concepts: International Student Version By <u>Silberschatz</u> Wiley; Eighth edition (20 April 2009) ISBN-10: 8126520515		
2	References	1. Microsoft Office 2010 Bible By <u>John Walkenbach</u> Wiley India Private Limited (28 September 2010) ISBN-10: 8126528397 2. Microsoft Windows Operating System Essentials By <u>Tom Carpenter</u> John Wiley & Sons (9 February 2012) ISBN-10: 1118195523 3. Microsoft Windows Operating System Essentials By <u>Tom Carpenter</u> ISBN: 978-1-118-19552-9 4. Fundamentals Of Computers 5Ed By V. Rajaraman Publisher: Phi Learning Pvt Ltd ISBN 10: 8120340114 5.		

Semester	II	Total Credit	2
Course Code	GE 201(E)	Credit Pattern	L-22, T-04, P-04
Course Title	PRINCIPLES OF ECONOMICS		

Course Outcomes: Students will be able to

1	Understand the micro variables and approach for microeconomic issues
2	Identify the macro variables in any economy

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit 1: Demand & Supply Analysis Basic Economic Concepts, Definitions of Economics, Branches or approaches to economics, Basic Economic Problems or the Central problems of a Society, Law of Diminishing Marginal Utility, Demand curve derivation and its properties, Elasticity of Demand Supply Analysis- Meaning, Types and Determinants of Supply, Supply Function and Law of Supply, Elasticities of Supply and Their Utilities.	L= 11	
		T= 2	P= 2
2	Unit 2. Market Theory & N.I Types of Markets, Perfect Competition, Monopoly, Monopolistic Competition, Oligopoly: Features and price determination Basic Concepts of NI, GDP, GNP, etc, Estimation of NI and Difficulties, Circular Flow of Aggregate Income and Expenditure	L= 11	
		T= 2	P= 2

Learning Resources

1	Text Books	- Paul Samuelson(2000), Economics, McGraw Hill Inc, New Delhi, Ahuja H.L, Modern Micro Economics, S Chand& Co., New Delhi, - Koutsyanis (2015), Micro Economics. - Jhingan M.L., Microeconomics, Vrinda Publications, New Delhi. - C.Rangarajan and Dholokia B.H, Principles of Macro Economics, Tata Mcgraw-Hill, New Delhi, (1998). - Blanchard, Olivier (2000), <i>Macroeconomics</i>, Prentice Hall.
2	Reference books	- Robert S Pindyck and Daniel L Rubinfeld(2017), Microeconomics, Pearson Education Ltd., UP - Mankwin Gregory N(2016), Principles of Microeconomics, Cengage Learning India Pvt. Ltd. - Hal R Varian(2015), Microeconomic analysis, Viva Books Pvt. Ltd., New Delhi - Mankiw Gregory (2002), Macroeconomics, 5th Edition, Worth Publishers - Ahuja H L(2015), Macroeconomics Theory And Policy, 19th Edition, SCHAND

		Gupta G S(2011), Keynesian and Post Keynesian
3	Websites	www.rbi.org.in www.mygov.gov.in www.cmie.com
4	Journals	Arth Samwad Economic and Political Weekly Indian-Economic-Journal Journal-of Indian-School-of-Political-Economy
5	Supplementary Reading	Economics Survey Union Budget of India
6	Practical Component	1. Conduct consumer survey and identify consumer utility for various consumer goods 2. Review reference books on economics, and prepare a report on liner, cubic and quadratic production functions 3. Visit various service vendors and prepare a report on price determining factors and challenges for their products in the market

MBA - II

SEMESTER - III

Semester	III	Total Credit	4
Course Code	CC 301	Credit Pattern	L-45, T-8, P-7
Course Title	STRATEGIC MANAGEMENT		

Course Objectives	
1	To familiarize students with strategic management process in detail
2	To analyze organizations for strategy formulation and implementation.
3	To design various types of strategies for a given industry.
4	To evaluate an industry using various tools and techniques for strategic choice.
5	To be able to evaluate strategies implemented.
Course Outcomes Students should be able to:	
1	Discuss various concepts and theories in the field of strategic management.
2	Formulate various types of strategies for a given industry.
3	Evaluate an industry using various tools and techniques for strategic choice.
4	Critique strategies implemented.
5	Devise strategic approaches to managing a business successfully in a global context

Unit Number	Contents	Number of Sessions	
1	Introduction to Strategic Management & Environment (15) Introduction to Concept of Strategy and Strategic management; Importance of Strategy, Levels of Strategy, Strategic Management Process – Different Phases; Strategic Intent - Mission, Vision, Objectives. Formulation of strategic intent, methods of Goal Setting – MBO, Balance scorecard approach, Critical success Factors and Key Performance Indicators. Concept and Characteristics of environment, Components of external environment/ External Analysis, PESTEL Framework,	L=11	
		T=2	P=2
2	Internal Analysis & Corporate Strategies (15) Industry Analysis – Porter’s Five Forces Model, Internal Analysis – Resource Based view VIRO analysis, Approaches to internal analysis – SWOT Analysis, Value Chain Analysis, Financial Analysis Corporate strategies - stability strategy, expansion strategy, retrenchment strategy, combination strategy. Mergers and Acquisitions, Strategic alliances & Joint ventures – concept, reasons, Entry strategies for global market	L=12	
		T=2	P=1
3	Business Strategies & strategic Analysis (15)	L=11	

	Business level strategy - cost leadership, Focus strategy Differentiation – Types – Advantages and Disadvantages – +`Blue, Red & Purple Ocean Strategy. Strategic choice process, corporate portfolio analysis, BCG Matrix, TOWS Matrix, GE nine cell, strategic choice at business level – Industry analysis, Competitor analysis. Strategic CSR.	T=2	P=2
4	Strategic Issues, (15) Strategic implementation issues - McKinsey's 7s framework approaches to resource allocation, structural issues – functional, product/ divisional, SBU structure, matrix, network, free form, behavioural issues- Strategic leadership, Corporate strategic communication. Strategic evaluation-importance, participant's barriers and requirements. Types of strategic control-operational control-Strategic process of Evaluation, techniques of strategic evaluation and control. Sustainability & strategic management- concept of TBL, Environmental & Social Impacts on Society Contemporary issues in strategic management.	L=11	
		T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Azahar Kazmi, "Strategic Management & Business Policy"- Fourth Edition, The Mc-graw Hill Edition. 2. P.Subba Roa, "Business Policy & Strategic Management", Himalaya Publication
2	Reference books	1. Hoskisson, Hitt, Ireland & Manikutty, "Strategic Management"- A south Asian Perspective Cengage Learning, 9th Edition. 2. Thomas wheelen, J David Hunger, Alan N Hofman & Charles E Banford, "Concepts in Strategic Management and Business Policy" Pearson Publication , 2018 3. Pradip Kumar Sinha, "Mergers, Acquisitions and Corporate Restructuring," Himalaya Publishing House, 2019. 4. R M Shrivasta, "Management Policy and Strategic Management" Himalaya Publishing House, 2014. 5. Fred R David & Forest R David, Strategic Management " ,Pearson Publication , 16th Edition, 2017
3	Websites	www.mckinsey.com/in
4	Journals	1. The Indian Journal of Indian Management & strategy 2. IUP Journal of Business strategy.
5	Supplementary	Business Standard : The Strategist supplement

	reading	Economic Times
6	Practical component	Case studies and assignments on real life situations

Semester	III	Total Credit	4
Course Code	CC -302	Credit Pattern	L-48, T-12, P-00
Course Title	CLOUD COMPUTING		
Course Objectives:			
1	To explain cloud computing technologies.		
2	To explain the concept of Virtualization and design of cloud Services		
3	To introduce the broad perceptive of cloud architecture and model		
4	To introduce the fundamental ideas of the cloud computing model and its origin		
Course Outcomes:			
After completion of this course the student will be able to:			
1	Identify the architecture and delivery models of cloud computing.		
2	Identify security, privacy and interoperability issues.		
3	Select suitable cloud service		
4	Apply suitable virtualization concept		
5	Implement cloud services and set a private cloud		
Unit Number	Contents		Number of Sessions
1	Introduction to cloud computing: Cloud computing definitions, History of cloud, Characteristics and Principles of cloud, SaaS Maturity Model, commercial cloud offerings, cloud storage, live migration, ISO image, Layers and types of clouds, Challenges, Service Models, opportunities and challenges, advantages and disadvantages of cloud computing, Comparison of Cloud computing, Cluster computing and Grid computing; Applications: Technologies and process required when deploying Web services. Service Oriented Architecture (SOA), WSDL structure, protocols used in SOA, web service integration, service catalogs. Cloud Computing Architecture: Cloud Interoperability and standards, Scalability and Fault tolerance, System Models for Distributed and cloud computing –NIST cloud computing reference model. Cloud Cube Model, Cloud Reference Model, Cloud Models – Service Model(Iaas, Paas, Saas), Deployment Model		L= 12 T=03 P=00

2	Cloud computing costs – Right sizing, auto scaling, vertical scaling Vs horizontal scaling, service level agreement, service credits, defining licensing models. Capacity planning, steps in capacity planning, baseline measurements, resource ceiling, server instance types, measuring network capacity. Virtualization: Introduction to Virtualization, Characteristics of virtualization, Virtualization and Cloud Computing, Pros and Cons of Virtualization, Types of Virtualization- Implementation Levels of Virtualization - Virtualization Structures - Tools and Mechanisms - Virtualization of CPU, Memory, I/O Devices . Fundamental concepts of compute ,storage, networking, desktop and application virtualization, Virtualization benefits, server virtualization, Infrastructure Requirements , Virtual LAN(VLAN) and Virtual SAN(VSAN) and their benefits ,Load balancing, benefits of load balancing, load balancing algorithms, hypervisor (virtual machine monitor), types of hypervisors, machine imaging, porting applications, challenges in porting applications, simple cloud API, AppZero virtual Application Appliance.	L= 12 T=03 P=00
3	Cloud Infrastructure: Cloud Application Platform: Aneka Framework Overview, Building Aneka Clouds: Infrastructure Organization, Logical Organization, Platform Deployment: Private Cloud Deployment Mode, Public Cloud Deployment Mode, Hybrid Cloud Deployment Mode, Resource provisioning, Inter cloud resource management. Layered Cloud Architecture development, Cloud Security, OSI standard for security model, role and rule management, access control list, specific attacks, sniffing, spoofing, phishing, pharming (DNS Spoofing), cryptography, encryption, decryption, types of cryptography. Format of digital certificate, working of digital signature, Electronic money (Digicash), security mechanism in Digicash, types of electronic money, double-spending problem.	L= 12 T=03 P=00
4	V Programming Model: Principles of Parallel and Distributed Computing, Paradigms: Map Reduce-Hadoop Library from Apache, Amazon Web Services (AWS), Manjra soft Aneka, Parallel vs. Distributed Computing, centralized vs distributed systems, Difference between distributed and network operating system, Features and characteristics of distributed systems, distributed architectures, system models, Elements of Parallel Computing Hardware Architectures for Parallel Processing, Approaches to Parallel Programming ,Levels of Parallelism, classification of parallel computers, Flynn’s classification, dependency conditions, Berstein conditions for detection of parallelism, parallelism based on grain size, Handler’s classification, Components of a Distributed System , Architectural Styles for Distributed Computing , Models for Inter-Process Communication, Technologies for Distributed Computing: Remote Procedure Call.	L= 12 T=03 P=00

Learning Resources		
1	Text Books	1. Kumar Saurabh, "Cloud Computing", Wiley Pub 2. Buyya Selvi, "Mastering Cloud Computing", TMH pub. 3. Soninky, "Cloud Computing", Wiley Pub. 4. Kurtz, Vines, "Cloud Security", Wiley Pub.
2	Reference books	1. John W. Rittinghouse and James F. Ransome, "Cloud Computing: Implementation, Management, and Security", CRC Press, 2010. 2. Kumar Saurabh, "Cloud Computing – insights into New-Era Infrastructure", Wiley India, 2011. 3. George Reese, "Cloud Application Architectures: Building Applications and Infrastructure in the Cloud" O'Reilly 4. Katarina Stanoevska-Slabeva, Thomas Wozniak, Santi Ristol, "Grid and Cloud Computing – A Business Perspective on Technology and Applications", Springer. 5. James E. Smith, Ravi Nair, "Virtual Machines: Versatile Platforms for Systems and Processes", Elsevier/Morgan Kaufmann.
3	Websites	• https://cloudacademy.com • https://acloud.guru • https://geekflare.com/collections/learn-cloud-computing/
4	Journals	• IEEE Transactions on Cloud Computing (http://ieeexplore.ieee.org/xpl/aboutJournal.jsp?punumber=6245519#AimsScope) • Journal of Cloud Computing: Advances, Systems and Applications (JoCCASA) (http://www.journalofcloudcomputing.com/) • International Journal of Cloud Computing (http://www.inderscience.com/jhome.php?jcode=ijcc) • The International Journal of Cloud Computing (IJCC) (http://www.hipore.com/ijcc/)
5	Supplementary Reading	• https://www.ibm.com/cloud/learn • https://linuxacademy.com/library/search/cloud/ • https://www.lynda.com/Cloud-Computing-training-tutorials/1385-0.html
6	Practical Components	-----

Semester	III	Total Credit	4
Course Code	CCSpl-I-304 (A)	Credit Pattern	L-45, T-6, P-9
Course Title	INTERNATIONAL TRADE AND FINANCE		

Course Outcomes: The students will able to learn:	
1	Assess foreign exchange rates and develop export trade document.
2	Apply international finance terms in trade.
3	Evaluate foreign direct investment design.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to International Finance: concept and Principals of International Trade – Theories of International Trade – Comparative Advantage – Absolute Advantage – Hecksher Ohlin Theory – Imitation Gap Theory- Barriers to International Trade –Indian EXIM Policy. Concepts of DTAA and International Taxation.	L=11	
		T=2	P=2
2	Export and Import Finance: Special need for Finance in International Trade –Terms used in International Trade (FOB, CIF, etc.,) – Payment Terms – Letters of Credit and its types – Pre Shipment and Post Shipment Finance – Forfaiting –Deferred Payment Terms – EXIM Bank – ECGC and its schemes – Import Licensing – Financing methods for import of Capital goods.	L=12	
		T=1	P=2
3	Foreign Exchange Markets: Spot Prices and Forward Prices – Factors influencing Exchange rates – The effects of Exchange rates in Foreign Trade – Tools for hedging against Exchange rate variations –Forward, Futures and Currency options -Determination of Foreign Exchange rate and Forecasting – Law of one price – PPP theory – Interest Rate Parity – Exchange rate Forecasting. Two way and three way arbitrage, arbitrage with IRP and PPP.	L=11	
		T=1	P=3
4	Determination and Forecasting of Exchange Rates: Currency risk management – Measuring and Managing Transaction – Translation and Economic Exposure. International Cash Management – Cost Of Capital for Foreign Direct Investment – Designing Global Capital Structure. Foreign Direct Investment – Cost and Benefits. Derivatives in International Trade Important Export trade documents, like Proforma, commercial, legalized, invoice, packaging list, bills of leading, airway bill, insurance policy, export incentive, duty exemptions, export house.	L=11	
		T=2	P=2

Note: Practical Problems to be covered on

1. Calculation Of Foreign Exchange Rates – Forward Rates, Premium Discounts on forward rates
2. Simple problems on pay off from Derivatives

3. Arbitrage

Learning Resources		
1	Text Books	1. Kapil Sheeba, "Financial Management" Pearson Publication House. 2. Jonathan Berk, Peter, "Financial Management" Pearson Publication House. 3. Sharan Vyuptakesh, "Fundamentals of Financial Management" Pearson Publication. 4. James C Van harne, "Financial Management & Policy" Pearson Publication House. 5. ICSI: Handbook on Mergers Amalgamations and takeovers.
2	Reference Books	1. Jeevanandam .C, INTERNATIONAL BUSINESS, M/s Sultan & Chand, Delhi, 2008 2. Sumathi Varma, INTERNATIONAL BUSINESS, Ane, Delhi, 2010 3. P.G. Apte – "Global Business Finance" – Tata McGraw Hills. 4. P.G. Apte – "International Finance Management" – Tata McGraw Hill 5. V.K. Bhalla – "International Financial Management" – Prentice Hall 6. Khan & Jain, "Financial Management", Tata Mcgraw Hill, 6th edition. 7. R.P.Rustagi, "Financial Management", PHI, 10th edition.
3	Websites	<u>INFLIBNET</u> http://nlist.inflibnet.ac.in <u>J-GATE</u> http://jgateplus.com <u>EBSCO</u> http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4	Journals	• Prabhandan: Indian Journal of Management • IUP Journals • ICSI Journals • Finance India • Indian Journal of Finance (New Sub.) • Journal of Accounting & Finance etc.
5	Supplementary Reading	• Financial Express • Economics Times • Business Standard • Times of India • Indian Express.
6	Practical Component	• Calculation Of Foreign Exchange Rates – Forward Rates, Premium Discounts on forward rates • Simple problems on pay off from Derivatives • Problems on arbitrage • Financial statement analysis using Proves-IQ • Companies Financial Reports & Corporate case studies.

Semester	III	Total Credit	4
Course Code	CC Spl-I-304 (B)	Credit Pattern	L-45, T-8, P-7
Course Title	EMPLOYEE RELATIONS AND LABOUR LAW		
Course Outcomes : Students will be able to			
1	Discuss the concepts and theories to manage Industrial Relations and Labor Laws		
2	Apply the concept of industrial relations, legal issues to the system in which it operates.		
3	Analyze industrial Related legal issues used in the resolution of conflict.		
4	Critically evaluate emerging trends in employment law		
5	Design the collective bargaining process, including preparation, negotiation, and settlement.		

Unit Number	Contents	Number of Sessions	
1	Industrial Relations and Trade Union:- Industrial Relations:- Concepts of Industrial Relations, Approaches to Industrial Relations, Role of Employer/Management, Trade Union and Government in Industrial Relations. Trade Union:- Purpose, Functions of trade unions, Problems of Trade unions, Measures to strengthen Trade Union, Recognition of Trade Union as Collective Bargaining Agent. Trade Union Act (1926), Standing Order	L=11	
		T=2	P=2
2	Collective Bargaining and Industrial Unrest: - Collective Bargaining:- Structure, Procedure and machinery for collective bargaining process, Negotiation Skills, Productivity Bargaining, emerging trends in collective bargaining. Industrial Unrest: Causes of Industrial Disputes, Prevention and Settlement of Industrial Disputes- Relevant Provisions related to Industrial Disputes Act, 1947. Purpose and procedure of disciplinary action, Meaning and scope of misconduct	L=12	
		T=2	P=1
3	Positive Employee Relations and Labour Laws:- Building positive employee relations, Participative Management:- Workers participation in Management (statutory and Non statutory Schemes), VRS:- Reason and acceptance of VRS, Management of Sexual Harassment and Sexual Harassment Laws in India,	L=11	
		T=2	P=2
4	Social Security for emotional Bondage:- Social Securities in India, ESI Act 1948, Workmen's Compensation Act, Maternity Benefit Act 1961, The employees Provident Fund Act, 1952. Payment of Gratuity Act 1972, and Management of Contract Labour.	L=11	
		T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Mamoria C.B, Dynamics of Industrial relations, Himalaya Publishing House 2. A.M.Sarma, Industrial Relations, Himalaya Publishing House
2	Reference books	1. ArunMonappa, Industrial Relations, Tata McGraw Hill Publishing Company Ltd. 2. Dhyani S.N., Industrial Relations Systems, Printwell Publishers 3. John Fossum, Labour Relations, Development, Structure, Process, McGraw Hill Education 4. Michael R Carrell and Christina Heavrin, Labour Relations and Collective Bargaining- Private and Public Sectors, Merrill 5. PromodVerma, Management of Industrial relations, Reading and Cases, Oxford and IBH Publications 6. Singh B.D., Industrial Relations –Emerging Paradigms, Excel Books 7. Srivastava S.C., Industrial Relations and Labour Laws, Vikas Publishing House Pvt. Ltd.,
3	Websites	1. www.ILO.org 2. www.labour.nic.in 3. www.labourstat.org
4	Journals	1. Indian Journal of Industrial Relations 2. Indian Labour Journal 3. Current Labour Report 4. Labour Law Journal
5	Supplementary Reading	1. Labour Law Journals 2. https://www.thehindubusinessline.com/opinion/the-recognition-question-in-trade-union-law-ep/article24988006.ece 3. https://www.labourfile.org/rights-of-women.aspx/
6	Practical Component	1. Role Play exercise on Collective Bargaining 2. Arrange a debate in the classroom about rights and duties of trade union of workers. 3. Students will draft a standing order for certification for a newly started garments factory employing 300 workers. 4. Students will draft a charge sheet about a list of allegations reported against an employee of an organization. 5. Interaction with Trade Union Leaders to identify challenges faced by them and present in class. 6. Students will prepare a policy document to prevent sexual harassment at workplace.

		7. Study the procedure including the documents required for PF and Gratuity benefit. 8. Role Play on Economic Coercion

Semester	III	Total Credit	4
Course Code	CC Spl-I-304 (C)	Credit Pattern	L-45, T-8, P-7
Course Title	BUYING BEHAVIOUR PAPER-I		
Course Objectives			
1	Students will understand concepts related to buying behavior.		
2	Students will become familiar with marketing and CRM strategies.		
Course Outcomes: Students will be able to;			
1	Explain the conceptual aspects of buying behaviour		
2	Analyse factors influencing on buying behaviour		
3	Design Marketing and CRM strategies.		
4	Evaluate marketing situations		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit I Consumer Behaviour I Meaning, Nature, scope, concepts. Buying Process, Models of consumer Behaviour, Organisational buying behaviour. Values & Lifestyle marketing.	L=11	
		T=2	P=2
2	Unit II Consumer Behaviour II Influences of consumer behaviour on individual, group. Perception, Motivation & Involvement. Attitude & change learning, memory. Personality & self-concept reference group influence, dynamics. Family Life cycle & its influence. Cultural influences.	L=12	
		T=2	P=1
		L=11	

3	Unit III Strategic Marketing - Strategic marketing management concept & overview, process, formulation & implementation, sustainable competitive advantages. Types of competitive strategies adopted by goods & services in market environment. Strategies for declining markets	T=2	P=2
4	Unit IV Customer Relationship Management Customer relationship management importance, process, framework, customer relationship marketing, Creating value for customers, customer loyalty, Customer life time Value, use of technology in CRM.	L=11	
		T=2	P=2

Learning Resources		
1	Text Books	1. Kotler Philip , “Marketing Management 17th Edition 2015”, Prentice Hall of India, New Delhi. 2. Saxena Rajan , “Marketing Management 2nd Edition 2002”, Tata McGraw Hill, New Delhi
2	Reference books	1. V.S.Ramaswamy and S.Namakumari -Marketing Management –Macmillan Business Books 2. Arunkumar, M Meenakshi - Marketing Management-Vikas Publication 3. Walkar, Boyd, Mullins And Larreche . "Marketing Strategy. A Decision Forced Approach", Tata Mcgraw Hill 4th Edition. 4. Kaushal H. , “Case Study Solutions in Marketing”, McMillan India 2001 5. Baker, M. (2000) Marketing Management and Strategy, 3rd edition, Macmillan Business 6. S.A. Chunawalla ‘Commentary on Consumer behaviour’ 7. Nair Suja - R Consumer Behaviour Text & Cases 8. Consumer Protection Law & practices Niraj Kumar & Nair suja 4 th Edition
4	Journals	1. Indian Journal of Marketing 2. IUP Journal of Business Strategy 3. Current Contents In Management Marketing
5	Supplementary Reading	1. The Economic Times 2. Business Standard
6	Practical Component	1. Group Activity based on all units 2. Conduct different business games relevant to subject 3. Take Case discussion on all units

		4. Show videos of subject related concepts to the students 5. Library assignment on all units

Semester	III	Total Credit	4
Course Code	CC Spl-I-304 (D)	Credit Pattern	L-44, T-8, P-8
Course Title	AGRI-BUSINESS, ENTREPRENEURSHIP AND COOPERATIVES		
Course Out Comes: Students will be able to			
1	Explain the concepts of Agribusiness, Entrepreneurship and Cooperatives		
2	Make use of conceptual framework for the development of cooperatives and agribusiness sector		
3	Evaluate the role of national and international institutions in agribusiness sector		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Agri Business, Agro Based Industries and Issues: Salient features of Rural Economy, The concept of Agri-business, Historical Review, Scope, Nature of Successful Agri-business, Specific Areas of Agri Business, Agro Based Industries and Issues: New paradigms in Horticulture, Floriculture and Food Processing sectors, Indian Exports and Agriculture Sector: Export oriented Agribusiness, Technology and Agri-Business: Role and Importance, Bio-Technology and Agri-business, Socioeconomic and Environmental Impact of agribusiness	L=11	
		T=2	P=2
2	International Organizations and Agri-Business: WTO and FAO: Functions and Role in Agriculture, Trade liberalization and World Trade Agreements relating to Agriculture Trade, Agreement on Agriculture (AOA), Import and Export Procedures for agri products, Strategies of Exports for agro based industries, Services under Agri-business, Recent trends in Agri Business Management	L=11	
		T=2	P=2
3	Introduction to Agripreneurship: Concepts of Rural Entrepreneurship, Endowment Of Skill Sets And Natural Resources In Rural India, Aims Of Rural Entrepreneurship, Barriers To Entrepreneurship In Rural India, Process Of Entrepreneurship, Rural Applicability, Skills Requires To Succeed, Government Training Programs And Public Private Partnership, ICT and Rural Entrepreneurship	L=11	
		T=2	P=2
4	Co-Operation and Agri Business (6) Introduction to Cooperatives: Definition, Evolution, Principles and Benefits Of Co-Operatives, Cooperatives and Other forms of Business Enterprises, Co-and their Economic And Legal	L=11	
		T=2	P=2

	Differences, The organizational structure of Co-Operatives: Functions, Role, Powers And Responsibilities of entities, Outline Of Good Co-Operative Management, Co-Operative Structure and Development in Farming: Credit, Marketing, Dairy Etc. - Problems and Prospects, Development of Sugar and Dairy Co-Operatives in Maharashtra		

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Smitha Diwase, Agri-Business Management, 2. Subhash W. Bhawe: "Agri Business Management in India" 1997. 3. B.S. Harsha: "Agri Business" 2003. 4. B.S. Mathur: "Co-Operation". Sahitya Bhavan, Agra, 1999. 5. V. Sharda: "The Theory of Co-Operation". Himalaya Publishing, 1999.
2	Reference books	1. RD. Bedi: "Theory, History and Practice of Co-Operation". Loyal Books Depot, 1997. 2. R Rajagopalan (Ed), "Rediscovering Co-Operation Vol I,II And III", Irma, Anand, 1996. 3. P.R Dubhashi, "Principles and Philosophy of Co-Operation". VMNICM, Pune, 1970. 4. B.P. Sinha: "Co-Operation: Instrument for Socio .Economic Justice". Himalaya Publishing House, New Delhi, 1992. 5. Divakar Jha: "A Perspective on Co-Operative Marketing" Vikas Publishing House, New Delhi, 1997.
3	Websites	• www.agriculture.gov.in/ • www.manage.gov.in • www.ica.coop/ • www.apeda.gov.in
4	Journals	• Journal of Agribusiness • Vikalpa • Journal of Cooperative • Sugar cooperatives
5	Supplementary Reading	Kurukshetra journal MANAGE study material
6	Practical	• Prepare report on agriculture sector development in the country in the

	Component	recent times by visiting to Ministry of Agriculture and Forestry department website and recent Economic Survey of the country • Visit any agro-based unit nearby, have an implant training for one year and submit a 3 page report • Interact with any one Farming Cooperative society and make a SWOT analysis for it • Make a video case study of an agripreneur of your area

Semester	III	Total Credit	4
Course Code	CC-Spl-I-304 (E)	Credit Pattern	L-44, T-8, P-8
Course Title	LOGISTICS & SUPPLY CHAIN MANAGEMENT		
Course Objectives:			
1	To make students understand fundamental concepts and principles of Logistics & Supply Chain Management.		
2	To make students understand supply chain metrics & decisions, supply chain coordination & planning.		
3	To introduce students to Global Supply Chain Operations.		

Course Outcomes: Students will be able to;	
1	Describe the concepts of Logistics and Supply Chain Management
2	Apply appropriate Logistics and Supply Chain Distribution Strategies in the organization
3	Analyze Supply Chain Planning and Coordination strategies

4	Evaluate the recent developments in Logistics and Supply Chain Management.

Note:

1. Case studies on each of the aspects mentioned in the syllabus need to be discussed.
2. Video cases and documentary films relating to the syllabus to be exhibited in the class.

Unit Number	Contents	Number of Sessions	
1	INTRODUCTION TO LOGISTICS MANAGEMENT Definition & Meaning of Logistics, Principles of Logistics, Activities of Logistics: Transportation, Warehousing, Packaging, Material Handling. Need of Collaborative Relationship & Alliance, Principles, Advantages, Disadvantages. Logistics Outsourcing Activities: 3PL+4PL=7PL, Risk of Outsourcing.	L=11	
		T=2	P=2
2	ESSENTIALS OF SUPPLY CHAIN MANAGEMENT Concept & Definition of Supply Chain Flows in SCM, Drivers of SCM, Push/Pull SCM, SC Network Decisions. Distribution Strategies: Milk Runs, Hub & Spoke System, Cross Docking, Pool Distribution, Direct Shipping. Bullwhip Effect, Measuring Performance of SCM, Recent Trends In Supply Chain: Agile Supply Chain, Green Supply Chain, Lean Supply Chain, E-Supply Chain, E-Commerce Supply Chain.	L=11	
		T=2	P=2
3	SUPPLY CHAIN PLANNING & COORDINATION Demand Planning & Forecasting, Characteristics of Forecasting, Forecasting Methods, Time Series Forecasting, Moving Averages, Forecasting Errors, Collaborative Planning Forecasting Replenishment (CPFR). Mass Customization: Drivers, Characteristics, Methods, Advantages, Disadvantages. (Numerical Treatment on Forecasting).	L=11	
		T=2	P=2
4	GLOBAL SUPPLY CHAIN OPERATIONS Global SCM, International Transportation: Sea, Air, Land, Multi-Modal Transportation. Containerization, International Documentation for Import/Export, Customs Clearance Formalities, Packaging for Export, International Logistics Infrastructure, Electronic Data Interchange (EDI). Supply Chain IT Framework: Barcoding & Scanning, RFID, EPOS, Image Processing, GPRS.	L=11	
		T=2	P=2

Learning Resources		
1	Text Books	1. Janat Shah, Supply Chain Management 2/e: Text and Cases, Pearson Education India 2. S. L. Ganapathi & Nandi, Logistics Management, Oxford University Press 3. Sunil Chopra, Peter Meindl & D. V. Karla, Supply Chain Management, Sixth edition by Pearson Education India 4. Satish C Ailawadi & Rakesh P Singh, Logistics Management, Prentice Hall India Learning Private Limited
2	Reference books	1. David Simchi-Levi, Philip Kaminsky, Designing and Managing the Supply Chain 3rd Edition, McGraw Hill Education 2. Donald J. Bowerox, Tata Mcgrawhill Edition “Supply Chain Logistic Management” 3. N. Chandrasekaran, Supply Chain Management: Process, System & Practice, Oxford University Press
3	Websites	1. https://www.managementstudyguide.com/supply-chain-management-articles.htm 2. https://lecturenotes.in/materials/17685-note-of-supply-chain-management-by-dr-panneerselvam-s 3. https://www.aims.education/study-online/supply-chain-management-notes/ 4. http://www.eiilmuniversity.co.in/downloads/Import-Export-Management.pdf 5. http://www.pondiuni.edu.in/storage/dde/downloads/ibiii_exim.pdf
4	Journals	1. Supply Chain Management: An International Journal - Emerald Insight 2. Journal of Supply Chain Management - Wiley Online Library 3. Supply Chain Management Journal 4. The International Journal of Logistics Management - Emerald Insight
5	Supplementary Reading	1. Ram Singh, International Trade Logistics, Oxford University Press 2. C. Rama Gopal, Export Import Procedures - Documentation and Logistics, New Age International Publishers 3. https://www.managementstudyguide.com/import-and-export-management-articles.htm
6	Practical Component	1. Studying Supply Chain Distribution of any organization and classifying it according to different types of strategies which are studied and justifying why such system is chosen by that organization. 2. Identifying and visiting local business to study its Logistics & Supply Chain Strategies. 3. Group Discussion on Recent Trends in Supply Chain Management. 4. Identifying and visiting local Import/ Export Agency to study International Documentation required for Import/Export.

Semester	III	Total Credit	4
Course Code	CC-Spl-I-304 (F)	Credit Pattern	L-45, T-8, P-7
Course Title	KNOWLEDGE MANAGEMENT AND ERP SYSTEM		
Course Objectives			
1	To understand the concept and importance of Knowledge Management.		
2	To know to enumerate knowledge management systems in the organization.		
3	To make sense of the technical aspects of ERP systems		
Course Outcomes: Students will be able to;			
1	scribe the Knowledge management strategies.		
2	scuss KM, learning organizations, intellectual capital, and related terminologies in clear terms and understand the role of knowledge management in organizations.		
3	itate the different technologies used in ERP.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction and KM: Knowledge management. Types of Knowledge, Importance of KM, KM Roles and responsibilities, KM in Information Technology, KM In Indian Software organization, KM In Banking Sector, KM Life Cycle, The Zack KM Life Cycle, The Bukowitz, and Williams KM Cycle, The Wiig KM Cycle, major theoretical KM models: Von Krog and ROS, Nonaka, and Takeuchi, Choo sense-making KM model, Wig model,	L= 11	
		T= 2	P= 2
2	Knowledge Capture and codification: Tacit Knowledge Capture at individual and group level Explicit Knowledge codification, Knowledge Transfer, in the e-World, KM Tools and Knowledge Portals-Brain Storming, Learning and idea capture, peer Assist, Storytelling, Taxonomy, knowledge Base, Voice and VOIP, Knowledge Portal, Managing Knowledge Worker, Knowledge audit, KM team	L= 12	
		T= 2	P= 1
3	ERP Meaning and Nature: Concept and benefits of ERP, Characteristics of ERP, Requirements for effective ERP implementation, ERP Implementation methodology, ERP Related technologies-BPR, Supply Chain Management; Role of Suppliers, Consultants, and users; Contact with Vendors, Consultants, and Employees, ERP implementation life, ERP Market Place- SAP AG, people Soft, Baan Company	L= 11	
		T= 2	P= 2
4	Business Modules of ERP: ERP Softwares-e-CRM,e-HRM,e-Logistics, e-Documents, Manufacturing Module, Finance Module, HR module, Material Management, Sales and distribution Quality Management Module. Future directions in ERP, evaluation of ERP	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Knowledge Leadership – Steven Cavaleri and Sharon 2. Seivert with Lee W. 3. Knowledge management – SheldaDebowski, Wiley India, 2007
2	Reference books	1. Knowledge Management in Theory and Practice- KimizDalkir – 2. Butterworth- Heinemann 2011
3	Website	1. http://www.providersedge.com/docs/km_articles 2. /km and corporate culture.pdf www.rdocumentation.org 3. https://www.bitpipe.com/tlist/Knowledge-Management.html . 4. https://www.kmslh.com/blog/knowledge-management-portal-best-tool-for-knowledge-management
4	Journals	1. Journal of knowledge management 2. International Journal of Knowledge Management Studies 3. Knowledge Management Research & Practice

Semester	III	Total Credit	4
Course Code	CC-Spl-II-305	Credit Pattern	L-45, T-9,P-6
Course Title	Machine Learning		

Course Objectives	
1	Provide a concise introduction to the fundamental concepts in machine learning and popular machine learning algorithms
2	To familiarize various python data structures
3	To familiarize various python libraries for machine learning
4	To demonstrate implementation of various machine learning algorithms using python

Course Outcomes: The students will able to	
1.	Understand various concepts of machine learning
2.	Able to use various python data structures fluently
3.	Able to use various python libraries for machine learning
4.	Able to implement supervised and unsupervised machine learning algorithms using python.

Syllabus:

Unit Number	Contents	Number of Sessions

1	Introduction: Basic definition, types of learning – supervised, unsupervised and Reinforcement, Bias and variance hypothesis space and inductive bias, evaluation, cross-validation. Python: Introduction, NumPy, Pandas, visualization using Matplotlib and Seaborn, Scikit - learn package for Machine Learning	L= 11	
		T=3	P=1
2	Regression – simple Linear regression, model evaluation in regression model, evaluation metrics in regression model, multiple linear regression. Implementation of regression on dataset using python, Classification: KNN, Decision trees, overfitting, Logistic Regression, Support Vector Machine. Implementation of classification algorithms in python	L= 12	
		T= 2	P= 2
3	Bayesian learning: probabilistic reasoning: prior, likelihood and posterior, belief networks: modelling independencies, Markov equivalence in belief networks, hidden Markov models (HMM). Naïve Bayes classifier, learning with hidden variables, Expectation Maximisation (EM). Clustering: Different clustering approaches- partition based clustering, hierarchical clustering and density based clustering. Implementation of clustering algorithms	L=11	
		T=3	P= 1
4	Artificial neural networks (ANN): different learning rules, single-layer perceptron, multi-layer neural nets, backpropagation algorithm, feed-forward networks, network training, radial basis function networks, recurrent neural networks.	L=11	
		T= 2	P= 2

Learning Resources		
1	Text Books	1. Machine Learning. Tom Mitchell. First Edition, McGraw- Hill, 1997. 2. Introduction to Machine Learning Edition 2, by Ethem Alpaydin 3. Python for Data Analysis: Data Wrangling with Pandas, NumPy, and IPython Book by Wes McKinney
2	Reference books	1. Python Machine Learning by Sebastian Raschka 2. Introduction to Machine Learning with Python - A Guide for Data Scientists, Publisher: Shroff Publishers & Distributors Pvt Ltd
3	Websites	1. www.python.org 2. machinelearningmastery.com 3. tutorialspoint.com
4	Journals	1. IEEE xplore digital library 2. International journal of machine learning and computing
5	Supplementary Reading	1. Building Machine Learning Systems with Python - Willi Richert, Luis Pedro Coelho 2. Learning scikit-learn: Machine Learning in Python - Raúl Garreta, Guillermo Moncecchi
6	Practical Components	Implementation of supervised and unsupervised machine learning algorithms using python

Semester	III	Total Credit	2
Course Code	CC 306	Credit Pattern	L-22, T-4, P-4
Course Title	LEAN MANAGEMENT		

Course Objectives:	
1	To make students knowledgeable of historical development, theoretical aspects and practical applications of Lean Management.
2	To introduce students to tools and techniques of Lean Management

Course Outcomes: Students will be able to;	
1	Discuss basic terms and concepts related to Lean Management.
2	Explain tools and techniques in Lean Management.
3	Maximize the productivity of the organization by minimizing the waste.
4	Propose Lean Implementation plan for any organization.

Unit Number	Contents
1	INTRODUCTION TO LEAN MANAGEMENT Meaning & Definition of Lean Management, Evolution of Lean Management, Types of Wastes, Objectives of Lean Management, Lean Principles & Philosophies, Hurdles in Lean Implementation
2	TECHNIQUES FOR LEAN IMPLEMENTATION 5S, Visual Controls, Root Cause Analysis, Poka-Yoke, Quick Changeover, Theory of Constraints, Value Stream Mapping.

Note:

1. Case studies on each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video Cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Reference Books	1. Lonnie Wilson, “How to Implement Lean Manufacturing”, Mc-Graw Hill Publications” 2. Lean Manufacturing: Principles, Tools and Methods, Bosch Rexroth Corporation, 2009
2	Practical Component	1. Role play to understand concept of lean management & it’s importance in Organization. 2. To identify and visit any local organization to study potential of lean Implementation. 3. Identify and visiting any local business for implementing one of the lean tools. 4. Library Exercise on lean management tools undertaken by any one company of your choice.

Semester	III	Total Credit	4
Course Code	DSE-Spl-I-301	Credit Pattern	L-45, T-8, P-7
Course Title	BUSINESS ANALYTICS USING R		

Course Objectives	
1	To enable a student to use analytics to solve business problems
2	To make use of a language R for Data Analysis.
3	To Apply BI tools for problem-solving
Course Outcomes: Students will be able to;	
1	Identify and describe complex business problems in terms of analytical models.
2	Apply appropriate analytical methods to find solutions to business problems that achieve stated objectives.
3	Apply the knowledge of R gained to data Analytics for real-life applications

Unit Number	Contents	Number of Sessions	
1	Introduction to Business Analytics, Prerequisites for effective business analytics, Applications of Business Analytics, ETL Process, Role of statistics in Analytics, The R community, The R environment, Installing R, Variables in R	L= 11	
		T= 2	P= 2
2	Types of Digital Data, Input of data, Output in R, In-built functions in R, Single-mode Data Structure- Create, Data structure Attributes, subscribing data structure,	L= 12	
		T= 2	P= 1
3	Multi-mode data structure- Create, Data structure Attributes, subscribing data structure, Decision making Structures, Importing and Exporting, Predictive analytics, Emergence of Predictive Analytics, Applications of Predictive Analytics	L= 11	
		T= 2	P= 2
4	Basic Visualization-Pie Chart, Bar Chart, Line Chart, Q-Q Plot, Box-and-Whisker plot, Basic Statistics using R, Time-series Models, Decision Tree, Clustering using R, Machine learning for text data, Building web applications with Shiny	L=11	
		T= 2	P= 2

Note:

1. A paper evaluation is based on a Practical exam only. No Theory Exam will be conducted
2. Students Will Have To Complete All Practical
3. Students will have to complete all tutorials, assignments, and lab sessions for internal credits.

Learning Resources		
1	Text Books	4. Laursen&Thorlund, Business analytics for managers.

		5. BalramKrishnan , Business analytics: concepts and theories. 6. R N Prasad and SeemaAcharya , Fundamentals of business analytics
2	Reference books	3. Business Analytics A Practitioner's Guides: Saxena, Rahul, Srinivasan, Anand 4. Business Analytics Principles, Concepts, and Applications - Marc J. Schniederjans Dara G. Schniederjans Christopher M. Starkey. 5. Management Science and Decision Technology – Camm, Evans 6. R for Everyone Advanced Analytics and graphics – Lander 7. Data Mining and Business Analytics with R Book by Johannes Ledolter 8. Data Mining with R: Learning with Case studies – Luis Torgo 9. Business Intelligence tools for Excel Analysts – Michael Alexandere, Jared Decker, Bernard Wehbe. 10. Data Mining In Excel: Galit Shmueli Nitin R. Patel Peter C. Bruce 11. Data mining for Business Intelligence: Concept, Techniques, and Application in Microsoft Office Excel with XLMiner - Galit Shmueli (, Nitin R. Patel, Peter C. Bruce 12. R for Data Science by Hadley Wickham & Garrett Grolemund (SPD) 13.
3	Website	5. www.r-project.org 6. www.rdocumentation.org
4	Journals	1. The R Journal 2. R and the journal of the statistic software
5	Supplementary Reading	1. Current affairs from newspapers (economic times, Times of India, and newsletters 2. Beyond the MBA – Sameer Kamat
6	Practical Component	Hands-on experience through practical based on Rstudio Seminar and presentation on a given topic

Semester	III	Total Credit	4
Course Code	DSE Spl-II- 302(A)	Credit Pattern	L-45, T-6, P-9
Course Title	DIRECT & INDIRECT TAXES		
Course Outcomes: The students will able to learn			
1	Assess applicability of GST liability		
2	Analyze deductions from gross total income		
3	Evaluate the income under different heads and taxability		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Direct Tax Basics: Important definitions, incomes exempt under section 10, deductions from gross total income under chapter VI A, Statutory duties covered upon the assesses regarding payment of taxes, Filling of income tax, Maintenance of accounts and audit of accounts, acceptance and repayment of deposits, TDS and TCS.	L=11	
		T=2	P=2
2	Computation of Income: Computation of Income under different heads of income namely- salary, house property. Profits and gains from business and profession, Income from other sources , Presumptive Taxation	L=12	
		T=1	P=2
3	Introduction to GST: Existing Indirect Tax Structure in India, need of Constitutional Ammendment, Important Definitions under GST and Concept of Supply, Interstate and Intrastate Supply, Levy of GST.	L=11	
		T=1	P=3
4	GST Time and Place of Supply and Concept of Input Tax Credit (ITC): Time and Value of Supply, Place of Supply, Concept of Input Tax Credit, Blocked Credit, Input Tax Credit Rules, Transitional Provision.	L=11	
		T=2	P=2

Note:

1. Case studies on each of the aspects mentioned in the syllabus need to be discussed
2. Videos cassettes, CDS and documentary films exhibited

Learning Resources		
1	Text Books	1. Kapil Sheeba, "Financial Management" Pearson Publication House. 2. Jonathan Berk, Peter, "Financial Management" Pearson Publication House. 3. Sharan Vyuptakesh, "Fundamentals of Financial Management" Pearson Publication. 4. James C Van harne, "Financial Management & Policy" Pearson Publication House. 5. ICSI : Handbook on Mergers Amalgamations and takeovers.
2	Reference Books	1. Vinodkumar Singhania - Students Guide to Income Tax 2. Prasad Bhagawati – Incom Tax Law & Practice

		3. Mehotra H.C. – Income Tax Law 4. Dinkar Pagare – Income Tax Law and Practice 5. Ahuja & Gupta – Systemetice Approach to Income Tax
3	Websites	<u>INFLIBNET</u> http://nlist.inflibnet.ac.in <u>J-GATE</u> http://jgateplus.com <u>EBSCO</u> http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4	Journals	• Prabhandan: Indian Journal of Management • IUP Journals • ICSI Journals • Finance India • Indian Journal of Finance (New Sub.) • Journal of Accounting & Finance etc.
5	Supplementary Reading	• Financial Express • Economics Times • Business Standard • Times of India • Indian Express.
6	Practical Component	• Practical Problems on income tax efilling • Practical Problems on income from salaries • Practical Problems on TDS • Practical Problems on e-filling of GST • Financial statement analysis using Proves-IQ • Companies Financial Reports & Corporate case studies.

Semester	III	Total Credit	4
Course Code	DSE Spl-II-302(B)	Credit Pattern	L-45, T-8, P-7
Course Title	STRATEGIC AND INTERNATIONAL HUMAN RESOURCE MANAGEMENT		
Course Objectives			
1	To provide theoretical foundations of Strategic HRM to students and understand the role of HR as Strategic Partner.		
2	To equip students with the knowledge of HRM Practices in Multi-National Companies.		
3	To enable students to understand the implications of culture on HR Practices in MNCs.		
4	To enable students to understand HR interventions in successful cross-border Mergers and Acquisitions.		

Course Outcomes : Students will be able to :-	
1	Describe the different concepts in Strategic and International HRM.
2	Interpret the implications of culture on HR Practices
3	Evaluate different HR interventions in cross-border mergers and acquisitions.
4.	Adapt HR management practices in changing International scenario.

Unit Number	Contents	Number of Sessions	
1	Meaning, Scope, definition of SHRM, Difference between SHRM and HRM, 5 P Model of SHRM, Linking HR Strategy with Business Strategy. Globalization: Drivers of Globalization, Effects of Globalization on HRM, Model of International HRM, Differences and similarities between DHRM and IHRM.	L=11	
		T=2	P=2
2	Multi-culturalism, Cultural pre-dispositions- Ethno-centralism – Polycentricism – Regio-centricism- Geocentricism. Geert Hofstede's cultural dimensions, Communication, Leadership and Motivation across cultures, Issues in International Human Resource Planning, International Staffing: Linking staffing with stage of MNC	L=12	
		T=2	P=1
3	Identifying Potential expatriate, selection criteria of Expatriates, Challenges faced by Expatriates, Women Expatriates, Challenges and Advantages of Women expats, Process and Importance of Cross-cultural training, Emerging Trends. Issues in Performance Appraisal in International context.	L=11	
		T=2	P=2
4	Compensation Management: Objectives, Components of International compensation package. Cross-border Mergers and Acquisitions: Motives, HR Interventions in cross border Mergers and acquisitions. Repatriation: Reasons, Process, benefits from returnees, Challenges of re-entry, Tips for successful repatriation.	L=11	
		T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. <u>Michael Armstrong</u>, <u>Angela Baron</u>, Strategic HRM: The Key to Improved Business Performance 2. Charles Greer, Strategic HRM- Pearson Education. 3. Monir H. Tayeb, International Human Resource Management - Oxford University Press, 2005.
2	Reference books	1. Anne-Wil Harzing, Ashly Pennington, International HRMSage South Asia Edition. 2. <u>Julia Connell</u>, <u>Stephen Teo</u>, <u>Strategic HRM: Contemporary Issues in the</u>

		<u>Asia Pacific Region.</u> 3. A. Ghanekar, Strategic HRM, Everest Publishing House.
3	Websites	www.shrm.com www.hbr.com www.citehr.com
4	Journals	1. The Journal of Indian Management and Strategy 2. Human Capital 3. Manpower Journal 4. AIMS Journal of Management
5	Supplementary Reading	1. online.wsj.com 2. Magazines like Outlook, Time, India today
6	Practical component	1. Debate on the cultural predispositions multinational context will be conducted in class 2. Write an essay on “The challenges I would face if my company sends to on foreign assignment“. 3. Case based on Recruitment strategy will be discussed and students will be asked to design and present the recruitment strategy for a given company.

Semester	III	Total Credit	4
Course Code	DSE Spl-II-302(C)	Credit Pattern	L-45, T-8, P-7
Course Title	MARKETING SECTORS MM II		
Course Objectives:			
1	Students will become familiar with various aspects of marketing sectors		
2	Students will understand and implement concepts in marketing across different sectors.		
3	Students will understand the process of formulating marketing plans for various sectors.		
Course Outcomes: Students will be able to;			
1	Describe conceptual aspects of sectorial markets.		
2	Apply concepts for marketing of services & products across sectors		
3	Design marketing plans across various marketing sectors		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit I Industrial Marketing Introduction to concepts & history of Industrial marketing. Difference between consumer and industrial /business marketing. Organisational Markets & Marketing. STP &	L=11	
		T=2	P=2

	Marketing Mix for Industrial marketing. Blurring between B2B & B2C.Competitive tendering, bidding. Non tendering purchase, Solution selling. Advancing internet & marketing.		
2	Unit II Services Marketing Concepts, Meaning, characteristics of services. Difference between service & product. Marketing of professional services. Marketing Mix, Service quality concept & model. Capacity & demand Management. Retaining customers. 7 Ps of services marketing. Sectorial application collectively & specifically to top ten sectors in India including health, education, financial services.	L=12	
		T=2	P=1
3	Unit III International Marketing Nature, scope, challenges in international markets. Concepts & theories overview. Trade distortions & market Barriers in world market environment. Financial environment & decisions. Current trends in import & export in international marketing. Process, procedure, opportunities from Indian & Asian perspectives. Global fact sheet for marketer	L=11	
		T=2	P=2
4	Unit IV Retail Management Introduction to retail markets & marketing overview. Retail evolution in India. Retail formats, marketing mix decisions. Franchising, Retail merchandise, objectives, process & factors affecting store layout & marketing mix decisions. Visual merchandising. Merchandising mix decision. Display, lighting, exhibition. Store location its evaluation. Build Lease or Buy decision.	L=11	
		T=2	P=2

Learning Resources		
1	Text Books	1.Industrial Marketing – Hill, Alexander, Cross 2.Industrial Marketing – P K Ghosh 3.Industrial Marketing-Krishna K. Havaladar Tata McGraw-Hill 4 .Strategic marketing: Text and Cases Paperback - <u>S Shajahan</u>
2	Reference Books	1.Services Marketing People, Technology, Strategy – C. Lovelock, Jwartz, J. chattarjee – Pearson Education

		2.Services Marketing – Integrating Customer Focus Across The Firm – V. Ieithaml, D D Gremler, M J Bitner, A Pandit – Tata McGraw Hill 3.Services Marketing – Dr. S. Shajahan – Himalaya Publishing House 4.“Services Marketing The Indian Experience”- Ravi Shankar 5 “ Business To Business Marketing” – Analysis And Practice In A Dynamic Environment - Thomson South Western- Vitale Giglierano 6.Strategic Marketing – Michel Porter 7.Strategic Marketing- 8th Edition -Tata McGraw Hill 8.Strategic Market Management: Global Perspectives, <u>Damien McLoughlin David A. Aaker</u> 9.MR Czinkota and I A Rankainen - International Marketing - Cengage Learning 10.U.C. Mathur- International Marketing Management : Text and Cases- Sage Publication 11.Francis Cherunilam - International Marketing- Text and Cases – Himalaya Publishing House 12.Ramaswam and Namakumari - Marketing Management – Macmillan Publication 13. B K Chaterji - Marketing Management : A Finance Emphasis– A Jaico Book
3	Journals	1.Indian Journal of Marketing 2.IUP Journal of Business Strategy 3.Current Contents In Management Marketing
5	Supplementary Reading	1.The Economic Times 2.Business Standard
6	Practical Component	1. Group Activity based on all the units 2. Case study discussion on all units relevant concept of the subject 3. Take other activities i.e. - Business Games etc. 4. Library assignment on all units

Semester	III	Total Credit	4
Course Code	DSE Spl-II-302 (D)	Credit Pattern	L-44, T-8, P-8
Course Title	RURAL AND AGRICULTURAL MARKETING		

Course Out Comes: Students will be able to	
1	Discuss the features of rural and urban markets for consumer goods and non-consumer goods
2	Apply rural marketing research techniques to understand the rural consumer behavior
3	Adapt marketing strategies suitable to rural markets and agricultural inputs

Syllabus:

Unit Number	Contents	Number of Sessions	
man1	Introduction To Rural Marketing: Definition, Classification And Characteristics Of Rural Markets; Problems And Constraints In Rural Marketing, Marketing Functions and Services: Marketing Institutions And Marketing Support Services, Rural Consumer: Classification and profile;	L=11	
		T=2	P=2
2	Rural Consumer Behavior and Rural Marketing Research: Rural Consumer Buying Behavior – Major Forces Influencing Rural Consumer Behavior, Rural Segmentation, Market Targeting and Positioning and Procedures for Rural Markets In India; Rural Marketing Research: Introduction, significance and sources of information, key decisions, approaches and tools of market research- case for innovation, participatory approaches, innovative tools, rural vs urban marketing research, rural research business, challenges in rural marketing research	L=11	
		T=2	P=2
3	Rural Marketing Planning And Strategy Development: Planning For Rural Marketing – Strategic Issues In Rural Marketing, Rural Product Strategy – Rural Pricing Strategy – Rural Distribution Strategy – Rural Promotion Strategy, Introduction to PRA Technique and its importance in Rural Marketing	L=11	
		T=2	P=2
4	Agricultural Marketing In India: Marketing Of Agricultural Products, Agricultural Marketing Process - Markets And Classification Of Markets – Methods Of Sales – Marketing Agencies, Introduction to Krishi Mandis and New FMCG Act, Marketing of Agricultural Inputs – Fertilizers; Seeds; Agrochemicals; Tractors; Farm Equipment; Irrigation Equipment and Animal Feed	L=11	
		T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

3.

Learning Resources		
1	Text Books	1. Ramkishan Y. (2004): New Perspectives In Rural And Agricultural Marketing, Jaico Publishing House, 2nd Edition 2. Pradip Kashyap, Rural Marketing, Pearson Publications 3. Badi and Badi: Rural and Agricultural Marketing, Himalya Publications
2	Reference books	1. Sarwade W.K. (2006) : Agricultural Marketing – Vatsala Baliram Prakashan Kendra, Mumbai 2. Abbott J.C.; Makcham J.P. (1992): Agricultural Economics and Marketing in the Tropics. Elbs with Longman, 2nd Edition. 3. Singh G.N.; Singh D.S., Singh R.I: Agricultural Marketing in India, Analysis Planning and Development. Chugh Publications, Allahabad 4. Rajagopal (1993): Indian Rural Marketing, Rawat Publication. 5. Kamat M.; Krishnamurty R. (2003): Rural Marketing, Himalaya 6. Habeeb-ur-Rahman K.S. (2003), Rural Marketing In India; Himalaya 7. Gopalswamy T.P. (2006): Rural Marketing: Environment Problems and Strategies, Vikas 8. Verma S.B; Jiloka S.K. (2006): Rural Agricultural and Marketing, Deep and Deep
3	Websites	www.agriculture.gov.in/ www.manage.gov.in www.ica.coop/ www.apeda.gov.in
4	Journals	Rural Marketing Indian Journal of Marketing Vikalpa
5	Supplementary Reading	www.martrural .com www.ibef.org http://www.ruralrdc.com.au/
6	Practical Component	• Make a visit to any one of the marketing service agency identify their activities • Organize PRA Activity at your/ any village and identify the marketing opportunities for various product categories • Prepare a questionnaire and conduct rural market research for various product categories and submit analysis in report format

Semester	IV	Total Credit	4
Course Code	DSE-Spl-II-302-(E)	Credit Pattern	L-44, T-8, P-8

Course Title	PURCHASING AND INVENTORY MANAGEMENT

Course Objectives:

1	To make students understand fundamental concepts, principles and practices of purchase management, including the basic functions of materials management.
2	To make students knowledgeable about theoretical aspects and practical application of Inventory Management.
3	To introduce students to modern concepts and trends in Purchase & Stores Management

Course Outcomes: Students will be able to;

1	Describe the concepts of Purchasing and Inventory Management.
2	Apply Purchasing and Inventory Management Techniques at Manufacturing and Service Sector.
3	Analyze issues involved in Purchasing and Inventory Management.
4	Evaluate Purchasing and Inventory Management strategies.

Unit Number	Contents	Number of Sessions	
1	PURCHASING MANAGEMENT Introduction, to Materials Management, Purchasing Principles & Procedure, Practices & Policies of Purchasing, 5R of Purchasing, Objectives, Scope, Responsibilities & Limitations of Purchasing Management, Methods of Buying, Centralised & Decentralised Purchasing, Sources of Supply & Supplier Selection, Legal Aspects of Purchasing.	L=11	
		T=2	P=2
2	STORES MANAGEMENT Meaning of Store Management, Functions of Scientific Store Management, Benefits of Scientific Store Keeping, Types of Stores, Stores Procedure, Store Location & Layout, Centralised & Decentralised Store, Preservation of Stores, Storage Safety And Security Aspects, Standardization & Variety Reduction, Codification, Stock Taking.	L=11	
		T=2	P=2
3	INVENTORY MANAGEMENT & CONTROL SYSTEM Defining Inventory, The Need of Inventory & Its Control. Inventory Management: Objectives, Functions & Importance. Costs Associated with Inventory, Inventory Models: Basic EOQ Model, Quantity Discount Model, Safety Stock Determination, Replenishment Systems, Fixed Order Quantity (Q Model) Versus Fixed Time Period (P Model). (Numerical Treatment on Inventory Models)	L=11	
		T=2	P=2
4	STRATEGIC MATERIALS MANAGEMENT	L=11	

	BoM, MPS, MRP I, MRP II, CRP, Vendor-Vendee Relations, Vendor Development, Vendor Evaluation & Rating Methods, Negotiations, Supplier Quality Assurance Programme, Material Accounting & Audit, Inventory Valuation, Worldwide Sourcing, Government Purchasing Practices & Procedure, Materials Management Information System (MMIS)	T=2	P=2

Note:

1. Case studies on each of the aspects mentioned in the syllabus need to be discussed.
2. Video cases and documentary films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. K. K. Ahuja, Material Management ,CBS Publishers & Distributors 2. A.K. Datta, “Materials Management”, Procedure, Text & Cases, Prentice-hallof India Pvt. ltd, New Delhi. 3. K. S. Menon, Sarika Kulkarni, Purchasing and Inventory Management, SPD Publications 4. Dr. K. C. Jain and Jeet Patidar, Purchasing and Materials Management, S. Chand
2	Reference books	1. Max Müller, “Essentials of Inventory Management”Amacom,2003. 2. Richard J. Tersine, “Principles of Inventory and Materials Management” North-Holland, 2007.
3	Websites	1. www.materialsmanagement.info/defscope/index.htm 2. http://www.materialsmanagement.info/inventory/functions-of-inventory.htm 3. https://www.managementstudyguide.com/inventory-management.htm 4. http://www.ispatguru.com/stores-management/
4	Journals	1. Journal of Purchasing and Materials Management - Wiley Online Library 2. Journal of Purchasing & Supply Management - Journals - Elsevier 3. International Journal of Procurement Management (IJPM) 4. International Journal of Purchasing and Materials Management
5	Supplementary Reading	1. P. Gopalakrishnan and M. Sundaresan, Material Management: An Integrated Approach, Prentice-Hall of India Pvt.Ltd 2. Robert M. Monczka and Robert B. Handfield, “Purchasing and Supply Chain Management” 6th Edition, Jan 2015.

6	Practical Component	1. To interview Purchasing Manager of any local business to understand responsibilities and limitations of purchasing manager. 2. To visit any local manufacturing organization study functions of Store Management and storage security and safety aspects. 3. To interview Inventory Manager of any local business to study inventory control technique adopted by the organization. 4. Library Exercise on Materials Management Information System (MMIS) undertaken by any one company of your choice.

Semester	III	Total Credit	4
Course Code	DSE Spl-II-302 (F)	Credit Pattern	L-45, T-8, P-7
Course Title	INFORMATION SYSTEM CONTROL AND AUDIT		
Course Objectives			
1	To enable a student to use analytics to solve business problems		
2	To Make Use of I.S Audit Procedures.		
3	To develop skills in the theory, techniques, and practical issues involved in computer-based information systems control and auditing		
Course Outcomes: Students will be able to;			
1	Classify the concepts of computer security, computer security threats, and the corresponding remedies.		
2	Describe the trend of computer security threats		
3	Develop an audit plan to achieve the IT audit objectives.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction – Overview Of Information System Auditing, Need For Control And Audit Of Computers, Need for Assurance, Effect Of Computers On Auditing, Benefits of IS Audit for An Organization. IT Governance and Auditors. Conducting Information System Audit – Audit Charter And Engagement Letter, A Typical IS Audit Charter	L= 11	
		T= 2	P= 2
2	Audit Planning, Audit Approaches, Risk Assessment, Information Gathering Techniques, Vulnerability, System Security Testing, Development Of Security Requirements Checklist, The Road Map For Setting Up Information System Audit For Bank, The Management Control Framework: Introduction, IT Management Framework	L= 12	
		T= 2	P= 1
3	Top Management Controls – Evaluating – Evaluating The Planning, Organizing-Policies and procedures, HR Policies and Procedures Relating To Information System, Leading Function, Controlling Function. Audit of Program Development, Audit of Program	L= 11	
		T= 2	P= 2

	Modification, Field level input control, Record level input control, Conversion Audit		
4	Techniques for testing unauthorized program modification; Operational Control Review – Control Requirements for Backup, Backup Procedures, Selection of storage media, Security Measurement Controls – Introduction, Conducting A Security Program, Major Security Threats And Remedial Measures, Need Of Disaster Recovery And Business Continuity, Data Disaster, Virus Disasters, Software Disasters, Data Center Disasters, Core Banking Solution	L=11	
		T= 2	P= 2

Note:

Students will have to complete all tutorials, assignments, and lab sessions for internal credits.

Learning Resources		
1	Text Books	1. Information System Control And Audit, - Ron Weber Person Edition
2	Reference books	1. Information System Auditing And Assurance – James A. Hall – South Western. 2. Auditor's Guide to Information Systems Auditing- Richard Cascarino
3	Website	1. https://www.isaca.org/ www.rdocumentation.org 2. https://www.britannica.com/topic/information-system/Information-systems-audit 3. https://www.researchgate.net/publication/327312550_Information_Technology_Control_and_Audit
4	Journals	1. ISACA Journal Information Technology & Systems ResourcesR and the joirnal of the statistic softwares
5	Supplementary Reading	1. Inormation System Audit Reports From Banks

Semester	III	Total Credits	2
Course Code	AEC 301-A	Credit Pattern	L-22, T-2, P-6
Course Title	ENTREPRENEURSHIP SKILLS AND START UP		
Course Outcomes: Students will be able to:			
1.	Describe the concept and types of Start ups.		
2.	Explore the start up ideas and start up India scheme.		
3.	Identify various funding options for start ups		
4.	Create a start up on the campus.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Understanding Start ups: (15) Understanding the concept of start up and its economic rationale. The difference between a startup and a small Business, Types of Start Ups: Life style start ups, Small business start ups, Scalable startups (Silicon Valley entrepreneurs), Buyable startups, social start ups, Technology Startups. Various Business Models adopted by startups worldwide. Startup idea, Innovations, IPRs. Startup Ecosystems with examples. Indian Start ups in the last ten years. Government policy for MSME and start up India Scheme.	L=11	
		T=2	P=2
2	Funding Methods for Startups: Stages of Start up Financing, Types of Investors for Startups 1) Friends & Family. 2) Banks & Government Agencies. 3) Angel Investors 4) Boot strapping 5) Accelerators & Incubators 6) Family Offerings 7) Venture Capital Firms. 8) Corporate Investors. Funding for startups through government agencies India. Problems and Challenges of startups: Lack of legitimate mentors for Startups, Competition from big players, stringent norms of financiers, marketing problems, human resource management problems, funding problems, delays and project cost escalation. Sustaining and growing the startup.	L=11	
		T=2	P=1

Learning Resources		
1	Text Books	1. Mohanty – Fundamentals of Entrepreneurship, Prentice Hall of India 2. Entrepreneurship: creating and leading an entrepreneurial organization. By Kumar Arya, Pearson India. 3. Zimmerer & Scarborough – Essentials of Entrepreneurship & Small Business Management, Prentice Hall of India

		4. Allen, K. (2003) Launching New Venture, Cengage Learning
2	Reference books	1. Hisrich Peters, Irwin: 'Entrepreneurship: Starting, Developing and Managing a New Enterprise. PHP 2. Raghu Nandan : 'Unlashing your entrepreneurial Potential' Sage Publication 3. M.lall, 'Entrepreneurship, Excel books 4. Peters, michael P and shepherd Dean, Hisrich, robert, Sage Publication Tata Mcgraw-hill; sixth edition, 2007 5. Mathew J Manimala :- Entrepreneurship at the Crossroads – Biztantra Pub. 6. Eric Ries, 'The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses: Published By Currency available only on Amazon
3	Websites	https://inc42.com/startups/file:///E:/introduction%20to%20startup.pdf file:///C:/Users/student/Downloads/rebo_use_dp_2016_1613%20(1).pdf https://fi.co/insight/the-most-comprehensive-guide-to-the-silicon-valley-startup-ecosystem-ever-created
4	Journals	Journal of Entrepreneurship Development - SEDME Entrepreneurship in the New Millennium: Hyderabad, NISIET IDBI Annual Report
5	Supplementary Reading	Economic Times Business Standard Online reading of Harvard Business Review, Journal of Business Venturing
6	Practical Component	Case Study on Start Up Business Models and presentation. Visit to Incubations Interaction with Startup entrepreneurs

Semester	III	Total Credit	2
Course Code	AEC 301 (B)	Credit Pattern	22L + 8 TP
Course Title	HEALTH AND WELLNESS		

Unit Number	Contents
1	Introduction to Human Health, The Wellness Profession, Changes across the Lifespan, Workplace Wellness Program Management. Health Literacy Worksite Health Environment, Physical Activity and Nutrition for Wellness Managers. Understanding and Effecting Health Behaviour Change.
2	Marketing and Communication. Survey of Information Technology in Wellness Population Health, Leadership and Change Management in Health. Assessment and Evaluation Employee Health and Well-Being. Health Coaching, Fieldwork, Health and Wellness Management Capstone..
Instructions	This course is to be conducted with open approach to reflect more on student's part for learning. If necessary experts can be called for workshops or guest sessions.

Learning Resources

1	Reference Books	Wellness Management for Educators and Entrepreneurs oosung J. Lee Jungeun Kim Division of Interdisciplinary Wellness Studies Asan, Chungnam, Korea Series: Management Science – Theory and Applications.BISAC: BUS041000 Best Health and Wellness Books of the Last Decade TARA LOSINSKI JANUARY 10TH, 2020 Lifespan: Why We Age—and Why We Don't Have To Hardcover – Sept. 10 2019 by David A. Sinclair PhD (Author), Matthew D. LaPlante (Author) Wellness Management - A Lifestyle Approach for Health, Fitness and Energy (English, Paperback, Venkata Rajasekhar Kali) Notion Press Genre: Health & Fitness ISBN: 9789352067428, 9789352067428 Pages: 276 What to Eat Paperback – April 17, 2007 by Marion Nestle (Author) ISBN-10 9780865477384 Williams' Essentials of Nutrition and Diet Therapy Paperback – 23 December 2014 by Eleanor Schlenker PhD RD (Author), Joyce Ann Gilbert (Author) ISBN-13 978-0323185806

2	Reference Website	. The Real Food Dietitians Website: 1.https://therealfoodrds.com/ 2. MyFitnessPal Website: https://www.myfitnesspal.com/ 3. Livestrong Website: https://www.livestrong.com/ 4. Healthline Website: https://www.healthline.com/ 5. Avocadu Website: https://avocadu.com/

Semester	III	Total Credit	2
Course Code	AEC 301 (C)	Credit Pattern	22L, 8TP
Course Title	TOURISM MANAGEMENT		
Course Objectives			
1	To enable students to get acquainted with concepts in Tourism Management.		
2	To enable students to know the elements of Tourism marketing and its practical Approach to Tourism Management		
Course Outcomes: Students will be able to;			
1.	Explain the concepts of travel and tourism,		
2.	Develop a tourism plan		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit 1: TOURISM PHENOMENON Understanding Tourism Historical Evolution and Development Understanding Tourists And Hosts Profiling Foreign Tourists Profiling Domestic Tourists Guest – Host Relationship Sociology, Anthropology and Tourism Informal Services in Tourism, Dance and Music :Cuisines, Customs, Festivals and Fairs	L=11	
		T=4	P=0
2	Unit 2: TOURIST SITES: PRODUCTS AND OPERATIONS Adventure and Sports Beach and Island Resorts: Hill Stations of India Wild Life:	L=11	
		T=4	P=0

	Use of History, Monuments and Museums Living Culture and Performing Arts, Religions of India Tourism Marketing – 1: Relevance, Product Design, Market Research. Tourism Marketing – 2: Promotional Events, Advertising Publicity, Selling, Role of Media, Writing for Tourism Personality Development and Communicating Skills		

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. P.M. Seth, Successful Tourism Management: 2. J.K. Sharma , Tourism Planning & Development:
2	Reference books	1. Chuck Y. Gee , Travel industry: 2. R Gartner, Tourism Development: Tourism System: Mill R.C & Morrison 3. Cooper C, Fletcher J, and Gilbert D & Wahill S. Tourism; Principles & Practices
3	Websites	1. http://tourism.gov.in/organisation 2. www.wti.org.in (Wildlife Organisation in India) 3. www.indiaculture.gov.in
4	Journals	1. Journal of Tourism and Hospitality Management (JTHM) 2. KITTS - Indian Journal of Tourism and Hospitality
5	Supplementary Reading	1. Tourism Policy in 2018 2. Year End Review: Ministry of Tourism
6	Practical Component	1. Each Student will to select one State and prepare a seminar on Culture, Festival, Food habits, Dance, rituals etc. of the State. 2. Each student will identify the tourism spots from the selected State and present its Unique Selling Proposition with tourism perspective.

		3. Preparation of a detail tourism plan to visit a particular tourism destination.

Semester	III	Total Credit	2
Course Code	AEC 301(D)	Credit Pattern	L-22, T-4, P-4
Course Title	CHANGE MANAGEMENT		

Course Objectives	
1	To help the students to gain knowledge about the concepts of change management and to acquire the skills required to manage any change effectively.
2	To understand the various components and constraints involved in Change management.
3	To equip students with ways of dealing with resistance to change.
Course Outcome	
1. Apply Change Management Model to business situations 2. Evaluate and organizational changes and its management.	

Unit Number	Contents	Number of Sessions	
1	Individual Change: Need for Individual Change, Personality and Change, Learning and Individual Change, Approaches to Individual Change, Implications of Change in Individuals. Culture and Change: Introduction, Concept of Organizational Culture Dimensions of Culture, Type of Culture, Assessing Organizational Culture, Role of Culture in Managing Change. Change Management in Organizations: Understanding Organizational Transformation, Strategies, Process, Nature, Perspectives of Organizational Change. Models of Organizational Change:	L=11	
		T=2	P=2
2	Communicating & Implementing Change: Need, Factors, Forms of Resistance, Reactions to Change, Resistance to Organizational Change Initiatives, Overcoming the Resistance to Change, Technique: Implementation of Change, Developing an Implementation Plan, Gaining Support and Involvement of Key People, Strategies for Implementation: Types of Change Management Strategies, Factors Affecting the Choice, Formulating and Facilitating Change, Facilitating Change, Implementing Change,. Leading Changes: Visionary Leadership, Role of Leaders in the Phases of Organizational Change. Evaluation, Measurement and Methods of Evaluation, Feedback Process, Continuous Incremental Change.	L=11	
		T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the Class.
3. Field visits will be compulsory and a group report to be generated for exam in the presence of an external examiner at mid-term.
4. This is necessary to know implemented change and or change in process around. In manufacturing, service, commercial challenging sectors.

Learning Resources		
1	Text Books	No particular text book is available however following can be correlated and used as text book The Power Of HABIT, Charles Duhigg, Replica Press Pvt.Ltd. ISBN 9781847946249
2	Reference books	1. James McCalman, Professor Robert A Paton, Sabina Siebert, Change Management: A Guide to Effective Implementation, SAGE Publications. 2. Beam, Change Management Revised Edition, Routledge- Taylor and Francis Group. 3. Jeff Hiatt, Timothy J. Creasey, Change Management: The People Side of Change 4. Radha S. Sharma, Change Management. Tata McGrawHill.
3	Websites	https://www.change-management-institute.com/ https://www.changefirst.com/
4	Journals	Journal of Organizational Change Management Issue(s) available: 176 – From Volume: 1 Issue: 1, to Volume: 32 Issue: 2 Category: Organization Studies https://www.emerald.com/insight/publication/issn/0953-4814
5	Supplementary Reading	Managing Transitions, 25th anniversary edition: Making the Most of Change Paperback – January 10, 2017 by William Bridges (Author), Susan Bridges (Author)
6	Practical Component	1. Debate in the classroom on Change related topic 2. Organization change questionnaire data collection and analysis. 3. Group Presentation on Change management in various sectors like Health care, Education, PSU, Retail, Manufacturing Industries. 4. Design a role play event for students, so that they will play it out to mobilize support for a change implementation programme.

Semester	III	Total Credit	2
Course Code	GE-301(B)	Credit Pattern	L-24, T-06, P-00
Course Title	E-COMMERCE		

Course Objectives	
1	To explain the nature and different models of E-commerce
2	To explain the technologies required to make e-Commerce viable.
3	To discuss the current drivers and inhibitors facing the business world in adopting and using e-commerce and
4	To discuss the trends in e-Commerce and the use of the Internet.
5	To discuss e-commerce from an enterprise point of view.
6	To demonstrate the concepts of security in e-commerce applications.
Course Outcomes	
After completion of this course the student will be able to:	
1	Recognize the business impact and potential of e-commerce
2	Develop a holistic perspective on the role of IT in organizations.
3	Identify target market based on numerous parameters.
4	Select appropriate e-commerce models for any organization.
5	Follow security measures while dealing with e-commerce applications.

Unit Number	Contents	Number of Sessions	
1	History of e-commerce and Indian business context, www, advantages and disadvantages of e-commerce, e-commerce in India, various Indian case studies. Business models for e-commerce, different type of e-commerce, brokerage model, aggregator model, info-mediary model, community model, value chain model, manufacturer model, advertising model, subscription model, affiliate model.	L=12	
		T=03	P=00
2	Technologies of the www & e-security, internet client-server applications, networks and internets, URL, software agents, internet service providers, html, java script and xml, e-security, security on the internet, hacking, various security risks, e-business risk management issues, firewall. E-marketing, identifying web presence goals, the browsing behavior model, online marketing, e-advertising, internet marketing trends, target markets, e-branding, marketing strategies. Legal and ethical issues, IT Law, phishing, copy right.	L=12	
		T=03	P=00

References

1	Text books	a. E-commerce - An Indian Perspective by P.T. Joseph, S.J , PHI publication
2	Reference books	1. The unofficial guide to starting an e-commerce business by Jason R.Rich, IDG books India. 2. E-Commerce (Pearson Custom Business Resources) by Kenneth C. Laudon 3. Electronic Commerce by Gary P. Schneider
3	Websites	1. http://notes4learners.blogspot.com 2. https://www.academia.edu/8099032/e_commerce_notes 3. https://examupdates.in/e-commerce-full-notes/ 4. https://www.javatpoint.com/html-tutorial 5. http://www.echoecho.com/html.htm
4	Journals	1. “Electronic Commerce Research”, ISSN: 1389-5753 (Print) 1572-9362 (Online), https://link.springer.com/journal/10660 2. “E - Commerce for future & Trends”, eISSN: 2454–9347, http://stmjournals.com/E-Commerce-for-future-and-Trends.html 3. “Journal of Web Development and Web Designing”, http://matjournals.com/Journal-of-Web-Development-and-Web-Designing.html
5	Supplementary Reading	1. geeksforgeeks 2. tutorialspoint 3. w3Schools
6	Practical Components	-----
1	Text books	b. E-commerce - An Indian Perspective by P.T. Joseph, S.J , PHI publication
2	Reference books	4. The unofficial guide to starting an e-commerce business by Jason R.Rich, IDG books India. 5. E-Commerce (Pearson Custom Business Resources) by Kenneth C. Laudon 6. Electronic Commerce by Gary P. Schneider

Semester	III	Total Credit	2
Course Code	GE 301 (C)	Credit Pattern	L-23, T-07, P-0
Course Title	DISASTER MANAGEMENT		

Course Objectives	
1	Understand the concept and impact of disasters.
2	Describe the causes, effects and control measures of disasters.

Course Outcomes: After completion of this course students will have capacity to	
1.	Recognize the various global and regional environmental concerns/hazards due to natural causes and/or human activities, and the impact of these on various forms of life .
2.	Obtain and communicate information on risks, relief needs and lessons learned from earlier disasters in order to formulate strategies for mitigation in future scenarios
3.	Describe and evaluate the environmental, social, economic, legal and organizational aspects influencing vulnerabilities and capacities to face disasters.
4.	Relate theoretically and practically in the processes of disaster management (disaster risk reduction, response, and recovery)

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Disaster Management : Hazard and Disaster, Classification of Disasters. Hydrological Disasters - Flood, Drought, Geological Disasters- Earthquakes, Landslides, Volcanic Eruptions. Wind Related Disasters- Cyclone Biological Disasters : Man Made Disasters : Fire – Industrial, Domestic and wild fire Technological Disasters- Bhopal Gas Tragedy, Chernobyl and Fukushima. Marine and Social Disasters	L= 11	
		T= 4	P= 0
2	Disaster Management : Risk assessment, Disaster Management Act 2005, National Disaster Management Framework, Role of various organisations- National Disaster Management Authority (NDMA), State Disaster Management Authority (SDMA), District Disaster Management Authority (DDMA), Financial Arrangements for Disaster Management, Disaster management cycle, NDRF. Non-Governmental Organisations, community participation, Education, training for public in emergency preparedness plan, Rescue & rehabilitation programmes.	L= 12	
		T= 3	P= 0

Learning Resources		
1	Text Books	• Textbook Of Environmental Science And Technology by REDDY, BSP publishers, 2019 • A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 • A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 • A Text Book of Ecology, Tyler Miller, Cengage Learning • A Text Book Environmental Studies, Chatawal & Sharma, HPH • A Text Book Environmental Science, Joshi & Joshi, APH • A Text Book of Environmatal Studies, Nambiar, STP
2	Reference books	• Nuclear Accidents (Man Made Disasters) Mark Mayell Publisher: Lucent Books • Management of Man-made Disasters, S. L. Goel, Motilal Banarsidass Publishers Private Limited, New Delhi, ISBN: 8176297151 • Handbook of Pollution Control Processes By: Robert Noyes. Jaico Publishing House, Mumbai (2003) • Fire & Explosion Hazards Handbook of Industrial Chemicals By: TA Davletshina & NP Cheremisinhoff, Noyes Publications, Mumbai (2003) • Environmental Geology by K. Valdiya, Tata McGraw Hill Publishing Co. • Perspectives on Environment by I.R. Manners, M.W. Micksell • Our Planet, Our Health by WHO (1992) • Report of the Panel on Industry by WHO (1992) • Natural Disasters, Author: Claire Watts / Trevor DayPublisher: Dk Publishing, ISBN: 9781465438096 • Environmental Biology by K.C. Agarwal • Resource Book on Chemical (Industrial) Disaster Management, http://nidm.gov.in/PDF/pubs/chemical_mdc.pdf • Directory of Institutions and Resource Persons for Landslide Management In India • http://nidm.gov.in/PDF/pubs/directory%20landslide.pdf
3	Websites	• Directory of Institutions and Resource Persons for Landslide Management In India • http://nidm.gov.in/PDF/pubs/directory%20landslide.pdf • https://www.ifrc.org/en/what-we-do/disaster-management/about-disaster-management/ • https://en.wikipedia.org/wiki/Disaster_management_in_India
4	Journals	• Current Science, ISSN No. 0011-3891 • Down to Earth • Journal of Biosciences, ISSN No. 0250-5991 • Journal of Environmental Biology, ISSN No. 0254-8704 • Resonance, ISSN No. 0971-8044 • Journal of Earth System Science, ISSN No .2253-4126 • Industrial Safety Chronicle

		International Journal of Environmental Engineering Science, ISSN No .2229-3094
5	Supplementary Reading	Demonstration of Fire & Water Safety.
6	Practical Components	- Mock drill for various disaster - Disaster Management Action Plan

Semester	III	Total Credit	2
Course Code	GE 301(D)	Credit Pattern	L-20, T-5, P-5
Course Title	CORPORATE SOCIAL RESPONSIBILITY		

Course Objectives	
1	understand the scope and complexity of corporate social responsibility.
2	gain knowledge of the impact of CSR implementation on societies
3	acquire skills to frame and design CSR policies and practices appropriate to the Indian workplace.

Course Outcomes: Students will be able to	
1	Know the Corporate Social Responsibility of different sector.
2	Use the acquired skill for proper sustainable Corporate Social responsibility.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to CSR: Meaning & Definition of CSR, History & evolution of CSR. International framework for corporate social Responsibility, Millennium Development goals, Sustainable development goals, Relationship between CSR and MDGs. United Nations (UN) Global Compact 2011. UN guiding principles on business and human rights.– Globalization and CSR.	L= 10	
		T= 3	P= 2
2	Indian perspectives and approaches: Models of CSR in India,. Initiatives in India. Corporate Governance and CSR , CSR Policy and guidelines , Legal frame work, rules and regulations, Company Act 2013 - relevant provisions of CSR. Role of Government and NGO in CSR. Business Benefits of CSR.	L=10	
		T=2	P=3

Learning Resources		
1	Text Books	1. Benn & Bolton, (2011). Key concepts in corporate social responsibility. Australia: Sage Publications Ltd. 2. Bradshaw, T. and D. Vogel. (1981). Corporations and their critics: Issues and answers to the problems of corporate social responsibility. New York: McGraw Hill Book Company 3. Brummer, J.J. (1991). Corporate Responsibility and Legitimacy: An interdisciplinary analysis. Westport, CT: Greenwood Press. 4. Cannon, T. (1992). Corporate responsibility (1st ed.) London: Pitman Publishing. 5. Crane, A. et al., (2008). The Oxford handbook of corporate social responsibility. New York: Oxford University Press Inc.
2	Reference books	1. Lourdes Poobala Rayen- Corporate Social responsibility. 2. Ellington. J. (1998). Cannibals with forks: The triple bottom line of 21st century business. New Society Publishers 3. Baxi C.V and Ajit P, Corporate Social Responsibility, Concept & Cases: "The Indian Experience, Excel Books. 4. Reddy S and Stefan S (2004). Corporate Social Responsibility: Sustainable Supply Chains. Hyderabad: ICFAI University Press. 5. Werther, W. B. & Chandler, D. (2011). Strategic corporate social responsibility. Thousand Oaks, CA: Sage
3	Websites	www.forbes.com www.referenceforbusiness.com www.justmeans.com www.corporatesocialresponsibility.org
4	Journals	International Journal of Corporate Social Responsibility Home https://jcsr.springeropen.com Sustainability Accounting, Management and Policy Journal, Emerald, 2010- -World Review of Entrepreneurship, Management and Sustainable Development, Inderscience Publishers, 2005-
5	Supplementary Reading	1. http://www.diegdi.de/CMSHomepage/openwebcms3.nsf/%28ynDK_contentByKey%29/ENTR-7BMDUB/\$FILE/Studies%2026.pdf 2. Modi P.K., Corporate Social Capital Liability. Arise Publishers & Distributors. First editions - 2009 3. Sharma, J.P., Corporate Governance, Business Ethics & CSR, Ane Books Pvt Ltd, New Delhi.
6	Practical Component	Visit to industries to study and record various CSR activities and discuss the same with students and teachers to know the merits and demerits of CSR.

Semester	III	Total Credit	2
Course Code	GE 301(E)	Credit Pattern	L-22, T- 04, P-04
Course Title	BASICS OF INDIAN ECONOMY		

Course Outcomes: Students will be able to	
1	Identify the main issues in Indian economic development
2	Critically analyse the Indian economic policy environment

Syllabus:

Unit Number	Contents	Number of Sessions	
1	UNIT-1: Indian Economic Environment: Meaning of underdevelopment, Basic characteristics of India as a developing economy, Major issues of development: Poverty, Unemployment and Inequality, National Income of India: Trends, Growth and Structure. Features and importance, Green Revolution, Low productivity of agriculture and government measures Role of Industrialization, Industries and Five-year plans, Industrial Policy(1991), Services sector Role & Importance	L= 11	
		T= 2	P= 2
		T=2	P=2
2	UNIT-2: Indian Economic Planning and Reforms: Objectives of Economic Planning, Redefining the role of the State, Brief review of Five-Year Plans, New Economic Reforms: Liberalization, Privatization and Globalization, NITI Ayog, Balanced Regional Development.	L= 11	
		T= 2	P= 2

Learning Resources		
1	Text Books	- Agarwal A N (2016), Indian Economy, Vikas Publishing House Pvt. Ltd., New Delhi - Gaurav Datt& Ashwini Mahajan (2016), Indian Economy, S. Chand and Company Pvt. Ltd., New Delhi - Misra and Puri (2013), Indian Economy, Himalaya Publishing House Pvt. Ltd., New Delhi.
2	Reference books	- Deepashree (2011), Indian Economy, Ane Books Ovt. Ltd., New Delhi - Uma Kapila (2017), Indian Economy: Performance and Policies, Academic Foundation, New Delhi
3	Websites	www.rbi.org.in www.mygov.gov.in www.cmie.com

4	Journals	• Arth Samwad • Economic and Political Weekly • Indian-Economic-Journal • Journal-of Indian-School-of-Political-Economy • Southern Economist • The Economist • Journal of Applied Economics • Indian-Economic-Journal • International Journal of the Economics of Business • Journal-of Indian-School-of-Political-Economy • Agricultural-Economic-Research-Review
5	Supplementary Reading	• Economics Survey • Union Budget of India • Niti Ayog Reports • Economics Times Daily • Business Standard Daily • Business Today Daily • Latest Monetary Policy • Latest Fiscal Policy
6	Practical Component	• Collect Economic Survey of India of last five years and prepare a report on trends in major macro-economic variables of the country • Establish the relationship between sectoral growth patterns and business environment by collecting data on three major sectors of the economy

MBA - II

Semester - IV

Semester	IV	Total Credit	4
Course Code	CC 401	Credit Pattern	L-48, T-08, P-04
Course Title	BIG DATA ANALYTICS		

Course Objectives	
1	To master the concepts of HDFS and MapReduce framework
2	To introduce Hadoop 2.x Architecture
	To understand concept of LFS and HDFS
3	To introduce data loading techniques using Sqoop and Flume
4	To introduce data flow technique using Apache Pig,Hive
5	To Userstand HBase and MapReduce integration
Course Outcomes	
After completion of this course the student will be able to:	
1	Setup Hadoop single node Cluster
2	Implement best practices for Hadoop development
3	Perform data analytics using Pig, Hive
4	Master data loading techniques using Sqoop and Flume.

Unit Number	Contents	Number of Sessions	
1	Big Data Overview, data science, rising and importance of data sciences, big data analytics in industry verticals. Sources of Big Data, 3 V's of Big Data, Benefits of Big Data, Big Data Technologies, classes of Big Data Technologies, Challenges of Big Data, Business Understanding, Data Understanding, Data Preparation, Modeling, Evaluation, Communicating results, Deployment. Overview & analytics life cycle, Need, Structured and multi-structured data analysis, Big-data analytics major components, Analytical models and approaches, Relational and non-relational Databases, Application areas, Design and analysis of Analytics model-	L=12	
		T=02	P=00
2	Introduction to MapReduce and HDFS. The Hadoop & Tez Ecosystems(Batch Processing)., Hadoop Architecture, Hadoop Modules, Advantages of Hadoop, Hadoop Operation Modes, HDFS Concepts, HDFS Data Node and Name Node images, HDFS Read Image and HDFS Write Image, Secondary Name Node, Hadoop configuration files, MapReduce& HDFS Framework, Yarn, Tez Framework & InternalsTask Parallelization for Hadoop (Models), Hadoop Physical & Logical Resource Requirements.Downloading and installing the Ubuntu12.x, Installing Java, Installing Hadoop, Verifying Hadoop Installation, Creating Cluster, Increasing Decreasing the Cluster size, Monitoring the Cluster Health, Starting HDFS, Starting and Stoppingthe Nodes. HDFS basic file operations.HDFS commands. The new multi-platform analytical ecosystem. Beyond the data warehouse – Hadoop, NoSQL and analytical RDBMSs, NoSQL	L=12	
		T=02	P=01

3	Introduction to Apache PIG, Features of PIG, Introduction to PIG Data Flow Engine, MapReduce vs PIG, SQL vs PIG, PIG Architecture, Components of Apache Pig, Pig Latin Data Model, Pig Data Types, Basic PIG programming, Pig Operators, Pig Diagnostic Operators, Grouping by multiple columns, Co-group operator, join operator, types of joins, cross operator, union operator, split operator, filter operator, distinct operator, foreach operator, orderby operator, limit operator, Modes of Execution, Introduction to SGOOP, Connect to mySql database, SGOOP import and export commands and Joins in SGOOP, Export to MySQL and	L=12	
		T=02	P=02
4	Introduction to HIVE, HIVE Meta Store, HIVE Architecture, Tables in HIVE, Managed Tables, External Tables, Hive Data Types, Primitive Types, Complex Types, Partition, Joins in HIVE, HIVE UDF's and UADF's with Programs. Introduction to HBASE, Limitations of Hadoop, HDFS vs HBase, Basic Configurationsof HBASE, Fundamentals of HBase, HBaseDataModel, Table and Row, Column Family and Column Qualifier, Cell and its Versioning, Categories of NoSQL Data Bases, KeyValue Database, Document Database, Column Family Database, HBASE Architecture, HMaster Region Servers, Regions, MemStore, HDFS vsHBase, Client side buffering or bulk uploads, HBase Designing Tables, HBase Operations, HBase shell	L=12	
		T=02	P=01

Learning Resources

1	Text books	1. Baesens Bart, Analytics In A Big Data World: The Essential Guide To Data Science And Its Applications, Wiley Publisher.Java 8 Programming Black Book 2. AmbigaDhiraj, Michael Minelli, and Michele Chambers, Big Data Big Analytics: Emerging Business, Wiley CIO Series.Core Java Vol. II (Addison-Wesley) Sun Press ISBN – 981-4058-50-5
2	Reference books	1. Kord Davis, Ethics of Big Data: Balancing Risk and Innovation, O'Reilly. 2. Tom White, Hadoop – A Definitive Guide, O'Reilly. 3. Alan Gates, Programming Pig - Dataflow Scripting with Hadoop, O'Reilly. 4. JarekJarcecCecho and Kathleen Ting, Apache Sqoop Cookbook: Unlocking Hadoop for Your Relational Database, O'Reilly. 5. Lars George, HBase: The Definitive Guide, O'Reilly. 6. Dean Wampler, Edward Capriolo, and Jason Rutherglen, Programming Hive, O'Reilly. 7. FlavioJunqueira, Benjamin Reed, ZooKeeperDistributed Process Coordination, O'Reilly. 8. HariShreedharan, Using Flume - Flexible, Scalable, and Reliable Data Streaming, O'Reilly MediaJava 2 Programming Black Book by Steven Holzner, Dream Tech Publication

3	Websites	• https://www.tutorialspoint.com • https://www.guru99.com • https://hadoop.apache.org • https://intellipaat.com
4	Journals	• “Journal of Big Data” ISSN:2196-1115(Online), https://link.springer.com/journal/40537 • “Big Data Analytics” ISSN:2058-6345(Online), https://link.springer.com/journal/41044 • “Big Data” ISSN:2167-6461, https://home.liebertpub.com/publications/big-data/611/overview
5	Supplementary Reading	• geeksforgeeks • dataflair • w3schools
6	Practical Components	Lab Experiments based on Hadoop File System, Pig and Hive, Sqoop

Semester	IV	Total Credit	4
Course Code	CC Spl I 402	Credit Pattern	L-48, T-9, P-3
Course Title	SOCIAL MEDIA ANALYTICS		
Course Objectives			
1	To explain numerous Social Media Platforms.		
2	To explain the positive and negative influences of social media on individuals, businesses, and society as a whole		
3	To explain the various methodological approaches that can be used to study social media.		
4	To illustrate concepts of Social Network Analysis.		
5	To demonstrate application of Natural Language Processing		
Course Outcomes			
After completion of this course the student will be able to:			
1	Apply data science to analyze social media and social networks		
2	Analyze social networks by finding communities, identifying important nodes, and influence propagation		
3	Analyze social media by applying Natural Language Processing (NLP) techniques to detect sentiment and events		
4	Describe the theoretical concepts behind the social media and network analytical approaches		
5	Recognize and present insights from the social media and network analysis performed		

Unit Number	Contents	Number of Sessions
1	Unit I: INTRODUCTION TO SOCIAL MEDIA (15) Introduction to social media, different social media platforms.	L=12

	Introduction to blogging, Introduction to Facebook, Twitter, Google+, LinkedIn. Channel advertising and campaigns. Instagram Vs Pinterest, Social Media and Marketing, channel advertising and campaigns. internet advertising. social tagging and folksonomies.	T=03	P=00
2	Unit II: ANALYSIS BASICS (15) Analysis Basics, Network Analysis Basics - social network analysis, graph models, Influence and Centrality in Social Networks, Information diffusion, Social ties and information diffusion, Social ties and link prediction, Social Spam and Malicious Behavior, Predicting the future with social media, Emotional contagion theory, Influence of emotional contagion on Group Behavior, Friendship paradox, Crowdsourcing with	L=12	
		T=03	P=00
3	Unit III: TEXT MINING (15) Information retrieval: bag of words, text segmentation, vector space model, cosine similarity, term frequency, inverse document frequency. Information extraction: entity extraction, relation extraction, topic extraction; Machine learning based Information Retrieval, emoticon analysis multilingual processing: machine	L=12	
		T=00	P=03
4	Unit IV: WEB and SOCIAL DATA MINING (12 Hours) Concept of Web mining, Major web mining tasks(Web Content Mining, Web Structure Mining, and Web Usage Mining), Web 1.0, 2.0, 3.0 Search engines: ranking, search logs, search algorithms, Deep web spidering: forums, IRCs, dark web Social media and crowdsourcing systems: wisdom of the crowd, Web Scraping, Social Media Data Analysis, visualizing social media data. Community Detection, Concept of Recommender System , machine learning model for recommender System, Sentiment analysis, Reviews and Ratings (RnR)	L=12	
		T=03	P=00

Learning Resources

1	Text books	1. Mastering Social Media Mining with Python, Marco Bonzanin, Packt Publishing 2. Seven Layers of Social Media Analytics: Mining Business Insights from Social Media Text, Actions, Networks, Hyperlinks, Apps, Search Engine, and Location Data, Gohar F. Khan, CreateSpace Independent Publishing Platform, 2015 3. Social Media Analytics Strategy: Using Data to Optimize Business Performance, Alex Gonçalves, Apress 4. Learning Social Media Analytics with R: Transform data from social media platforms into actionable business insights, Raghav Bali, Dipanjan Sarkar, Tushar Sharma, Packt Publishing 5. Mining the Social Web: Data Mining Facebook, Twitter, LinkedIn, Google+, GitHub, and More, Matthew A. Russell, Orielly

2	Reference books	1. “Social Media Analytics”, ISBN-13: 978-9332578463, Publisher: Pearson Education India, Edition: First 2. “Social Media Data Mining and Analytics”, by Szabo Gabor), Publisher: John Wiley & Sons Inc, ISBN: 9781118824856, 9781118824856 3. “Social Media Analytics and Practical Applications: The Change to the Competition Landscape”, By Subodha Kumar and Liangfei Qiu, ISBN 9781032051390, Published December 31, 2021 by CRC Press
3	Websites	6. https://www.socialbakers.com/blog/social-media-analytics-the-complete-guide 7. https://www.talkwalker.com/blog/social-media-analytics-guide 8. https://www.javatpoint.com/social-media-data-mining 9. https://searchbusinessanalytics.techtarget.com/definition/social-media-analytics
4	Journals	4. Journal of Digital and Social Media Marketing, COUNTRY: United Kingdom, PUBLISHER: Henry Stewart Publications, ISSN: 20500076, 20500084 5. Social Networks: An International Journal of Structural Analysis, ISSN: 0378-8733, Copyright © 2022 Elsevier B.V. All rights reserved 6. International Journal of Social Media and Online Communities (IJSMOC), ISSN: 2642-2247 EISSN: 2642-2255 DOI: 10.4018/IJSMOC
5	Supplementary Reading	4. geeksforgeeks 5. javapoint
6	Practical Components	1. Visualization of Social Media Data, Machine Learning model for information retrieval

Semester	IV	Total Credit	4
Course Code	CC-Spl-II-402-(A)	Credit Pattern	L-45, T-6, P-9
Course Title	MANAGEMENT ACCOUNTING AND CONTROL SYSTEM		
Course Outcomes : The students will able to learn			
1.	Apply concept of marginal costing for decision making		
2.	Analyze various operating and financial leverages to design capital structure		
3.	Evaluate various types of budgets for managerial decision making		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Management Accounting: Meaning and Scope of Management Accounting In the Context of Changing Business Environment, Human Resource Accounting and Inflation Accounting. Strategic Management Accounting, Introduction of Accounting Information for Transfer Pricing. Methods of Transfer Pricing.	L=11	
		T=2	P=2
2	Marginal Costing: Meaning and scope, uses and advantages, Terminologies in Marginal Costing- Contribution, Margin of Safety, CVP analysis, BEP and Relevant Cost and Decision-Making	L=12	
		T=1	P=2
3	Leverage Analysis: Meaning & importance of leverage, Types of leverages, Use of leverage in decision making, Measures of Operating and Financial Leverage, Effects of Leverage on Shareholders' Returns	L=11	
		T=1	P=3
4	Budget and Budgetary Control: Concept of Budget, Budgeting and Budgetary Control, Organization for Budgetary control- Budget Centers, Budget Committee, Budget Manual, Budget period, Principal Budget, Advantages and limitations of Budgetary Control System. Types of budget.	L=11	
		T=2	P=2

Note:

1. Case studies on cash budget and flexible budget.
2. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
3. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Kapil Sheeba, "Financial Management" Pearson Publication House. 2. Jonathan Berk, Peter, "Financial Management" Pearson Publication House. 3. Sharan Vyuptakesh, "Fundamentals of Financial Management" Pearson Publication. 4. James C Van harne, "Financial Management & Policy" Pearson Publication House. 5. ICSI : Handbook on Mergers Amalgamations and takeovers.
2	Reference Books	1. V.K. Saxena And C.D. Vashisth: "Advanced Cost And Management Accounting", Sultan Chand And Sons, 6th Edition 2. M.Y. Khan And P.K. Jain, "Cost Accounting", Tata McGraw Hill, Edition 2000 3. Dr. M.K. Kole, "Human Resource Accounting, Institute Of Cost And Works, Accountants Of India", Edition 2000 4. N.K. Prasad, "Cost Accounting" 5. R.P.Rustagi, "Financial Management", PHI, 10th edition. 6. Garrison, Managerial Accounting, Tata McGraw 7. Maheshwari, Financial Accounting, Vikas Publishing 8. Khan and Jain, Management Accounting, Tata McGraw 9. Ramchandran, Financial Accounting for Management, Tata McGraw 10. JawaharLal, Accounting For Management, Himalaya Publishing 11. J.Madegowda, Accounting For Managers, Himalaya Publishing 12. M.N.Arora, "Cost and Management Accounting", Himalaya Publishing
3	Websites	<u>INFLIBNET</u> http://nlist.inflibnet.ac.in <u>J-GATE</u> http://jgateplus.com <u>EBSCO</u> http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4	Journals	• Prabhandan: Indian Journal of Management • IUP Journals • ICSI Journals • Finance India • Indian Journal of Finance (New Sub.) • Journal of Accounting & Finance etc.
5	Supplementary Reading	• Financial Express • Economics Times • Business Standard • Times of India • Indian Express.

6	Practical Component	• Practical Problems on marginal costing and decision making • Practical Problems on leverages • Practical Problems on flexible budget and functional budgets • Financial statement analysis using Proves-IQ • Companies Financial Reports & Corporate case studies.

Semester	IV	Total Credit	4
Course Code	CC-Spl-II-402-(B)	Credit Pattern	L-45, T-6, P-9
Course Title	PERFORMANCE AND COMPENSATION MANAGEMENT		
Course Outcomes: Students will be able to;			
1.	Gain insights of various conceptual aspects of Compensation, Performance Management and competencies and related law to achieve organizational goals.		
2.	Determine the performance/competency based compensation system for business excellence and solve various cases.		
3	Designing the compensation strategies for attraction, motivation and retaining high quality workforce		

Syllabus:

Unit Number	Contents	Number of Session	
1	Performance Management: Managing and addressing Employee Performance Problems, Performance Management Strategic Planning. Performance Management and Employee Development: Employee Assessment system, Potential Appraisal System:- Development and Retention of high potentials, Role of HR Professionals in Performance management.	L= 11	
		T= 4	P= 0
2	Competency Model, Competency Model Pyramid, Application of competency model into various HRM functions, benefits of using competency mapping model in organizations, Benefits of using competency based performance appraisal system, Taking interviews to gather information, Behavioural Event Interview, process for writing competencies.	L= 11	
		T= 4	P= 0
3	Compensation Management: Wage and Salary Administration: Calculation of Wage, Salary, Prerequisites, Compensation Packages, Cost of Living Index and Dearness Allowance, Designing and operating	L	

	incentives, fringe and non- financial Benefits,. Job Evaluation:- Major Decisions in Job Evaluation, Job Evaluation Methods, Laws related to wages and salaries:- Minimum Wages, Payment of Wages, Payment of Bonus.		
4	Employee Contributions: Pay For Performance (PFP): Competency Based Pay, Skill based Pay, Team based pay, Gain and Profit sharing Designing PFP Plans, Merit Pay/Variable Pay, Compensation Strategies for Special Groups. Executive compensation, cafeteria compensation,		

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the cla

Learning Resources		
1	Text Books	• Strategic Compensation, Joseph J. Martocchio, 3rd Edition, Prentice Hall, 2004. • Compensation Management in Knowledge based world, Richard I. Anderson, 10th edition, Pearson Education. • Compensation Management, ErSoniShyam Singh, Excel Books.
2	Reference books	• Compensation & Reward Management, BD Singh, 2nd edition, Excel books, 2012. • Compensation, Milkovich & Newman, 9th edition, 2017, Irwin/McGraw-Hill. • Compensation and Benefit Design, Bashker D. Biswas, FT Press, 2012. • An Introduction to Executive Compensation, Steven Balsam, Academic Press, 2002. • Industrial Relations and Labour Laws, Srivastava S.C., Vikas Publishing House Pvt. Ltd.,
3	Websites	4. www.ILO.org 5. www.labour.nic.in 6. www.labourstat.org
4	Journals	IOSR <i>Journal of Humanities And Social Science</i> Indian Labour Journal
5	Supplementary Reading	https://www.toolbox.com/hr/performance-management/articles/what-is-performance-management/ https://www.hibob.com/hr-glossary/compensation-management-planning/ https://www.namanhr.com/services/competency-mapping/
6	Practical Component	• Students must prepare a comprehensive compensation plan to be offered to Executives.

		- Students to collect information from different organization regarding the Cost To Company of an employee. - Students have to prepare questionnaire for conducting wage survey and carry out wage survey for any selected sector and prepare a report for the same. - Students to calculate the bonus amount eligible to an employee working as a HR Executive

Semester	IV	Total Credit	4
Course Code	CC-Spl-II-402-(C)	Credit Pattern	L-45, T-8, P-7
Course Title	SALES & DISTRIBUTION MANAGEMENT PAPER-IV		
Course Objectives			
1	Students will conceptually understand concepts related to sales and distribution.		
2	Students will learn strategies required for selling and distribution		
3	Students will become aware of financial aspects of marketing.		

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Course Outcomes: Students will be able to;	
1	Evaluate concepts related to sales & distribution.
2	Apply selling & distribution concepts & strategies for marketing.
3	Apply financial aspects of marketing.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit I Sales management - Meaning, Evaluation, Importance, Personal Selling, Qualities and responsibilities of sales manager. Types of sales organizations. Sales force management, recruitment, selection & training, structure, size, productivity. Motivation & compensation of salespeople	L=11	
		T=2	P=2
2	Unit II Selling Process and Strategies -Overview of selling process. Selling and buying Styles, selling skills, situations, selling process, sales presentation, Handling customer objections, Follow-u action. Sales territory, meaning, size, designing, sales quota, procedure for sales quota. Types of sales quota, Methods of setting quota.	L=12	
		T=2	P=1
	Unit III-	L=11	

3	Distribution Management - Introduction-Concept of channel flows, Managing a channel design, Basics of warehouse/inventory/ transportation planning, Intermediaries: Channel Formats, Managing channel partner, channel conflict, Channel information systems, International Trends in Sales and Distribution, Distribution as a function of marketing. Strategies. Mass, selective, exclusive distribution. Push v/s pull approaches. Channel design mix decisions.	T=2	P=2
4	Unit IV Marketing Finance Performance of Salesforce, work load method, forecasting, and product line accounting, Life cycle costing, Dropping product line, Return On Promotion, Selection of media, Launching, Profitability & Variance.	L=11	
		T=2	P=2

Learning Resources		
1	Text Books	1. Cherunallium & Francis - <i>Industrial Marketing</i> 2. Chunwalla S.A - Sales & Distribution Management
2	Reference books	1. Keskar & Abhayankar - Sales Management & personal selling 2. Aaker David A – Building Strong Brands – The Free Press, New York 3. Keller K. - Strategic Brand Management- Prentice - Hall India Kapferer Jean Noel – Strategic Brand Management – KoganPage London 4. Keller, Parameswaran, Jacod - Strategic Brand Managemnt- Pearson 5. Chunawalla and Sethia – Foundation of Advertising Theory and Practice- HP Publication 6. Clow Baack - Integrated Advertising, Promotion and Marketing Communication –Pearson Education 7. Still and Cundiff - Sales Management – 8. S A Chunawalla -Sales and distribution Management –Himalaya Publication 9. Charles Futrell - ABC ‘s of Selling 10. Ramaswam and Namakumari - Marketing Management — Macmillan Publication 11. Services & Sales Marketing - Zha S.M., Himalaya Publishing House 12. Strategic Retail Management - Indian Text Edition-Srini R.Srinivasan 13. “Retail Marketing Management” – Person Education Ltd. – Ist Reprint India- David Gilbert

		14. Retailing Management -Text and Cases-Swapna Pradhan The McGraw Hill Companies
5	Supplementary Reading	1.The Economic Times 2.Business Standard 3.Business TIMES
6	Practical Component	1. Group Activity based on all the units 2. Take business Games & other subject related activities 3. Discussion on Cases related to all units 4. Library assignment on all the units

Semester	IV	Total Credit	4
Course Code	CC-Spl-II-402-(D)	Credit Pattern	L-44, T-8, P-8
Course Title	AGRI-PRODUCTION AND SUPPLY CHAIN MANAGEMENT		
Course Out Comes: Students will be able to			
1	Analyze the factors influencing agricultural production and their supply chain		
2	Adapt traditional and modern practices of farm management		
3	Develop skills for agricultural supply-chain and logistics infrastructure management		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Fundamentals and Theories of Farm Management: Scope Of Modern Agriculture, Special Features Of Agricultural And Industrial Production. Difference between Farm and Non-Farm Business Management; Farm system Theory, Theory of Farm Management by Objectives, Practices of Farm Management, Making Small farm more effective	L=11	
		T=2	P=2
2	Farm Production Systems And Management Functions: Peasants, Proprietorship, Cooperative Farming, Capital Farming, Corporate Farming, Land Tenure Systems And Agricultural Production Management, Farm Management Tools	L=11	
		T=2	P=2
3	Farm Technology and Issues in Farm Management: effects of New Technology, Management And Technology Change, Gains From Technological Improvements to Producers And Consumers, Mechanization And Automation, Green Houses; Size-Productivity Debate, Measurement Of Farm Efficiency, Irrigation Management, Production Planning-Specialization And Diversification.	L=11	
		T=2	P=2

4	Introduction to Supply Chain and Logistics Management in Agri Business:: changing Business environment, SCM; Present need In agriculture, Conceptual model of SCM and Evolution of SCM, Approaches of SCM: Traditional and Modern, Elements in SCM, Logistics Management: History and Evolution of Logistics, elements of logistics: management, distribution management, distribution strategies, pool distribution; transport management, fleet management, service innovation, warehousing, packaging for logistics, third – party logistics(TPL/3PL), GPS technology	L=11	
		T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Robertson C.A. – An Introduction To Agricultural Production Economics And Farm Management – Tata Mcgraw Hill 2. Heady, Earl. O And Jensen Herald R. – Farm Management Economics – Prentice Hall 3. Barnard C.S. And Nix J.S. – Fam Planning And Control 4. Altekar RV, 2006, Supply Chain Management: concepts and cases, Prentice Hall of India
2	Reference books	1. Blake C.D. – Fundamentals Of Modern Agriculture 2. Sadhu And Singh – Fundamentals Of Agriculture 3. Agrawal A.N. – Indian Agriculture 4. Sharma A.N. And Sharma V.K. – Elements Of Farm Management 5. Reji D Nair – “Farm Management: Theory and Practice” – Concept Publishing Company Pvt. Ltd., 6. Warren G. F. – “Farm Management” – Arise Publishers and Distributors 7. Kahlan A. S. and Karan Singh – “Farm Management in India: Theory and Practice” – allied Publishers Pvt. Ltd., 8. Dhaka J.M. – “Economics of Agri Production and Farm Management” – Avishakar Publishers and Distributors
3	Websites	www.agriculture.gov.in/ www.manage.gov.in www.ica.coop/ www.apeda.gov.in www.fao.org/home/en/ www.worldbank.org http://indiagovernance.gov.in/docsearch.php?

		search=Agriculture&from_map=1&type=theme
4	Journals	Indian Journal of Agricultural Economics Indian Journal of Agricultural Marketing Journal of Agribusiness Rural Marketing
5	Supplementary Reading	http://www.nwccindia.com/agriculture-logistics/ agriculture and production management: Union Budget
6	Practical Component	• Make a field visit of a greenhouse farm to understand modern management activities on farm • Identify one successful/progressive farmer and conduct an interview to know various decisions taken by him/her to make successful farming • Visit various farm input selling centers and find out latest equipment and their benefits • Interact with various agro based and consumer goods producing companies and prepare report on their logistics issues while reaching rural urban markets

Semester	IV	Total Credit	4
Course Code	CC Spl-II 402 E	Credit Pattern	L-45, T-7, P-8
Course Title	PROJECT MANAGEMENT		

Course Objectives	
1	To make students understand fundamental concepts and characteristics of project including the basic roles, responsibilities and functions of project manager.
2	To Familiarize the Students with various Techniques of project financing and capital budgeting.
3	To introduce students to project evaluation and termination.

Course Outcomes: Students will be able to	
1	Explain basic concept of Project Management including Project Appraisal, Project Risk Management and use of IT in Project Management.
2	Select most appropriate Project from available options to the organization by analyzing all the projects on the basis of capital budgeting techniques.
3	Develop the Project Report of the project undertaken by the organization.
4	Determine Critical Path of project undertaken by organization and estimate project duration.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	OVERVIEW OF PROJECT MANAGEMENT & SELECTION Concept & Definition of Project, Characteristics of Project, Types of Project, Project Identification, Project Selection & Criteria, Project Life Cycle, Concept & Importance of Project Management, Roles and Responsibilities of Project Manager, Work Breakdown Structure.	L= 12	
		T= 1	P= 2

2	PROJECT APPRAISAL & RISK MANAGEMENT. Concept of Project Appraisal, Technical Appraisal, Commercial Appraisal, Economic Appraisal, Financial Appraisal, Management Appraisal, Social Cost-Benefit Analysis, Introduction to Risk Management, Role of Risk Management in Project Management, Steps in Risk Management.	L= 11	
		T= 2	P= 2
3	PROJECT FINANCING & SCHEDULING Estimating Cost of Project, Components of Cost of Project, Sources of Project Financing, Development of Project Network, Time Estimation, Developing The Project Network Using CPM/PERT, Crashing The Network. (Numerical Treatment on CPM/PERT)	L= 11	
		T= 2	P= 2
4	PROJECT PLANNING & EVALUATION Project Evaluation: Concept, Purpose, Advantages. Project Audit: Meaning, Objectives, Phases of Project Audit. Project Quality Management, Project Management Information System (PMIS): Need of Project Management Software, Project Report Writing.	L= 11	
		T= 2	P= 2

Learning Resources			
1	Text Books	1. Clifford F. Gray, Project Management: The Managerial Process, Sixth Edition, McGraw Hill Education 2. K. Nagrajan “Project Management”, New age international publication. 3. Ramakrishna & Kamaraju, Essentials of Project Management, Prentice Hall India Learning Private Limited	
2	Reference books	1. Jack Meredith, Samuel J. Mantel Jr. “Project Management- A Managerial Approach” John Wiley and Sons 2. Clifford F Gray, Erik W Larson, “Project Management-The Managerial Process” Tata Mcgraw-Hill Publishing Co Ltd 3. Robert K Wyzoubi & Rudd Acgary, “Effective Project management”, Wiley India Pvt.Ltd.	
3	Websites	1. https://www.project-management-knowhow.com/ 2. https://www.tutorialspoint.com/pmp-exams/index.htm 3. https://www.managementstudyguide.com/project-management-articles.htm 4. https://www.projectengineer.net/	
4	Journals	1. International Journal of Project Management – Elsevier 2. Project Management Journal PMI 3. Project Management Journal - Wiley Online Library	

		4. International Journal of Project Management ScienceDirect.com
5	Supplementary Reading	1. John M Nicholas “Project Management For Business And Technology” Prentice Hall Of India Pvt Ltd 2. James P Lewis “Project Planning, Scheduling And Control” Tata Mcgraw-Hill Publishing Co Ltd
6	Practical Component	1. Role play to understand roles & responsibilities of project manager. 2. To identify and visit ongoing projects undertaken by any local business to study project appraisal techniques and risk management. 3. To meet project finance personnel from any financial institution to understand project financing and capital budgeting techniques. 4. Library Exercise on Project Report Preparation by studying project reports prepared by any one company of your choice.

Semester		IV	Total Credit	4		
Course Code		CC-Spl-II-402-(F)	Credit Pattern	L-44, T-8, P-8		
Course Title		SOFTWARE ENGINEERING AND IT PROJECT MANAGEMENT				
Course Objectives						
1	To Understand The Nature Of Software Development And Software Life Cycle Process Models, Agile Software Development, SCRUM, And Other Agile Practices					
2	To Develop The Skill Of Software Design And User-Centric Approach And Principles Of Effective User Interfaces.					
3	To Infer The Need For Project Management And Project Management Life Cycle					
Course Outcomes: Students Will Be Able To;						
1	plain Needs For Software Specifications Also They Can Classify Different Types Of Software Requirements And Their Gathering Techniques					
2	stify The Role Of SDLC In Software Project Development And They Can Evaluate The Importance Of Software Engineering In PLC.					
3	miliar With The Different Methods And Techniques Used For Project Management..					
4	scuss The Parameters Of The Software Project's Success And Failures.					
Unit Number		Contents			Number of Sessions	
1	Concept Of Software, Program V/S Software, Software Characteristics, Software Myths, Software Development Life Cycles. – Waterfall Model, Prototyping Model, Spiral Model, Coding guidelines, Structured Approach To System Design -: Principles of software design, DFD, Data Dictionary, Decision Tree, Decision Table & Structured English, E-R Diagrams				L= 11	
					T= 2	P= 2
2	Software Requirement and Specification, Characteristics of Good User				L= 12	

	Interface Design, Concept of white box testing and black-box testing. Object-Oriented Project Design, Introduction: Software Project Management, I.T. Stakeholders, Understanding the project, Project Initiation, Product Life Cycle, Skills and Qualities of Software Project Manager	T= 2	P= 1
3	Project Planning - Work Break Down Structure, CASE Tools, Types of Software maintenance, Defining The Project – Deliverables, Objects And Scope, Project Scheduling, Estimating the project – Period Vs Effort, Contingency, Type of costs, Preparing the Project Budget, Defining And Managing The Risk, Managing Information systems Project Time and Resources	L= 11	
		T= 2	P= 2
4	Implementation Activities – Forming a Project Team, Managing People And Organizing Teams, Managing Client Expectations, Configuration Management, Identifying Information Systems Project Risks, Evaluating Success- Software Quality Factors, Causes of Failure, Project Success, Measure of end-user satisfaction, Closing the project And Business Continuity, Data Disaster, Virus Disasters, Software Disasters, Data Center Disasters	L=11	
		T= 2	P= 2

Note:

1. Students will have to complete all tutorials, assignments, and lab sessions for internal credits.

Learning Resources		
1	Text Books	2. Fundamentals Of Software Engineering – Roger Pressman 3. Information Technology Project Management – Jack Marchewka – Wiley India Edition
2	Reference books	3. Fundamentals Of Software Engineering - Rajib Mall Ghezzi, Jazayeri Stephen H. Khan 4. Software Requirements And Estimation - Fenton, Ptleeger McGraw Hill 5. Project Management For Software Development - Jaico 6. IT Project Estimation – Paul Coombs. – Cambridge 7. Information System Project Management - John McManus, Trevor Wood- Happer – Pearson. 8. 6. Software Project Management – Bob Hughs , Mike Cotterell – Tata McGrawhill
3	Website	4. www.tutorialspoint.com 5. www.guru99.com 6. www.examupdates.in
4	Journals	2. International Journal of Scientific Computing 3. International Journal of Statistics & Management Systems 4. Chartered Secretary

5	Supplementary Reading	2. Business Line 3. Current affairs in news papers 4. Information system Audit Reports from computer consultancies
6	Practical Component	1. Visit any computer consultant firms and discuss and understand about Software engineering process 2. Case study about Information system Project Planning

Semester	IV	Total Credit	4
Course Code	DSE Spl II 401	Credit Pattern	L-45, T-8, P-7
Course Title	ANALYTICS IN FUNCTIONAL AREAS OF MANAGEMENT (LAB BASED PAPER)		
Course Objectives:			
1	To make students aware of analytical tools that can be used across functional areas of business.		
2	To equip students with business analytics tools and models that will enable them to identify, analyze and solve real-world business problems.		
COURSE OUTCOME: Students will be able to			
1	Apply a wide variety of business analytics methods in a business or an industry context		
2	Evaluate real-world business and industrial problems by using analytical skill		
Unit Number	Contents	Number of Sessions	
1	INTRODUCTION TO BUSINESS ANALYTICS: Introduction to Business Analytics, Significance and usages of Business Analytics, The Science of Data-Driven Decision Making, Levels of Business Analytics: - Descriptive Analytics, Predictive Analytics and Prescriptive Analytics in functional areas of Management. Introduction to Data Analytical Tools, Slicing and Dicing Data.	L=5	
		T= 5	P= 5
2	MARKETING ANALYTICS: Introduction to Marketing Analytics: Demand estimation, understanding customer value for different product attributes-Conjoint Analysis, Principal components analysis, Market segmentation using cluster analysis, Calculating Lifetime customer value.	L= 3	
		T= 2	P= 10
3	HR ANALYTICS: Introduction to HR Analytics: Use and Importance of HR analytics, Levels of HR Analytics, HR Metrics and Analytics, HR Dashboard Creation, Application of HR Analytics in the areas of Employee Diversity, Employee Turnover, Workforce planning and employee performance by using correlation, Regression, ANOVA and Survival Analysis	L= 3	
		T= 2	P= 10
4	FINANCIAL ANALYTICS: Introduction to financial analytics: Use &	L= 3	

	Importance of financial analytics, Financial modeling concept and its application in finance, analyzing balance sheet using spreadsheet, Financial strategies using predictive analytics, building financial models, building models using influence diagram, Implementing models on spreadsheets, spreadsheet design, spreadsheet quality and spreadsheet applications in finance analytics, Financial simulator.	T= 2	P= 10

Learning Resources

1	References	1. Dinesh Kumar- Business Analytics: The Science of Data - Driven Decision Making by U, Wiley Publication. 2. R N Prasad-Fundamentals of Business Analytics, 2ed Wiley Publication. 3. Albright Winston, Business Analytics- Data Analysis-Data Analysis and Decision Making, Cengage Learning, Reprint 2016. 4. Sahil Raj, Business Analytics, Cengage Learning. 5. Daniel S. Putler Robert E. Krider- Customer and Business Analytics Applied Data Mining for Business Decision Making Using R- Chapman & Hall/CRC The R Series. 6. Jeff Sauro Customer Analytics for Dummies, John Wiley & Sons, Inc., 7. Chris Chapman Elea McDonnell Feit R for Marketing Research and Analytics Second Edition-Springer-23 8. Edwards, Martin R.; Predictive HR Analytics: Mastering the HR Metric 9. James Evans, Business Analysis Pearson Publication. 10. Data Mining and Predictive Analytics, MISL – Willy Publication by Daniel T Larose & Chantal D. Larose. 11. Financial Analysis for Management Decisions, by M.Sarngadharan & S.Rajitha Kumar
	Practical Component	1. Case study discussion on application of various data analytical tools in functional areas of Management. 2. Data sets will be given to the students on which study will apply appropriate analytical tools.

Semester	IV	Total Credit	4
Course Code	DSE Spl-II-402(A)	Credit Pattern	L-45, T-6, P-9
Course Title	INVESTMENT AND PORTFOLIO MANAGEMENT		
Course Outcomes: The students will able to learn			
1	Analyze the relationship between security analysis and market portfolio		
2	Evaluate the performance of portfolios		
3	Design various investment avenues as a small and corporate investor.		

Syllabus:

Unit Number	Contents	Number of Sessions
1	Introduction to Investment: Investment – Basics of Investment –	L= 11

	Investment, Speculation and Gambling – Investment Categories – Investment avenues – Non marketable Financial Assets – Money Market Instruments – Bond/Debentures – Equity Shares – Schemes of LIC – Mutual Funds (History and Types)– Financial Derivatives(Derivative Market, Instruments in derivative market, Calculation of pay offs from options) – Real Assets – Real Estate – Art – antiques and others. Introduction to Stock Market: Primary and secondary market, regulation of Stock Market- Companies Act, SEBI, Securities contract regulation Act	T= 2	P= 1
2	Fundamental Security Analysis: EIC And CIE Approach. Technical Analysis – Technical Tools - The Dow Theory – Primary Trend – The secondary Trend – Minor Trends –Charts. Efficient Market Theory – Basic Concepts – Random-Walk Theory – Weak Form of EMH – Semi-strong Form – Strong Form – The Essence of the Theory – Market Inefficiencies.	L= 11	
		T= 1	P= 3
3	Portfolio Management: Meaning of Portfolio, Steps of Portfolio Management. Code of Conduct for portfolio Manager. Portfolio Analysis – Portfolio and Single asset Returns and Risk – Mean Variance Criterion – covariance – Beta (simple problems) – Portfolio Markowitz Model – simple Diversification – Risk and Return with Different correlation. Portfolio Risk and return.	L= 12	
		T= 2	P= 3
4	Portfolio Evaluation: Asset Pricing Model Portfolio Evaluation – Capital Asset Pricing Model (CAPM) – Security Market Line – Assumptions – Arbitrage Pricing Model (APT) – Portfolio Performance Models – Sharpe’s Performance Index – Treynor’s Performance Index – Jensen’s Performance Index. Bond, terminologies used in Bond, Valuation and Immunization of Bond	L= 11	
		T= 1	P= 2

Note:

1. Portfolio Risk and return with two and three securities
2. Bond Valuation, Duration and Immunization
3. Mutual fund rankings with Sharpe and treynor
4. Problems of Pay off on option (Derivative)

Learning Resources		
1.	Text Books	1. Kapil Sheeba, “Financial Management” Pearson Publication House. 2. Jonathan Berk, Peter, "Financial Management" Pearson Publication House. 3. Sharan Vyuptakesh, “Fundamentals of Financial Management” Pearson Publication. 4. James C Van harne, “Financial Management & Policy” Pearson Publication House. 5. ICSI: Handbook on Mergers Amalgamations and takeovers.

2.	Reference Books	1. Punithavathy Pandian, SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT, Vikas Publications Pvt. Ltd, New Delhi. 2001. 2. Kevin .S, SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT, PHI, Delhi, 2011 3. Yogesh Maheswari, INVESTMENT MANAGEMENT, PHI, Delhi, 2011 4. Bhalla V K, INVESTMENT MANAGEMENT: SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT, S Chand, New Delhi, 2009 5. Prasanna Chandra, PORTFOLIO MANAGEMET, Tata McGraw Hill, New Delhi, 2008. 6. R.P.Rustagi, “Financial Management”, PHI, 10th edition.
3.	Websites	INFLIBNET http://nlist.inflibnet.ac.in J-GATE http://jgateplus.com EBSCO http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4.	Journals	• Prabhandan: Indian Journal of Management • IUP Journals • ICSI Journals • Finance India • Indian Journal of Finance (New Sub.) • Journal of Accounting & Finance etc.
5.	Supplementary Reading	• Financial Express • Economics Times • Business Standard • Times of India • Indian Express.
6.	Practical Component	• Practical Problems on Portfolio Risk and return with two and three securities • Practical Problems on Bond Valuation, Duration and Immunization • Practical Problems on Mutual fund rankings with Sharpe and treynor • Practical Problems on Problems of Pay off on option (Derivative) • Financial statement analysis using Proves-IQ • Companies Financial Reports & Corporate case studies.

Semester	IV	Total Credit	4
Course Code	DSE Spl-II- 401(B)	Credit Pattern	L-45, T-8, P-7
Course Title	TALENT AND HUMAN CAPITAL MANAGEMENT		

	Course Outcomes:- Students will be able to:
1	Describe the concept of Talent and Human Capital Management
2	Apply different concepts of Human Capital Management.
3	Critically evaluate emerging trends in Talent and Human Capital Management.

Unit Number	Contents	Number of Sessions
1	Talent Management: Acquiring talent, Retaining talent, Nurturing talent, Developing and Recognizing talent, Separation of Talent. Principles of Talent Management, Talent Management Opportunity and Challenges, Myths about Talent Management, Current Trends in Talent Management. Benefits of Talent Management, Role of Human Resource in Remote Working – Meaning, Importance, Advantages, and Disadvantages Employee Engagement: Means to promote Employee Engagement, Relationship with Talent Management.	L= 12
		T=2 P= 1
2	Concept of Human Capital Management HRD Audit: Characteristics, Scope, Process, Methodology, Documents and outcomes. HR Accounting: Objectives, Methods, Advantages, and Limitations. Human Resource Information System: Issues while adopting HRIS, Sub-systems of HRIS, Steps in designing HRIS, Advantages of using HRIS.	L= 11
		T=2 P= 2
3	Employee empowerment- concept, objectives, Prerequisites, types, Process, benefits, limitations. Concept of Work-Life Integration, Flexi-time as a retention tool, Moonlighting: causes and HR interventions, Succession Management, Workforce Diversity, Green HRM, Employer, and Employee Branding	L= 11
		T=2 P= 2
4	Concept of HR Balanced Scorecard. Role of HRM in Learning organization. Quality circle- constitution and process, Quality of Work life- objectives, importance, determinants of Quality of Work life.	L= 11
		T=2 P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.

Learning Resources		
1	Reference books	1. Lyle M. Spencer, Signe M. Spencer, Competence at work – John Wiley 1993 2. Naik G.P, Competency mapping, Assessment and Growth - IIHRM, 2010. 3. Herman Aguinis, Performance Management - Pearson Education, 2007. 4. Lance A. Berger & Dorothy R. Berger, The Talent Management Hand Book - Tata McGraw Hill.
2	Practical Components	1. Students are expected to conduct a study on how talent is acquired and retained – in various industries – and various strategies followed by the respective companies. 2. Students will collect data about the position of principal, director, and other teachers in your college and prepare a competency dictionary for the said positions. 3. Students will collect data in your college or any other organization using Q 12 instrument and analyze it to find out the engagement level of employees. 4. Students will identify the important positions in your college or any other organization and ascertain the measures if any taken to develop second line of leadership.
3	Journals	1. Harvard Business Review 2. Manpower Journal 3. Human Capital

Semester	IV	Total Credit	4
Course Code	DSE Spl-II-402(C)	Credit Pattern	L-45, T-8, P-7
Course Title	INTEGRATED MARKETING COMMUNICATION PAPER-IV		
Course Objectives			
1	Students will become familiar with concepts, theories of IMC.		
2	Students will understand techniques in IMC.		
3	Students will be able to utilize various tools for IMC strategies.		
Course Outcomes: Students will be able to;			
1	Explain various integrated marketing communication tools & techniques processes		
2	Design marketing communication plans		
3	Evaluate cost elements of marketing communication		
4	Apply social media for marketing communication		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit I IMC & Brand Management – Conceptual overview of IMC, Introduction to IMC tools – Advertising, sales promotion, publicity, public relations, and event sponsorship; Brand Management- Meaning and Definition – Brand Identity System – Types of Branding - Branding Decisions - Brand Extension – Multi- Brand Portfolios - Branding and Positioning– Concept of Brand Equity. Measuring Brand Equity.	L=11	
		T=2	P=2
2	Unit II Media Management- Elements of the Communications Mix - Media Mix - Types of Media- Media Selection- Planning and Buying –Scheduling media objectives, Media channel strategy, audience research, tactics and the media schedule, Source, Message and channel factors, Communication response hierarchy- AIDA model, Hierarchy of effect model, Innovation adoption model, information processing model, The standard learning Hierarchy, Attribution Hierarchy, The Elaboration Likelihood (ELM) model, The Foote, Cone and Belding (FCB) Model Strategy - Cost and Ability – Matching Media and Market - Media Ad. Effectiveness.	L=12	
		T=2	P=1
3	Unit III Advertising Management- Meaning and Definition – The Five of Advertising Advertising's role in the promotional mix, Theories of advertising effects, Advertising campaign planning, Function of	L=11	

	Advertising Agencies – Advertising effectiveness - DAGMAR Approach in Advertising Push vs pull strategy, advertising budgets- Measuring advertising effectiveness(Pre-testing, Copy testing,), Tracking, Advertising return on investment (ROI), Careers, Advertising for special markets or products,	T=2	P=2
4	Unit IV Digital Media & Advertising: Digital Media, Evolution of Technology, Convergence of Digital Media, E- Commerce and Digital Media, Advertising on Digital Media, Social Media, Mobile Advertising, Electronic-PR, Advertising Laws & Ethics:, Intellectual Property Rights,.	L=11	
		T=2	P=2

Learning Resources		
1	Text Books	1.Kotler, Kelller, – Marketing Management: A South Asian Perspective – Pearson Penticte Hall
2	Reference books	1.Aaker David A – Building Strong Brands – The Free Press, New York 2. Keller K. - Strategic Brand Management- Prentice - Hall India 3. Kapferer Jean Noel – Strategic Brand Management – Kogan Page London 4. Keller, Parameswaran, Jacod- Strategic Brand Managemnt- Pearson 4. Chunawalla and Sethia – Foundation of Advertising Theory and Practice- HP Publication 5. Clow Baack - Integrated Advertising, Promotion and Marketing Communication –Pearson Education 6. Kenneth E.C. , Donald Baack - Integrated Advertising, Promotion and Marketing Communications 7. George Belch and Michel Belch - Advertising and Promotion- Tata McGraw-Hill edition 8. Bly the Jim – Marketing Communication – Prentice Hall 9. U C Mathur - Advertising Management- - New Age International 10. Arunkumar, M Meenakshi - Marketing Management-Vikas Publication
4	Journals	1.Indian Journal of Marketing 2.IUP Journal of Business Strategy 3.Current Contents In Management Marketing
5	Supplementary Reading	The Economic Times Business Standard

6	Practical Components	1. Conduct Group activity based on all units 2. Case discussion on subject related contents 3. Take different situational activities e.g. - Business Games to the students. 4. Library assignments based on all units

Semester		IV	Total Credits:	4
Course Code		DSE Spl-II-402-(D)	Credit Pattern	C – 44, P = 2 T = 2
Course Title		AGRI-COMMODITY MARKETS AND AGRI-BUSINESS		
Course Out Comes: Students will be able to				
1	Discuss commodity markets for various agricultural produce			
2	Analyze commodity trading practices in India and other countries			
3	Appraise the Agri-commodities Markets and Agribusiness			

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Commodity Markets and Commodity Risk: An Overview: Introduction Commodity markets, marketing of agricultural commodities, physical market operations, Understanding risk, managing risk, evolution of commodity derivatives, evolution of commodity derivatives in India	L= 11	
		T= 2	P= 2
2	Commodity Derivatives: Meaning, Types and classification, pricing derivatives, derivative markets and its participants, economic importance	L= 11	
		T= 2	P= 2
3	Commodity Exchanges: Introduction, commodity exchanges around the world and in India, Electronic Spot exchange, regulation of commodity markets	L= 11	
		T= 2	P= 2
4	Variety in commodity Markets: designing commodity controls, weather derivatives, freight derivatives, electricity derivatives, catastrophe derivatives, carbon derivatives, currency derivatives and property derivatives	L= 11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	Purcell WD, 1991, Agricultural Futures and Options: Principles and Strategies, Macmillan Publications
2	Reference books	1. Kaufman PJ, 1986, The Concise Handbook of Futures Markets, John Willy and Sons,

		2. Wasendorf RR and Mc Cafferty, 1993, All About Commodities from the Inside Out, Mc Grow hill
3	Websites	www.indiabudget.nic.in www.commodityonline.com
4	Journals	Indian Journal of Agricultural Economics Indian Journal of Agricultural Marketing Journal of Agribusiness Indian Journal of Finance Rural Marketing Vikalpa
5	Supplementary Reading	e-NAM website www.mcxindia.com
6	Practical Component	• Identify the various countries standards of commodity trading and prepare a report • Collect commodity data and analyze product wise trend and forecaste • Visit nearby commodity trading agency and conduct an interview with trading executive and submit report

Semester	IV	Total Credit	4
Course Code	DSE-Spl-II-401-(E)	Credit Pattern	L-44, T-8, P-8
Course Title	MODERN APPROACHES TO QUALITY MANAGEMENT		

Course Outcomes: Students will be able to;	
1	Describe different concepts related to Quality Management.
2	Apply relevant practices of Quality Management in the organization.
3	Analyze issues involved in Quality Management.
4	Evaluate the recent developments in Quality Management
Course Objectives:	
1	To make students understand fundamental concepts and principles of quality management, including the basic concept and functions of service quality management.
2	To make students knowledgeable about theoretical aspects and practical application of statistical quality control techniques.
3	To introduce students to various quality management awards& its framework.

Unit Number	Contents	Number of Sessions	
1	INTRODUCTION TO QUALITY MANAGEMENT Definitions of Quality, Dimensions of Quality, Meaning of Quality Management, Evolution of Quality Management, Quality Assurance, Quality of Design, Quality of Conformance, Cost of Quality: Cost of Poor Quality, Cost of Internal & External Failure, Appraisal Cost, Prevention Cost. Quality Function Deployment.	L=11	
		T=2	P=2
2	STATISTICAL QUALITY CONTROL Meaning And Significance of Statistical Quality Control, Need of Accepting Sampling, Types of Sampling Plans, OC Curve, Introduction To Statistical Process Control & Control Charts, Control Charts for Variable, Control Charts for Attribute. (Numerical Treatment on Control Charts)	L=11	
		T=2	P=2
3	TOTAL QUALITY MANAGEMENT& SIX SIGMA Total Quality Management: Concept of TQM, Evolution of TQM, Principles of TQM, TQM Model, Implementation of TQM (PDCA Cycle), Training for Quality Management. Six Sigma: Introduction to Six Sigma, Evolution of Six Sigma, DMAIC Model for Implementing Six Sigma, Six Sigma Impact Measurement. Quality Circles.	L=11	
		T=2	P=2
4	SERVICE QUALITY MANAGEMENT& QUALITY MANAGEMENT AWARDS Introduction to Service Quality, The Service Quality GAP Model, Measuring& Improving Service Quality, Quality System Standards, Bureau of Indian Standards, International Organization of Standardization, ISO 9000-2000, Deming Prize, Malcolm Baldrige National Quality Award, Rajiv Gandhi National Quality Award, The Golden Peacock National Quality Award.	L=11	
		T=2	P=2

Note:

1. Case studies on each of the aspects mentioned in the syllabus need to be discussed.
2. Video cases and documentary films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Amitva Mitra, Fundamentals of Quality Control and Improvement, Wiley 2. R. Panneerselvam & P. Sivasankaran, Quality Management, Prentice Hall India Learning Private Limited 3. Shridhara Bhat K, Total Quality Management – Text and Cases, Himalaya Publishing House, First Edition

		4. M. Mahajan, Statistical Quality Control, Dhanpat Rai& Co.
2	Reference books	1. Kanishka Bwdi ,“Quality Management”, Oxford University Press 2. David Hoyle, Quality Management Essentials, Butterworth-Heinemann
3	Websites	1. https://www.managementstudyguide.com/total-quality-management-articles.htm 2. https://www.managementstudyguide.com/six-sigma-articles.htm
4	Journals	1. International Journal of Productivity and Quality Management (IJPQM) 2. Journal of Quality Management ScienceDirect.com 3. Quality Management Journal – Scimago 4. The TQM Journal information – Emerald
5	Supplementary Reading	1. Dale H. Besterfield et al, Total Quality Management, Third edition, Pearson Education 2. Evans & Lindsay, An Introduction to Six Sigma & Process Improvement, Cenage learning
6	Practical Component	1. To meet quality control manager of any local manufacturing organization to understand application of Quality Control Tools. 2. Identifying and visiting local ISO Certified organization to understand criteria for getting ISO Certification. 3. Visiting any local service sector business to study its Quality Management Framework. 4. Library Exercise on any one of the Quality Management Awards studied and any one award winning company of your choice.

Semester	IV	Total Credit	4
Course Code	DSE-Spl-II-402(F)	Credit Pattern	L-45, T-8, P-7
Course Title	APPLIED DATA SCIENCE AND BUSINESS ANALYTICS USING R		

Course Objectives	
1	To understand the nature of software development and software life cycle process models, agile software development, SCRUM, and other agile practices
2	To develop the skill of software design and user-centric approach and principles of effective user interfaces.
3	To infer the need for project management and project management life cycle
Course Outcomes: Students will be able to;	
1	plain needs for software specifications also they can classify different types of software requirements and their gathering techniques
2	stify the role of SDLC in Software Project Development and they can evaluate the importance of Software Engineering in PLC.
3	miliar with the different methods and techniques used for project management..
4	scuss the parameters of the software project's success and failures.

Unit Number	Contents	Number of Sessions	
1	Introduction to Data Science – Data Science Process, Concept of Big Data, Business Intelligence, Concept of Data mining, uses of data mining, Concept of data warehousing, OLAP, OLTP, A Process Model for Data Mining, Analytics for managers, Modules and Model Building, hard coding and soft coding in excel	L= 11	
		T= 2	P= 2
2	Introduction to Business Analytics, Prerequisites for effective business analytics, Applications of Business Analytics, ETL Process, Role of statistics in Analytics, Types of Digital Data, ETL Process, Introduction to R and its environments, Installing R, The R community, The R environment, Installing R, Variables in R, Working with R, R Packages	L= 12	
		T= 2	P= 1
3	Single-mode Data Structure-Create, Attributes, subscribing, Multi-mode data structure- Create, Attributes, subscribing, Decision making Structures, Predictive analytics, Emergence of Predictive Analytics, Applications of Predictive Analytics	L= 11	
		T= 2	P= 2
4	Basic Visualization-Pie Chart, Bar Chart, Line Chart, Q-Q Plot, Box-and-Whisker plot, Bubble plot, Role of statistics in Analytics, Basic Statistics using R, Time-series Models, Decision Tree, Clustering using R, Machine learning for text data, Building web applications with Shiny project	L=11	
		T= 2	P= 2

Note:

2. Students will have to complete all tutorials, assignments, and lab sessions for internal credits.

Learning Resources		
1	Text Books	4. Fundamentals Of Software Engineering – Roger Pressman 5. Information Technology Project Management – Jack Marchewka – Wiley India Edition
2	Reference books	9. Fundamentals Of Software Engineering - Rajib Mall Ghezzi, Jazayeri Stephen H. Khan 10. Software Requirements And Estimation - Fenton, Ptleeger McGraw Hill 11. Project Management For Software Development - Jaico 12. IT Project Estimation – Paul Coombs. – Cambridge 13. Information System Project Management - John McManus, Trevor Wood- Happer – Pearson. 14. Software Project Management – Bob Hughs, Mike Cotterell – Tata McGraw-Hill
3	Website	7. www.tutorialspoint.com 8. www.guru99.com 9. www.examupdates.in
4	Journals	5. International Journal of Scientific Computing 6. International Journal of Statistics & Management Systems 7. Chartered Secretary
5	Supplementary Reading	5. Business Line 6. Current affairs in newspapers 7. Information system Audit Reports from computer consultancies
6	Practical Component	3. Visit any computer consultant firms and discuss and understand about Software engineering process 4. Case study about Information system Project Planning

Semester	IV	Total Credit	2
Course Code	AECC-401	Credit Pattern	L-22, T-8
Course Title	Employability Skills		
Course Objectives			
1	Develop effective communication skills		
3	Develop broad career plans		
Course Outcomes			
After completion of this course the student will be able to:			
1	Match the job requirements and skill sets.		
3	Evaluate the employment market.		
Unit Number	Contents		
1	Personality, Interpersonal and employability skills and Emotional Intelligence: (15) Basic Interaction Skills –Within family, Society. Interpersonal and intrapersonal skills. Types of skills; Decision Making, Articulation Skills, Emotional Intelligence Human relations examples through role – play and cases		
2	Leadership Skills, Team work, Conflict Management ,Interview Skills, Time Management and Stress Management: (15) Leadership skills – Leadership in groups, coaching, strategic management Team work & Team building - Characteristics of an effective team, Essentials of an effective team, Evolution Team. Activities – Team trust, team shape up. Conflict Management – Types of conflicts, how to cope with them Small cases including role – plays will be used as teaching methodology. Interview skills – Preparation pre-during and post interview Resume writing, self grooming for the interviews. Introduction, Types of interviews, process of interview, Preparation of the candidate, preparation of the interviewer, common interview questions. Time Management – Importance, Prioritizing tasks, Personal Goal Setting – SMART goals, delegation, Time management in meetings, barriers to time management, identifying and handling time consuming tasks. Activity – Games, role-play, case studies. Stress Management – Understanding stress, Types of stress, symptoms, causes of stress. Managing stress, Techniques of managing stress. Activity – questionnaire to find out the level of stress.		
Learning Resources			
1	Reference Books	Business Communication – Urmila Rai & S M. Rai, 12/e, Himalaya Publishing House, 2010. Enhancing Soft Skills – Prof. Dipali Biswas, 1/e, Shroff Publishers & Distributors Pvt. Ltd., 2009. The ACE of Soft Skills – Gopalaswamy Ramesh & Mahadevan Ramesh, 3/e, Pearson Educaion, 2012. Successful Career, Soft Skills and Business English – Varanasi Bhaskara Rao & Y. Kameswari, 1/e, BS Publications, 2010. Perrsonality Development and Soft Skills - Barun K. Mitra Emotional Intelligence by Daniel Goleman	

CSIBER

**CHHATRAPATI SHAHU INSTITUTE OF
BUSINESS EDUCATION AND RESEARCH,
KOLHAPUR-MAHARASHTRA, INDIA**

(AN AUTONOMOUS INSTITUTE)

CPE Phase III, NAAC A+



STRUCTURE & SYLLABUS

**Under C.B.C.S. Pattern
With Effect from 2021-22**

MBA Programme

MASTER OF BUSINESS ADMINISTRATION (MBA BFS)

PROGRAMME EDUCATIONAL OBJECTIVES (PEOS):

Programme Educational Objectives are broad statements that describe what students are expected to attain within few years of completing their graduation. Programme Educational Objectives are based on the needs of the students undergoing the programme.

The PEOs of MBA Program at CSIBER are as follows;

PEO 1:

Our graduates will develop themselves as professionals contributing effectively and efficiently by applying theories in management and demonstrating team work, effective communication, analytical and creative thinking skills for problem-solving.

PEO 2:

Our graduates will be equipped with leadership and entrepreneurial abilities to enable them to establish themselves as dynamic and innovative business professionals.

PEO 3:

Our graduates will not only be able to adapt to changes in the global environment but also act as change agents in bringing about holistic and sustainable development in the society.

PEO 4:

Our graduates will have highest regard for Personal & Institutional Integrity, Ethical values and Social Responsibility.

GRADUATE ATTRIBUTES for MBA COURSE

1. Problem solving using domain knowledge and quantitative techniques
2. Well versed with soft skills
3. Deal with contemporary issues (innovation, emerging technology, disruption)
4. Entrepreneurial and Leadership abilities.
5. Inter-cultural competency
6. Cater to needs of holistic and sustainable development
7. Develop the capacity for independent and lifelong learning.
8. Global citizenship

Programme Outcomes (POS):

The programme outcomes of MBA program are as follows;

1. Conceptual Knowledge:- Graduates will be able to conceptualize, organize, analyse and resolve complex business problems by using their domain knowledge of management.
2. Leadership and Innovation Skills:- Graduates will be able to adopt and adapt the contemporary trends in their domain area as well as innovations, emerging technology and global changes while leading and managing business.
3. Soft Skills:- Graduates will practice and perform effective communication skills and softskills under various business situations.
4. Entrepreneurial Skills:- Graduates will be able to identify, assess and shape entrepreneurial opportunities and evaluate their potential for starting an enterprise.
5. Stakeholder Concern:- Graduates will address ethical, legal and cultural issues of organizationand society by utilizing their conceptual knowledge.
6. Sustainability:- Graduates will gain ability to take business decisions keeping in mind the need for sustainable and holistic development.
7. Research and Lifelong Learning:- Graduates will be able to participate in active research work, as well as independent and lifelong learning.
8. Problem Solving:- Graduates will possess and use competencies in quantitative and qualitative techniques for problem solving in their respective functional areas.

I. DURATION :

The degree of **MBA** shall be full-time course and its duration shall be of **Two Years**. The course consists of Four Semesters. The examination to be held in the First and Second Semester will be called Part – I (First Year) and the examination to be held in the Third and Fourth Semester will be called Part – II (Second Year).

If a candidate fails to clear all the theory papers and project report within **Six** years of his/her registration, the past performance will stand automatically nullified.

If a candidate discontinues any of the terms (i.e. Semester – I to IV) on any account, he/she will be allowed to complete the incomplete terms in the subsequent years subject to the condition that it is within the stipulated time duration of **Six** years.

In addition to the above, once a student's term (Semester) is granted, he/she shall be allowed to appear and pass in any of the subsequent examinations held, provided the examinations are within the stipulated period of **Six** years.

In case the term (Semester) is not granted the student has to seek fresh admission in the next year and complete the term and pass the examination. This must be done within **Six** years of his/her registration.

Course Completion with Break in Between:

A student who has passed M.B.A. – I and is seeking admission to M.B.A. – II after a long gap (Provided the gap lies within the stipulated duration of **Six** years) should complete the course syllabus which is in existence at the time he is seeking admission for the academic year.

II. ASSESSMENT:

Taking into consideration the UGC and AICTE requirements, C SIBER has adopted –Credit Grade Based Performance Assessment System^{II} (CGPA). Each course is of 100 marks and contact hours for each paper is 60. One credit is allotted to 15 contact hours. All courses of 100 marks are considered as Full credit course with 4 credits. Courses of 50 marks are considered as half credit course and have 2 credits.

For the paper of 100 marks. The distribution of the marks will be as follows –

i) Formative Evaluation i.e. Internal marks	-	40 Marks
ii) Summative Evaluation i.e. Semester-end examination	-	60 marks

2. For the paper of 50 marks. The distribution of the marks will be as follows –

i) Formative Evaluation i.e. Internal marks	-	20 Marks
ii) Summative Evaluation i.e. Semester-end examination	-	30 marks

Breakup of Formative Evaluation (internal marks)

Head	Marks Out of 40	Marks Out of 20
Attendance and Class Participation	10	05
Quiz	10	05
Any Two from given alternatives: 1. Case Study 2. Home assignment 3. Mid-term test 4. Viva voce 5. Library-based assignment 6. Book report 7. Scrap Book 8. Lab. Practical 9. Field-based activity 10. Group Discussion 11. Seminar 12. Group Activity	10 + 10	05 + 05
	40	20

Assessment of AEC courses:

AEC courses will be assessed as follows;

i) Internal Marks i.e. Formative evaluation	-	20 Marks
ii) External Marks i.e. Summative evaluation	-	30 marks

Summative evaluation (out of 30) will be done by panel consisting of one internal and one external member on the basis of viva/ presentation. The Formative evaluation done by the faculty be shown to the students and their signature will be obtained.

3. For the report of Project Work done (100 marks) the distribution of the marks will be as follows –
- | | |
|---|------------|
| i) Project Report (given by faculty mentor) | - 40 Marks |
| ii) Viva Voce (panel of internal and external examiner) | - 60 Marks |

The assessment of papers will be done by an Internal and External examiner. A difference of more than **20%** in the marks awarded by these examiners would necessitate the valuation of the paper by Third examiner. The '**nearest**' highest two marks will be considered for determining the average mark of such papers.

4. Once the Student passes in the internal marks (Concurrent evaluation out of 40) and the record is submitted to the examination department, it should be carried forward whenever required and it cannot be improved in any case.

5. Students who fail in the internal marks (Concurrent evaluation out of 40) should reappear for the same, only then the revised marks will be considered for further calculation

Assessment of Lab-Based courses:

1) SEMESTER TWO:

Course name: Advanced Excel

Credits: FOUR

60 marks external- based on practical examination conducted by internal and external faculty.

The practical examination will be of 3 hours duration. The student will be given a choice of six questions of 15 marks each, out of which student will have to solve any four.

40 marks internal evaluation will be as per other 4 credit course in the curriculum.

2) SEMESTER TWO:

Course name: Managerial Decisions using Excel

Credits: TWO

30 marks external- based on practical examination conducted by internal and external faculty. The practical examination will be of 2 hours duration. The student will be given a choice of three questions of 15 marks each, will be asked out of which student can solve any two.

20 marks internal evaluation will be as per other 2 credit course in the curriculum.

III. STANDARD OF PASSING:

1. In order to pass in a paper/head, a candidate will have to obtain 50% in the Formative Evaluation (Internal Credit), 40% marks in theory, and a minimum of 50% of the marks in aggregate in each paper head.
2. To pass the M.B.A. examination, a candidate will have to pass in all Four Semester in Two Parts i.e. Part – I (Semester – I & II) and Part – II (Semester – III & IV)
3. To pass the Project work a candidate must obtain a minimum of 50% of the Project Report and Viva Voce marks. If a candidate fails in the project report and its viva-voce, he/she will have to reappear for the same in the subsequent semester.
4. A candidate from the first year M.B.A. will be eligible to proceed to the Semester III, if he/she is not having more than **5 (Five)** papers backlog of the First Year (that is Semester – I & II).
5. A candidate will be permitted to proceed to the second Semester even though he/she fails in one or more subjects of the first Semester.
6. The students who have a backlog of not more than **five papers** in the First year (Sem. I & II) examination will be eligible to be admitted to the Second year (IIIrd Semester) of M.B.A.
7. A candidate will be permitted to proceed to the Fourth Semester even though he/she fails in one or more subjects in third Semester.
8. Performance Index (SPI) will be as follows:

Grading System:

There shall be numerical marking for each course, which will be placed into credits. Each subject is classified as a major or minor. The major and minor subjects will be given 2 and 1 credits respectively.

a. Full Credit (100 Marks) Course:

Grade Table for Semester Examination			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
96-100	S+	10.0	SUPER
91-95	S	9.0	
86-90	E+	8.5	Exemplary
81-85	E	8.0	
76-80	O+	7.5	Outstanding
71-75	O	7.0	
66-70	A+	6.5	Good
61-65	A	6.0	
56-60	B+	5.5	Average
50-55	B	5.0	
--	X	0.0	Defaulter
--	XX	---	Incomplete

b. Half Credit (50 Marks) Course:

Grade Table for Semester Examination			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
48-50	S+	10.0	SUPER
46-47	S	9.0	
43-45	E+	8.5	Exemplary
41-42	E	8.0	
38-40	O+	7.5	Outstanding
36-37	O	7.0	
33-35	A+	6.5	Good
31-32	A	6.0	
28-30	B+	5.5	Average
25-27	B	5.0	
--	X	0.0	Defaulter
--	XX	---	Incomplete

9. **Final Result:** For the final result of the student Cumulative Performance Index (CPI) based on total earned credits vis-à-vis total earned grade points shall be calculated will be as follows.
 Total earned grade points / Total credits **100**

Result		
CPI	Final Grade	Classification of Final Result.
9.6-10.0	S+	SUPER
9.1-9.5	S	
8.6-9.0	E+	Exemplary
8.1-8.5	E	
7.6-8.0	O+	Outstanding
7.1-7.5	O	
6.6-7.0	A+	Good
6.1-6.5	A	
5.6-6.0	B+	Average
5.0-5.5	B	

Note: An aggregate of **5.0** credit points are required to pass the MBA program.

Grade Table for Semester Examination			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
48-50	S+	10.0	SUPER
46-47	S	9.0	
43-45	E+	8.5	Exemplary
41-42	E	8.0	
38-40	O+	7.5	Outstanding
36-37	O	7.0	
33-35	A+	6.5	Good
31-32	A	6.0	
28-30	B+	5.5	Average
25-27	B	5.0	
--	X	0.0	Defaulter
--	XX	---	Incomplete

IV. CALCULATION OF PERFORMANCE INDICES:

A distinction of the performance of one student from the other student is rather impossible to carry out from the grades obtained by a student in all the courses taken by him in a Semester/year. Hence, the evaluation of various courses is cumulated in two performance indices termed as Semester performance index (SPI) and cumulative performance index (CPI) the explanation of which is given below:

Semester Performance Index (SPI):

The performance of a student in a Semester is indicated by a number called Semester Performance Index (SPI). SPI is the weighted average of all the grade points obtained by him in all the courses registered during the Semester r. If G_i is a grade with numerical equivalent as G_i obtained by a student for the course with credit C_i then, SPI for that Semester is calculated using formula.

$$\text{SPI} = \frac{\sum_1 C_i G_i}{\sum_1 C_i}$$

Where summation is for all the courses registered by a student in that Semester. SPI is calculated to two decimal places and rounded off. SPI once calculated shall be modified. Generally, for the students failed in regular examinations SPI is calculated only after the declaration of re-examination grades.

Cumulative Performance Index (CPI):

An up-to-date assessment of the overall performance of a student from the first Semester till completion of the programme is obtained by calculating an index called as Cumulative Performance Index (CPI). The CPI is weighted average of the grade points obtained in all the courses registered by a student since the first semester of the programme.

$$\text{CPI} = \frac{\sum_1 C_i G_i}{\sum_1 C_i}$$

Besides SPI, CPI is also calculated at the end of every semester upto two decimal places and is rounded off. It is necessary to ensure that one course appears only once in calculation of CPI and the denominator in above equation does not exceed the total number of credits registered by him.

Initially there is certain trepidation in the minds of students and there are some difficulties in understanding the mechanics of this system. Therefore, it was decided that for the first year of implementation, on the mark sheets, both, the marks and the grade points and credits should be shown.

V. GRACE MARKS UNDER DIFFERENT ORDINANCE.

S.O. No. 1:-Grace Marks for Passing in each head of Passing (Theory/Practical/ Oral/ Sectional/External/Internal)

The Examinee shall be given the benefit of grace marks only for passing in each head of Passing (Theory/Practical/Oral/Sectional/ in External Internal examination as follows.

Head of Passing	Grace Marks
Upto -50	2
051-100	3
101-150	4
151-200	5
201-250	6
251-300	7
301-350	8
351-400	9
401 and above.	10

Provided that the benefit of such gracing marks in different heads of passing shall not exceed 1% of the aggregate marks in that examination.

Provided further that the benefit of gracing of marks under this ordinance shall be applicable only if the candidate passes the entire examination of Semester/year.

Provided further that this gracing is concurrent with the rules and guidelines of professional statutory bodies at the all India level such as AICTE and UGC.

S.O. No. 2:- Grace Marks for getting higher Class

A Candidate who passes in all the subjects and heads of passing in the examination without the benefit of either gracing or condonation rules and whose total number of Marks falls short for securing Higher Class or Grade by marks not more than 1% of the aggregate marks of that examination or upto 10 marks, whichever is less, shall be given the required marks to get the next higher class of grade as the case may be.

Provided that benefits of above mentioned grace marks shall not be given, if the candidate fails to secure necessary passing marks in the aggregate head of passing also, if prescribed in the examination concerned.

Provided further that the benefits of above mentioned grace marks shall be given to the candidate for such examination/s only for which provision of award of class has

been prescribed. Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE and UGC.

S.O. No. 3 Condonation

If a candidate fails in one or more head of passing, having passed in all other heads of passing, his/her deficiency of marks in such head of passing may be condoned by not more than 1% at the aggregate marks of that examination or 10 marks of the total Number of marks of that of passing in which he/she is failing whichever is less. However condonation, whether in one head of passing or aggregate head of passing be restricted to maximum upto 10 marks only.

Condonation of deficiency of marks be shown in the statement of Marks in the form of asterisk and Ordinance number

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE and UGC.

MBA (BFS) Programme Structure**Under C.B.C.S. Pattern With
Effect From 2021-22****MBA-I, Semester – I**

Nature of Choice	Subject Code	Subject	Credits	Contact Hours	Int. Marks	Ext. Marks	Total Marks
Core Component (CC)	CC 101	Banking Operations	04	60	40	60	100
	CC 102	Bank Project Management	04	60	40	60	100
	CC 103	Accounting for Business Decision	04	60	40	60	100
	CC 104	Marketing Management	04	60	40	60	100
	CC 105	Business Statistics	04	60	40	60	100
	CC 106	Managerial Economics	04	60	40	60	100
Ability Enhancement Course (AECC)	AECC 101	Professional Communication Skills	02	30	20	30	50
Discipline Specific Elective (DSE)	DSE 101 (Any One)	DSE 101 (A) Service Sector Management DSE 101 (B) Family Business Management DSE 101 (C) IT for Managers	04	60	40	60	100
		Total	30	450	300	450	750

MBA-I Semester-II

Nature of choice	Subject Code	Subject	Credits	Contact Hours	Int. Marks	Ext. Marks	Total Marks
Core Component (CC)	CC 201	Research Methodology	02	30	20	30	50
	CC 202	Legal Aspects of Banking	04	60	40	60	100
	CC 203	Financial Management	04	60	40	60	100
	CC 204	OB and Human Resource Management	04	60	40	60	100
	CC 205	Financial Market and Services	02	30	20	30	50
	CC 206	Retail Banking	04	60	40	60	100
	CC 207	Managerial Decisions using Excel(Lab-Based)	02	30	20	30	50
Ability Enhancement Course (AEC)	AEC201 (Any One)	AEC 201 (A) German AEC 201 (B) Japanese AEC 201 (C) French AEC 201 (D) Selling and Negotiation Skills AEC 201 (G) Digital Marketing AEC 201 (H) Human Values	02	30	20	30	50
Discipline Specific Elective (DSE)	DSE201 (Any One)	DSE 201 (A) Event Management and Public Relations Management DSE 201 (B) Business Communication	04	60	40	60	100
Generic Elective (GE)	GE 201 (Any One)	GE 201 (B) Environment and Development GE 201 (C) Indian Social Problems and Services GE 201 (D) Office Automation GE 201 (E) Principles of Economics	02	30	40	60	100
		Total	30	450	300	450	750

MBA-II Semester – III

Nature of choice	Subject Code	Subject	Credits	Contact Hours	Int. Marks	Ext. Marks	Total Marks
Core Component (CC)	CC 301	Strategic Management	04	60	40	60	100
	CC 302	Business Ethics and Corporate Governance	04	60	40	60	100
	CC 303	Project report and Viva-voce	04	50days + 30	40	60	100
	CC-Spl-1-304 (Any One)	CC-Spl-I-304 (A): International Trade And Finance CC-Spl-I-304 (B): Employee Relations And Labour Law CC-Spl-I-304 (C): Buying Behaviour CC-Spl-I-304 (D): Agri-Business, Entrepreneurship and Cooperatives CC-Spl-I-304 (E): Logistics and Supply Chain Management CC-Spl-I-304 (F): Knowledge Management and ERP	04	60 60	40 40	60 60	100 100
	CC 305	Equity Markets CC specialization II	04	60	40	60	100
	CC 306	Rural Banking and Financial Inclusion	02	30	20	30	50
	DSE 301	Bank Financial Management DSE Specialisation Paper I	04	60	40	60	100
Discipline Specific Elective (DSE)	DSE-302 (Any One)	DSE Specialisation Paper II List of Choice for DSE 302: DSE-Spl-II-301(A): Direct & Indirect Taxes DSE-Spl-II-301 (B): Strategic And International Human Resource Management DSE-Spl-II-301 (C): Marketing Sectors DSE-Spl-II-301 (D): Rural And Agricultural Marketing DSE-Spl-II-301 (E): Purchasing and Inventory Management DSE-Spl-II-301-(F): Information System Control and Audit	04	60 60	40 40	60 60	100 100

Ability Enhancement course (AEC)	AEC-301	AEC-301-(A): Entrepreneurial skills and Start up AEC- 301-(B): Health and Wellness AEC-301-(C): Tourism Management AEC-301-(D): Change Management	02	30	20	30	50
Generic Elective (GE)	GE-301 (Any One)	GE-301-(A) E commerce GE-301-(B) Disaster Management GE-301-(C) Corporate Social Responsibility GE- 301 (D) Basics Of Indian Economics	02	30	20	30	50
		Total	34	480	340	510	850

MBA-II Semester – IV

Nature of choice	Subject Code	Subject	Credits	Contact Hours	Int. Marks	Ext. Marks	Total Marks
Core Component(CC)	CC 401	Currency and Treasury Management	04	60	40	60	100
	CC 402	Bank Risk Management CC Specialization Paper I	04	60	40	60	100
	CC-Spl-I-402 (Any One)	CC Specialization Paper II List Of choices for CC 402: CC-Spl-II-402-(A) Management Accounting And Control System CC-Spl-II-402- (B) Performance and Compensation Management CC-Spl-II-402-(C) Sales and Distribution Management CC-Spl-II-402- (D) Agri-Production And Supply Chain Management CC-Spl-II-402-(E) Project Management CC-Spl-II-402-(F) Software Engineering and IT Project Management	04	60 60	40 40	60 60	100 100
Discipline Specific Elective (DSE)	DSE 401	International Banking and Forex Management DSE Specialization I	04	60	40	60	100
	DSE 402 (Any One)	DSE Specialization II List of choices for DSE 402: DSE-Spl-II-402- (A) Investment And Portfolio Management DSE-Spl-II- 402(B) Talent And Human Capital Management DSE-Spl-II-402-(C) Integrated Marketing Communication DSE-Spl-II-402-(D) Agri-Commodity Markets And Agri-Business. DSE-Spl-II-402-(E) Modern Approaches to Quality Management DSE-Spl-II-402-(F) Applied Data Science and Business Analytics using R	04	60 60	40 40	60 60	100 100

Ability Enhancement Compulsory course (AECC)	AECC-401	Employability Skills	02	30	20	30	50
		Total	22	330	220	330	550

Component-wise distribution of MBA curriculum 2021-22

Component \ Semester	I	II	III	IV	Total	PERCENTAGE
Core Courses	24	22	22	12	80	68.9 %
Discipline Specific Elective	4	4	8	8	24	20.7 %
Ability Enhancement Compulsory Course	2	-	-	2	4	3.5 %
Ability Enhancement Course	-	2	2	-	4	3.5%
Generic Elective	-	2	2	-	4	3.5 %
Total credits:	30	30	34	22	116	100%

MBA – I

SEMESTER – I

Semester	I	Total Credit	4
Course Code	CC 101	Credit Pattern	L-45, T-6, P-9
Course Title	BANKING OPERATIONS		

Course Objectives	
1	To Study the Basic Regulatory Framework in Which Banks Operate
2	To Examine Organization of Banking Business
3	To Explain Basics of AML/KYC

Course Outcomes	
	The students will be able to learn:
1.	Regulatory Framework of Banking in India
2.	Understanding of various functions in a Bank, BASEL I, II, III
3.	AML/KYC Principles and Practices

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Nature of Banking Business: Socio, Economic and legal environment of banking business in India, Official regulation and control over banks in India: Banking Regulation Act, 1949, Reserve Bank of India Act, 1934, Companies Act, 2013 (As applicable to Banking Companies) etc.	L= 11	
		T= 2	P= 2
2	Forms of Banking: Branch Banking, Unit Banking, Group Banking, Chain Banking, Correspondent Banking. Process of Bank Management: Organizational Structure of Commercial Banks in India Department set up of head office, Zonal Office, Regional office and Branch offices, Various Functions/Departments in a bank- Organisation and Methods(O&M), Legal, Credit, HR, Planning, Recovery, Monitoring Treasury, Planning, Accounts, Audit, Vigilence, Administration/Facilities Delegation of authority in banks,	L= 12	
		T=1	P=2
3	Management in Banks: Profitability and Productivity in banks, Management of large sized branches and rural branches, Management of assets and liabilities in banks, Internal control and Performance budgeting system – Management Information system, Income Recognition and asset classification norms Introduction to BASEL I, II and III	L= 11	
		T= 1	P= 3
4	AML/KYC Meaning of KYC, KYC Requirements for Individuals, Firms, Companies, Others; Customer Due Diligence and Enhanced Due Diligence, Regulatory Framework: AML (Anti Money Laundering), FATF (Financial Action Task Force), FIU-Ind (Financial Intelligence Unit- India), The concept of Money Laundering, Steps in Money Laundering, Initiation, Layering, Integration, Reporting Requirements of RBI- Cash Transaction Report (CTR), Suspicious Transaction Report (STR)	L=11	
		T= 2	P= 2

Learning Resources		
1	Text Books	- Principles and Practice of Banking, IIBF - Legal Aspects of Banking, IIBF - Anti-Money Laundering & Know Your Customer, Macmillan Education
2.	Reference Books	- Vasudevan, T.M.C., 2007, Cooperative Banking Operations, Macmillan India Ltd., Delhi. - Indian Institute of Banking & Finance, Mumbai, 2006, , Principles and Practice of Banking, Accounting and Finance for Bankers, Legal Aspects of Banking Operations, Macmillan India Ltd., Delhi. - Zacharias, K.D., 2005, Legal Aspects of Banking Operations, Macmillan India Ltd. - Reserve Bank of India, 2002, Taxmann Reserve Bank of India's Instructions for Banks & Banking Operations, Taxmann Allied Service Pvt. Ltd., New Delhi.
3.	Websites	www.rbi.org.in www.iibf.org.in www.bis.org/bcbs/
4.	Journals	- Finance India, the quarterly journal of Indian Institute of Finance - Bank Quest- IIBF - Journal of Banking and Financial Technology – IDRBT
5.	Supplementary Reading	Financial Newspapers, Magazines on Current Affairs
6.	Practical Component	- Examine Various Publicly Available Forms of a Bank such as Account Opening Form or Loan Application Forms; Explain the purpose of various fields therein; Suggest a few fields in the chosen form for adding therein. - Prepare / Study the organization chart of a nationalized bank and depict the same - Obtain the list of high risk categories of customers from a Mid Size Bank.

Semester	I	Total Credit	4
Course Code	CC 102	Credit Pattern	L-45, T-6, P-9
Course Title	BANK PROJECT MANAGEMENT		
Course Outcomes			
	The students will able to learn:		
1.	Explain the Regulatory Framework in the Indian Banking system.		
2.	Analyze the Project Report Preparation and Evaluation, Capital Budgeting Techniques.		
3.	Understand the concepts of Loan Monitoring and NPAs and its impact, Credit Rating Agencies		
4.	Develop necessary competencies expected of a banking professional.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Banking Business; KYC norms, AML, Non-banking financial intermediaries; Types of advances and deposits in a bank. New Dimensions and Products. - Credit, Debit and Smart Cards, and e-Banking Structure of the Indian Banking System: a. Commercial Banks – Public and Private Sector and Foreign Banks. Cooperative Banks b. Understanding the Annual Report and Balance Sheet of a Bank	L= 11	
		T= 2	P= 2
2	Project Finance: Project Identification and Feasibility Report - Industry Classification, Industrial Policy, Regulatory Framework, Selection of Project, Feasibility Report - Meaning and Scope, Project feasibilities-Market, Technical, Management, Economic. Project Evaluation (Capital Budgeting Techniques): Evaluation under certainty - Net Present Value (Problems - Case Study), Benefit Cost Ratio, Internal Rate of Return, Payback Period, Average Rate of Return – Evaluation under uncertainty – Methodology for project evaluation – Commercial vs. National Profitability – Social Cost Benefit Analysis, Social or National profitability.	L= 12	
		T=1	P=2
3	Tools in the Hand of a Credit Officer: Cost of Project, Sources of Finance, Financial Projections - Cash Flow and Profitability, Working Capital Estimation, Use of Capital Budgeting Techniques - Financial Analysis - Liquidity Ratios. Current Ratio, Debt Equity Research, Fixed Assets Coverage Ratio, Debt Service Coverage Ratio Etc., Break Even Point Analysis, Leverage Analysis Capital Structure Sources of Finance (Choices of Securities), Equity & Debentures, Factors Affecting Various Sources Of finance - Cost of Capital, Control, Liquidity, Availability, Promoters Contribution, Security Margin, Debt Service Coverage Ratio Preparation of Detailed Project Report	L= 11	
		T= 1	P= 3

4	Basics of Monitoring for Banking Operations : Advances- Process and documentation of Bank Lending, Concept of Charge, Types of Charge, NPA (IRAC- Income Recognition and Asset Classification Norms), Provisioning Requirements Credit Rating – Meaning, Functions – Debt Rating System of CRISIL, ICRA and CARE. Factoring, Forfeiting and Bill Discounting – Types of Factoring Arrangements – Factoring in the Indian Context	L=11	
		T= 2	P= 2

Learning Resources		
1.	Text Books	1. Credit Appraisal, Risk Analysis and Decision Making, D D Mukherjee, SnowWhite 2. Basics of Banking and Finance, Dr.K.Bhattacharya ,O.P.Agarwal 3. Principles & Practices of Banking, Indian Institute of Banking and Finance 4. Banking Theory & Practices, KC Shekhar,Lekshmy Shekhar
2.	Reference Books	1. Panneerselvam & Senthilkumar, Project Management, PHI, Delhi, 2009 2. Kamaraju Ramakrishna,Essentials of Project Management, PHI, Delhi, 2010 3. ArunKanda ,Project Management, PHI, Delhi, 2011 4. M.Y.Khan, Indian Financial System, Tata McGraw Hill 5. K.Nagarajan, Project Management, New Age International Publications 6. Prasanna Chandra Financial Management, TMGH
3.	Websites	1. odishavet.com/dairy-farming-project-report/dairy-farm-project-10- cows/ 2. www.nabard.org 3. https://udyamimitra.in/ProjectProfiles 4. Loan Schemes of various banks as available on their websites.
4.	Journals	1. The Journal of Structured Finance
5.	Supplementary Reading	1. Financial Newspapers 2. Financial Magazines
6.	Practical Component	1. Preparation of Cost of Project 2. Preparation of Profitability Projections 3. Preparation of Cash Flow Projections 4. Preparation of CMA 5. Preparation of Detailed Project Report

Semester	I	Total Credit	4
Course Code	CC 103	Credit Pattern	L-45, T-8, P-7
Course Title	ACCOUNTING FOR BUSINESS DECISIONS		
Course Outcomes: The students will able to			
1.	Apply basic accounting principles and concepts for preparation of financial statements		
2.	Asses funds from operation with the help of funds flow statement		
3.	Evaluate the financial position by preparing the financial statement as per Schedule-III		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Accounting: (15) Accounting as an information system, concepts, convention and principles of Accounting, Types of Business Organizations, Legal Regulatory And Tax Framework., Role of accountant in an organization, Accounting Process. Branches of accounting: Financial, Cost and Management Accounting and their inter-relationships, Introduction of Accounting Standards.	L= 11	
		T= 2	P=2
2	Financial Statement Analysis: (15) Preparation and Understanding of Financial Statements, Exposure to format of schedule III of Public Limited, Introduction of IFRS & Introduction of Tally Software Package in Accounting – Creating Companies, journal entries and ledger accounts.	L= 12	
		T= 2	P= 1
3	Fund Flow and Cash Flow Statement: (15) Preparation of Funds Flow Statement and its analysis and Cash Flow Statement: Various cash and non-cash transactions, flow of cash, difference between cash flow and fund flow, preparation of Cash Flow Statement and its analysis. (As per AS-3).	L= 11	
		T= 2	P= 2
4	Introduction to Cost Accounting & Techniques: (15) Introduction to Cost Accounting, Elements of Cost and Cost Sheet, Use and Importance of Standard Costing, Including Variance Analysis – Materials and Labour Variances. Cost Control Techniques.	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1.	Text Books	1. S N Maheshwari “Introduction to Accountancy” S Chand Publication 2. Prof. V.A. Patil, Dr. P. M. Herekar, “Financial Accounting” Ajab Publication 3. S. C. Gupta, “Advanced Accounts” S Chand Publication. 4. M. G.Patkar, “Book Keeping & Accountancy” 5. G Sekar & B Sarvana Prasath, “CA Inter Padhuka Ready Referencer on Accounting”, Padhuka’s Publication
2.	Reference Books	1. Accountants' Guidebook: A Financial and Managerial Accounting Reference 2. Jae K. Shim, Joel G. Siegel, Nick Dauber CPA, Anique Qureshi; “Accounting handbook” 3. “A Dictionary of Accounting” Oxford Quick Reference Publication
3.	Websites	<u>The Institute of Chartered Accountants of India</u> : www.icai.org <u>The Institute of Company Secretaries of India</u> : www.icsi.edu
4.	Journals	• The Chartered Accountant Journal. • The Chartered Secretary Journal. • The Management Accountant Journal, Printer & Publisher, CMA Kaushik Banerjee, and Editor: CMA Dr Debaprosanna Nandy, ISSN: 09723528. • ICSI Journals • Finance India • Journal of Accounting & Finance
5.	Supplementary Reading	• Financial Express • Economics Times • Business Standard
6.	Practical Component	• Practical Problems on Schedule III • Practical Problems on Fund Flow and Cash Flow Statements • Practical Problems on Cost Sheet • Practical Problems on Standard Costing and Variance Analysis • Financial statement analysis using Prowess-IQ • Companies Financial Reports & Corporate case studies.

Semester	I	Total Credit	4
Course Code	CC 104	Credit Pattern	L-45, T-8, P-7
Course Title	MARKETING MANAGEMENT		
Course Objectives:			

1	To create an awareness about fundamentals of marketing
2	To cover the basic concepts of marketing and develop conceptual abilities and substantive knowledge in marketing through a variety of real-life marketing situations.
3	To understand the use of marketing mix in marketing decision making
Course Outcomes: Students will be able to;	
1.	Discuss conceptual knowledge of Marketing
2.	Analyse marketing situations
3.	Devise Market segmentation strategies for product and services.
4.	Develop 4Ps of Marketing for Product and Services.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Marketing & Demand Measurement Definition – Importance and Scope – Core-concepts of Marketing – Company Orientation Towards Market place - Scanning the Marketing Environment Macro – Demographic, Economic, Social – Cultural – Political – Legal- Technology- Natural and Micro environment. Concept of Market Demand and Demand Measurement, Definition, Need & Benefits	L= 11	
		T= 2	P= 2
2	Market Segmentation & Product Mix Bases for market Segmentation, Segmentation of Consumer goods, Industrial goods and services. Effective segmentation criteria, Evaluating & Selecting Target Markets, differentiation, Positioning. Consumer and Business buying process. Concept of Product, Classification- Levels of Product– Product Life Cycle – New Product Development -Branding, Packaging and Labeling,	L= 12	
		T= 2	P= 1
3	Price, Place & Promotional Mix Importance of pricing, Pricing Objectives, Price Determination Procedure – Methods of Pricing. Importance, Functions of Distribution channels - Introduction to the various Channels of Distribution – Channel Management Decision. - Advertising, Sales Promotion, Publicity and Personal Selling, Impact of Technology & Internet on Promotion.	L= 11	
		T= 2	P= 2
4	Marketing Planning & Control Nature, Scope and Contents Of Marketing Plan - Process of planning Concept – Importance- Techniques of control- Annual Plan Control – Profitability Control – Efficiency Control – Strategic Control	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Kotler Philip, “Marketing Management 17th Edition 2015”, Prentice Hall of India, New Delhi. 2. Saxena Rajan, “Marketing Management 2nd Edition 2002”, Tata McGraw Hill, New Delhi

2	Reference books	1. Station W.J. Etzel M.J., “Fundamentals of Marketing – 10th Edition 1994” , Mc Graw Walker B.J., Hill International Editions. 2. Srinivasan R., “Case Studies in Marketing”, Prentice Hall, New Delhi, 2000 3. Kaushal H., “Case Study Solutions in Marketing”, McMillan India 2001 4. V.S.Ramaswamy and S.Namakumari -Marketing Management –Macmilan Business Books 5. Arunkumar, M Meenakshi- Marketing Management-Vikas Publication 6. Walkar, Boyd, Mullins And Larreche. "Marketing Strategy. A Decision Forced Approach", Tata Mcgraw Hill 4th Edition.
3	Websites	https://www.ama.org/ https://www.academyofindianmarketing.org/ (Academy of Indian Marketing (AIM) Management Institutions) https://www.ima-india.com/ (https://www.ima-india.com/) https://www.mrsi.co.in (Market Research Society Of India: MRSI) www.rmai.in/ (Rural Marketing Association of India: RMAI)
4	Journals	Indian journal of marketing Journal of digital marketing Journal of Marketing: SAGE Journals
5	Supplementary Reading	Economics Times, Brand Equity Business Standard, The Strategist.
6	Practical Component	1. Student will select any product of their choice and prepare a poster presentation on core concept of Marketing applicable for the product. 2. Student will select any industry of their choice, identify the major companies operating in industry and compare the segmentation strategy used by companies. 3. Group Activity: Students will develop a conceptual new product, identify the target market for the product and develop a marketing plan for the product. 4. Group Activity: Students will prepare an advertisement to promote the conceptual product developed to the target customer.

Semester	I	Total Credit	4
Course Code	CC 105	Credit Pattern	L-45, T-8, P-7
Course Title	BUSINESS STATISTICS		
Course Outcomes: Students will be able to			
1	Provide solution to management decision problems.		
2	Analyze company/organization data for taking decisions.		
3	Interpret the relevance of statistical findings for business problem solving and decision making.		
4	Evaluate the data collected for management decision and provide inference towards it.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Measures of Central Tendency: Introduction, Objectives of statistical average, Requisites of a Good Average, Statistical Averages - Arithmetic Mean - Properties of arithmetic mean - Merits and demerits of arithmetic mean, Median - Merits and demerits of median, Mode - Merits and demerits of mode, Measures of Dispersion: Appropriate Situations for the Use of Various Averages, Positional Averages, Dispersion – Range - Quartile deviations, Mean deviation, Standard Deviation -Properties of standard deviation, Coefficient of Variation.	L= 11	
		T= 2	P= 2
2	Simple Correlation: Introduction , Correlation - Causation and Correlation - Types of Correlation -Measures of Correlation - Scatter diagram - Karl Pearson's correlation coefficient - Properties of Karl Pearson's correlation coefficient, Spearman's Rank Correlation Coefficient Regression: Regression analysis - Regression lines - Regression coefficient, Permutation & Combination: Principles of counting, Permutations of n dissimilar objects taken r at a time (with and without repetitions), Properties, Combination of n objects taken r at a time, Properties, examples on Permutations and Combinations.	L= 12	
		T= 2	P= 1
3	Probability: Random experiment, sample space and classification of sample spaces, Classical definition of probability, Properties, Conditional probability, Multiplication law of probability, Baye's theorem, Independence of events, Examples. Probability Distribution: Random variable, Probability mass function, Cumulative distribution function, Mathematical expectation, Variance, Definition and properties of Binomial, Poisson distribution-examples, Probability density function, Definition and properties of Normal distributions. Examples.	L= 11	
		T= 2	P= 2
4	Testing of Hypothesis: Introduction, Simple & Composite, Null & Alternate Hypothesis, Type I and Type II Error, Level of Significance, One Tail & Two Tail, General Procedure of Testing of Hypothesis, Parametric Test, Large Sample Z Test for – Population Mean, Difference of Population Means, Small Sample t Test for – Population Mean, Difference of Population Means, Non-Parametric – Chi Square Test of Independence	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. S C Gupta, Fundamentals of Statistics 2. S C Gupta, Business Statistics 3. C R Kothari, Research Methodology – Methods Techniques
2	Reference books	1. N D Vohra, Business Statistics, Tata McGraw Hill 2. G C Beri, Business Statistics, Tata McGraw Hill 3. Devid M Levine etc, Business Statistics – A First Course, Pearson Publication. 4. Glyn Davis & Branko Pecar, Business Statistics Using Excel, Oxford University Press. 5. Albright, Winston, Zappe, Decision Making Using Microsoft Excel, Cengage Learning.
3	Journals	1. International Journal of Statistics & Management Systems 2. Calcutta Statistical Association Bulletin 3. Vikalpa: The Journal for Decision Makers
4	Websites	1. www.stattrek.com 2. www.statisticsbyjim.com 3. www.pinkmonkey.com/studyguides/subjects/stats/contents.asp
5	Supplementary Reading	Glyn Davis & Branko Pecar, Business Statistics Using Excel, Oxford University Press.
6	Practical Component	1. Analyzing collected raw data or online available data. 2. Finding relations among two or more variables and fitting regression equation to predict value of dependent variables.

Semester	I	Total Credit	4
Course Code	CC 106	Credit Pattern	L-44, T-8, P-8
Course Title	MANAGERIAL ECONOMICS		
Course Outcomes: Students will be able to			
1	Describe micro and macroeconomic concepts of business importance		
2	Analyze Economic Variables which influence managerial decision making process		
3	Asses micro and macro-economic environment of business decision process		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Managerial Economics and Demand Analysis Basic Economic Concepts, Nature And Scope Of Managerial Economics, Objectives Of The Firm And Constraints, Business Decision-Making Model, Tools Of Economic Analysis, Introduction to Consumer Behavior and Utility measurement, Demand Analysis- Meaning, Types And Determinants Of Demand, Demand Function And Law Of Demand, Elasticities And Their Utilities In Managerial Decisions, Demand Forecasting- Meaning, Purpose And Methods, Law of Diminishing Marginal Utility, Basics of Ordinal Utility approach.	L= 11	
		T= 2	P= 2
2	Production & Cost Analysis for Business Decisions Production Analysis- Production Schedules, Production Functions-Short Run And Long Run, Returns To Scale Approach, Marginal Productivity Of Inputs, Optimal Input Combination. Cost Concepts, Cost Function, Cost-Output Relationship, Short Run And Long Run Analysis	L= 12	
		T= 2	P= 1
3	Market Structure and Pricing Concepts Introduction to Market Competition and its Nature, Perfect Competition, Monopolistic Competition, Monopoly and Oligopoly etc, Price and Output Determination in different Markets, Pricing practices: Cost plus pricing, incremental pricing, multiple product pricing, product line pricing, specific pricing problems	L= 11	
		T= 2	P= 2
4	National Income and Macro-Economic Policies Introduction to National income, Basic Concepts, Estimation of NI and Difficulties, Circular Flow Of Aggregate Income and Expenditure, NI as a Measure of Economic Development In Comparison with other Indicators. Role and function of Money Market: Composition and instruments. RBI role and functions. Capital Markets: Role and functions, Regulatory role of SEBI. Objectives and Instruments of Monetary And Fiscal Policies, Recent Issues In Monetary And Fiscal Policies	L=11	
		T= 2	P= 2

Note:

1. Case studies on each of the aspects mentioned in the syllabus need to be discussed
2. Necessary Audio and Video case studies must be shown in the class.

Learning Resources		
1	Text Books	1. D.N. Dwivedi , Managerial Economics, Vikas Publication House, New Delhi 2. Dominick Salvatore, Managerial Economics, Mcgraw Hill Inc, New York, (2000) 3. Deviga Vengedasalam,Karunagaran Madhavan Principles of Economics (Third Edition) Oxford University Press, 2014 4. Mithani D M (2016)Managerial Economics : Theory And Applications, Himalaya Publishing House
2	Reference books	1. Paul Samuelson, Economics, Mcgraw Hill Inc, New Delhi, (2000) 2. Peterson & Lewis, Managerial Economics, Prentice Hall India Ltd, New Delhi, (2001). 3. H.L. Ahuja, 2004, Modern Micro Economics Theory and Practices, Ed.12, S.Chand, New Delhi. 4. Timothy C.G. Fisher, David Prentice and Rober Waschik, Managerial Economics - A Strategic Approach, Routledge, 2010.
3	Websites	https://www.rbi.org.in/home.aspx http://finmin.nic.in/ http://nptel.ac.in/courses/110101005/3 http://indiabudget.nic.in/budget.asp https://www.cmie.com/ Economic and Political Weekly
4	Journals	Journal of Applied Economics Indian-Economic-Journal International Journal of the Economics of Business Journal-of Indian-School-of-Political-Economy Agricultural-Economic-Research-Review
5	Supplementary Reading	Economics Times Daily Business Standard Daily Business Today Daily Latest Monetary Policy Report Latest Fiscal Policy Report
6	Practical Component	1. Visit to medium scale vendor at your near point. Collect data on a specific product sales and price. Estimate its elasticity 2. Meet a manufacturer and collect data on production inputs and prepare his short term and long term returns conditions. 3. List out the business as per market structure characteristics. Collect information on their product base 4. Collect data on national income from national income statistics and apply three methods of national income estimation and measure the trends in national income.

Semester	I	Total Credit	2
Course Code	AECC-101	Credit Pattern	L-26, T-4
Course Title	Professional Communication Skills		
Course Objectives			
1	To familiarize learners with the mechanics of communication.		
2	To develop students written expression of thought and build connections between content areas		
3	To develop students oral communication skills by a variety of communication activities, from informal discussion to formal presentation		
Unit Number	Contents		
1	Effective Business Communication: (15) ☐ Meaning & Definition, Role of communication in today’s business Basic Grammar and how to use in English Communication Personal Introductions, Facing Audience Verbal and Non-Verbal Communication ☐ Effective communication in Formal and Informal Environment ☐ Barriers to communication ☐ Measures to overcome barriers to communication Understand and use JoHari Window for self-development ☐ Non-verbal communication: Nonverbal Cues, Kinesics, Haptic and Proxemics Body language, Facial Expressions How to carry yourself professionally (grooming and dining etiquettes) ☐ Public Speaking		
2	Communication Technology: (15) ☐ Social Media Communication ☐ Email Writing & Professional Writing ☐ Presentations Skills ☐ Group Discussion ☐ Critical Thinking		
Practical Components: 1. To be well in Verbal and Non- verbal communication 2. Make students enact and analyze the non-verbal cues 3. Each student to give presentation of 15 minutes (this can be spread throughout the semester) and to be evaluated by the faculty 4. Each Student will give 10 minutes speech on given topic that will be evaluated by the Faculty			
Learning Resources			
1	Recommend ed Books	1. 1 Business Communication – Lesikar, Flatley, Rentz&Pande, 11/e, TMH, 2010 2. How to win Friends and Influence People by Dale Carnegie 3. Skill with People by Les Giblin 4. The Power of Communication: Skills to Build Trust, Inspire Loyalty, and Lead Effectively, by Helio Fred Garcia, 2012	
2	Reference Books	1. Business Communication - Sehgal M. K &Khetrapal V, Excel BOOKS. 2.. Business Communication – Krizan, Merrier, Jones, 8/e, Cengage Learning, 2012.	

Semester	I	Total Credit	4
Course Code	DSE 101(A)	Credit Pattern	L-45, T-8, P-7
Course Title	SERVICE SECTOR MANAGEMENT		
Course Objectives:			
1.	To understand the key elements in various Services Sector Management.		
2.	To know efficient and productive Management of Services Sector.		
3.	To Review Challenges For Service Sector Management.		
Course Outcome: The students will be able to			
1 Describe the concepts of service sector management			
2 Apply different theories and Concepts of Service Sector management			
3 Assess Challenges and Opportunities of Service Sector Management.			
Unit Number	Contents		
1	Introduction To Services Management : Stages of Development of Service Management, Reasons for growth of service sector, Different approaches for management of services, Nature , Scope and Importance of service management , Classification of services, Services marketing mix., Myths about of services management.		
2	Application of 7 P's of Services Management– Selected Industries : Management of Financial Services (Bank, Insurance) ,Management of Professional services ,(Consultancy, healthcare,) Management of Media Services (Advertising , Print media) Tourism and Travel Services Management (Hotel Tourism and Transportation industry) Personal Care services management, management of education services.		
3	Challenges For Services Management: Service Quality , Dimensions of Service Quality , Measuring service Quality , Service Gap Model , Principles of Service Quality, Importance of Service Quality Management, Benefits of Service Quality Initiative, Problems of Service Quality Control Globalization of Services Management : Challenges to Global services management, Prospects for Global services management.		
4	Strategic Services Management : Various strategic approaches to services management, PESTLE and strategic services management, SWOT Analysis for Service organization Government and private sector initiatives in creating , developing and promoting services management.		

Note:

1. Case studies/ field visits on each of the aspects mentioned in the syllabus need to be discussed.
2. Videos cassettes, CDS and documentary films exhibited.

Learning Resources		
1	Reference books	1. Christopher H Lovelock, Services Marketing , Third edition.US:Prentice Hall International, 1996 2. Valarie Zeithaml Mary Jo Bitner Services Marketing: Integrating Customer Focus Across The Firm. Third edition, New Delhi: Tata Mcgraw Hill 2003. 3. Patankar V. Sanjay, Services Management. Delhi Himalaya Publishing House 1999. 4. S.M.Jha Services Marketing , Sixth edition New Delhi: Himalaya Publishing House 2003 5. Balchandran.S., Customer Driven Services Management. New Delhi : Response Books,1999.
2	E- Libraries	1. <u>INFLIBNET</u>http://nlist.inflibnet.ac.in 2. <u>J-GATE</u>http://jgateplus.com 3. <u>EBSCO</u>http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same

Semester	I	Total Credit	4
Course Code	DSE 101 (B)	Credit Pattern	L-45, T-8, P-7
Course Title	FAMILY BUSINESS MANAGEMENT		
Course Objectives-			
1	To understand family business concept and its dynamics		
2	To understand the family governance issues and succession planning in family business.		
3	To understand challenges and issues involved in Family Business.		
Course Outcomes: Students will be able to;			
1.	Describe the Concepts of Family Business Management.		
2.	Apply appropriate family business strategies in family firms.		
3.	Analyze issues involved in the family businesses.		
4.	Evaluate the factors affecting Family Business Growth.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction of family business -Family Business, various types of family businesses, Uniqueness of Family Business, advantages of family businesses, Building businesses to last. Forms of organization, Continuing entrepreneurship to the next generation, issues involved in creating room at the top, Issues and challenges in family business, factors affecting family business.	L= 11	
		T= 2	P= 2
2	Family business management and Family Business Governance system: Responsibilities and Rights of the Family Shareholders in the family business, Building Family Values, family structure and composition, family communication style and role of every member. Gender and family business, Management of Human capital and financial capital. Family Business Governance system and its importance, role of Non-family members in the family businesses	L= 12	
		T= 2	P= 1
3	Planning strategy for family businesses: Parallel Planning Process, Small Vs. large family businesses, Role of professional management and family members in strategy development. Family reunion strategies, improving family business performance. Succession planning in family businesses-Qualities to be seen in successor, Valuation of the business, Conflict management and transition in family business.	L= 11	
		T= 2	P= 2
4	Lessons learned from family businesses in India. Case studies of three family businesses along with the family history. Analysis of success and non-success factors. Drawbacks of family business and How to save family business from break up. Using break up for growth.	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Family Business Management- Dr. Mukesh Bhatia-Regal Publication 2. Family Business-Ernesto J. Poza -Cengage Learning
2	Reference books	1. Family Business in India: Dutta, Sudipt (1997) Response books, New Delhi 2. Business Legends, Gita Piramal, Viking New Delhi. 3. Strategic Planning for the Family Business-Randel S. Carlock and John L. Ward 4. Family Business -The essentials-Peter Leach 5. Indian Family business Mantras: by <u>Peter Leach</u> and Tatwamasi Dixit, Rupa Publications, New Delhi 6. Entrepreneurship and Small Business Enterprises: Poornima Charantimath Pearson Education 7. Entrepreneurial Development Dr. S.S.Khanka S.Chand 8. Strategic Alternatives for Family Business Houses By Srinivas Shirur Deep and Deep Publications, 01-Jan-2005 - Family corporations - 214 pages
3	Websites	1. www.isb.edu 2. www.ijssrm.in/v2-i8/17%20ijssrm.pdf 3. http://www.untag-smd.ac.id/files/Perpustakaan_Digital_1/FAMILY%20BUSINESS%20Handbook%20of%20Research%20on%20Family%20business.pdf
4	Journals	1. Business Today 2. FIIB Business Review (New Sub.) 3. Global Business Review (New Sub.) 4. Journal of Family Business Strategy 5. Family Business Review (FBR)
5	Supplementary Reading	1. Indian Family Businesses: their survival beyond three generations, working paper Indian School of Business, Hydrabad. 2. The Economic Times 3. Business Standard
6	Practical Component	1. Library assignment on identifying 3 family businesses with female successor and write detail about those lady successors. 2. Find out challenges faced by family business in India. 3. Case study discussion of three family businesses in India. 4. Group Activity –Study one family business nearby Kolhapur or within Kolhapur by actual visit ,take interview by discussion method and prepare report which includes about the business, family history, family genogram, family governance system ,family value system, and success factors of that business etc.

Semester		I	Total Credit	4	
Course Code		DSE 101 (C)	Credit Pattern	L-45, T-8, P-7	
Course Title		IT FOR MANAGERS			
Course Objectives					
1	To develop students' discipline to manage I.T resources in accordance with business needs				
2	To make use of database management system using SQL				
3	To develop the Skill for preparing an effective presentation				
4	To understand all aspects of E-Commerce				
Course Outcomes: Students will be able to;					
1	Analyze industry data using MS-Excel				
2	Develop an effective presentation using embedded software				
3	Determine enterprise IT architecture for different domain areas.				
4	Design conceptual models of a database using ER for real-life applications and also construct queries in Relational Algebra				
Unit Number	Contents			Number of Sessions	
1	Elements of Modern GUI, Information systems In HR, IT In Marketing, IT In Finance, I.T . Infrastructure, Storage Management, Security Management, Detection of computer frauds, Business Automation, I.S. Choices, MS-Word for Business Analysis. Basic Database Concept			L= 11	
				T= 2	P= 2
2	Using Visual Aids In Business – Factors To Be Considered Before Creating A Presentation, visual media, Designing, setting up the room, advance delivery techniques, Question and answering techniques, Organizing and creating visuals, Personal appearance in Presentation, Creating Effective Presentations With PowerPoint Introduction To Oracle, Introduction To SQL, Oracle Data Type			L= 12	
				T= 2	P= 1
3	Relational Database Model, Characteristics Of RDBMS, Role, And Responsibilities Of DBA, Creating A Table, Updating A Contents Of A Table, Select Command, Range Searching, Pattern Matching, Modifying The Structure Of The Table, Deleting A Table, Grouping Data From A Table – Group By, Having Clause, Sorting Data In A Table – Order By Clause Computer Network, Network Topologies, e-Commerce– Introduction, Advantages of e-Commerce, Types of e-commerce, e-Governance			L= 11	
				T= 2	P= 2
4	Data Analysis And Business Module Through Excel – Using Excel Efficiency, Formatting Work Sheet, Naming Cells and Range, Advanced conditional Formatting, Data visualization using Sparklines and Excel Charts, Formula Functions and relative and absolute addressing, SUMIF, COUNT, COUNTIF, COUNTBLANK Functions, Amortization Tables, Basic Data Analysis – Sorting, Summarizing, Filtering, Validating Data, Subtotal			L=11	
				T= 2	P= 2

Note:

1. Students Will Have To Complete All Practical Assignments Based On Business Applications.
2. Students will have to complete all tutorials, assignments, and lab sessions for internal credits.

Learning Resources		
1	Text Books	1. Fundamentals of Computers – V. Rajaraman 2. Fundamentals of Computers – P.K Sinha 3. Database Management System – Silberchaltz 4. SQL In 21 Days. – BPB Publication 5. Excel 2007 Step by Step – Microsoft Press PHI
2	Reference books	1. Microsoft office 2007 - Schwartz 2. Information Technology for Management – Muthukumern – Oxford 3. SQL/ PL SQL Programming With Oracle – Ivan Bayross 4. Teach Yourself SQL – Schaum 5. SQL The Complete Reference – Groft Weinberg
3	Website	1. www.udemy.com 2. www.skillyouneed.com 3. www.forbase.com 4. https://nptel.ac.in/courses/106105175/6
4	Journals	1. IUP Journal of Management Research 2. Express Computer 3. International Journal of Computer Science & Information Technology 4. Education World 5. Asian Journal of Management Cases (New Sub.)
5	Supplementary Reading	1. Current affairs from newspapers (economic times, Times of India, and newsletters) 2. Beyond the MBA – Sameer Kamat
6	Practical Component	Field Visit to Industries to learn about office automation in industries. Hands-on experience through practical based on Ms-Excel, Word, and PowerPoint Seminar and presentation on a given topic

MBA – I
SEMESTER – II

Semester	II	Total Credit	2
Course Code	CC 201	Credit Pattern	22L+8TP
Course Title	RESEARCH METHODOLOGY		
Course Objectives			
1	To expose the students to various methods of research and enable them to understand the importance of research in management decision-making process.		
2	To Equip students with knowledge neededto Interpret The Research Findings.		
Course Outcomes: Students will be able to;			
Explain fundamental concepts of research methodology			
Develop Research Report			

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Research & Research Design Meaning, objectives & Motivation in research. Use of research in functional areas of Management. Types of research – Research process, relevance & scope of research in management. Research Design- Features of good Design, Types of Research Design, Sampling Design- Census vs. Sample, Characteristics of good sampling Design. Different types of sample Design. Measurement & scaling techniques- Errors in measurement. Test of sound measurement, scaling & Scale construction techniques for Attitude measurement.	L= 11	
		T=4	P=0
2	Methods of data collection, Analysis of Data & Report writing: Methods of data collection – Primary data –Collection of secondary data. Data Processing-Editing, Coding and Tabulation of data. Data analysis and Interpretation. Formats of Research Report, Methods and importance of Citation & bibliography in Research, Ethical issues in Research and plagiarism. Use of ICT tools for conducting of research.	L= 11	
		T= 4	P= 0

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources

1	Text Books	1. C.R. Kothari Research Methodology Methods And Techniques, Wiley Eastern. 2. G.C. Beri: Marketing Research Tata Mcgraw Hill Publishing Company Limited, New Delhi, 2000
2	Reference books	1. Goode And Hatt : Methods In Social Research, Mc-Graw Hill, Kogakusha Ltd., New York. 2. V.P. Michael: Research Methodology In Management, Himalaya Publishing House, Mumbai, 1985. 3. Kerlinger. Fred N.: Foundations Of Behaviourial Research, New York, Holt, Rinehart And Winston, 1973. 4. Donald S. Tull, Del I Hawkins: Marketing Research, Prentice Hall Of India, New Delhi, 1996. 5. Hans Raj: Theory And Practice In Social Research, Surjeet Publications, Delhi
3	Websites	1. https://www.spss-tutorials.com/basics/ 2. https://www.nielsen.com/in/en/
4	Journals	1. The Journal for Decision Makers - Vikalpa 2. Indian journal of marketing
5	Supplementary Reading	1. Journal of Business Research – Elsevier 2. https://www.iresearchservices.com 3. Economics Times, 4. Business Standard,
6	Practical Component	1. Students will actually conduct research and submit the research report using following guidelines. 2. Identify the research problem of your choice. 3. Formulate it into a Research title. 4. Collect at least five published research paper and conduct the review of that research paper. 5. Identify different variables that can be studied in the stated research problem. 6. Prepare at least five hypotheses on the research problem. 7. Suggest Research design to conduct the research on the problem. (Sampling Design and Data Collection method). 8. Collection, analysis and interpretation of data. 9. Writing a detail research report using citation and bibliography

Semester	II	Total Credit	4
Course Code	CC 202	Credit Pattern	L-45, T-6, P-9
Course Title	LEGAL ASPECTS OF BANKING		

Course Objectives	
1	To highlight the laws and regulations pertaining to the banking sector
2	To enable students to work within the legal framework related to banking.

Course Outcomes	
	The students will able to learn:
1.	Basic Understanding of relevant provisions of various Laws and Regulations pertaining to the banking sector

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Banker – Customer Relationship: Definition and Meaning of “Banker” and “Customer” – Permitted activities of Commercial Banks in India – General and Special Features of their relationship, Their rights and duties	L= 11	
		T= 2	P= 2
2	Deposit Accounts: Opening Operations and Closure of a) Fixed Deposit Account b) Recurring Account c) Savings Account d) Current Account e) Deposit Schemes for NRIs. Other Deposit Schemes, Mandate and Power of Attorney – Nomination Facility –Insurance of Bank Deposits Banking Instruments: Definitions of Negotiable Instrument [NI} – Different Types of NIs and other Instruments – parties to NIs – Crossing – Endorsements – Payment and Collection of Cheques – Forged instruments – Bouncing of Cheques and their implications –	L= 12	
		T= 1	P= 2
3	Various laws affecting bankers: Banking Regulation Act, 1949, Reserve Bank of India Act, 1934, Negotiable Instruments Act, 1881, Contract Act, 1872, Companies Act, 2013, Partnership Act 1932, Consumer Protection Act, 1986, Income Tax Act, 1956, Bankers Book Evidence Act, IT Act, 2000, FEMA, 1999,	L=11	
		T= 1	P= 3
4	Banking Services: Remittances – Safe Custody – Safe Deposit Vaults – Collection Facility – MICR Clearing ATMs – Credit cards and Debit Cards – Travellers’ Cheques – Gift Cheques – Ombudsman and Customer Services – Fraud Detection and Control Accounting conventions,	L=11	
		T= 2	P= 2

Learning Resources		
1.	Text Books	1. Indian Institute of Banking & Finance, Mumbai, 2006, Legal Aspects of Banking Operations, Macmillan India Ltd., Delhi.
2.	Reference Books	1. Zacharias, K.D., 2005, Legal Aspects of Banking Operations, Macmillan India Ltd. 2. Karmarkar M. B., Bank Victims, M/s Industrial and Commercial Printers 3. Maheshwari S. N. and Maheshwari S. K., Banking Law and Practice, Kalyani Publishers 4. Legal Aspects of Banking Operations, Macmillan 5. Tannan's Banking Law and Practice in India, Lexis Nexis
3.	Websites	1. https://www.india.gov.in/topics/finance-taxes/banking 2. https://rbi.org.in/Scripts/NotificationUser.aspx 3. https://rbi.org.in/Scripts/AboutusDisplay.aspx 4. http://www.bcsbi.org.in/ExemplaryCasesDealtWithByOBOs2017-18.html
4.	Journals	1. Banking Law Journal 2. Banking Cases
5.	Supplementary Reading	Current Affairs Weeklies/Magazines, Financial Dailies
6.	Practical Component	1. Ascertain grievance redressal mechanism at a bank branch not within your knowledge. 2. Discuss on the topics learnt with a banker and provide his feedback on the knowledge displayed by you. Submit detailed report of discussion and feedback.

Semester	II	Total Credit	4
Course Code	CC 203	Credit Pattern	L-45, T-7, P-8
Course Title	FINANCIAL MANAGEMENT		

Course Outcomes: The students will able to learn:	
1	Analyze working capital statement for decision making
2	Apply cash management technique for cash control
3	Evaluating investment proposals using capital budgeting technique.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Finance: Concept of Finance, scope and objectives of finance, Profit maximization vs. Wealth maximization, Functions of Finance Manager in Modern Age, Financial Analysis-Concepts and objectives, Tools of Financial Analysis: trend analysis, common size statements, comparative statements: Concepts of Ratio Analysis, Interpretation of Ratio Analysis, Advantages and Limitations of Ratio Analysis, Analysis and Interpretation of Financial Statement Using the techniques of Ratio Analysis.	L= 11	
		T= 2	P= 2
2	Working Capital Management: Concept of Gross and Net Working Capital, Use and Importance of Working Capital, Working Capital Cycle, Influencing Factors, Requirement of Working Capital.	L= 12	
		T= 1	P= 2
3	Cost of Capital & Capital Budgeting: Meaning; Factors Affecting Cost of Capital, Measurement of Cost of Capital, Weighted Average Cost of Capital, Marginal Cost of Capital Concept and techniques of Capital Budgeting Decisions, Meaning and importance, Evaluation of different proposals under capital budgeting and use in decision making.	L=11	
		T= 2	P= 2
4	Dividend Policy & Cash Management: Meaning, different theories of dividend policy, Forms of Dividends. Factoring, Facets of Cash Management, Motives for Holding Cash.	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1.	Text Books	1. Kapil Sheeba, "Financial Management" Pearson Publication House. 2. Jonathan Berk, Peter, "Financial Management" Pearson Publication House. 3. Sharan Vyuptakesh, "Fundamentals of Financial Management" Pearson Publication. 4. James C Van harne, "Financial Management & Policy" Pearson Publication House. 5. ICSI : Handbook on Mergers Amalgamations and takeovers.
2.	Reference Books	1) Pandey I M - Financial Management (Vikas, 2004, 10th Ed.) 2) Van Horne - Financial Management and Policy (Prentice hall, 2003, 12th Ed.) 3) Shapiro- Multinational Financial Management (Wiley Dreamtech) 4) Sheebakapil-Fundamental of financial management (Pearson) 5) Khan and Jain - Financial Management (Tata McGraw Hill, 3rd Ed.) 6) Prasanna Chandra - Fundamentals of Financial Management (TMH, 2004) 7) Knott G - Financial Management (Palgrave, 2004) 8) Lawrence J.Gitman – Principles of Managerial Finance (Pearson Education, 2004) 9) R P Rustagi - Financial Management (Galgotia, 2000, 2nd revised ed.) 10) Khan & Jain, "Financial Management", Tata Mcgraw Hill, 6 th edition. 11) R.P.Rustagi, "Financial Management", PHI, 10 th edition. 12) Maheshwari, Financial Accounting, Vikas Publishing 13) Ramchandran, Financial Accounting for Management, Tata McGraw
3.	Websites	INFLIBNET http://nlist.inflibnet.ac.in J-GATE http://jgateplus.com EBSCO http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4.	Journals	• Prabhandan: Indian Journal of Management • IUP Journals • ICSI Journals • Finance India • Chartered Secretary • Indian Journal of Finance (New Sub.) • Journal of Accounting & Finance etc.
5.	Supplementary Reading	• Financial Express • Economics Times • Business Standard • Times of India • Indian Express.
6.	Practical Component	• Practical Problems on Ratio Analysis • Practical Problems on capital budgeting • Practical Problems on working capital • Financial statement analysis using Proves-IQ • Companies Financial Reports & Corporate case studies.

Semester	II	Total Credit	4
Course Code	CC 204	Credit Pattern	L-45, T-8, P-7
Course Title	ORGANIZATIONAL BEHAVIOR AND HUMAN RESOURCE MANAGEMENT		
Course Objectives:			
1	To study individual and group perspectives of behavior in an organization.		
2	To develop skills in understanding and appreciating individual, inter-personal and group process for increased effectiveness, both within and outside organizations.		
3	To enable student to gain insights for effectively managing human resource in the organization.		
4	To design and implement different HR functions covered in the course.		
Course Outcomes: Students will be able to			
1	Demonstrate a thorough knowledge of organizational behavior.		
2	Apply relevant contemporary theories, concepts and models in order to analyze organizational environment, cases and issues.		
3	Identify the wide range of sources for attracting and recruiting talent and appropriate process for selecting candidates.		
4	Conduct job analysis interview develop job descriptions and job specifications, conduct performance appraisal.		
5	Develop, implement, and evaluate employee orientation, training, and development programs.		

Unit Number	Contents	Number of Sessions
1	Definition and Importance of OB, Perception – Definition, Importance and Factors Influencing Perception, Motivation: Definition, Theories in Motivation- Maslow, Theory X and Y, Z Theory. Individual Perspective: Personality – Determinants of personality, Theories of personality- Type A and B, Big five, Locus of control.	L = 11
		T=2 P= 2
2	Attitude – Characteristics, Components, Formation, Values. Concept of Groups, Stages in Group Formation, Types of power, Power and Politics. Human Resource Management- Meaning, Objectives, Scope, Functions, Job Analysis- Job Description and Job Specification.	L = 12
		T=2 P=1
3	Concept of Human Resource Planning and importance, Recruitment- Definition, Sources of Recruitment, Employee Selection Process. Training and development- Methods of training and development.	L= 11
		T=2 P=2
4	Performance Appraisal- Methods of Performance Appraisal, Problems in Performance Appraisals and solutions, Factors to be considered for Fixing Compensation, Employee Health, Safety and Welfare. Green HRM Practices	L= 11
		T=2 P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources

1	Text Books	1. K. Aswathappa, Organisational Behaviour, Himalaya Publishing House, 12th Revised Edition 2016. 2. Dr. S. S. Khanka , Organisational Behavior (Text and Cases), S.Chand Publication, Revised Edition 2013. 3. P.Subba Rao , Personnel and Human Resource Management, Himalaya Publishing House 5th Revised Edition 2014.
2	Reference books	1. Fred Luthans, Organisational Behavior, McGraw Hill, 11th Edition, 2001. 2. Hellrigal, Slocum and Woodman, Organisational Behavior, Cengage Learning, 11th Edition 2007. 3. Ivancevich, Konopaske&Maheson, OranisationlBehaviour& Management, 7th edition, Tata McGraw Hill, 2008. 4. Mc Shane & Von Glinov, OrganisationalBehaviour, 4th Edition, Tata McGraw Hill, 2007. 5. Schermerhorn, Hunt and Osborn, Organisational behavior, John Wiley, 9th Edition, 2008. 6. P G Aquinas, OrganisationalBehaviour : concepts, realities, applications and challenges, Excel Books. 7. Gary Dessler, Human Resource Management Prentice Hall Of India, New Delhi, Tenth Edition. 8. BohlanderAnd Snell, Managing Human Resources 13th Edition, Thomson – South Western. 9. David A. Decenzo, Stephen P. Robbins, Personnel / HRM (3rd Edition), Prentice Hall Of India, New Delhi.
3	Websites	1. www.iupindia.in 2. www.istd.co.in 3. www.humancapital.com
4	Journals	1. IUP Journal of Organizational Behavior 2. Indian Journal of Training and Development 3. Indian Journal of Human Development 4. South Asian Journal of Human Resource Management.
5	Supplementary Reading	1. South Asian Journal of Practical Research 2. Business India – The Magazine of Corporate World
6	Practical Component	• Study organizational Structure of any company and present in the class. • Class debate on different basis of departmentalization • Identify any business leader and list his qualities that made him a good leader. • Visit any organization and find out how it motivates its employees and discuss in class. • Library Exercise on CSR activities undertaken by any one company of your choice.

Semester	II	Total Credits	2
Course Code	CC 205	Credit Pattern	L-23, T-3, P-4
Course Title	FINANCIAL MARKETS AND SERVICES		

Course Outcomes	
	The students will be able to learn:
1.	Understand the concepts of financial markets, their working and importance.
2.	Illustrate the working and contribution of financial market to the Indian Economy.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Structure of Financial System , role of Financial System in Economic Development , Financial Markets and Financial Instruments , Capital Markets , Money Markets , Primary Market Operations , Role of SEBI , Secondary Market Operations , Regulation , Functions of Stock Exchanges , Listing , Formalities , Financial Services Sector Problems and Reforms Financial Services: Concept, Nature and Scope of Financial Services – Regulatory Frame Work of Financial Services – Growth of Financial Services in India	L= 11	
		T= 2	P= 2
2	Merchant Banking – Meaning-Types – Responsibilities of Merchant Bankers – Role of Merchant Bankers in Issue Management – Regulation of Merchant Banking in India Venture Capital – Growth of Venture Capital in India – Financing Pattern under Venture Capital – Legal Aspects and Guidelines for Venture Capital, Leasing – types of Leases – Evaluation of Leasing Option Vs. Borrowing Credit Rating – Meaning, Functions – Debt Rating System of CRISIL, ICRA and CARE. Factoring, Forfeiting and Bill Discounting – Types of Factoring Arrangements – Factoring in the Indian Context	L= 12	
		T= 1	P= 2

Learning Resources		
1.	Text Books	1.Clifford Gomez, Financial Markets, Institutions and Financial Services, PHI Learning Private Limited 2. Prasanna Chandra, Investment Analysis and Portfolio Management, 5 th Edition Mc Graw Hill Education.
2.	Reference Books	1. Jeff, Madura, 2004, Financial Markets Vol 2 Equity Markets,SagePublicaitons. 2. Naidu, G. Kumar Swamy, 2002, Equity Markets - A New Paradigm, ICFAI, Hyderabad 3. Bhole&Mahakud, Financial Institutions and Market, TMH, New Delhi 4. V.A.Avadhani, Marketing of Financial Services, Himalayas Publishers, Mumbai 5. DK Murthy, and Venugopal, Indian Financial System, IK Int Pub House

		6. Anthony Saunders and MM Cornett, Fin Markets & Institutions, TMH, New Delhi 7. Punithavathy Pandian, Financial Markets and Services, Vikas, New Delhi 8. Vasanth Desai, Financial Markets & Financial Services, Himalaya, Mumbai 9. Meir Khan – Financial Institutions and Markets, Oxford Press 10. Madura, Financial Markets & Institutions, Cengage, New Delhi
3.	Websites	1. https://www.nseindia.com/ 2. www.sebi.gov.in 3. www.investopedia.com 4. www.bseindia.com
4.	Journals	1. Indian Journal of Research in Capital Markets, April-June 2018, 2. Journal of Emerging Market Finance, IFMR 3. Indian Journal of Finance, 4. Capital Market 5. ArthaVijnana, Journal of the Gokhale Institute of Politics and Economics 6. Finance India, Indian Institute of Finance
5.	Supplementary Reading	1. Financial Weekly, Mags, etc. 2. Current Affairs Weeklies, Magazines,
6.	Practical Component	1. List the Public Issues in Primary Market, which took place in the last six months, and provide the final listing price thereof. 2. List the names of any five Depository Participants operating in Kolhapur. Visit any one of them and discuss the account opening requirements with them, and submit a report of such discussion.

Semester	II	Total Credit	4
Course Code	CC 206	Credit Pattern	L-45, T-6, P-9
Course Title	RETAIL BANKING		

Course Outcomes	
	The students will be able to learn:
1.	Explain in detail the Retail Credit Evaluation, Lending and Recovery Process as well as other relevant concepts covered in the syllabus.
2	Calculate the loan eligibility of the retail borrower and the amount to be classified as NPA.
3	Determine the key elements of retail lending and recovery process and documentation therein.
4	Design the Retail Lending and Recovery Process for a Bank & NBFC.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Concept of Retail Banking -Distinction between Retail and Corporate/Wholesale Banking; Retail Products Overview: Customer requirements, products development process, Liabilities and Assets Products, Approval process for retail loans, credit scoring.	L= 11	
		T= 2	P= 2
2	Important Retail asset products: Loans: Home loans, Auto/vehicle loans, Personal loans, Educational loans – Study of these products in terms of Eligibility, Purpose, Amounts, Margin, cd loans Security, Disbursement, Moratorium, Prepayment issues, Repayments/ Collection; Credit/ Debit Cards -Eligibility, Purpose, Amounts, Margin, Security, Process of using the cards, Billing Cycle, Credit Points; Various Deposit Accounts Eligibility, Purpose, Amounts, Facilities Other products /Remittances/Funds Transfer	L= 12	
		T= 1	P= 3
3	Retail Strategies: Tie-up with institutions for retail loans; Delivery Channels-Branch, Extension counters, ATMs, POS, Internet Banking, M-Banking; Selling process in retail products; Customer Relationship Management-Role and impact of customer relationship management, stages in CRM process; Technology for retail banking Recovery of Retail Loans -Defaults, Rescheduling, recovery process-SARAFAESI Act, DRT Act, use of Lok Adalat forum, Recovery Agents-RBI guidelines (Case Studies are compulsory)	L= 11	
		T= 2	P= 2
4	Trends in Retailing -New products like insurance, Demat services, online/phone banking, property services, investment advisory/wealth management, Reverse Mortgage-Growth of e-banking, Cross selling opportunities	L=11	
		T= 1	P= 2

Learning Resources		
1	Text Books	Retail Banking for CAIIB Examination, Macmillan
2.	Reference Books	- Agarwal, O.P., Fundamentals of Retail Banking, Himalaya Publishing House, Mumbai. - Jha, SM, Banking Marketing, Himalaya Publishing House, Mumbai - Khan, MY, Indian Financial System, ;Tata McGraw Hill Publishing Company Ltd., New Delhi - Uppal;, RK,&Bishnupriya N, Modern Banking in India, New Century Publications, New Delhi - Uppal, RK, Banking Services and IT, New Century Publications, New Delhi - Guruswamy,S., Banking in the New Millenium, New Century Publications, New Delhi - Indian Institute of Banking & Finance, Retail Banking, Mumbai - Singh, Jasbir&Gahlot, Ruchika, 2014, Retail Management & Retail Banking in India, UDH Publishers & Distributors Pvt. Ltd. - Samudrala, Suresh, 2015, Retail Banking Technology The Smart Way to Serve Customers, Jaico Publishing House - Essvale Corporation Ltd., 2012, Career Guidebook For IT In Retail Banking, Shroff Publishers & Distributors Pvt, Ltd. - Essvale Corporation Ltd.,2011, Business Knowledge For IT In Global Retail Banking A Complete Handbook For IT Professionals, Shroff Publishers & Distributors Pvt, Ltd.
3.	Websites	https://testmocks.com/syllabus/iibf-retail-banking/ www.rbi.org.in - Websites of a few private sector banks https://thefinancialbrand.com/50885/25-inspirational-responsive-banking-website-designs/
4.	Journals	- Prajnan, Journal of Social and Management Sciences, NIBM, Pune - The IUP Journal of Bank Management, IUP Publications, a Division of the ICFAI society.
5.	Supplementary Reading	Current Affairs Weekly, Magazines etc., Financial Newspapers
6.	Practical Component	- Ascertain Areas of differentiation between two banks' retail offerings- any two products. Banks should ideally belong to the same sector e.g. Coop, Private, Nationalised, Foreign, etc. - Ascertain major products where banks experience major issues in recovery, by discussing with Branch Managers. Submit a report of such discussion in the form "Issue, Root Cause, Recommendation". - Give a list of cross sales products of a bank branch.

Semester	II	Total Credit	2
Course Code	CC- 207	Credit Pattern	P - 30
Course Title	MANAGERIAL DECISIONS USING EXCEL		
Course Objectives: 1. To equip the students in decision making through operational research techniques. 2. Using Microsoft Excel to gain insight into Business Applications through good modeling and analysis practice. 3. Exposure of the student to various management packages like QM for Windows, Excel.			
Course Outcomes: Students will be able to; 1. Analyze the data available for decision making. 2. Solve various managerial decision problems in functional areas of organization. 3. Evaluate the data collected for management decision and provide inference towards it			

Unit Number	Contents	
1	Excel & Stand Alone Software Introduction to Excel, It's Use and Advantages, Developing Cost, Revenue, Profit Model, Break-Even Analysis. Introduction to Excel Add-ins – Data Analysis Tool Pack. Use of Analysis Toolpak in Descriptive Data Analysis Use Excel Toolpak in Correlation & Regression Analysis Stand Alone Software QM for Windows and Excel. Solving variety of Problems with the help of QM software and Interpreting Results. (Practical Oriented) Decision & Risk Analysis Introduction to Decision Theory. Decision making Without Probabilities – Optimistic Approach, Conservative Approach, MiniMax Regret Approach. Decision making With Probabilities – Expected Value of Perfect Information (EVPI). Risk Analysis, Sensitivity Analysis. Solving various case studies	P 15
2	Linear & Integer Programming Problem. Introduction to Linear Optimization Models, Structure of Linear Programming Models. Modeling Optimization Problems in Excel. Introduction to Premium Solver, Solving Models using Solver. Interpreting Reports generated by Solver. Solve Problems/Models of Linear & Integer Programming. Assignment & Transportation Problem. Introduction to Assignment Problem. Mathematical model of Assignment Problem. Solving Various Assignment Problems with Solver. Special cases in Assignment Problem. Introduction to Transportation Problem. Mathematical model of Transportation Problem. Unbalanced transportation problem, Maximization Case of TP. Solving Minimization - Maximization Transportation Problems with Solver. Special cases in Transportation Problem.	P 15

Learning Resources

1	Text Books	1. Quantitative Methods for Business Anderson Sweeney Williams 2. Management Science & Decision Technology Jeffrey D. Camm, James R. Evans 3. Quantitative Analysis For Management (QM) Barry Render, Ralph M. Stair Jr., Michael E. Hanna
2	Reference books	1. N.D. Vohra: Quantitative Techniques in Management (1990), Tata MacGraw Hill 2. J.K. Sharma: Operations Research Problems and Solutions (2004), Macmillan India. 3. Hamdy A. Taha: Operations Research (2002), Pearson Education.
3	Journals	1. IUP Journal of Operations Management 2. Journal of Operations & Strategic Planning (New) 3. Vikalpa: The Journal for Decision Makers
4	Supplementary Reading	1. Glyn Davis & Branko Pecar, Business Statistics Using Excel, Oxford University Press. 2. Albright, Winston, Zappe, Decision Making Using Microsoft Excel, Cengage Learning.
5	Practical Component	1. Analyzing various decision situations and finding appropriate model for taking decisions. 2. Analyzing real managerial decision problems through various case studies/problems. 3. Identifying various managerial decision situations related to different business organization.

Semester	II	Total Credit	2
Course Code	AEC 201 (A)	Credit Pattern	L-22, T-4, P-4
Course Title	GERMAN		

Course Objectives	
1	To create an awareness about a foreign language
2	To understand the basic script of the language
3	To understand the culture and tradition of the country
Course Outcomes: Students will be able to;	
1	Use basic words & sentences in German Language
2	Develop basic vocabulary in German Language..

Syllabus:

Unit Number	Contents
1	Introduction (Name, country, living place, languages etc.), Asking the person's information, Greeting German Alphabets, Number (1-100), Giving and asking information related to number (age, telephone number, mobile number etc. Difference between formal and informal, Personal Pronouns, verb conjugation Europa-Countries, capitates and languages Learning about the things in the class room, Definite, indefinite, negative articles Possessive Articles with the reference of all the nouns learnt in the last lecture Watching timing learning
2	Conjugation of strong verbs, Use of separable verbs in the sentences Routine activities, Questions related to time, (use of prepositions am, pm) Eating and drinking (Grocery, fruits, vegetables, beverages), Learning of vocabulary related to eating and drinking, Use of accusative in the sentence Learning the professions, Telling about and asking for the professions Ordinal number Verbs- haben, sein Revising the syllabus

Note:

1. There will not be any fixed text book for the above given syllabus
2. The extra notes will be provided to the students to complete the required

Semester	II	Total Credit	2
Course Code	AEC 201(B)	Credit Pattern	L-22, T-4, P-4
Course Title	JAPANESE		

Course Objectives

1	To create an awareness about a foreign language
2	To understand the basic script of the language
3	To understand the culture and tradition of the country
Course Outcomes: Students will be able to;	
1	Use basic words & sentences in Japanese Language
2	Develop basic vocabulary in Japanese Language..

Syllabus:

Unit Number	Contents
1	Introduction to Japan as country and language basics. Hiragana Script, Hiragana Activity, Katakana Script, Katakana Activity, Cultural Ethics and Survival Greetings, Classroom Language (Speaking), Number system, Vocab for Daily Uses, Grammar, Calendar Family Tree, Grammar
2	Self-Introduction, Introduction to Japanese Work-Culture Grammar, Introduction to “Kanji”, Visit Restaurant’(Speaking), Visit guest’s house’ (Speaking), Shopping’ (Speaking), Farewell

Learning Resources

1	Reference books	1. Living Language Ultimate Japanese Beginner-Intermediate 2. The Kanji Learner’s Dictionary by Jack Halpern 3. Japanese from zero 1 and 2 by George Tromphy 4. Basic Japanese by Eriko Sato 5. Handbook of Japanese verbs by Taeko Kamiya 6. Japanese- English, English- Japanese Dictionary by Seigo Nakao 7. Modern Japanese vocabulary A Guide for 21st century student by Edward Trimell 8. Minna no Nihongo Series 9. Seiichi Makino Michio Tsutsui Biiks (Dictionary) 10. Genki An Integrated Course in Elementary Japanese 11. Improving your communication skills 12. 12Pod 101 series (audio)

Semester	II	Total Credit	2
Course Code	AEC 201 (C)	Credit Pattern	L-22, T-4, P-4
Course Title	FRENCH		

Course Objectives	
1	To create an awareness about a foreign language
2	To understand the basic script of the language
3	To understand the culture and tradition of the country
Course Outcomes: Students will be able to;	
1	Use basic words & sentences in French Language
2	Develop basic vocabulary in French Language..

Syllabus:

Unit Number	Contents
1	Introduction (Name, country, living place, languages etc.), Asking the person's information, Greetings and Salutations, French Alphabets, French Accents, Numbers (1-1000), Giving and asking information related to numbers (age, telephone number, mobile number etc.) Difference between formal and informal, Personal Pronouns, Verb conjugations Countries, nationalities, capitals and languages Articles, Prepositions, Colours Gender, Nouns and Pronouns, Singular Plural Possessive Pronouns, Family Vocabulary Telling Time, Days of the week, Months of the Year, Parts of the Day About France and Francophone Countries, French Culture and Etiquettes, French Monuments
2	Conjugation of ER, IR and RE verbs, Use verbs in the sentences Routine activities, Questions related to time, (use of prepositions am, pm) Eating and drinking (Grocery, fruits, vegetables, beverages), Learning of vocabulary related to eating and drinking, Use of accusative in the sentence

	Learning the professions, Telling about and asking for the professions Ordinal numbers Negative Sentences, Interrogatives Describing Oneself, Family Simple Letter Writing and Essay Writing Revising the syllabus

Note:

1. There will not be any fixed text book for the above given syllabus
2. The extra notes will be provided to the students to complete the required syllabus.

Learning Resources

1	Reference books	1. Echo A1 Méthode de Français – Goyalsaab Publishers 2. Le Flambeau , Méthode de Français –Preeti Bhutani 3. Saison 1 Méthode de français- Alliance française 4. Larousse French Dictionary-W.R.Goyal

Semester	II	Total Credit	2
Course Code	AEC 201 (D)	Credit Pattern	L-22, T-4, P-4
Course Title	SELLING AND NEGOTIATION SKILLS		
Course Objectives			
Course Outcomes: Students will be able to;			
1	Describe new challenges and opportunity in selling and negotiation skills		
2	Apply & analyze different skills in Negotiation Process		

Unit Number	Contents	Number of Session	
1	Unit-I Nature & Role of Selling: Definition meaning Importance & objectives of Selling. Role in the context of organization – survival and growth. Types of Selling – Direct & Indirect selling, Missionary, Sales Team/group selling Merchandising, Telesales, Franchise selling, Consultative selling, factors Influencing on Personal Motivation on selling. Personal Selling Skills : Definition & Meaning, Personal Selling Process – Time & Contact management - Understanding buying motives of consumers before & Deal closing - Techniques of taking Follow up (To be supplemented by live exercises on personal selling)	L= 11	
		T= 2	P= 2
2	Unit-II Negotiation Skills and Process of Negotiation: What is negotiation, What makes a good negotiator, Process of Negotiation, Integrative Vs. Distributive Negotiation, Ground rules of effective Negotiation, BATNA (Best alternative a negotiated agreement).	L= 11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Karen Mantyla – Consultative Sales Power 2. Virden J.Thornton- Prospecting the Key to Sales Success 3. .Michael R.Carrell & Christina Heavrin- Negotiating Essentials theory, Skills & Practices
2	Reference books	1. Kim Tasso – Selling Skills For Professionals – Viva Publication 2. David S. Hames- Negotiation – Sage Publication
4	Journals	1. Current Index of Management Marketing 2. Current Contents in Management Marketing.

Semester	III	Total Credit	2
Course Code	AEC 201 (G)	Credit Pattern	L7+T6+P17
Course Title	DIGITAL MARKETING		

Course Objectives	
1	To make students understand the traditional and new communication/marketing approaches to create competitive advantage in the Digital world.
2	To understand how the emergence of the technology will affect marketing, value creation, and consumer perceptions.
Course Outcomes: Students will be able to;	
1.	Explain emerging trends in digital marketing
2.	Demonstrate usage of digital marketing techniques.

Syllabus:

Unit Number	Contents	Number of Session	
1	Introduction to digital marketing: Introduction to digital marketing ; Internet Marketing, Digital Marketing Framework; Domains of Digital Marketing, affiliate marketing. Website creation & hosting : Websites – their types and classification; Use of CMS for website creation; Wordpress website creation :- adding posts, pages, making categories, adding menu, Creating commercial /business website, adding contact forms, linking website to social media	L= 4	
		T= 3	P= 8
2	Search Engine Optimization SEO –meaning, process and tools; affiliate marketing. Organic & inorganic search, search engine Marketing (SEM), Email marketing; Google Adds, Social Media marketing (Instagram & Facebook), creating Facebook page & Instagram page	L= 3	
		T= 3	P= 9

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources

1	Text Books	1. Understanding Digital Marketing: Marketing Strategies for Engaging the Digital Generation by Damian Ryan, Calvin Jone. Kogan Page. 2. Fundamentals of Digital Marketing; Puneet Singh Bhatia; Pearson Publication 3. Marketing 2012 by William M. Pride, O. C. Ferrell, Cengage Learning.
2	Reference books	1. DigiMarketing: The Essential Guide to New Media and Digital Marketing by Kent Wertime, Ian Fenwick 2. Web Analytics 2.0: The Art of Online Accountability and Science of Customer Centricity by Avinash Kaushik 3. Social Media Marketing : Tracey L tuten & Michael R Solomon; adapted by Bikramjit Rishi; Sage Publication 4. Digital Transformation Strategies ; Theory & Practice; Srinivas R Pingali, Shankar Prakash & Jyothi R Korem: Sage Publication
3	Websites	Digital Marketing MOOC on Swayam. https://www.dmaglobal.com/ (Digital Marketing Association)
4	Journals	• Digital Marketing - The Marketing Journal • Journal of Digital & Social Media Marketing: Ingenta Connect Publication • Digital Marketing Journal – Medium
5	Supplementary Reading	Digital Marketing Association Google Digital Garage
6	Practical Component	1. Case study discussion on success stories of use of digital marketing mix 2. Assignment on preparing a digital marketing plan for small scale business. 3. Group Activity- Visit any service industry of your choice in Kolhapur and submit a plan on opportunities to use digital marketing technique to promote the business.

Semester	II	Total Credit	2
Course Code	AEC 201 (H)	Credit Pattern	L-22, T-4, P-4
Course Title	HUMAN VALUES		
	Objectives To study all dimensions of human being – thought, behaviour, work and realisation. • To study all levels of human living – individual, family, society, nature and existence.		
	Course outcome 1. A student of this course will relate and interpret existence of physical facility, relationship and right understanding. 2. A student of this course relate to the context of life and human being.		
	Knowing human values: Unit 1 To know universal values & its connection with human being. Rationality and rational values. Natural & verifiable values. All-encompassing values dimensions & levels. Right Understanding, Relationship and Physical Facility. Understanding the Human Being (As Co-existence of Self and Body). Understanding harmony in family.		
	Unit 2. Applying human values . Self-exploration & aspirations. Understanding harmony in nature & society. Harmony among the four orders, Physical, Bio , Animal ,Human order Understanding Ways of fulfilling them with human values		
	Instructions		
	References Books /websites HUMAN VALUES 1 Naagarazan, R.S. Textbook On Professional Ethics & Human Values.-- New Delhi: New Age International (P) Ltd,Publisher's New Delhi, 2006. XIV; 137 P. ISBN : 8122418554. 174.4 NAA. 57443 2 Modi, Ishwar Human Values and Social Change (Essays in Honour of Dr. T.K.N. Unnithan).-- Jaipur: Rawat Publications, 2000. 447 P. ISBN : 817033604X. 303.4 MOD. 33829 3 Naagarazan, R.S. Textbook on Professional Ethics and Human Values.-- New Delhi: New Age International Publishers, 2008. ix; 169 P. ISBN : 9788122419382. 174 NAA.		

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- 4 Tuteja, M.M.
Changing Human Values and Leadership Styles.-- Jaipur:
Printwell Publishers Distributors, 1999. 124 P.
ISBN : 8170444950.
658.3 TUT.
33317
- 5 Raghavan, M.P.
Professional Ethics and Human Values.-- Chennai: Scitech
Publications (India) Pvt, Ltd., 2009. 1.1 to 5.36 P.
ISBN : 9788183710329.
174 RAG.
64379
- 6 Gogate, S.B.
Human Values and Professional Ethics.-- Noida: Vikas
Publishing House Pvt, Ltd., 2011. xvi; 326 P.
ISBN : 9788125937135.
174 GOG.
64848
- 7 Gogate, S.B.
Human Values & Professional Ethics.-- Delhi: Vikas
Publishing House Pvt, Ltd., 2011. xvi; 326 P.
ISBN : 9788125937135.
174 GOG.
65892
- 8 Bhola, Payal
Human Values & Professional Ethics.-- Agra-02:
Y.K.Publishers,, 2011. 223 P.
ISBN : 9789380668062.
174 BHO/GAR.
67967
- 9 Saxena, Abhay
Human Values and Professional Ethics.-- New Delhi: Vayu
Education of India, 2010. x; 170 P.
ISBN : 9789380712437.
174.9 SAX/SHA.
68765
- 10 Gogate, S.B.
Human Values & Professional Ethics.-- Delhi: Vikas
Publishing House Pvt, Ltd., 2011. xvi; 326 P.
ISBN : 9788125937135.
174.4 GOG.
69510

- 11 Govindarajan, M.
Professional Ethics and Human Values.-- Delhi: PHI
Learning Pvt, Ltd., 2013. xii; 132 P.
ISBN : 9788120348165.
174 GOV.
73239

 - 12 Tripathi, A.N.
Human Values.-- New Delhi: New Age International (P)
Ltd., Publishers, 2012. xii; 327 P.
ISBN : 9788122425895.
303.4 TRI.
57357

 - 13 Raghavan, M.P.
Professional Ethics and Human Values.-- Chennai: Scitech
Publications (India) Pvt, Ltd., 2013. 1.1 to 6.11 P.
ISBN : 9788183714990.
174 RAG.

 - 14 Subramanian, R.
Professional Ethics: Includes Human Values.-- New Delhi:
Oxford University Press,, 2017. xiv; 457 P.
ISBN : 9780199475070.
174 SUB.

 - 15 Shukla, Tanu
Human Values and Professional Ethics.-- New DELhi:
Cangage Learning, 2018. xviii; 411 P.
ISBN : 9789386858764.
170 SHU.
- [om/watch?v=kOJu1vj_BV&ab_channel=FearlessSoul](https://www.youtube.com/watch?v=kOJu1vj_BV&ab_channel=FearlessSoul)
[ps://www.youtube.c](https://www.youtube.com/watch?v=a_GPginsMzY&ab_channel=DalaiLama)
https://www.youtube.com/watch?v=a_GPginsMzY&ab_channel=DalaiLama
https://www.youtube.com/watch?v=Ug4JIJxLSmk&ab_channel=Vidya-mitra
<https://www.facebook.com/Gurgaon.KIIT/videos/day-4-pt-1-aicte-sponsored-online-stp-on-human-values-ethics-morals-behavioral-7365086154477360/>
<http://kierandonaghy.com/seven-best-short-films-introduce-values/>
https://www.youtube.com/watch?v=Kz_qGJmTMY&ab_channel=MindToolsVideos

Semester	II	Total Credit	4
Course Code	DSE 201 (A)	Credit Pattern	L-45, T-7, P-8
Course Title	EVENT MANAGEMENT AND PUBLIC RELATIONS MANAGEMENT		

Course Objectives	
1	To Orient and Train Future Managers of the Event and PR industry requirements
2	To Develop Essential Skills For Planning, Organizing And Executing Any Corporate, Business, Social Personal ,Event Professionally
Course Outcomes: Students will be able to;	
1	Explain the role of event management in overall marketing activity of the company.
2	Evaluate opportunities of corporate branding and image building through event.

Syllabus:

Unit Number	Contents	Number of Session	
1	<u>Principles of Event Management</u> Review of changing Indian event industry .Historical Perspective, Introduction to Event Management, Size and Type of Event, Event Team, Code of Ethics) <u>Principles of Event Management</u> , Concept and Designing, Feasibility, Keys to Success, SWOT.	L= 11	
		T= 2	P= 2
2	Event Planning and Team Management Aim Of Event, Develop A Mission, Establishing Objectives, Event Proposal, Planning Tools, Protocols, Dress Codes, Staging, Staffing, Leadership, Traits And Characteristics decision making process in event industry.	L= 12	
		T= 1	P= 2
3	Event Marketing, Advertising with Public Relations Management Nature and Process of Marketing, Mix, Sponsorship, Image, Branding, Advertising Publicity PR, Nature and process of PR, Social media used in EM sect oral applications. Written And Oral Communication Of Event	L= 11	
		T= 2	P= 2
4	Event and Safety Security Logistics Accounting and Laws	L=11	

	Finance Management Security, Occupational, Safety, Crowd Management, Major Risks And Emergency Planning, Incident Reporting, Emergency Procedures, Fabrications, Light Sound And Vender Handling., Financial Control Systems, Relevant Legislations, Stake Holders and Official Bodies, Contracts	T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Lynn Van Der Wagen and Brenda R. Carlos- Event Management: For Tourism, Culture, Business, and Sporting Event- Pearson
2	Reference books	1. Swarup K. Goyal- Event Management – Adhyayan Publication 2. Sandhya A. Kale – Event Management - Gaurav Publication 3. Mittal, R- Eventmanagement In Leisure and Toursm- New Delhi, Rajat Publication 4. Mohan,S- Event Management and Public Relation- New Delhi, Enkay Publication House 5. Sharma,D- Event Planning and Management- New Delhi, Deep and Deep Publication
3	Websites	www.wizcraftworld.com www.360x.agency www.procam.in
4	Journals	Current Index of Management Marketing Current Contents in Management Marketing Journal of Marketing Journal of Marketing Research India Journal of Marketing Vikalpa
5	Supplementary Reading	India Today- Magazine Trade Show News Network Event Marketer
6	Practical Component	1. Voluntarily participate in any three events and write a report on it. 2. Prepare event sponsorship proposal for any two actual event happing in Kolhapur. 3. Design event plan and executive it under the guidance of professional experts 4. Design ATL and BTL promotional activity of event

Semester	II	Total Credit	4
Course Code	DSE 201(B)	Credit Pattern	L-45, T-8, P-7
Course Title	BUSINESS COMMUNICATION		

Course Outcomes	
1	Draft appropriate communication for organisations.
2	Analyze written documents for business decision making
3	Prepare business reports

Syllabus:

Unit Number	Contents	Number of Sessions	
1	BASIC : Basic Communication Process and Contemporary trends in methods of communication at various types of organizations. Formats of communication in use. Introduction to concept of writing, basics of grammar, process of Writing,	L= 9	
		T= 2	P= 1
2	Types of written communication I – letters, memorandums, etc. Letter Writing – Formats of letters: block, semi block and modified block, Parts of letter. Types of letters – inquiry, reply to inquiry, order letters, acknowledgement and claim letters, sales letters, acceptance letter, thank you letters, credit letters. Email writing	L= 9	
		T= 1	P= 2
3	Types of written communication II minutes of meetings and reports Writing minutes of meeting, agenda, note taking Circular writing Reports, types of reports, parts of reports, do's and don'ts of report writing	L= 9	
		T= 2	P= 1
4	Using modern forms of communication, communication strategy. Corporate communication. Social media communication – website, social media messages, creation of catalogues, pamphlets, etc.	L= 9	
		T= 1	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.

Learning Resources		
1	Reference books	1. Management Communication, 3rd Edition Arthur H. Bell, Dayle M. Smith, December 2009, ©2010 2. Guide to Managerial Communication: Pearson New International Edition PDF eBook 10th Edition Mary Munter, Lynn Hamilton. Aug 2013, PDF eBook ⓘ.ISBN13: 9781292034973.ISBN10: 1292034971] 3. Business Communication: Process and Product Mary Ellen Guffey, Dana Loewy. Cengage Learning, 23-Aug-2010 - Business & Economics - 672 page
2	Text books	1. Kalia Shalini & Agrwal Shailaja, Business Communication, Wiley Publications, 2015 2. Urmila Rai & S M Rai, Business Communication, Himalaya Publishing House, 2018 3. Krizan, Merrier, Logan & Williams, effective Business communication,

		Cengage Learning, 2008 4. Kelly M Quintanilla & shawn t Wahl, Business & Professional Communication, Sage Publication, 2016 5. Kumar sanjay & Pushp Lata, communication Skill, Oxford University Press, 2015.
3	Practical	Writing letters, creating reports, pamphlets etc.

Semester	II	Total Credit	2
Course Code	GE 201(B)	Credit Pattern	L-23, T-07, P-0
Course Title	ENVIRONMENT AND DEVELOPMENT		

Course Objectives	
1	Understand the basics functional areas of Environment.
2	Define concepts of pollution, pollutants and natural resources
3	Explain historical development of struggle for Environmental protection

Course Outcomes: The students will able to	
1.	Differentiate biotic and abiotic components of ecosystem & able to understand concept of habitat, interactions in between different components & their Interrelationships.
2.	Develop ability of identification of local issues related with natural resources.
3.	Adopt various pollution control techniques.
4.	Able to know various environmental policies as well as National & International Organizations involved.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Ecological concept and Natural Resources : Introduction to Environmental Science as a multi-disciplinary, its scope and necessity; Concepts of Ecosystem and its Structure and Functions, Principles of Organism-environment relationship; Concept and classification of Natural Resources. Energy Resources, Renewable and Nonrenewable.	L= 11	
		T= 3	P=0
2	Environmental Pollution and Policy: Definition, sources and effects of water pollution. Definition, sources of air pollution, Effect of air pollution and acid rain, climate change, ozone depletion. Definition, Sources of noise pollution. Effect of noise pollution on human-beings. Noise control measures. Government policies in the protection and development of environment. National environmental policy. United Nations Environmental Programme (UNEP).	L= 12	
		T= 4	P= 0

Learning Resources		
1	Text Books	• A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 • A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 • A Text Book of Environmental Chemistry & Pollution Control, Dara, Chand • A Text Book of Ecology, S K Dubey, Dominant Publication • A Text Book of Ecology, Tyler Miller, Cengage Learning • A Text Book Environmental Studies, Chatawal & Sharma, HPH

		• A Text Book Environmental Science, Joshi & Joshi, APH • A Text Book of Environmental Studies, Nambiar, STP
2	Reference books	• Fundamentals of Ecology by Odum, E.P. • Desert Ecology by Ishwar Prakash • Ecology of Urban India by Pramod Singh • Ecology of Rural India by Singh • Ecology 2000 by Sir Edmand Hillary • Environmental Protection and the Laws by CN Mehta, 1991 • India's Forests, Myth and Reality by J.B. Lal 1989 • Legal aspects of Environmental Pollution and its Management by Ed. S.M. Ali, 1992 • Man – Nature and Environmental Law by GS Nathawal, S. Shastri and JP Vyay, 1988 • International Environmental Policy: Emergence and Dimensions by LK Caldwell, 1990 • Lal's Commentaries on Water, Air Pollution Laws along with the Environmental (Protection) Act and Rules, 1986, 3rd Ed., 1992 Law Publisher – India • The Wildlife (Protection) Act, 1972 (with amendment-1991) • Our Common Future – WCED, 1991 • Universal's Environment and Pollution Law Manual by SK Mohanty, 1998. • A Guide to Implementation of the ISO 14000 Series on Environmental Management (Prentice Hall Ptr Environmental Management and Engineering Series) Har/Dskt Edition • Environmental manager's guide to ISO 14000 by <u>Bruce W Perry</u> • Implementing ISO 14000 Hardcover – November 1, 1996 by <u>Tom Tibor</u> (Author), <u>Ira Feldman</u> (Author) • Environmental Impact Assessment By: Larry W Canter. McGraw-Hill International Editions, 2nd Edn, New York (1996). • EIA Theory & Practice By: Peter Wathern. Unwin Hyman, London (1990) • Environmental Impact Assessment By: PR Trivedi. APH Publishing Corporation, New Delhi (2004) • EIA Practical Solutions to Recurrent Problems By: David P Lawrence. Wiley Interscience Publication (2003)
3	Websites	• https://www.toppr.com/guides/biology/ecosystem/biogeochemical-cycle/ • https://nca2014.globalchange.gov/report/sectors/biogeochemical-cycles • https://www.conserve-energy-future.com/what-is-environmental-science-and-its-components.php
4	Journals	• Current Science, ISSN No. 0011-3891 • Every Thing About Water • Down to Earth • Resonance, ISSN No. 0971-8044 • Journal of Earth System Science, ISSN No .2253-4126

5	Supplementary Reading	• National Geographic • Down to Earth, CSE
6	Practical Components	• Field visit to study pond water & forest Ecosystem.

Semester	II	Total Credit	2
Course Code	GE 201(C)	Credit Pattern	L-20, T-5, P-5
Course Title	INDIAN SOCIAL PROBLEMS AND SOCIAL SERVICES		

Course Outcomes: Students will be able to

1	Implement various social welfare services provided by GO's & NGO's
2	Asses the socio- economic factors and their implications of beneficiaries

Syllabus:

Unit Number	Contents	Number of Session	
1	Genesis and nature of various categories of Social Problems Definition of Social deviance and control, social disorganization and social problems, study and analysis of specifics social problems in relation to their nature, causative factors, extent and magnitude	L=10	
		T=3	P=2
2	An overview of major social problems, Juvenile delinquency, Crime, Prostitution, Dowry, AIDS, Beggary-Alcoholism and Drug Addition.	L=10	
		T=2	P=3

Learning Resources:

1	Text Books	- Ahuja R 1993 Indian Social System-Rawat Publication New Delhi. - Akbar M.J. 1988 Riot After Tiot; Reports on caste & Communal Violence in India New Delhi : Penguin Books. - Bardhan P. 1984 the Political Economy of Development in India Delhi: Oxford Press. - Betelle A. 1966 Caste, Class and Power Bombay: Oxford Uni, Press. - Black C.E. 1966 The Dynamics of Modernization: A study in Comparative History New York: Harper & Row. - Madan G.R. 1985 Indian Social Problems Vol. I and II Allied Pub. Pvt. Ltd. Bombay.
2	Reference Books	- Coser I.A. 1956 The functions of Social Conflict Glencoc Illinois; Free Press. - Dahrendorf R. 1957 Class & Class ' Conflicts in an Industrialized Society London Routledge&Kengan Paul. - Dandekar V.M. 1977 Nature of Class Conflict in the Indian Society Bom Bharat Foundation. - Das A. & Nilkanth V. (Ed.) 1979Agrarian Relations in India Delhi: Manohar.
3	Website	https://journals.sagpub.com www.ndpublisher.in www.ukessays.com www.open.edu7.sociology
4	Journals	International Journal of Social Science

		Indian Journal of Social Work
5	Supplementary reading	Encyclopedia in Social Work Vol-I & II Dictionary of Social Work
6	Practical Component	1. Visit to various NGO's 2. Concurrent Field Work 3. Case studies on various social problems 4. Organized Group discussion with problematic 5. Celebrate different days related to Social issues.

Semester	II	Total Credit	2
Course Code	GE 201(D)	Credit Pattern	L-30, T-8, P-7
Course Title	OFFICE AUTOMATION		
Course Objectives			
1	To teach basic concepts about computers and peripheral devices		
2	To explain the concept of computer languages and features of operating system		
3	To demonstrate use of Word processor for documentations.		
4	To explain effective use of presentation technology.		
5	To demonstrate use of spreadsheet for analysis of data		
Course Outcomes			
After completion of this course the student will be able to:			
1	Understand basic concepts and computer terminology.		
2	Use operating system features		
3	Prepare proper documents		
4	Prepare effective presentation		
5	Analyze any data with the help of spreadsheets.		

Unit Number	Contents		
1	Introduction to Computer, Concept of Operating System & Word Processing Definition of Computer, Characteristics & Limitations of Computer, Generations of Computer, Block Diagram of Computer, Concept of Hardware and Software, Operating System: Function of Operating System, Types of O.S., Features of Windows Operating System, Default Icons on Desktop – My Computer, Recycle Bin, My Network Places and Internet Explorer, Important Terms in Windows – Icons, Desktop, Folder, Star Button, Concept of Cut, Copy and Paste operation, Concept of Start Button MS-Word: Component of MS-Word window, Page-Setup in MS-Word, How of Print Document, Formatting the Document, Inserting & Formatting table, Inserting various objects in the document, Mail-Merge Utility, Cursor Control Keys,	L=3	
		T=1	P=0
2	Data Analysis Through Excel and Presentation Techniques. MS-Excel: Features Of Excel, Formatting Work Sheet- Formatting cell, conditional formatting, Lookup Functions, IF, SUM, SUMIF, SUMIFS, COUNT, COUNTIF, COUNTIFS, COUNTBLANK Functions, Function For Financial Decision – PV, FV, PMT, PPMT, IPMT Functions, TEXT Functions, Date and Time Functions, Decision Making Using – GoalSeek, Scenario Manager, Basic Data Analysis – Sorting, Summarizing, Filtering, Validating Data, Summarizing Data With Chart, Describe Data Using Pivot Table, MS-PowerPoint: Factors To Be Considered Before Creating A Presentation, Creating and	L=3	
		T=1	P=0

		setting Presentations With PowerPoint, Applying Animation Effects, Slide Transition Effects, Views In PowerPoint, Use of Text, Images, ClipArt's, Hyperlinks, Video and Audio and Action Buttons In Presentation,		
Learning Resources				
1	Text books	1. Computer Fundamentals by P. K. Sinha & Priti Sinha, 5th edition, BPB pub. 2. Computer Fundamentals by Balguruswami 3. Microsoft Office 2013 All-In-One For Dummies By Peter Weverka, Wiley India Pvt Ltd, ISBN 10: 812654175X 4. Microsoft Office 2010 Digital Classroom by AGI Creative Team John Wiley & Sons; Pap/Psc edition (1 March 2011) ISBN-10: 0470577770 5. Operating System Concepts: International Student Version By <u>Silberschatz</u> Wiley; Eighth edition (20 April 2009) ISBN-10: 8126520515		
2	References	1. Microsoft Office 2010 Bible By <u>John Walkenbach</u> Wiley India Private Limited (28 September 2010) ISBN-10: 8126528397 2. Microsoft Windows Operating System Essentials By <u>Tom Carpenter</u> John Wiley & Sons (9 February 2012) ISBN-10: 1118195523 3. Microsoft Windows Operating System Essentials By <u>Tom Carpenter</u> ISBN: 978-1-118-19552-9 4. Fundamentals Of Computers 5Ed By V. Rajaraman Publisher: Phi Learning Pvt Ltd ISBN 10: 8120340114 5.		

Semester	II	Total Credit	2
Course Code	GE 201(E)	Credit Pattern	L-22, T-04, P-04
Course Title	PRINCIPLES OF ECONOMICS		

Course Outcomes: Students will be able to

1	Understand the micro variables and approach for microeconomic issues
2	Identify the macro variables in any economy

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit 1: Demand & Supply Analysis Basic Economic Concepts, Definitions of Economics, Branches or approaches to economics, Basic Economic Problems or the Central problems of a Society, Law of Diminishing Marginal Utility, Demand curve derivation and its properties, Elasticity of Demand Supply Analysis- Meaning, Types and Determinants of Supply, Supply Function and Law of Supply, Elasticities of Supply and Their Utilities.	L= 11	
		T= 2	P= 2
2	Unit 2. Market Theory & N.I Types of Markets, Perfect Competition, Monopoly, Monopolistic Competition, Oligopoly: Features and price determination Basic Concepts of NI, GDP, GNP, etc, Estimation of NI and Difficulties, Circular Flow of Aggregate Income and Expenditure	L= 11	
		T= 2	P= 2

Learning Resources

1	Text Books	- Paul Samuelson(2000), Economics, McGraw Hill Inc, New Delhi, Ahuja H.L, Modern Micro Economics, S Chand& Co., New Delhi, - Koutsyani (2015), Micro Economics. - Jhingan M.L., Microeconomics, Vrinda Publications, New Delhi. - C.Rangarajan and Dholokia B.H, Principles of Macro Economics, Tata Mcgraw-Hill, New Delhi, (1998). - Blanchard, Olivier (2000), <i>Macroeconomics</i>, Prentice Hall.
2	Reference books	- Robert S Pindyck and Daniel L Rubinfeld(2017), Microeconomics, Pearson Education Ltd., UP - Mankwin Gregory N(2016), Principles of Microeconomics, Cengage Learning India Pvt. Ltd. - Hal R Varian(2015), Microeconomic analysis, Viva Books Pvt. Ltd., New Delhi - Mankiw Gregory (2002), Macroeconomics, 5th Edition, Worth Publishers - Ahuja H L(2015), Macroeconomics Theory And Policy, 19th Edition, SCHAND

		Gupta G S(2011), Keynesian and Post Keynesian
3	Websites	www.rbi.org.in www.mygov.gov.in www.cmie.com
4	Journals	Arth Samwad Economic and Political Weekly Indian-Economic-Journal Journal-of Indian-School-of-Political-Economy
5	Supplementary Reading	Economics Survey Union Budget of India
6	Practical Component	- Conduct consumer survey and identify consumer utility for various consumer goods - Review reference books on economics, and prepare a report on liner, cubic and quadratic production functions - Visit various service vendors and prepare a report on price determining factors and challenges for their products in the market

MBA – II
SEMESTER – III

Semester	III	Total Credit	4
Course Code	CC 301	Credit Pattern	L-45, T-8, P-7
Course Title	STRATEGIC MANAGEMENT		

Course Objectives	
1	To familiarize students with strategic management process in detail
2	To analyze organizations for strategy formulation and implementation.
3	To design various types of strategies for a given industry.
4	To evaluate an industry using various tools and techniques for strategic choice.
5	To be able to evaluate strategies implemented.
Course Outcomes Students should be able to:	
1	Discuss various concepts and theories in the field of strategic management.
2	Formulate various types of strategies for a given industry.
3	Evaluate an industry using various tools and techniques for strategic choice.
4	Critique strategies implemented.
5	Devise strategic approaches to managing a business successfully in a global context

Unit Number	Contents	Number of Sessions	
1	Introduction to Strategic Management & Environment (15) Introduction to Concept of Strategy and Strategic management; Importance of Strategy, Levels of Strategy, Strategic Management Process – Different Phases; Strategic Intent - Mission, Vision, Objectives. Formulation of strategic intent, methods of Goal Setting – MBO, Balance scorecard approach, Critical success Factors and Key Performance Indicators. Concept and Characteristics of environment, Components of external environment/ External Analysis, PESTEL Framework,	L=11	
		T=2	P=2
2	Internal Analysis & Corporate Strategies (15) Industry Analysis – Porter’s Five Forces Model, Internal Analysis – Resource Based view VIRO analysis, Approaches to internal analysis – SWOT Analysis, Value Chain Analysis, Financial Analysis Corporate strategies - stability strategy, expansion strategy, retrenchment strategy, combination strategy. Mergers and Acquisitions, Strategic alliances & Joint ventures – concept, reasons, Entry strategies for global market	L=12	
		T=2	P=1
3	Business Strategies & strategic Analysis (15) Business level strategy - cost leadership, Focus strategy Differentiation – Types – Advantages and Disadvantages – +`Blue, Red & Purple Ocean Strategy. Strategic choice process, corporate portfolio analysis, BCG Matrix, TOWS Matrix, GE nine cell , strategic choice at business level –Industry analysis, Competitor analysis. Strategic CSR.	L=11	
		T=2	P=2
4	Strategic Issues, (15)	L=11	

	Strategic implementation issues - McKinsey's 7s framework approaches to resource allocation, structural issues – functional, product/ divisional, SBU structure, matrix, network, free form , behavioural issues- Strategic leadership, Corporate strategic communication. Strategic evaluation-importance, participant's barriers and requirements. Types of strategic control-operational control-Strategic process of Evaluation, techniques of strategic evaluation and control. Sustainability & strategic management- concept of TBL, Environmental & Social Impacts on Society Contemporary issues in strategic management.	T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Azahar Kazmi, "Strategic Management & Business Policy"- Fourth Edition, The Mc-graw Hill Edition. 2. P.Subba Roa, "Business Policy & Strategic Management", Himalaya Publication
2	Reference books	1. Hoskisson, Hitt, Ireland & Manikuttu, "Strategic Management"- A south Asian Perspective Cengage Learning, 9th Edition. 2. Thomas wheelen, J David Hunger, Alan N Hofman & Charles E Banford, "Concepts in Strategic Management and Business Policy" Pearson Publication , 2018 3. Pradip Kumar Sinha, "Mergers, Acquisitions and Corporate Restructuring," Himalaya Publishing House, 2019. 4. R M Shrivasta, "Management Policy and Strategic Management" Himalaya Publishing House,2014. 5. Fred R David & Forest R David, Strategic Management "Pearson Publication , 16th Edition, 2017
3	Websites	www.mckinsey.com/in
4	Journals	1. The Indian Journal of Indian Management & strategy 2. IUP Journal of Business strategy.
5	Supplementary reading	Business Standard : The Strategist supplement Economic Times
6	Practical component	Case studies and assignments on real life situations

Semester	III	Total Credit	4
Course Code	CC 302	Credit Pattern	L-44, T-8, P-8
Course Title	BUSINESS ETHICS AND CORPORATE GOVERNANCE		
Course Outcomes: At the end of the course Students will be able to			
1	Describe ethical decision-making framework.		
2	Analyze ethical and moral issues in life and in Business.		
3	Examine the evolution of Corporate Governance in India.		
4.	Generalize Principles of Good corporate governance.		
Unit Number	Contents	Number of Sessions	
1	Unit 1: Introduction to Business Ethics Concept of Ethics, Nature and Characteristics of Business Ethics, Doctrine of Karma, Causes of Unethical Behaviour , Work Ethics, Code of conduct for business, Ethical decision making frameworks, Ethical theories: Rights Theories, Justice Theories, Utilitarianism, The Virtue Approach, The Common Good Approach.	L=11	
		T=2	P=2
2	Unit 2: Ethical issues : Identification and Solutions Ethical Dilemma, Resolution of ethical dilemma, Fostering ethics, Whistle blowing concept and policy, Corruption, Bribery. Ethical issues in Global Business, Concept of sustainability reporting, Ethics in various functional areas- Marketing, Advertising, HRM, Accounting, Ethics in environment protection.	L=11	
		T=2	P=2
3	Unit 3 : Introduction to Corporate Governance Corporate Governance – Concept, Objectives, History ,Issues in Corporate Governance, Elements of good Corporate Governance, OCED Principles of Corporate Governance, Corporate citizenship, Corporate Social Responsibility and Stakeholders Role, Triple Bottom line and Carroll's model of CSR.	L=11	
		T=2	P=2
4	Unit 4 : Corporate Governance in India. Naresh Chandra Committee Recommendations, Narayan Murthy Committee Recommendations, The Cadbury Committee, Recommendations in Companies Act 2013, Amendments by Indian regulators pertaining to Corporate Governance. Recent Developments in India- Corporate Governance Score card, Corporate Governance Awards. Role of Board of Directors, Types of Directors and their Functions, Independent Directors- Functions and Role, Ethics committee.	L=11	
		T=2	P=2

Note:

- 1.Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
- 2.Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Business Ethics and Corporate Governance , B.N.Ghosh, Tata Mcgraw Hill
2	Reference books	1. Fernando A.C. , Corporate Governance, Principles, Policies and Practices, Pearson Education 2. Business Ethics and Corporate Governance , B.N.Ghosh, Tata Mcgraw Hill 3. Business and Government , Francis Cherunilam , Himalaya Publishing House 4. Joffy George, The Art of Corporate Governance 5. SEBI Regulations 2015 6. Shaw W.H, Business ethics, Thomson 7. Ferrel O.C., Farrell Linda, Business Ethics, Ethical decision making and cases, Biztantra
3	Websites	www.onlineethics.org www.oecd.org
4	Journals	1. Business Express 2. Bloomberg Business Week 3. Business India
5	Supplementary Reading	1. The Economics Times
6	Practical Component	1. Studying Governance system of any company and classifying it into different types of systems which are studied and justifying why such system is chosen by that organization. 2. Preparing the code of conduct of any five business organization. 3. Class debate on ethical dilemma. 4. Identify three ethical business organizations and list their ethical norms. 5. Library Exercise on Corporate Governance activities undertaken by any of two company

Semester	III	Total Credit	4
Course Code	CC Spl-I-304 (A)	Credit Pattern	L-45, T-6, P-9
Course Title	INTERNATIONAL TRADE AND FINANCE		

Course Outcomes: The students will able to learn:	
1	Assess foreign exchange rates and develop export trade document.
2	Apply international finance terms in trade.
3	Evaluate foreign direct investment design.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to International Finance: concept and Principals of International Trade – Theories of International Trade – Comparative Advantage – Absolute Advantage – Hecksher Ohlin Theory – Imitation Gap Theory- Barriers to International Trade –Indian EXIM Policy. Concepts of DTAA and International Taxation.	L=11	
		T=2	P=2
2	Export and Import Finance: Special need for Finance in International Trade –Terms used in International Trade (FOB, CIF, etc.,) – Payment Terms – Letters of Credit and its types – Pre Shipment and Post Shipment Finance – Forfaiting –Deferred Payment Terms – EXIM Bank – ECGC and its schemes – Import Licensing – Financing methods for import of Capital goods.	L=12	
		T=1	P=2
3	Foreign Exchange Markets: Spot Prices and Forward Prices – Factors influencing Exchange rates – The effects of Exchange rates in Foreign Trade – Tools for hedging against Exchange rate variations –Forward, Futures and Currency options -Determination of Foreign Exchange rate and Forecasting – Law of one price – PPP theory – Interest Rate Parity – Exchange rate Forecasting. Two way and three way arbitrage, arbitrage with IRP and PPP.	L=11	
		T=1	P=3
4	Determination and Forecasting of Exchange Rates: Currency risk management – Measuring and Managing Transaction – Translation and Economic Exposure. International Cash Management – Cost Of Capital for Foreign Direct Investment – Designing Global Capital Structure. Foreign Direct Investment – Cost and Benefits. Derivatives in International Trade Important Export trade documents, like Proforma, commercial, legalized, invoice, packaging list, bills of leading, airway bill, insurance policy, export incentive, duty exemptions, export house.	L=11	
		T=2	P=2

Note: Practical Problems to be covered on

1. Calculation Of Foreign Exchange Rates – Forward Rates, Premium Discounts on forward rates
1. Simple problems on pay off from Derivatives
2. Arbitrage

Learning Resources		
1	Text Books	1. Kapil Sheeba, "Financial Management" Pearson Publication House. 2. Jonathan Berk, Peter, "Financial Management" Pearson Publication House. 3. Sharan Vyuptakesh, "Fundamentals of Financial Management" Pearson Publication. 4. James C Van harne, "Financial Management & Policy" Pearson Publication House. 5. ICSI: Handbook on Mergers Amalgamations and takeovers.
2	Reference Books	1. Jeevanandam .C, INTERNATIONAL BUSINESS, M/s Sultan & Chand, Delhi, 2008 2. Sumathi Varma, INTERNATIONAL BUSINESS, <i>Ane, Delhi, 2010</i> 3. P.G. Apte – "Global Business Finance" – Tata McGraw Hills. 4. P.G. Apte – "International Finance Management" – Tata McGraw Hill 5. V.K. Bhalla – "International Financial Management" – Prentice Hall 6. Khan & Jain, "Financial Management", Tata Mcgraw Hill, 6th edition. 7. R.P.Rustagi, "Financial Management", PHI, 10th edition.
3	Websites	<u>INFLIBNET</u> http://nlist.inflibnet.ac.in <u>J-GATE</u> http://jgateplus.com <u>EBSCO</u> http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4	Journals	• Prabhandan: Indian Journal of Management • IUP Journals • ICSI Journals • Finance India • Indian Journal of Finance (New Sub.) • Journal of Accounting & Finance etc.
5	Supplementary Reading	• Financial Express • Economics Times • Business Standard • Times of India • Indian Express.
6	Practical Component	• Calculation Of Foreign Exchange Rates – Forward Rates, Premium Discounts on forward rates • Simple problems on pay off from Derivatives • Problems on arbitrage • Financial statement analysis using Proves-IQ • Companies Financial Reports & Corporate case studies.

Semester	III	Total Credit	4
Course Code	CC Spl-I-304 (B)	Credit Pattern	L-45, T-8, P-7
Course Title	EMPLOYEE RELATIONS AND LABOUR LAW		
Course Outcomes : Students will be able to			
1	Discuss the concepts and theories to manage Industrial Relations and Labor Laws		
2	Apply the concept of industrial relations, legal issues to the system in which it operates.		
3	Analyze industrial Related legal issues used in the resolution of conflict.		
4	Critically evaluate emerging trends in employment law		
5	Design the collective bargaining process, including preparation, negotiation, and settlement.		

Unit Number	Contents	Number of Sessions	
1	Industrial Relations and Trade Union:- Industrial Relations:- Concepts of Industrial Relations, Approaches to Industrial Relations, Role of Employer/Management, Trade Union and Government in Industrial Relations. Trade Union:- Purpose, Functions of trade unions, Problems of Trade unions, Measures to strengthen Trade Union, Recognition of Trade Union as Collective Bargaining Agent. Trade Union Act (1926), Standing Order	L=11	
		T=2	P=2
2	Collective Bargaining and Industrial Unrest: - Collective Bargaining:- Structure, Procedure and machinery for collective bargaining process, Negotiation Skills, Productivity Bargaining, emerging trends in collective bargaining. Industrial Unrest: Causes of Industrial Disputes, Prevention and Settlement of Industrial Disputes- Relevant Provisions related to Industrial Disputes Act, 1947. Purpose and procedure of disciplinary action, Meaning and scope of misconduct	L=12	
		T=2	P=1
3	Positive Employee Relations and Labour Laws:- Building positive employee relations, Participative Management:- Workers participation in Management (statutory and Non statutory Schemes), VRS:- Reason and acceptance of VRS, Management of Sexual Harassment and Sexual Harassment Laws in India,	L=11	
		T=2	P=2
4	Social Security for emotional Bondage:- Social Securities in India, ESI Act 1948, Workmen's Compensation Act, Maternity Benefit Act 1961, The employees Provident Fund Act, 1952. Payment of Gratuity Act 1972, and Management of Contract Labour.	L=11	
		T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Mamoria C.B, Dynamics of Industrial relations, Himalaya Publishing House 2. A.M.Sarma, Industrial Relations, Himalaya Publishing House
2	Reference books	1. ArunMonappa, Industrial Relations, Tata McGraw Hill Publishing Company Ltd. 2. Dhyani S.N., Industrial Relations Systems, Printwell Publishers 3. John Fossum, Labour Relations, Development, Structure, Process, McGraw Hill Education 4. Michael R Carrell and Christina Heavrin, Labour Relations and Collective Bargaining- Private and Public Sectors, Merrill 5. PromodVerma, Management of Industrial relations, Reading and Cases, Oxford and IBH Publications 6. Singh B.D., Industrial Relations –Emerging Paradigms, Excel Books 7. Srivastava S.C., Industrial Relations and Labour Laws, Vikas Publishing House Pvt. Ltd.,
3	Websites	1. www.ILO.org 2. www.labour.nic.in 3. www.labourstat.org
4	Journals	1. Indian Journal of Industrial Relations 2. Indian Labour Journal 3. Current Labour Report 4. Labour Law Journal
5	Supplementary Reading	1. Labour Law Journals 2. https://www.thehindubusinessline.com/opinion/the-recognition-question-in-trade-union-law-ep/article24988006.ece 3. https://www.labourfile.org/rights-of-women.aspx/
6	Practical Component	1. Role Play exercise on Collective Bargaining 2. Arrange a debate in the classroom about rights and duties of trade union of workers. 3. Students will draft a standing order for certification for a newly started garments factory employing 300 workers. 4. Students will draft a charge sheet about a list of allegations reported against an employee of an organization. 5. Interaction with Trade Union Leaders to identify challenges faced by them and present in class.

		6. Students will prepare a policy document to prevent sexual harassment at workplace. 7. Study the procedure including the documents required for PF and Gratuity benefit. 8. Role Play on Economic Coercion

Semester	III	Total Credit	4
Course Code	CC Spl-I-304 (C)	Credit Pattern	L-45, T-8, P-7
Course Title	BUYING BEHAVIOUR PAPER-I		
Course Objectives			
1	Students will understand concepts related to buying behavior.		
2	Students will become familiar with marketing and CRM strategies.		
Course Outcomes: Students will be able to;			
1	Explain the conceptual aspects of buying behaviour		
2	Analyse factors influencing on buying behaviour		
3	Design Marketing and CRM strategies.		
4	Evaluate marketing situations		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit I Consumer Behaviour I Meaning, Nature, scope, concepts. Buying Process, Models of consumer Behaviour, Organisational buying behaviour. Values & Lifestyle marketing.	L=11	
		T=2	P=2
2	Unit II Consumer Behaviour II Influences of consumer behaviour on individual, group. Perception, Motivation & Involvement. Attitude & change learning, memory. Personality & self-concept reference group influence, dynamics. Family Life cycle & its influence. Cultural influences.	L=12	
		T=2	P=1
3	Unit III Strategic Marketing - Strategic marketing management concept & overview, process, formulation & implementation, sustainable competitive advantages. Types of competitive strategies adopted by goods & services in market environment. Strategies for declining markets	L=11	
		T=2	P=2
		L=11	

4	Unit IV Customer Relationship Management Customer relationship management importance, process, framework, customer relationship marketing, Creating value for customers, customer loyalty, Customer life time Value, use of technology in CRM.	T=2	P=2

Learning Resources		
1	Text Books	1. Kotler Philip , “Marketing Management 17th Edition 2015”, Prentice Hall of India, New Delhi. 2. Saxena Rajan , “Marketing Management 2nd Edition 2002”, Tata McGraw Hill, New Delhi
2	Reference books	1. V.S.Ramaswamy and S.Namakumari -Marketing Management –Macmillan Business Books 2. Arunkumar, M Meenakshi - Marketing Management-Vikas Publication 3. Walkar, Boyd, Mullins And Larreche . "Marketing Strategy. A Decision Forced Approach", Tata McGraw Hill 4th Edition. 4. Kaushal H. , “Case Study Solutions in Marketing”, McMillan India 2001 5. Baker, M. (2000) Marketing Management and Strategy, 3rd edition, Macmillan Business 6. S.A. Chunawalla ‘‘Commentary on Consumer behaviour’’ 7. Nair Suja - R Consumer Behaviour Text & Cases 8. Consumer Protection Law & practices Niraj Kumar & Nair suja 4 th Edition
4	Journals	1. Indian Journal of Marketing 2. IUP Journal of Business Strategy 3. Current Contents In Management Marketing
5	Supplementary Reading	1. The Economic Times 2. Business Standard
6	Practical Component	1. Group Activity based on all units 2. Conduct different business games relevant to subject 3. Take Case discussion on all units 4. Show videos of subject related concepts to the students 5. Library assignment on all units

Semester	III	Total Credit	4
Course Code	CC Spl-I-304 (D)	Credit Pattern	L-44, T-8, P-8
Course Title	AGRI-BUSINESS, ENTREPRENEURSHIP AND COOPERATIVES		
Course Out Comes: Students will be able to			
1	Explain the concepts of Agribusiness, Entrepreneurship and Cooperatives		
2	Make use of conceptual framework for the development of cooperatives and agribusiness sector		
3	Evaluate the role of national and international institutions in agribusiness sector		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Agri Business, Agro Based Industries and Issues: Salient features of Rural Economy, The concept of Agri-business, Historical Review, Scope, Nature of Successful Agri-business, Specific Areas of Agri Business, Agro Based Industries and Issues: New paradigms in Horticulture, Floriculture and Food Processing sectors, Indian Exports and Agriculture Sector: Export oriented Agribusiness, Technology and Agri-Business: Role and Importance, Bio-Technology and Agri-business, Socioeconomic and Environmental Impact of agribusiness	L=11	
		T=2	P=2
2	International Organizations and Agri-Business: WTO and FAO: Functions and Role in Agriculture, Trade liberalization and World Trade Agreements relating to Agriculture Trade, Agreement on Agriculture (AOA), Import and Export Procedures for agri products, Strategies of Exports for agro based industries, Services under Agri-business, Recent trends in Agri Business Management	L=11	
		T=2	P=2
3	Introduction to Agripreneurship: Concepts of Rural Entrepreneurship, Endowment Of Skill Sets And Natural Resources In Rural India, Aims Of Rural Entrepreneurship, Barriers To Entrepreneurship In Rural India, Process Of Entrepreneurship, Rural Applicability, Skills Requires To Succeed, Government Training Programs And Public Private Partnership, ICT and Rural Entrepreneurship	L=11	
		T=2	P=2
4	Co-Operation and Agri Business (6) Introduction to Cooperatives: Definition, Evolution, Principles and Benefits Of Co-Operatives, Cooperatives and Other forms of Business Enterprises, Co-and their Economic And Legal Differences, The organizational structure of Co-Operatives: Functions, Role, Powers And Responsibilities of entities, Outline Of Good Co-Operative Management, Co-Operative Structure and Development in Farming: Credit, Marketing, Dairy Etc. - Problems and Prospects, Development of Sugar and Dairy Co-Operatives in Maharashtra	L=11	
		T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Smitha Diwase, Agri-Business Management, 2. Subhash W. Bhawe: "Agri Business Management in India" 1997. 3. B.S. Harsha: "Agri Business" 2003. 4. B.S. Mathur: "Co-Operation". Sahitya Bhavan, Agra, 1999. 5. V. Sharda: "The Theory of Co-Operation". Himalaya Publishing, 1999.
2	Reference books	1. RD. Bedi: "Theory, History and Practice of Co-Operation". Loyal Books Depot, 1997. 2. R Rajagopalan (Ed), "Rediscovering Co-Operation Vol I,II And III", Irma, Anand, 1996. 3. P.R Dubhashi, "Principles and Philosophy of Co-Operation". VMNICM, Pune, 1970. 4. B.P. Sinha: "Co-Operation: Instrument for Socio .Economic Justice". Himalaya Publishing House, New Delhi, 1992. 5. Divakar Jha: "A Perspective on Co-Operative Marketing" Vikas Publishing House, New Delhi, 1997.
3	Websites	• www.agriculture.gov.in/ • www.manage.gov.in • www.ica.coop/ • www.apeda.gov.in
4	Journals	• Journal of Agribusiness • Vikalpa • Journal of Cooperative • Sugar cooperatives
5	Supplementary Reading	Kurukshetra journal MANAGE study material
6	Practical Component	• Prepare report on agriculture sector development in the country in the recent times by visiting to Ministry of Agriculture and Forestry department website and recent Economic Survey of the country • Visit any agro-based unit nearby, have an implant training for one year and submit a 3 page report • Interact with any one Farming Cooperative society and make a SWOT analysis for it • Make a video case study of an agriprenuer of your area

Semester	III	Total Credit	4
Course Code	CC-Spl-I-304 (E)	Credit Pattern	L-44, T-8, P-8
Course Title	LOGISTICS & SUPPLY CHAIN MANAGEMENT		
Course Objectives:			
1	To make students understand fundamental concepts and principles of Logistics & Supply Chain Management.		
2	To make students understand supply chain metrics & decisions, supply chain coordination & planning.		
3	To introduce students to Global Supply Chain Operations.		

Course Outcomes: Students will be able to;	
1	Describe the concepts of Logistics and Supply Chain Management
2	Apply appropriate Logistics and Supply Chain Distribution Strategies in the organization
3	Analyze Supply Chain Planning and Coordination strategies
4	Evaluate the recent developments in Logistics and Supply Chain Management.

Note:

1. Case studies on each of the aspects mentioned in the syllabus need to be discussed.

Unit Number	Contents	Number of Sessions	
1	INTRODUCTION TO LOGISTICS MANAGEMENT Definition & Meaning of Logistics, Principles of Logistics, Activities of Logistics: Transportation, Warehousing, Packaging, Material Handling. Need of Collaborative Relationship & Alliance, Principles, Advantages, Disadvantages. Logistics Outsourcing Activities: 3PL+4PL=7PL, Risk of Outsourcing.	L=11	
		T=2	P=2
2	ESSENTIALS OF SUPPLY CHAIN MANAGEMENT Concept & Definition of Supply Chain Flows in SCM, Drivers of SCM, Push/Pull SCM, SC Network Decisions. Distribution Strategies: Milk Runs, Hub & Spoke System, Cross Docking, Pool Distribution, Direct Shipping. Bullwhip Effect, Measuring Performance of SCM, Recent Trends In Supply Chain: Agile Supply Chain, Green Supply Chain, Lean Supply Chain, E-Supply Chain, E-Commerce Supply Chain.	L=11	
		T=2	P=2
3	SUPPLY CHAIN PLANNING & COORDINATION Demand Planning & Forecasting, Characteristics of Forecasting, Forecasting Methods, Time Series Forecasting, Moving Averages, Forecasting Errors, Collaborative Planning Forecasting Replenishment (CPFR). Mass Customization: Drivers, Characteristics, Methods, Advantages, Disadvantages. (Numerical Treatment on Forecasting).	L=11	
		T=2	P=2
4	GLOBAL SUPPLY CHAIN OPERATIONS	L=11	

2. Video cases and documentary films relating to the syllabus to be exhibited in the class.

Learning Resources

	Global SCM, International Transportation: Sea, Air, Land, Multi-Modal Transportation. Containerization, International Documentation for Import/Export, Customs Clearance Formalities, Packaging for Export, International Logistics Infrastructure, Electronic Data Interchange (EDI). Supply Chain IT Framework: Barcoding & Scanning, RFID, EPOS, Image Processing, GPRS.	T=2	P=2
1	Text Books	1. Janat Shah, Supply Chain Management 2/e: Text and Cases, Pearson Education India 2. S. L. Ganapathi & Nandi, Logistics Management, Oxford University Press 3. Sunil Chopra, Peter Meindl & D. V. Karla, Supply Chain Management, Sixth edition by Pearson Education India 4. Satish C Ailawadi & Rakesh P Singh, Logistics Management, Prentice Hall India Learning Private Limited	
2	Reference books	1. David Simchi-Levi, Philip Kaminsky, Designing and Managing the Supply Chain 3rd Edition, McGraw Hill Education 2. Donald J. Bowerox, Tata Mcgrawhill Edition “Supply Chain Logistic Management” 3. N. Chandrasekaran, Supply Chain Management: Process, System & Practice, Oxford University Press	
3	Websites	1. https://www.managementstudyguide.com/supply-chain-management-articles.htm 2. https://lecturenotes.in/materials/17685-note-of-supply-chain-management-by-dr-panneerselvam-s 3. https://www.aims.education/study-online/supply-chain-management-notes/ 4. http://www.eiilmuniversity.co.in/downloads/Import-Export-Management.pdf 5. http://www.pondiuni.edu.in/storage/dde/downloads/ibiii_exim.pdf	
4	Journals	1. Supply Chain Management: An International Journal - Emerald Insight 2. Journal of Supply Chain Management - Wiley Online Library 3. Supply Chain Management Journal 4. The International Journal of Logistics Management - Emerald Insight	
5	Supplementary Reading	1. Ram Singh, International Trade Logistics, Oxford University Press 2. C. Rama Gopal, Export Import Procedures - Documentation and Logistics, New Age International Publishers 3. https://www.managementstudyguide.com/import-and-export-management-articles.htm	
6	Practical Component	1. Studying Supply Chain Distribution of any organization and classifying it according to different types of strategies which are studied and justifying why such system is chosen by that organization. 2. Identifying and visiting local business to study its Logistics & Supply Chain Strategies. 3. Group Discussion on Recent Trends in Supply Chain Management. 4. Identifying and visiting local Import/ Export Agency to study International Documentation required for Import/Export.	

Semester	III	Total Credit	4
Course Code	CC-Spl-I-304 (F)	Credit Pattern	L-45, T-8, P-7
Course Title	KNOWLEDGE MANAGEMENT AND ERP SYSTEM		
Course Objectives			
1	To understand the concept and importance of Knowledge Management.		
2	To know to enumerate knowledge management systems in the organization.		
3	To make sense of the technical aspects of ERP systems		
Course Outcomes: Students will be able to;			
1	Describe the Knowledge management strategies.		
2	Discuss KM, learning organizations, intellectual capital, and related terminologies in clear terms and understand the role of knowledge management in organizations.		
3	Identify the different technologies used in ERP.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction and KM: Knowledge management. Types of Knowledge, Importance of KM, KM Roles and responsibilities, KM in Information Technology, KM In Indian Software organization, KM In Banking Sector, KM Life Cycle, The Zack KM Life Cycle, The Bukowitz, and Williams KM Cycle, The Wiig KM Cycle, major theoretical KM models: Von Krog and ROS, Nonaka, and Takeuchi, Choo sense-making KM model, Wig model,	L= 11	
		T= 2	P= 2
2	Knowledge Capture and codification: Tacit Knowledge Capture at individual and group level Explicit Knowledge codification, Knowledge Transfer, in the e-World, KM Tools and Knowledge Portals-Brain Storming, Learning and idea capture, peer Assist, Storytelling, Taxonomy, knowledge Base, Voice and VOIP, Knowledge Portal, Managing Knowledge Worker, Knowledge audit, KM team	L= 12	
		T= 2	P= 1
3	ERP Meaning and Nature: Concept and benefits of ERP, Characteristics of ERP, Requirements for effective ERP implementation, ERP Implementation methodology, ERP Related technologies-BPR, Supply Chain Management; Role of Suppliers, Consultants, and users; Contact with Vendors, Consultants, and Employees, ERP implementation life, ERP Market Place- SAP AG, people Soft, Baan Company	L= 11	
		T= 2	P= 2
4	Business Modules of ERP: ERP Softwares-e-CRM,e-HRM,e-Logistics, e-Documents, Manufacturing Module, Finance Module, HR module, Material Management, Sales and distribution Quality Management Module. Future directions in ERP, evaluation of ERP	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class
- 3.

Learning Resources		
1	Text Books	1. Knowledge Leadership – Steven Cavaleri and Sharon 2. Seivert with Lee W. 3. Knowledge management – SheldaDebowski, Wiley India, 2007
2	Reference books	1. Knowledge Management in Theory and Practice- KimizDalkir – 2. Butterworth- Heinemann 2011
3	Website	1. http://www.providersedge.com/docs/km_articles 2. /km_and_corporate_culture.pdf www.rdocumentation.org 3. https://www.bitpipe.com/tlist/Knowledge-Management.html. 4. https://www.kmslh.com/blog/knowledge-management-portal-best-tool-for-knowledge-management
4	Journals	1. Journal of knowledge management 2. International Journal of Knowledge Management Studies 3. Knowledge Management Research & Practice

Semester	III	Total Credit	4
Course Code	CC Spl II 305	Credit Pattern	L-45, T-6, P-9
Course Title	EQUITY MARKETS		

Course Outcomes	
	The students will be able to learn:
1.	Understand the concepts of financial markets, their working and importance.
2.	Illustrate the working and contribution of financial market to the Indian Economy.
3.	Analyze the linkages in the equity markets.
4.	Develop necessary competencies expected of a finance professional.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Financial Markets: Types of Markets: Equity/ Debt/ Derivatives/ Commodities; Meaning and features of private, Public companies;	L= 11	
		T= 2	P= 2
2	Primary Market: Initial Public Offer (IPO); Book Building through Online IPO; Eligibility to issue securities; Pricing of Issues; Fixed versus Book Building issues; allotment of Shares; Private Placement.	L= 12	
		T= 1	P= 2
3	Secondary Markets: Role and functions of Securities and Exchange Board of India (SEBI); Depositories; Stock exchanges Intermediaries in the Indian stock market Listing; Membership; Trading Clearing and settlement and risk management; Investor protection fund (IPF); Derivatives: Index and Stock	L= 11	
		T= 1	P= 3
4	Valuation of Investments: Financial Statement analysis, time value of money, valuation models, fundamental analysis, technical analysis Recent Trends: Investment styles and trading strategies, portfolio management, corporate actions	L=11	
		T= 2	P= 2

Learning Resources		
1.	Text Books	1.Clifford Gomez, Financial Markets, Institutions and Financial Services, PHI Learning Private Limited 2. Prasanna Chandra, Investment Analysis and Portfolio Management, 5 th Edition Mc Graw Hill Education.
2.	Reference Books	1.Jeff, Madura, 2004, Financial Markets Vol 2 Equity Markets,SagePublicaitons. 2.Naidu, G. Kumar Swamy, 2002, Equity Markets - A New Paradigm, ICFAI, Hyderabad
3.	Websites	1. https://www.nseindia.com/ 2. www.sebi.gov.in 3. www.investopedia.com 4. www.bseindia.com
4.	Journals	1.Indian Journal of Research in Capital Markets, April-June 2018, 2.Journal of Emerging Market Finance, IFMR 3.Indian Journal of Finance, 4.Capial Market 5.ArthaVijnana, Journal of the Gokhale Institute of Politics and Economics

		6.Finance India, Indian Institute of Finance
5.	Supplementary Reading	1.Financial Weekly, Mags, etc. 2.Current Affairs Weeklies, Magazines,
6.	Practical Component	1.List the Public Issues in Primary Market, which took place in the last six months, and provide the final listing price thereof. 2.List the names of any five Depository Participants operating in Kolhapur. Visit any one of them and discuss the account opening requirements with them, and submit a report of such discussion. 3.Provide the minimum amount required by a DP (having office in Kolhapur) for opening an account with them. Enquire the rate of brokerage applicable on various trades. Enquire about margin provided by the broker and rate of interest charged thereon. Submit a report of the discussion.

Semester	III	Total Credit	2
Course Code	CC 306	Credit Pattern	L-16, T-4, P-10
Course Title	RURAL BANKING AND FINANCIAL INCLUSION		

Course Objectives	
1	To expose the students to the functioning of rural credit institutions in India
2	Introducing the Prospects and problems of rural banking and
3	Explaining the concept of financial inclusion including priority sector

Course Outcomes	
	The students will able to learn:
1.	Various Rural Credit Institutions in India and their roles
2.	Challenges posed by Rural banking and Opportunities opened thereby
3.	Concept of financial inclusion, priority sector

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Rural India: Demographic features; Economic features; Rural poverty-main causes and methods of measuring rural poverty; Rural Infrastructure; Rural Development Policy; Govt. policies and programs; Economic Reforms and its impact on rural economy Financing Rural Development: Functions and policies of RBI and NABARD; Rural Credit Institutions-Role and functions -Role of Information and Communication Technologies in rural banking-Regulation of Rural Financial Services	L= 8	
		T=2	P= 5
2	Financial Inclusion: Concept and its role in inclusive growth- Micro credit, micro insurance scheme - Business Facilitators and Business Correspondents in rural financing- SHGs/NGOs, linkages with banking, latest guidelines of GOI and RBI Priority Sector Financing and Govt. Initiatives: Components of priority sector RBI Guidelines; Government initiatives: Poverty alleviation programmes/Employment programmes/Production oriented programmes-Rural housing and Urban housing schemes under priority sector-Educational loans	L= 8	
		T= 2	P= 5

Learning Resources		
1.	Text Books	Indian Institute of Banking & Finance, Rural Banking, Mumbai
2.	Reference Books	- Vasantha Desai, Indian Banking-Nature and Problems, Himalaya Publishing House, Mumbai - Khan, M.Y., Indian Financial System, Tata McGraw Hill Publishing Company Ltd., New Delhi - Pai Panandikar & NC Mehra, Rural Banking, National Institute of Bank Management, Pune - Guruswamy, S., Banking in the New Millennium, New Century Publications, New Delhi - Uppal RK, & Rimpi Kaur, Banking Sector Reforms in India, New Century Publications, New Delhi - Indian Institute of Banking & Finance, Rural Banking, Mumbai - Uppal RK & Pooja, Transformation in Indian Banks-Search for better tomorrow, Sarup Book Publisher Private Ltd., New Delhi - Shyam Ji Mehrotra, New Dimensions of Bank Management, Skylark Publications, New Delhi
3.	Websites	www.nabard.org - Mfinindia.org
4.	Journals	- Prajnan by NIBM, - Finance India, the quarterly journal of Indian Institute of Finance - Bank Quest- IIBF
5.	Supplementary Reading	Current Affairs Magazines, financial dailies and magazines
6.	Practical Component	- Ascertain villages with more than one Bank Branches in the district of Kolhapur. - Ascertain villages with no bank branches in the district of Kolhapur

Semester	III	Total Credit	4
Course Code	DSE Spl I 301	Credit Pattern	L-45, T-6, P-9
Course Title	BANK FINANCIAL MANAGEMENT		

Course Outcomes	
	The students will be able to learn:
1.	Understand the concepts of financial markets and bank, their working and importance.
2	Develop necessary competencies expected of a banking professional
3	Develop skills for asset liability management in the context of bank financial management.

Syllabus:

Unit Number	Contents
1	Conceptual Framework: Overview of Financial System, Introduction to Financial Management in Banks, Financial Analysis of Banks
2	Management of Funds: Sources Management of Owned Funds, Management of Borrowed Funds, Cost of Funds, Investments Forms of Bank Investment, Long-term Investments, Short-term Investments, Investments in Bonds and other Financial Securities, Investment in Foreign Exchange
3	Financial Estimates and Projections: Estimation of Cost of Project & Means of Finance, Projection of Financial Statements & Profitability, Project Financing- Long Term Sources and Short-Term Sources, Classification of Internal and External Sources of Finance. Appraisal of Term Loans by Financial Institutions and Bank Financial Statement Analysis
4	Risk Management: An overview, Estimating/Forecasting of Risks, Measuring Risks, Management of Risks, Asset-Liability Management, Special Issues: Accounting Policies, Pricing of Bank Products & Services

Learning Resources		
1.	Text Books	1. IIBF, 2010, Bank Financial Management, Macmillan Publishers India Ltd. 2. Chandra Prasanna (2014), Projects: Planning, Analysis, Selection, financing, McGraw-Hill India Pvt. Ltd., New Delhi. 3. Kulkarni, P V. and Satyaprasad, B. G.(2011), Financial Management, Himalaya Publishing House, Mumbai. 4. Rustagi, R. P. (2016), Fundamentals of Financial Management, Taxman Publication, New Delhi. 5. Pandey, I. M. (2015), Financial Management, Vikas Publishing House, New Delhi.
2.	Reference Books	1. Sinkey, Joseph F., 1998, Commercial Bank Financial Management, Prentice Hall International, Inc. Ltd. 2. Reddy, B.R., 2004, Management of Non-Performing Assets In Bank Financial Institutions, Serials Publications
3.	Websites	1. Bankingupdate.com 2. Rbi.org.in

		3. https://www.ccilindia.com/Pages/default.aspx
4.	Journals	1. Indian Journal of Finance, 2. Capital Market 3. ArthaVijnana, Journal of the Gokhale Institute of Politics and Economics 4. Finance India, Indian Institute of Finance
5.	Supplementary Reading	1. Current Affairs Weekly, Magazines 2. Financial Dailies
6.	Practical Component	1. Compare balance sheets of two banks and provide the result of the comparison in the form of a report 2. Prepare a report showing comparative position of tier-wise capital for five different banks 3. Discuss the investment patterns of banks having their HOs in Kolhapur and submit a report thereof. 4. Obtain the feedback of banks having their HOs in Kolhapur on the Risk Management as a critical banking function. 5. Preparation of projected financial statements in respect of proposed project. 6. Preparing project proposal for any proposed business unit.

Semester	III	Total Credit	4
Course Code	DSE Spl-II- 302(A)	Credit Pattern	L-45, T-6, P-9
Course Title	DIRECT & INDIRECT TAXES		
Course Outcomes: The students will able to learn			
1	Assess applicability of GST liability		
2	Analyze deductions from gross total income		
3	Evaluate the income under different heads and taxability		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Direct Tax Basics: Important definitions, incomes exempt under section 10, deductions from gross total income under chapter VI A, Statutory duties covered upon the assesses regarding payment of taxes, Filling of income tax, Maintenance of accounts and audit of accounts, acceptance and repayment of deposits, TDS and TCS.	L=11	
		T=2	P=2
2	Computation of Income: Computation of Income under different heads of income namely- salary, house property. Profits and gains from business and profession, Income from other sources , Presumptive Taxation	L=12	
		T=1	P=2
3	Introduction to GST: Existing Indirect Tax Structure in India, need of Constitutional Ammendment, Important Definitions under GST and Concept of Supply, Interstate and Intrastate Supply, Levy of GST.	L=11	
		T=1	P=3
4	GST Time and Place of Supply and Concept of Input Tax Credit (ITC): Time and Value of Supply, Place of Supply, Concept of Input Tax Credit, Blocked Credit, Input Tax Credit Rules, Transitional Provision.	L=11	
		T=2	P=2

Note:

1. Case studies on each of the aspects mentioned in the syllabus need to be discussed
2. Videos cassettes, CDS and documentary films exhibited

Learning Resources		
1	Text Books	1. Kapil Sheeba, "Financial Management" Pearson Publication House. 2. Jonathan Berk, Peter, "Financial Management" Pearson Publication House. 3. Sharan Vyuptakesh, "Fundamentals of Financial Management" Pearson Publication. 4. James C Van harne, "Financial Management & Policy" Pearson Publication House. 5. ICSI : Handbook on Mergers Amalgamations and takeovers.
2	Reference Books	1. Vinodkumar Singhania - Students Guide to Income Tax 2. Prasad Bhagawati – Incom Tax Law & Practice 3. Mehotra H.C. – Income Tax Law 4. Dinkar Pagare – Income Tax Law and Practice 5. Ahuja & Gupta – Systemetice Approach to Income Tax
3	Websites	<u>INFLIBNET</u> http://nlist.inflibnet.ac.in <u>J-GATE</u> http://jgateplus.com <u>EBSCO</u> http://search.ebscohost.com

		Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4	Journals	• Prabhandan: Indian Journal of Management • IUP Journals • ICSI Journals • Finance India • Indian Journal of Finance (New Sub.) • Journal of Accounting & Finance etc.
5	Supplementary Reading	• Financial Express • Economics Times • Business Standard • Times of India • Indian Express.
6	Practical Component	• Practical Problems on income tax efilling • Practical Problems on income from salaries • Practical Problems on TDS • Practical Problems on e-filling of GST • Financial statement analysis using Proves-Q • Companies Financial Reports & Corporate case studies.

Semester		III	Total Credit	4
Course Code		DSE Spl-II-302(B)	Credit Pattern	L-45, T-8, P-7
Course Title		STRATEGIC AND INTERNATIONAL HUMAN RESOURCE MANAGEMENT		
Course Objectives				
1	To provide theoretical foundations of Strategic HRM to students and understand the role of HR as Strategic Partner.			
2	To equip students with the knowledge of HRM Practices in Multi-National Companies.			
3	To enable students to understand the implications of culture on HR Practices in MNCs.			
4	To enable students to understand HR interventions in successful cross-border Mergers and Acquisitions.			
Course Outcomes : Students will be able to :-				
1	scribe the different concepts in Strategic and International HRM.			
2	erpret the implications of culture on HR Practices			
3	aluate different HR interventions in cross-border mergers and acquisitions.			
4.	lapt HR management practices in changing International scenario.			

Unit Number	Contents	Number of Sessions	
1	Meaning, Scope, definition of SHRM, Difference between SHRM and HRM, 5 P Model of SHRM, Linking HR Strategy with Business Strategy. Globalization: Drivers of Globalization, Effects of Globalization on HRM, Model of International HRM, Differences and similarities between DHRM and IHRM.	L=11	
		T=2	P=2
2	Multi-culturalism, Cultural pre-dispositions- Ethno-centralism – Polycentricism – Regio-centricism- Geocentricism. Geert Hofstede's cultural dimensions, Communication, Leadership and Motivation across cultures, Issues in International Human Resource Planning, International Staffing: Linking staffing with stage of MNC	L=12	
		T=2	P=1
3	Identifying Potential expatriate, selection criteria of Expatriates, Challenges faced by Expatriates, Women Expatriates, Challenges and Advantages of Women expats, Process and Importance of Cross-cultural training, Emerging Trends. Issues in Performance Appraisal in International context.	L=11	
		T=2	P=2
4	Compensation Management: Objectives, Components of International compensation package. Cross-border Mergers and Acquisitions: Motives, HR Interventions in cross border Mergers and acquisitions. Repatriation: Reasons, Process, benefits from returnees, Challenges of re-entry, Tips for successful repatriation.	L=11	
		T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. <u>Michael Armstrong, Angela Baron</u>, Strategic HRM: The Key to Improved Business Performance 2. Charles Greer, Strategic HRM- Pearson Education. 3. Monir H. Tayeb, International Human Resource Management - Oxford University Press, 2005.
2	Reference books	1. Anne-Wil Harzing, Ashly Pennington, International HRMSage South Asia Edition. 2. <u>Julia Connell, Stephen Teo</u>, <u>Strategic HRM: Contemporary Issues in the Asia Pacific Region.</u> 3. A. Ghanekar, Strategic HRM, Everest Publishing House.
3	Websites	www.shrm.com www.hbr.com www.citehr.com
4	Journals	1. The Journal of Indian Management and Strategy 2. Human Capital 3. Manpower Journal 4. AIMS Journal of Management
5	Supplementary Reading	1. online.wsj.com 2. Magazines like Outlook, Time, India today
6	Practical component	1. Debate on the cultural predispositions multinational context will be conducted in class 2. Write an essay on “The challenges I would face if my company sends to on foreign assignment“. 3. Case based on Recruitment strategy will be discussed and students will be asked to design and present the recruitment strategy for a given company.

Semester	III	Total Credit	4
Course Code	DSE Spl-II-302 (C)	Credit Pattern	L-45, T-8, P-7
Course Title	MARKETING SECTORS MM II		
Course Objectives:			
1	Students will become familiar with various aspects of marketing sectors		
2	Students will understand and implement concepts in marketing across different sectors.		
3	Students will understand the process of formulating marketing plans for various sectors.		
Course Outcomes: Students will be able to;			
1	Describe conceptual aspects of sectorial markets.		
2	Apply concepts for marketing of services & products across sectors		
3	Design marketing plans across various marketing sectors		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit I Industrial Marketing Introduction to concepts & history of Industrial marketing. Difference between consumer and industrial /business marketing. Organisational Markets & Marketing. STP & Marketing Mix for Industrial marketing. Blurring between B2B & B2C.Competitive tendering, bidding. Non tendering purchase, Solution selling. Advancing internet & marketing.	L=11	
		T=2	P=2
2	Unit II Services Marketing Concepts, Meaning, characteristics of services. Difference between service & product. Marketing of professional services. Marketing Mix, Service quality concept & model. Capacity & demand Management. Retaining customers. 7 Ps of services marketing. Sectorial application collectively & specifically to top ten sectors in India including health, education, financial services.	L=12	
		T=2	P=1
3	Unit III International Marketing Nature, scope, challenges in international markets. Concepts & theories overview. Trade distortions & market Barriers in world market environment. Financial environment & decisions. Current trends in import & export in international marketing. Process, procedure, opportunities from Indian & Asian perspectives. Global fact sheet for marketer	L=11	
		T=2	P=2
4	Unit IV Retail Management Introduction to retail markets & marketing overview. Retail evolution in India. Retail formats, marketing mix decisions. Franchising, Retail merchandise, objectives, process & factors affecting store layout & marketing mix decisions. Visual merchandising. Merchandising mix decision. Display, lighting, exhibition. Store location its evaluation. Build	L=11	
		T=2	P=2

	Lease or Buy decision.		

Learning Resources			
1	Text Books	1. Industrial Marketing – Hill, Alexander, Cross 2. Industrial Marketing – P K Ghosh 3. Industrial Marketing-Krishna K. Havaldar Tata McGraw-Hill 4 .Strategic marketing: Text and Cases Paperback - <u>S Shajahan</u>	
2	Reference Books	1. Services Marketing People, Technology, Strategy – C. Lovelock, Jwartz, J. chattarjee – Pearson Education 2. Services Marketing – Integrating Customer Focus Across The Firm – V. Ieithaml, D DGremler, M J Bitner, A Pandit – Tata McGraw Hill 3. Services Marketing – Dr. S. Shajahan – Himalaya Publishing House 4. “Services Marketing The Indian Experience” - Ravi Shankar 5. “ Business To Business Marketing” – Analysis And Practice In A Dynamic Environment - Thomson South Western- Vitale Giglierano 6. Strategic Marketing – Michel Porter 7. Strategic Marketing- 8 th Edition -Tata Mcgraw Hill 8. Strategic Market Management: Global Perspectives, <u>Damien Mcloughlin David A. Aaker</u> 9. MR Czinkota and I A Rankainen - International Marketing - Cengage Learning 10. U.C. Mathur- International Marketing Management : Text and Cases- Sage Publication 11. Francis Cherunilam - International Marketing- Text and Cases – Himalaya Publishing House 12. Ramaswam and Namakumari - Marketing Management — Macmillan Publication 13. B K Chaterji - Marketing Management : A Finance Emphasis– A Jaico Book	
3	Journals	1. Indian Journal of Marketing 2. IUP Journal of Business Strategy 3. Current Contents In Management Marketing	
5	Supplementary Reading	1. The Economic Times 2. Business Standard	
6	Practical Component	1. Group Activity based on all the units 2. Case study discussion on all units relevant concept of the subject	

		3. Take other activities i.e. - Business Games etc. 4. Library assignment on all units

Semester	III	Total Credit	4
Course Code	DSE Spl-II-302 (D)	Credit Pattern	L-44, T-8, P-8
Course Title	RURAL AND AGRICULTURAL MARKETING		

Course Out Comes: Students will be able to	
1	Discuss the features of rural and urban markets for consumer goods and non-consumer goods
2	Apply rural marketing research techniques to understand the rural consumer behavior
3	Adapt marketing strategies suitable to rural markets and agricultural inputs

Syllabus:

Unit Number	Contents	Number of Sessions	
man1	Introduction To Rural Marketing: Definition, Classification And Characteristics Of Rural Markets; Problems And Constraints In Rural Marketing, Marketing Functions and Services: Marketing Institutions And Marketing Support Services, Rural Consumer: Classification and profile;	L=11	
		T=2	P=2
2	Rural Consumer Behavior and Rural Marketing Research: Rural Consumer Buying Behavior – Major Forces Influencing Rural Consumer Behavior, Rural Segmentation, Market Targeting and Positioning and Procedures for Rural Markets In India; Rural Marketing Research: Introduction, significance and sources of information, key decisions, approaches and tools of market research- case for innovation, participatory approaches, innovative tools, rural vs urban marketing research, rural research business, challenges in rural marketing research	L=11	
		T=2	P=2
3	Rural Marketing Planning And Strategy Development: Planning For Rural Marketing – Strategic Issues In Rural Marketing. Rural Product Strategy – Rural Pricing Strategy – Rural Distribution Strategy – Rural Promotion Strategy, Introduction to PRA Technique and its importance in Rural Marketing	L=11	
		T=2	P=2
4	Agricultural Marketing In India: Marketing Of Agricultural Products, Agricultural Marketing Process - Markets And Classification Of Markets – Methods Of Sales – Marketing Agencies, Introduction to Krishi Mandis and New FMCG Act, Marketing of Agricultural Inputs – Fertilizers; Seeds; Agrochemicals; Tractors; Farm Equipment; Irrigation Equipment and Animal Feed	L=11	
		T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Ramkishan Y. (2004): New Perspectives In Rural And Agricultural Marketing, Jaico Publishing House, 2nd Edition 2. Pradip Kashyap, Rural Marketing, Pearson Publications 3. Badi and Badi: Rural and Agricultural Marketing, Himalya Publications
2	Reference books	1. Sarwade W.K. (2006) : Agricultural Marketing – Vatsala Baliram Prakashan Kendra, Mumbai 2. Abbott J.C.; Makcham J.P. (1992): Agricultural Economics and Marketing in the Tropics. Elbs with Longman, 2nd Edition. 3. Singh G.N.; Singh D.S., Singh R.I: Agricultural Marketing in India, Analysis Planning and Development. Chugh Publications, Allahabad 4. Rajagopal (1993): Indian Rural Marketing, Rawat Publication. 5. Kamat M.; Krishnamurty R. (2003): Rural Marketing, Himalaya 6. Habeeb-ur-Rahman K.S. (2003), Rural Marketing In India; Himalaya 7. Gopalswamy T.P. (2006): Rural Marketing: Environment Problems and Strategies, Vikas 8. Verma S.B; Jiloka S.K. (2006): Rural Agricultural and Marketing, Deep and Deep
3	Websites	www.agriculture.gov.in/ www.manage.gov.in www.ica.coop/ www.apeda.gov.in
4	Journals	Rural Marketing Indian Journal of Marketing Vikalpa
5	Supplementary Reading	www.martrural.com www.ibef.org http://www.ruralrdc.com.au/
6	Practical Component	• Make a visit to any one of the marketing service agency identify their activities • Organize PRA Activity at your/ any village and identify the marketing opportunities for various product categories • Prepare a questionnaire and conduct rural market research for various product categories and submit analysis in report format

Semester	III	Total Credit	4
Course Code	DSE-Spl-II-302-(E)	Credit Pattern	L-44, T-8, P-8
Course Title	PURCHASING AND INVENTORY MANAGEMENT		

Course Objectives:	
1	To make students understand fundamental concepts, principles and practices of purchase management, including the basic functions of materials management.
2	To make students knowledgeable about theoretical aspects and practical application of Inventory Management.
3	To introduce students to modern concepts and trends in Purchase & Stores Management

Course Outcomes: Students will be able to;	
1	Describe the concepts of Purchasing and Inventory Management.
2	Apply Purchasing and Inventory Management Techniques at Manufacturing and Service Sector.
3	Analyze issues involved in Purchasing and Inventory Management.
4	Evaluate Purchasing and Inventory Management strategies.

Unit Number	Contents	Number of Sessions	
1	PURCHASING MANAGEMENT Introduction, to Materials Management, Purchasing Principles & Procedure, Practices & Policies of Purchasing, 5R of Purchasing, Objectives, Scope, Responsibilities & Limitations of Purchasing Management, Methods of Buying, Centralised & Decentralised Purchasing, Sources of Supply & Supplier Selection, Legal Aspects of Purchasing.	L=11	
		T=2	P=2
2	STORES MANAGEMENT Meaning of Store Management, Functions of Scientific Store Management, Benefits of Scientific Store Keeping, Types of Stores, Stores Procedure, Store Location & Layout, Centralised & Decentralised Store, Preservation of Stores, Storage Safety And Security Aspects, Standardization & Variety Reduction, Codification, Stock Taking.	L=11	
		T=2	P=2
3	INVENTORY MANAGEMENT & CONTROL SYSTEM Defining Inventory, The Need of Inventory & Its Control. Inventory Management: Objectives, Functions & Importance. Costs Associated with Inventory, Inventory Models: Basic EOQ Model, Quantity Discount Model, Safety Stock Determination, Replenishment Systems, Fixed Order Quantity (Q Model) Versus Fixed Time Period (P Model). (Numerical Treatment on Inventory Models)	L=11	
		T=2	P=2
4	STRATEGIC MATERIALS MANAGEMENT BoM, MPS, MRP I, MRP II, CRP, Vendor-Vendee Relations, Vendor Development, Vendor Evaluation & Rating Methods, Negotiations, Supplier Quality Assurance Programme, Material Accounting & Audit, Inventory Valuation, Worldwide Sourcing, Government Purchasing Practices & Procedure, Materials Management Information System (MMIS)	L=11	
		T=2	P=2

Note:

1. Case studies on each of the aspects mentioned in the syllabus need to be discussed.
2. Video cases and documentary films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. K. K. Ahuja, Material Management ,CBS Publishers & Distributors 2. A.K. Datta, “Materials Management”, Procedure, Text & Cases, Prentice-hallof India Pvt. ltd, New Delhi. 3. K. S. Menon, Sarika Kulkarni, Purchasing and Inventory Management, SPD Publications 4. Dr. K. C. Jain and Jeet Patidar, Purchasing and Materials Management, S. Chand
2	Reference books	1. Max Müller, “Essentials of Inventory Management” Amacom, 2003. 2. Richard J. Tersine, “Principles of Inventory and Materials Management” North-Holland, 2007.
3	Websites	1. www.materialsmanagement.info/defscope/index.htm 2. http://www.materialsmanagement.info/inventory/functions-of-inventory.htm 3. https://www.managementstudyguide.com/inventory-management.htm 4. http://www.ispatguru.com/stores-management/
4	Journals	1. Journal of Purchasing and Materials Management - Wiley Online Library 2. Journal of Purchasing & Supply Management - Journals - Elsevier 3. International Journal of Procurement Management (IJPM) 4. International Journal of Purchasing and Materials Management
5	Supplementary Reading	1. P. Gopalakrishnan and M. Sundaresan, Material Management: An Integrated Approach, Prentice-Hall of India Pvt.Ltd 2. Robert M. Monczka and Robert B. Handfield, “Purchasing and Supply Chain Management” 6th Edition, Jan 2015.
6	Practical Component	1. To interview Purchasing Manager of any local business to understand responsibilities and limitations of purchasing manager. 2. To visit any local manufacturing organization study functions of Store Management and storage security and safety aspects. 3. To interview Inventory Manager of any local business to study inventory control technique adopted by the organization. 4. Library Exercise on Materials Management Information System (MMIS) undertaken by any one company of your choice.

Semester	III	Total Credit	4
Course Code	DSE Spl-II-302 (F)	Credit Pattern	L-45, T-8, P-7
Course Title	INFORMATION SYSTEM CONTROL AND AUDIT		
Course Objectives			
1	To enable a student to use analytics to solve business problems		
2	To Make Use of I.S Audit Procedures.		
3	To develop skills in the theory, techniques, and practical issues involved in computer-based information systems control and auditing		

Course Outcomes: Students will be able to;	
1	Classify the concepts of computer security, computer security threats, and the corresponding remedies.
2	Describe the trend of computer security threats
3	Develop an audit plan to achieve the IT audit objectives.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction – Overview Of Information System Auditing, Need For Control And Audit Of Computers, Need for Assurance, Effect Of Computers On Auditing, Benefits of IS Audit for An Organization. IT Governance and Auditors. Conducting Information System Audit – Audit Charter And Engagement Letter, A Typical IS Audit Charter	L= 11	
		T= 2	P= 2
2	Audit Planning, Audit Approaches, Risk Assessment, Information Gathering Techniques, Vulnerability, System Security Testing, Development Of Security Requirements Checklist, The Road Map For Setting Up Information System Audit For Bank, The Management Control Framework: Introduction, IT Management Framework	L= 12	
		T= 2	P= 1
3	Top Management Controls – Evaluating – Evaluating The Planning, Organizing-Policies and procedures, HR Policies and Procedures Relating To Information System, Leading Function, Controlling Function. Audit of Program Development, Audit of Program Modification, Field level input control, Record level input control, Conversion Audit	L= 11	
		T= 2	P= 2
4	Techniques for testing unauthorized program modification; Operational Control Review – Control Requirements for Backup, Backup Procedures, Selection of storage media, Security Measurement Controls – Introduction, Conducting A Security Program, Major Security Threats And Remedial Measures, Need Of Disaster Recovery And Business Continuity, Data Disaster, Virus Disasters, Software Disasters, Data Center Disasters, Core Banking Solution	L=11	
		T= 2	P= 2

Note:

Students will have to complete all tutorials, assignments, and lab sessions for internal credits.

Learning Resources		
1	Text Books	1. Information System Control And Audit, - Ron Weber Person Edition
2	Reference books	1. Information System Auditing And Assurance – James A. Hall – South Western. 2. Auditor's Guide to Information Systems Auditing- Richard Cascarino
3	Website	1. https://www.isaca.org/ www.rdocumentation.org 2. https://www.britannica.com/topic/information-system/Information-systems-audit 3. https://www.researchgate.net/publication/327312550_Information_Technology_Control_and_Audit
4	Journals	1. ISACA Journal Information Technology & Systems ResourcesR and the joirnal of the statistic softwares
5	Supplementary Reading	1. Inormation System Audit Reports From Banks

Semester	III	Total Credits	2
Course Code	AEC 301-A	Credit Pattern	L-22, T-2, P-6
Course Title	ENTREPRENEURSHIP SKILLS AND START UP		
Course Outcomes: Students will be able to:			
1.	Describe the concept and types of Start ups.		
2.	Explore the start up ideas and start up India scheme.		
3.	Identify various funding options for start ups		
4.	Create a start up on the campus.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Understanding Start ups: (15) Understanding the concept of start up and its economic rationale. The difference between a startup and a small Business, Types of Start Ups: Life style start ups, Small business start ups, Scalable startups (Silicon Valley entrepreneurs), Buyable startups, social start ups, Technology Startups. Various Business Models adopted by startups worldwide. Startup idea, Innovations, IPRs. Startup Ecosystems with examples. Indian Start ups in the last ten years. Government policy for MSME and start up India Scheme.	L=11	
		T=2	P=2
2	Funding Methods for Startups: Stages of Start up Financing, Types of Investors for Startups 1) Friends & Family. 2) Banks & Government Agencies. 3) Angel Investors 4) Boot strapping 5) Accelerators & Incubators 6) Family Offerings 7) Venture Capital Firms. 8) Corporate Investors. Funding for startups through government agencies India. Problems and Challenges of startups: Lack of legitimate mentors for Startups, Competition from big players, stringent norms of financiers, marketing problems, human resource management problems, funding problems, delays and project cost escalation. Sustaining and growing the startup.	L=11	
		T=2	P=1

Learning Resources		
1	Text Books	1. Mohanty – Fundamentals of Entrepreneurship, Prentice Hall of India 2. Entrepreneurship: creating and leading an entrepreneurial organization. By Kumar Arya, Pearson India. 3. Zimmerer & Scarborough – Essentials of Entrepreneurship & Small Business Management, Prentice Hall of India 4. Allen, K. (2003) Launching New Venture, Cengage Learning

2	Reference books	1. Hisrich Peters, Irwin: 'Entrepreneurship: Starting, Developing and Managing a New Enterprise. PHP 2. Raghu Nandan : 'Unlashing your entrepreneurial Potential' Sage Publication 3. M.lall, 'Entrepreneurship, Excel books 4. Peters, michael P and shepherd Dean, Hisrich, robert, Sage Publication Tata McGraw-hill; sixth edition, 2007 5. Mathew J Manimala :- Entrepreneurship at the Crossroads – Biztantra Pub. 6. Eric Ries, 'The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses: Published By Currency available only on Amazon
3	Websites	https://inc42.com/startups/file:///E:/introduction%20to%20startup.pdf file:///C:/Users/student/Downloads/rebo use dp 2016 1613%20(1).pdf https://fi.co/insight/the-most-comprehensive-guide-to-the-silicon-valley-startup-ecosystem-ever-created
4	Journals	Journal of Entrepreneurship Development - SEDME Entrepreneurship in the New Millennium: Hyderabad, NISIET IDBI Annual Report
5	Supplementary Reading	Economic Times Business Standard Online reading of Harvard Business Review, Journal of Business Venturing
6	Practical Component	Case Study on Start Up Business Models and presentation. Visit to Incubations Interaction with Startup entrepreneurs

Semester	III	Total Credit	2
Course Code	AEC 301 (B)	Credit Pattern	22L + 8 TP
Course Title	HEALTH AND WELLNESS		

Unit Number	Contents
1	Introduction to Human Health, The Wellness Profession, Changes across the Lifespan, Workplace Wellness Program Management. Health Literacy Worksite Health Environment, Physical Activity and Nutrition for Wellness Managers. Understanding and Effecting Health Behaviour Change.
Learning Resources	

2	Marketing and Communication. Survey of Information Technology in Wellness Population Health, Leadership and Change Management in Health. Assessment and Evaluation Employee Health and Well-Being. Health Coaching, Fieldwork, Health and Wellness Management Capstone..
Instructions	This course is to be conducted with open approach to reflect more on student's part for learning. If necessary experts can be called for workshops or guest sessions.
1	Reference Books Wellness Management for Educators and Entrepreneurs oosung J. Lee Jungeun Kim Division of Interdisciplinary Wellness Studies Asan, Chungnam, Korea Series: Management Science – Theory and Applications.BISAC: BUS041000 Best Health and Wellness Books of the Last Decade TARA LOSINSKI JANUARY 10TH, 2020 Lifespan: Why We Age—and Why We Don't Have To Hardcover – Sept. 10 2019 by David A. Sinclair PhD (Author), Matthew D. LaPlante (Author) Wellness Management - A Lifestyle Approach for Health, Fitness and Energy (English, Paperback, Venkata Rajasekhar Kali) Notion Press Genre: Health & Fitness ISBN: 9789352067428, 9789352067428 Pages: 276 What to Eat Paperback – April 17, 2007 by Marion Nestle (Author) ISBN-10 9780865477384 Williams' Essentials of Nutrition and Diet Therapy Paperback – 23 December 2014 by Eleanor Schlenker PhD RD (Author), Joyce Ann Gilbert (Author) ISBN-13 978-0323185806
2	Reference Website . The Real Food Dietitians Website: 1. https://therealfoodrds.com/ 2. MyFitnessPal Website: https://www.myfitnesspal.com/ 3. Livestrong Website: https://www.livestrong.com/ 4. Healthline Website: https://www.healthline.com/ 5. Avocadu Website: https://avocadu.com/

Semester	III	Total Credit	2
Course Code	AEC 301 (C)	Credit Pattern	22L, 8TP
Course Title	TOURISM MANAGEMENT		
Course Objectives			
1	To enable students to get acquainted with concepts in Tourism Management.		
2	To enable students to know the elements of Tourism marketing and its practical Approach to Tourism Management		
Course Outcomes: Students will be able to;			
1.	Explain the concepts of travel and tourism,		
2.	Develop a tourism plan		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit 1: TOURISM PHENOMENON Understanding Tourism Historical Evolution and Development Understanding Tourists And Hosts Profiling Foreign Tourists Profiling Domestic Tourists Guest – Host Relationship Sociology, Anthropology and Tourism Informal Services in Tourism, Dance and Music :Cuisines, Customs, Festivals and Fairs	L=11	
		T=4	P=0
2	Unit 2: TOURIST SITES: PRODUCTS AND OPERATIONS Adventure and Sports Beach and Island Resorts: Hill Stations of India Wild Life: Use of History, Monuments and Museums Living Culture and Performing Arts, Religions of India Tourism Marketing – 1: Relevance, Product Design, Market Research. Tourism Marketing – 2: Promotional Events, Advertising Publicity, Selling, Role of Media, Writing for Tourism Personality Development and Communicating Skills	L=11	
		T=4	P=0

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. P.M. Seth, Successful Tourism Management: 2. J.K. Sharma , Tourism Planning & Development:
2	Reference books	1. Chuck Y. Gee , Travel industry: 2. R Gartner, Tourism Development: Tourism System: Mill R.C & Morrison 3. Cooper C, Fletcher J, and Gilbert D & Wahill S. Tourism; Principles & Practices
3	Websites	1. http://tourism.gov.in/organisation 2. www.wti.org.in (Wildlife Organisation in India) 3. www.indiaculture.gov.in
4	Journals	1. Journal of Tourism and Hospitality Management (JTHM) 2. KITTS - Indian Journal of Tourism and Hospitality
5	Supplementary Reading	1. Tourism Policy in 2018 2. Year End Review: Ministry of Tourism
6	Practical Component	1. Each Student will to select one State and prepare a seminar on Culture, Festival, Food habits, Dance, rituals etc. of the State. 2. Each student will identify the tourism spots from the selected State and present its Unique Selling Proposition with tourism perspective. 3. Preparation of a detail tourism plan to visit a particular tourism destination.

Semester	III	Total Credit	2
Course Code	AEC 301(D)	Credit Pattern	L-22, T-4, P-4
Course Title	CHANGE MANAGEMENT		

Course Objectives	
1	To help the students to gain knowledge about the concepts of change management and to acquire the skills required to manage any change effectively.
2	To understand the various components and constraints involved in Change management.
3	To equip students with ways of dealing with resistance to change.
Course Outcome	
1. Apply Change Management Model to business situations 2. Evaluate and organizational changes and its management.	

Unit Number	Contents	Number of Sessions	
1	Individual Change: Need for Individual Change, Personality and Change, Learning and Individual Change, Approaches to Individual Change, Implications of Change in Individuals. Culture and Change: Introduction, Concept of Organizational Culture Dimensions of Culture, Type of Culture, Assessing Organizational Culture, Role of Culture in Managing Change. Change Management in Organizations: Understanding Organizational Transformation, Strategies, Process, Nature, Perspectives of Organizational Change. Models of Organizational Change:	L=11	
		T=2	P=2
2	Communicating & Implementing Change: Need, Factors, Forms of Resistance, Reactions to Change, Resistance to Organizational Change Initiatives, Overcoming the Resistance to Change, Technique: Implementation of Change, Developing an Implementation Plan, Gaining Support and Involvement of Key People, Strategies for Implementation: Types of Change Management Strategies, Factors Affecting the Choice, Formulating and Facilitating Change, Facilitating Change, Implementing Change,. Leading Changes: Visionary Leadership, Role of Leaders in the Phases of Organizational Change. Evaluation, Measurement and Methods of Evaluation, Feedback Process, Continuous Incremental Change.	L=11	
		T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the Class.
3. Field visits will be compulsory and a group report to be generated for exam in the presence of an external examiner at mid-term.
4. This is necessary to know implemented change and or change in process around. In manufacturing, service, commercial challenging sectors.

Learning Resources		
1	Text Books	No particular text book is available however following can be correlated and used as text book The Power Of HABIT, Charles Duhigg, Replica Press Pvt.Ltd. ISBN 9781847946249
2	Reference books	1. James McCalman, Professor Robert A Paton, Sabina Siebert, Change Management: A Guide to Effective Implementation, SAGE Publications. 2. Beam, Change Management Revised Edition, Routledge- Taylor and Francis Group. 3. Jeff Hiatt, Timothy J. Creasey, Change Management: The People Side of Change 4. Radha S. Sharma, Change Management. Tata McGrawHill.
3	Websites	https://www.change-management-institute.com/ https://www.changefirst.com/
4	Journals	Journal of Organizational Change Management Issue(s) available: 176 – From Volume: 1 Issue: 1, to Volume: 32 Issue: 2 Category: Organization Studies https://www.emerald.com/insight/publication/issn/0953-4814
5	Supplementary Reading	Managing Transitions, 25th anniversary edition: Making the Most of Change Paperback – January 10, 2017 by William Bridges (Author), Susan Bridges (Author)
6	Practical Component	1. Debate in the classroom on Change related topic 2. Organization change questionnaire data collection and analysis. 3. Group Presentation on Change management in various sectors like Health care, Education, PSU, Retail, Manufacturing Industries. 4. Design a role play event for students, so that they will play it out to mobilize support for a change implementation programme.

Semester	III	Total Credit	2
Course Code	GE-301(B)	Credit Pattern	L-24, T-06, P-00
Course Title	E-COMMERCE		

Course Objectives	
1	To explain the nature and different models of E-commerce
2	To explain the technologies required to make e-Commerce viable.
3	To discuss the current drivers and inhibitors facing the business world in adopting and using e-commerce and
4	To discuss the trends in e-Commerce and the use of the Internet.
5	To discuss e-commerce from an enterprise point of view.
6	To demonstrate the concepts of security in e-commerce applications.
Course Outcomes	
After completion of this course the student will be able to:	
1	Recognize the business impact and potential of e-commerce
2	Develop a holistic perspective on the role of IT in organizations.
3	Identify target market based on numerous parameters.
4	Select appropriate e-commerce models for any organization.
5	Follow security measures while dealing with e-commerce applications.

Unit Number	Contents	Number of Sessions	
1	History of e-commerce and Indian business context, www, advantages and disadvantages of e-commerce, e-commerce in India, various Indian case studies. Business models for e-commerce, different type of e-commerce, brokerage model, aggregator model, info-mediary model, community model, value chain model, manufacturer model, advertising model, subscription model, affiliate model.	L=12	
		T=03	P=00
2	Technologies of the www & e-security, internet client-server applications, networks and internets, URL, software agents, internet service providers, html, java script and xml, e-security, security on the internet, hacking, various security risks, e-business risk management issues, firewall. E-marketing, identifying web presence goals, the browsing behavior model, online marketing, e-advertising, internet marketing trends, target markets, e-branding, marketing strategies. Legal and ethical issues, IT Law, phishing, copy right.	L=12	
		T=03	P=00

References

1	Text books	a. E-commerce - An Indian Perspective by P.T. Joseph, S.J , PHI publication
2	Reference books	1. The unofficial guide to starting an e-commerce business by Jason R.Rich, IDG books India. 2. E-Commerce (Pearson Custom Business Resources) by Kenneth C. Laudon 3. Electronic Commerce by Gary P. Schneider
3	Websites	1. http://notes4learners.blogspot.com 2. https://www.academia.edu/8099032/e_commerce_notes 3. https://examupdates.in/e-commerce-full-notes/ 4. https://www.javatpoint.com/html-tutorial 5. http://www.echoecho.com/html.htm
4	Journals	1. “Electronic Commerce Research”, ISSN: 1389-5753 (Print) 1572-9362 (Online), https://link.springer.com/journal/10660 2. “E - Commerce for future & Trends”, eISSN: 2454–9347, http://stmjournals.com/E-Commerce-for-future-and-Trends.html 3. “Journal of Web Development and Web Designing”, http://matjournals.com/Journal-of-Web-Development-and-Web-Designing.html
5	Supplementary Reading	1. geeksforgeeks 2. tutorialspoint 3. w3Schools
6	Practical Components	-----
1	Text books	b. E-commerce - An Indian Perspective by P.T. Joseph, S.J , PHI publication
2	Reference books	4. The unofficial guide to starting an e-commerce business by Jason R.Rich, IDG books India. 5. E-Commerce (Pearson Custom Business Resources) by Kenneth C. Laudon 6. Electronic Commerce by Gary P. Schneider

Semester	III	Total Credit	2
Course Code	GE 301 (C)	Credit Pattern	L-23, T-07, P-0
Course Title	DISASTER MANAGEMENT		

Course Objectives	
1	Understand the concept and impact of disasters.
2	Describe the causes, effects and control measures of disasters.

Course Outcomes: After completion of this course students will have capacity to	
1.	Recognize the various global and regional environmental concerns/hazards due to natural causes and/or human activities, and the impact of these on various forms of life .
2.	Obtain and communicate information on risks, relief needs and lessons learned from earlier disasters in order to formulate strategies for mitigation in future scenarios
3.	Describe and evaluate the environmental, social, economic, legal and organizational aspects influencing vulnerabilities and capacities to face disasters.
4.	Relate theoretically and practically in the processes of disaster management (disaster risk reduction, response, and recovery)

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Disaster Management : Hazard and Disaster, Classification of Disasters. Hydrological Disasters - Flood, Drought, Geological Disasters- Earthquakes, Landslides, Volcanic Eruptions. Wind Related Disasters- Cyclone Biological Disasters : Man Made Disasters : Fire – Industrial, Domestic and wild fire Technological Disasters- Bhopal Gas Tragedy, Chernobyl and Fukushima. Marine and Social Disasters	L= 11	
		T= 4	P= 0
2	Disaster Management : Risk assessment, Disaster Management Act 2005, National Disaster Management Framework, Role of various organisations- National Disaster Management Authority (NDMA), State Disaster Management Authority (SDMA), District Disaster Management Authority (DDMA), Financial Arrangements for Disaster Management, Disaster management cycle, NDRF. Non-Governmental Organisations, community participation, Education, training for public in emergency preparedness plan, Rescue & rehabilitation programmes.	L= 12	
		T= 3	P= 0

Learning Resources		
1	Text Books	- Textbook Of Environmental Science And Technology by REDDY, BSP publishers, 2019 - A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 - A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 - A Text Book of Ecology, Tyler Miller, Cengage Learning - A Text Book Environmental Studies, Chatawal & Sharma, HPH

		• A Text Book Environmental Science, Joshi & Joshi, APH • A Text Book of Environmental Studies, Nambiar, STP
2	Reference books	• Nuclear Accidents (Man Made Disasters) Mark Mayell Publisher: Lucent Books • Management of Man-made Disasters, S. L. Goel, Motilal Banarsidass Publishers Private Limited, New Delhi, ISBN: 8176297151 • Handbook of Pollution Control Processes By: Robert Noyes. Jaico Publishing House, Mumbai (2003) • Fire & Explosion Hazards Handbook of Industrial Chemicals By: TA Davletshina & NP Cheremisinoff, Noyes Publications, Mumbai (2003) • Environmental Geology by K. Valdiya, Tata McGraw Hill Publishing Co. • Perspectives on Environment by I.R. Manners, M.W. Micksell • Our Planet, Our Health by WHO (1992) • Report of the Panel on Industry by WHO (1992) • Natural Disasters, Author: Claire Watts / Trevor Day Publisher: Dk Publishing, ISBN: 9781465438096 • Environmental Biology by K.C. Agarwal • Resource Book on Chemical (Industrial) Disaster Management, http://nidm.gov.in/PDF/pubs/chemical_mdc.pdf • Directory of Institutions and Resource Persons for Landslide Management In India • http://nidm.gov.in/PDF/pubs/directory%20landslide.pdf
3	Websites	• Directory of Institutions and Resource Persons for Landslide Management In India • http://nidm.gov.in/PDF/pubs/directory%20landslide.pdf • https://www.ifrc.org/en/what-we-do/disaster-management/about-disaster-management/ • https://en.wikipedia.org/wiki/Disaster_management_in_India
4	Journals	• Current Science, ISSN No. 0011-3891 • Down to Earth • Journal of Biosciences, ISSN No. 0250-5991 • Journal of Environmental Biology, ISSN No. 0254-8704 • Resonance, ISSN No. 0971-8044 • Journal of Earth System Science, ISSN No .2253-4126 • Industrial Safety Chronicle • International Journal of Environmental Engineering Science, ISSN No .2229-3094
5	Supplementary Reading	• Demonstration of Fire & Water Safety.
6	Practical Components	• Mock drill for various disaster • Disaster Management Action Plan

Semester	III	Total Credit	2
Course Code	GE 301(D)	Credit Pattern	L-20, T-5, P-5
Course Title	CORPORATE SOCIAL RESPONSIBILITY		

Course Objectives	
1	understand the scope and complexity of corporate social responsibility.
2	gain knowledge of the impact of CSR implementation on societies
3	acquire skills to frame and design CSR policies and practices appropriate to the Indian workplace.

Course Outcomes: Students will be able to	
1	Know the Corporate Social Responsibility of different sector.
2	Use the acquired skill for proper sustainable Corporate Social responsibility.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to CSR: Meaning & Definition of CSR, History & evolution of CSR. International framework for corporate social Responsibility, Millennium Development goals, Sustainable development goals, Relationship between CSR and MDGs. United Nations (UN) Global Compact 2011. UN guiding principles on business and human rights.– Globalization and CSR.	L= 10	
		T= 3	P= 2
2	Indian perspectives and approaches: Models of CSR in India,. Initiatives in India. Corporate Governance and CSR , CSR Policy and guidelines , Legal frame work, rules and regulations, Company Act 2013 - relevant provisions of CSR. Role of Government and NGO in CSR. Business Benefits of CSR.	L=10	
		T=2	P=3

Learning Resources		
1	Text Books	1. Benn & Bolton, (2011). Key concepts in corporate social responsibility. Australia: Sage Publications Ltd. 2. Bradshaw, T. and D. Vogel. (1981). Corporations and their critics: Issues and answers to the problems of corporate social responsibility. New York: McGraw Hill Book Company 3. Brummer, J.J. (1991). Corporate Responsibility and Legitimacy: An interdisciplinary analysis. Westport, CT: Greenwood Press. 4. Cannon, T. (1992). Corporate responsibility (1st ed.) London: Pitman Publishing. 5. Crane, A. et al., (2008). The Oxford handbook of corporate social responsibility. New York: Oxford University Press Inc.
2	Reference books	1. Lourdes Poobala Rayen- Corporate Social responsibility. 2. Ellington. J. (1998). Cannibals with forks: The triple bottom line of 21st century business. New Society Publishers 3. Baxi C.V and Ajit P, Corporate Social Responsibility, Concept & Cases: "The Indian Experience, Excel Books. 4. Reddy S and Stefan S (2004). Corporate Social Responsibility: Sustainable Supply Chains. Hyderabad: ICFAI University Press. 5. Werther, W. B. & Chandler, D. (2011). Strategic corporate social responsibility. Thousand Oaks, CA: Sage
3	Websites	www.forbes.com www.referenceforbusiness.com www.justmeans.com www.corporatesocialresponsibility.org
4	Journals	International Journal of Corporate Social Responsibility Home https://jcsr.springeropen.com Sustainability Accounting, Management and Policy Journal, Emerald, 2010- -World Review of Entrepreneurship, Management and Sustainable Development, Inderscience Publishers, 2005-
5	Supplementary Reading	1. http://www.diegdi.de/CMSHomepage/openwebcms3.nsf/%28ynDK_contentByKey%29/ENTR-7BMDUB/\$FILE/Studies%2026.pdf 2. Modi P.K., Corporate Social Capital Liability. Arise Publishers & Distributors. First editions - 2009 3. Sharma, J.P., Corporate Governance, Business Ethics & CSR, Ane Books Pvt Ltd, New Delhi.
6	Practical Component	Visit to industries to study and record various CSR activities and discuss the same with students and teachers to know the merits and demerits of CSR.

Semester	III	Total Credit	2
Course Code	GE 301(E)	Credit Pattern	L-22, T- 04, P-04
Course Title	BASICS OF INDIAN ECONOMY		

Course Outcomes: Students will be able to	
1	Identify the main issues in Indian economic development
2	Critically analyse the Indian economic policy environment

Syllabus:

Unit Number	Contents	Number of Sessions	
1	UNIT-1: Indian Economic Environment: Meaning of underdevelopment, Basic characteristics of India as a developing economy, Major issues of development: Poverty, Unemployment and Inequality, National Income of India: Trends, Growth and Structure. Features and importance, Green Revolution, Low productivity of agriculture and government measures Role of Industrialization, Industries and Five-year plans, Industrial Policy(1991), Services sector Role & Importance	L= 11	
		T= 2	P= 2
		T=2	P=2
2	UNIT-2: Indian Economic Planning and Reforms: Objectives of Economic Planning, Redefining the role of the State, Brief review of Five-Year Plans, New Economic Reforms: Liberalization, Privatization and Globalization, NITI Ayog, Balanced Regional Development.	L= 11	
		T= 2	P= 2

Learning Resources		
1	Text Books	- Agarwal A N (2016), Indian Economy, Vikas Publishing House Pvt. Ltd., New Delhi - Gaurav Datt& Ashwini Mahajan (2016), Indian Economy, S. Chand and Company Pvt. Ltd., New Delhi - Misra and Puri (2013), Indian Economy, Himalaya Publishing House Pvt. Ltd., New Delhi.
2	Reference books	- Deepashree (2011), Indian Economy, Ane Books Ovt. Ltd., New Delhi - Uma Kapila (2017), Indian Economy: Performance and Policies, Academic Foundation, New Delhi
3	Websites	www.rbi.org.in www.mygov.gov.in www.cmie.com
4	Journals	- Arth Samwad - Economic and Political Weekly - Indian-Economic-Journal - Journal-of Indian-School-of-Political-Economy - Southern Economist - The Economist

		• Journal of Applied Economics • Indian-Economic-Journal • International Journal of the Economics of Business • Journal-of Indian-School-of-Political-Economy • Agricultural-Economic-Research-Review
5	Supplementary Reading	• Economics Survey • Union Budget of India • Niti Ayog Reports • Economics Times Daily • Business Standard Daily • Business Today Daily • Latest Monetary Policy • Latest Fiscal Policy
6	Practical Component	• Collect Economic Survey of India of last five years and prepare a report on trends in major macro-economic variables of the country • Establish the relationship between sectoral growth patterns and business environment by collecting data on three major sectors of the economy

MBA - II

Semester - IV

Semester	IV	Total Credit	4
Course Code	CC 401	Credit Pattern	L-45, T-6, P-9
Course Title	CURRENCY AND TREASURY MANAGEMENT		

Course Objectives	
1	General Awareness of Treasury Function of a Bank
2	General Awareness as to Monetary Policy (RBI), Credit Policy (RBI) and Fiscal Policy(GOI)

Course Outcomes	
	The students will able to learn:
1	Appreciate the role of the Treasury function in a Bank
2	Appreciate the role played by RBI policy statements on the Curreny and Treasury management

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Monetary Policy: Objectives-A macro-economic view- Central Bank Tools to regulate Money Supply; The Impact of Open Market Operations on other Tools of Monetary Policy-the Monetary Ratios; Other Factors that impact Monetary Base and Bank Reserves	L= 11	
		T= 2	P= 2
2	Credit Policy: Objectives, Theory and Practice, Instruments; Fiscal Policy: Importance of Budgets, Union Budget, State Budget, Finances of Union and State Governments, Finance Commission-Striking balance between inflation and growth through monetary and fiscal policies	L= 12	
		T= 1	P= 2
3	Treasury Management: Objectives of Treasury, Structure and organization, Functions of a Treasurer, Responsibility of a Treasurer Treasury operations: Treasury Instruments- Liquidity Management-CRR/CCIL/RTGS-Objectives, sources and deployment, internal control, Netting- Cost centre/Profit centre, integrated treasury, Planning & control, Risk analysis	L= 11	
		T= 1	P= 3
4	Treasury and investment policy -Role of IT in treasury management-Regulation and compliance-Internal & External Audit	L= 11	
		T= 2	P= 2

Learning Resources		
1.	Text Books	1. The Indian Institute of Bankers, Treasury, Investment and Risk Management, Mumbai
2.	Reference Books	1. Avadhani, VA., Treasury Management in India, Himalaya Publishing House, Mumbai 2. Indian Institute of Banking & Finance, Treasury Management, Mumbai 3. Bagchi, Treasury Risk Management, Jaico Publishing House, Mumbai 4. Bragg, Treasury Management-The Practitioners Guide, John Willey & Sons, New Delhi 5. Vasanth Desai, Financial Markets & Services, Himalaya Publishing House, Mumbai 6. Khan, M.Y., Indian Financial System, Tata McGraw Hill Publishing Company Ltd., New Delhi 7. Vaish, MC , Monetary Theory, Vikas Publications, Mumbai
3.	Websites	www.rbi.org.in www.fimmda.org
4.	Journals	RBI Bulletin
5.	Supplementary Reading	Current Affairs Weeklies Etc.
6.	Practical Component	1. Ascertain the banks near you who are likely to have treasury operations in Kolhapur. 2. Try and have a talk with Treasury In Charge and Validate the theories learnt in Class. Submit a report of the discussion.

Semester	IV	Total Credit	4
Course Code	CC Spl I 402	Credit Pattern	L-45, T-6, P-9
Course Title	BANK RISK MANAGEMENT		

Course Outcomes	
	The students will be able to learn:
1	Illustrate the working of various risk in banking operations.
2	Develop necessary competencies expected of a banking professional.
3	Demonstrate the techniques of risk assessment and controls for bank risk management.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Risk: definition; Types of Risks-Credit risk, operational risk, and market risk, Asset Liability Management (ALM) -Concept, organisation and techniques	L= 11	
		T= 2	P= 2
2	Credit Risk Management: Introduction-Capital adequacy norms under Basel I & II, RBI guidelines on Risk management-Standardized and Advanced approaches for Credit Risk; Credit rating/credit scoring and rating system design, Credit Bureaus, Stress test and sensitivity analysis, Internal Capital Adequacy Assessment process Operational Risk: Introduction, Likely forms of operational risk and causes for significant increase in operational risk, Basel Norms, RBI guidelines, Sound Principles of Operational Risk Management (SPOR)-SPOR identification, measurement, control of operational risk-Capital allocation for operational risk, methodology, qualifying criteria for banks for the adoption of the methods	L= 12	
		T= 1	P= 2
3	Market risk: Introduction- Types of Market risks- Liquidity risk, interest rate risk, foreign exchange risk, price risk (equity), commodity risk-Prescriptions and treatment of market risk under Basel norms	L= 11	
		T= 1	P= 3
4	Risk measurement & control in Banks -Calculation of risk, risk exposure analysis; Risk management- Capital adequacy norms, prudential norms, exposure norms, concept of Mid office, forwards, futures, options, strategies and arbitrage opportunities, regulatory prescriptions of risk management	L= 11	
		T= 2	P= 2

Learning Resources		
1	Text Books	1. Indian Institute of Banking and Finance, Risk Management, Mumbai
2.	Reference Books	1. Uppal RK, RimpiKaur, Banking Sector Reforms in India, New Century Publications, New Delhi 2. Agarwal OP, Banking and Insurance, Himalaya Publishing House, Mumbai 3. VijayaragavanIyengar, Introduction to Banking, Excel Books, New Delhi 4. The Indian Institute of Bankers, Modern Banking, Mumbai
3.	Websites	1. https://www.nbs.rs/internet/english/55/55_6/index.html 2. www.rbi.org.in 3. https://www.bis.org/bcbs/
4.	Journals	1. Prajnan, Journal of Social and Management Sciences, NIBM, Pune 2. The IUP Journal of Bank Management, IUP Publications, a Division of the ICFAI society.
5.	Supplementary Reading	1. Current Affairs Magazines, Dailies etc.
6.	Practical Component	1. Calculating mecauley duration 2. Calculating Gaps (Interest rate gap, liquidity gap, etc.) 3. Calculating RAROC(Risk adjusted return on capital) 4. Calculating Yields

Semester	IV	Total Credit	4
Course Code	CC-Spl-II-402-(A)	Credit Pattern	L-45, T-6, P-9
Course Title	MANAGEMENT ACCOUNTING AND CONTROL SYSTEM		
Course Outcomes : The students will able to learn			
1.	Apply concept of marginal costing for decision making		
2.	Analyze various operating and financial leverages to design capital structure		
3.	Evaluate various types of budgets for managerial decision making		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Management Accounting: Meaning and Scope of Management Accounting In the Context of Changing Business Environment, Human Resource Accounting and Inflation Accounting. Strategic Management Accounting, Introduction of Accounting Information for Transfer Pricing. Methods of Transfer Pricing.	L=11	
		T=2	P=2
2	Marginal Costing: Meaning and scope, uses and advantages, Terminologies in Marginal Costing- Contribution, Margin of Safety, CVP analysis, BEP and Relevant Cost and Decision-Making	L=12	
		T=1	P=2
3	Leverage Analysis: Meaning & importance of leverage, Types of leverages, Use of leverage in decision making, Measures of Operating and Financial Leverage, Effects of Leverage on Shareholders' Returns	L=11	
		T=1	P=3
4	Budget and Budgetary Control: Concept of Budget, Budgeting and Budgetary Control, Organization for Budgetary control- Budget Centers, Budget Committee, Budget Manual, Budget period, Principal Budget, Advantages and limitations of Budgetary Control System. Types of budget.	L=11	
		T=2	P=2

Note:

1. Case studies on cash budget and flexible budget.
2. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
3. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Kapil Sheeba, "Financial Management" Pearson Publication House. 2. Jonathan Berk, Peter, "Financial Management" Pearson Publication House. 3. Sharan Vyuptakesh, "Fundamentals of Financial Management" Pearson Publication. 4. James C Van harne, "Financial Management & Policy" Pearson Publication House. 5. ICSI : Handbook on Mergers Amalgamations and takeovers.
2	Reference Books	1. V.K. Saxena And C.D. Vashisth: "Advanced Cost And Management Accounting", Sultan Chand And Sons, 6th Edition 2. M.Y. Khan And P.K. Jain, "Cost Accounting", Tata McGraw Hill, Edition 2000 3. Dr. M.K. Kole, "Human Resource Accounting, Institute Of Cost And Works, Accountants Of India", Edition 2000 4. N.K. Prasad, "Cost Accounting" 5. R.P.Rustagi, "Financial Management", PHI, 10th edition. 6. Garrison, Managerial Accounting, Tata McGraw 7. Maheshwari, Financial Accounting, Vikas Publishing 8. Khan and Jain, Management Accounting, Tata McGraw 9. Ramchandran, Financial Accounting for Management, Tata McGraw 10. JawaharLal, Accounting For Management, Himalaya Publishing 11. J.Madegowda, Accounting For Managers, Himalaya Publishing 12. M.N.Arora, "Cost and Management Accounting", Himalaya Publishing
3	Websites	<u>INFLIBNET</u> http://nlist.inflibnet.ac.in <u>J-GATE</u> http://jgateplus.com <u>EBSCO</u> http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4	Journals	• Prabhandan: Indian Journal of Management • IUP Journals • ICSI Journals • Finance India • Indian Journal of Finance (New Sub.) • Journal of Accounting & Finance etc.
5	Supplementary Reading	• Financial Express • Economics Times • Business Standard • Times of India • Indian Express.
6	Practical Component	• Practical Problems on marginal costing and decision making • Practical Problems on leverages • Practical Problems on flexible budget and functional budgets • Financial statement analysis using Proves-IQ • Companies Financial Reports & Corporate case studies.

Semester	IV	Total Credit	4
Course Code	CC-Spl-II-402-(B)	Credit Pattern	L-45, T-6, P-9
Course Title	PERFORMANCE AND COMPENSATION MANAGEMENT		
Course Outcomes: Students will be able to;			
1.	Gain insights of various conceptual aspects of Compensation, Performance Management and competencies and related law to achieve organizational goals.		
2.	Determine the performance/competency based compensation system for business excellence and solve various cases.		
3	Designing the compensation strategies for attraction, motivation and retaining high quality workforce		

Syllabus:

Unit Number	Contents	Number of Session	
1	Performance Management: Managing and addressing Employee Performance Problems, Performance Management Strategic Planning. Performance Management and Employee Development: Employee Assessment system, Potential Appraisal System:- Development and Retention of high potentials, Role of HR Professionals in Performance management.	L= 11	
		T= 4	P= 0
2	Competency Model, Competency Model Pyramid, Application of competency model into various HRM functions, benefits of using competency mapping model in organizations, Benefits of using competency based performance appraisal system, Taking interviews to gather information, Behavioural Event Interview, process for writing competencies.	L= 11	
		T= 4	P= 0
3	Compensation Management: Wage and Salary Administration: Calculation of Wage, Salary, Prerequisites, Compensation Packages, Cost of Living Index and Dearness Allowance, Designing and operating incentives, fringe and non- financial Benefits,. Job Evaluation:- Major Decisions in Job Evaluation, Job Evaluation Methods, Laws related to wages and salaries:- Minimum Wages, Payment of Wages, Payment of Bonus.	L	
4	Employee Contributions: Pay For Performance (PFP): Competency Based Pay, Skill based Pay, Team based pay, Gain and Profit sharing Designing PFP Plans, Merit Pay/Variable Pay, Compensation Strategies for Special Groups. Executive compensation, cafeteria compensation,		

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	• Strategic Compensation, Joseph J. Martocchio, 3rd Edition, Prentice Hall, 2004. • Compensation Management in Knowledge based world, Richard I. Anderson, 10th edition, Pearson Education. • Compensation Management, ErSoniShyam Singh, Excel Books.
2	Reference books	• Compensation & Reward Management, BD Singh, 2nd edition, Excel books, 2012. • Compensation, Milkovich & Newman, 9th edition, 2017, Irwin/McGraw-Hill. • Compensation and Benefit Design, Bashker D. Biswas, FT Press, 2012. • An Introduction to Executive Compensation, Steven Balsam, Academic Press, 2002. • Industrial Relations and Labour Laws, Srivastava S.C., Vikas Publishing House Pvt. Ltd.,
3	Websites	4. www.ILO.org 5. www.labour.nic.in 6. www.labourstat.org
4	Journals	IOSR <i>Journal of Humanities And Social Science</i> Indian Labour Journal
5	Supplementary Reading	https://www.toolbox.com/hr/performance-management/articles/what-is-performance-management/ https://www.hibob.com/hr-glossary/compensation-management-planning/ https://www.namanhr.com/services/competency-mapping/
6	Practical Component	• Students must prepare a comprehensive compensation plan to be offered to Executives. • Students to collect information from different organization regarding the Cost To Company of an employee. • Students have to prepare questionnaire for conducting wage survey and carry out wage survey for any selected sector and prepare a report for the same. • Students to calculate the bonus amount eligible to an employee working as a HR Executive

Semester	IV	Total Credit	4
Course Code	CC-Spl-II-402-(C)	Credit Pattern	L-45, T-8, P-7
Course Title	SALES & DISTRIBUTION MANAGEMENT PAPER-IV		
Course Objectives			
1	Students will conceptually understand concepts related to sales and distribution.		
2	Students will learn strategies required for selling and distribution		
3	Students will become aware of financial aspects of marketing.		

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Course Outcomes: Students will be able to;	
1	Evaluate concepts related to sales & distribution.
2	Apply selling & distribution concepts & strategies for marketing.
3	Apply financial aspects of marketing.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit I Sales management - Meaning, Evaluation, Importance, Personal Selling, Qualities and responsibilities of sales manager. Types of sales organizations. Sales force management, recruitment, selection & training, structure, size, productivity. Motivation & compensation of salespeople	L=11	
		T=2	P=2
2	Unit II Selling Process and Strategies -Overview of selling process. Selling and buying Styles, selling skills, situations, selling process, sales presentation, Handling customer objections, Follow-u action. Sales territory, meaning, size, designing, sales quota, procedure for sales quota. Types of sales quota, Methods of setting quota.	L=12	
		T=2	P=1
3	Unit III- Distribution Management - Introduction-Concept of channel flows, Managing a channel design, Basics of warehouse/inventory/ transportation planning, Intermediaries: Channel Formats, Managing channel partner, channel conflict, Channel information systems, International Trends in Sales and Distribution, Distribution as a function of marketing. Strategies. Mass, selective, exclusive distribution. Push v/s pull approaches. Channel design mix decisions.	L=11	
		T=2	P=2
4	Unit IV Marketing Finance Performance of Salesforce, work load method, forecasting, and product line accounting, Life cycle costing, Dropping product line, Return On Promotion, Selection of media, Launching, Profitability & Variance.	L=11	
		T=2	P=2

Learning Resources		
1	Text Books	1. Cherunallium & Francis - <i>Industrial Marketing</i> 2. Chunwalla S.A - Sales & Distribution Management
2	Reference books	1. Keskar & Abhayankar - Sales Management & personal selling 2. Aaker David A – Building Strong Brands – The Free Press, New York 3. Keller K. - Strategic Brand Management- Prentice - Hall India Kapferer Jean Noel – Strategic Brand Management – KoganPage London 4. Keller, Parameswaran, Jacod - Strategic Brand Managemnt- Pearson 5. Chunawalla and Sethia – Foundation of Advertising Theory and Practice- HP Publication 6. Clow Baack - Integrated Advertising, Promotion and Marketing Communication –Pearson Education 7. Still and Cundiff - Sales Management – 8. S A Chunawalla -Sales and distribution Management –Himalaya Publication 9. Charles Futrell - ABC ‘s of Selling 10. Ramaswam and Namakumari - Marketing Management -- Macmillan Publication 11. Services & Sales Marketing - Zha S.M., Himalaya Publishing House 12. Strategic Retail Management - Indian Text Edition-Srini R.Srinivasan 13. “Retail Marketing Management” – Person Education Ltd. – Ist Reprint India- David Gilbert 14. Retailing Management -Text and Cases-Swapna Pradhan The McGraw Hill Companies
5	Supplementary Reading	1. The Economic Times 2. Business Standard 3. Business TIMES
6	Practical Component	1. Group Activity based on all the units 2. Take business Games & other subject related activities 3. Discussion on Cases related to all units 4. Library assignment on all the units

Semester	IV	Total Credit	4
Course Code	CC-Spl-II-402-(D)	Credit Pattern	L-44, T-8, P-8
Course Title	AGRI-PRODUCTION AND SUPPLY CHAIN MANAGEMENT		
Course Out Comes: Students will be able to			
1	Analyze the factors influencing agricultural production and their supply chain		
2	Adapt traditional and modern practices of farm management		
3	Develop skills for agricultural supply-chain and logistics infrastructure management		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Fundamentals and Theories of Farm Management: Scope Of Modern Agriculture, Special Features Of Agricultural And Industrial Production. Difference between Farm and Non-Farm Business Management; Farm system Theory, Theory of Farm Management by Objectives, Practices of Farm Management, Making Small farm more effective	L=11	
		T=2	P=2
2	Farm Production Systems And Management Functions: Peasants, Proprietorship, Cooperative Farming, Capital Farming, Corporate Farming, Land Tenure Systems And Agricultural Production Management, Farm Management Tools	L=11	
		T=2	P=2
3	Farm Technology and Issues in Farm Management: effects of New Technology, Management And Technology Change, Gains From Technological Improvements to Producers And Consumers, Mechanization And Automation, Green Houses; Size-Productivity Debate, Measurement Of Farm Efficiency, Irrigation Management, Production Planning-Specialization And Diversification.	L=11	
		T=2	P=2
4	Introduction to Supply Chain and Logistics Management in Agri Business:: changing Business environment, SCM; Present need In agriculture, Conceptual model of SCM and Evolution of SCM, Approaches of SCM: Traditional and Modern, Elements in SCM, Logistics Management: History and Evolution of Logistics, elements of logistics: management, distribution management, distribution strategies, pool distribution; transport management, fleet management, service innovation, warehousing, packaging for logistics, third – party logistics(TPL/3PL), GPS technology	L=11	
		T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	- Robertson C.A. – An Introduction To Agricultural Production Economics And Farm Management – Tata Mcgraw Hill - Heady, Earl. O And Jensen Herald R. – Farm Management Economics – Prentice Hall - Barnard C.S. And Nix J.S. – Fam Planning And Control - Altekar RV, 2006, Supply Chain Management: concepts and cases, Prentice Hall of India
2	Reference books	- Blake C.D. – Fundamentals Of Modern Agriculture - Sadhu And Singh – Fundamentals Of Agriculture - Agrawal A.N. – Indian Agriculture - Sharma A.N. And Sharma V.K. – Elements Of Farm Management - Reji D Nair – “Farm Management: Theory and Practice” – Concept Publishing Company Pvt. Ltd., - Warren G. F. – “Farm Management” – Arise Publishers and Distributors - Kahlan A. S. and Karan Singh – “Farm Management in India: Theory and Practice” – allied Publishers Pvt. Ltd., - Dhaka J.M. – “Economics of Agri Production and Farm Management” – Avishakar Publishers and Distributors
3	Websites	www.agriculture.gov.in/ www.manage.gov.in www.ica.coop/ www.apeda.gov.in www.fao.org/home/en/ www.worldbank.org http://indiagovernance.gov.in/docsearch.php?search=Agriculture&from_map=1&type=theme
4	Journals	Indian Journal of Agricultural Economics Indian Journal of Agricultural Marketing Journal of Agribusiness Rural Marketing
5	Supplementary Reading	http://www.nwccindia.com/agriculture-logistics/ agriculture and production management: Union Budget
6	Practical Component	- Make a field visit of a greenhouse farm to understand modern management activities on farm - Identify one successful/progressive farmer and conduct an interview to know various decisions taken by him/her to make successful farming - Visit various farm input selling centers and find out latest equipment and their benefits - Interact with various agro based and consumer goods producing companies and prepare report on their logistics issues while reaching rural urban markets

Semester	IV	Total Credit	4
Course Code	CC Spl-II 402 E	Credit Pattern	L-45, T-7, P-8
Course Title	PROJECT MANAGEMENT		

Course Objectives	
1	To make students understand fundamental concepts and characteristics of project including the basic roles, responsibilities and functions of project manager.
2	To Familiarize the Students with various Techniques of project financing and capital budgeting.
3	To introduce students to project evaluation and termination.

Course Outcomes: Students will be able to	
1	Explain basic concept of Project Management including Project Appraisal, Project Risk Management and use of IT in Project Management.
2	Select most appropriate Project from available options to the organization by analyzing all the projects on the basis of capital budgeting techniques.
3	Develop the Project Report of the project undertaken by the organization.
4	Determine Critical Path of project undertaken by organization and estimate project duration.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	OVERVIEW OF PROJECT MANAGEMENT & SELECTION Concept & Definition of Project, Characteristics of Project, Types of Project, Project Identification, Project Selection & Criteria, Project Life Cycle, Concept & Importance of Project Management, Roles and Responsibilities of Project Manager, Work Breakdown Structure.	L= 12	
		T= 1	P= 2
2	PROJECT APPRAISAL & RISK MANAGEMENT. Concept of Project Appraisal, Technical Appraisal, Commercial Appraisal, Economic Appraisal, Financial Appraisal, Management Appraisal, Social Cost-Benefit Analysis, Introduction to Risk Management, Role of Risk Management in Project Management, Steps in Risk Management.	L= 11	
		T= 2	P= 2
3	PROJECT FINANCING & SCHEDULING Estimating Cost of Project, Components of Cost of Project, Sources of Project Financing, Development of Project Network, Time Estimation, Developing The Project Network Using CPM/PERT, Crashing The Network. (Numerical Treatment on CPM/PERT)	L= 11	
		T= 2	P= 2
4	PROJECT PLANNING & EVALUATION Project Evaluation: Concept, Purpose, Advantages. Project Audit: Meaning, Objectives, Phases of Project Audit. Project Quality Management, Project Management Information System (PMIS): Need of Project Management Software, Project Report Writing.	L= 11	
		T= 2	P= 2

Learning Resources		
1	Text Books	1. Clifford F. Gray, Project Management: The Managerial Process, Sixth Edition, McGraw Hill Education 2. K. Nagrajan “Project Management”, New age international publication. 3. Ramakrishna & Kamaraju, Essentials of Project Management, Prentice Hall India Learning Private Limited
2	Reference books	1. Jack Meredith, Samuel J. Mantel Jr. “Project Management- A Managerial Approach” John Wiley and Sons 2. Clifford F Gray, Erik W Larson, “Project Management-The Managerial Process” Tata Mcgraw-Hill Publishing Co Ltd 3. Robert K Wyzoubi & Rudd Acgary , “Effective Project management”, Wiley India Pvt.Ltd.
3	Websites	1. https://www.project-management-knowhow.com/ 2. https://www.tutorialspoint.com/pmp-exams/index.htm 3. https://www.managementstudyguide.com/project-management-articles.htm 4. https://www.projectengineer.net/
4	Journals	1. International Journal of Project Management – Elsevier 2. Project Management Journal PMI 3. Project Management Journal - Wiley Online Library 4. International Journal of Project Management ScienceDirect.com
5	Supplementary Reading	1. John M Nicholas “Project Management For Business And Technology” Prentice Hall Of India Pvt Ltd 2. James P Lewis “Project Planning, Scheduling And Control” Tata Mcgraw-Hill Publishing Co Ltd
6	Practical Component	1. Role play to understand roles & responsibilities of project manager. 2. To identify and visit ongoing projects undertaken by any local business to study project appraisal techniques and risk management. 3. To meet project finance personnel from any financial institution to understand project financing and capital budgeting techniques. 4. Library Exercise on Project Report Preparation by studying project reports prepared by any one company of your choice.

Semester	IV	Total Credit	4
Course Code	CC-Spl-II-402-(F)	Credit Pattern	L-44, T-8, P-8
Course Title	SOFTWARE ENGINEERING AND IT PROJECT MANAGEMENT		
Course Objectives			
1	To Understand The Nature Of Software Development And Software Life Cycle Process Models, Agile Software Development, SCRUM, And Other Agile Practices		
2	To Develop The Skill Of Software Design And User-Centric Approach And Principles Of Effective User Interfaces.		
3	To Infer The Need For Project Management And Project Management Life Cycle		
Course Outcomes: Students Will Be Able To;			
1	plain Needs For Software Specifications Also They Can Classify Different Types Of Software Requirements And Their Gathering Techniques		
2	stify The Role Of SDLC In Software Project Development And They Can Evaluate The Importance Of Software Engineering In PLC.		
3	miliar With The Different Methods And Techniques Used For Project Management..		
4	Discuss The Parameters Of The Software Project's Success And Failures.		
Unit Number	Contents	Number of Sessions	
1	Concept Of Software, Program V/S Software, Software Characteristics, Software Myths, Software Development Life Cycles. – Waterfall Model, Prototyping Model, Spiral Model, Coding guidelines, Structured Approach To System Design -: Principles of software design, DFD, Data Dictionary, Decision Tree, Decision Table & Structured English, E-R Diagrams	L= 11	
		T= 2	P= 2
2	Software Requirement and Specification, Characteristics of Good User Interface Design, Concept of white box testing and black-box testing. Object-Oriented Project Design, Introduction: Software Project Management, I.T. Stakeholders, Understanding the project, Project Initiation, Product Life Cycle, Skills and Qualities of Software Project Manager	L= 12	
		T= 2	P= 1
3	Project Planning - Work Break Down Structure, CASE Tools, Types of Software maintenance, Defining The Project – Deliverables, Objects And Scope, Project Scheduling, Estimating the project – Period Vs Effort, Contingency, Type of costs, Preparing the Project Budget, Defining And Managing The Risk, Managing Information systems Project Time and Resources	L= 11	
		T= 2	P= 2
4	Implementation Activities – Forming a Project Team, Managing People And Organizing Teams, Managing Client Expectations, Configuration Management, Identifying Information Systems Project Risks, Evaluating Success- Software Quality Factors, Causes of Failure, Project Success, Measure of end-user satisfaction, Closing the project And Business Continuity, Data Disaster, Virus Disasters, Software Disasters, Data Center Disasters	L=11	
		T= 2	P= 2

Note:

1. Students will have to complete all tutorials, assignments, and lab sessions for internal credits.

Learning Resources		
1	Text Books	2. Fundamentals Of Software Engineering – Roger Pressman 3. Information Technology Project Management – Jack Marchewka – Wiley India Edition
2	Reference books	3. Fundamentals Of Software Engineering - Rajib Mall Ghezzi, Jazayeri Stephen H. Khan 4. Software Requirements And Estimation - Fenton, Ptleeger McGraw Hill 5. Project Management For Software Development - Jaico 6. IT Project Estimation – Paul Coombs. – Cambridge 7. Information System Project Management - John McManus, Trevor Wood- Happer – Pearson. 8. 6. Software Project Management – Bob Hughs , Mike Cotterell – Tata McGrawhill
3	Website	4. www.tutorialspoint.com 5. www.guru99.com 6. www.examupdates.in
4	Journals	2. International Journal of Scientific Computing 3. International Journal of Statistics & Management Systems 4. Chartered Secretary
5	Supplementary Reading	2. Business Line 3. Current affairs in news papers 4. Information system Audit Reports from computer consultancies
6	Practical Component	1. Visit any computer consultant firms and discuss and understand about Software engineering process 2. Case study about Information system Project Planning

Semester	IV	Total Credit	4
Course Code	DSE-401	Credit Pattern	L-45, T-6, P-9
Course Title	INTERNATIONAL BANKING & FOREX MANAGEMENT		

Course Objectives	
1	Familiarizing the students with functions and performance of international financial institutions
2	Developing Awareness in the students as to operational mechanism of foreign exchange market in India

Course Outcomes	
	The students will able to learn:
1	Names of Various Important International Financial Institutions and their functions
2	Forms of Finance to be availed in International Markets
3	Regulatory Framework for Foreign Exchange.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	International Banking: Global trends and developments in International banking- International Financial Centres, Offshore Banking Units, SEZs-International Financial Institutions: IMF; IBRD, BIS, IFC, ADB-Legal and Regulatory aspects of international banking	L= 11	
		T= 2	P= 2
2	International Finance: Fundamental principles of lending to MNCs; International Credit Policy Agencies and Global Capital Markets; Methods of raising equity and debt resources through ECBS, ADRs/GDRs, ECCBS and other types of Bonds, etc in international markets	L= 12	
		T= 1	P= 2
3	Project and Infrastructure Finance- Investments both in India and abroad, joint ventures abroad by Indian Corporates, investment opportunities abroad for resident Indians; Financing of mergers and acquisitions.	L= 11	
		T= 1	P= 3
4	Framework of Foreign Exchange: Sources and Uses of Foreign Exchange-Balance of Payments; Foreign Exchange Market Mechanism-Different types of exchange rates, exchange rate determination, convertibility of Indian Rupee; Role of Banks in Forex markets -Functions of a Forex Dept, maintenance of foreign currency accounts Forex Business: Foreign Exchange Management Act (FEMA) and its philosophy; Role of RBI and FEDAI in regulating foreign exchange business of banks/other authorised dealers-NRI customers and various banking and investment products available to them under FEMA	L= 11	
		T= 2	P= 2

Learning Resources		
1	Text Books	Indian Institute of Banking and Finance, International Banking, Mumbai
2	Reference Books	1. Jeevanandam C., Foreign Exchange, Practice, Concepts & Control, Sultan Chand & Sons, New Delhi 2. Chaudhuri BK & Agarwal OP, Foreign Trade & Foreign Exchange, Himalaya Publishing House, Mumbai 3. Apte PG, International Financial Management, Tata McGraw Hill Publishing Company Ltd., New Delhi 4. Rajwade AV, Foreign Exchange, International Finance & Risk Management, Academy of Business Studies, New Delhi
3	Websites	www.rbi.org.in
4	Journals	1. Capital Market 2. Artha Vijnana, Journal of the Gokhale Institute of Politics and Economics 3. Finance India, Indian Institute of Finance
5	Supplementary Reading	1. Current Affairs Mags, Dailies
6	Practical Component	1. Collecting Formats used in international trade such LC, BG, Bill of lading, shipping bill, etc. 2. Calculating forex quotes and cross currency quotes

Semester	IV	Total Credit	4
Course Code	DSE Spl-II-402(A)	Credit Pattern	L-45, T-6, P-9
Course Title	INVESTMENT AND PORTFOLIO MANAGEMENT		
Course Outcomes: The students will able to learn			
1	Analyze the relationship between security analysis and market portfolio		
2	Evaluate the performance of portfolios		
3	Design various investment avenues as a small and corporate investor.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Investment: Investment – Basics of Investment – Investment, Speculation and Gambling – Investment Categories – Investment avenues – Non marketable Financial Assets – Money Market Instruments – Bond/Debentures – Equity Shares – Schemes of LIC – Mutual Funds (History and Types)– Financial Derivatives(Derivative Market, Instruments in derivative market, Calculation of pay offs from options) – Real Assets – Real Estate – Art – antiques and others. Introduction to Stock Market: Primary and secondary market, regulation of Stock Market- Companies Act, SEBI, Securities contract regulation Act	L= 11	
		T= 2	P= 1
2	Fundamental Security Analysis: EIC And CIE Approach. Technical Analysis – Technical Tools - The Dow Theory – Primary Trend – The secondary Trend – Minor Trends –Charts. Efficient Market Theory – Basic Concepts – Random-Walk Theory – Weak Form of EMH – Semi-strong Form – Strong Form – The Essence of the Theory – Market Inefficiencies.	L= 11	
		T= 1	P= 3
3	Portfolio Management: Meaning of Portfolio, Steps of Portfolio Management. Code of Conduct for portfolio Manager. Portfolio Analysis – Portfolio and Single asset Returns and Risk – Mean Variance Criterion – covariance – Beta (simple problems) – Portfolio Markowitz Model – simple Diversification – Risk and Return with Different correlation. Portfolio Risk and return.	L= 12	
		T= 2	P= 3
4	Portfolio Evaluation: Asset Pricing Model Portfolio Evaluation – Capital Asset Pricing Model (CAPM) – Security Market Line – Assumptions – Arbitrage Pricing Model (APT) – Portfolio Performance Models – Sharpe’s Performance Index – Treynor’s Performance Index – Jensen’s Performance Index. Bond, terminologies used in Bond, Valuation and Immunization of Bond	L= 11	
		T= 1	P= 2

Note:

1. Portfolio Risk and return with two and three securities
2. Bond Valuation, Duration and Immunization
3. Mutual fund rankings with Sharpe and treynor
4. Problems of Pay off on option (Derivative)

Learning Resources		
1.	Text Books	1. Kapil Sheeba, "Financial Management" Pearson Publication House. 2. Jonathan Berk, Peter, "Financial Management" Pearson Publication House. 3. Sharan Vyuptakesh, "Fundamentals of Financial Management" Pearson Publication. 4. James C Van harne, "Financial Management & Policy" Pearson Publication House. 5. ICSI: Handbook on Mergers Amalgamations and takeovers.
2.	Reference Books	1. Punithavathy Pandian, SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT, Vikas Publications Pvt. Ltd, New Delhi. 2001. 2. Kevin .S, SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT, PHI, Delhi, 2011 3. Yogesh Maheswari, INVESTMENT MANAGEMENT, PHI, Delhi, 2011 4. Bhalla V K, INVESTMENT MANAGEMENT: SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT, S Chand, New Delhi, 2009 5. Prasanna Chandra, PORTFOLIO MANAGEMET, Tata McGraw Hill, New Delhi, 2008. 6. R.P.Rustagi, "Financial Management", PHI, 10th edition.
3.	Websites	INFLIBNET http://nlist.inflibnet.ac.in J-GATE http://jgateplus.com EBSCO http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4.	Journals	• Prabhandan: Indian Journal of Management • IUP Journals • ICSI Journals • Finance India • Indian Journal of Finance (New Sub.) • Journal of Accounting & Finance etc.
5.	Supplementary Reading	• Financial Express • Economics Times • Business Standard • Times of India • Indian Express.
6.	Practical Component	• Practical Problems on Portfolio Risk and return with two and three securities • Practical Problems on Bond Valuation, Duration and Immunization • Practical Problems on Mutual fund rankings with Sharpe and treynor • Practical Problems on Problems of Pay off on option (Derivative) • Financial statement analysis using Proves-IQ • Companies Financial Reports & Corporate case studies.

Semester	IV	Total Credit	4
Course Code	DSE Spl-II- 401(B)	Credit Pattern	L-45, T-8, P-7
Course Title	TALENT AND HUMAN CAPITAL MANAGEMENT		

	Course Outcomes:- Students will be able to:
1	Describe the concept of Talent and Human Capital Management
2	Apply different concepts of Human Capital Management.
3	Critically evaluate emerging trends in Talent and Human Capital Management.

Unit Number	Contents	Number of Sessions
1	Talent Management: Acquiring talent, Retaining talent, Nurturing talent, Developing and Recognizing talent, Separation of Talent. Principles of Talent Management, Talent Management Opportunity and Challenges, Myths about Talent Management, Current Trends in Talent Management. Benefits of Talent Management, Role of Human Resource in Remote Working – Meaning, Importance, Advantages, and Disadvantages Employee Engagement: Means to promote Employee Engagement, Relationship with Talent Management.	L= 12
		T=2 P= 1
2	Concept of Human Capital Management HRD Audit: Characteristics, Scope, Process, Methodology, Documents and outcomes. HR Accounting: Objectives, Methods, Advantages, and Limitations. Human Resource Information System: Issues while adopting HRIS, Sub-systems of HRIS, Steps in designing HRIS, Advantages of using HRIS.	L= 11
		T=2 P= 2
3	Employee empowerment- concept, objectives, Prerequisites, types, Process, benefits, limitations. Concept of Work-Life Integration, Flexi-time as a retention tool, Moonlighting: causes and HR interventions, Succession Management, Workforce Diversity, Green HRM, Employer, and Employee Branding	L= 11
		T=2 P= 2
4	Concept of HR Balanced Scorecard. Role of HRM in Learning organization. Quality circle- constitution and process, Quality of Work life- objectives, importance, determinants of Quality of Work life.	L= 11
		T=2 P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.

Learning Resources		
1	Reference books	1. Lyle M. Spencer, Signe M. Spencer, Competence at work – John Wiley 1993 2. Naik G.P, Competency mapping, Assessment and Growth - IIHRM, 2010. 3. Herman Aguinis, Performance Management - Pearson Education, 2007. 4. Lance A. Berger & Dorothy R. Berger, The Talent Management Hand Book - Tata McGraw Hill.
2	Practical Components	1. Students are expected to conduct a study on how talent is acquired and retained – in various industries – and various strategies followed by the respective companies. 2. Students will collect data about the position of principal, director, and other teachers in your college and prepare a competency dictionary for the said positions. 3. Students will collect data in your college or any other organization using Q 12 instrument and analyze it to find out the engagement level of employees. 4. Students will identify the important positions in your college or any other organization and ascertain the measures if any taken to develop second line of leadership.

3	Journals	1. Harvard Business Review 2. Manpower Journal 3. Human Capital

Semester	IV	Total Credit	4
Course Code	DSE Spl-II-402-(C)	Credit Pattern	L-45, T-8, P-7
Course Title	INTEGRATED MARKETING COMMUNICATION PAPER-IV		
Course Objectives			
1	Students will become familiar with concepts, theories of IMC.		
2	Students will understand techniques in IMC.		
3	Students will be able to utilize various tools for IMC strategies.		
Course Outcomes: Students will be able to;			
1	Explain various integrated marketing communication tools & techniques processes		
2	Design marketing communication plans		
3	Evaluate cost elements of marketing communication		
4	Apply social media for marketing communication		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit I IMC & Brand Management – Conceptual overview of IMC, Introduction to IMC tools – Advertising, sales promotion, publicity, public relations, and event sponsorship; Brand Management- Meaning and Definition – Brand Identity System – Types of Branding - Branding Decisions - Brand Extension – Multi- Brand Portfolios - Branding and Positioning– Concept of Brand Equity. Measuring Brand Equity.	L=11	
		T=2	P=2
2	Unit II Media Management- Elements of the Communications Mix - Media Mix - Types of Media- Media Selection- Planning and Buying –Scheduling media objectives, Media channel strategy, audience research, tactics and the media schedule, Source, Message and channel factors, Communication response hierarchy- AIDA model, Hierarchy of effect model, Innovation adoption model, information processing model, The standard learning Hierarchy, Attribution Hierarchy, The Elaboration Likelihood (ELM) model, The Foote, Cone and Belding (FCB) Model Strategy - Cost and Ability – Matching Media and Market - Media Ad. Effectiveness.	L=12	
		T=2	P=1
3	Unit III Advertising Management- Meaning and Definition – The Five of Advertising Advertising's role in the promotional mix, Theories of advertising effects, Advertising campaign planning, Function of Advertising Agencies – Advertising effectiveness - DAGMAR Approach in Advertising Push vs pull strategy, advertising budgets- Measuring advertising effectiveness(Pre-testing, Copy testing,), Tracking, Advertising return on investment (ROI),Careers, Advertising for special markets or products,	L=11	
		T=2	P=2
		L=11	

4	Unit IV Digital Media & Advertising: Digital Media, Evolution of Technology, Convergence of Digital Media, E- Commerce and Digital Media, Advertising on Digital Media, Social Media, Mobile Advertising, Electronic-PR, Advertising Laws & Ethics:, Intellectual Property Rights,.	T=2	P=2

Learning Resources		
1	Text Books	1.Kotler, Kelller, – Marketing Management: A South Asian Perspective – Pearson Pentice Hall
2	Reference books	1.Aaker David A – Building Strong Brands – The Free Press, New York 2.Keller K. - Strategic Brand Management- Prentice - Hall India 3. Kapferer Jean Noel – Strategic Brand Management – Kogan Page London 4.Keller, Parameswaran, Jacod- Strategic Brand Managemnt- Pearson 4.Chunawalla and Sethia – Foundation of Advertising Theory and Practice- HP Publication 5.Clw Baack - Integrated Advertising, Promotion and Marketing Communication –Pearson Education 6.Kenneth E.C. , Donald Baack - Integrated Advertising, Promotion and Marketing Communications 7.George Belch and Michel Belch - Advertising and Promotion- Tata McGraw-Hill edition 8.Bly the Jim – Marketing Communication – Prentice Hall 9. U C Mathur - Advertising Management- - New Age International 10. Arunkumar, M Meenakshi- Marketing Management-Vikas Publication
4	Journals	1.Indian Journal of Marketing 2.IUP Journal of Business Strategy 3.Current Contents In Management Marketing
5	Supplementary Reading	The Economic Times Business Standard
6	Practical Components	1.Conduct Group activity based on all units 2. Case discussion on subject related contents 3. Take different situational activities e.g. - Business Games to the students. 4.Library assignments based on all units

Semester		IV	Total Credits:	4
Course Code		DSE Spl-II-402-(D)	Credit Pattern	C – 44, P = 2 T = 2
Course Title		AGRI-COMMODITY MARKETS AND AGRI-BUSINESS		
Course Out Comes: Students will be able to				
1	Discuss commodity markets for various agricultural produce			
2	Analyze commodity trading practices in India and other countries			
3	Appraise the Agri-commodities Markets and Agribusiness			

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Commodity Markets and Commodity Risk: An Overview: Introduction Commodity markets, marketing of agricultural commodities, physical market operations, Understanding risk, managing risk, evolution of commodity derivatives, evolution of commodity derivatives in India	L= 11	
		T= 2	P= 2
2	Commodity Derivatives: Meaning, Types and classification, pricing derivatives, derivative markets and its participants, economic importance	L= 11	
		T= 2	P= 2
3	Commodity Exchanges: Introduction, commodity exchanges around the world and in India, Electronic Spot exchange, regulation of commodity markets	L= 11	
		T= 2	P= 2
4	Variety in commodity Markets: designing commodity controls, weather derivatives, freight derivatives, electricity derivatives, catastrophe derivatives, carbon derivatives, currency derivatives and property derivatives	L= 11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	Purcell WD, 1991, Agricultural Futures and Options: Principles and Strategies, Macmillan Publications
2	Reference books	1. Kaufman PJ, 1986, The Concise Handbook of Futures Markets, John Willy and Sons, 2. Wasendorf RR and Mc Cafferty, 1993, All About Commodities from the Inside Out, Mc Grow hill
3	Websites	www.indiabudget.nic.in www.commodityonline.com
4	Journals	Indian Journal of Agricultural Economics Indian Journal of Agricultural Marketing Journal of Agribusiness Indian Journal of Finance Rural Marketing Vikalpa
5	Supplementary Reading	e-NAM website www.mcxindia.com
6	Practical Component	Identify the various countries standards of commodity trading and prepare a report

		• Collect commodity data and analyze product wise trend and forecaste • Visit nearby commodity trading agency and conduct an interview with trading executive and submit report

Semester	IV	Total Credit	4
Course Code	DSE-Spl-II-402-(E)	Credit Pattern	L-44, T-8, P-8
Course Title	MODERN APPROACHES TO QUALITY MANAGEMENT		

Course Objectives:	
1	To make students understand fundamental concepts and principles of quality management, including the basic concept and functions of service quality management.
2	To make students knowledgeable about theoretical aspects and practical application of statistical quality control techniques.
3	To introduce students to various quality management awards& its framework.

Course Outcomes: Students will be able to;	
1	Describe different concepts related to Quality Management.
2	Apply relevant practices of Quality Management in the organization.
3	Analyze issues involved in Quality Management.
4	Evaluate the recent developments in Quality Management

Note:

1. Case studies on each of the aspects mentioned in the syllabus need to be discussed.

Unit Number	Contents	Number of Sessions	
1	INTRODUCTION TO QUALITY MANAGEMENT Definitions of Quality, Dimensions of Quality, Meaning of Quality Management, Evolution of Quality Management, Quality Assurance, Quality of Design, Quality of Conformance, Cost of Quality: Cost of Poor Quality, Cost of Internal & External Failure, Appraisal Cost, Prevention Cost. Quality Function Deployment.	L=11	
		T=2	P=2
2	STATISTICAL QUALITY CONTROL Meaning And Significance of Statistical Quality Control, Need of Accepting Sampling, Types of Sampling Plans, OC Curve, Introduction To Statistical Process Control & Control Charts, Control Charts for Variable, Control Charts for Attribute. (Numerical Treatment on Control Charts)	L=11	
		T=2	P=2
3	TOTAL QUALITY MANAGEMENT& SIX SIGMA Total Quality Management: Concept of TQM, Evolution of TQM, Principles of TQM, TQM Model, Implementation of TQM (PDCA Cycle), Training for Quality Management. Six Sigma: Introduction to Six Sigma, Evolution of Six Sigma, DMAIC Model for Implementing Six Sigma, Six Sigma Impact Measurement. Quality Circles.	L=11	
		T=2	P=2
4	SERVICE QUALITY MANAGEMENT& QUALITY	L=11	

	MANAGEMENT AWARDS Introduction to Service Quality, The Service Quality GAP Model, Measuring& Improving Service Quality, Quality System Standards, Bureau of Indian Standards, International Organization of Standardization, ISO 9000-2000, Deming Prize, Malcolm Baldrige National Quality Award, Rajiv Gandhi National Quality Award, The Golden Peacock National Quality Award.	T=2	P=2

2. Video cases and documentary films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Amitva Mitra, Fundamentals of Quality Control and Improvement, Wiley 2. R. Panneerselvam & P. Sivasankaran, Quality Management, Prentice Hall India Learning Private Limited 3. Shridhara Bhat K, Total Quality Management – Text and Cases, Himalaya Publishing House, First Edition 4. M. Mahajan, Statistical Quality Control, Dhanpat Rai& Co.
2	Reference books	1. Kanishka Bwdi ,“Quality Management”, Oxford University Press 2. David Hoyle, Quality Management Essentials, Butterworth-Heinemann
3	Websites	1. https://www.managementstudyguide.com/total-quality-management-articles.htm 2. https://www.managementstudyguide.com/six-sigma-articles.htm
4	Journals	1. International Journal of Productivity and Quality Management (IJPQM) 2. Journal of Quality Management ScienceDirect.com 3. Quality Management Journal – Scimago 4. The TQM Journal information – Emerald
5	Supplementary Reading	1. Dale H. Besterfield et al, Total Quality Management, Third edition, Pearson Education 2. Evans & Lindsay, An Introduction to Six Sigma & Process Improvement, Cenage learning
6	Practical Component	1. To meet quality control manager of any local manufacturing organization to understand application of Quality Control Tools. 2. Identifying and visiting local ISO Certified organization to understand criteria for getting ISO Certification. 3. Visiting any local service sector business to study its Quality Management Framework. 4. Library Exercise on any one of the Quality Management Awards studied and any one award winning company of your choice.

Semester	IV	Total Credit	4
Course Code	DSE-Spl-II-402(F)	Credit Pattern	L-45, T-8, P-7
Course Title	APPLIED DATA SCIENCE AND BUSINESS ANALYTICS USING R		

Course Objectives	
1	To understand the nature of software development and software life cycle process models, agile software development, SCRUM, and other agile practices
2	To develop the skill of software design and user-centric approach and principles of effective user interfaces.
3	To infer the need for project management and project management life cycle
Course Outcomes: Students will be able to;	
1	plain needs for software specifications also they can classify different types of software requirements and their gathering techniques
2	stify the role of SDLC in Software Project Development and they can evaluate the importance of Software Engineering in PLC.
3	miliar with the different methods and techniques used for project management..
4	scuss the parameters of the software project's success and failures.

Unit Number	Contents	Number of Sessions	
1	Introduction to Data Science – Data Science Process, Concept of Big Data, Business Intelligence, Concept of Data mining, uses of data mining, Concept of data warehousing, OLAP, OLTP, A Process Model for Data Mining, Analytics for managers, Modules and Model Building, hard coding and soft coding in excel	L= 11	
		T= 2	P= 2
2	Introduction to Business Analytics, Prerequisites for effective business analytics, Applications of Business Analytics, ETL Process, Role of statistics in Analytics, Types of Digital Data, ETL Process, Introduction to R and its environments, Installing R, The R community, The R environment, Installing R, Variables in R, Working with R, R Packages	L= 12	
		T= 2	P= 1
3	Single-mode Data Structure-Create, Attributes, subscribing, Multi-mode data structure- Create, Attributes, subscribing, Decision making Structures, Predictive analytics, Emergence of Predictive Analytics, Applications of Predictive Analytics	L= 11	
		T= 2	P= 2
4	Basic Visualization-Pie Chart, Bar Chart, Line Chart, Q-Q Plot, Box-and-Whisker plot, Bubble plot, Role of statistics in Analytics, Basic Statistics using R, Time-series Models, Decision Tree, Clustering using R, Machine learning for text data, Building web applications with Shiny project	L=11	
		T= 2	P= 2

Note:

2. Students will have to complete all tutorials, assignments, and lab sessions for internal credits

Learning Resources		
1	Text Books	4. Fundamentals Of Software Engineering – Roger Pressman 5. Information Technology Project Management – Jack Marchewka – Wiley India Edition
2	Reference books	9. Fundamentals Of Software Engineering - Rajib Mall Ghezzi, Jazayeri Stephen H. Khan 10. Software Requirements And Estimation - Fenton, Ptleeger McGraw Hill 11. Project Management For Software Development - Jaico 12. IT Project Estimation – Paul Coombs. – Cambridge 13. Information System Project Management - John McManus, Trevor Wood- Happer – Pearson. 14. 6. Software Project Management – Bob Hughs, Mike Cotterell – Tata McGraw-Hill
3	Website	7. www.tutorialspoint.com 8. www.guru99.com 9. www.examupdates.in
4	Journals	5. International Journal of Scientific Computing 6. International Journal of Statistics & Management Systems 7. Chartered Secretary
5	Supplementary Reading	5. Business Line 6. Current affairs in newspapers 7. Information system Audit Reports from computer consultancies
6	Practical Component	3. Visit any computer consultant firms and discuss and understand about Software engineering process 4. Case study about Information system Project Planning

Semester	IV	Total Credit	2
Course Code	AECC-401	Credit Pattern	L-22, T-8
Course Title	Employability Skills		
Course Objectives			
1	Develop effective communication skills		
3	Develop broad career plans		
Course Outcomes			
After completion of this course the student will be able to:			
1	Match the job requirements and skill sets.		
3	Evaluate the employment market.		
Unit Number	Contents		
1	Personality, Interpersonal and employability skills and Emotional Intelligence: (15) Basic Interaction Skills –Within family, Society. Interpersonal and intrapersonal skills. Types of skills; Decision Making, Articulation Skills, Emotional Intelligence Human relations examples through role – play and cases		
2	Leadership Skills, Team work, Conflict Management ,Interview Skills, Time Management and Stress Management: (15) Leadership skills – Leadership in groups, coaching, strategic management Team work & Team building - Characteristics of an effective team, Essentials of an effective team, Evolution Team. Activities – Team trust, team shape up. Conflict Management – Types of conflicts, how to cope with them Small cases including role – plays will be used as teaching methodology. Interview skills – Preparation pre-during and post interview Resume writing, self grooming for the interviews. Introduction, Types of interviews, process of interview, Preparation of the candidate, preparation of the interviewer, common interview questions. Time Management – Importance, Prioritizing tasks, Personal Goal Setting – SMART goals, delegation, Time management in meetings, barriers to time management, identifying and handling time consuming tasks. Activity – Games, role-play, case studies. Stress Management – Understanding stress, Types of stress, symptoms, causes of stress. Managing stress, Techniques of managing stress. Activity – questionnaire to find out the level of stress.		
Learning Resources			
1	Reference Books	Business Communication – Urmila Rai & S M. Rai, 12/e, Himalaya Publishing House, 2010. Enhancing Soft Skills – Prof. Dipali Biswas, 1/e, Shroff Publishers & Distributors Pvt. Ltd., 2009. The ACE of Soft Skills – Gopalaswamy Ramesh & Mahadevan Ramesh, 3/e, Pearson Educaion, 2012. Successful Career, Soft Skills and Business English – Varanasi Bhaskara Rao & Y. Kameswari, 1/e, BS Publications, 2010. Perrsonality Development and Soft Skills - Barun K. Mitra Emotional Intelligence by Daniel Goleman	

CSIBER

**CHHATRAPATI SHAHU INSTITUTE OF
BUSINESSEDUCATION AND RESEARCH,
KOLHAPUR-MAHARASHTRA, INDIA**

(AN AUTONOMOUS INSTITUTE)

CPE Phase III, NAAC A+



STRUCTURE & SYLLABUS

**Under C.B.C.S.
Pattern With Effect
from 2021-22**

MBA Programme

MASTER OF BUSINESS ADMINISTRATION (MBA General)

PROGRAMME EDUCATIONAL OBJECTIVES (PEOS):

Programme Educational Objectives are broad statements that describe what students are expected to attain within few years of completing their graduation. Programme Educational Objectives are based on the needs of the students undergoing the programme.

The PEOs of MBA Program at CSIBER are as follows;

PEO 1:

Our graduates will develop themselves as professionals contributing effectively and efficiently by applying theories in management and demonstrating team work, effective communication, analytical and creative thinking skills for problem-solving.

PEO 2:

Our graduates will be equipped with leadership and entrepreneurial abilities to enable them to establish themselves as dynamic and innovative business professionals.

PEO 3:

Our graduates will not only be able to adapt to changes in the global environment but also act as change agents in bringing about holistic and sustainable development in the society.

PEO 4:

Our graduates will have highest regard for Personal & Institutional Integrity, Ethical values and Social Responsibility.

GRADUATE ATTRIBUTES for MBA COURSE

1. Problem solving using domain knowledge and quantitative techniques
2. Well versed with soft skills
3. Deal with contemporary issues (innovation, emerging technology, disruption)
4. Entrepreneurial and Leadership abilities.
5. Inter-cultural competency
6. Cater to needs of holistic and sustainable development
7. Develop the capacity for independent and lifelong learning.
8. Global citizenship

Programme Outcomes (POS):

The programme outcomes of MBA program are as follows;

1. **Conceptual Knowledge:-** Graduates will be able to conceptualize, organize, analyse and resolve complex business problems by using their domain knowledge of management.
2. **Leadership and Innovation Skills:-** Graduates will be able to adopt and adapt the contemporary trends in their domain area as well as innovations, emerging technology and global changes while leading and managing business.
3. **Soft Skills:-** Graduates will practice and perform effective communication skills and softskills under various business situations.
4. **Entrepreneurial Skills:-** Graduates will be able to identify, assess and shape entrepreneurial opportunities and evaluate their potential for starting an enterprise.
5. **Stakeholder Concern:-** Graduates will address ethical, legal and cultural issues of organizationand society by utilizing their conceptual knowledge.
6. **Sustainability:-** Graduates will gain ability to take business decisions keeping in mind the need for sustainable and holistic development.
7. **Research and Lifelong Learning:-** Graduates will be able to participate in active research work, as well as independent and lifelong learning.
8. **Problem Solving:-** Graduates will possess and use competencies in quantitative and qualitative techniques for problem solving in their respective functional areas.

I. DURATION :

The degree of **MBA** shall be full-time course and its duration shall be of **Two Years**. The course consists of Four Semesters. The examination to be held in the First and Second Semester will be called Part – I (First Year) and the examination to be held in the Third and Fourth Semester will be called Part – II (Second Year).

If a candidate fails to clear all the theory papers and project report within **Six** years of his/her registration, the past performance will stand automatically nullified.

If a candidate discontinues any of the terms (i.e. Semester – I to IV) on any account, he/she will be allowed to complete the incomplete terms in the subsequent years subject to the condition that it is within the stipulated time duration of **Six** years.

In addition to the above, once a student's term (Semester) is granted, he/she shall be allowed to appear and pass in any of the subsequent examinations held, provided the examinations are within the stipulated period of **Six** years.

In case the term (Semester) is not granted the student has to seek fresh admission in the next year and complete the term and pass the examination. This must be done within **Six** years of his/her registration.

Course Completion with Break in Between:

A student who has passed M.B.A. – I and is seeking admission to M.B.A. – II after a long gap (Provided the gap lies within the stipulated duration of **Six** years) should complete the course syllabus which is in existence at the time he is seeking admission for the academic year.

II. ASSESSMENT:

Taking into consideration the UGC and AICTE requirements, C SIBER has adopted

–Credit Grade Based Performance Assessment System¹ (CGPA). Each course is of 100 marks and contact hours for each paper is 60. One credit is allotted to 15 contact hours. All courses of 100 marks are considered as Full credit course with 4 credits. Courses of 50 marks are considered as half credit course and have 2 credits.

For the paper of 100 marks. The distribution of the marks will be as follows –

i) Formative Evaluation i.e. Internal marks	-	40 Marks
ii) Summative Evaluation i.e. Semester-end examination	-	60 marks

2. For the paper of 50 marks. The distribution of the marks will be as follows –

i) Formative Evaluation i.e. Internal marks	-	20 Marks
ii) Summative Evaluation i.e. Semester-end examination	-	30 marks

Breakup of Formative Evaluation (internal marks)

Head	Marks Out of 40	Marks Out of 20
Attendance and Class Participation	10	05
Quiz	10	05
Any Two from given alternatives: 1. Case Study 2. Home assignment 3. Mid-term test 4. Viva voce 5. Library-based assignment 6. Book report 7. Scrap Book 8. Lab. Practical 9. Field-based activity 10. Group Discussion 11. Seminar 12. Group Activity	10 + 10	05 + 05
	40	20

Assessment of AEC courses:

AEC courses will be assessed as follows;

- i) Internal Marks i.e. Formative evaluation - 20 Marks
- ii) External Marks i.e. Summative evaluation - 30 marks

Summative evaluation (out of 30) will be done by panel consisting of one internal and one external member on the basis of viva/ presentation. The Formative evaluation done by the faculty be shown to the students and their signature will be obtained.

3. For the report of Project Work done (100 marks) the distribution of the marks will be as follows –
- i) Project Report (given by faculty mentor) - 40 Marks
 - ii) Viva Voce (panel of internal and external examiner) - 60 Marks

The assessment of papers will be done by an Internal and External examiner. A difference of more than **20%** in the marks awarded by these examiners would necessitate the valuation of the paper by Third examiner. The '**nearest**' highest two marks will be considered for determining the average mark of such papers.

4. Once the Student passes in the internal marks (Concurrent evaluation out of 40) and the record is submitted to the examination department, it should be carried forward whenever required and it cannot be improved in any case.

5. Students who fail in the internal marks (Concurrent evaluation out of 40) should reappear for the same, only then the revised marks will be considered for further calculation

Assessment of Lab-Based courses:

1) SEMESTER TWO:

Course name: Advanced Excel

Credits: FOUR

60 marks external- based on practical examination conducted by internal and external faculty.

The practical examination will be of 3 hours duration. The student will be given a choice of six questions of 15 marks each, out of which student will have to solve any four.

40 marks internal evaluation will be as per other 4 credit course in the curriculum.

2) SEMESTER TWO:

Course name: Managerial Decisions using Excel

Credits: TWO

30 marks external- based on practical examination conducted by internal and external faculty. The practical examination will be of 2 hours duration. The student will be given a choice of three questions of 15 marks each, will be asked out of which student can solve any two.

20 marks internal evaluation will be as per other 2 credit course in the curriculum.

III. STANDARD OF PASSING:

1. In order to pass in a paper/head, a candidate will have to obtain 50% in the Formative Evaluation (Internal Credit), 40% marks in theory, and a minimum of 50% of the marks in aggregate in each paper head.
2. To pass the M.B.A. examination, a candidate will have to pass in all Four Semester in Two Parts i.e. Part – I (Semester – I & II) and Part – II (Semester – III & IV)
3. To pass the Project work a candidate must obtain a minimum of 50% of the Project Report and Viva Voce marks. If a candidate fails in the project report and its viva-voce, he/she will have to reappear for the same in the subsequent semester.
4. A candidate from the first year M.B.A. will be eligible to proceed to the Semester III, if he/she is not having more than **5 (Five)** papers backlog of the First Year (that is Semester – I & II).
5. A candidate will be permitted to proceed to the second Semester even though he/she fails in one or more subjects of the first Semester.
6. The students who have a backlog of not more than **five papers** in the First year (Sem. I & II) examination will be eligible to be admitted to the Second year (IIIrd Semester) of M.B.A.
7. A candidate will be permitted to proceed to the Fourth Semester even though he/she fails in one or more subjects in third Semester.
8. Performance Index (SPI) will be as follows:

Grading System:

There shall be numerical marking for each course, which will be placed into credits. Each subject is classified as a major or minor. The major and minor subjects will be given 2 and 1 credits respectively.

a. Full Credit (100 Marks) Course:

Grade Table for Semester Examination			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
96-100	S+	10.0	SUPER
91-95	S	9.0	
86-90	E+	8.5	Exemplary
81-85	E	8.0	
76-80	O+	7.5	Outstanding
71-75	O	7.0	
66-70	A+	6.5	Good
61-65	A	6.0	
56-60	B+	5.5	Average
50-55	B	5.0	
--	X	0.0	Defaulter
--	XX	---	Incomplete

b. Half Credit (50 Marks) Course:

Grade Table for Semester Examination			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
48-50	S+	10.0	SUPER
46-47	S	9.0	
43-45	E+	8.5	Exemplary
41-42	E	8.0	
38-40	O+	7.5	Outstanding
36-37	O	7.0	
33-35	A+	6.5	Good
31-32	A	6.0	
28-30	B+	5.5	Average
25-27	B	5.0	
--	X	0.0	Defaulter
--	XX	---	Incomplete

9. **Final Result:** For the final result of the student Cumulative Performance Index (CPI) based on total earned credits vis-à-vis total earned grade points shall be calculated will be as follows.
 Total earned grade points / Total credits **100**

Result		
CPI	Final Grade	Classification of Final Result.
9.6-10.0	S+	SUPER
9.1-9.5	S	
8.6-9.0	E+	Exemplary
8.1-8.5	E	
7.6-8.0	O+	Outstanding
7.1-7.5	O	
6.6-7.0	A+	Good
6.1-6.5	A	
5.6-6.0	B+	Average
5.0-5.5	B	

Note: An aggregate of **5.0** credit points are required to pass the MBA program.

Grade Table for Semester Examination			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
48-50	S+	10.0	SUPER
46-47	S	9.0	
43-45	E+	8.5	Exemplary
41-42	E	8.0	
38-40	O+	7.5	Outstanding
36-37	O	7.0	
33-35	A+	6.5	Good
31-32	A	6.0	
28-30	B+	5.5	Average
25-27	B	5.0	
--	X	0.0	Defaulter
--	XX	---	Incomplete

IV. CALCULATION OF PERFORMANCE INDICES:

A distinction of the performance of one student from the other student is rather impossible to carry out from the grades obtained by a student in all the courses taken by him in a Semester/year. Hence, the evaluation of various courses is cumulated in two performance indices termed as Semester performance index (SPI) and cumulative performance index (CPI) the explanation of which is given below:

Semester Performance Index (SPI):

The performance of a student in a Semester is indicated by a number called Semester Performance Index (SPI). SPI is the weighted average of all the grade points obtained by him in all the courses registered during the Semester r . If G_i is a grade with numerical equivalent as G_i obtained by a student for the course with credit C_i then, SPI for that Semester is calculated using formula.

$$SPI = \frac{\sum_1 C_i G_i}{\sum_1 C_i}$$

Where summation is for all the courses registered by a student in that Semester. SPI is calculated to two decimal places and rounded off. SPI once calculated shall be modified. Generally, for the students failed in regular examinations SPI is calculated only after the declaration of re-examination grades.

Cumulative Performance Index (CPI):

An up-to-date assessment of the overall performance of a student from the first Semester till completion of the programme is obtained by calculating an index called as Cumulative Performance Index (CPI). The CPI is weighted average of the grade points obtained in all the courses registered by a student since the first semester of the programme.

$$CPI = \frac{\sum_1 C_i G_i}{\sum_1 C_i}$$

Besides SPI, CPI is also calculated at the end of every semester upto two decimal places and is rounded off. It is necessary to ensure that one course appears only once in calculation of CPI and the denominator in above equation does not exceed the total number of credits registered by him.

Initially there is certain trepidation in the minds of students and there are some difficulties in understanding the mechanics of this system. Therefore, it was decided that for the first year of implementation, on the mark sheets, both, the marks and the grade points and credits should be shown.

V. GRACE MARKS UNDER DIFFERENT ORDINANCE.

S.O. No. 1:-Grace Marks for Passing in each head of Passing (Theory/Practical/ Oral/ Sectional/External/Internal)

The Examinee shall be given the benefit of grace marks only for passing in each head of Passing (Theory/Practical/Oral/Sectional/ in External Internal examination as follows.

Head of Passing	Grace Marks
Upto -50	2
051-100	3
101-150	4
151-200	5
201-250	6
251-300	7
301-350	8
351-400	9
401 and above.	10

Provided that the benefit of such gracing marks in different heads of passing shall not exceed 1% of the aggregate marks in that examination.

Provided further that the benefit of gracing of marks under this ordinance shall be applicable only if the candidate passes the entire examination of Semester/year.

Provided further that this gracing is concurrent with the rules and guidelines of professional statutory bodies at the all India level such as AICTE and UGC.

S.O. No. 2:- Grace Marks for getting higher Class

A Candidate who passes in all the subjects and heads of passing in the examination without the benefit of either gracing or condonation rules and whose total number of Marks falls short for securing Higher Class or Grade by marks not more than 1% of the aggregate marks of that examination or upto 10 marks, whichever is less, shall be given the required marks to get the next higher class of grade as the case may be.

Provided that benefits of above mentioned grace marks shall not be given, if the candidate fails to secure necessary passing marks in the aggregate head of passing also, if prescribed in the examination concerned.

Provided further that the benefits of above mentioned grace marks shall be given to the candidate for such examination/s only for which provision of award of class has

been prescribed. Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE and UGC.

S.O. No. 3 Condonation

If a candidate fails in one or more head of passing, having passed in all other heads of passing, his/her deficiency of marks in such head of passing may be condoned by not more than 1% at the aggregate marks of that examination or 10 marks of the total Number of marks of that of passing in which he/she is failing whichever is less. However condonation, whether in one head of passing or aggregate head of passing be restricted to maximum upto 10 marks only. Condonation of deficiency of marks be shown in the statement of Marks in the form of asterisk and Ordinance number

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE and UGC.

MBA (General) Programme Structure

**Under C.B.C.S.
Pattern With Effect
From 2021-22**

MBA-I, Semester – I

Nature of Choice	Subject Code	Subject	Credits	Contact Hours	Int. Marks	Ext. Marks	Total Marks
Core Component (CC)	CC 101	Perspectives in Management	04	60	40	60	100
	CC 102	Accounting for Business Decisions	04	60	40	60	100
	CC 103	Organizational Behavior	04	60	40	60	100
	CC 104	Managerial Economics	04	60	40	60	100
	CC 105	Business Statistics	04	60	40	60	100
	CC 106	Marketing Management	04	60	40	60	100
Ability Enhancement Course (AECC)	AECC 101	Professional Communication Skills	02	30	20	30	50
Discipline Specific Elective (DSE)	DSE 101 (Any One)	DSE 101 (A) Service Sector Management DSE 101 (B) Family Business Management DSE 101 (C) IT for Managers	04	60	40	60	100
		Total	30	450	300	450	750

MBA-I Semester-II

Nature of choice	Subject Code	Subject	Credits	Contact Hours	Int. Marks	Ext. Marks	Total Marks
Core Component (CC)	CC 201	Advanced Excel(Lab-Based)	04	60	40	60	100
	CC 202	Legal Aspects of Business	02	30	20	30	50
	CC 203	Research Methodology	02	30	20	30	50
	CC 204	Financial Management	04	60	40	60	100
	CC 205	Managing Human Resource	04	60	40	60	100
	CC 206	Operations Management	04	60	40	60	100
	CC 207	Managerial Decisions using Excel(Lab-Based)	02	30	20	30	50
Ability Enhancement Course (AEC)	AEC201 (Any One)	AEC 201 (A) German AEC 201 (B) Japanese AEC 201 (C) French AEC 201 (D) Selling and Negotiation Skills AEC 201 (G) Digital Marketing AEC 201 (H) Human Values	02	30	20	30	50
Discipline Specific Elective (DSE)	DSE201 (Any One)	DSE 201 (A) Event Management and Public Relations Management DSE 201 (B) Business Communication	04	60	40	60	100
Generic Elective (GE)	GE 201 (Any One)	GE 201 (B) Environment and Development GE 201 (C) Indian Social Problems and Social Services GE 201 (D) Office Automation GE 201 (E) Principles of Economics	02	30	40	60	100
		Total	30	450	300	450	750

MBA-II Semester – III

Nature of choice	Subject Code	Subject	Credits	Contact Hours	Int. Marks	Ext. Marks	Total Marks
Core Component (CC)	CC 301	Strategic Management	04	60	40	60	100
	CC 302	International Business	04	60	40	60	100
	CC 303	Project report and Viva-voce	04	50days + 30	40	60	100
	CC-304 (Any Two)	CC-Specialization Paper I List Of choices for CC 304 CC - (A): International Trade And Finance CC-Spl-I-304 (B): Employee Relations And Labour Law CC-Spl-I-304 (C): Buying Behavior CC-Spl-I-304 (D): Agri-Business, Entrepreneurship and Cooperatives CC-Spl-I-304 (E): Logistics and Supply Chain Management CC-Spl-I-304 (F): Knowledge Management and ERP	04 04	60 60	40 40	60 60	100 100
	CC 305	Lean Management	02	30	20	30	50
Discipline Specific Elective (DSE)	DSE-301 (Any Two)	DSE Specialization Paper I List Of choices for DSE 301 (A): Direct & Indirect Taxes DSE-Spl-I-301 (B): Strategic And International Human Resource Management DSE-Spl-I-301 (C):, Marketing Sectors DSE-Spl-I-301 (D): Rural And Agricultural Marketing DSE-Spl-I-301 (E): Purchasing and Inventory Management DSE-Spl-I-301-(F): Information System Audit and Control	04 04	60 60	40 40	60 60	100 100
Ability Enhancement course (AEC)	AEC-301	AEC-301-(A): Entrepreneurial skills and Start up AEC- 301-(B): Health and Wellness AEC-301-(C): Tourism Management AEC-301-(D): Change Management	02	30	20	30	50
Generic Elective (GE)	GE-301 (Any One)	GE-301-(B) E commerce GE-301-(C) Disaster Management GE-301-(D) Corporate Social Responsibility GE- 301 (E) Basics of Indian Economics	02	30	20	30	50
		Total	34	480	340	510	850

MBA-II Semester – IV

Nature of choice	Subject Code	Subject	Credits	Contact Hours	Int. Marks	Ext. Marks	Total Marks
Core Component (CC)	CC 401	Business Ethics and Corporate Governance	04	60	40	60	100
	CC 402 (Any Two)	CC-Specialization Paper II List Of choices for CC 402 CC 402-(A) Management Accounting And Control System CC 402- (B) Performance and Compensation Management CC 402-(C) Sales and Distribution Management CC 402- (D) Agri-Production And Supply Chain Management CC 402-(E) Project Management CC 402-(F) Software Engineering and IT Project Management	04	60	40	60	100
			04	60	40	60	100
Discipline Specific Elective (DSE)	DSE 401 (Any Two)	DSE Specialization Paper II List Of choices for DSE 401 DSE 401 (A) Investment And Portfolio Management DSE 401(B) Talent And Human Capital Management DSE 401-(C) Integrated Marketing Communication DSE 401 (D) Agri-Commodity Markets And Agri-Business. DSE 401-(E) Modern Approaches to Quality Management DSE 401-(F) Applied Data Science and Business Analytics using R	04	60	40	60	100
			04	60	40	60	100
Ability Enhancement Compulsory course (AECC)	AECC-401	Employability Skills	02	30	20	30	50
		Total	22	330	220	330	550

Component-wise distribution of MBA curriculum 2021-22

Component \ Semester	I	II	III	IV	Total	PERCENTAGE
Core Courses	24	22	22	12	80	68.9 %
Discipline Specific Elective	4	4	8	8	24	20.7 %
Ability Enhancement Compulsory Course	2	-	-	2	4	3.5 %
Ability Enhancement Course	-	2	2	-	4	3.5%
Generic Elective	-	2	2	-	4	3.5 %
Total credits:	30	30	34	22	116	100%

MBA - I

Semester - I

Semester	I	Total Credit	4
Course Code	CC 101	Credit Pattern	L-45, T-8, P-7
Course Title	PERSPECTIVES IN MANAGEMENT		
Course Objectives:			
1	To make students understand fundamental concepts and principles of management, including the basic roles, skills, and functions of management.		
2	To make students aware historical development, theoretical aspects and practical application of managerial process.		
3	To introduce students to modern concepts and trends in Management		
Course Outcomes: Students will be able to;			
1.	Describe the concepts of Management		
2.	Analyze the management process		
3.	Apply the management functions to take appropriate business decisions		
4.	Evaluate new trends in management		

Unit Number	Contents	Number of Sessions	
1	Basic Management Concepts: (15) Management- Definition, Scope. Functions of Management, Managerial Skills, Levels of Management and their functions, Henry Mintzberg- Roles of a Manager, Management and Administration. Evolution of Management: Classical Approach, Scientific Management Approach – Contribution of F. W. Taylor, Henri Fayol, Systems approach,– Peter Drucker (Drucker’s MBO Philosophy), Characteristics of Management Today	L= 11	
		T= 2	P= 2
2	Planning and Organizing: (15) Planning - Nature, Types- Standing plans- Objectives, Strategy, Policies, Procedures, Rules, and Single-use plans, Process and Importance of Planning, Limitations of Planning, Making Planning Effective. Organizing - Meaning, Process of Organizing. Organization Structure- Principles, and Characteristics, Types- Mechanistic and Organic, Organization Structure and Culture, Departmentalization- on bases of Customer, Geographical area, product, process, function, Span Of Management- Factors considered while deciding span of management, Concept of Responsibility, Authority, Accountability and Delegation	L= 12	
		T= 2	P= 1
3	Directing, and Controlling: (15) Directing - Definition, Characteristics and Importance. Decision Making – Process, Types of Decisions Leadership - Types, Qualities of Leader, Leader vs. Manager Controlling - Steps in Control Process – Need – Types of Control Methods – Benefits of controlling. Communication - Process and barriers of communication.	L= 11	
		T= 2	P= 2
4	New concepts and Trends in Management: (15) Virtual Organizations- Characteristics, Advantages and Limitations Organizational Diversity- Factors responsible, Benefits and Barriers. Globalization – Forces, Opportunities and risks in Global Business, Culture in Global Organizations, Green management.	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text books	1. Essentials Of Management – Koontz And Weinrich 2. Modern Management – Certo – Prentice Hall 3. Principles Of Management- Dr. KiranNerkar and Dr. Vilas Chopade 4. Principles Of Management – L.M. Prasad 5. Principles Of Management – R.M. Srivastava
2	Reference Books:	1. New Era of Management – Richard L. Daft 2. Essentials of Management – Peter Drucker 3. Management – Stephen P. Robins – Prentice Hall 4. Modern Business Administration and Management – S. A. Sherlekar - Himalaya Publication 5. Management Concept and Strategies – J. S. Chandra
3	Websites:	www.managementstudyguide.com/ www.hbr.org
4	Journals:	• Prabandhan • Yojana • Business Perspectives and Research • Vision: Journal of Business Perspectives • Vikalpa
5	Supplementary Reading:	Magazines like: Time, Outlook
6	Practical Component	• Studying organizational structure of any company and classifying it into different types of organizations which are studied and justifying why such structure is chosen by that organization. • Preparing the leadership profiles of any 5 business leaders and studying their leadership qualities. • Class debate on different basis of departmentalization • Identify any business leader and list his qualities that made him a good leader.

Semester		I	Total Credit	4
Course Code		CC 102	Credit Pattern	L-45, T-8, P-7
Course Title		ACCOUNTING FOR BUSINESS DECISIONS		
Course Outcomes: The students will able to				
1.	Apply basic accounting principles and concepts for preparation of financial statements			
2.	Asses funds from operation with the help of funds flow statement			
3.	Evaluate the financial position by preparing the financial statement as per Schedule-III			

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Accounting: (15) Accounting as an information system, concepts, convention and principles of Accounting, Types of Business Organizations, Legal Regulatory And Tax Framework., Role of accountant in an organization, Accounting Process. Branches of accounting: Financial, Cost and Management Accounting and their inter-relationships, Introduction of Accounting Standards.	L= 11	
		T= 2	P=2
2	Financial Statement Analysis: (15) Preparation and Understanding of Financial Statements, Exposure to format of schedule III of Public Limited, Introduction of IFRS & Introduction of Tally Software Package in Accounting – Creating Companies, journal entries and ledger accounts.	L= 12	
		T= 2	P= 1
3	Fund Flow and Cash Flow Statement: (15) Preparation of Funds Flow Statement and its analysis and Cash Flow Statement: Various cash and non-cash transactions, flow of cash, difference between cash flow and fund flow, preparation of Cash Flow Statement and its analysis. (As per AS-3).	L= 11	
		T= 2	P= 2
4	Introduction to Cost Accounting & Techniques: (15) Introduction to Cost Accounting, Elements of Cost and Cost Sheet, Use and Importance of Standard Costing, Including Variance Analysis – Materials and Labour Variances. Cost Control Techniques.	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1.	Text Books	1. S N Maheshwari “Introduction to Accountancy” S Chand Publication 2. Prof. V.A. Patil, Dr. P. M. Herekar, “Financial Accounting” Ajab Publication 3. S. C. Gupta, “Advanced Accounts” S Chand Publication. 4. M. G.Patkar, “Book Keeping & Accountancy” 5. G Sekar & B Sarvana Prasath, “CA Inter Padhuka Ready Referencer on Accounting”, Padhuka’s Publication
2.	Reference Books	1. Accountants' Guidebook: A Financial and Managerial Accounting Reference 2. Jae K. Shim, Joel G. Siegel, Nick Dauber CPA, Anique Qureshi; “Accounting handbook” 3. “A Dictionary of Accounting” Oxford Quick Reference Publication
3.	Websites	<u>The Institute of Chartered Accountants of India</u> : www.icaai.org <u>The Institute of Company Secretaries of India</u> : www.icsi.edu
4.	Journals	• The Chartered Accountant Journal. • The Chartered Secretary Journal. • The Management Accountant Journal, Printer & Publisher, CMA Kaushik Banerjee, and Editor: CMA Dr Debaprosanna Nandy, ISSN: 09723528. • ICSI Journals • Finance India • Journal of Accounting & Finance
5.	Supplementary Reading	• Financial Express • Economics Times • Business Standard
6.	Practical Component	• Practical Problems on Schedule III • Practical Problems on Fund Flow and Cash Flow Statements • Practical Problems on Cost Sheet • Practical Problems on Standard Costing and Variance Analysis • Financial statement analysis using Prowess-IQ • Companies Financial Reports & Corporate case studies.

Semester	I	Total Credit	4
Course Code	CC 103	Credit Pattern	L-45, T-8, P-7
Course Title	ORGANIZATIONAL BEHAVIOR		

Course Outcomes: Students will be able to:	
1	Describe the various aspects of Organizational Behaviour.
2	Evaluate the aspects associated with organizational human behavior and its effect on organization.
3	Apply relevant theories, concepts and models to resolve organizational issues.
4	Develop Effective team-work and leadership skills.

Unit Number	Contents	Number of Sessions	
1	Organizational basis for behavior – (15) Introduction, Approaches and Importance of OB, Basic psychological process:- Perception – Definition, Importance and Factors Influencing Perception, Perception and Making Judgment. Basic motivational concepts –Importance of Motivation, Theories in Motivation- Maslow, Theory X and Y, Two factor Theory, Equity Theory, ERG Theory, Z theory, Financial and Non-financial Tools for Motivation in Organization.	L= 11	
		T= 2	P= 2
2	Individual Perspective: (15) Personality – Determinants of personality, OB related Traits:- Locus of Control, Machiavellianism, Type A and Type B personality, Introversion- Extroversion. Big Five Model of personality. Attitudes – Characteristics, Components, Formation. Values and its Types.	L= 12	
		T= 2	P= 1
3	Group and Team Dynamics: (15) Introduction, Concept of Groups, Stages of Group Formation , , Factors that Affect Group, Characteristics of an Effective Team, , Cross Functional Teams. Conflict Management:- Functional and dysfunctional conflict, process of conflict and levels of conflict, Negotiation and conflict resolution	L= 11	
		T= 2	P= 2
4	Leadership Theories-(15) Situational Leadership, Contingency Leadership, Transactional Leadership, Transformational Leadership. Power: Sources of Power (Interpersonal sources and Structural sources of power), Political Behaviour in Organisations: Managerial Implications using power effectively.	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. K. Aswathappa, Organisaional Behaviour, Himalaya Publications 2. P.Subba Rao, Organisational Behaviour, Himalaya Publications 3. Rosy Joshy, Organisational ehaviour, Kalyani Publications 4. Stephen P. Robins, Organisational Behavior, PHI Learning / Pearson Education, 11th edition, 2008.
2	Reference books	1. Fred Luthans, Organisational Behavior, McGraw Hill, 11th Edition, 2001. 2. Hellrigal, Slocum and Woodman, Organisational Behavior, Cengage Learning, 11th Edition 2007. 3. Ivancevich, Konopaske&Maheson, OranisaionalBehaviour& Management, 7th edition, Tata McGraw Hill, 2008. 4. Mc Shane & Von Glinov, OrganisationalBehaviour, 4th Edition, Tata McGraw Hill, 2007. 5. Schermerhorn, Hunt and Osborn, Organisational behavior, John Wiley, 9th Edition, 2008. 6. P G Aquinas, OrganisationalBehaviour : concepts, realities, applications and challenges, Excel Books.
3	Websites	https://iedunote.com http://www.yourarticlelibrary.com https://www.ebsglobal.net
4	Journals	1. IUP Journal of Organisational Behavior 2. Effective Executive 3. IUP Journal of Management Case Studies.
5	Supplementary Reading	1. Open Text Book Library- https://open.umn.edu 2. Fundamentals Organisational Behaviour, India Edition – Slocum and Hell Riegel by Cengage learning. 2 3. Culture and organisational Behaviour Jai B.P. Sinha www.sagepublications.com
6	Practical Component	1. Identifying a job profile and list the various types abilities required for that job and also the personality traits/attributes required for that job. 2. Management games on Team building will be conducted

Semester	I	Total Credit	4
Course Code	CC 104	Credit Pattern	L-44, T-8, P-8
Course Title	MANAGERIAL ECONOMICS		
Course Outcomes: Students will be able to			
1	Describe micro and macroeconomic concepts of business importance		
2	Analyze Economic Variables which influence managerial decision making process		
3	Asses micro and macro-economic environment of business decision process		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Managerial Economics and Demand Analysis Basic Economic Concepts, Nature And Scope Of Managerial Economics, Objectives Of The Firm And Constraints, Business Decision-Making Model, Tools Of Economic Analysis, Introduction to Consumer Behavior and Utility measurement, Demand Analysis-Meaning, Types And Determinants Of Demand, Demand Function And Law Of Demand, Elasticities And Their Utilities In Managerial Decisions, Demand Forecasting- Meaning, Purpose And Methods, Law of Diminishing Marginal Utility, Basics of Ordinal Utility approach.	L= 11	
		T= 2	P= 2
2	Production & Cost Analysis for Business Decisions Production Analysis- Production Schedules, Production Functions-Short Run And Long Run, Returns To Scale Approach, Marginal Productivity Of Inputs, Optimal Input Combination. Cost Concepts, Cost Function, Cost-Output Relationship, Short Run And Long Run Analysis	L= 12	
		T= 2	P= 1
3	Market Structure and Pricing Concepts Introduction to Market Competition and its Nature, Perfect Competition, Monopolistic Competition, Monopoly and Oligopoly etc, Price and Output Determination in different Markets, Pricing practices: Cost plus pricing, incremental pricing, multiple product pricing, product line pricing, specific pricing problems	L= 11	
		T= 2	P= 2
4	National Income and Macro-Economic Policies Introduction to National income, Basic Concepts, Estimation of NI and Difficulties, Circular Flow Of Aggregate Income and Expenditure, NI as a Measure of Economic Development In Comparison with other Indicators. Role and function of Money Market: Composition and instruments. RBI role and functions. Capital Markets: Role and functions, Regulatory role of SEBI. Objectives and Instruments of Monetary And Fiscal Policies, Recent Issues In Monetary And Fiscal Policies	L=11	
		T= 2	P= 2

Note:

1. Case studies on each of the aspects mentioned in the syllabus need to be discussed
2. Necessary Audio and Video case studies must be shown in the class.

Learning Resources		
1	Text Books	1. D.N. Dwivedi , Managerial Economics, Vikas Publication House, New Delhi 2. Dominick Salvatore, Managerial Economics, Mcgraw Hill Inc, New York, (2000) 3. Deviga Vengedasalam,Karunagaran Madhavan Principles of Economics (Third Edition) Oxford University Press, 2014 4. Mithani D M (2016)Managerial Economics : Theory And Applications, Himalaya Publishing House
2	Reference books	1. Paul Samuelson, Economics, Mcgraw Hill Inc, New Delhi, (2000) 2. Peterson & Lewis, Managerial Economics, Prentice Hall India Ltd, New Delhi, (2001). 3. H.L. Ahuja, 2004, Modern Micro Economics Theory and Practices, Ed.12, S.Chand, New Delhi. 4. Timothy C.G. Fisher, David Prentice and Rober Waschik, Managerial Economics - A Strategic Approach, Routledge, 2010.
3	Websites	https://www.rbi.org.in/home.aspx http://finmin.nic.in/ http://nptel.ac.in/courses/110101005/3 http://indiabudget.nic.in/budget.asp https://www.cmie.com/ <u>Economic and Political Weekly</u>
4	Journals	Journal of Applied Economics Indian-Economic-Journal International Journal of the Economics of Business Journal-of Indian-School-of-Political-Economy Agricultural-Economic-Research-Review
5	Supplementary Reading	Economics Times Daily Business Standard Daily Business Today Daily Latest Monetary Policy Report Latest Fiscal Policy Report
6	Practical Component	1. Visit to medium scale vendor at your near point. Collect data on a specific product sales and price. Estimate its elasticity 2. Meet a manufacturer and collect data on production inputs and prepare his short term and long term returns conditions. 3. List out the business as per market structure characteristics. Collect information on their product base 4. Collect data on national income from national income statistics and apply three methods of national income estimation and measure the trends in national income.

Semester	I	Total Credit	4
Course Code	CC 105	Credit Pattern	L-45, T-8, P-7
Course Title	BUSINESS STATISTICS		
Course Outcomes: Students will be able to			
1	Provide solution to management decision problems.		
2	Analyze company/organization data for taking decisions.		
3	Interpret the relevance of statistical findings for business problem solving and decision making.		
4	Evaluate the data collected for management decision and provide inference towards it.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Measures of Central Tendency: Introduction, Objectives of statistical average, Requisites of a Good Average, Statistical Averages - Arithmetic Mean - Properties of arithmetic mean - Merits and demerits of arithmetic mean, Median - Merits and demerits of median, Mode - Merits and demerits of mode, Measures of Dispersion: Appropriate Situations for the Use of Various Averages, Positional Averages, Dispersion – Range - Quartile deviations, Mean deviation, Standard Deviation -Properties of standard deviation, Coefficient of Variation.	L= 11	
		T= 2	P= 2
2	Simple Correlation: Introduction , Correlation - Causation and Correlation - Types of Correlation -Measures of Correlation - Scatter diagram - Karl Pearson's correlation coefficient - Properties of Karl Pearson's correlation coefficient, Spearman's Rank Correlation Coefficient Regression: Regression analysis - Regression lines - Regression coefficient, Permutation & Combination: Principles of counting, Permutations of n dissimilar objects taken r at a time (with and without repetitions), Properties, Combination of n objects taken r at a time, Properties, examples on Permutations and Combinations.	L= 12	
		T= 2	P= 1
3	Probability: Random experiment, sample space and classification of sample spaces, Classical definition of probability, Properties, Conditional probability, Multiplication law of probability, Baye's theorem, Independence of events, Examples. Probability Distribution: Random variable, Probability mass function, Cumulative distribution function, Mathematical expectation, Variance, Definition and properties of Binomial, Poisson distribution-examples, Probability density function, Definition and properties of Normal distributions. Examples.	L= 11	
		T= 2	P= 2
4	Testing of Hypothesis: Introduction, Simple & Composite, Null & Alternate Hypothesis, Type I and Type II Error, Level of Significance, One Tail & Two Tail, General Procedure of Testing of Hypothesis, Parametric Test, Large Sample Z Test for – Population Mean, Difference of Population Means, Small Sample t Test for – Population Mean, Difference of Population Means, Non-Parametric – Chi Square Test of Independence	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	6. S C Gupta, Fundamentals of Statistics 7. S C Gupta, Business Statistics 8. C R Kothari, Research Methodology – Methods Techniques
2	Reference books	1. N D Vohra, Business Statistics, Tata McGraw Hill 2. G C Beri, Business Statistics, Tata McGraw Hill 3. Devid M Levine etc, Business Statistics – A First Course, Pearson Publication. 4. Glyn Davis & Branko Pecar, Business Statistics Using Excel, Oxford University Press. 5. Albright, Winston, Zappe, Decision Making Using Microsoft Excel, Cengage Learning.
3	Journals	1. International Journal of Statistics & Management Systems 2. Calcutta Statistical Association Bulletin 3. Vikalpa: The Journal for Decision Makers
4	Websites	6. www.stattrek.com 7. www.statisticsbyjim.com 8. www.pinkmonkey.com/studyguides/subjects/stats/contents.asp
5	Supplementary Reading	Glyn Davis & Branko Pecar, Business Statistics Using Excel, Oxford University Press.
6	Practical Component	1. Analyzing collected raw data or online available data. 2. Finding relations among two or more variables and fitting regression equation to predict value of dependent variables.

Semester	I	Total Credit	4
Course Code	CC 106	Credit Pattern	L-45, T-8, P-7
Course Title	MARKETING MANAGEMENT		
Course Objectives:			
1	To create an awareness about fundamentals of marketing		
2	To cover the basic concepts of marketing and develop conceptual abilities and substantive knowledge in marketing through a variety of real-life marketing situations.		
3	To understand the use of marketing mix in marketing decision making		
Course Outcomes: Students will be able to;			
1.	Discuss conceptual knowledge of Marketing		
2.	Analyse marketing situations		
3.	Devise Market segmentation strategies for product and services.		
4.	Develop 4Ps of Marketing for Product and Services.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Marketing & Demand Measurement Definition – Importance and Scope – Core-concepts of Marketing – Company Orientation Towards Market place - Scanning the Marketing Environment Macro – Demographic, Economic, Social – Cultural – Political – Legal- Technology- Natural and Micro	L= 11	
		T= 2	P= 2

	environment. Concept of Market Demand and Demand Measurement, Definition, Need & Benefits		
2	Market Segmentation& Product Mix Bases for market Segmentation, Segmentation of Consumer goods, Industrial goods and services. Effective segmentation criteria, Evaluating & Selecting Target Markets, differentiation, Positioning. Consumer and Business buying process. Concept of Product, Classification- Levels of Product– Product Life Cycle – New Product Development -Branding, Packaging and Labeling,	L= 12	
		T= 2	P= 1
3	Price, Place & Promotional Mix Importance of pricing, Pricing Objectives, Price Determination Procedure –Methods of Pricing. Importance, Functions of Distribution channels - Introduction to the various Channels of Distribution – Channel Management Decision. - Advertising, Sales Promotion, Publicity and Personal Selling, Impact of Technology & Internet on Promotion.	L= 11	
		T= 2	P= 2
4	Marketing Planning & Control Nature, Scope and Contents Of Marketing Plan - Process of planning Concept – Importance- Techniques of control- Annual Plan Control – Profitability Control – Efficiency Control – Strategic Control	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Kotler Philip, “Marketing Management 17th Edition 2015”, Prentice Hall of India, New Delhi. 2. Saxena Rajan, “Marketing Management 2nd Edition 2002”, Tata McGraw Hill, New Delhi
2	Reference books	1. Station W.J. Etzel M.J., “Fundamentals of Marketing – 10th Edition 1994” , Mc Graw Walker B.J., Hill International Editions. 2. Srinivasan R., “Case Studies in Marketing”, Prentice Hall, New Delhi, 2000 3. Kaushal H., “Case Study Solutions in Marketing”, McMillan India 2001 4. V.S.Ramaswamy and S.Namakumari -Marketing Management –Macmilan Business Books 5. Arunkumar, M Meenakshi- Marketing Management-Vikas Publication 6. Walkar, Boyd, Mullins And Larreche. "Marketing Strategy. A Decision Forced Approach", Tata Mcgraw Hill 4th Edition.
3	Websites	https://www.ama.org/ https://www.academyofindianmarketing.org/ (Academy of Indian Marketing (AIM) Management Institutions) https://www.ima-india.com/ (https://www.ima-india.com/) https://www.mrsi.co.in (Market Research Society Of India: MRSI) www.rmai.in/ (Rural Marketing Association of India: RMAI)
4	Journals	Indian journal of marketing Journal of digital marketing Journal of Marketing: SAGE Journals
5	Supplementary Reading	Economics Times, Brand Equity Business Standard, The Strategist.

6	Practical Component	1. Student will select any product of their choice and prepare a poster presentation on core concept of Marketing applicable for the product. 2. Student will select any industry of their choice, identify the major companies operating in industry and compare the segmentation strategy used by companies. 3. Group Activity: Students will develop a conceptual new product, identify the target market for the product and develop a marketing plan for the product. 4. Group Activity: Students will prepare an advertisement to promote the conceptual product developed to the target customer.

Semester	I	Total Credit	2
Course Code	AECC-101	Credit Pattern	L-26, T-4
Course Title	Professional Communication Skills		
Course Objectives			
1	To familiarize learners with the mechanics of communication.		
2	To develop students written expression of thought and build connections between content areas		
3	To develop students oral communication skills by a variety of communication activities, from informal discussion to formal presentation		
Unit Number	Contents		
1	Effective Business Communication: (15) ☐ Meaning & Definition, Role of communication in today’s business Basic Grammar and how to use in English Communication Personal Introductions, Facing Audience Verbal and Non-Verbal Communication ☐ Effective communication in Formal and Informal Environment ☐ Barriers to communication ☐ Measures to overcome barriers to communication Understand and use JoHari Window for self-development ☐ Non-verbal communication: Nonverbal Cues, Kinesics, Haptic and Proxemics Body language, Facial Expressions How to carry yourself professionally (grooming and dining etiquettes) ☐ Public Speaking		
2	Communication Technology: (15) ☐ Social Media Communication ☐ Email Writing & Professional Writing ☐ Presentations Skills ☐ Group Discussion ☐ Critical Thinking		
Practical Components: 1. To be well in Verbal and Non- verbal communication 2. Make students enact and analyze the non-verbal cues 3. Each student to give presentation of 15 minutes (this can be spread throughout the semester) and to be evaluated by the faculty 4. Each Student will give 10 minutes speech on given topic that will be evaluated by the Faculty			
Learning Resources			
1	Recommended Books	1. 1 Business Communication – Lesikar, Flatley, Rentz&Pande, 11/e, TMH, 2010 2. How to win Friends and Influence People by Dale Carnegie 3. Skill with People by Les Giblin	

		4. The Power of Communication: Skills to Build Trust, Inspire Loyalty, and Lead Effectively, by Helio Fred Garcia, 2012
2	Reference Books	1. Business Communication - Sehgal M. K & Khetrpal V, Excel BOOKS. 2.. Business Communication – Krizan, Merrier, Jones, 8/e, Cengage Learning, 2012.

Semester	I	Total Credit	4
Course Code	DSE 101(A)	Credit Pattern	L-45, T-8, P-7
Course Title	SERVICE SECTOR MANAGEMENT		
Course Objectives:			
1.	To understand the key elements in various Services Sector Management.		
2.	To know efficient and productive Management of Services Sector.		
3.	To Review Challenges For Service Sector Management.		
Course Outcome: The students will be able to			
1	Describe the concepts of service sector management		
2	Apply different theories and Concepts of Service Sector management		
3	Assess Challenges and Opportunities of Service Sector Management.		
Unit Number	Contents		
1	Introduction To Services Management : Stages of Development of Service Management, Reasons for growth of service sector, Different approaches for management of services, Nature , Scope and Importance of service management , Classification of services, Services marketing mix., Myths about of services management.		
2	Application of 7 P's of Services Management– Selected Industries : Management of Financial Services (Bank, Insurance) ,Management of Professional services ,(Consultancy, healthcare,) Management of Media Services (Advertising , Print media) Tourism and Travel Services Management (Hotel Tourism and Transportation industry) Personal Care services management, management of education services.		
3	Challenges For Services Management: Service Quality , Dimensions of Service Quality , Measuring service Quality , Service Gap Model , Principles of Service Quality, Importance of Service Quality Management, Benefits of Service Quality Initiative, Problems of Service Quality Control Globalization of Services Management : Challenges to Global services management, Prospects for Global services management.		
4	Strategic Services Management : Various strategic approaches to services management, PESTLE and strategic services management, SWOT Analysis for Service organization Government and private sector initiatives in creating , developing and promoting services management.		

Note:

1. Case studies/ field visits on each of the aspects mentioned in the syllabus need to be discussed.
2. Videos cassettes, CDS and documentary films exhibited.

Learning Resources

1	Reference books	1. Christopher H Lovelock, Services Marketing , Third edition.US:Prentice Hall International, 1996 2. Valarie Zeithaml Mary Jo Bitner Services Marketing: Integrating Customer Focus Across The Firm. Third edition, New Delhi: Tata Mcgraw Hill 2003. 3. Patankar V. Sanjay, Services Management. Delhi Himalaya Publishing House 1999. 4. S.M.Jha Services Marketing , Sixth edition New Delhi: Himalaya Publishing House 2003 5. Balchandran.S., Customer Driven Services Management. New Delhi : Response Books,1999.
2	E- Libraries	1. INFLIBNEThttp://nlist.inflibnet.ac.in 2. J-GATEhttp://jgateplus.com 3. EBSCOhttp://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same

Semester	I	Total Credit	4
Course Code	DSE 101 (B)	Credit Pattern	L-45, T-8, P-7
Course Title	FAMILY BUSINESS MANAGEMENT		
Course Objectives-			
1	To understand family business concept and its dynamics		
2	To understand the family governance issues and succession planning in family business.		
3	To understand challenges and issues involved in Family Business.		
Course Outcomes: Students will be able to;			
1.	Describe the Concepts of Family Business Management.		
2.	Apply appropriate family business strategies in family firms.		
3.	Analyze issues involved in the family businesses.		
4.	Evaluate the factors affecting Family Business Growth.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction of family business -Family Business, various types of family businesses, Uniqueness of Family Business, advantages of family businesses, Building businesses to last. Forms of organization, Continuing entrepreneurship to the next generation, issues involved in creating room at the top, Issues and challenges in family business, factors affecting family business.	L= 11	
		T= 2	P= 2
2	Family business management and Family Business Governance system: Responsibilities and Rights of the Family Shareholders in the family business, Building Family Values, family structure and composition, family communication style and role of every member. Gender and family business, Management of Human capital and financial capital. Family Business Governance system and its importance, role of Non-family members in the family businesses	L= 12	
		T= 2	P= 1
3	Planning strategy for family businesses: Parallel Planning	L= 11	

	Process, Small Vs. large family businesses, Role of professional management and family members in strategy development. Family reunion strategies, improving family business performance. Succession planning in family businesses-Qualities to be seen in successor, Valuation of the business, Conflict management and transition in family business.	T= 2	P= 2
4	Lessons learned from family businesses in India. Case studies of three family businesses along with the family history. Analysis of success and non-success factors. Drawbacks of family business and How to save family business from break up. Using break up for growth.	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Family Business Management- Dr. Mukesh Bhatia-Regal Publication 2. Family Business-Ernesto J. Poza -Cengage Learning
2	Reference books	1. Family Business in India: Dutta, Sudipt (1997) Response books, New Delhi 2. Business Legends, Gita Piramal, Viking New Delhi. 3. Strategic Planning for the Family Business-Randel S. Carlock and John L. Ward 4. Family Business -The essentials-Peter Leach 5. Indian Family business Mantras: by <u>Peter Leach</u> and Tatwamasi Dixit, Rupa Publications, New Delhi 6. Entrepreneurship and Small Business Enterprises: Poornima Charantimath Pearson Education 7. Entrepreneurial Development Dr. S.S.Khanka S.Chand 8. Strategic Alternatives for Family Business Houses By Srinivas Shirur Deep and Deep Publications, 01-Jan-2005 - Family corporations - 214 pages
3	Websites	1. www.isb.edu 2. www.ijsrm.in/v2-i8/17%20ijsrm.pdf 3. http://www.untag-smd.ac.id/files/Perpustakaan_Digital_1/FAMILY%20BUSINESS%20Handbook%20of%20Research%20on%20Family%20business.pdf
4	Journals	1. Business Today 2. FIIB Business Review (New Sub.) 3. Global Business Review (New Sub.) 4. Journal of Family Business Strategy 5. Family Business Review (FBR)
5	Supplementary Reading	1. Indian Family Businesses: their survival beyond three generations, working paper Indian School of Business, Hyderabad. 2. The Economic Times 3. Business Standard
6	Practical Component	1. Library assignment on identifying 3 family businesses with female successor and write detail about those lady successors. 2. Find out challenges faced by family business in India. 3. Case study discussion of three family businesses in India. 4. Group Activity –Study one family business nearby Kolhapur or within Kolhapur by actual visit ,take interview by discussion method and prepare report which includes about the business, family history, family genogram, family governance system ,family value system, and success factors of that business etc.

Semester	I	Total Credit	4
Course Code	DSE 101 (C)	Credit Pattern	L-45, T-8, P-7
Course Title	IT FOR MANAGERS		
Course Objectives			
1	To develop students' discipline to manage I.T resources in accordance with business needs		
2	To make use of database management system using SQL		
3	To develop the Skill for preparing an effective presentation		
4	To understand all aspects of E-Commerce		
Course Outcomes: Students will be able to;			
1	Analyze industry data using MS-Excel		
2	Develop an effective presentation using embedded software		
3	Determine enterprise IT architecture for different domain areas.		
4	Design conceptual models of a database using ER for real-life applications and also construct queries in Relational Algebra		
Unit Number	Contents		Number of Sessions
1	Elements of Modern GUI, Information systems In HR, IT In Marketing, IT In Finance, I.T . Infrastructure, Storage Management, Security Management, Detection of computer frauds, Business Automation, I.S. Choices, MS-Word for Business Analysis. Basic Database Concept	L= 11	
		T= 2	P= 2
2	Using Visual Aids In Business – Factors To Be Considered Before Creating A Presentation, visual media, Designing, setting up the room, advance delivery techniques, Question and answering techniques, Organizing and creating visuals, Personal appearance in Presentation, Creating Effective Presentations With PowerPoint Introduction To Oracle, Introduction To SQL, Oracle Data Type	L= 12	
		T= 2	P= 1
3	Relational Database Model, Characteristics Of RDBMS, Role, And Responsibilities Of DBA, Creating A Table, Updating A Contents Of A Table, Select Command, Range Searching, Pattern Matching, Modifying The Structure Of The Table, Deleting A Table, Grouping Data From A Table – Group By, Having Clause, Sorting Data In A Table – Order By Clause Computer Network, Network Topologies, e-Commerce– Introduction, Advantages of e-Commerce, Types of e-commerce, e-Governance	L= 11	
		T= 2	P= 2
4	Data Analysis And Business Module Through Excel – Using Excel Efficiency, Formatting Work Sheet, Naming Cells and Range, Advanced conditional Formatting, Data visualization using Sparklines and Excel Charts, Formula Functions and relative and absolute addressing, SUMIF, COUNT, COUNTIF, COUNTBLANK Functions, Amortization Tables, Basic Data Analysis – Sorting, Summarizing, Filtering, Validating Data, Subtotal	L=11	
		T= 2	P= 2

Note:

1. Students Will Have To Complete All Practical Assignments Based On Business Applications.
2. Students will have to complete all tutorials, assignments, and lab sessions for internal credits.

Learning Resources		
1	Text Books	1. Fundamentals of Computers – V. Rajaraman 2. Fundamentals of Computers – P.K Sinha 3. Database Management System – Silberchaltz 4. SQL In 21 Days. – BPB Publication 5. Excel 2007 Step by Step – Microsoft Press PHI
2	Reference books	1. Microsoft office 2007 - Schwartz 2. Information Technology for Management – Muthukumern – Oxford 3. SQL/ PL SQL Programming With Oracle – Ivan Bayross 4. Teach Yourself SQL – Schaum 5. SQL The Complete Reference – Groft Weinberg
3	Website	1. www.udemy.com 2. www.skillyouneed.com 3. www.forbase.com 4. https://nptel.ac.in/courses/106105175/6
4	Journals	1. IUP Journal of Management Research 2. Express Computer 3. International Journal of Computer Science & Information Technology 4. Education World 5. Asian Journal of Management Cases (New Sub.)
5	Supplementary Reading	1. Current affairs from newspapers (economic times, Times of India, and newsletters) 2. Beyond the MBA – Sameer Kamat
6	Practical Component	Field Visit to Industries to learn about office automation in industries. Hands-on experience through practical based on Ms-Excel, Word, and PowerPoint Seminar and presentation on a given topic

MBA - I

Semester - II

Semester	II	Total Credit	4
Course Code	CC 201	Credit Pattern	L-45, T-8, P-7
Course Title	ADVANCED EXCEL		

Course Objectives	
1	To taught approaches to the challenges of data analysis from a more holistic perspective
2	To provide more hands-on the relevant ideas of data analysis using advanced features of MS-Excel.
3	To understand the process of Business Data Analysis techniques using Advanced MS-Excel
Course Outcomes: Students will be able to;	
1	Construct formulas, including the use of built-in functions, and relative and absolute references.
2	Apply basic principles of laying out Excel models for decision making
3	Using Excel evaluate the financial profitability and effectiveness of investment projects and amortization

Unit Number	Contents	Number of Sessions	
1	Structure of the function: working with text function, manipulating text, extracting substring, Advanced lookup operations, excel data types, working with list, consolidate data, Formula Errors, If Function, What if Analysis- Goal Seek, Sensitivity Analysis- one and two-way data table, Import a database table	L= 11	
		T= 2	P= 2
2	using a query to screen external data, Data Mining using Advanced Pivot Table, Introduction to macros, Statistical tolls in excel, Excel Financial tolls- NPV, IRR, Create a macro using visual basic editor, Formula Errors, create a custom function, execute the task, display a message, request user input for a macro, assign macro to menu, run a macro for as a Workbook Open, Excel Modeling	L= 12	
		T= 2	P= 1
3	An introduction to VBA Macro, Variables in VBA, VBA IF Else Statement, VBA Excel- Cells, Range and Offset, With...End With statement, , Error Handling VBA, Debugging VBA Code, Select Case and LOOPS in VBA, VBA Arrays, VBA Events, VBA dialog box basics, Advanced Find and Replace, Advanced Report Development	L= 11	
		T= 2	P= 2
4	VBA- User Forms and Controls, Add a form control to a worksheet, customize form controls with macros, create a custom dialog box, and capture input from a custom dialog box, Validate input from a dialog box. Install Excel Add-ins, Advanced Filter, Scenario Manager, Solver, Integration case using Access and Excel, Creating Dashboard.	L=11	
		T= 2	P= 2

Note:

1. For this paper, there is no Theory exam. The evaluation will be based on the Practical Exam
2. Students will have to complete all tutorials, assignments, and lab sessions for internal credits.

Learning Resources		
1	Text Books	1. -Microsoft office 2007 - Schwartz 2. Excel 2007 Step by Step – Microsoft Press PHI 3. Data analysis and decision Making – Albright Winston 4. VBA and Macros Excel 200 – Bill Jelen, Tracy, Syrstad 5. Excel 2010 Bible- Jhon Walkenbeach 6. Pivot Table data crunching - Bill Delen 7. Excel 2010 Formulas - - Jhon Walkenbeach 8.
2	Reference books	1. Excel Dashboards and Reports -John Walkenbach and Michael J. Alexander 2. Microsoft Excel 2013 Building Data Models with PowerPivot -Alberto Ferrari and Marco Russo 3. Excel Charts - John Walkenbach
3	Website	1. www.tutorialspoint.com 2. https://support.microsoft.com/ www.examupdates.in 3. https://www.educba.com/advanced-excel-formulas-and-functions 4. https://chandoo.org/wp/excel-dashboards
4	Journals	1. International Journal of Statistics & Management Systems
6	Practical Component	1. Scenario-based particles based on each unit 2. Visiting any firm and understanding the implementation of advanced MS-Excel

Semester	II	Total Credit	2
Course Code	CC 202	Credit Pattern	22L+ 2 T + 6P
Course Title	LEGAL ASPECTS OF BUSINESS		
Course Objectives			
1	To enable students to appreciate the relevance of business law to individuals and businesses.		
2	To equip students with knowledge needed to manage business successfully from legal point of view.		
Course Outcomes: Students will be able to;			
	1. Explain the legal principles of Business Laws 2. To solve legal issues of Business.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	A) Indian Contract Act – 1872: Meaning and sources of law, Definition of contract and essential elements of a valid contract, Modes of discharge of contract, Remedies for breach of contract. B) The Sale of Goods Act – 1932: Definition of Sale, essentials of a valid Sale, Conditions and Warranties, caveat emptor, passing of property, Unpaid seller. C) Consumer Protection Act – 1986: Definition of consumer, complaint, complainant, unfair trade practice, Consumer dispute Redressal Agencies. (15)	L= 11	
		T=1	P=3
2	A) The Companies Act – 2013: Definition of company, kinds of companies, Memorandum of Association, Articles of Association, Boards of Directors: duties and powers, Meetings in a company, Winding up. B) Information Technology Act – 2008: Objectives of IT Act, Digital Signature, E-Governance, Controller, Certifying authority, offences and penalties. C) The Negotiable Instrument Act – 1881: Definition and characteristics of NI, kinds of Negotiable Instruments, Holder and holder in due course, Crossing of Cheque, Discharge of Negotiable Instruments. (15)	L= 11	
		T= 1	P= 3

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Mercantile Law by N. D. Kapoor 2. Business Law by S. S. Gulshan & G. K. Kapoor
2	Reference books	1. Business Law by Kuchhal M. C. 2. Business Law by K. R. Bulchandani
3	Websites	1. www.lawctopus.com 2. https://indiacorplaw.in
4	Journals	1. India Law Journal 2. Corporate Law reporter 3. India Business Law Journal- Delhi High Court 4. IOSR Journals
5	Supplementary Reading	1. Bare Acts on Consumer Protection Act 1986 2. Bare Act on Information Technology Act 2008
6	Practical Components	1. Case studies to be discussed on all the above topics 2. Seminars to be conducted on the above topics

Semester	II	Total Credit	2
Course Code	CC 203	Credit Pattern	22L+8TP
Course Title	RESEARCH METHODOLOGY		
Course Objectives			
1	To expose the students to various methods of research and enable them to understand the importance of research in management decision-making process.		
2	To Equip students with knowledge neededto Interpret The Research Findings.		
Course Outcomes: Students will be able to;			
Explain fundamental concepts of research methodology			
Develop Research Report			

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Research & Research Design Meaning, objectives & Motivation in research. Use of research in functional areas of Management. Types of research – Research process, relevance & scope of research in management. Research Design- Features of good Design, Types of Research Design, Sampling Design- Census vs. Sample, Characteristics of good sampling Design. Different types of sample Design. Measurement & scaling techniques- Errors in measurement. Test of sound measurement, scaling & Scale construction techniques for Attitude measurement.	L= 11	
		T=4	P=0
2	Methods of data collection, Analysis of Data & Report writing: Methods of data collection – Primary data –Collection of secondary data. Data Processing-Editing, Coding and Tabulation of data. Data analysis and Interpretation. Formats of Research Report, Methods and importance of Citation & bibliography in Research, Ethical issues in Research and plagiarism. Use of ICT tools for conducting of research.	L= 11	
		T= 4	P= 0

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources

1	Text Books	1. C.R. Kothari Research Methodology Methods And Techniques, Wiley Eastern. 2. G.C. Beri: Marketing Research Tata Mcgraw Hill Publishing Company Limited, New Delhi, 2000
2	Reference books	1. Goode And Hatt : Methods In Social Research, Mc-Graw Hill, Kogakusha Ltd., New York. 2. V.P. Michael: Research Methodology In Management, Himalaya Publishing House, Mumbai, 1985. 3. Kerlinger. Fred N.: Foundations Of Behaviourial Research, New York, Holt, Rinehart And Winston, 1973. 4. Donald S. Tull, Del I Hawkins: Marketing Research, Prentice Hall Of India, New Delhi, 1996. 5. Hans Raj: Theory And Practice In Social Research, Surjeet Publications, Delhi
3	Websites	1. https://www.spss-tutorials.com/basics/ 2. https://www.nielsen.com/in/en/
4	Journals	1. The Journal for Decision Makers - Vikalpa 2. Indian journal of marketing
5	Supplementary Reading	1. Journal of Business Research – Elsevier 2. https://www.iresearchservices.com 3. Economics Times, 4. Business Standard,
6	Practical Component	1. Students will actually conduct research and submit the research report using following guidelines. 2. Identify the research problem of your choice. 3. Formulate it into a Research title. 4. Collect at least five published research paper and conduct the review of that research paper. 5. Identify different variables that can be studied in the stated research problem. 6. Prepare at least five hypotheses on the research problem. 7. Suggest Research design to conduct the research on the problem. (Sampling Design and Data Collection method). 8. Collection, analysis and interpretation of data. 9. Writing a detail research report using citation and bibliography

Semester	II	Total Credit	4
Course Code	CC 204	Credit Pattern	L-45, T-7, P-8
Course Title	FINANCIAL MANAGEMENT		
Course Outcomes: The students will able to:			
1	Analyze working capital statement for decision making		
2	Apply cash management technique for cash control		
3	Evaluating investment proposals using capital budgeting technique.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Finance: Concept of Finance, scope and objectives of finance, Profit maximization vs. Wealth maximization, Functions of Finance Manager in Modern Age, Financial Analysis-Concepts and objectives, Tools of Financial Analysis: trend analysis, common size statements, comparative statements: Concepts of Ratio Analysis, Interpretation of Ratio Analysis, Advantages and Limitations of Ratio Analysis, Analysis and Interpretation of Financial Statement Using the techniques of Ratio Analysis.	L= 11	
		T= 2	P= 2
2	Working Capital Management: Concept of Gross and Net Working Capital, Use and Importance of Working Capital, Working Capital Cycle, Influencing Factors, Requirement of Working Capital.	L= 12	
		T= 1	P= 2
3	Cost of Capital & Capital Budgeting: Meaning; Factors Affecting Cost of Capital ,Measurement of Cost of Capital, Weighted Average Cost of Capital, Marginal Cost of Capital Concept and techniques of Capital Budgeting Decisions, Meaning and importance, Evaluation of different proposals under capital budgeting and use in decision making.	L= 11	
		T= 2	P= 2
4	Dividend Policy& Cash Management: Meaning, different theories of dividend policy, Forms of Dividends. Factoring, Facets of Cash Management, Motives for Holding Cash.	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Kapil Sheeba, –Financial Management" Pearson Publication House. 2. Jonathan Berk, Peter, "Financial Management" Pearson Publication House. 3. Sharan Vyaptakesh, –Fundamentals of Financial Management" Pearson Publication. 4. James C Van harne, –Financial Management & Policy" Pearson Publication House. 5. ICSI : Handbook on Mergers Amalgamations and takeovers.

2	Reference Books	1) Pandey I M - Financial Management (Vikas, 2004, 10th Ed.) 2) Van Horne - Financial Management and Policy (Prentice hall, 2003,12th Ed.) 3) Shapiro- Multinational Financial Management (Wiley Dreamtech) 4) Sheebakapil-Fundamental of financial management (Pearson) 5) Khan and Jain - Financial Management (Tata McGraw Hill, 3rd Ed.) 6) Prasanna Chandra - Fundamentals of Financial Management (TMH,2004) 7) Knott G - Financial Management (Palgrave, 2004) 8) Lawrence J.Gitman – Principles of Managerial Finance (Pearson Education, 2004) 9) R P Rustagi - Financial Management (Galgotia, 2000, 2nd reviseded.) 10) Khan & Jain, —Financial Managementll, Tata Mcgraw Hill, 6thedition. 11) R.P.Rustagi, —Financial Managementll, PHI,10th edition. 12) Maheshwari, Financial Accounting, Vikas Publishing 13) Ramchandran, Financial Accounting for Management, Tata McGraw
3	Websites	<u>INFLIBNET</u> http://nlist.inflibnet.ac.inJ-GATE http://jgateplus.com <u>EBSCO</u> http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4	Journals	• Prabhandan: Indian Journal of Management • IUP Journals • ICSI Journals • Finance India • Chartered Secretary • Indian Journal of Finance (New Sub.) • Journal of Accounting & Finance etc.
5	Supplementary Reading	• Financial Express • Economics Times • Business Standard • Times of India • Indian Express.
6	Practical Component	• Practical Problems on Ratio Analysis • Practical Problems on capital budgeting • Practical Problems on working capital • Financial statement analysis using Proves-Q • Companies Financial Reports & Corporate case studies.

Semester	II	Total Credit	4
Course Code	CC 205	Credit Pattern	L-45, T-8, P-7
Course Title	MANAGING HUMAN RESOURCE		
Course Objectives:			
1	To develop conceptual foundation about different HR systems.		
2	To enhance knowledge about the functions of HRM in an organization.		
3	To identify how to gain competitive advantage through managing people in the organization.		
Course Outcomes:- Students will be able to:			
1	Describe the different concepts in HRM.		
2	Perform the different processes in HRM like procurement, development, compensation and maintenance.		
3	Determine the solutions for HR related issues in the organization.		
4	Develop job analysis reports and training calendars.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Human Resource Management Concepts (15) Meaning, Objectives, Scope, Functions, Difference between personnel Management and Human Resource Management, Job Analysis, Job Description and Job Specification,, Concept of Human Resource Planning and its Process,	L= 11	
		T= 2	P= 2
2	Employee Procurement and Development (15) Recruitment: - Definition, Sources Of Recruitment, Employee Selection – Essential and Process. Concept of Placement and Orientation. Mobility of Employees:- Internal and External. Concept of training and development, difference between training and development, Methods of training and development.	L= 12	
		T= 2	P= 1
3	Performance and Career Management: (15) Career Planning- Benefits of Career Planning, Career Anchor, Career stages, Suggestions for effective career development. Basic Concepts In Performance Appraisal, Methods Of Performance Appraisal, Problems And Solution of Performance Appraisals	L= 11	
		T= 2	P= 2
4	Compensation Management and Maintenance of Human (15) Compensation Management:- Concept, Factors To Be Considered for Fixing Compensation , Components of compensation. Health, Safety and Welfare Provisions as per Factories Act 1948.	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources

1	Text Books	1. K. Ashwathappa, Human Resource Management. 2. Bohlander And Snell, Managing Human Resources 13th Edition, Thomson – South Western. 3. David A. Decenzo, Stephen P. Robbins, Personnel / HRM (3rd Edition), Prentice Hall Of India, New Delhi. 4. S. C. Srivastava ,Industrial Relations and Labour Laws, Vikas Publishing House
2	Reference books	1. Gary Dessler, Human Resource Management Prentice Hall Of India, New Delhi, Tenth Edition. 2. Mathis, Jackson, Tripathy, Human Resource Management: A South-Asian Perspective, Cengage Learning. 3. S. D. Punekar, Labour Welfare, Trade Unions and Industrial Relations By (13th Edition), Himalaya Publishing House. 4. N.D.Kapoor—Commercial Law—Sultan Chand publishers, New Delhi.
3	Websites	1. www.citehr.com 2. www.peoplematters.com 3. www.hrmguide.net
4	Journals	1. Indian Journal of Training and Development 2. Indian Journal of Human Development 3. Personnel Today 4. Manpower Journal
5	Supplementary Reading:	Articles available on topics on : www.hbr.com
6	Practical Component:	1. Visit an organization and prepare Job analysis report of any position. 2. Prepare advertisement as part of recruitment for given position. 3. Debate Pros and cons of different training methods

Semester	II	Total Credit	4
Course Code	CC 206	Credit Pattern	L-44, T-8, P-8
Course Title	OPERATIONS MANAGEMENT		

Course Objectives:	
1	To make students understand fundamental concepts Operations Management, including Production Planning & Control, Quality Management.
2	To familiarize the students with various techniques of facilities location, layout& supplychain management.
3	To introduce students to the modern concept & recent trends in Operations Management.

Course Outcomes: Students will be able to;	
1	Illustrate basic terms and concepts related to Production & Operations Management
2	Plan effective plant location & layout for the organization.
3	Solve numerical on selective Inventory Control Techniques to Identify the best suitable technique for organization.
4	Design a typical Supply Chain Model for a product / service and analyze its linkages with Customer Issues and Business Issues in a real world context.

Unit Number	Contents
1	AN OVERVIEW OF OPERATIONS MANAGEMENT Concept of Operations Management, Types of Production System, Objectives & Scope of Operations Management, Operations in Service Sector, Manufacturing Operations (Goods) versus Service Operations, Decisions in Operations Management. Recent Trends in Operations Management: JIT, Lean Management, I4.0
2	OPERATIONS SYSTEM DESIGN Facility Location: Importance, Procedure of Finalizing Location Decisions, Factors Affecting Location Decision. Facility Layout: Objectives, Importance, Types, Factors Influencing Plant Layout. Material Handling: Objectives, Scope, Principles of Material Handling, Classification of MH Equipment, Selection of MH Equipment.

3	PRODUCTION PLANNING & MATERIALS MANAGEMENT Meaning, Objectives, Functions of Production Planning & Control. Make or Buy Decision. Inventory Management: Meaning, Types of Inventory, Objectives of Inventory Management, Selective Inventory Control Techniques: EOQ, ABC, HML, FSN, VED, SOS, GOLF (Numerical Treatment on Basic EOQ Model, ABC)
4	SUPPLY CHAIN & QUALITY MANAGEMENT Logistics: Introduction, Logistics Activities, Types of Logistics, Service Logistics (3PL, 4PL). Supply Chain Management: Concept, Definition of SC, Evolution of SCM, Functions and Activities of SCM, Logistics Vs SC. Quality Management: Meaning & Definitions of Quality, Dimensions of Quality, Quality Control Tools, ISO Quality Certifications.

Note:

1. Case studies on each of the aspects mentioned in the syllabus need to be discussed.
2. Video cases and documentary films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Reference Books	1. Alan Muhjemenn, John Oakland And Keith Lockyer: Production And Operations Management, (Sixth Edition), Pearson Education 2. S.A.Chunawalla And D. R. Patel: Production And Operations Management, Himalaya Publishing House, Mumbai. 3. R. Paanneerselvam, Production And Operations Management, Eastern Economy Edition, New Delhi 4. John O McClain And L. Joseph Thomas: Operations Management- Production of Goods And Services, Prentice Hall India, New Delhi.
2	Practical Component	4. Role play to understand role of operations management department in organization 5. Studying Production process of any local manufacturing organization and classifying it into different types of production. 3. Identifying and visiting any local business to study its Location & Layout Strategies. 4. Library Exercise on Recent Trends in Operations Management undertaken by any one company of your choice.

Semester	II	Total Credit	2
Course Code	CC- 207	Credit Pattern	P - 30
Course Title	MANAGERIAL DECISIONS USING EXCEL		

Course Objectives:

1. To equip the students in decision making through operational research techniques.
2. Using Microsoft Excel to gain insight into Business Applications through good modeling and analysis practice.
3. Exposure of the student to various management packages like QM for Windows, Excel.

Course Outcomes: Students will be able to;

1. Analyze the data available for decision making.
2. Solve various managerial decision problems in functional areas of organization.
3. Evaluate the data collected for management decision and provide inference towards it

Unit Number	Contents	
1	Excel & Stand Alone Software Introduction to Excel, It's Use and Advantages, Developing Cost, Revenue, Profit Model, Break-Even Analysis. Introduction to Excel Add-ins – Data Analysis Tool Pack. Use of Analysis Toolpak in Descriptive Data Analysis Use Excel Toolpak in Correlation & Regression Analysis Stand Alone Software QM for Windows and Excel. Solving variety of Problems with the help of QM software and Interpreting Results. (Practical Oriented) Decision & Risk Analysis Introduction to Decision Theory. Decision making Without Probabilities – Optimistic Approach, Conservative Approach, MiniMax Regret Approach. Decision making With Probabilities – Expected Value of Perfect Information (EVPI). Risk Analysis, Sensitivity Analysis. Solving various case studies	P 15
2	Linear & Integer Programming Problem. Introduction to Linear Optimization Models, Structure of Linear Programming Models. Modeling Optimization Problems in Excel. Introduction to Premium Solver, Solving Models using Solver. Interpreting Reports generated by Solver. Solve Problems/Models of Linear & Integer Programming. Assignment & Transportation Problem. Introduction to Assignment Problem. Mathematical model of Assignment Problem. Solving Various Assignment Problems with Solver. Special cases in Assignment Problem. Introduction to Transportation Problem. Mathematical model of Transportation Problem. Unbalanced transportation problem, Maximization Case of TP. Solving Minimization - Maximization Transportation Problems with Solver. Special cases in Transportation Problem.	P 15

Learning Resources

1	Text Books	1. Quantitative Methods for Business Anderson Sweeney Williams 2. Management Science & Decision Technology Jeffrey D. Camm,James R. Evans 3. Quantitative Analysis For Management (QM) Barry Render, Ralph M.Stair Jr., Michael E. Hanna
2	Reference books	1. N.D. Vohra: Quantitative Techniques in Management (1990), TataMacGraw Hill 2. J.K. Sharma: Operations Research Problems and Solutions (2004), Macmillan India. 3. Hamdy A. Taha: Operations Research (2002), Pearson Education.
3	Journals	1. IUP Journal of Operations Management 2. Journal of Operations & Strategic Planning (New) 3. Vikalpa: The Journal for Decision Makers
4	Supplementary Reading	1. Glyn Davis & Branko Pecar, Business Statistics Using Excel, Oxford University Press. 2. Albright, Winston, Zappe, Decision Making Using Microsoft Excel,Cengage Learning.
5	Practical Component	1. Analyzing various decision situations and finding appropriate modelfor taking decisions. 2. Analyzing real managerial decision problems through various case studies/problems. 3. Identifying various managerial decision situations related to differentbusiness organization.

Semester	II	Total Credit	2
Course Code	AEC 201 (A)	Credit Pattern	L-22, T-4, P-4
Course Title	GERMAN		

Course Objectives	
1	To create an awareness about a foreign language
2	To understand the basic script of the language
3	To understand the culture and tradition of the country
Course Outcomes: Students will be able to;	
1	Use basic words & sentences in German Language
2	Develop basic vocabulary in German Language..

Syllabus:

Unit Number	Contents
1	Introduction (Name, country, living place, languages etc.), Asking the person's information, Greeting German Alphabets, Number (1-100), Giving and asking information related to number (age, telephone number, mobile number etc.) Difference between formal and informal, Personal Pronouns, verb conjugation Europa-Countries, capitates and languages Learning about the things in the class room, Definite, indefinite, negative articles Possessive Articles with the reference of all the nouns learnt in the last lecture Watching timing learning
2	Conjugation of strong verbs, Use of separable verbs in the sentences Routine activities, Questions related to time, (use of prepositions am, pm) Eating and drinking (Grocery, fruits, vegetables, beverages), Learning of vocabulary related to eating and drinking, Use of accusative in the sentence Learning the professions, Telling about and asking for the professions Ordinal number Verbs- haben, sein Revising the syllabus

Note:

1. There will not be any fixed text book for the above given syllabus
2. The extra notes will be provided to the students to complete the required syllabus.

Semester	II	Total Credit	2
Course Code	AEC 201(B)	Credit Pattern	L-22, T-4, P-4
Course Title	JAPANESE		

Course Objectives

1	To create an awareness about a foreign language
2	To understand the basic script of the language
3	To understand the culture and tradition of the country

Course Outcomes: Students will be able to;

1	Use basic words & sentences in Japanese Language
2	Develop basic vocabulary in Japanese Language..

Syllabus:

Unit Number	Contents
1	Introduction to Japan as country and language basics. Hiragana Script, Hiragana Activity, Katakana Script, Katakana Activity, Cultural Ethics and Survival Greetings, Classroom Language (Speaking), Number system, Vocab for Daily Uses, Grammar, Calendar Family Tree, Grammar
2	Self-Introduction, Introduction to Japanese Work-Culture Grammar, Introduction to -Kanji, Visit Restaurant' (Speaking), Visit guest's house' (Speaking), Shopping' (Speaking), Farewell

Learning Resources

1	Reference books	1. Living Language Ultimate Japanese Beginner-Intermediate 2. The Kanji Learner's Dictionary by Jack Halpern 3. Japanese from zero 1 and 2 by George Tromphy 4. Basic Japanese by Eriko Sato 5. Handbook of Japanese verbs by Taeko Kamiya 6. Japanese- English, English- Japanese Dictionary by Seigo Nakao 7. Modern Japanese vocabulary A Guide for 21st century student by Edward Trimell 8. Minna no Nihongo Series 9. Seiichi Makino Michio Tsutsui Books (Dictionary) 10. Genki An Integrated Course in Elementary Japanese 11. Improving your communication skills 12. 12Pod 101 series (audio)

Semester	II	Total Credit	2
Course Code	AEC 201 (C)	Credit Pattern	L-22, T-4, P-4
Course Title	FRENCH		

Course Objectives	
1	To create an awareness about a foreign language
2	To understand the basic script of the language
3	To understand the culture and tradition of the country
Course Outcomes: Students will be able to;	
1	Use basic words & sentences in French Language
2	Develop basic vocabulary in French Language.

Syllabus:

Unit Number	Contents
1	Introduction (Name, country, living place, languages etc.), Asking the person's information, Greetings and Salutations, French Alphabets, French Accents, Numbers (1-1000), Giving and asking information related to numbers (age, telephone number, mobile number etc.) Difference between formal and informal, Personal Pronouns, Verb conjugations Countries, nationalities, capitals and languages Articles, Prepositions, Colours Gender, Nouns and Pronouns, Singular Plural Possessive Pronouns, Family Vocabulary Telling Time, Days of the week, Months of the Year, Parts of the Day About France and Francophone Countries, French Culture and Etiquettes, French Monuments
2	Conjugation of ER, IR and RE verbs, Use verbs in the sentences Routine activities, Questions related to time, (use of prepositions am, pm) Eating and drinking (Grocery, fruits, vegetables, beverages), Learning of vocabulary related to eating and drinking, Use of accusative in the sentence Learning the professions, Telling about and asking for the professions Ordinal numbers Negative Sentences, Interrogatives Describing Oneself, Family Simple Letter Writing and Essay Writing Revising the syllabus

Note:

1. There will not be any fixed text book for the above given syllabus
2. The extra notes will be provided to the students to complete the required syllabus.

Learning Resources		
1	Reference books	1. Echo A1 Méthode de Français – Goyalsaab Publishers 2. Le Flambeau , Méthode de Français –Preeti Bhutani 3. Saison 1 Méthode de français- Alliance française 4. Larousse French Dictionary-W.R.Goyal

Semester	II	Total Credit	2
Course Code	AEC 201 (D)	Credit Pattern	L-22, T-4, P-4
Course Title	SELLING AND NEGOTIATION SKILLS		
Course Objectives			
Course Outcomes: Students will be able to;			
1	Describe new challenges and opportunity in selling and negotiation skills		
2	Apply & analyze different skills in Negotiation Process		

Unit Number	Contents	Number of Session	
1	Unit-I Nature & Role of Selling: Definition meaning Importance & objectives of Selling. Role in the context of organization – survival and growth. Types of Selling – Direct & Indirect selling, Missionary, Sales Team/group selling Merchandising, Telesales, Franchise selling, Consultative selling, factors Influencing on Personal Motivation on selling. Personal Selling Skills : Definition & Meaning, Personal Selling Process – Time & Contact management - Understanding buying motives of consumers before & Deal closing - Techniques of taking Follow up (To be supplemented by live exercises on personal selling)	L= 11	
		T= 2	P= 2
2	Unit-II Negotiation Skills and Process of Negotiation: What is negotiation, What makes a good negotiator, Process of Negotiation, Integrative Vs. Distributive Negotiation, Ground rules of effective Negotiation, BATNA (Best alternative a negotiated agreement).	L= 11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	. 1. Karen Mantyla – Consultative Sales Power 2. Virden J.Thornton- Prospecting the Key to Sales Success 3. .Michael R.Carrell & Christina Heavrin- Negotiating Essentials theory, Skills & Practices
2	Reference books	1. Kim Tasso – Selling Skills For Professionals – Viva Publication 2. David S. Hames- Negotiation – Sage Publication
4	Journals	1. Current Index of Management Marketing 2. Current Contents in Management Marketing.

Semester	III	Total Credit	2
Course Code	AEC 201 (G)	Credit Pattern	L7+T6+P17
Course Title	DIGITAL MARKETING		

Course Objectives	
1	To make students understand the traditional and new communication/marketing approaches to create competitive advantage in the Digital world.
2	To understand how the emergence of the technology will affect marketing, value creation, and consumer perceptions.
Course Outcomes: Students will be able to;	
1.	Explain emerging trends in digital marketing
2.	Demonstrate usage of digital marketing techniques.

Syllabus:

Unit Number	Contents	Number of Session	
1	Introduction to digital marketing: Introduction to digital marketing ; Internet Marketing, Digital Marketing Framework; Domains of Digital Marketing, affiliate marketing. Website creation & hosting : Websites – their types and classification; Use of CMS for website creation; Wordpress website creation :- adding posts, pages, making categories, adding menu, Creating commercial /business website, adding contact forms, linking website to social media	L= 4	
		T= 3	P= 8
2	Search Engine Optimization SEO –meaning, process and tools; affiliate marketing. Organic & inorganic search, search engine Marketing (SEM), Email marketing; Google Adds, Social Media marketing (Instagram & Facebook), creating Facebook page & Instagram page	L= 3	
		T= 3	P= 9

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Understanding Digital Marketing: Marketing Strategies for Engaging the Digital Generation by Damian Ryan, Calvin Jone. Kogan Page. 2. Fundamentals of Digital Marketing; Puneet Singh Bhatia; Pearson Publication 3. Marketing 2012 by William M. Pride, O. C. Ferrell, Cengage Learning.
2	Reference books	1. DigiMarketing: The Essential Guide to New Media and Digital Marketing by Kent Wertheim, Ian Fenwick 2. Web Analytics 2.0: The Art of Online Accountability and Science of Customer Centricity by Avinash Kaushik 3. Social Media Marketing : Tracey L. Tuten & Michael R. Solomon; adapted by Bikramjit Rishi; Sage Publication 4. Digital Transformation Strategies ; Theory & Practice; Srinivas R. Pingali, Shankar Prakash & Jyothi R. Korem: Sage Publication
3	Websites	Digital Marketing MOOC on Swayam. https://www.dmaglobal.com/ (Digital Marketing Association)
4	Journals	• Digital Marketing - The Marketing Journal • Journal of Digital & Social Media Marketing: Ingenta Connect Publication • Digital Marketing Journal – Medium
5	Supplementary Reading	Digital Marketing Association Google Digital Garage
6	Practical Component	1. Case study discussion on success stories of use of digital marketing mix 2. Assignment on preparing a digital marketing plan for small scale business. 3. Group Activity- Visit any service industry of your choice in Kolhapur and submit a plan on opportunities to use digital marketing technique to promote the business.

Semester	II	Total Credit	2
Course Code	AEC 201 (H)	Credit Pattern	L-22, T-4, P-4
Course Title	HUMAN VALUES		
	Objectives To study all dimensions of human being – thought, behaviour, work and realisation. • To study all levels of human living – individual, family, society, nature and existence.		
	Course outcome 1. A student of this course will relate and interpret existence of physical facility, relationship and right understanding. 2. A student of this course relate to the context of life and human being.		
	Knowing human values: Unit 1 To know universal values & its connection with human being. Rationality and rational values. Natural & verifiable values. All-encompassing values dimensions & levels. Right Understanding, Relationship and Physical Facility. Understanding the Human Being (As Co-existence of Self and Body). Understanding harmony in family.		
	Unit 2. Applying human values . Self-exploration & aspirations. Understanding harmony in nature & society. Harmony among the four orders, Physical, Bio , Animal ,Human order Understanding Ways of fulfilling them with human values		
	Instructions		
	References Books /websites HUMAN VALUES 1 Naagarazan, R.S. Textbook On Professional Ethics & Human Values.-- NewDelhi: New Age International (P) Ltd,Publisher's New Delhi, 2006. XIV; 137 P. ISBN : 8122418554. 174.4 NAA. 57443 2 Modi, Ishwar Human Values and Social Change (Essays in Honour of Dr. T.K.N. Unnithan).-- Jaipur: Rawat Publications, 2000.447 P. ISBN : 817033604X. 303.4 MOD.33829 3 Naagarazan, R.S. Textbook on Professional Ethics and Human Values.-- NewDelhi: New Age International Publishers, 2008. ix; 169 P. ISBN : 9788122419382. 174 NAA.		

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Changing Human Values and Leadership Styles.--
Jaipur:Printwell Publishers Distributors, 1999. 124
P.
ISBN : 8170444950.
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- 5 Raghavan, M.P.
Professional Ethics and Human Values.-- Chennai:
ScitechPublications (India) Pvt, Ltd., 2009. 1.1 to
5.36 P.
ISBN : 9788183710329.
174 RAG.
64379
- 6 Gogate, S.B.
Human Values and Professional Ethics.-- Noida:
VikasPublishing House Pvt, Ltd., 2011. xvi;
326 P.
ISBN : 9788125937135.
174 GOG.
64848
- 7 Gogate, S.B.
Human Values & Professional Ethics.-- Delhi:
VikasPublishing House Pvt, Ltd., 2011. xvi;
326 P.
ISBN : 9788125937135.
174 GOG.
65892
- 8 Bhola, Payal
Human Values & Professional Ethics.--
Agra-02:Y.K.Publishers,, 2011. 223 P.
ISBN : 9789380668062.
174 BHO/GAR.
67967
- 9 Saxena, Abhay
Human Values and Professional Ethics.-- New
Delhi: VayuEducation of India, 2010. x; 170 P.
ISBN : 9789380712437.
174.9
SAX/SHA.
68765

- 10 Govindarajan, M.
Professional Ethics and Human Values.--
Delhi: PHILearning Pvt, Ltd., 2013. xii; 132
P.
ISBN : 9788120348165.
174 GOV.
73239

- 11 Tripathi, A.N.
Human Values.-- New Delhi: New Age
International (P)Ltd., Publishers, 2012. xii; 327
P.
ISBN : 9788122425895.
303.
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57

- 12 Raghavan, M.P.
Professional Ethics and Human Values.-- Chennai:
ScitechPublications (India) Pvt, Ltd., 2013. 1.1 to
6.11 P.
ISBN : 9788183714990.
174 RAG.

- 13 Subramanian, R.
Professional Ethics: Includes Human Values.-- New
Delhi:Oxford University Press,, 2017. xiv; 457 P.
ISBN : 9780199475070.
174 SUB.

- 14 Shukla, Tanu
Human Values and Professional Ethics.-- New
Delhi:Cangage Learning, 2018. xviii; 411 P.
ISBN : 9789386858764.
170 SHU.

https://www.youtube.com/watch?v=kOJu1vj_BV&ab_channel=FearlessSoul

https://www.youtube.com/watch?v=a_GPginsMzY&ab_channel=DalaiLama

https://www.youtube.com/watch?v=Ug4JIJxLSmk&ab_channel=Vidya-mitra

<https://www.facebook.com/Gurgaon.KHT/videos/day-4-pt-1-aicte-sponsored-online-sttp-on-human-values-ethics-morals-behavioral-365086154477360/>

<http://kierandonaghy.com/seven-best-short-films-introduce-values/>

<https://www.youtube.com/watch?v=Kz>

[qGJmTMY&ab_channel=MindToolsVideo](https://www.youtube.com/watch?v=qGJmTMY&ab_channel=MindToolsVideo)

Semester	II	Total Credit	4
Course Code	DSE 201 (A)	Credit Pattern	L-45, T-7, P-8
Course Title	EVENT MANAGEMENT AND PUBLIC RELATIONS MANAGEMENT		

Course Objectives	
1	To Orient and Train Future Managers of the Event and PR industry requirements
2	To Develop Essential Skills For Planning, Organizing And Executing Any Corporate, Business, Social Personal ,Event Professionally
Course Outcomes: Students will be able to;	
1	Explain the role of event management in overall marketing activity of the company.
2	Evaluate opportunities of corporate branding and image building through event.

Syllabus:

Unit Number	Contents	Number of Session	
1	<u>Principles of Event Management</u> Review of changing Indian event industry .Historical Perspective, Introduction to Event Management, Size and Type of Event, Event Team, Code of Ethics) <u>Principles of Event Management</u> , Concept and Designing, Feasibility, Keys to Success, SWOT.	L= 11	
		T= 2	P= 2
2	Event Planning and Team Management Aim Of Event, Develop A Mission, Establishing Objectives, Event Proposal, Planning Tools, Protocols, Dress Codes, Staging, Staffing, Leadership, Traits And Characteristics decision making process in event industry.	L= 12	
		T= 1	P= 2
3	Event Marketing, Advertising with Public Relations Management Nature and Process of Marketing, Mix, Sponsorship, Image, Branding, Advertising Publicity PR, Nature and process of PR, Social media used in EM sect oral applications. Written And Oral Communication Of Event	L= 11	
		T= 2	P= 2
4	Event and Safety Security Logistics Accounting and Laws Finance Management	L=11	

	Security, Occupational, Safety, Crowd Management, Major Risks And Emergency Planning, Incident Reporting, Emergency Procedures, Fabrications, Light Sound And Vender Handling., Financial Control Systems, Relevant Legislations, Stake Holders and Official Bodies, Contracts	T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Lynn Van Der Wagen and Brenda R. Carlos- Event Management: For Tourism, Culture, Business, and Sporting Event- Pearson
2	Reference books	1. Swarup K. Goyal- Event Management – Adhyayan Publication 2. Sandhya A. Kale – Event Management - Gaurav Publication 3. Mittal, R- Eventmanagement In Leisure and Toursm- New Delhi, Rajat Publication 4. Mohan,S- Event Management and Public Relation- New Delhi, Enkay Publication House 5. Sharma,D- Event Planning and Management- New Delhi, Deep and Deep Publication
3	Websites	www.wizcraftworld.com www.360x.agency www.procarn.in
4	Journals	Current Index of Management Marketing Current Contents in Management MarketingJournal of Marketing Journal of Marketing Research India Journal of Marketing Vikalpa
5	Supplementary Reading	India Today- Magazine Trade Show News Network Event Marketer
6	Practical Component	1. Voluntarily participate in any three events and write a report on it. 2. Prepare event sponsorship proposal for any two actual event happening in Kolhapur. 3. Design event plan and executive it under the guidance of professional experts 4. Design ATL and BTL promotional activity of event

Semester	II	Total Credit	4
Course Code	DSE 201(B)	Credit Pattern	L-45, T-8, P-7
Course Title	BUSINESS COMMUNICATION		

Course Outcomes	
1	Draft appropriate communication for organisations.
2	Analyze written documents for business decision making
3	Prepare business reports

Syllabus:

Unit Number	Contents	Number of Sessions	
1	BASIC : Basic Communication Process and Contemporary trends in methods of communication at various types of organizations. Formats of communication in use. Introduction to concept of writing, basics of grammar, process of Writing,	L= 9	
		T= 2	P= 1
2	Types of written communication I – letters, memorandums, etc. Letter Writing – Formats of letters: block, semi block and modified block, Parts of letter. Types of letters – inquiry, reply to inquiry, order letters, acknowledgement and claim letters, sales letters, acceptance letter, thank you letters, credit letters. Email writing	L= 9	
		T= 1	P= 2
3	Types of written communication II minutes of meetings and reports Writing minutes of meeting, agenda, note taking Circular writing Reports, types of reports, parts of reports, do's and don'ts of report writing	L= 9	
		T= 2	P= 1
4	Using modern forms of communication, communication strategy. Corporate communication. Social media communication – website, social media messages, creation of catalogues, pamphlets, etc.	L= 9	
		T= 1	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.

Learning Resources		
1	Reference books	1. Management Communication, 3rd Edition Arthur H. Bell, Dayle M. Smith ,December 2009, ©2010 2. Guide to Managerial Communication: Pearson New International Edition PDF eBook 10th Edition <u>Mary Munter</u>, <u>Lynn Hamilton</u>.Aug 2013, PDF eBook ISBN13: 9781292034973.ISBN10: 1292034971] 3. Business Communication: Process and Product Mary EllenGuffey, Dana Loewy.Cengage Learning, 23-Aug-2010 - Business &Economics - 672 page
2	Text books	1. Kalia Shalini & Agrwal Shailaja, Business Communication, Wiley Publications, 2015 2. Urmila Rai & S M Rai, Business Communication , Himalaya Publishing House, 2018 3. Krizan , Merrier, Logan & Williams, effective Business communication,

		Cengage Learning, 2008 4. Kelly M Quintanilla & shawn t Wahl, Business & Professional Communication, Sage Publication, 2016 5. Kumar sanjay & Pushp Lata, communication Skill, Oxford University Press, 2015.
3	Practical	Writing letters, creating reports, pamphlets etc.

Semester	II	Total Credit	2
Course Code	GE 201(B)	Credit Pattern	L-23, T-07, P-0
Course Title	ENVIRONMENT AND DEVELOPMENT		

Course Objectives	
1	Understand the basics functional areas of Environment.
2	Define concepts of pollution, pollutants and natural resources
3	Explain historical development of struggle for Environmental protection

Course Outcomes: The students will able to	
1.	Differentiate biotic and abiotic components of ecosystem & able to understand concept of habitat, interactions in between different components & their Interrelationships.
2.	Develop ability of identification of local issues related with natural resources.
3.	Adopt various pollution control techniques.
4.	Able to know various environmental policies as well as National & International Organizations involved.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Ecological concept and Natural Resources : Introduction to Environmental Science as a multi-disciplinary, its scope and necessity; Concepts of Ecosystem and its Structure and Functions, Principles of Organism-environment relationship; Concept and classification of Natural Resources. Energy Resources, Renewable and Nonrenewable.	L= 11	
		T= 3	P=0
2	Environmental Pollution and Policy: Definition, sources and effects of water pollution. Definition, sources of air pollution, Effect of air pollution and acid rain, climate change, ozone depletion. Definition, Sources of noise pollution. Effect of noise pollution on human-beings. Noise control measures. Government policies in the protection and development of environment. National environmental policy. United Nations Environmental Programme (UNEP).	L= 12	
		T= 4	P= 0

Learning Resources		
1	Text Books	• A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 • A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 • A Text Book of Environmental Chemistry & Pollution Control, Dara, Chand • A Text Book of Ecology, S K Dubey, Dominant Publication • A Text Book of Ecology, Tyler Miller, Cengage Learning • A Text Book Environmental Studies, Chatawal & Sharma, HPH

		• A Text Book Environmental Science, Joshi & Joshi, APH • A Text Book of Environmental Studies, Nambiar, STP
2	Reference books	• Fundamentals of Ecology by Odum, E.P. • Desert Ecology by Ishwar Prakash • Ecology of Urban India by Pramod Singh • Ecology of Rural India by Singh • Ecology 2000 by Sir Edmand Hillary • Environmental Protection and the Laws by CN Mehta, 1991 • India's Forests, Myth and Reality by J.B. Lal 1989 • Legal aspects of Environmental Pollution and its Management by Ed. S.M. Ali, 1992 • Man – Nature and Environmental Law by GS Nathawal, S. Shastri and JP Vyyar, 1988 • International Environmental Policy: Emergence and Dimensions by LK Caldwell, 1990 • Lal's Commentaries on Water, Air Pollution Laws along with the Environmental (Protection) Act and Rules, 1986, 3rd Ed., 1992 Law Publisher – India • The Wildlife (Protection) Act, 1972 (with amendment-1991) • Our Common Future – WCED, 1991 • Universal's Environment and Pollution Law Manual by SK Mohanty, 1998. • A Guide to Implementation of the ISO 14000 Series on Environmental Management (Prentice Hall Ptr Environmental Management and Engineering Series) Har/Dskt Edition • Environmental manager's guide to ISO 14000 by <u>Bruce W Perry</u> • Implementing ISO 14000 Hardcover – November 1, 1996 by <u>TomTibor</u> (Author), <u>Ira Feldman</u> (Author) • Environmental Impact Assessment By: Larry W Canter. McGraw-Hill International Editions, 2nd Edn, New York (1996). • EIA Theory & Practice By: Peter Wathern. Unwin Hyman, London (1990) • Environmental Impact Assessment By: PR Trivedi. APH Publishing Corporation, New Delhi (2004) • EIA Practical Solutions to Recurrent Problems By: David P Lawrence. Wiley Interscience Publication (2003)
3	Websites	• https://www.toppr.com/guides/biology/ecosystem/biogeochemical-cycle/ • https://nca2014.globalchange.gov/report/sectors/biogeochemical-cycles • https://www.conserve-energy-future.com/what-is-environmental-science-and-its-components.php
4	Journals	• Current Science, ISSN No. 0011-3891 • Every Thing About Water • Down to Earth • Resonance, ISSN No. 0971-8044 • Journal of Earth System Science, ISSN No .2253-4126

5	Supplementary Reading	- National Geographic - Down to Earth, CSE
6	Practical Components	Field visit to study pond water & forest Ecosystem.

Semester	II	Total Credit	2
Course Code	GE 201(C)	Credit Pattern	L-20, T-5, P-5
Course Title	INDIAN SOCIAL PROBLEMS AND SOCIAL SERVICES		

Course Outcomes: Students will be able to	
1	Implement various social welfare services provided by GO's & NGO's
2	Asses the socio- economic factors and their implications of beneficiaries

Syllabus:

Unit Number	Contents	Number of Session	
1	Genesis and nature of various categories of Social Problems Definition of Social deviance and control, social disorganization and social problems, study and analysis of specifics social problems in relation to their nature, causative factors, extent and magnitude	L=10	
		T=3	P=2
2	An overview of major social problems, Juvenile delinquency, Crime, Prostitution, Dowry, AIDS, Beggary-Alcoholism and Drug Addition.	L=10	
		T=2	P=3

Learning Resources:		
1	Text Books	- Ahuja R 1993 Indian Social System-Rawat Publication New Delhi. - Akbar M.J. 1988 Riot After Tiot; Reports on caste & Communal Violence in India New Delhi : Penguin Books. - Bardhan P. 1984 the Political Economy of Development in India Delhi: Oxford Press. - Betelle A. 1966 Caste, Class and Power Bombay: Oxford Uni, Press. - Black C.E. 1966 The Dynamics of Modernization: A study in Comparative History New York: Harper & Row. - Madan G.R. 1985 Indian Social Problems Vol. I and II Allied Pub. Pvt. Ltd. Bombay.
2	Reference Books	- Coser I.A. 1956 The functions of Social Conflict Glencoc Illinois; Free Press. - Dahrendorf R. 1957 Class & Class ' Conflicts in an Industrialized Society London Routledge & Kengan Paul. - Dandekar V.M. 1977 Nature of Class Conflict in the Indian Society Bom Bharat Foundation. - Das A. & Nilkanth V. (Ed.) 1979 Agrarian Relations in India Delhi: Manohar.

3	Website	https://journals.sagepub.com www.ndpublisher.in www.ukessays.com www.open.edu7.sociology
4	Journals	International Journal of Social Science
		Indian Journal of Social Work
5	Supplementary reading	Encyclopedia in Social Work Vol-I & II Dictionary of Social Work
6	Practical Component	1. Visit to various NGO's 2. Concurrent Field Work 3. Case studies on various social problems 4. Organized Group discussion with problematic 5. Celebrate different days related to Social issues.

Semester	II	Total Credit	2
Course Code	GE 201(D)	Credit Pattern	L-30, T-8, P-7
Course Title	OFFICE AUTOMATION		
Course Objectives			
1	To teach basic concepts about computers and peripheral devices		
2	To explain the concept of computer languages and features of operating system		
3	To demonstrate use of Word processor for documentations.		
4	To explain effective use of presentation technology.		
5	To demonstrate use of spreadsheet for analysis of data		
Course Outcomes			
After completion of this course the student will be able to:			
1	Understand basic concepts and computer terminology.		
2	Use operating system features		
3	Prepare proper documents		
4	Prepare effective presentation		
5	Analyze any data with the help of spreadsheets.		

Unit Number	Contents		
1	Introduction to Computer, Concept of Operating System & Word Processing Definition of Computer, Characteristics & Limitations of Computer, Generations of Computer, Block Diagram of Computer, Concept of Hardware and Software, Operating System: Function of Operating System, Types of O.S., Features of Windows Operating System, Default Icons on Desktop – My Computer, Recycle Bin, My Network Places and Internet Explorer, Important Terms in Windows – Icons, Desktop, Folder, Star Button, Concept of Cut, Copy and Paste operation, Concept of Start Button MS-Word: Component of MS-Word window, Page-Setup in MS-Word, How of Print Document, Formatting the Document, Inserting & Formatting table, Inserting various objects in the document, Mail-Merge Utility, Cursor Control Keys,	L=3	
		T=1	P=0
2	Data Analysis Through Excel and Presentation Techniques.MS-Excel: Features Of Excel, Formatting Work Sheet- Formatting cell, conditional formatting, Lookup Functions, IF, SUM, SUMIF, SUMIFS, COUNT, COUNTIF, COUNTIFS, COUNTBLANK Functions, Function For Financial Decision – PV, FV, PMT, PPMT, IPMT Functions, TEXTFunctions, Date and Time Functions, Decision Making Using – GoalSeek, Scenario Manager, Basic Data Analysis – Sorting, Summarizing, Filtering, Validating Data, Summarizing Data With Chart, Describe Data Using Pivot Table, MS-PowerPoint: Factors To Be Considered Before Creating A Presentation, Creating and	L=3	
		T=1	P=0

		setting Presentations With PowerPoint, Applying Animation Effects, Slide Transition Effects, Views In PowerPoint, Use of Text, Images, ClipArt's, Hyperlinks, Video and Audio and Action Buttons In Presentation,		
Learning Resources				
1	Text books	1. Computer Fundamentals by P. K. Sinha & Priti Sinha, 5th edition, BPBpub. 2. Computer Fundamentals by Balguruswami 3. Microsoft Office 2013 All-In-One For Dummies By Peter Weverka, Wiley India Pvt Ltd, ISBN 10: 812654175X 4. Microsoft Office 2010 Digital Classroom by AGI Creative Team John Wiley & Sons; Pap/Psc edition (1 March 2011) ISBN-10: 0470577770 5. Operating System Concepts: International Student Version By <u>Silberschatz</u> Wiley; Eighth edition (20 April 2009) ISBN-10: 8126520515		
2	References	1. Microsoft Office 2010 Bible By <u>John Walkenbach</u> Wiley India Private Limited (28 September 2010) ISBN-10: 8126528397 2. Microsoft Windows Operating System Essentials By <u>Tom Carpenter</u> John Wiley & Sons (9 February 2012) ISBN- 10: 1118195523 3. Microsoft Windows Operating System Essentials By <u>Tom Carpenter</u> ISBN: 978-1-118-19552-9 4. Fundamentals Of Computers 5Ed By V. Rajaraman Publisher: Phi Learning Pvt Ltd ISBN 10: 8120340114 5.		

Semester	II	Total Credit	2
Course Code	GE 201(E)	Credit Pattern	L-22, T-04, P-04
Course Title	PRINCIPLES OF ECONOMICS		

Course Outcomes: Students will be able to	
1	Understand the micro variables and approach for microeconomic issues
2	Identify the macro variables in any economy

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit 1: Demand & Supply Analysis Basic Economic Concepts, Definitions of Economics, Branches or approaches to economics, Basic Economic Problems or the Central problems of a Society, Law of Diminishing Marginal Utility, Demand curve derivation and its properties, Elasticity of Demand Supply Analysis- Meaning, Types and Determinants of Supply, Supply Function and Law of Supply, Elasticities of Supply and Their Utilities.	L= 11	
		T= 2	P= 2
2	Unit 2. Market Theory & N.I Types of Markets, Perfect Competition, Monopoly, Monopolistic Competition, Oligopoly: Features and price determination Basic Concepts of NI, GDP, GNP, etc, Estimation of NI and Difficulties, Circular Flow of Aggregate Income and Expenditure	L= 11	
		T= 2	P= 2

Learning Resources		
1	Text Books	- Paul Samuelson(2000), Economics, McGraw Hill Inc, New Delhi, Ahuja H.L, Modern Micro Economics, S Chand & Co., New Delhi, - Koutsyanis (2015), Micro Economics. - Jhingan M.L., Microeconomics, Vrinda Publications, New Delhi. - C.Rangarajan and Dholokia B.H, Principles of Macro Economics, Tata Mcgraw-Hill, New Delhi, (1998). - Blanchard, Olivier (2000), <i>Macroeconomics</i>, Prentice Hall.
2	Reference books	- Robert S Pindyck and Daniel L Rubinfeld(2017), Microeconomics, Pearson Education Ltd., UP - Mankwin Gregory N(2016), Principles of Microeconomics, Cengage Learning India Pvt. Ltd. - Hal R Varian(2015), Microeconomic analysis, Viva Books Pvt. Ltd., New Delhi - Mankiw Gregory (2002), Macroeconomics, 5th Edition, Worth Publishers - Ahuja H L(2015), Macroeconomics Theory And Policy, 19th Edition, SCHAND - Gupta G S(2011), Keynesian and Post Keynesian

3	Websites	www.rbi.org.in www.mygov.gov.in www.cmie.com
4	Journals	Arth Samwad Economic and Political Weekly Indian-Economic-Journal Journal-of Indian-School-of-Political-Economy
5	Supplementary Reading	Economics Survey Union Budget of India
6	Practical Component	1. Conduct consumer survey and identify consumer utility for various consumer goods 2. Review reference books on economics, and prepare a report on linear, cubic and quadratic production functions 3. Visit various service vendors and prepare a report on price determining factors and challenges for their products in the market

MBA - II
Semester - III

Semester	III	Total Credit	4
Course Code	CC 301	Credit Pattern	L-45, T-8, P-7
Course Title	STRATEGIC MANAGEMENT		

Course Objectives	
1	To familiarize students with strategic management process in detail
2	To analyze organizations for strategy formulation and implementation.
3	To design various types of strategies for a given industry.
4	To evaluate an industry using various tools and techniques for strategic choice.
5	To be able to evaluate strategies implemented.
Course Outcomes Students should be able to:	
1	Discuss various concepts and theories in the field of strategic management.
2	Formulate various types of strategies for a given industry.
3	Evaluate an industry using various tools and techniques for strategic choice.
4	Analyse various strategies implemented.
5	Propose strategic approaches to managing a business successfully in a global context

Unit Number	Contents	Number of Sessions	
1	Introduction to Strategic Management & Environment (15) Introduction to Concept of Strategy and Strategic management; Importance of Strategy, Levels of Strategy, Strategic Management Process – Different Phases; Strategic Intent - Mission, Vision, Objectives. Formulation of strategic intent, methods of Goal Setting – MBO, Balance scorecard approach, Critical success Factors and Key Performance Indicators. Concept and Characteristics of environment, Components of external environment/ External Analysis, PESTEL Framework,	L=11	
		T=2	P=2
2	Internal Analysis & Corporate Strategies (15) Industry Analysis – Porter’s Five Forces Model, Internal Analysis – Resource Based view VIRO analysis, Approaches to internal analysis – SWOT Analysis, Value Chain Analysis, Financial Analysis Corporate strategies - stability strategy, expansion strategy, retrenchment strategy, combination strategy. Mergers and Acquisitions, Strategic alliances & Joint ventures – concept, reasons, Entry strategies for global market	L=12	
		T=2	P=1
3	Business Strategies & strategic Analysis (15) Business level strategy - cost leadership, Focus strategy Differentiation – Types – Advantages and Disadvantages – +`Blue, Red & Purple Ocean Strategy. Strategic choice process, corporate portfolio analysis, BCG Matrix, TOWS Matrix, GE nine cell , strategic choice at business level –Industry analysis, Competitor analysis. Strategic CSR.	L=11	
		T=2	P=2
4	Strategic Issues, (15)	L=11	

	Strategic implementation issues - McKinsey's 7s framework approaches to resource allocation, structural issues – functional, product/ divisional, SBU structure, matrix, network, free form , behavioural issues- Strategic leadership, Corporate strategic communication. Strategic evaluation-importance, participant's barriers and requirements. Types of strategic control-operational control-Strategic process of Evaluation, techniques of strategic evaluation and control. Sustainability & strategic management- concept of TBL, Environmental & Social Impacts on Society Contemporary issues in strategic management.	T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Azahar Kazmi, "Strategic Management & Business Policy"- Fourth Edition, The Mc-graw Hill Edition. 2. P.Subba Roa, "Business Policy & Strategic Management", Himalaya Publication
2	Reference books	1. Hoskisson, Hitt, Ireland & Manikuttu, "Strategic Management"- A south Asian Perspective Cengage Learning, 9th Edition. 2. Thomas wheelen, J David Hunger, Alan N Hofman & Charles E Banford, "Concepts in Strategic Management and Business Policy" Pearson Publication , 2018 3. Pradip Kumar Sinha, "Mergers, Acquisitions and Corporate Restructuring," Himalaya Publishing House, 2019. 4. R M Shrivasta, "Management Policy and Strategic Management" Himalaya Publishing House,2014. 5. Fred R David & Forest R David, Strategic Management " ,Pearson Publication , 16th Edition, 2017
3	Websites	www.mckinsey.com/in
4	Journals	1. The Indian Journal of Indian Management & strategy 2. IUP Journal of Business strategy.
5	Supplementary reading	Business Standard : The Strategist supplement Economic Times
6	Practical component	Case studies and assignments on real life situations

Semester	IV	Total Credit	4
Course Code	CC 302	Credit Pattern	L-45, T-8, P-7
Course Title	INTERNATIONAL BUSINESS		
Course Objectives:			
Course Outcomes: At the end of the course students will be able to			
1.	Compare international business environment and domestic business environment.		
2.	Evaluate various entry strategies of the international business firms.		
3.	Explain various operations involved in conducting international Business.		
4.	Describe various International Trade Organizations.		
5.	Utilize the facilities of DGFT during their Business or work.		
Unit Number	Contents	Number of Sessions	
1	Introduction to International Business, differences between international business and domestic business, Globalization and its impact on the world trade. Analysis of International business environment (Demographic, Legal, Political, Economic and Geographical) Analysis of Social and Cultural difference among trading partners. (Overview of Culture in European, North American, South American, Arabic and Asian countries). Role of Technology in building Global Competitiveness. Case Studies: Quiz on current developments in the world trade	L=11	
		T=1	P=3
2	International Trade Theories and their applications- Mercantilism, Absolute Advantage, Comparative Advantage, H-O Model, Leontief Paradox, Product life cycle, Porters Model and its implications. Government influence on Trade- Protectionism, Tariff and non-tariff barriers. Global Business Strategies- Exporting, licensing and franchising, Joint Ventures and Turnkey Projects, FDI and managing Business through Subsidiaries. Field work: Visit to exporting units. guest lecture of IB manager	L=11	
		T=1	P=3
3	International Operations and Location Decisions- Location Determination Process, Managing Global Value chain- Global Value Chain Analysis: Concepts and Approaches. Managing International Business Logistics, Managing Global Sourcing and outsourcing, its advantages and disadvantages, challenges and opportunities for Indian Businesses. Understanding international payment methods and mechanism.	L=11	
		T=1	P=3
4	International Trade Institutions and agreements: WTO: History of trade agreements, Role of WTO in promoting world trade, Various International Trade Agreements and Trade Blocks and trade Unions. International Trade Relations, Geopolitical issues and its impact on International businesses. Directorate General of Foreign Trade- Role and services offered.	L=11	
		T=1	P=3

Learning Resources		
1	Text Books	International Business Environment' By Francis Cherunilam : HPH 2.'International Business (Text and Cases) By P. Subba Rao: HPH International Business: Competing in the Global Marketplace 13 th Edition By Charles Hill
2	Reference books	1.'International Business Environments and Operations By John D. Daniels, Lee H Radebaugh, Daniel Sullivan and Prashant Salwan Pearson. 2.'Essentials of Business Environemnt' By K.Aswathappa Himalaya Publishing house.
3	Websites	http://repiica.iica.int/docs/B0733i/B0733i.pdf http://www.cerem-review.eu/wp-content/uploads/2017/06/cerem_1_2_art_08.pdf Environmental Effects of International Trade - Harvard University https://www.hks.harvard.edu/fs/jfrankel/EnviroTradeStockholm . https://www.dgft.gov.in/CP/
4	Journals	World Development Reports of various years : World bank Journal of International Business Studies: MacMillan Journal of Foreign Trade Review : Sage Publication United States International Trade Commission Journal of International Commerce and Economics April 2019
5	Supplementary Reading	Economic Times Business Standard World Economic forum reports
6	Practical Component	Study World Map and Identify Locations of various countries Study trends of Commodities traded by India during Last 5 years with given list of countries. (USA, EU, JAPAN, SOUTH AFRICA, BRAZIL etc.)

Semester	III	Total Credit	4
Course Code	CC Spl-I-304 (A)	Credit Pattern	L-45, T-6, P-9
Course Title	INTERNATIONAL TRADE AND FINANCE		

Course Outcomes: The students will able to learn:	
1	Assess foreign exchange rates and develop export trade document.
2	Apply international finance terms in trade.
3	Evaluate foreign direct investment design.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to International Finance: concept and Principals of International Trade – Theories of International Trade – Comparative Advantage – Absolute Advantage – Hecksher Ohlin Theory – Imitation Gap Theory- Barriers to International Trade –Indian EXIM Policy. Concepts of DTAA and International Taxation.	L=11	
		T=2	P=2
2	Export and Import Finance: Special need for Finance in International Trade – Terms used in International Trade (FOB, CIF, etc.,) – Payment Terms – Letters of Credit and its types – Pre Shipment and Post Shipment Finance – Forfaiting – Deferred Payment Terms – EXIM Bank – ECGC and its schemes – Import	L=12	
		T=1	P=2

	Licensing – Financing methods for import of Capital goods.		
3	Foreign Exchange Markets: Spot Prices and Forward Prices – Factors influencing Exchange rates – The effects of Exchange rates in Foreign Trade – Tools for hedging against Exchange rate variations –Forward, Futures and Currency options -Determination of Foreign Exchange rate and Forecasting – Law of one price – PPP theory – Interest Rate Parity – Exchange rate Forecasting. Two way and three way arbitrage, arbitrage with IRP and PPP.	L=11	
		T=1	P=3
4	Determination and Forecasting of Exchange Rates: Currency risk management – Measuring and Managing Transaction – Translation and Economic Exposure. International Cash Management – Cost Of Capital for Foreign Direct Investment – Designing Global Capital Structure. Foreign Direct Investment – Cost and Benefits. Derivatives in International Trade Important Export trade documents, like Proforma, commercial, legalized, invoice, packaging list, bills of leading, airway bill, insurance policy, export incentive, duty exemptions, export house.	L=11	
		T=2	P=2

Note: Practical Problems to be covered on

1. Calculation Of Foreign Exchange Rates – Forward Rates, Premium Discounts on forward rates
1. Simple problems on pay off from Derivatives
2. Arbitrage

Learning Resources			
1	Text Books	1. Kapil Sheeba, "Financial Management" Pearson Publication House. 2. Jonathan Berk, Peter, "Financial Management" Pearson Publication House. 3. Sharan Vyuptakesh, "Fundamentals of Financial Management" Pearson Publication. 4. James C Van harne, "Financial Management & Policy" Pearson Publication House. 5. ICSI: Handbook on Mergers Amalgamations and takeovers.	
2	Reference Books	1. Jeevanandam .C, INTERNATIONAL BUSINESS, M/s Sultan & Chand, Delhi, 2008 2. Sumathi Varma, INTERNATIONAL BUSINESS, Ane, Delhi, 2010 3. P.G. Apte – "Global Business Finance" – Tata McGraw Hills. 4. P.G. Apte – "International Finance Management" – Tata McGraw Hill 5. V.K. Bhalla – "International Financial Management" – Prentice Hall 6. Khan & Jain, "Financial Management", Tata Mcgraw Hill, 6 th edition. 7. R.P.Rustagi, "Financial Management", PHI, 10 th edition.	
3	Websites	<u>INFLIBNET</u> http://nlist.inflibnet.ac.in <u>J-GATE</u> http://jgateplus.com <u>EBSCO</u> http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same	
4	Journals	• Prabhandan: Indian Journal of Management • IUP Journals • ICSI Journals • Finance India • Indian Journal of Finance (New Sub.) • Journal of Accounting & Finance etc.	
5	Supplementary Reading	• Financial Express • Economics Times • Business Standard • Times of India • Indian Express.	
6	Practical Component	• Calculation Of Foreign Exchange Rates – Forward Rates, Premium Discounts on forward rates • Simple problems on pay off from Derivatives • Problems on arbitrage • Financial statement analysis using Proves-IQ	

		• Companies Financial Reports & Corporate case studies.

Semester	III	Total Credit	4
Course Code	CC Spl-I-304 (B)	Credit Pattern	L-45, T-8, P-7
Course Title	EMPLOYEE RELATIONS AND LABOUR LAW		
Course Outcomes : Students will be able to			
1	discuss the concepts and theories to manage Industrial Relations and Labor Laws		
2	apply the concept of industrial relations, legal issues to the system in which it operates.		
3	solve industrial Related legal issues used in the resolution of conflict.		
4	critically evaluate emerging trends in employment law		
5	design the collective bargaining process, including preparation, negotiation, and settlement.		

Unit Number	Contents	Number of Sessions	
1	Industrial Relations and Trade Union:- Industrial Relations:- Concepts of Industrial Relations, Approaches to Industrial Relations, Role of Employer/Management, Trade Union and Government in Industrial Relations. Trade Union:- Purpose, Functions of trade unions, Problems of Trade unions, Measures to strengthen Trade Union, Recognition of Trade Union as Collective Bargaining Agent. Trade Union Act (1926), Standing Order	L=11	
		T=2	P=2
2	Collective Bargaining and Industrial Unrest: - Collective Bargaining:- Structure, Procedure and machinery for collective bargaining process, Negotiation Skills, Productivity Bargaining, emerging trends in collective bargaining. Industrial Unrest: Causes of Industrial Disputes, Prevention and Settlement of Industrial Disputes- Relevant Provisions related to Industrial Disputes Act, 1947. Purpose and procedure of disciplinary action, Meaning and scope of misconduct	L=12	
		T=2	P=1
3	Positive Employee Relations and Labour Laws:- Building positive employee relations, Participative Management:- Workers participation in Management (statutory and Non statutory Schemes), VRS:- Reason and acceptance of VRS, Management of Sexual Harassment and Sexual Harassment Laws in India,	L=11	
		T=2	P=2
4	Social Security for emotional Bondage:- Social Securities in India, ESI Act 1948, Workmen's Compensation Act, Maternity Benefit Act 1961, The employees Provident Fund Act, 1952. Payment of Gratuity Act 1972, and Management of Contract Labour.	L=11	
		T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Mamoria C.B, Dynamics of Industrial relations, Himalaya Publishing House 2. A.M.Sarma, Industrial Relations, Himalaya Publishing House

2	Reference books	1. ArunMonappa, Industrial Relations, Tata McGraw Hill Publishing Company Ltd. 2. Dhyani S.N., Industrial Relations Systems, Printwell Publishers 3. John Fossum, Labour Relations, Development, Structure, Process, McGraw Hill Education 4. Michael R Carrell and Christina Heavrin, Labour Relations and Collective Bargaining- Private and Public Sectors, Merrill 5. PromodVerma, Management of Industrial relations, Reading and Cases, Oxford and IBH Publications 6. Singh B.D., Industrial Relations –Emerging Paradigms, Excel Books 7. Srivastava S.C., Industrial Relations and Labour Laws, Vikas Publishing House Pvt. Ltd.,
3	Websites	1. www.ILO.org 2. www.labour.nic.in 3. www.labourstat.org
4	Journals	1. Indian Journal of Industrial Relations 2. Indian Labour Journal 3. Current Labour Report 4. Labour Law Journal
5	Supplementary Reading	1. Labour Law Journals 2. https://www.thehindubusinessline.com/opinion/the-recognition-question-in-trade-union-law-ep/article24988006.ece 3. https://www.labourfile.org/rights-of-women.aspx/
6	Practical Component	1. Role Play exercise on Collective Bargaining 2. Arrange a debate in the classroom about rights and duties of trade union of workers. 3. Students will draft a standing order for certification for a newly started garments factory employing 300 workers. 4. Students will draft a charge sheet about a list of allegations reported against an employee of an organization. 5. Interaction with Trade Union Leaders to identify challenges faced by them and present in class. 6. Students will prepare a policy document to prevent sexual harassment at workplace. 7. Study the procedure including the documents required for PF and Gratuity benefit. 8. Role Play on Economic Coercion

Semester	III	Total Credit	4
Course Code	CC Spl-I-304 (C)	Credit Pattern	L-45, T-8, P-7
Course Title	BUYING BEHAVIOUR PAPER-I		
Course Objectives			
1	Students will understand concepts related to buying behavior.		
2	Students will become familiar with marketing and CRM strategies.		
Course Outcomes: Students will be able to;			
1	Explain the conceptual aspects of buying behaviour		
2	Analyse factors influencing on buying behaviour		
3	Design Marketing and CRM strategies.		
4	Evaluate marketing situations		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit I Consumer Behaviour I Meaning, Nature, scope, concepts. Buying Process, Models of consumer Behaviour, Organisational buying behaviour. Values & Lifestyle marketing.	L=11	
		T=2	P=2
2	Unit II Consumer Behaviour II Influences of consumer behaviour on individual, group. Perception, Motivation & Involvement. Attitude & change learning, memory. Personality & self-concept reference group influence, dynamics. Family Life cycle & its influence. Cultural influences.	L=12	
		T=2	P=1
3	unit III Strategic Marketing - Strategic marketing management concept & overview, process, formulation & implementation, sustainable competitive advantages. Types of competitive strategies adopted by goods & services in market environment. Strategies for declining markets	L=11	
		T=2	P=2
4	Unit IV Customer Relationship Management Customer relationship management importance, process, framework, customer relationship marketing, Creating value for customers, customer loyalty, Customer life time Value, use of technology in CRM.	L=11	
		T=2	P=2

Learning Resources		
1	Text Books	1. Kotler Philip , “Marketing Management 17th Edition 2015”, Prentice Hall of India, New Delhi.

		2 . Saxena Rajan , “Marketing Management 2nd Edition 2002”, Tata McGraw Hill, New Delhi
2	Reference books	1. V.S.Ramaswamy and S.Namakumari -Marketing Management –Macmillan Business Books 2. Arunkumar, M Meenakshi - Marketing Management-Vikas Publication 3. Walkar, Boyd, Mullins And Larreche . "Marketing Strategy. A Decision Forced Approach", Tata Mcgraw Hill 4th Edition. 4. Kaushal H. , “Case Study Solutions in Marketing”, McMillan India 2001 5. Baker, M. (2000) Marketing Management and Strategy, 3rd edition, Macmillan Business 6 S.A. Chunawalla “Commentary on Consumer behaviour” 7. Nair Suja - R Consumer Behaviour Text & Cases 8. Consumer Protection Law & practices Niraj Kumar & Nair suja 4 th Edition
4	Journals	1. Indian Journal of Marketing 2. IUP Journal of Business Strategy 3. Current Contents In Management Marketing
5	Supplementary Reading	1.The Economic Times 2. Business Standard
6	Practical Component	1. Group Activity based on all units 2. Conduct different business games relevant to subject 3. Take Case discussion on all units 4. Show videos of subject related concepts to the students 5. Library assignment on all units

Semester	III	Total Credit	4
Course Code	CC Spl-I-304 (D)	Credit Pattern	L-44, T-8, P-8
Course Title	AGRI-BUSINESS, ENTREPRENEURSHIP AND COOPERATIVES		
Course Out Comes: Students will be able to			
1	Explain the concepts of Agribusiness, Entrepreneurship and Cooperatives		
2	Make use of conceptual framework for the development of cooperatives and agribusiness sector		
3	Evaluate the role of national and international institutions in agribusiness sector		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Agri Business, Agro Based Industries and Issues: Salient features of Rural Economy, The concept of Agri-business, Historical Review, Scope, Nature of Successful Agri-business, Specific Areas of Agri Business, Agro Based Industries and Issues: New paradigms in Horticulture, Floriculture and Food Processing sectors, Indian Exports and Agriculture Sector: Export oriented Agribusiness, Technology and Agri-Business: Role and Importance, Bio-Technology and Agri-business, Socioeconomic and Environmental Impact of agribusiness	L=11	
		T=2	P=2
2	International Organizations and Agri-Business: WTO and FAO: Functions and Role in Agriculture, Trade liberalization and World Trade Agreements relating to Agriculture Trade, Agreement on Agriculture (AOA), Import and Export Procedures for agri products, Strategies of Exports for agro based industries, Services under Agri-business, Recent trends in Agri Business Management	L=11	
		T=2	P=2
3	Introduction to Agripreneurship: Concepts of Rural Entrepreneurship, Endowment Of Skill Sets And Natural Resources In Rural India, Aims Of Rural Entrepreneurship, Barriers To Entrepreneurship In Rural India, Process Of Entrepreneurship, Rural Applicability, Skills Requires To Succeed, Government Training Programs And Public Private Partnership, ICT and Rural Entrepreneurship	L=11	
		T=2	P=2
4	Co-Operation and Agri Business (6) Introduction to Cooperatives: Definition, Evolution, Principles and Benefits Of Co-Operatives, Cooperatives and Other forms of Business Enterprises, Co- and their Economic And Legal Differences, The organizational structure of Co-Operatives: Functions, Role, Powers And Responsibilities of entities, Outline Of Good Co-Operative Management, Co-Operative Structure and Development in Farming: Credit, Marketing, Dairy Etc. - Problems and Prospects, Development of Sugar and Dairy Co-Operatives in Maharashtra	L=11	
		T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Smitha Diwase, Agri-Business Management, 2. Subhash W. Bhawe: "Agri Business Management in India" 1997. 3. B.S. Harsha: "Agri Business" 2003. 4. B.S. Mathur: "Co-Operation". Sahitya Bhavan, Agra, 1999. 5. V. Sharda: "The Theory of Co-Operation". Himalaya Publishing, 1999.
2	Reference books	1. RD. Bedi: "Theory, History and Practice of Co-Operation". Loyal Books Depot, 1997. 2. R Rajagopalan (Ed), "Rediscovering Co-Operation Vol I,II And III", Irma, Anand, 1996.

		3. P.R Dubhashi, "Principles and Philosophy of Co-Operation". VMNICM, Pune, 1970. 4. B.P. Sinha: "Co-Operation: Instrument for Socio .Economic Justice". Himalaya Publishing House, New Delhi, 1992. 5. Divakar Jha: "A Perspective on Co-Operative Marketing" Vikas Publishing House, New Delhi, 1997.
3	Websites	• www.agriculture.gov.in/ • www.manage.gov.in • www.ica.coop/ • www.apeda.gov.in
4	Journals	• Journal of Agribusiness • Vikalpa • Journal of Cooperative • Sugar cooperatives
5	Supplementary Reading	Kurukshetra journal MANAGE study material
6	Practical Component	• Prepare report on agriculture sector development in the country in the recent times by visiting to Ministry of Agriculture and Forestry department website and recent Economic Survey of the country • Visit any agro-based unit nearby, have an implant training for one year and submit a 3 page report • Interact with any one Farming Cooperative society and make a SWOT analysis for it • Make a video case study of an agripreneur of your area

Semester	III	Total Credit	4
Course Code	CC-Spl-I-304 (E)	Credit Pattern	L-44, T-8, P-8
Course Title	LOGISTICS & SUPPLY CHAIN MANAGEMENT		
Course Objectives:			
1	To make students understand fundamental concepts and principles of Logistics & Supply Chain Management.		
2	To make students understand supply chain metrics & decisions, supply chain coordination & planning.		
3	To introduce students to Global Supply Chain Operations.		

Course Outcomes: Students will be able to;	
1	Describe the concepts of Logistics and Supply Chain Management
2	Apply appropriate Logistics and Supply Chain Distribution Strategies in the organization
3	Analyze Supply Chain Planning and Coordination strategies
4	Evaluate the recent developments in Logistics and Supply Chain Management.

Unit Number	Contents	Number of Sessions	
1	INTRODUCTION TO LOGISTICS MANAGEMENT Definition & Meaning of Logistics, Principles of Logistics, Activities of Logistics: Transportation, Warehousing, Packaging, Material Handling. Need of Collaborative Relationship & Alliance, Principles, Advantages, Disadvantages. Logistics Outsourcing Activities: 3PL+4PL=7PL, Risk of Outsourcing.	L=11	
		T=2	P=2
2	ESSENTIALS OF SUPPLY CHAIN MANAGEMENT Concept & Definition of Supply Chain Flows in SCM, Drivers of SCM, Push/Pull SCM, SC Network Decisions. Distribution Strategies: Milk Runs, Hub & Spoke System, Cross Docking, Pool Distribution, Direct Shipping. Bullwhip Effect, Measuring Performance of SCM, Recent Trends In Supply Chain: Agile Supply Chain, Green Supply Chain, Lean Supply Chain, E-Supply Chain, E-Commerce Supply Chain.	L=11	
		T=2	P=2
3	SUPPLY CHAIN PLANNING & COORDINATION Demand Planning & Forecasting, Characteristics of Forecasting, Forecasting Methods, Time Series Forecasting, Moving Averages, Forecasting Errors, Collaborative Planning Forecasting Replenishment (CPFR). Mass Customization: Drivers, Characteristics, Methods, Advantages, Disadvantages. (Numerical Treatment on Forecasting).	L=11	
		T=2	P=2
4	GLOBAL SUPPLY CHAIN OPERATIONS Global SCM, International Transportation: Sea, Air, Land, Multi-Modal Transportation. Containerization, International Documentation for Import/Export, Customs Clearance Formalities, Packaging for Export, International Logistics Infrastructure, Electronic Data Interchange (EDI). Supply Chain IT Framework: Barcoding & Scanning, RFID, EPOS, Image Processing, GPRS.	L=11	
		T=2	P=2

Note:

1. Case studies on each of the aspects mentioned in the syllabus need to be discussed.
2. Video cases and documentary films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Janat Shah, Supply Chain Management 2/e: Text and Cases, Pearson Education India 2. S. L. Ganapathi & Nandi, Logistics Management, Oxford University Press 3. Sunil Chopra, Peter Meindl & D. V. Karla, Supply Chain Management, Sixth edition by Pearson Education India 4. Satish C Ailawadi & Rakesh P Singh, Logistics Management, Prentice Hall India Learning Private Limited
2	Reference books	1. David Simchi-Levi, Philip Kaminsky, Designing and Managing the Supply Chain 3rd Edition, McGraw Hill Education 2. Donald J. Bowerox, Tata Mcgrawhill Edition “Supply Chain Logistic Management” 3. N. Chandrasekaran, Supply Chain Management: Process, System & Practice, Oxford University Press
3	Websites	1. https://www.managementstudyguide.com/supply-chain-management-articles.htm 2. https://lecturenotes.in/materials/17685-note-of-supply-chain-management-by-dr-panneerselvam-s 3. https://www.aims.education/study-online/supply-chain-management-notes/ 4. http://www.eiilmuniversity.co.in/downloads/Import-Export-Management.pdf 5. http://www.pondiuni.edu.in/storage/dde/downloads/ibiii_exim.pdf
4	Journals	1. Supply Chain Management: An International Journal - Emerald Insight 2. Journal of Supply Chain Management - Wiley Online Library 3. Supply Chain Management Journal 4. The International Journal of Logistics Management - Emerald Insight
5	Supplementary Reading	1. Ram Singh, International Trade Logistics, Oxford University Press 2. C. Rama Gopal, Export Import Procedures - Documentation and Logistics, New Age International Publishers 3. https://www.managementstudyguide.com/import-and-export-management-articles.htm
6	Practical Component	1. Studying Supply Chain Distribution of any organization and classifying it according to different types of strategies which are studied and justifying why such system is chosen by that organization. 2. Identifying and visiting local business to study its Logistics & Supply Chain Strategies. 3. Group Discussion on Recent Trends in Supply Chain Management. 4. Identifying and visiting local Import/ Export Agency to study International Documentation required for Import/Export.

Semester	III	Total Credit	4
Course Code	CC-Spl-I-304 (F)	Credit Pattern	L-45, T-8, P-7
Course Title	KNOWLEDGE MANAGEMENT AND ERP SYSTEM		
Course Objectives			
1	To understand the concept and importance of Knowledge Management.		
2	To know to enumerate knowledge management systems in the organization.		
3	To make sense of the technical aspects of ERP systems		
Course Outcomes: Students will be able to;			
1	scribe the Knowledge management strategies.		
2	scuss KM, learning organizations, intellectual capital, and related terminologies in clear terms and understand the role of knowledge management in organizations.		
3	itate the different technologies used in ERP.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction and KM: Knowledge management. Types of Knowledge, Importance of KM, KM Roles and responsibilities, KM in Information Technology, KM In Indian Software organization, KM In Banking Sector, KM Life Cycle, The Zack KM Life Cycle, The Bukowitz, and Williams KM Cycle, The Wiig KM Cycle, major theoretical KM models: Von Krog and ROS, Nonaka, and Takeuchi, Choo sense-making KM model, Wig model,	L= 11	
		T= 2	P= 2
2	Knowledge Capture and codification: Tacit Knowledge Capture at individual and group level Explicit Knowledge codification, Knowledge Transfer, in the e-World, KM Tools and Knowledge Portals-Brain Storming, Learning and idea capture, peer Assist, Storytelling, Taxonomy, knowledge Base, Voice and VOIP, Knowledge Portal, Managing Knowledge Worker, Knowledge audit, KM team	L= 12	
		T= 2	P= 1
3	ERP Meaning and Nature: Concept and benefits of ERP, Characteristics of ERP, Requirements for effective ERP implementation, ERP Implementation methodology, ERP Related technologies-BPR, Supply Chain Management; Role of Suppliers, Consultants, and users; Contact with Vendors, Consultants, and Employees, ERP implementation life, ERP Market Place- SAP AG, people Soft, Baan Company	L= 11	
		T= 2	P= 2
4	Business Modules of ERP: ERP Softwares-e-CRM,e-HRM,e-Logistics, e-Documents, Manufacturing Module, Finance Module, HR module, Material Management, Sales and distribution Quality Management Module. Future directions in ERP, evaluation of ERP	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	6. Knowledge Leadership – Steven Cavaleri and Sharon 7. Seivert with Lee W. 8. Knowledge management – SheldaDebowski, Wiley India, 2007
2	Reference books	6. Knowledge Management in Theory and Practice- KimizDalkir – 7. Butterworth- Heinemann 2011

3	Website	1. http://www.providersedge.com/docs/km_articles 2. /km and corporate culture.pdf www.rdocumentation.org 3. https://www.bitpipe.com/tlist/Knowledge-Management.html. 4. https://www.kmslh.com/blog/knowledge-management-portal-best-tool-for-knowledge-management
4	Journals	1. Journal of knowledge management 2. International Journal of Knowledge Management Studies 3. Knowledge Management Research & Practice

Semester	III	Total Credit	2
Course Code	CC 305	Credit Pattern	L-22, T-4, P-4
Course Title	LEAN MANAGEMENT		

Course Objectives:	
1	To make students knowledgeable of historical development, theoretical aspects and practical applications of Lean Management.
2	To introduce students to tools and techniques of Lean Management

Course Outcomes: Students will be able to;	
1	Discuss basic terms and concepts related to Lean Management.
2	Explain tools and techniques in Lean Management.
3	Maximize the productivity of the organization by minimizing the waste.
4	Propose Lean Implementation plan for any organization.

Note:

1. Case studies on each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video Cases and Documentary Films relating to the syllabus to be exhibited in the class.

Unit Number	Contents
1	INTRODUCTION TO LEAN MANAGEMENT Meaning & Definition of Lean Management, Evolution of Lean Management, Types of Wastes, Objectives of Lean Management, Lean Principles & Philosophies, Hurdles in Lean Implementation
2	TECHNIQUES FOR LEAN IMPLEMENTATION 5S, Visual Controls, Root Cause Analysis, Poka-Yoke, Quick Changeover, Theory of Constraints, Value Stream Mapping.

Learning Resources		
1	Reference Books	1. Lonnie Wilson, “How to Implement Lean Manufacturing”, Mc-Graw Hill Publications” 2. Lean Manufacturing: Principles, Tools and Methods, Bosch Rexroth Corporation, 2009
2	Practical Component	1. Role play to understand concept of lean management & it’s importance in Organization. 2. To identify and visit any local organization to study potential of lean Implementation. 3. Identify and visiting any local business for implementing one of the lean Tools. 4. Library Exercise on lean management tools undertaken by any one company Of your choice.

Semester	III	Total Credit	4
Course Code	DSE Spl-I- 301(A)	Credit Pattern	L-45, T-6, P-9
Course Title	DIRECT & INDIRECT TAXES		
Course Outcomes: The students will able to learn			
1	Assess applicability of GST liability		
2	Analyze deductions from gross total income		
3	Evaluate the income under different heads and taxability		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Direct Tax Basics: Important definitions, incomes exempt under section 10, deductions from gross total income under chapter VI A, Statutory duties covered upon the assesses regarding payment of taxes, Filling of income tax, Maintenance of accounts and audit of accounts, acceptance and repayment of deposits, TDS and TCS.	L=11	
		T=2	P=2
2	Computation of Income: Computation of Income under different heads of income namely- salary, house property. Profits and gains from business and profession, Income from other sources , Presumptive Taxation	L=12	
		T=1	P=2
3	Introduction to GST: Existing Indirect Tax Structure in India, need of Constitutional Ammendment, Important Definitions under GST and Concept of Supply, Interstate and Intrastate Supply, Levy of GST.	L=11	
		T=1	P=3
4	GST Time and Place of Supply and Concept of Input Tax Credit (ITC): Time and Value of Supply, Place of Supply, Concept of Input Tax Credit, Blocked Credit, Input Tax Credit Rules, Transitional Provision.	L=11	
		T=2	P=2

Note:

1. Case studies on each of the aspects mentioned in the syllabus need to be discussed
2. Videos cassettes, CDS and documentary films exhibited

Learning Resources		
1	Text Books	1. Kapil Sheeba, "Financial Management" Pearson Publication House. 2. Jonathan Berk, Peter, "Financial Management" Pearson Publication House. 3. Sharan Vyuptakesh, "Fundamentals of Financial Management" Pearson Publication. 4. James C Van harne, "Financial Management & Policy" Pearson Publication House. 5. ICSI: Handbook on Mergers Amalgamations and takeovers.
2	Reference Books	1. Vinodkumar Singhania - Students Guide to Income Tax 2. Prasad Bhagawati – Incom Tax Law & Practice 3. Mehotra H.C. – Income Tax Law 4. Dinkar Pagare – Income Tax Law and Practice 5. Ahuja & Gupta – Systemetice Approach to Income Tax
3	Websites	<u>INFLIBNET</u> http://nlist.inflibnet.ac.in <u>J-GATE</u> http://jgateplus.com <u>EBSCO</u> http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac

		*For INFLIBNET individual usernames and passwords are already given. Use the same
4	Journals	• Prabhandan: Indian Journal of Management • IUP Journals • ICSI Journals • Finance India • Indian Journal of Finance (New Sub.) • Journal of Accounting & Finance etc.
5	Supplementary Reading	• Financial Express • Economics Times • Business Standard • Times of India • Indian Express.
6	Practical Component	• Practical Problems on income tax efilling • Practical Problems on income from salaries • Practical Problems on TDS • Practical Problems on e-filling of GST • Financial statement analysis using Proves-IQ • Companies Financial Reports & Corporate case studies.

Semester	III	Total Credit	4
Course Code	DSE Spl-I 301(B)	Credit Pattern	L-45, T-8, P-7
Course Title	STRATEGIC AND INTERNATIONAL HUMAN RESOURCE MANAGEMENT		
Course Objectives			
1	To provide theoretical foundations of Strategic HRM to students and understand the role of HR as Strategic Partner.		
2	To equip students with the knowledge of HRM Practices in Multi-National Companies.		
3	To enable students to understand the implications of culture on HR Practices in MNCs.		
4	To enable students to understand HR interventions in successful cross-border Mergers and Acquisitions.		
Course Outcomes : Students will be able to :-			
1	scribe the different concepts in Strategic and International HRM.		
2	erpret the implications of culture on HR Practices		
3	aluate different HR interventions in cross-border mergers and acquisitions.		
4.	apt HR management practices in changing International scenario.		

Unit Number	Contents	Number of Sessions	
1	Meaning, Scope, definition of SHRM, Difference between SHRM and HRM, 5 P Model of SHRM, Linking HR Strategy with Business Strategy. Globalization: Drivers of Globalization, Effects of Globalization on HRM, Model of International HRM, Differences and similarities between DHRM and IHRM.	L=11	
		T=2	P=2
2	Multi-culturalism, Cultural pre-dispositions- Ethno-centralism –Polycentricism – Regio-centricism- Geocentricism. Geert Hofstede's cultural dimensions, Communication, Leadership and Motivation	L=12	
		T=2	P=1

	across cultures, Issues in International Human Resource Planning, International Staffing: Linking staffing with stage of MNC		
3	Identifying Potential expatriate, selection criteria of Expatriates, Challenges faced by Expatriates, Women Expatriates, Challenges and Advantages of Women expats, Process and Importance of Cross-cultural training, Emerging Trends. Issues in Performance Appraisal in International context.	L=11	
		T=2	P=2
4	Compensation Management: Objectives, Components of International compensation package. Cross-border Mergers and Acquisitions: Motives, HR Interventions in cross border Mergers and acquisitions. Repatriation: Reasons, Process, benefits from returnees, Challenges of re-entry, Tips for successful repatriation.	L=11	
		T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. <u>Michael Armstrong, Angela Baron</u>, Strategic HRM: The Key to Improved Business Performance 2. Charles Greer, Strategic HRM- Pearson Education. 3. Monir H. Tayeb, International Human Resource Management - Oxford University Press, 2005.
2	Reference books	1. Anne-Wil Harzing, Ashly Pennington, International HRMSage South Asia Edition. 2. <u>Julia Connell, Stephen Teo, Strategic HRM: Contemporary Issues in the Asia Pacific Region.</u> 3. A. Ghanekar, Strategic HRM, Everest Publishing House.
3	Websites	www.shrm.com www.hbr.com www.citehr.com
4	Journals	1. The Journal of Indian Management and Strategy 2. Human Capital 3. Manpower Journal 4. AIMS Journal of Management
5	Supplementary Reading	1. online.wsj.com 2. Magazines like Outlook, Time, India today
6	Practical component	1. Debate on the cultural predispositions multinational context will be conducted in class 2. Write an essay on “The challenges I would face if my company sends to on foreign assignment”. 3. Case based on Recruitment strategy will be discussed and students will be asked to design and present the recruitment strategy for a given company.

Semester	III	Total Credit	4
Course Code	DSE Spl-I-301(C)	Credit Pattern	L-45, T-8, P-7
Course Title	MARKETING SECTORS MM II		
Course Objectives:			
1	Students will become familiar with various aspects of marketing sectors		
2	Students will understand and implement concepts in marketing across different sectors.		
3	Students will understand the process of formulating marketing plans for various sectors.		
Course Outcomes: Students will be able to;			
1	Describe conceptual aspects of sectorial markets.		
2	Apply concepts for marketing of services & products across sectors		
3	Design marketing plans across various marketing sectors		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit I Industrial Marketing Introduction to concepts & history of Industrial marketing. Difference between consumer and industrial /business marketing. Organisational Markets & Marketing. STP & Marketing Mix for Industrial marketing. Blurring between B2B & B2C.Competitive tendering, bidding. Non tendering purchase, Solution selling. Advancing internet & marketing.	L=11	
		T=2	P=2
2	Unit II Services Marketing Concepts, Meaning, characteristics of services. Difference between service & product. Marketing of professional services. Marketing Mix, Service quality concept & model. Capacity & demand Management. Retaining customers. 7 Ps of services marketing. Sectorial application collectively & specifically to top ten sectors in India including health, education, financial services.	L=12	
		T=2	P=1
3	Unit III International Marketing Nature, scope, challenges in international markets. Concepts & theories overview. Trade distortions & market Barriers in world market environment. Financial environment & decisions. Current trends in import & export in international marketing. Process, procedure, opportunities from Indian & Asian perspectives. Global fact sheet for marketer	L=11	
		T=2	P=2
		L=11	

4	Unit IV Retail Management Introduction to retail markets & marketing overview. Retail evolution in India. Retail formats, marketing mix decisions. Franchising, Retail merchandise, objectives, process & factors affecting store layout & marketing mix decisions. Visual merchandising. Merchandising mix decision. Display, lighting, exhibition. Store location its evaluation. Build Lease or Buy decision.	T=2	P=2

Learning Resources			
1	Text Books	1. Industrial Marketing – Hill, Alexander, Cross 2. Industrial Marketing – P K Ghosh 3. Industrial Marketing-Krishna K. Havaladar Tata McGraw-Hill 4 .Strategic marketing: Text and Cases Paperback - <u>S Shajahan</u>	
2	Reference Books	1. Services Marketing People, Technology, Strategy – C. Lovelock, Jwartz, J. chatterjee – Pearson Education 2. Services Marketing – Integrating Customer Focus Across The Firm – V. Ieithaml, D DGremmler, M J Bitner, A Pandit – Tata McGraw Hill 3. Services Marketing – Dr. S. Shajahan – Himalaya Publishing House 4. “Services Marketing The Indian Experience” - Ravi Shankar 5. “ Business To Business Marketing” – Analysis And Practice In A Dynamic Environment - Thomson South Western- Vitale Giglierano 6. Strategic Marketing – Michel Porter 7. Strategic Marketing- 8 th Edition -Tata Mcgraw Hill 8. Strategic Market Management: Global Perspectives, <u>Damien Mcloughlin David A. Aaker</u> 9. MR Czinkota and I A Rankainen - International Marketing - Cengage Learning 10. U.C. Mathur- International Marketing Management : Text and Cases- Sage Publication 11. Francis Cherunilam - International Marketing- Text and Cases – Himalaya Publishing House 12. Ramaswam and Namakumari - Marketing Management – Macmillan Publication 13. B K Chaterji - Marketing Management : A Finance Emphasis– A Jaico Book	

3	Journals	1.Indian Journal of Marketing 2.IUP Journal of Business Strategy 3.Current Contents In Management Marketing
5	Supplementary Reading	1.The Economic Times 2.Business Standard
6	Practical Component	1. Group Activity based on all the units 2. Case study discussion on all units relevant concept of the subject 3. Take other activities i.e. - Business Games etc. 4. Library assignment on all units

Semester	III	Total Credit	4
Course Code	DSE Spl-I-301(D)	Credit Pattern	L-44, T-8, P-8
Course Title	RURAL AND AGRICULTURAL MARKETING		

Course Out Comes: Students will be able to

1	Discuss the features of rural and urban markets for consumer goods and non-consumer goods
2	Apply rural marketing research techniques to understand the rural consumer behavior
3	Adapt marketing strategies suitable to rural markets and agricultural inputs

Syllabus:

Unit Number	Contents	Number of Sessions	
man1	Introduction To Rural Marketing: Definition, Classification And Characteristics Of Rural Markets; Problems And Constraints In Rural Marketing, Marketing Functions and Services: Marketing Institutions And Marketing Support Services, Rural Consumer: Classification and profile;	L=11	
		T=2	P=2
2	Rural Consumer Behavior and Rural Marketing Research: Rural Consumer Buying Behavior – Major Forces Influencing Rural Consumer Behavior, Rural Segmentation, Market Targeting and Positioning and Procedures for Rural Markets In India; Rural Marketing Research: Introduction, significance and sources of information, key decisions, approaches and tools of market research- case for innovation, participatory approaches, innovative tools, rural vs urban marketing research, rural research business, challenges in rural marketing research	L=11	
		T=2	P=2
3	Rural Marketing Planning And Strategy Development: Planning For Rural Marketing – Strategic Issues In Rural Marketing. Rural Product Strategy – Rural Pricing Strategy – Rural Distribution Strategy – Rural Promotion Strategy, Introduction to PRA Technique and its importance in Rural Marketing	L=11	
		T=2	P=2
4	Agricultural Marketing In India: Marketing Of Agricultural Products,	L=11	

	Agricultural Marketing Process - Markets And Classification Of Markets – Methods Of Sales – Marketing Agencies, Introduction to Krishi Mandis and New FMCG Act, Marketing of Agricultural Inputs – Fertilizers; Seeds; Agrochemicals; Tractors; Farm Equipment; Irrigation Equipment and Animal Feed	T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. Ramkishan Y. (2004): New Perspectives In Rural And Agricultural Marketing, Jaico Publishing House, 2nd Edition 2. Pradip Kashyap, Rural Marketing, Pearson Publications 3. Badi and Badi: Rural and Agricultural Marketing, Himalya Publications
2	Reference books	1. Sarwade W.K. (2006) : Agricultural Marketing – Vatsala Baliram Prakashan Kendra, Mumbai 2. Abbott J.C.; Makcham J.P. (1992): Agricultural Economics and Marketing in the Tropics. Elbs with Longman, 2nd Edition. 3. Singh G.N.; Singh D.S., Singh R.I: Agricultural Marketing in India, Analysis Planning and Development. Chugh Publications, Allahabad 4. Rajagopal (1993): Indian Rural Marketing, Rawat Publication. 5. Kamat M.; Krishnamurty R. (2003): Rural Marketing, Himalaya 6. Habeeb-ur-Rahman K.S. (2003), Rural Marketing In India; Himalaya 7. Gopalswamy T.P. (2006): Rural Marketing: Environment Problems and Strategies, Vikas 8. Verma S.B; Jiloka S.K. (2006): Rural Agricultural and Marketing, Deep and Deep
3	Websites	www.agriculture.gov.in/ www.manage.gov.in www.ica.coop/ www.apeda.gov.in
4	Journals	Rural Marketing Indian Journal of Marketing Vikalpa
5	Supplementary Reading	www.martrural .com www.ibef.org http://www.ruralrddc.com.au/
6	Practical Component	• Make a visit to any one of the marketing service agency identify their activities • Organize PRA Activity at your/ any village and identify the marketing opportunities for various product categories • Prepare a questionnaire and conduct rural market research for various product categories and submit analysis in report format

Semester	III	Total Credit	4
Course Code	DSE Spl-I-301-(E)	Credit Pattern	L-44, T-8, P-8
Course Title	PURCHASING AND INVENTORY MANAGEMENT		
Course Objectives:			
1	To make students understand fundamental concepts, principles and practices of purchase management, including the basic functions of materials management.		
2	To make students knowledgeable about theoretical aspects and practical application of Inventory Management.		
3	To introduce students to modern concepts and trends in Purchase & Stores Management		

Course Outcomes: Students will be able to;	
1	Describe the concepts of Purchasing and Inventory Management.
2	Apply Purchasing and Inventory Management Techniques at Manufacturing and Service Sector.
3	Analyze issues involved in Purchasing and Inventory Management.
4	Evaluate Purchasing and Inventory Management strategies.

Unit Number	Contents	Number of Sessions	
1	PURCHASING MANAGEMENT Introduction, to Materials Management, Purchasing Principles & Procedure, Practices & Policies of Purchasing, 5R of Purchasing, Objectives, Scope, Responsibilities & Limitations of Purchasing Management, Methods of Buying, Centralised & Decentralised Purchasing, Sources of Supply & Supplier Selection, Legal Aspects of Purchasing.	L=11	
		T=2	P=2
2	STORES MANAGEMENT Meaning of Store Management, Functions of Scientific Store Management, Benefits of Scientific Store Keeping, Types of Stores, Stores Procedure, Store Location & Layout, Centralised & Decentralised Store, Preservation of Stores, Storage Safety And Security Aspects, Standardization & Variety Reduction, Codification, Stock Taking.	L=11	
		T=2	P=2
3	INVENTORY MANAGEMENT & CONTROL SYSTEM Defining Inventory, The Need of Inventory & Its Control. Inventory Management: Objectives, Functions & Importance. Costs Associated with Inventory, Inventory Models: Basic EOQ Model, Quantity Discount Model, Safety Stock Determination, Replenishment Systems, Fixed Order Quantity (Q Model) Versus Fixed Time Period (P Model). (Numerical Treatment on Inventory Models)	L=11	
		T=2	P=2

4	STRATEGIC MATERIALS MANAGEMENT BoM, MPS, MRP I, MRP II, CRP, Vendor-Vendee Relations, Vendor Development, Vendor Evaluation & Rating Methods, Negotiations, Supplier Quality Assurance Programme, Material Accounting & Audit, Inventory Valuation, Worldwide Sourcing, Government Purchasing Practices & Procedure, Materials Management Information System (MMIS)	L=11	
		T=2	P=2

Note:

1. Case studies on each of the aspects mentioned in the syllabus need to be discussed.
2. Video cases and documentary films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. K. K. Ahuja, Material Management ,CBS Publishers & Distributors 2. A.K. Datta, “Materials Management”, Procedure, Text & Cases, Prentice-hallof India Pvt. ltd, New Delhi. 3. K. S. Menon, Sarika Kulkarni, Purchasing and Inventory Management, SPD Publications 4. Dr. K. C. Jain and Jeet Patidar, Purchasing and Materials Management, S. Chand
2	Reference books	1. Max Müller, “Essentials of Inventory Management” Amacom, 2003. 2. Richard J. Tersine, “Principles of Inventory and Materials Management” North-Holland, 2007.
3	Websites	1. www.materialsmanagement.info/defscope/index.htm 2. http://www.materialsmanagement.info/inventory/functions-of-inventory.htm 3. https://www.managementstudyguide.com/inventory-management.htm 4. http://www.ispatguru.com/stores-management/
4	Journals	1. Journal of Purchasing and Materials Management - Wiley Online Library 2. Journal of Purchasing & Supply Management - Journals - Elsevier 3. International Journal of Procurement Management (IJPM) 4. International Journal of Purchasing and Materials Management
5	Supplementary Reading	1. P. Gopalakrishnan and M. Sundaresan, Material Management: An Integrated Approach, Prentice-Hall of India Pvt.Ltd 2. Robert M. Monczka and Robert B. Handfield, “Purchasing and Supply Chain Management” 6th Edition, Jan 2015.
6	Practical Component	1. To interview Purchasing Manager of any local business to understand responsibilities and limitations of purchasing manager. 2. To visit any local manufacturing organization study functions of Store Management and storage security and safety aspects. 3. To interview Inventory Manager of any local business to study inventory control technique adopted by the organization. 4. Library Exercise on Materials Management Information System (MMIS) undertaken by any one company of your choice.

Semester	III	Total Credit	4
Course Code	DSE Spl-I-301 (F)	Credit Pattern	L-45, T-8, P-7
Course Title	INFORMATION SYSTEM AUDIT AND CONTROL		
Course Objectives			
1	To enable a student to use analytics to solve business problems		
2	To Make Use of I.S Audit Procedures.		
3	To develop skills in the theory, techniques, and practical issues involved in computer-based information systems control and auditing		
Course Outcomes: Students will be able to;			
1	Classify the concepts of computer security, computer security threats, and the corresponding remedies.		
2	Describe the trend of computer security threats		
3	Develop an audit plan to achieve the IT audit objectives.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction – Overview Of Information System Auditing, Need For Control And Audit Of Computers, Need for Assurance, Effect Of Computers On Auditing, Benefits of IS Audit for An Organization. IT Governance and Auditors. Conducting Information System Audit – Audit Charter And Engagement Letter, A Typical IS Audit Charter	L= 11	
		T= 2	P= 2
2	Audit Planning, Audit Approaches, Risk Assessment, Information Gathering Techniques, Vulnerability, System Security Testing, Development Of Security Requirements Checklist, The Road Map For Setting Up Information System Audit For Bank, The Management Control Framework: Introduction, IT Management Framework	L= 12	
		T= 2	P= 1
3	Top Management Controls – Evaluating – Evaluating The Planning, Organizing-Policies and procedures, HR Policies and Procedures Relating To Information System, Leading Function, Controlling Function. Audit of Program Development, Audit of Program Modification, Field level input control, Record level input control, Conversion Audit	L= 11	
		T= 2	P= 2
4	Techniques for testing unauthorized program modification; Operational Control Review – Control Requirements for Backup, Backup Procedures, Selection of storage media, Security Measurement Controls – Introduction, Conducting A Security Program, Major Security Threats And Remedial Measures, Need Of Disaster Recovery And Business Continuity, Data Disaster, Virus Disasters, Software Disasters, Data Center Disasters, Core Banking Solution	L=11	
		T= 2	P= 2

Note:

Students will have to complete all tutorials, assignments, and lab sessions for internal credits.

Learning Resources		
1	Text Books	1. Information System Control And Audit, - Ron Weber Person Edition
2	Reference books	1. Information System Auditing And Assurance – James A. Hall – South Western. 2. Auditor's Guide to Information Systems Auditing- Richard Cascarino
3	Website	1. https://www.isaca.org/ www.rdocumentation.org 2. https://www.britannica.com/topic/information-system/Information-systems-audit

		3. https://www.researchgate.net/publication/327312550_Information_Technology_Control_and_Audit
4	Journals	1. ISACA Journal Information Technology & Systems ResourcesR and the joirnal of the statistic softwares
5	Supplementary Reading	1. Inormation System Audit Reports From Banks

Semester	III	Total Credits	2
Course Code	AEC 301-A	Credit Pattern	L-22, T-2, P-6
Course Title	ENTREPRENEURIAL SKILLS AND START UP		
Course Outcomes: Students will be able to:			
1.	Describe the concept and types of Start ups.		
2.	Explore the start up ideas and start up India scheme.		
3.	Identify various funding options for start ups		
4.	Create a start up on the campus.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Understanding Start ups: (15) Understanding the concept of start up and its economic rationale. The difference between a startup and a small Business, Types of Start Ups: Life style start ups, Small business start ups, Scalable startups (Silicon Valley entrepreneurs), Buyable startups, social start ups, Technology Startups. Various Business Models adopted by startups worldwide. Startup idea, Innovations, IPRs. Startup Ecosystems with examples. Indian Start ups in the last ten years. Government policy for MSME and start up India Scheme.	L=11	
		T=2	P=2
2	Funding Methods for Startups: Stages of Start up Financing, Types of Investors for Startups 1) Friends & Family. 2) Banks & Government Agencies. 3) Angel Investors 4) Boot strapping 5) Accelerators & Incubators 6) Family Offerings 7) Venture Capital Firms. 8) Corporate Investors. Funding for startups through government agencies India. Problems and Challenges of startups: Lack of legitimate mentors for Startups, Competition from big players, stringent norms of financiers, marketing problems, human resource management problems, funding problems, delays and project cost escalation. Sustaining and growing the startup.	L=11	
		T=2	P=1

Learning Resources		
1	Text Books	1. Mohanty – Fundamentals of Entrepreneurship, Prentice Hall of India 2. Entrepreneurship: creating and leading an entrepreneurial organization. By Kumar Arya, Pearson India. 3. Zimmerer & Scarborough – Essentials of Entrepreneurship & Small Business Management, Prentice Hall of India 4. Allen, K. (2003) Launching New Venture, Cengage Learning
2	Reference books	1. Hisrich Peters, Irwin: 'Entrepreneurship: Starting, Developing and Managing a New Enterprise. PHP 2. Raghu Nandan : 'Unlashing your entrepreneurial Potential' Sage Publication 3. M.lall, 'Entrepreneurship, Excel books 4. Peters, michael P and shepherd Dean, Hisrich, robert, Sage Publication Tata Mcgraw-hill; sixth edition, 2007 5. Mathew J Manimala :- Entrepreneurship at the Crossroads – Biztantra Pub. 6. Eric Ries, 'The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses: Published By Currency available only on Amazon
3	Websites	https://inc42.com/startups/file:///E:/introduction%20to%20startup.pdf file:///C:/Users/student/Downloads/rebo_use_dp_2016_1613%20(1).pdf https://fi.co/insight/the-most-comprehensive-guide-to-the-silicon-valley-startup-ecosystem-ever-created
4	Journals	Journal of Entrepreneurship Development - SEDME Entrepreneurship in the New Millennium: Hyderabad, NISIET IDBI Annual Report
5	Supplementary Reading	Economic Times Business Standard Online reading of Harvard Business Review, Journal of Business Venturing
6	Practical Component	Case Study on Start Up Business Models and presentation. Visit to Incubations Interaction with Startup entrepreneurs

Semester	III	Total Credit	2
Course Code	AEC 301 (B)	Credit Pattern	22L + 8 TP
Course Title	HEALTH AND WELLNESS		
Unit Number	Contents		
1	Introduction to Human Health, The Wellness Profession, Changes across the Lifespan, Workplace Wellness Program Management. Health Literacy Worksite Health Environment, Physical Activity and Nutrition for Wellness Managers. Understanding and Effecting Health Behaviour Change.		
2	Marketing and Communication. Survey of Information Technology in Wellness Population Health, Leadership and Change Management in Health. Assessment and Evaluation Employee Health and Well-Being. Health Coaching, Fieldwork, Health and Wellness Management Capstone..		
Instructions	This course is to be conducted with open approach to reflect more on student's part for learning. If necessary experts can be called for workshops or guest sessions.		

Learning Resources		
1	Reference Books	Wellness Management for Educators and Entrepreneurs oosung J. Lee Jungeun Kim Division of Interdisciplinary Wellness Studies Asan, Chungnam, Korea Series: Management Science – Theory and Applications.BISAC: BUS041000 Best Health and Wellness Books of the Last Decade TARA LOSINSKI JANUARY 10TH, 2020 Lifespan: Why We Age—and Why We Don't Have To Hardcover – Sept. 10 2019 by David A. Sinclair PhD (Author), Matthew D. LaPlante (Author) Wellness Management - A Lifestyle Approach for Health, Fitness and Energy (English, Paperback, Venkata Rajasekhar Kali) Notion Press Genre: Health & Fitness ISBN: 9789352067428, 9789352067428 Pages: 276 What to Eat Paperback – April 17, 2007 by Marion Nestle (Author) ISBN-10 9780865477384 Williams' Essentials of Nutrition and Diet Therapy Paperback – 23 December 2014 by Eleanor Schlenker PhD RD (Author), Joyce Ann Gilbert (Author) ISBN-13 978-0323185806

2	Reference Website	. The Real Food Dietitians Website: 1. https://therealfoodrds.com/ 2. MyFitnessPal Website: https://www.myfitnesspal.com/ 3. Livestrong Website: https://www.livestrong.com/ 4. Healthline Website: https://www.healthline.com/ 5. Avocadu Website: https://avocadu.com/

Semester	III	Total Credit	2
Course Code	AEC 301 (C)	Credit Pattern	22L, 8TP
Course Title	TOURISM MANAGEMENT		
Course Objectives			
1	To enable students to get acquainted with concepts in Tourism Management.		
2	To enable students to know the elements of Tourism marketing and its practical Approach to Tourism Management		
Course Outcomes: Students will be able to;			
1.	Explain the concepts of travel and tourism,		
2.	Develop a tourism plan		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit 1: TOURISM PHENOMENON Understanding Tourism Historical Evolution and Development Understanding Tourists And Hosts Profiling Foreign Tourists Profiling Domestic Tourists Guest – Host Relationship Sociology, Anthropology and Tourism Informal Services in Tourism, Dance and Music :Cuisines, Customs, Festivals and Fairs	L=11	
		T=4	P=0
2	Unit 2: TOURIST SITES: PRODUCTS AND OPERATIONS Adventure and Sports Beach and Island Resorts: Hill Stations of India Wild Life: Use of History, Monuments and Museums Living Culture and Performing Arts, Religions of India Tourism Marketing – 1: Relevance, Product Design, Market Research. Tourism Marketing – 2: Promotional Events, Advertising Publicity, Selling,	L=11	
		T=4	P=0

	Role of Media, Writing for Tourism Personality Development and Communicating Skills		

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. P.M. Seth, Successful Tourism Management: 2. J.K. Sharma , Tourism Planning & Development:
2	Reference books	1. Chuck Y. Gee , Travel industry: 2. R Gartner, Tourism Development: Tourism System: Mill R.C & Morrison 3. Cooper C, Fletcher J, and Gilbert D & Wahill S. Tourism; Principles & Practices
3	Websites	1. http://tourism.gov.in/organisation 2. www.wti.org.in (Wildlife Organisation in India) 3. www.indiaculture.gov.in
4	Journals	1. Journal of Tourism and Hospitality Management (JTHM) 2. KITTS - Indian Journal of Tourism and Hospitality
5	Supplementary Reading	1. Tourism Policy in 2018 2. Year End Review: Ministry of Tourism
6	Practical Component	1. Each Student will to select one State and prepare a seminar on Culture, Festival, Food habits, Dance, rituals etc. of the State. 2. Each student will identify the tourism spots from the selected State and present its Unique Selling Proposition with tourism perspective. 3. Preparation of a detail tourism plan to visit a particular tourism destination.

Semester	III	Total Credit	2
Course Code	AEC 301(D)	Credit Pattern	L-22, T-4, P-4
Course Title	CHANGE MANAGEMENT		

Course Objectives	
1	To help the students to gain knowledge about the concepts of change management and to acquire the skills required to manage any change effectively.
2	To understand the various components and constraints involved in Change management.
3	To equip students with ways of dealing with resistance to change.
Course Outcome	
1.	Apply Change Management Model to business situations
2.	Evaluate and organizational changes and its management.

Unit Number	Contents	Number of Sessions	
1	Individual Change: Need for Individual Change, Personality and Change, Learning and Individual Change, Approaches to Individual Change, Implications of Change in Individuals. Culture and Change: Introduction, Concept of Organizational Culture Dimensions of Culture, Type of Culture, Assessing Organizational Culture, Role of Culture in Managing Change. Change Management in Organizations: Understanding Organizational Transformation, Strategies, Process, Nature, Perspectives of Organizational Change. Models of Organizational Change:	L=11	
		T=2	P=2
2	Communicating & Implementing Change: Need, Factors, Forms of Resistance, Reactions to Change, Resistance to Organizational Change Initiatives, Overcoming the Resistance to Change, Technique: Implementation of Change, Developing an Implementation Plan, Gaining Support and Involvement of Key People, Strategies for Implementation: Types of Change Management Strategies, Factors Affecting the Choice, Formulating and Facilitating Change, Facilitating Change, Implementing Change,. Leading Changes: Visionary Leadership, Role of Leaders in the Phases of Organizational Change. Evaluation, Measurement and Methods of Evaluation, Feedback Process, Continuous Incremental Change.	L=11	
		T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the Class.
3. Field visits will be compulsory and a group report to be generated for exam in the presence of an external examiner at mid-term.
4. This is necessary to know implemented change and or change in process around. In manufacturing, service, commercial challenging sectors.

Learning Resources		
1	Text Books	No particular text book is available however following can be correlated and used as text book The Power Of HABIT, Charles Duhigg, Replica Press Pvt.Ltd. ISBN 9781847946249
2	Reference books	1. James McCalman, Professor Robert A Paton, Sabina Siebert, Change Management: A Guide to Effective Implementation, SAGE Publications. 2. Beam, Change Management Revised Edition, Routledge- Taylor and Francis Group. 3. Jeff Hiatt, Timothy J. Creasey, Change Management: The People Side of Change 4. Radha S. Sharma, Change Management. Tata McGrawHill.
3	Websites	https://www.change-management-institute.com/ https://www.changefirst.com/
4	Journals	Journal of Organizational Change Management Issue(s) available: 176 – From Volume: 1 Issue: 1, to Volume: 32 Issue: 2 Category: Organization Studies https://www.emerald.com/insight/publication/issn/0953-4814
5	Supplementary Reading	Managing Transitions, 25th anniversary edition: Making the Most of Change Paperback – January 10, 2017 by William Bridges (Author), Susan Bridges (Author)
6	Practical Component	1. Debate in the classroom on Change related topic 2. Organization change questionnaire data collection and analysis. 3. Group Presentation on Change management in various sectors like Health care, Education, PSU, Retail, Manufacturing Industries. 4. Design a role play event for students, so that they will play it out to mobilize support for a change implementation programme.

Semester	III	Total Credit	2
Course Code	GE-301(B)	Credit Pattern	L-24, T-06, P-00
Course Title	E-COMMERCE		

Course Objectives	
1	To explain the nature and different models of E-commerce
2	To explain the technologies required to make e-Commerce viable.
3	To discuss the current drivers and inhibitors facing the business world in adopting and using e-commerce and
4	To discuss the trends in e-Commerce and the use of the Internet.
5	To discuss e-commerce from an enterprise point of view.
6	To demonstrate the concepts of security in e-commerce applications.
Course Outcomes	
After completion of this course the student will be able to:	
1	Recognize the business impact and potential of e-commerce

2	Develop a holistic perspective on the role of IT in organizations.
3	Identify target market based on numerous parameters.
4	Select appropriate e-commerce models for any organization.
5	Follow security measures while dealing with e-commerce applications.

Unit Number	Contents	Number of Sessions	
1	History of e-commerce and Indian business context, www, advantages and disadvantages of e-commerce, e-commerce in India, various Indian case studies. Business models for e-commerce, different type of e-commerce, brokerage model, aggregator model, info-mediary model, community model, value chain model, manufacturer model, advertising model, subscription model, affiliate model.	L=12	
		T=03	P=00
2	Technologies of the www & e-security, internet client-server applications, networks and internets, URL, software agents, internet service providers, html, java script and xml, e-security, security on the internet, hacking, various security risks, e-business risk management issues, firewall. E-marketing, identifying web presence goals, the browsing behavior model, online marketing, e-advertising, internet marketing trends, target markets, e-branding, marketing strategies. Legal and ethical issues, IT Law, phishing, copy right.	L=12	
		T=03	P=00

References		
1	Text books	a. E-commerce - An Indian Perspective by P.T. Joseph, S.J , PHI publication
2	Reference books	1. The unofficial guide to starting an e-commerce business by Jason R.Rich, IDG books India. 2. E-Commerce (Pearson Custom Business Resources) by Kenneth C. Laudon 3. Electronic Commerce by Gary P. Schneider
3	Websites	1. http://notes4learners.blogspot.com 2. https://www.academia.edu/8099032/e_commerce_notes 3. https://examupdates.in/e-commerce-full-notes/ 4. https://www.javatpoint.com/html-tutorial 5. http://www.echoecho.com/html.htm
4	Journals	1. “Electronic Commerce Research”, ISSN: 1389-5753 (Print) 1572-9362 (Online), https://link.springer.com/journal/10660 2. “E - Commerce for future & Trends”, eISSN: 2454–9347, http://stmjournals.com/E-Commerce-for-future-and-Trends.html 3. “Journal of Web Development and Web Designing”, http://matjournals.com/Journal-of-Web-Development-and-Web-Designing.html

5	Supplementary Reading	1. geeksforgeeks 2. tutorialspoint 3. w3Schools
6	Practical Components	-----
1	Text books	b. E-commerce - An Indian Perspective by P.T. Joseph, S.J , PHI publication
2	Reference books	4. The unofficial guide to starting an e-commerce business by Jason R.Rich, IDG books India. 5. E-Commerce (Pearson Custom Business Resources) by Kenneth C. Laudon 6. Electronic Commerce by Gary P. Schneider

Semester	III	Total Credit	2
Course Code	GE 301 (C)	Credit Pattern	L-23, T-07, P-0
Course Title	DISASTER MANAGEMENT		

Course Objectives	
1	Understand the concept and impact of disasters.
2	Describe the causes, effects and control measures of disasters.

Course Outcomes: After completion of this course students will have capacity to	
1.	Recognize the various global and regional environmental concerns/hazards due to natural causes and/or human activities, and the impact of these on various forms of life .
2.	Obtain and communicate information on risks, relief needs and lessons learned from earlier disasters in order to formulate strategies for mitigation in future scenarios
3.	Describe and evaluate the environmental, social, economic, legal and organizational aspects influencing vulnerabilities and capacities to face disasters.
4.	Relate theoretically and practically in the processes of disaster management (disaster risk reduction, response, and recovery)

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Disaster Management : Hazard and Disaster, Classification of Disasters. Hydrological Disasters - Flood, Drought, Geological Disasters- Earthquakes, Landslides, Volcanic Eruptions. Wind Related Disasters- Cyclone Biological Disasters : Man Made Disasters : Fire – Industrial, Domestic and wild fire Technological Disasters- Bhopal Gas Tragedy, Chernobyl and Fukushima. Marine and Social Disasters	L= 11	
		T= 4	P= 0

2	Disaster Management : Risk assessment, Disaster Management Act 2005, National Disaster Management Framework, Role of various organisations- National Disaster Management Authority (NDMA), State Disaster Management Authority (SDMA), District Disaster Management Authority (DDMA), Financial Arrangements for Disaster Management, Disaster management cycle, NDRF. Non-Governmental Organisations, community participation, Education, training for public in emergency preparedness plan, Rescue & rehabilitation programmes.	L= 12	
		T= 3	P= 0

Learning Resources			
1	Text Books	- Textbook Of Environmental Science And Technology by REDDY, BSP publishers, 2019 - A Textbook Of Environmental Studies, Dr D K Asthana, S. Chand Publishers, 2018 - A Text Book Of Environmental Studies by Vijay Tiwari, Himalaya Publishers, 2017 - A Text Book of Ecology, Tyler Miller, Cengage Learning - A Text Book Environmental Studies, Chatawal & Sharma, HPH - A Text Book Environmental Science, Joshi & Joshi, APH - A Text Book of Environmatal Studies, Nambiar, STP	
2	Reference books	- Nuclear Accidents (Man Made Disasters) Mark Mayell Publisher: Lucent Books - Management of Man-made Disasters, S. L. Goel, Motilal Banarsidass Publishers Private Limited, New Delhi, ISBN: 8176297151 - Handbook of Pollution Control Processes By: Robert Noyes. Jaico Publishing House, Mumbai (2003) - Fire & Explosion Hazards Handbook of Industrial Chemicals By: TA Davletshina & NP Cheremisinhoff, Noyes Publications, Mumbai (2003) - Environmental Geology by K. Valdiya, Tata McGraw Hill Publishing Co. - Perspectives on Environment by I.R. Manners, M.W. Micksell - Our Planet, Our Health by WHO (1992) - Report of the Panel on Industry by WHO (1992) - Natural Disasters, Author: Claire Watts / Trevor DayPublisher: Dk Publishing, ISBN: 9781465438096 - Environmental Biology by K.C. Agarwal - Resource Book on Chemical (Industrial) Disaster Management, http://nidm.gov.in/PDF/pubs/chemical_mdc.pdf - Directory of Institutions and Resource Persons for Landslide Management In India http://nidm.gov.in/PDF/pubs/directory%20landslide.pdf	
3	Websites	- Directory of Institutions and Resource Persons for Landslide Management In India http://nidm.gov.in/PDF/pubs/directory%20landslide.pdf https://www.ifrc.org/en/what-we-do/disaster-management/about-disaster-management/ https://en.wikipedia.org/wiki/Disaster_management_in_India	

4	Journals	• Current Science, ISSN No. 0011-3891 • Down to Earth • Journal of Biosciences, ISSN No. 0250-5991 • Journal of Environmental Biology, ISSN No. 0254-8704 • Resonance, ISSN No. 0971-8044 • Journal of Earth System Science, ISSN No .2253-4126 • Industrial Safety Chronicle • International Journal of Environmental Engineering Science, ISSN No .2229-3094
5	Supplementary Reading	• Demonstration of Fire & Water Safety.
6	Practical Components	• Mock drill for various disaster • Disaster Management Action Plan

Semester	III	Total Credit	2
Course Code	GE 301(D)	Credit Pattern	L-20, T-5, P-5
Course Title	CORPORATE SOCIAL RESPONSIBILITY		

Course Objectives	
1	understand the scope and complexity of corporate social responsibility.
2	gain knowledge of the impact of CSR implementation on societies
3	acquire skills to frame and design CSR policies and practices appropriate to the Indian workplace.

Course Outcomes: Students will be able to	
1	Know the Corporate Social Responsibility of different sector.
2	Use the acquired skill for proper sustainable Corporate Social responsibility.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to CSR: Meaning & Definition of CSR, History & evolution of CSR. International framework for corporate social Responsibility, Millennium Development goals, Sustainable development goals, Relationship between CSR and MDGs. United Nations (UN) Global Compact 2011. UN guiding principles on business and human rights.– Globalization and CSR.	L= 10	
		T= 3	P= 2
2	Indian perspectives and approaches: Models of CSR in India,. Initiatives in India. Corporate Governance and CSR , CSR Policy and guidelines , Legal frame work, rules and regulations, Company Act 2013 - relevant provisions of CSR. Role of Government and NGO in CSR. Business Benefits of CSR.	L=10	
		T=2	P=3

Learning Resources		
1	Text Books	1. Benn & Bolton, (2011). Key concepts in corporate social responsibility. Australia: Sage Publications Ltd. 2. Bradshaw, T. and D. Vogel. (1981). Corporations and their critics: Issues and answers to the problems of corporate social responsibility. New York: McGraw Hill Book Company 3. Brummer, J.J. (1991). Corporate Responsibility and Legitimacy: An interdisciplinary analysis. Westport, CT: Greenwood Press. 4. Cannon, T. (1992). Corporate responsibility (1st ed.) London: Pitman Publishing. 5. Crane, A. et al., (2008). The Oxford handbook of corporate social responsibility. New York: Oxford University Press Inc.
2	Reference books	1. Lourdes Poobala Rayen- Corporate Social responsibility. 2. Ellington. J. (1998). Cannibals with forks: The triple bottom line of 21st century business. New Society Publishers 3. Baxi C.V and Ajit P, Corporate Social Responsibility, Concept & Cases: "The Indian Experience, Excel Books. 4. Reddy S and Stefan S (2004). Corporate Social Responsibility: Sustainable Supply Chains. Hyderabad: ICFAI University Press. 5. Werther, W. B. & Chandler, D. (2011). Strategic corporate social responsibility. Thousand Oaks, CA: Sage
3	Websites	www.forbes.com www.referenceforbusiness.com www.justmeans.com www.corporatesocialresponsibility.org
4	Journals	International Journal of Corporate Social Responsibility Home https://jcsr.springeropen.com Sustainability Accounting, Management and Policy Journal, Emerald, 2010- - World Review of Entrepreneurship, Management and Sustainable Development, Inderscience Publishers, 2005-
5	Supplementary Reading	1. http://www.diegdi.de/CMSHomepage/openwebcms3.nsf/%28ynDK_contentByKey%29/ENTR-7BMDUB/\$FILE/Studies%2026.pdf 2. Modi P.K., Corporate Social Capital Liability. Arise Publishers & Distributors. First editions - 2009 3. Sharma, J.P., Corporate Governance, Business Ethics & CSR, Ane Books Pvt Ltd, New Delhi.
6	Practical Component	Visit to industries to study and record various CSR activities and discuss the same with students and teachers to know the merits and demerits of CSR.

Semester	III	Total Credit	2
Course Code	GE 301(E)	Credit Pattern	L-22, T- 04, P-04
Course Title	BASICS OF INDIAN ECONOMY		

Course Outcomes: Students will be able to	
1	Identify the main issues in Indian economic development
2	Critically analyses the Indian economic policy environment

Syllabus:

Unit Number	Contents	Number of Sessions	
1	UNIT-1: Indian Economic Environment: Meaning of underdevelopment, Basic characteristics of India as a developing economy, Major issues of development: Poverty, Unemployment and Inequality, National Income of India: Trends, Growth and Structure. Features and importance, Green Revolution, Low productivity of agriculture and government measures Role of Industrialization, Industries and Five-year plans, Industrial Policy(1991), Services sector Role & Importance	L= 11	
		T= 2	P= 2
		T=2	P=2
2	UNIT-2: Indian Economic Planning and Reforms: Objectives of Economic Planning, Redefining the role of the State, Brief review of Five-Year Plans, New Economic Reforms: Liberalization, Privatization and Globalization, NITI Ayog, Balanced Regional Development.	L= 11	
		T= 2	P= 2

Learning Resources		
1	Text Books	- Agarwal A N (2016), Indian Economy, Vikas Publishing House Pvt. Ltd., New Delhi - Gaurav Datt& Ashwini Mahajan (2016), Indian Economy, S. Chand and Company Pvt. Ltd., New Delhi - Misra and Puri (2013), Indian Economy, Himalaya Publishing House Pvt. Ltd., New Delhi.
2	Reference books	- Deepashree (2011), Indian Economy, Ane Books Ovt. Ltd., New Delhi - Uma Kapila (2017), Indian Economy: Performance and Policies, Academic Foundation, New Delhi
3	Websites	www.rbi.org.in www.mygov.gov.in www.cmie.com
4	Journals	- Arth Samwad - Economic and Political Weekly - Indian-Economic-Journal - Journal-of Indian-School-of-Political-Economy - Southern Economist - The Economist

		• Journal of Applied Economics • Indian-Economic-Journal • International Journal of the Economics of Business • Journal-of Indian-School-of-Political-Economy • Agricultural-Economic-Research-Review
5	Supplementary Reading	• Economics Survey • Union Budget of India • Niti Ayog Reports • Economics Times Daily • Business Standard Daily • Business Today Daily • Latest Monetary Policy • Latest Fiscal Policy
6	Practical Component	• Collect Economic Survey of India of last five years and prepare a report on trends in major macro-economic variables of the country • Establish the relationship between sectoral growth patterns and business environment by collecting data on three major sectors of the economy

MBA - II

Semester - IV

Semester	IV	Total Credit	4	
Course Code	CC 401	Credit Pattern	L-44, T-8, P-8	
Course Title	BUSINESS ETHICS AND CORPORATE GOVERNANCE			
Course Outcomes: At the end of the course Students will be able to				
1	Describe ethical decision-making framework.			
2	Analyze ethical and moral issues in life and in Business.			
3	Examine the evolution of Corporate Governance in India.			
4.	Generalize Principles of Good corporate governance.			
Unit Number	Contents		Number of Sessions	
1	Unit 1: Introduction to Business Ethics Concept of Ethics, Nature and Characteristics of Business Ethics, Doctrine of Karma, Causes of Unethical Behaviour , Work Ethics, Code of conduct for business, Ethical decision making frameworks, Ethical theories: Rights Theories, Justice Theories, Utilitarianism, The Virtue Approach, The Common Good Approach.		L=11	
			T=2	P=2
2	Unit 2: Ethical issues : Identification and Solutions Ethical Dilemma, Resolution of ethical dilemma, Fostering ethics, Whistle blowing concept and policy, Corruption, Bribery. Ethical issues in Global Business, Concept of sustainability reporting, Ethics in various functional areas- Marketing, Advertising, HRM, Accounting, Ethics in environment protection.		L=11	
			T=2	P=2
3	Unit 3 : Introduction to Corporate Governance Corporate Governance – Concept, Objectives, History ,Issues in Corporate Governance, Elements of good Corporate Governance, OCED Principles of Corporate Governance, Corporate citizenship, Corporate Social Responsibility and Stakeholders Role, Triple Bottom line and Carroll's model of CSR.		L=11	
			T=2	P=2
4	Unit 4 : Corporate Governance in India. Naresh Chandra Committee Recommendations, Narayan Murthy Committee Recommendations, The Cadbury Committee, Recommendations in Companies Act 2013, Amendments by Indian regulators pertaining to Corporate Governance. Recent Developments in India- Corporate Governance Score card, Corporate Governance Awards. Role of Board of Directors, Types of Directors and their Functions, Independent Directors- Functions and Role, Ethics committee.		L=11	
			T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Business Ethics and Corporate Governance , B.N.Ghosh, Tata Mcgraw Hill
2	Reference books	1. Fernando A.C. , Corporate Governance, Principles, Policies and Practices, Pearson Education 2. Business Ethics and Corporate Governance , B.N.Ghosh, Tata Mcgraw Hill 3. Business and Government , Francis Cherunilam , Himalaya Publishing House 4. Joffy George, The Art of Corporate Governance 5. SEBI Regulations 2015 6. Shaw W.H, Business ethics, Thomson 7. Ferrel O.C., Farrell Linda, Business Ethics, Ethical decision making and cases, Biztantra
3	Websites	www.onlineethics.org www.oecd.org
4	Journals	1. Business Express 2. Bloomberg Business Week 3. Business India
5	Supplementary Reading	1. The Economics Times
6	Practical Component	1. Studying Governance system of any company and classifying it into different types of systems which are studied and justifying why such system is chosen by that organization. 2. Preparing the code of conduct of any five business organization. 3. Class debate on ethical dilemma. 4. Identify three ethical business organizations and list their ethical norms. 5. Library Exercise on Corporate Governance activities undertaken by any of two company

Semester	IV	Total Credit	4
Course Code	CC-Spl-II-402-(A)	Credit Pattern	L-45, T-6, P-9
Course Title	MANAGEMENT ACCOUNTING AND CONTROL SYSTEM		
Course Outcomes : The students will able to learn			
1.	Apply concept of marginal costing for decision making		
2.	Analyze various operating and financial leverages to design capital structure		
3.	Evaluate various types of budgets for managerial decision making		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Management Accounting: Meaning and Scope of Management Accounting In the Context of Changing Business Environment, Human Resource Accounting and Inflation Accounting. Strategic Management Accounting, Introduction of Accounting Information for Transfer Pricing. Methods of Transfer Pricing.	L=11	
		T=2	P=2
2	Marginal Costing: Meaning and scope, uses and advantages, Terminologies in Marginal Costing- Contribution, Margin of Safety, CVP analysis, BEP and Relevant Cost and Decision-Making	L=12	
		T=1	P=2
3	Leverage Analysis: Meaning & importance of leverage, Types of leverages, Use of leverage in decision making, Measures of Operating and Financial Leverage, Effects of Leverage on Shareholders' Returns	L=11	
		T=1	P=3
4	Budget and Budgetary Control: Concept of Budget, Budgeting and Budgetary Control, Organization for Budgetary control- Budget Centers, Budget Committee, Budget Manual, Budget period, Principal Budget, Advantages and limitations of Budgetary Control System. Types of budget.	L=11	
		T=2	P=2

Note:

1. Case studies on cash budget and flexible budget.
2. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
3. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. Kapil Sheeba, "Financial Management" Pearson Publication House. 2. Jonathan Berk, Peter, "Financial Management" Pearson Publication House. 3. Sharan Vyuptakesh, "Fundamentals of Financial Management" Pearson Publication. 4. James C Van harne, "Financial Management & Policy" Pearson Publication House. 5. ICSI : Handbook on Mergers Amalgamations and takeovers.
2	Reference Books	1. V.K. Saxena And C.D. Vashisth: "Advanced Cost And Management Accounting", Sultan Chand And Sons, 6th Edition 2. M.Y. Khan And P.K. Jain, "Cost Accounting", Tata McGraw Hill, Edition 2000 3. Dr. M.K. Kole, "Human Resource Accounting, Institute Of Cost And Works, Accountants Of India", Edition 2000 4. N.K. Prasad, "Cost Accounting"

		5. R.P.Rustagi, “Financial Management”, PHI, 10 th edition. 6. Garrison, Managerial Accounting, Tata McGraw 7. Maheshwari, Financial Accounting, Vikas Publishing 8. Khan and Jain, Management Accounting, Tata McGraw 9. Ramchandran, Financial Accounting for Management, Tata McGraw 10. JawaharLal, Accounting For Management, Himalaya Publishing 11. J.Madegowda, Accounting For Managers, Himalaya Publishing 12. M.N.Arora, “Cost and Management Accounting”, Himalaya Publishing
3	Websites	INFLIBNET http://nlist.inflibnet.ac.in J-GATE http://jgateplus.com EBSCO http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4	Journals	• Prabhandan: Indian Journal of Management • IUP Journals • ICSI Journals • Finance India • Indian Journal of Finance (New Sub.) • Journal of Accounting & Finance etc.
5	Supplementary Reading	• Financial Express • Economics Times • Business Standard • Times of India • Indian Express.
6	Practical Component	• Practical Problems on marginal costing and decision making • Practical Problems on leverages • Practical Problems on flexible budget and functional budgets • Financial statement analysis using Proves-IQ • Companies Financial Reports & Corporate case studies.

Semester	IV	Total Credit	4
Course Code	CC-Spl-II-402-(B)	Credit Pattern	L-45, T-6, P-9
Course Title	PERFORMANCE AND COMPENSATION MANAGEMENT		
Course Outcomes: Students will be able to;			
1.	Gain insights of various conceptual aspects of Compensation, Performance Management and competencies and related law to achieve organizational goals.		
2.	Determine the performance/competency based compensation system for business excellence and solve various cases.		
3	Designing the compensation strategies for attraction, motivation and retaining high quality workforce		

Syllabus:

Unit Number	Contents	Number of Session	
1	Performance Management: Managing and addressing Employee Performance Problems, Performance Management Strategic Planning. Performance Management and Employee Development: Employee Assessment system, Potential Appraisal System:- Development and Retention of high potentials, Role of HR Professionals in Performance management.	L= 11	
		T= 4	P= 0
2	Competency Model, Competency Model Pyramid, Application of competency model into various HRM functions, benefits of using competency mapping model in organizations, Benefits of using competency based performance appraisal system, Taking interviews to gather information, Behavioural Event Interview, process for writing competencies.	L= 11	
		T= 4	P= 0
3	Compensation Management: Wage and Salary Administration: Calculation of Wage, Salary, Prerequisites, Compensation Packages, Cost of Living Index and Dearness Allowance, Designing and operating incentives, fringe and non- financial Benefits,. Job Evaluation:- Major Decisions in Job Evaluation, Job Evaluation Methods, Laws related to wages and salaries:- Minimum Wages, Payment of Wages, Payment of Bonus.	L	
4	Employee Contributions: Pay For Performance (PFP): Competency Based Pay, Skill based Pay, Team based pay, Gain and Profit sharing Designing PFP Plans, Merit Pay/Variable Pay, Compensation Strategies for Special Groups. Executive compensation, cafeteria compensation,		

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	• Strategic Compensation, Joseph J. Martocchio, 3rd Edition, Prentice Hall, 2004. • Compensation Management in Knowledge based world, Richard I. Anderson, 10th edition, Pearson Education. • Compensation Management, ErSoniShyam Singh, Excel Books.

2	Reference books	• Compensation & Reward Management, BD Singh, 2nd edition, Excel books, 2012. • Compensation, Milkovich & Newman, 9th edition, 2017, Irwin/McGraw-Hill. • Compensation and Benefit Design, Bashker D. Biswas, FT Press, 2012. • An Introduction to Executive Compensation, Steven Balsam, Academic Press, 2002. • Industrial Relations and Labour Laws, Srivastava S.C., Vikas Publishing House Pvt. Ltd.,
3	Websites	4. www.ILO.org 5. www.labour.nic.in 6. www.labourstat.org
4	Journals	IOSR <i>Journal of Humanities And Social Science</i> Indian Labour Journal
5	Supplementary Reading	https://www.toolbox.com/hr/performance-management/articles/what-is-performance-management/ https://www.hibob.com/hr-glossary/compensation-management-planning/ https://www.namanhr.com/services/competency-mapping/
6	Practical Component	• Students must prepare a comprehensive compensation plan to be offered to Executives. • Students to collect information from different organization regarding the Cost To Company of an employee. • Students have to prepare questionnaire for conducting wage survey and carry out wage survey for any selected sector and prepare a report for the same. • Students to calculate the bonus amount eligible to an employee working as a HR Executive

Semester	IV	Total Credit	4
Course Code	CC-Spl-II-402-(C)	Credit Pattern	L-45, T-8, P-7
Course Title	SALES & DISTRIBUTION MANAGEMENT PAPER-IV		
Course Objectives			
1	Students will conceptually understand concepts related to sales and distribution.		
2	Students will learn strategies required for selling and distribution		
3	Students will become aware of financial aspects of marketing.		

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Course Outcomes: Students will be able to;	
1	Evaluate concepts related to sales & distribution.
2	Apply selling & distribution concepts & strategies for marketing.
3	Apply financial aspects of marketing.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit I Sales management - Meaning, Evaluation, Importance, Personal Selling, Qualities and responsibilities of sales manager. Types of sales organizations. Sales force management, recruitment, selection & training, structure, size, productivity. Motivation & compensation of salespeople	L=11	
		T=2	P=2
2	Unit II Selling Process and Strategies -Overview of selling process. Selling and buying Styles, selling skills, situations, selling process, sales presentation, Handling customer objections, Follow-u action. Sales territory, meaning, size, designing, sales quota, procedure for sales quota. Types of sales quota, Methods of setting quota.	L=12	
		T=2	P=1
3	Unit III- Distribution Management - Introduction-Concept of channel flows, Managing a channel design, Basics of warehouse/inventory/ transportation planning, Intermediaries: Channel Formats, Managing channel partner, channel conflict, Channel information systems, International Trends in Sales and Distribution, Distribution as a function of marketing. Strategies. Mass, selective, exclusive distribution. Push v/s pull approaches. Channel design mix decisions.	L=11	
		T=2	P=2
	Unit IV	L=11	

4	Marketing Finance Performance of Salesforce, work load method, forecasting, and product line accounting, Life cycle costing, Dropping product line, Return On Promotion, Selection of media, Launching, Profitability & Variance.	T=2	P=2

Learning Resources			
1	Text Books	1. Cherunallium & Francis - <i>Industrial Marketing</i> 2. Chunwalla S.A - Sales & Distribution Management	
2	Reference books	1. Keskar & Abhayankar - Sales Management & personal selling 2. Aaker David A – Building Strong Brands – The Free Press, New York 3. Keller K. - Strategic Brand Management- Prentice - Hall India Kapferer Jean Noel – Strategic Brand Management – KoganPage London 4. Keller, Parameswaran, Jacod - Strategic Brand Managemnt- Pearson 5. Chunawalla and Sethia – Foundation of Advertising Theory and Practice- HP Publication 6. Clow Baack - Integrated Advertising, Promotion and Marketing Communication –Pearson Education 7. Still and Cundiff - Sales Management – 8. S A Chunawalla -Sales and distribution Management –Himalaya Publication 9. Charles Futrell - ABC ‘s of Selling 10. Ramaswam and Namakumari - Marketing Management — Macmillan Publication 11. Services & Sales Marketing - Zha S.M., Himalaya Publishing House 12. Strategic Retail Management - Indian Text Edition-Srini R.Srinivasan 13. “Retail Marketing Management” – Person Education Ltd. – Ist Reprint India- David Gilbert 14. Retailing Management -Text and Cases-Swapna Pradhan The McGraw Hill Companies	
5	Supplementary Reading	1. The Economic Times 2. Business Standard 3. Business TIMES	
6	Practical Component	1. Group Activity based on all the units 2. Take business Games & other subject related activities 3. Discussion on Cases related to all units 4. Library assignment on all the units	

Semester	IV	Total Credit	4
Course Code	CC-Spl-II-402-(D)	Credit Pattern	L-44, T-8, P-8
Course Title	AGRI-PRODUCTION AND SUPPLY CHAIN MANAGEMENT		
Course Out Comes: Students will be able to			
1	Analyze the factors influencing agricultural production and their supply chain		
2	Adapt traditional and modern practices of farm management		
3	Develop skills for agricultural supply-chain and logistics infrastructure management		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Fundamentals and Theories of Farm Management: Scope Of Modern Agriculture, Special Features Of Agricultural And Industrial Production. Difference between Farm and Non-Farm Business Management; Farm system Theory, Theory of Farm Management by Objectives, Practices of Farm Management, Making Small farm more effective	L=11	
		T=2	P=2
2	Farm Production Systems And Management Functions: Peasants, Proprietorship, Cooperative Farming, Capital Farming, Corporate Farming, Land Tenure Systems And Agricultural Production Management, Farm Management Tools	L=11	
		T=2	P=2
3	Farm Technology and Issues in Farm Management: effects of New Technology, Management And Technology Change, Gains From Technological Improvements to Producers And Consumers, Mechanization And Automation, Green Houses; Size-Productivity Debate, Measurement Of Farm Efficiency, Irrigation Management, Production Planning-Specialization And Diversification.	L=11	
		T=2	P=2
4	Introduction to Supply Chain and Logistics Management in Agri Business:: changing Business environment, SCM; Present need In agriculture, Conceptual model of SCM and Evolution of SCM, Approaches of SCM: Traditional and Modern, Elements in SCM, Logistics Management: History and Evolution of Logistics, elements of logistics: management, distribution management, distribution strategies, pool distribution; transport management, fleet management, service innovation, warehousing, packaging for logistics, third – party logistics(TPL/3PL), GPS technology	L=11	
		T=2	P=2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	- Robertson C.A. – An Introduction To Agricultural Production Economics And Farm Management – Tata Mcgraw Hill - Heady, Earl. O And Jensen Herald R. – Farm Management Economics – Prentice Hall - Barnard C.S. And Nix J.S. – Fam Planning And Control - Altekar RV, 2006, Supply Chain Management: concepts and cases, Prentice Hall of India
2	Reference books	- Blake C.D. – Fundamentals Of Modern Agriculture - Sadhu And Singh – Fundamentals Of Agriculture - Agrawal A.N. – Indian Agriculture - Sharma A.N. And Sharma V.K. – Elements Of Farm Management - Reji D Nair – “Farm Management: Theory and Practice” – Concept Publishing Company Pvt. Ltd., - Warren G. F. – “Farm Management” – Arise Publishers and Distributors - Kahlan A. S. and Karan Singh – “Farm Management in India: Theory and Practice” – allied Publishers Pvt. Ltd., - Dhaka J.M. – “Economics of Agri Production and Farm Management” – Avishakar Publishers and Distributors
3	Websites	www.agriculture.gov.in/ www.manage.gov.in www.ica.coop/ www.apeda.gov.in www.fao.org/home/en/ www.worldbank.org http://indiagovernance.gov.in/docsearch.php?search=Agriculture&from_map=1&type=theme
4	Journals	Indian Journal of Agricultural Economics Indian Journal of Agricultural Marketing Journal of Agribusiness Rural Marketing
5	Supplementary Reading	http://www.nwccindia.com/agriculture-logistics/ agriculture and production management: Union Budget
6	Practical Component	- Make a field visit of a greenhouse farm to understand modern management activities on farm - Identify one successful/progressive farmer and conduct an interview to know various decisions taken by him/her to make successful farming - Visit various farm input selling centers and find out latest equipment and their benefits - Interact with various agro based and consumer goods producing companies and prepare report on their logistics issues while reaching rural urban markets

Semester	IV	Total Credit	4
Course Code	CC Spl-II 402 E	Credit Pattern	L-45, T-7, P-8
Course Title	PROJECT MANAGEMENT		

Course Objectives	
1	To make students understand fundamental concepts and characteristics of project including the basic roles, responsibilities and functions of project manager.
2	To Familiarize the Students with various Techniques of project financing and capital budgeting.
3	To introduce students to project evaluation and termination.

Course Outcomes: Students will be able to	
1	Explain basic concept of Project Management including Project Appraisal, Project Risk Management and use of IT in Project Management.
2	Select most appropriate Project from available options to the organization by analyzing all the projects on the basis of capital budgeting techniques.
3	Develop the Project Report of the project undertaken by the organization.
4	Determine Critical Path of project undertaken by organization and estimate project duration.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	OVERVIEW OF PROJECT MANAGEMENT & SELECTION Concept & Definition of Project, Characteristics of Project, Types of Project, Project Identification, Project Selection & Criteria, Project Life Cycle, Concept & Importance of Project Management, Roles and Responsibilities of Project Manager, Work Breakdown Structure.	L= 12	
		T= 1	P= 2
2	PROJECT APPRAISAL & RISK MANAGEMENT. Concept of Project Appraisal, Technical Appraisal, Commercial Appraisal, Economic Appraisal, Financial Appraisal, Management Appraisal, Social Cost-Benefit Analysis, Introduction to Risk Management, Role of Risk Management in Project Management, Steps in Risk Management.	L= 11	
		T= 2	P= 2
3	PROJECT FINANCING & SCHEDULING Estimating Cost of Project, Components of Cost of Project, Sources of Project Financing, Development of Project Network, Time Estimation, Developing The Project Network Using CPM/PERT, Crashing The Network. (Numerical Treatment on CPM/PERT)	L= 11	
		T= 2	P= 2
4	PROJECT PLANNING & EVALUATION Project Evaluation: Concept, Purpose, Advantages. Project Audit: Meaning, Objectives, Phases of Project Audit. Project Quality Management, Project Management Information System (PMIS): Need of Project Management Software, Project Report Writing.	L= 11	
		T= 2	P= 2

Learning Resources		
1	Text Books	1. Clifford F. Gray, Project Management: The Managerial Process, Sixth Edition, McGraw Hill Education 2. K. Nagrajan “Project Management”, new age international publication. 3. Ramakrishna & Kamaraju, Essentials of Project Management, Prentice Hall India Learning Private Limited
2	Reference books	1. Jack Meredith, Samuel J. Mantel Jr. “Project Management- A Managerial Approach” John Wiley and Sons 2. Clifford F Gray, Erik W Larson, “Project Management-The Managerial Process” Tata McGraw-Hill Publishing Co Ltd 3. Robert K Wyzoubi & Rudd Acgary, “Effective Project management”, Wiley India Pvt.Ltd.
3	Websites	1. https://www.project-management-knowhow.com/ 2. https://www.tutorialspoint.com/pmp-exams/index.htm 3. https://www.managementstudyguide.com/project-management-articles.htm 4. https://www.projectengineer.net/
4	Journals	1. International Journal of Project Management – Elsevier 2. Project Management Journal PMI 3. Project Management Journal - Wiley Online Library 4. International Journal of Project Management ScienceDirect.com
5	Supplementary Reading	1. John M Nicholas “Project Management For Business And Technology” Prentice Hall Of India Pvt Ltd 2. James P Lewis “Project Planning, Scheduling And Control” Tata McGraw-Hill Publishing Co Ltd
6	Practical Component	9. Role play to understand roles & responsibilities of project manager. 10. To identify and visit ongoing projects undertaken by any local business to study project appraisal techniques and risk management. 11. To meet project finance personnel from any financial institution to understand project financing and capital budgeting techniques. 12. Library Exercise on Project Report Preparation by studying project reports prepared by any one company of your choice.

Semester		IV	Total Credit	4
Course Code		CC-Spl-II-402-(F)	Credit Pattern	L-44, T-8, P-8
Course Title		SOFTWARE ENGINEERING AND IT PROJECT MANAGEMENT		
Course Objectives				
1	To Understand The Nature Of Software Development And Software Life Cycle Process Models, Agile Software Development, SCRUM, And Other Agile Practices			
2	To Develop The Skill Of Software Design And User-Centric Approach And Principles Of Effective User Interfaces.			
3	To Infer The Need For Project Management And Project Management Life Cycle			
Course Outcomes: Students Will Be Able To;				
1	plain Needs For Software Specifications Also They Can Classify Different Types Of Software Requirements And Their Gathering Techniques			
2	stify The Role Of SDLC In Software Project Development And They Can Evaluate The Importance Of Software Engineering In PLC.			
3	miliar With The Different Methods And Techniques Used For Project Management..			
4	Discuss The Parameters Of The Software Project's Success And Failures.			
Unit Number	Contents			Number of Sessions
1	Concept Of Software, Program V/S Software, Software Characteristics, Software Myths, Software Development Life Cycles. – Waterfall Model, Prototyping Model, Spiral Model, Coding guidelines, Structured Approach To System Design -: Principles of software design, DFD, Data Dictionary, Decision Tree, Decision Table & Structured English, E-R Diagrams			L= 11
				T= 2
2	Software Requirement and Specification, Characteristics of Good User Interface Design, Concept of white box testing and black-box testing. Object-Oriented Project Design, Introduction: Software Project Management, I.T. Stakeholders, Understanding the project, Project Initiation, Product Life Cycle, Skills and Qualities of Software Project Manager			L= 12
				T= 2
3	Project Planning - Work Break Down Structure, CASE Tools, Types of Software maintenance, Defining The Project – Deliverables, Objects And Scope, Project Scheduling, Estimating the project – Period Vs Effort, Contingency, Type of costs, Preparing the Project Budget, Defining And Managing The Risk, Managing Information systems Project Time and Resources			L= 11
				T= 2
4	Implementation Activities – Forming a Project Team, Managing People And Organizing Teams, Managing Client Expectations, Configuration Management, Identifying Information Systems Project Risks, Evaluating Success- Software Quality Factors, Causes of Failure, Project Success, Measure of end-user satisfaction, Closing the project And Business Continuity, Data Disaster, Virus Disasters, Software Disasters, Data Center Disasters			L=11
				T= 2

Note:

1. Students will have to complete all tutorials, assignments, and lab sessions for internal credits.

Learning Resources		
1	Text Books	2. Fundamentals Of Software Engineering – Roger Pressman 3. Information Technology Project Management – Jack Marchewka – Wiley India Edition
2	Reference books	3. Fundamentals Of Software Engineering - Rajib Mall Ghezzi, Jazayeri Stephen H. Khan 4. Software Requirements And Estimation - Fenton, Ptleeger McGraw Hill 5. Project Management For Software Development - Jaico 6. IT Project Estimation – Paul Coombs. – Cambridge 7. Information System Project Management - John McManus, Trevor Wood- Happer – Pearson. 8. 6. Software Project Management – Bob Hughs , Mike Cotterell – Tata McGrawhill
3	Website	4. www.tutorialspoint.com 5. www.guru99.com 6. www.examupdates.in
4	Journals	2. International Journal of Scientific Computing 3. International Journal of Statistics & Management Systems 4. Chartered Secretary
5	Supplementary Reading	2. Business Line 3. Current affairs in news papers 4. Information system Audit Reports from computer consultancies
6	Practical Component	1. Visit any computer consultant firms and discuss and understand about Software engineering process 2. Case study about Information system Project Planning

Semester	IV	Total Credit	4
Course Code	DSE Spl-II-401(A)	Credit Pattern	L-45, T-6, P-9
Course Title	INVESTMENT AND PORTFOLIO MANAGEMENT		
Course Outcomes: The students will able to learn			
1	Analyze the relationship between security analysis and market portfolio		
2	Evaluate the performance of portfolios		
3	Design various investment avenues as a small and corporate investor.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Investment: Investment – Basics of Investment – Investment, Speculation and Gambling – Investment Categories – Investment avenues – Non marketable Financial Assets – Money Market Instruments – Bond/Debentures – Equity Shares – Schemes of LIC – Mutual Funds (History and Types)– Financial Derivatives(Derivative Market, Instruments in derivative market, Calculation of pay offs from options) – Real Assets – Real Estate – Art – antiques and others. Introduction to Stock Market: Primary and secondary market, regulation of Stock	L= 11	
		T= 2	P= 1

	Market- Companies Act, SEBI, Securities contract regulation Act		
2	Fundamental Security Analysis: EIC And CIE Approach. Technical Analysis – Technical Tools - The Dow Theory – Primary Trend – The secondary Trend – Minor Trends –Charts. Efficient Market Theory – Basic Concepts – Random-Walk Theory – Weak Form of EMH – Semi-strong Form – Strong Form – The Essence of the Theory – Market Inefficiencies.	L= 11	
		T= 1	P= 3
3	Portfolio Management: Meaning of Portfolio, Steps of Portfolio Management. Code of Conduct for portfolio Manager. Portfolio Analysis – Portfolio and Single asset Returns and Risk – Mean Variance Criterion – covariance – Beta (simple problems) – Portfolio Markowitz Model – simple Diversification – Risk and Return with Different correlation. Portfolio Risk and return.	L= 12	
		T= 2	P= 3
4	Portfolio Evaluation: Asset Pricing Model Portfolio Evaluation – Capital Asset Pricing Model (CAPM) – Security Market Line – Assumptions – Arbitrage Pricing Model (APT) – Portfolio Performance Models – Sharpe’s Performance Index – Treynor’s Performance Index – Jensen’s Performance Index. Bond, terminologies used in Bond, Valuation and Immunization of Bond	L= 11	
		T= 1	P= 2

Note:

1. Portfolio Risk and return with two and three securities
2. Bond Valuation, Duration and Immunization
3. Mutual fund rankings with Sharpe and treynor
4. Problems of Pay off on option (Derivative)

Learning Resources		
1.	Text Books	1. Kapil Sheeba, “Financial Management" Pearson Publication House. 2. Jonathan Berk, Peter, "Financial Management" Pearson Publication House. 3. Sharan Vyuptakesh, “Fundamentals of Financial Management" Pearson Publication. 4. James C Van harne, “Financial Management & Policy" Pearson Publication House. 5. ICSI: Handbook on Mergers Amalgamations and takeovers.
2.	Reference Books	1. Punithavathy Pandian, SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT, Vikas Publications Pvt. Ltd, New Delhi. 2001. 2. Kevin .S, SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT, PHI, Delhi, 2011 3. Yogesh Maheswari, INVESTMENT MANAGEMENT, PHI, Delhi, 2011 4. Bhalla V K, INVESTMENT MANAGEMENT: SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT, S Chand, New Delhi, 2009 5. Prasanna Chandra, PORTFOLIO MANAGEMET, Tata McGraw Hill, New Delhi, 2008. 6. R.P.Rustagi, “Financial Management”, PHI,10th edition.
3.	Websites	INFLIBNET http://nlist.inflibnet.ac.in J-GATE http://jgateplus.com EBSCO http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4.	Journals	• Prabhandan: Indian Journal of Management • IUP Journals • ICSI Journals

		- Finance India - Indian Journal of Finance (New Sub.) - Journal of Accounting & Finance etc.
5.	Supplementary Reading	- Financial Express - Economics Times - Business Standard - Times of India - Indian Express.
6.	Practical Component	- Practical Problems on Portfolio Risk and return with two and three securities - Practical Problems on Bond Valuation, Duration and Immunization - Practical Problems on Mutual fund rankings with Sharpe and treynor - Practical Problems on Problems of Pay off on option (Derivative) - Financial statement analysis using Proves-IQ - Companies Financial Reports & Corporate case studies.

Semester	IV	Total Credit	4
Course Code	DSE Spl-II- 401(B)	Credit Pattern	L-45, T-8, P-7
Course Title	TALENT AND HUMAN CAPITAL MANAGEMENT		

	Course Outcomes:- Students will be able to:
1	Describe the concept of Talent and Human Capital Management
2	Apply different concepts of Human Capital Management.
3	Critically evaluate emerging trends in Talent and Human Capital Management.

Unit Number	Contents	Number of Sessions
1	Talent Management: Acquiring talent, Retaining talent, Nurturing talent, Developing and Recognizing talent, Separation of Talent. Principles of Talent Management, Talent Management Opportunity and Challenges, Myths about Talent Management, Current Trends in Talent Management. Benefits of Talent Management, Role of Human Resource in Remote Working – Meaning, Importance, Advantages, and Disadvantages Employee Engagement: Means to promote Employee Engagement, Relationship with Talent Management.	L= 12
		T=2 P= 1
2	Concept of Human Capital Management HRD Audit: Characteristics, Scope, Process, Methodology, Documents and outcomes. HR Accounting: Objectives, Methods, Advantages, and Limitations. Human Resource Information System: Issues while adopting HRIS, Sub-systems of HRIS, Steps in designing HRIS, Advantages of using HRIS.	L= 11
		T=2 P= 2
3	Employee empowerment- concept, objectives, Prerequisites, types, Process, benefits, limitations. Concept of Work-Life Integration, Flexi-time as a retention tool, Moonlighting: causes and HR interventions, Succession Management, Workforce Diversity, Green HRM, Employer, and Employee Branding	L= 11
		T=2 P= 2
4	Concept of HR Balanced Scorecard.	L= 11

	Role of HRM in Learning organization. Quality circle- constitution and process, Quality of Work life- objectives, importance, determinants of Quality of Work life.	T=2 P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.

Learning Resources		
1	Reference books	1. Lyle M. Spencer, Signe M. Spencer, Competence at work – John Wiley 1993 2. Naik G.P, Competency mapping, Assessment and Growth - IIHRM, 2010. 3. Herman Aguinis, Performance Management - Pearson Education, 2007. 4. Lance A. Berger & Dorothy R. Berger, The Talent Management Hand Book - Tata McGraw Hill.
2	Practical Components	1. Students are expected to conduct a study on how talent is acquired and retained – in various industries – and various strategies followed by the respective companies. 2. Students will collect data about the position of principal, director, and other teachers in your college and prepare a competency dictionary for the said positions. 3. Students will collect data in your college or any other organization using Q 12 instrument and analyze it to find out the engagement level of employees. 4. Students will identify the important positions in your college or any other organization and ascertain the measures if any taken to develop second line of leadership.
3	Journals	1. Harvard Business Review 2. Manpower Journal 3. Human Capital

Semester	IV	Total Credit	4
Course Code	DSE Spl-II-401(C)	Credit Pattern	L-45, T-8, P-7
Course Title	INTEGRATED MARKETING COMMUNICATION PAPER-IV		
Course Objectives			
1	Students will become familiar with concepts, theories of IMC.		
2	Students will understand techniques in IMC.		
3	Students will be able to utilize various tools for IMC strategies.		
Course Outcomes: Students will be able to;			
1	Explain various integrated marketing communication tools & techniques processes		
2	Design marketing communication plans		
3	Evaluate cost elements of marketing communication		
4	Apply social media for marketing communication		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Unit I IMC & Brand Management – Conceptual overview of IMC, Introduction to IMC tools – Advertising, sales promotion, publicity, public relations, and event sponsorship; Brand Management- Meaning and Definition – Brand Identity System – Types of Branding - Branding Decisions - Brand Extension – Multi- Brand Portfolios - Branding and Positioning– Concept of Brand Equity. Measuring Brand Equity.	L=11	
		T=2	P=2
2	Unit II Media Management- Elements of the Communications Mix - Media Mix - Types of Media- Media Selection- Planning and Buying –Scheduling media objectives, Media channel strategy, audience research, tactics and the media schedule, Source, Message and channel factors, Communication response hierarchy- AIDA model, Hierarchy of effect model, Innovation adoption model, information processing model, The standard learning Hierarchy, Attribution Hierarchy, The Elaboration Likelihood (ELM) model, The Foote, Cone and Belding (FCB) Model Strategy - Cost and Ability – Matching Media and Market - Media Ad. Effectiveness.	L=12	
		T=2	P=1
3	Unit III Advertising Management- Meaning and Definition – The Five of Advertising Advertising's role in the promotional mix, Theories of advertising effects, Advertising campaign planning, Function of Advertising Agencies – Advertising effectiveness - DAGMAR Approach in Advertising Push vs pull strategy, advertising budgets- Measuring advertising effectiveness(Pre-testing, Copy testing,), Tracking, Advertising return on investment (ROI), Careers, Advertising for special markets or products,	L=11	
		T=2	P=2
		L=11	

4	Unit IV Digital Media & Advertising: Digital Media, Evolution of Technology, Convergence of Digital Media, E- Commerce and Digital Media, Advertising on Digital Media, Social Media, Mobile Advertising, Electronic-PR, Advertising Laws & Ethics:, Intellectual Property Rights,.	T=2	P=2

Learning Resources		
1	Text Books	1.Kotler, Kelller, – Marketing Management: A South Asian Perspective – Pearsson Pentice Hall
2	Reference books	1.Aaker David A – Building Strong Brands – The Free Press, New York 2. Keller K. - Strategic Brand Management- Prentice - Hall India 3. Kapferer Jean Noel – Strategic Brand Management – Kogan Page London 4. Keller, Parameswaran, Jacod- Strategic Brand Managemnt- Pearson 4. Chunawalla and Sethia – Foundation of Advertising Theory and Practice- HP Publication 5. Clow Baack - Integrated Advertising, Promotion and Marketing Communication –Pearson Education 6. Kenneth E.C. , Donald Baack - Integrated Advertising, Promotion and Marketing Communications 7. George Belch and Michel Belch - Advertising and Promotion- Tata McGraw-Hill edition 8. Bly the Jim – Marketing Communication – Prentice Hall 9. U C Mathur - Advertising Management- - New Age International 10. Arunkumar, M Meenakshi - Marketing Management-Vikas Publication
4	Journals	1.Indian Journal of Marketing 2.IUP Journal of Business Strategy 3.Current Contents In Management Marketing
5	Supplementary Reading	The Economic Times Business Standard
6	Practical Components	1.Conduct Group activity based on all units 2. Case discussion on subject related contents 3. Take different situational activities e.g. - Business Games to the students. 4.Library assignments based on all units

Semester	IV	Total Credits:	4
Course Code	DSE Spl-II-401-(D)	Credit Pattern	C – 44, P = 2 T = 2
Course Title	AGRI-COMMODITY MARKETS AND AGRI-BUSINESS		
Course Out Comes: Students will be able to			
1	Discuss commodity markets for various agricultural produce		
2	Analyze commodity trading practices in India and other countries		
3	Appraise the Agri-commodities Markets and Agribusiness		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Commodity Markets and Commodity Risk: An Overview: Introduction Commodity markets, marketing of agricultural commodities, physical market operations, Understanding risk, managing risk, evolution of commodity derivatives, evolution of commodity derivatives in India	L= 11	
		T= 2	P= 2
2	Commodity Derivatives: Meaning, Types and classification, pricing derivatives, derivative markets and its participants, economic importance	L= 11	
		T= 2	P= 2
3	Commodity Exchanges: Introduction, commodity exchanges around the world and in India, Electronic Spot exchange, regulation of commodity markets	L= 11	
		T= 2	P= 2
4	Variety in commodity Markets: designing commodity controls, weather derivatives, freight derivatives, electricity derivatives, catastrophe derivatives, carbon derivatives, currency derivatives and property derivatives	L= 11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	• Purcell WD, 1991, Agricultural Futures and Options: Principles and Strategies, Macmillan Publications
2	Reference books	1. Kaufman PJ, 1986, The Concise Handbook of Futures Markets, John Willy and Sons, 2. Wasendorf RR and Mc Cafferty, 1993, All About Commodities from the Inside Out, Mc Grow hill
3	Websites	www.indiabudget.nic.in www.commodityonline.com
4	Journals	Indian Journal of Agricultural Economics Indian Journal of Agricultural Marketing Journal of Agribusiness Indian Journal of Finance Rural Marketing Vikalpa
5	Supplementary Reading	e-NAM website www.mcxindia.com
6	Practical Component	• Identify the various countries standards of commodity trading and prepare a report • Collect commodity data and analyze product wise trend and forecaste • Visit nearby commodity trading agency and conduct an interview with trading

Semester	IV	Total Credit	4
Course Code	DSE-Spl-II-401-(E)	Credit Pattern	L-44, T-8, P-8
Course Title	MODERN APPROACHES TO QUALITY MANAGEMENT		
		executive and submit report	

Course Objectives:	
1	To make students understand fundamental concepts and principles of quality management, including the basic concept and functions of service quality management.
2	To make students knowledgeable about theoretical aspects and practical application of statistical quality control techniques.
3	To introduce students to various quality management awards& its framework.

Course Outcomes: Students will be able to;	
1	Describe different concepts related to Quality Management.
2	Apply relevant practices of Quality Management in the organization.
3	Analyze issues involved in Quality Management.
4	Evaluate the recent developments in Quality Management

Unit Number	Contents	Number of Sessions	
1	INTRODUCTION TO QUALITY MANAGEMENT Definitions of Quality, Dimensions of Quality, Meaning of Quality Management, Evolution of Quality Management, Quality Assurance, Quality of Design, Quality of Conformance, Cost of Quality: Cost of Poor Quality, Cost of Internal & External Failure, Appraisal Cost, and Prevention Cost. Quality Function Deployment.	L=11	
		T=2	P=2
2	STATISTICAL QUALITY CONTROL Meaning And Significance of Statistical Quality Control, Need of Accepting Sampling, Types of Sampling Plans, OC Curve, Introduction To Statistical Process Control & Control Charts, Control Charts for Variable, Control Charts for Attribute. (Numerical Treatment on Control Charts)	L=11	
		T=2	P=2
3	TOTAL QUALITY MANAGEMENT& SIX SIGMA Total Quality Management: Concept of TQM, Evolution of TQM, Principles of TQM, TQM Model, Implementation of TQM (PDCA Cycle), Training for Quality Management. Six Sigma: Introduction to Six Sigma, Evolution of Six Sigma, DMAIC Model for Implementing Six Sigma, Six Sigma Impact Measurement. Quality Circles.	L=11	
		T=2	P=2
4	SERVICE QUALITY MANAGEMENT& QUALITY	L=11	

	MANAGEMENT AWARDS Introduction to Service Quality, The Service Quality GAP Model, Measuring& Improving Service Quality, Quality System Standards, Bureau of Indian Standards, International Organization of Standardization, ISO 9000-2000, Deming Prize, Malcolm Baldrige National Quality Award, Rajiv Gandhi National Quality Award, The Golden Peacock National Quality Award.	T=2	P=2

Note:

1. Case studies on each of the aspects mentioned in the syllabus need to be discussed.
2. Video cases and documentary films relating to the syllabus to be exhibited in the class.

Learning Resources

1	Text Books	1. Amitva Mitra, Fundamentals of Quality Control and Improvement, Wiley 2. R. Panneerselvam & P. Sivasankaran, Quality Management, Prentice Hall India Learning Private Limited 3. Shridhara Bhat K, Total Quality Management – Text and Cases, Himalaya Publishing House, First Edition 4. M. Mahajan, Statistical Quality Control, Dhanpat Rai& Co.
2	Reference books	1. Kanishka Bwdi ,“Quality Management”, Oxford University Press 2. David Hoyle, Quality Management Essentials, Butterworth-Heinemann
3	Websites	1. https://www.managementstudyguide.com/total-quality-management-articles.htm 2. https://www.managementstudyguide.com/six-sigma-articles.htm
4	Journals	1. International Journal of Productivity and Quality Management (IJPQM) 2. Journal of Quality Management ScienceDirect.com 3. Quality Management Journal – Scimago 4. The TQM Journal information – Emerald
5	Supplementary Reading	1. Dale H. Besterfield et al, Total Quality Management, Third edition, Pearson Education 2. Evans & Lindsay, An Introduction to Six Sigma & Process Improvement, Cenage learning
6	Practical Component	1. To meet quality control manager of any local manufacturing organization to understand application of Quality Control Tools. 2. Identifying and visiting local ISO Certified organization to understand criteria for getting ISO Certification. 3. Visiting any local service sector business to study its Quality Management Framework. 4. Library Exercise on any one of the Quality Management Awards studied and any one award winning company of your choice.

Semester	IV	Total Credit	4
Course Code	DSE-Spl-II-401(F)	Credit Pattern	L-45, T-8, P-7
Course Title	APPLIED DATA SCIENCE AND BUSINESS ANALYTICS USING R		

Course Objectives	
1	To understand the nature of software development and software life cycle process models, agile software development, SCRUM, and other agile practices
2	To develop the skill of software design and user-centric approach and principles of effective user interfaces.
3	To infer the need for project management and project management life cycle
Course Outcomes: Students will be able to;	
1	plain needs for software specifications also they can classify different types of software requirements and their gathering techniques
2	stify the role of SDLC in Software Project Development and they can evaluate the importance of Software Engineering in PLC.
3	miliar with the different methods and techniques used for project management..
4	Discuss the parameters of the software project's success and failures.

Unit Number	Contents	Number of Sessions	
1	Introduction to Data Science – Data Science Process, Concept of Big Data, Business Intelligence, Concept of Data mining, uses of data mining, Concept of data warehousing, OLAP, OLTP, A Process Model for Data Mining, Analytics for managers, Modules and Model Building, hard coding and soft coding in excel	L= 11	
		T= 2	P= 2
2	Introduction to Business Analytics, Prerequisites for effective business analytics, Applications of Business Analytics, ETL Process, Role of statistics in Analytics, Types of Digital Data, ETL Process, Introduction to R and its environments, Installing R, The R community, The R environment, Installing R, Variables in R, Working with R, R Packages	L= 12	
		T= 2	P= 1
3	Single-mode Data Structure-Create, Attributes, subscripting, Multi-mode data structure- Create, Attributes, subscripting, Decision making Structures, Predictive analytics, Emergence of Predictive Analytics, Applications of Predictive Analytics	L= 11	
		T= 2	P= 2
4	Basic Visualization-Pie Chart, Bar Chart, Line Chart, Q-Q Plot, Box-and-Whisker plot, Bubble plot, Role of statistics in Analytics, Basic Statistics using R, Time-series Models, Decision Tree, Clustering using R, Machine learning for text data, Building web applications with Shiny project	L=11	
		T= 2	P= 2

Note:

- Students will have to complete all tutorials, assignments, and lab sessions for internal credits.

Learning Resources		
1	Text Books	4. Fundamentals Of Software Engineering – Roger Pressman 5. Information Technology Project Management – Jack Marchewka – Wiley India Edition

2	Reference books	9. Fundamentals Of Software Engineering - Rajib Mall Ghezzi, Jazayeri Stephen H. Khan 10. Software Requirements And Estimation - Fenton, Ptleeger McGraw Hill 11. Project Management For Software Development - Jaico 12. IT'S Project Estimation – Paul Coombs. – Cambridge 13. Information System Project Management - John McManus, Trevor Wood-Happer – Pearson. 14. 6. Software Project Management – Bob Hughs, Mike Cotterell – Tata McGraw-Hill
3	Website	7. www.tutorialspoint.com 8. www.guru99.com 9. www.examupdates.in
4	Journals	5. International Journal of Scientific Computing 6. International Journal of Statistics & Management Systems 7. Chartered Secretary
5	Supplementary Reading	5. Business Line 6. Current affairs in newspapers 7. Information system Audit Reports from computer consultancies
6	Practical Component	3. Visit any computer consultant firms and discuss and understand about Software engineering process 4. Case study about Information system Project Planning

Semester	IV	Total Credit	2
Course Code	AECC-401	Credit Pattern	L-22, T-8
Course Title	Employability Skills		
Course Objectives			
1	Develop effective communication skills		
2	Develop broad career plans		
Course Outcomes			
After completion of this course the student will be able to:			
1	Match the job requirements and skill sets.		
2	Evaluate the employment market.		
Unit Number	Contents		
1	Personality, Interpersonal and employability skills and Emotional Intelligence: (15) Basic Interaction Skills –Within family, Society. Interpersonal and intrapersonal skills. Types of skills; Decision Making, Articulation Skills, Emotional Intelligence Human relations examples through role – play and cases		
2	Leadership Skills, Team work, Conflict Management ,Interview Skills, Time Management and Stress Management: (15) Leadership skills – Leadership in groups, coaching, strategic management Team work & Team building - Characteristics of an effective team, Essentials of an effective team, Evolution Team. Activities – Team trust, team shape up. Conflict Management – Types of conflicts, how to cope with them Small cases including role – plays will be used as teaching methodology. Interview skills – Preparation pre-during and post interview Resume writing, self grooming for the interviews. Introduction, Types of interviews, process of interview, Preparation of the candidate, preparation of the interviewer, common interview questions. Time Management – Importance, Prioritizing tasks, Personal Goal Setting – SMART goals, delegation, Time management in meetings, barriers to time management, identifying and handling time consuming tasks. Activity – Games, role-play, case studies. Stress Management – Understanding stress, Types of stress, symptoms, causes of stress. Managing stress, Techniques of managing stress. Activity – questionnaire to find out the level of stress.		
Learning Resources			
1	Reference Books	Business Communication – Urmila Rai & S M. Rai, 12/e, Himalaya Publishing House, 2010. Enhancing Soft Skills – Prof. Dipali Biswas, 1/e, Shroff Publishers & Distributors Pvt. Ltd., 2009. The ACE of Soft Skills – Gopalaswamy Ramesh & Mahadevan Ramesh, 3/e, Pearson Educaion, 2012. Successful Career, Soft Skills and Business English – Varanasi Bhaskara Rao & Y. Kameswari, 1/e, BS Publications, 2010. Perrsonality Development and Soft Skills - Barun K. Mitra Emotional Intelligence by Daniel Goleman	

M.COM SYLLABUS

FOR

M.Com. (Advanced Accountancy & Finance)

Faculty of Commerce – Under NEP 2020

(To be implemented from Academic Year: 2023-24)



DEPARTMENT OF COMMERCE

**CHHATRAPATI SHAHU INSTITUTE OF
BUSINESS EDUCATION AND RESEARCH (CSIBER),
(AN AUTONOMOUS INSTITUTE)**

UNIVERSITY ROAD, KOLHAPUR - 416 004 (M. S.), INDIA

2023

CURRICULUM OF M.COM. (ADVANCED ACCOUNTANCY & FINANCE) PROGRAMME

The M.Com. (Advanced Accountancy & Finance) Programme is of Two-year duration and is divided into four semesters. Semester I & II will be taught in the First Year of the programme and Semester III & IV during the second year of the programme with a provision of exit after completion of first year with Post Graduate Diploma in (Advanced Accountancy & Finance) and also re-enter the same programme to Second year of M.Com. (Advanced Accountancy & Finance) to earn his / her Master's degree within five years from the date of admission to first year.

INSTITUTE PROGRAMME OUTCOMES

1. Conceptual Knowledge

Nurturing a foundation of comprehensive understanding and analytical thinking.

2. Research and Innovation

Fostering a spirit of research and innovation among students for new dimensional searches.

3. Collaborative Learning

Imbibing collaboration and leadership skills for individual growth and collective empowerment.

4. Problem Solving and Critical Thinking

Developing critical thinking skills for problem solving and innovative solutions to meet dynamic challenges.

VISION:

“To impart qualitative and value-based commerce education for holistic development.”

MISSION:

'To empower students in the Department of Commerce to achieve global excellence through comprehensive education, fostering research, innovation, and instilling an entrepreneurial spirit, thereby contributing to the socio-economic development of diverse communities.'

Programme Specific Outcomes of the M.Com. (PSO)

PSO1. Develop proficient communication skills to effectively convey complex financial concepts and analyses to diverse stakeholders.

PSO2. Cultivate entrepreneurial mindset and skills to identify opportunities, innovate solutions, and drive sustainable business growth.

PSO3. Acquire advanced knowledge and practical expertise in accounting principles, practices, and methodologies to analyze financial data and make informed decisions.

PSO 4. Enhance adaptability and lifelong learning skills to stay abreast of evolving financial regulations, technologies, and industry trends, and continuously enhance professional competencies.

Eligibility for Admission:

Graduates in commerce discipline, passed under 10+2+3 pattern from any recognized University are eligible to take admission to First year from the academic year 2023-24 and directly to second year, passed with four years of Graduation from the academic year 2027-28.

Intake: 60

Reservation:

Reservation for special categories such as SC, ST, NT, OBC, etc. will be as per the prevailing rules & regulations of Government of Maharashtra.

Admission Procedure for First Year:

All eligible applicants will be required to be present themselves at the Institute for the Written Test, and the Personal Interview at their own cost.

The final selection of students will be on merit on the basis of

Written Test	100 marks
Personal Interview	50 marks
Total:	150 marks

The written test will be of 2 hours duration having 3 sections viz.

a)	Basic Quantitative Aptitude	30 marks
b)	Accounting and Finance Knowledge	70 marks
c)	Personal Interview	50 marks

On the basis of marks at the degree level and the performance at the written test, the candidate will be selected for Personal Interview.

The Written test:

The written test will be held by the Institute, which is one of the criteria for admission.

The Interview:

- The Interview will consist of Personal Interview (PI) to be held by the admission committee.
- At the time of interview the selection committee will take into consideration normally the candidates academic qualifications as well as personal qualities, aptitude, interest, general knowledge and work experience in the field of commerce.
- The final selection will be strictly done on merit. The committee after conduct the personal interview will prepare the final list of selected candidates.

Direct Admission to Second Year:

Students who have completed four years of Degree Programme can be admitted to directly second year of the PG Programme based on merit.

Duration:

The degree of **M.Com** shall be full time course and its duration shall be of **Two Years**. The course consists of Four Semesters. The examination to be held in the First and Second semester will be called M. Com Part – I (First Year) and the examination to be held in the Third and Fourth Semester will be called M. Com Part – II (Second Year).

1. If a candidate fails to clear all the theory papers and project report within **Five** years of his/her registration, the past performance will stand automatically nullified.
2. If a candidate discontinues any of the terms (i.e. Semester – I to IV) on any account, he/she will be allowed to complete the incomplete terms in the subsequent years subject to the condition that it is within the stipulated time duration of **Five** years.
3. In addition to the above, once a student's term (Semester) is granted, he/she shall be allowed to appear and pass in any of the subsequent examinations held, provided the examinations are within the stipulated period of **Five** years.
4. In case the term (Semester) is not granted the student has to seek fresh admission in the next year and complete the term and pass the examination. This too within **Five** years of his/her registration.

Award of degree:

At the end of each semester credits earned by the students will be uploaded Academic Bank Credits (ABC) of each student. Student can earn **M.Com.** (Advanced Accountancy & Finance) degree on redemption of 88 earned credits or 44 credits for PG Diploma. After successful completion of four semesters of **M.Com.** (Advanced Accountancy & Finance) mark list ledgers

will be forwarded to the Shivaji University for the award of Master's degree (minimum of 88 Credits) and PG Diploma after completion of first year (minimum of 44 Credits).

General Features of the Programme under NEP:

- a) New structure will be implemented with effect from Academic Year 2023-24
- b) Credits offered per Semester will be a Minimum of 20 and a Maximum of 24
- c) M.Com. (Advanced Accountancy & Finance) Programme is based on Major subjects.
- d) Electives selected in the M.Com. (Advanced Accountancy & Finance) are Relevant to OR Supportive of the Major Subject chosen.
- e) The exit option at the end of one year of the M.Com. (Advanced Accountancy & Finance) program will commence from AY 2024-25 with PG Diploma.
- f) The one-year M. Com. (Advanced Accountancy & Finance) Program will begin with effect from Academic Year 2027-28.
- g) Re-entry to complete the M. Com. (Advanced Accountancy), after taking the exit option, will be permissible up to 05 years from the date of admission to the program.

Credit Specification:

- i) Theory Course: A minimum of 15 hrs of teaching per credit is required in a semester.
- ii) Lab Practical Course / Field Project: A minimum of 30 hrs in Lab Practical activities per credit is required in a semester.

Outline of Programme Structure:

- 1. **Major Courses:** A course which should compulsorily be studied by a candidate as Core Course.
- 2. **Major Elective :** A course which should compulsorily be studied by a candidate which is in supportive of major course.
- 3. **Research Methodology :** Research Methodology course of 4 credits is Mandatory in the first semester.
- 4. **On Job Training (OJT) / Field Project :**

On Job Training as a part of Sem II of 4 credits (Equivalent to 120 hours) can be completed by the students in any industry/ Organization after completion of Sem I Examination i.e during the Diwali vacation (15 days) or Field Project of 4 credits can be completed under the supervision of departmental faculty member. This includes collection of field-based data, analysis, interpretation, referencing, report writing, etc. in the functional area. One full day in week i.e @ of 8 hrs per day for 15 days (120 hrs.) is dedicated to field-based project.

5. Research Project (RP) – I: Research Project – I, of 4 credits as a part of Semester III is designed to acquire special/advanced knowledge in the field of Advanced Accountancy & Finance. Research Project (RP) is required to be completed by the student during the summer vacation over a period of 15 days (120 Hours) in any Industry / R & D organization under the supervision of a guide allotted by the Industry or Organization.
6. Research Project (RP) – II : Research Project (RP-Master Thesis) – II of 6 credits (180 Hrs) as a part of Semester IV is a research oriented work, and a candidate studies such a course on his with an advisory support by a teacher / faculty member.
7. Practicals: Lab based Practical course of 2 credit each is designed for better understanding of the theoretical concepts taught in the class room.
8. Duration of each semester will be 15 weeks.

Credit Pattern:

Every course offered will have three components associated with the teaching-learning process of the course, namely

Lecture - L, Tutorial - T, Practice - P

Where, **L** stands for **Lecture** session, **T** stands for **Tutorial** Session consisting participatory discussion / self-study/ desk work/ brief seminar presentations by students and such other novel methods that make a student to absorb and assimilate more effectively the contents delivered in the Lecture classes and **P** stands for **Practice** Session and it consists of Hands on experience / Lab based Practicals / Field Studies / Case studies that equip students to acquire the much required skill component.

M. Com. (Advanced Accountancy & Finance) consists of all the three components with weightage depending upon the paper.

If a course is of 4 credits, then the different credit distribution patterns in L: T: P format could be:

Theory Papers:	3: 0.5: 0.5
Practical:	1: 0: 3.0

PROGRAMME COMPLETION WITH BREAK IN BETWEEN:

A student who has passed M.Com. – I and is seeking admission to M.Com – II after a long gap (Provided the gap lies within the stipulated duration of **Five** years) should complete the course syllabus which was in existence at the time of admission.

ASSESSMENT:

Taking into consideration the UGC and AICTE requirements, CSIBER has adopted “Credit Grade Based Performance Assessment System” (CGPA). Each paper is of 100 marks and a contact hour for each paper is 60. One credit is allotted to 15 contact hours. All papers are considered as Full credit papers i.e. **four** credits are allotted to each paper.

For Theory Paper of 100 Marks: The distribution of the marks will be as follows –

- Formative Assessment (Internal Marks) i.e. Concurrent Evaluation - **40 Marks**
- Summative Assessment (External Marks) i.e. Semester End examination- **60 marks**

For the Research Project/ Field Project Work of 100 marks, the distribution of the marks will be as follows:

To pass the Project Work & Viva Voce exam candidate must obtain a minimum of 40% of the marks for each part (**i.e. 40% for Project Report & 40% for Project Viva**). The assessment of

60 marks will be done by internal & external examiner. (i.e. 30 marks of internal examiner & 30 marks of external examiner.) The average of both the examiners will be considered for final calculation. If a candidate fails in the project report and its viva-voce, he/she will be required to join the particular project report and its viva-voce as a fresh candidate in the subsequent year.

Project Report out of 40% minimum **16 Marks will be required.**

Project Viva Voce out of 60% minimum **24 Marks will be required**

Breakup of Internal Marks i.e. Concurrent evaluation –

Break up of Internal Marks: 40

Sr. No	Particulars	Marks
1.	Class Participation/Attendance/Engagement/Interaction/Submissions/Discipline	10
2.	Class Test/Online Test	10
3.	Seminars / Library Based Assignment/ Case Study/ Practical	10
4.	Field Based Project/ Home Assignment/Individual Assignment/Group Assignment	10
	Total	40

Note

For every Semester End examination Class Participation and Moodle Test/ Class Test/Online Test marks are compulsory. For remaining 20 marks any of the above two heads can be selected by the faculty. The final internal marks will be calculated using the heads shown in above table. **The internal marks obtained by the student have to be disclosed by the teachers and signed by the student.**

Assessment

1. The assessment of theory papers will be done by an Internal and External examiner. A difference of more than **20%** in the marks awarded by these examiners would necessitate the evaluation of this paper by the Third examiner. The '**nearest highest**' marks will be considered for determining the average mark of such papers.
2. The examiners should submit the marks on separate sheets supplied to them. No marks should be entered directly in the inside pages of the answer book.
3. Once the Student has passed in the internal marks (**Concurrent evaluation out of 40**) and submitted to the examination department, they should be carried forward whenever required.
4. Students who failed in the internal marks (Concurrent evaluation out of 40) in such cases student should reappear for the same, and then only the revised marks will be considered for further calculation.
5. There shall be seven questions, question no.1 and 7 shall be compulsory and from question no. 2 to 6 student has to attempt any 3. Equal weightage should be given to each unit.

STANDARD OF PASSING:

1. In order to pass in a paper / head, a candidate will have to obtained 40% in the internal marks (**16 marks out of 40**), 40% marks in theory in each paper (**24 marks out of 60**).
2. To pass M. Com Examination, a candidate will have to pass in all four semesters in two parts i.e. Part I (SEM. I & II) and Part II (SEM III & IV).
3. A candidate will be permitted to proceed the next semester even though he/she fails a number of subjects.
4. A student who has passed in Part – I or Part – II alone shall not take the examination in the Part again.

5. A candidate who has passed in any of the paper / head of passing shall not be allowed to appear again for that paper / head.

Semester Performance Index (SPI)/Cumulative Performance Index (CPI) will be as follows.

Grading System:

In order to pass in paper/ head a candidate will have to obtain 40% marks in Theory and minimum of 40% marks in Internal. However, in order to pass in each individual paper the candidate should score a minimum of 40% marks for M.Com Programme.

Grade Table For M.Com Programme Semester Examination (Full Credit 100 Marks)			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
96 – 100	S+	10.0	Exemplary
91 – 95	S	9.0	
86 – 90	E+	8.5	Outstanding
81 – 85	E	8.0	
76 – 80	O+	7.5	Excellent
71 – 75	O	7.0	
66 – 70	A+	6.5	Very Good
61 – 65	A	6.0	
56 – 60	B+	5.5	Good
51 – 55	B	5.0	
46-50	C+	4.5	Average
40-45	C	4.0	
--	X	0.0	Fail
--	XX	---	Incomplete

Grade Table For M.Com Programme Semester Examination (Half Credit 50 Marks)			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
48 – 50	S+	10.0	Exemplary
46 – 47	S	9.0	
43 – 45	E+	8.5	Outstanding
41 – 42	E	8.0	
38 – 40	O+	7.5	Excellent
36 – 37	O	7.0	
33 – 35	A+	6.5	Very Good
31 – 32	A	6.0	
28– 30	B+	5.5	Good
26 – 27	B	5.0	
23-25	C+	4.5	Average
20-22	C	4.0	
--	X	0.0	Fail
--	XX	---	Incomplete

Final Result: For the final result of the student Cumulative Performance Index (CPI) based on total earned credits vis-à-vis total earned grade points shall be calculated.

Final Result For M.Com Programme		
CPI	Grade	Classification of Final
9.0-10.0	S	Exemplary
8.0-8.9	E	Excellent
7.0-7.9	O	Outstanding
6.0-6.9	A	Very Good
5.0-5.9	B+	Good
4.0-4.9	B	Average
0.0-4.9	X	Fail

Note: An aggregate of **4.0** credit points are required to pass the M.Com program.

CALCULATION OF PERFORMANCE INDICES:

A distinction of the performance of one student from the other student is rather impossible to carry out from the grades obtained by a student in all the courses taken by him in a semester/year. Hence, the evaluation of various courses is cumulated in two performance indices termed as semester performance index (SPI) and cumulative performance index (CPI), the explanation of which is given below:

Semester Performance Index (SPI):

The performance of a student in a semester is indicated by a number called Semester Performance Index (SPI). SPI is the weighted average of all the grade points obtained by him in all the courses registered during the semester. If G_i is a grade with numerical equivalent as G_i obtained by a student for the course with credit C_i then, SPI for that semester is calculated using formula.

$$SPI = \frac{\sum C_i G_i}{\sum C_i}$$

Where summation is for all the courses registered by a student in that Semester SPI is calculated to two decimal places and rounded off. SPI once calculated shall never be modified. Generally, for the students failed in regular examinations SPI is calculated only after the declaration of re-examination grades.

Cumulative Performance Index (CPI):

An up-to-date assessment of the overall performance of a student from the first semester till completion of the programme is obtained by calculating an index called as Cumulative Performance Index (CPI). The CPI is weighted average of the grade points obtained in all the courses registered by a student since the first semester of the programme.

Besides SPI, CPI is also calculated at the end of every semester up to two decimal places and is rounded off. It is necessary that one course appears only once in calculation of CPI and the denominator in above equation does not exceed the total number of credits registered by him.

$$CPI = \frac{\sum_i C_i g_i}{\sum_i C_i}$$

GRACE MARKS UNDER DIFFERENT ORDINANCE:

S.O. No. 1:-Grace Marks for Passing in each head of Passing (Theory/Practical/Oral/Sessional/External/Internal).

The Examinee shall be given the benefit of grace marks only for passing in each head of Passing (Theory/Practical/Oral/Sessional/ in External /Internal examination as follows.

Head of Passing	Grace Marks
Upto –50	2
051-100	3
101-150	4
151-200	5
201-250	6
251-300	7
301-350	8
351-400	9
And 401 and above.	10

Provided that the benefit of such gracing marks in different heads of passing shall not exceed 1% of the aggregate marks in that examination.

Provided further that the benefit of gracing of Marks under this Ordinance shall be applicable only if the candidate passes the entire examination of Trimester/Semester.

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM, CCIII, NCTE and UGC etc.

S.O. NO. 2:- GRACE MARKS FOR GETTING HIGHER CLASS

A Candidate who passes in all the subjects and heads of passing in the examination without the benefit of either gracing or condonation rules and whose total number of Marks falls short for securing Second Class/Higer Second Class or First Class by marks not more 1% of the aggregate marks of that examination or up to 10 marks, whichever is less, shall be given the required marks to get the next higher class of grade as the case may be. Provided that benefits of above mentioned grace marks shall not be given, if the candidate fails to secure necessary passing marks in the aggregate head of passing also, if prescribed in the examination concerned.

Provided further that the benefits of above mentioned grace marks shall be given to the candidate for such examination/s only for which provision of award of class has been prescribed.

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM, CCIII, NCTE and UGC etc.

S.O. NO. 3 CONDONATION

If a candidate fails in more than one head of passing, his/her deficiency of marks in such head of passing may be condoned by not more than 1% at the aggregate marks of the examination. However condonation, whether in one head of passing or aggregate head of passing be restricted to maximum up to 10 marks only.

Condonation of deficiency of marks be shown in the statement of Marks in the form of asterisk and Ordinance number

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM, CCIII, NCTE and UGC etc.

BACKLOG:

A candidate will be permitted to proceed to the second, third and fourth Semester even though he/she fails in one or more subjects of the first semester, provided the first semester term is granted.

Question Paper Structure (4 Credit Course)

Outline of Semester end examination question paper:

Outline of the End Term Examination Question Paper

Class:

Subject Title:

Paper Code:

Time: 3 Hours

Total Marks: 60

Instructions:

1. Question No.01 is compulsory
2. Attempt any **ONE** from Q.No.2 and Q.No.3
3. Attempt any **ONE** from Q.No.4 and Q.No.5
4. Figures to the right indicates Full marks.

Q. 1 Case Study (20)

Q. 2 Long Question / Essay Type (20)

OR

Q. 3 Long Question / Essay Type (20)

Q. 4 A] Long Question / Essay Type (10)

B] Long Question / Essay Type (10)

OR

Q. 5 A] Long Question / Essay Type	(10)
B] Long Question / Essay Type	(10)

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Note:

- A. The students are required to score minimum 40 percent in end term examination.
- B. Essays Structure:
 - 1. Introduction
 - 2. Content
 - 3. Critique
 - 4. Conclusion
 - 5. Recommendations
 - 6. References/Bibliography
 - 7. Number of pages approximately 10/12 pages (May vary)
 - 8. Wherever required draw figures/tables/diagrams.
 - 9. Every question should provide ample scope for critique and comment

Question Paper Structure (2 Credit Course)

Outline of Semester end examination question paper:

Outline of the End Term Examination Question Paper

Class:

Subject Title:

Paper Code:

Time: 3 Hours

Total Marks: 30

Instructions:

- 1. Question No.01 is compulsory
- 2. Attempt any ONE from Q.No.2 and Q.No.3
- 3. Attempt any ONE from Q.No.4 and Q.No.5

4. Figures to the right **indicates Full marks.**

Q. 1 Case Study (10)

Q. 2 Long Question / Essay Type (10)

OR

Q. 3 Long Question / Essay Type (10)

Q. 4 Long Question / Essay Type (10)

OR

Q. 5 Long Question / Essay Type (10)

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Note:

- A. The students are required to score minimum 40 percent in end term examination.
- B. Essays Structure:
 - 1. Introduction
 - 2. Content
 - 3. Critique
 - 4. Conclusion
 - 5. Recommendations
 - 6. References/Bibliography
 - 7. Number of pages approximately 10/12 pages (May vary)
 - 8. Wherever required draw figures/tables/diagrams.
 - 9. Every question should provide ample scope for critique and comment

**M.Com. Program Course Structure as Per NEP 2020
(With Effect from 2023-24)**

M.Com. - I Year

M.Com-I Semester – I								
Nature of Choice	Subjects Code	Subjects	Credits	LTP	Contact Hours	Int. Marks	Ext. Marks	Total Marks
Major Subjects	FOC -101	Advanced Accountancy	4	3:1:0	60	40	60	100
	FOC -102	Fundamentals of Marketing	4	3:1:0	60	40	60	100
	FOC -103	Business Statistics	4	3:1:0	60	40	60	100
	FOC-104	Fundamentals of Auditing	2	1:1:0	30	20	30	50
Electives	FOC -105-A	Corporate Finance	4	3:1:0	60	40	60	100
	FOC -105-B	Corporate Restructuring		3:1:0	60	40	60	100
Research Methodology	FOC -106	Research Methodology	4	3:0:1	60	40	60	100
Total			22	NA	330	140	330	550
M.Com.-I Semester – II								
Nature of Choice	Subjects Code	Subjects	Credits	LTP	Contact Hours	Int. Marks	Ext. Marks	Total Marks
Major	FOC -201	Advanced Cost Accountancy	4	3:1:0	60	40	60	100
	FOC -202	Global Business	4	3:1:0	60	40	60	100

Subjects		Environment						
	FOC-203	Financial Markets	4	3:1:0	60	40	60	100
	FOC-204	Computerized Accounting (Tally Prime- Lab Based Practicals)	2	1:1:0	30	20	30	50
Electives	FOC -205-A	Financial Planning	4	3:1:0	60	40	60	100
	FOC -205-B	Business Finance		3:1:0	60	40	60	100
Field Project	FOC-206	Field Project	4	3:0:1	60	40	60	100
Total			22	NA	330	140	330	550

**Revised Structure of M.Com. as per NEP 2020
(With Effect from 2023-24)
M.Com. - II Year**

M.Com.-II Semester – III								
Nature of Choice	Subjects Code	Subjects	Credits	LTP	Contact Hours	Int. Marks	Ext. Marks	Total Marks
Major Subjects	FOC -301	Management Accounting	4	3:1:0	60	40	60	100
	FOC -302	Direct & Indirect Taxes	4	3:1:0	60	40	60	100
	FOC -303	Financial Data Analysis Using Excel (Lab Based Practicals)	4	3:1:0	60	40	60	100
	FOC-304	TDS Using Tally (Lab Based Practicals)	2	1:1:0	30	20	30	50
Electives	FOC - 305-A	Strategic Financial Management	4	3:1:0	60	40	60	100
	FOC - 305-B	Investment Management		3:1:0	60	40	60	100
Research Project (Summer Internship)	FOC -306	Research Project (Summer Internship Program/Training)	4	3:0:1	60	40	60	100

Program/Training)								
Total			22	NA	330	140	330	550

M.Com-II Semester – IV								
Nature of Choice	Subjects Code	Subjects	Credits	LTP	Contact Hours	Int. Marks	Ext. Marks	Total Marks
Major Subjects	FOC -401	Financial Reporting	4	3:1:0	60	40	60	100
	FOC -402	Indian Economic Environment	4	3:1:0	60	40	60	100
	FOC-403	Human Resources Management	4	3:1:0	60	40	60	100
Electives	FOC - 404-A	Cost & Management Audit	4	1:1:0	60	40	60	100
	FOC - 405-B	Bank Financial Management		3:1:0	60	40	60	100
Research Project (Summer Internship Program/Training)	FOC -406	Research Project (Master Thesis)	6	5:0:1	60	50	100	150
Total			22	NA	330	140	330	550

Semesters	Major Courses	Elective Courses	Research Methodology	Field Project	Research Project	Total Credits
I	3 x 4 = 12 1 x 2 = 02	1 x 4 = 04	04	-	-	22
II	3 x 4 = 12 1 x 2 = 02	1 x 4 = 04	-	04	-	22
III	3 x 4 = 12 1 x 2 = 02	1 x 4 = 04	-	-	04	22
IV	3 x 4 = 12 1 x 2 = 02	1 x 4 = 04	-	-	06	22

Semester	I	Total Credit	4	
Course Code	FOC-101	Credit Pattern	L-45, T-6, P-9	
Course Title	Advanced Accountancy			

Course Outcomes	
	The students will be able to:
1.	Discuss the concept of accounting standards and its practical applications.
2.	Apply the accounting knowledge to take business decisions.
3.	Prepare the final accounts for different sectors.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Accounting Standard Meaning, Objectives and Need of Accounting Standard, Introduction to IFRSs, Distinction between GAAPs and IFRSs, Disclosure of Accounting Policies (AS-1) and Valuation of Inventories (AS-2) Practical: Visit Chartered Accountant's Office and discuss the ideas of accounting standards, IFRSs and GAAPs Arrange students group discussion or seminar on AS-1 and AS-2	L= 11	
		T= 2	P= 2
2	Accounting for Service Industries: Accounting of Hotel: Nature of Hotel business, Sources of Revenue and Heads of Expenditures of Hotel, Visitors' ledgers and Preparation of Final Accounts Accounting of Hospitals: Introduction, Introduction, Incomes and Expenditure, Capital and Revenue, OPD and IPD register Practical: Visit to any Hotel and arrange discussion with hotel's manager regarding hotel's accounting process Visit to any Hospital and arrange discussion with hospital manager regarding	L= 12	
		T= 1	P= 3

	hospital's accounting process		
3	Accounts of Banking Companies Business of banking companies – some important provisions of Banking Regulation Act of 1949 – minimum capital and reserves – restriction on commission – brokerage – discounts – statutory reserves – cash reserves – books of accounts – special features of bank accounting, final accounts -Balance sheet and profit and loss account – Concept of NPA & Revenue Recognition in case of NPA– rebate on bill discounted – acceptance – endorsement and other obligations – problems as per new provisions. Practical: Download financial statements of banking company and discuss on them in the classroom.	L= 11	
		T= 2	P= 2
4	Accounting of Insurance Companies General and Life Insurance, Introduction, Accounting forms, Financial Statements with schedules, IRDA Regulations related to financial statements of insurance companies. Practical: Download financial statements of insurance company and discuss on them in the classroom. Arrange visit to insurance company branch office to know their accounting process	L=11	
		T= 1	P= 2

Learning Resources		
1.	Text Books	1. Bose, D. (2010). Advanced Accounting. Prentice Hall India Learning Private Limited. 2. Made Gowda – Advanced Accounting, Himayala Publication House 3. Jawaharlal, Managerial Accounting, Himayala Publication House 4. S.N. Maheswari, Advanced Accountancy, Vikas Publishers 5. R. Venkataramana, Advanced Accountancy, Vikas Publication House 6. S. P. Jain and K. L. Narang – Advanced Accountancy, Kalyani Publication House. 7. Paduka's Students Handbook on Advanced Auditing; CA Final; Padhukas Publication.
2.	Reference Books	1. R L Gupta, Advanced Accountancy, Sultan Chand Publication 2. Shukla and Grewal, Advanced Accountancy, S Chand Publication 3. Corporate Accounting by S.N.Maheshwari – Vikas Publication 4. Narayanaswamy, R.: Financial Accounting: A Managerial Perspective, Prentice Hall of India, Delhi. 4. Gupta, S. C.; Gupta, M. P.; Shukla, M. C.; Agrawal, B. M. and Grewal, T. S. (2019). Advanced Corporate Accounting, S. Chand & Company, New Delhi.

		5.Shukla, M. C.; Grewal, T. S. and Gupta, S. C.; (2016). Advanced Accounts, S. Chand & Company, New Delhi. 6.Arulnandan, M. A. and Raman, K. S. (2018). Advanced Accountancy (Corporate Accounting) Vol. II, Himalaya Publishing House, Mumbai. 7.Gupta, R. L. andRadhaswamy, M. (2018). Advanced Accountancy Vol. II, Sultan Chand and Sons; New Delhi. 8.aheshwari, S. N.; Maheshwari, Suneel and Maheshwari, Sharad K. (2018). Corporate Accounting. Vikas Publication House, New Delhi. 9.Shukla M. C. ; Grewal T.S. and Gupta S.C. - Advanced Accounts; S.Chand and Co. New Delhi. 10.Jain, S. P.; Narang, K. L.; Agrawal, Simmi and Sehgal, Monik (2018). Advanced Accountancy (Corporate Accounting) Vol. II, Kalyani Publishers, New Delhi. 11.Hanif, M. and Mukharjee, A (2018). Modern Accountancy Vol. II, McGraw Hill Education India (Private) Ltd., Noida.
3.	Websites	1.INFLIBNET http://nlist.inflibnet.ac.in 2.J;GATE http://jgateplus.com 3.EBSCO http://search.ebscohost.com 4. www.icai.org. 5.Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4.	Journals	1. The Chartered Accountant Journal. 2. The Chartered Secretary Journal. 3. The Management Accountant Journal. 4. Finance India 5.Journal of Accounting & Finance
5.	Supplementary Reading	1.CA IPCC Study Material 2. Relevant Study Material Issued by ICAI 3.Relevant Study Material Issued by ICSI 4.Relevant Study Material Issued by ICWAI
6.	Practical Component	1. Practical problems on banks & insurance companies. 2. Identifying accounting policies and making valuation of inventories. 3. Preparation of accounts of hotels and hospitals. 4. Preparation of consolidated financial statements of group of companies. 5. Application of accounting process for insurance companies.

Semester	I	Total Credit	4
Course Code	FOC-102	Credit Pattern	L-45, T-8, P-7
Course Title	FUNDAMENTALS OF MARKETING		
Course Objectives:			
Course Outcomes: Students will be able to;			
1.	Students will be able to demonstrate conceptual knowledge of the subject		
2.	Students will be able effectively to understand sub-functional areas of marketing.		
3.	Students will analyze the business to take product decisions.		
4.	Develop critical thinking to take marketing decisions using different tools.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Marketing Definition, Meaning Importance's, Market & Market types, Core-concepts, Marketing Vs. Selling, Production concept, Product concept, Selling concept & societal approach, Marketing Environment Micro & Macro, Techniques of Demand measurement, Marketing Planning Process.	L= 11	
		T= 2	P= 2
2	Segmentation Targeting & Positioning Market Segmentation bases, Effective segmentation criteria, Consumer & Industrial Goods segmentation, Target Markets, and Positioning. Consumer and Business buying process. Concept & Classification of Product, Levels of Product, Product Life Cycle & Strategies, New Product Development.	L= 12	
		T= 2	P= 1
3	Price, Place & Promotion Pricing Methods & Objectives, Factors influencing on pricing Distribution channels decisions & functions, Branding & Packaging, advertising, Sales Promotion, Personal Selling,	L= 11	
		T= 2	P= 2
4	Contemporary Marketing Service marketing, Green marketing, Recent trends in marketing, and Marketing Information Systems.	L=11	
		T= 2	P= 2

Learning Resources

1	Text Books References	1.Kotler Philip (2015) “Marketing Management”17th Edition Prentice Hall of India, New Delhi. 2.Babu,,K,John, (2018) “Fundamentals Marketing “,1st Edition New Delhi Abhijit Publications. 3.Bhatia, Singh, Punit, ,(2017).”Fundamentals of Marketing Text & cases,1st Edition, Mumbai Himalaya Publishing House. 4.Sharma, Anushuman , (2014) “Basic Fundamental of Marketing, Sharma & Anushuman,.Revised Edition, New Delhi Random Publication 2014. 5. Bhat, K.Shridhara, (2021) “Marketing Management, Bhat,K.Shridhra,.Mumbai Himalya Publishing House.
3	Websites	https://www.ama.org/ https://www.academyofindianmarketing.org/ (Academy of Indian Marketing (AIM) Management Institutions) https://www.ima-india.com/ (https://www.ima-india.com/) https://www.mrsi.co.in (Market Research Society Of India: MRSI)
4	Journals	Indian journal of marketing Journal of digital marketing Journal of Marketing: SAGE Journals
5	Supplementary Reading	Economics Times, Brand Equity Business Standard, The Strategist.
6	Practical Component	1. Student will select any product of their choice and prepare a poster presentation on core concept of Marketing applicable for the product. 2. Group Activity: Students will prepare an advertisement to promote the conceptual product developed to the target customer.

Semester	I	Total Credit	4
Course Code	FOC-103	Credit Pattern	L-45, T-8, P-7
Course Title	Business Statistics		
Course Objectives:			
Course Outcomes: Students will be able to;			
1.	Provide solution to management decision problems.		
2.	Analyze company/organization data for taking management decision.		
3.	Analyze the data collected for management decision and provide inference towards it.		

Unit	Contents	

Number			
1	Measures of Central Tendency: (15) Introduction, Objectives of statistical average, Requisites of a Good Average, Statistical Averages - Arithmetic Mean - Properties of arithmetic mean - Merits and demerits of arithmetic mean ,Median - Merits and demerits of median, Mode - Merits and demerits of mode, Measures of Dispersion: Appropriate Situations for the Use of Various Averages, Positional Averages, Dispersion – Range - Quartile deviations, Mean deviation, Standard Deviation -Properties of standard deviation, Coefficient of Variation.	L= 11	
		T= 2	P= 2
2	Simple Correlation: (15) Introduction , Correlation - Causation and Correlation - Types of Correlation -Measures of Correlation - Scatter diagram - Karl Pearson’s correlation coefficient - Properties of Karl Pearson’s correlation coefficient, Spearman’s Rank Correlation Coefficient Regression: Regression analysis - Regression lines - Regression coefficient, Permutation & Combination: Principles of counting, Permutations of n dissimilar objects taken r at a time (with and without repetitions), Properties, Combination of n objects taken r at a time, Properties, examples on Permutations and Combinations.	L= 12	
		T= 2	P= 1
3	Probability: (15) Random experiment, sample space and classification of sample spaces, Classical definition of probability, Properties, Conditional probability, Multiplication law of probability, Baye’s theorem, Independence of events, Examples. Probability Distribution: Random variable, Probability mass function, Cumulative distribution function, Mathematical expectation, Variance, Definition and properties of Binomial, Poisson distribution-examples, Probability density function, Definition and properties of Normal distributions. Examples.	L= 11	
		T= 2	P= 2
4	Testing of Hypothesis: (15) Introduction, Simple & Composite, Null & Alternate Hypothesis, Type I and Type II Error, Level of Significance, One Tail & Two Tail, General Procedure of Testing of Hypothesis, Parametric Test, Large Sample Z Test for – Population Mean, Difference of Population Means, Small Sample t Test for – Population Mean, Difference of Population Means, Non-Parametric – Chi Square Test of	L=11	
		T= 2	P= 2

	Independence.		

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	1. S C Gupta, Fundamentals of Statistics 2. S C Gupta, Business Statistics 3. C R Kothari, Research Methodology – Methods Techniques
2	Reference books	1. N D Vohra, <i>Business Statistics</i> , Tata McGraw Hill 2. G C Beri, <i>Business Statistics</i> , Tata McGraw Hill 3. Devid M Levine etc, <i>Business Statistics – A First Course</i> , Pearson Publication. 4. Glyn Davis & Branko Pecar, <i>Business Statistics Using Excel</i> , Oxford University Press. 5. Albright, Winston, Zappe, <i>Decision Making Using Microsoft Excel</i> , Cengage Learning.
3	Journals	1. International Journal of Statistics & Management Systems 2. Calcutta Statistical Association Bulletin 3. Vikalpa: The Journal for Decision Makers
4	Websites	1. www.stattrek.com 2. www.statisticsbyjim.com 3. www.pinkmonkey.com/studyguides/subjects/stats/contents.asp
5	Supplementary Reading	1. Glyn Davis & Branko Pecar, <i>Business Statistics Using Excel</i> , Oxford University Press.
6	Practical Component	1. Analyzing collected raw data or online available data. 2. Finding relations among two or more variables and fitting regression equation to predict value of dependent variables.

Semester	I	Total Credit	2
Course Code	FOC-104	Credit Pattern	L-25, T-2, P-3
Course Title	Fundamentals of Auditing		

Course Outcomes	
	The students will be able to:
1.	Describe the basic concepts and objectives of audit.
2.	Apply working knowledge of generally accepted auditing procedures.
3.	Evaluate the techniques of conducting audit of various entities.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Nature, Objectives and Scope of Audit: Understand the functional Classification and Qualities of Auditor – Define Audit and understand the Objectives of Audit, Principals governing Audit. – Distinguish between Audit and investigation- Understand Different types of audit and relationship of auditing with other disciplines. Audit Strategy, Audit Planning and Audit Programme: Understand Audit Planning and overall Audit Strategy for an Audit – Draft Audit Programme. Audit Documentation and Audit Evidence: Understand the concept of Audit Documentation – Nature and Purpose of Audit Documentation – Audit file, assembly of Final Audit File, ownership of Audit Documentation.	L= 11	
		T= 2	P= 2
2	Audit of Different types of entities: Understand the procedures to be adopted for auditing of Non-Profit Organization (NGO) and Charitable Institutions. - Gain knowledge of auditing procedure of sole trader firm, educational Institutions, hospitals, clubs, cinema, hotels, etc. - Identify the Audit Procedure of Government, Local Bodies, Co-operative Societies, etc. Audit Report: Contents of Audit Report	L= 11	
		T= 1	P= 3

Learning Resources		
1.	Text Books	1. A Handbook on Practical Audit – B N Tandon 2. Auditing Principals and Practice – Ravindra Kumar and Virendra Sharma 3. Principal and Practice of Auditing – Dinkar Pagare 4. Relevant Study Material of ICAI
2.	Reference Books	1. Taxman's Auditing and Assurance – Pankaj Garg 2. Shaitya Bhawan Publication – Auditing – Dr T R Sharma 3. Auditing Principals, Practices and Problems – Jagdish Prakash 4. Taxman's Concurrent Auditing in Bank – D P Gupta 5. Paduka's Student Handbook on Advance Auditing – Padhukas Publication 6. Bestword's Auditing and Assurance – CA Surbhi Bansal 7. A Practical Guide to Company Audit – CA Virendra K Pamecha 8. Bharat's Statutory Audit - CA Kamal Garg
3.	Websites	1. www.icaai.org 2. https://www.vsijaipur.com

		3. www.icma.in 4. Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4.	Journals	1. The Chartered Accountant Journal. 2. The Chartered Secretary Journal. 3. The Management Accountant Journal 4. Capital Market 5. Finance India 6. Journal of Accounting & Finance
5.	Supplementary Readings	1. The Financial Express 2. The Economics Times 3. Business Line

Semester	I	Total Credit	4
Course Code	FOC-105-B	Credit Pattern	L-45, T-6, P-9
Course Title	Corporate Finance		
Course Outcomes			
The students will be able to:			
1.Critically evaluate theoretical research in corporate finance			
2.Explain the implications of theory for practical financial management			
3.Compare various models of investment decision making under uncertainty			

Unit Number	Contents	Number of Sessions	
1	Introduction to Corporate Finance Meaning, Scope, Importance of Corporate Finance Goals of Financial Management Role of Financial Manager	L= 11	
		T=	P=
2	Sources of Finance Long-term and Short term Financial needs of Business Advantages and Disadvantages of Long-term and Short term Finance Sources of Long-term and Short term Finance	L= 12	
		T=	P=
	Capital Structure Decisions	L= 11	

3	Meaning of Financing Decisions Equity and Debt Financing Capital Structure Determinants of Capital Structure	T=	P=
4	Working Capital Management Concept of Working Capital Types of Working Capital Importance of Working Capital Operating and Cash Conversion Cycle Determinants of Working Capital Financing of Working Capital	L=11	

Syllabus

Learning Resources	
Text Books	Wishwanath S.R., Corporate Financial Theory and Practical, Response Books, New Delhi 2 Ross Westerfield Jordan , Fundamentals of Corporate Finance, Tata Mac Graw Hill Publishing Co. 1. Prasanna Chandra. "Investment Analysis And Portfolio Management". Tata McGraw Hill. 2. Donalf E. Fisher – Ronald J. Jordan. "Security Analysis And Portfolio Management". Prentice – Hall India. 3. Security Analysis and Portfolio Management, Prasanna Chandra, Tata McGraw Hill 4. Portfolio Management- Kevin 5. Portfolio Management- Prasanna Chandra 6. Portfolio Management- Barua 7. Stock Exchanges and Investments- Raghunathan 8. Security Analysis and Portfolio Management- Fisher and Jordon 9. Portfolio Management – V. K. Bhalla
Reference Books	1. Financial Management, Prasanna Chandra, Tata McGraw Hill, 2. Security Analysis and Portfolio Management, Ravi Kishor, Taxman Publishers 3. Financial Management, Khan & Jain, Tata McGraw Hill 4. Fundamentals of Investment Management, Hirt and Block, Tata McGraw Hill. Ed 2009. 5. Portfolio Management Handbook, Robert A. Strong, Jaico Publishing House, Mumbai 6. Financial Management-Rajiv Shrivastava and Anil Misra, Oxford University Press, New Delhi 7. Financial Management- Dr. Anil Kumar Dhagat, Kognet Learning Solutions Inc., Dreamtech Press, New Delhi 8. Finance Sense ---Finance for Non-finance Executives, Prasanna Chandra, Tata McGraw Hill Education Pvt. Ltd., New Delhi

	9. Investment and Securities Market in India- V.A.Avdhani 10. Security Analysis and Portfolio Management- Sasidharan/ Mathews 11. Security Analysis and Portfolio Management- PunithavathyPandian 12. Portfolio Management Handbook- Robert A. Strong 13. Stock Exchange and Investment- Raghunathan 14. Stock Exchange Trading in India- Gupta L.C. 15. Capital Issues, SEBI and Listing- Chandratre K.R 16. Corporate Mergers, Amalgamations & Take Over- Verma J.C. 17. Corporate Restructuring and Indian Perspective- Mattoo P.K 18. International Business-Aswthappa, TMH, N. Delhi
Websites	1. www.nseindia.com 2. www.bseindia.com 3. www.moneycontrol.com 4. www.advisorkhoj.com 5. www.dsij.in
Journals	1. Indian Journal of Research in Capital Markets, ISSN 2394-3459, Indexed in Google Scholar, IC Value(2015), 2. Capital Market Law Journal, ISSN 1750-7219, ELSSN 1750-7227. 3. Indian Journal of Finance 4. Capital Market 5. Journal of Emerging Market Finance (New Sub.) 6. Dalal Street Investment Journal

Semester I			
Course Code	FOC -105-B	Type	Core Course (CC)
Course Title	Corporate Restructuring		

Level of Knowledge: Advance Knowledge	
Course Objective	
1	To acquire knowledge of the legal, procedural and practical aspects of Corporate Restructuring, Valuation and Insolvency.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction & Concepts: Meaning of Corporate Restructuring, Need, Scope and Modes of Restructuring, Historical Background, Emerging Trends • Planning, Formulation and Execution of Various Corporate Restructuring Strategies -Mergers, Acquisitions, Takeovers, Disinvestments and Strategic Alliances, Demerger and Hiving off, Expanding Role of Professionals	L= 9	
		T= 2	P= 1

2	Merger and Amalgamation: Introduction, Legal, Procedural, Economic, Accounting, Taxation and Financial Aspects of Mergers and Amalgamations including Stamp Duty and Allied Matters , Interest of Small Investors, Merger Aspects under Competition Law ,Jurisdiction of Courts; Filing of Various Forms, Amalgamation of Banking Companies and Government Companies, Cross Border Acquisition and Merger, Valuation of Shares.	L= 9	
		T=1	P= 2
3	Corporate Demerger and Reverse Merger: Concept of Demerger; Modes of Demerger - by Agreement, under Scheme of Arrangement , Demerger and Voluntary Winding Up, Legal and Procedural Aspects; Tax Aspects and Reliefs, Reverse Mergers – Procedural Aspects and Tax Implications	L= 9	
		T=2	P=1
4	Funding of Merger and Takeover: Financial Alternatives; Merits and Demerits, Funding through various Types of Financial Instruments including Equity and Preference Shares, Debentures, Securities with Differential Rights, Swaps, Stock Options; ECBs, Funding through Financial Institutions and Banks, Rehabilitation Finance, Management Buyouts/Leveraged Buyouts	L= 9	
		T= 1	P= 2

Learning Resources			
1.	Reference books	1. A. Ramaiya : Guide to Companies Act, LexisNexis Butterworths, Wadhwa, Nagpur 2. M.C. Bhandari : Guide to Company Law Procedures, LexisNexis Butterworths Wadhwa Nagpur 3. ICSI : Handbook on Mergers Amalgamations and takeovers. 4. K. R. Sampath : Mergers/Amalgamations, Takeovers, Joint Ventures, LLPs and Corporate Restructure, Snow White Publications 5. S. Ramanujam : Mergers et al, LexisNexis Butterworths Wadhwa Nagpur 6. Ray : Mergers and Acquisitions Strategy, Valuation and Integration, PHI	
2.	Important Websites	(a) www.sebi.gov.in (b) www.rbi.org.in (c) www.finmin.nic.in (d) www.dipp.nic.in (e) www.mca.gov.in	
3.	Journals	1. The Chartered Accountant Journal. 2. The Chartered Secretary Journal. 3. The Management Accountant Journal, Printer & Publisher, CMA Kaushik Banerjee, and Editor: CMA Dr Debaprosanna Nandy, ISSN: 09723528	
4.	E- Libraries	<u>INFLIBNEThttp://nlist.inflibnet.ac.in</u> <u>J-GATEhttp://jgateplus.com</u> <u>EBSCOhttp://search.ebscohost.com</u> Library online Opac Address: <u>http://192.168.1.111:8080/opac</u> *For INFLIBNET individual usernames and passwords are already given. Use the same	

Semester	I	Total Credit	4
Course Code	FOC-106	Credit Pattern	L-48, T-9, P-3
Course Title	RESEARCH METHODOLOGY		

Course Objectives	
1	Conceptualise a topic of interest and need to define a problem to be investigated
2	Analyze Research Methodologies for Application
3.	Order and Synthesize Data from Various Sources
4.	Apply Research Methodology in Their Own Research
5	Develop the ability to present information concisely, with clarity and relevance, using appropriate conventions for different contexts.

Course Outcomes: The students will be able to	
1.	Conduct in-depth research and critical analysis in the discipline.
2.	Apply transferable skills in information retrieval, organization, and presentation, and communicate complex ideas effectively.
3.	Present research findings following academic and business conventions in a meaningful format (e.g., Project/Dissertation/Thesis or report).
4	Demonstrate the practical applications of research findings, ensuring validity, and identify future research opportunities.
5	Illustrate the scope for further research in the area to substantiate in the future
6	Organise and present an extended piece of writing following academic & business conventions

Syllabus:

Unit Number	Contents	Number of Sessions	
1	I The Research Process & Ethics Empiricism, Deductive & Inductive Inquiry ,Philosophical Assumptions in Research ,Planning Research Project and Developing Research Questions: -Research thought, Importance, Supervisor, Managing Time and Resources, Developing Research Question; Research Designs: -Reliability, Replicability and Validity , Experimental Design, Cross – Sectional Design, Case Study Design, Comparative Design ;Reviewing the Literature for Research -Reading Critically, Systematic Review, Narrative Review, Searching Online Databases, Keywords and Defining Search Parameters, Referencing, Avoiding Plagiarism The importance of research ethics, ethical principles, safety in research,	L= 8	
		T=3	P= 0

	avoidance of harm, ethical considerations in a student research project, maintaining anonymity in a student research project, privacy, preventing deception, reciprocity and trust, affiliation and conflict of interest, visual methods and research ethics, ethical considerations in online research, copyright issues, copyright and photographs		
2	II The nature of Qualitative Research : The main steps in Qualitative research ,Concepts & their measurements-Reliability, Evaluating,Credibility, Transferability, Dependability, Confirmability, Preoccupations,Concepts and Theory grounded in data,Contrasts and Similarities between Qualitative Research.; Sampling in Qualitative Research - :Levels of Sampling, Purposive Sampling, Theoretical Sampling, Generic Purposive Sampling, Snowball Sampling, Sample Size Determination. Ethnography and Participants Observations: - Organizational Ethnography, Role of Ethnographers, Active/ Passive, Shadowing, Field notes & field notes, Ethnographic fieldwork, Feminist Ethnography, Global and Multi Site Ethnography, Virtual Ethnography, Visual Ethnography, writing ethnography, Realist tales Interviewing in Qualitative Research: -Structured interview & Types of interviews,Interview contexts & conducting interviews,recording & Transcription.Pros & Cons of Qualitative interviews. Pros & cons of Qualitative interviews;Focus Groups: - Process of Focus Groups Interviews & selection of Group,Framing the interactions ,Focus Group as an Emancipatory method, Limitations of Focus Groups. ;Qualitative Data Analysis: -Thematic Analysis, Grounded Theory, Tools and outcomes of Grounded Theory, Criticism of Grounded Theory, First and Second Order Analysis, Coding, Steps and Considerations in Coding, Turning Data into Fragments, Critique of Coding, Secondary analysis of Qualitative data	L= 12	
		T=3	P= 0
3	III . Introduction to Quantitative Research: - Steps in Quantitative Research, Concepts and Measurements, Reliability & Validity of measures ,Main Preoccupations ,The critique of quantitative research ; Sampling in Quantitative Research: -Planning a survey, Basic concepts in sampling ,Types of Probability sample,qualities of probability sample, absolute and relative sample size, Types of Non-Probability Sample , limits and generalization, sampling issues for online surveys Structured Interviewing,interview contexts, conducting interviews, leaving the interview, training the supervision, Other approaches to structured interviewing ,Problems with structured interviewing ,Asking Questions,	L= 16	
		T=0	P= 3

	types of questions ,advantages and disadvantages,, specific rules when designing questions, common mistakes .Self – Completion of Questionnaires-different kinds of self-completion , Questionnaires,Evaluation of this in relation to structured interview,designing self-completion questionnaire,Email & online surveys ,comparing modes of surveys administration & diaries Quantitative Research using Naturally Occurring Data: - Structured observation, observation schedule, strategies for observing behavior,issues of reliability and validity, criticism of structured observation, content analysis, research questions, Selecting sample content analysis, Coding content analysis,advantages & disadvantages in content analysis Quantitative data Analysis: -Small Research Project, Missing data, types of variables, univariate analysis, Bivariate Analysis, Multivariate Analysis ,Statistical Significance & comparing means and statistical significance SPSS (Statistical Package for Social Sciences) Statistics: -Basic operations in SPSS,data analysis with SPSS, generating frequency tables ,boxplot & charts, Descriptive statistics, generating contingency table- chi-square, and Cramer’s V, generating Pearson’s r and Spearman’s rho, generating scatter diagrams, generating a contingency table with three variables, Saving your data, retrieving your data, printing output		
4	IV . Mixed Method Research: Breaking down the Quantitative and Qualitative Research: -Natural Science model and qualitative research, quantitative research and interpretivism, quantitative research and constructionism, Epistemological and ontological considerations, Problems with quantitative / qualitative contrast ,Reciprocal Analysis, Qualification in Qualitative Research – Thematic Analysis, Quasi -quantification in qualitative research, combating anecdotalism through limited quantification, Combining Quantitative and Qualitative Research - arguments against mixed method research, the rise of mixed method research, classifying mixed methods research in terms of priority and sequence, different types of mixed methods design, approaches to mixed methods research, the logic of triangulation, static and procedural features, research issues and participants’ perspectives, the problem of generality, interpreting the relationship between variables, different aspects of a phenomenon, quality Issues in Mixed Method Research	L=12	
		T=3	P= 0

	Writing up Research Project: Writing academically, writing up your research – start early, be persuasive, get feedback, avoid discriminatory language, constructing an argument (Chaptalization of Research Project / Dissertation / Master Thesis), Structure your writing – Title page, Acknowledgements, list of contents, Abstract with keywords, Introduction, Literature Review, Research Methods, Results, Discussion, Conclusion, Recommendations, Further Studies, Future Scope of Research, The challenges and constraints of length, Appendices, References, Bibliography, Proofreading your dissertation, writing up quantitative and qualitative research (Quantitative Research) – Introduction, Role of congruity Theory, Goals of the Present Study, Methods, Results, Discussion, Lessons, (Qualitative Research) – Introduction, Methodology, Research Findings, Discussion, Summary and conclusion, Recommendations, Further Studies, Future scope of the research, lessons, Reflexivity and its implications for writing, Writing differently		

Learning Resources			
1	Text Books	• Bell, E., Bryman, A. & Harley, B. (2019), 2nd Ed., Business Research Methods, Oxford University Press, New Delhi, India • Kothari, C. R. & Garg, G., (2019), 4th Ed., Research Methodology – Methods and Techniques, New Age International Publishers, New Delhi, India	
2	Reference books	• Creswell, J.W., (2014), 3rd Edition, Research Design, Qualitative, Quantitative and Mixed Methods Approaches, Sage Publication, New Delhi, India • Copper, D. R. & Schindler, P. S., (2011), 9th Ed., Business Research Methods, Tata McGraw Hill, New Delhi, India • Hair Jr., J. F., Black, W.C., Babin, B.J. & Anderson, R.E., (2010), 7th Edition, Multivariate Data Analysis, Prentice Hall, NJ, USA • Malhotra, N.K. & Das, S., (2019), 7th Ed., (Revised), Marketing Research – An Applied Orientation, Pearson Education, New Delhi, India •	
3	Websites	• "Types of Research Methodology" . [Online]. Available at: https://eduvoice.in/types-research-methodology/#0-what-is-research (Accessed: 4 July 2023)	

		• QuestionPro . Qualitative Research Methods. [Online]. Available at: https://www.questionpro.com/blog/qualitative-research-methods/ (Accessed: 4 July 2023). • QuestionPro . Quantitative Research. [Online]. Available at: https://www.questionpro.com/blog/quantitative-research/ (Accessed: 4 July 2023). • Harvard Catalyst . Community Engagement: Mixed Methods Research. [Online]. Available at: https://catalyst.harvard.edu/community-engagement/mmr/ (Accessed: 4 July 2023). • "SPSS Tutorials" . [Online]. Available at: https://www.spss-tutorials.com/ (Accessed: 4 July 2023).
4	Journal Articles	• Rahman, A. & Muktadir, M.G. (2021). "SPSS: An Imperative Quantitative Data Analysis Tool for Social Science Research." International Journal of Research in Social Sciences (IJRISS), V. 300-302. DOI: 10.47772/IJRISS.2021.51012. • Rahman, A. and Muktadir, M.G. (2021). "SPSS: An Imperative Quantitative Data Analysis Tool for Social Science Research." International Journal of Research and Innovation in Social Science (IJRISS), Volume V, Issue X, October 2021, pp. 300. ISSN 2454-6186. Available at: www.rsisinternational.org. • Aspers, P. and Corte, U. (2019). "What is Qualitative in Qualitative Research." Qualitative Sociology, 42(2), 139-160. doi: 10.1007/s11133-019-9413-7. PMID: 31105362; PMCID: PMC6494783.
5	Supplementary Reading	• Sage Journals (2023). [Online]. Available at: http://qrj.sagepub.com (Accessed: 4 July 2023). • MIT Press Journals (2023.). Quantitative Science Studies. [Online]. Available at: https://direct.mit.edu/qss (Accessed: 4 July 2023). • Smith, J. (2021). Research Methods and Techniques. [Online]. Available at: https://stjosephs.edu.in/upload/seminars_workshop_conference/5ce2422796dff219fc73b614b6b4a48e.pdf (Accessed: 4 July 2023). • https://www.emerald.com/insight/publication/issn/1443-9883
6	Practical Components	• SPSS tutorials: https://www.spss-tutorials.com/ • SPSS Basics: https://www.javatpoint.com/spss • SPSSexamples:https://www.ibm.com/docs/SSLVMB_25.0.0/pdf/en/IBM_SPSS_Statistics_Brief_Guide.pdf

Semester	II	Total Credit	4
Course Code	FOC-201	Credit Pattern	L-45, T-6, P-9
Course Title	Advanced Cost Accountancy		

Course Outcomes	
	The students will be able to:
1.	Describe the elements of cost sheet, determine the costs like Materials Cost, Labour Cost.
2.	Apply the knowledge and skill to prepare job cost sheet and contract account.

3.	Evaluate the different elements of Process and Service cost.
4.	Point-out the reasons for reconciliation of Costing Profits and prepare Reconciliation Statement.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction and Elements of Cost: Meaning, scope, objectives and advantages of cost accounting, Elements of Cost – Material Cost, Labour Cost and Overheads; Classification of cost, cost unit, cost center, preparation of cost sheet and quotation. Practical: a) Group discussion can be conducted in the classroom on the contents of Unit-I b) Collect cost data from any organization and prepare cost sheet	L= 11	
		T= 2	P= 2
2	Job Costing and Contract Costing: Job Costing – Job Costing and Unit Costing: Meaning, Features, Practical Applications of Job Costing and Unit Costing, Preparation of Job Cost Sheet. Contract Costing- Contract Costing: Meaning, Features, Accounting Procedure, Retention money, Escalation Clause, Work in Progress, Cost Plus Contract. Preparation of Contract Account Practical: a) Collect cost data from organization which are working on job contract basis and prepare job cost sheet b) Collect cost data from any contractor and prepare contract account for a single contract	L= 12	
		T= 1	P= 3
3	Process Costing and Service Costing: Process Costing: Meaning and its Applications, Concept of Equivalent Production, Preparation of Process Accounts, Concepts of Joint Products and By Products. Service Costing : Meaning and Definition, Application of Service Costing, Determination of Service Cost in Transport Industry Practical: a) Visit any processing unit and prepare Process Accounts b) Visit any service organization and determine service cost.	L= 11	
		T= 2	P= 2
4	Reconciliation of Cost and Financial Accounts: Need for Reconciliation of Cost and Financial Accounts. Preparation of Statement of Reconciliation of Cost and Financial Accounts Practical Collect cost data and financial data from any organization and prepare Statement of Reconciliation of Cost and Financial Accounts	L=11	
		T= 1	P= 2

Learning Resources		
1.	Text Books	1. Institute of Cost and Works Accountants of India-Cost Audit Social Objectives. 2. Laws on Cost Audit - N. Banerjee, International Law Book Centre, Calcutta. 3. Cost and Management Audit — Rajnathan, Publisher - Tata McGraw Hill.
2.	Reference Books	1. Cost accounting – B.K. Bhar 2. Cost accounting – Jain and Narang 3. Cost accounting – S N Maheshwari 4. Cost accounting (Problems & Solutions) – Khanna, Pandey, Arora & Ahuja 5. Cost accounting – Shukla, Grewal & Gupta
3.	Websites	1. www.icmai.in 2. www.microvistatech.com 3. www.globalcma.in 4. INFLIBNET http://nlist.inflibnet.ac.in 5. J-GATE http://jgateplus.com 6. EBSCO http://search.ebscohost.com 7. Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4.	Journals	1. The Chartered Accountant Journal. 2. The Chartered Secretary Journal. 3. The Management Accountant Journal, 4. The Indian Journal of Commerce 5. Indian Journal of Management
5.	Supplementary Readings	1. Asian Journal of Management Cases (New Sub.) 2. Foreign Trade Review (New Sub.) 3. Jindal Journal of Business Research(New)
6.	Practical Component	1. Preparation of Cost Sheet 2. Numerical Problems on Job Costing and Contract Costing. 3. Numerical Problems on Process Costing and Service Costing. 4. Numerical Problems on Reconciliation of Cost and Financial Accounts

Semester	II	Total Credit	4
Course Code	FOC-202	Credit Pattern	L-45, T-6, P-9
Course Title	GLOBAL BUSINESS ENVIRONMENT		

Course Outcomes	
1	Students will be able to demonstrate conceptual subject knowledge
2	Students will be able understand Global marketing & its relevant factors
3.	Students will be able to know Global business & Trade regulations.
4	Study Global institutional environment with respect to India.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Global Business Environment Meaning, Nature & Characteristics, forces of Global Business & Globalization Various Environmental Issues in Global Business, PESTEL, Types of Foreign Investment, MNE (Multinational Enterprises), Technology transfer.	L= 11	
		T= 2	P= 2
2	Global Marketing Meaning & Definition of International Marketing, Problems, Global Market Selection & entry strategies, International production and supply chains, Porters Diamond model global competitiveness,	L= 12	
		T= 1	P= 3
3	Global Business Trade & Regulations Bilateral and multilateral Trade decisions, Export documentation & procedure, Absolute Cost Advantage Theory, Comparative Cost Advantage Theory, Tariff & Non-Tariff barriers.	L= 11	
		T= 2	P= 2
4	Global Institutional Environment & India WTO, EU, IMF, IBRD, Role of India in SAARC, BRICS and India, Pre & Post Globalization era & India.	L=11	
		T= 1	P= 2

Learning Resources		
1.	Reference Books	1.Kappor, Mansi,(2019) “Kappor & Mansi “Global Business Environment : Shifting paradigms in the fourth Industrial Revolution” 1st Edition Published, New Delhi SAGE Publications India Pvt Ltd. 2. Dutta, Mahua (2011) Dutta & Mahua “International Business : Environments and Globalization” I. K. International Publishing House Pvt. Ltd. 3. Harrison & Andrew,(2014) “ Harrison & Andrew “ Business Environment in the Global context,. 2nd Edition US Oxford University Press. 4. Ahmed & Faisal,(2017) “Ahmed & Faisal, Business Environment : Indian and Global Perspective, 1st Edition. New Delhi PHI Learning Pvt Ltd 5. Cherunilam & Franis,(2001) “Cherunilam & Francis Global Economy & Business environment Text & Cases”, Mumbai Himalaya Publishing House.
3.	Websites	www.worldbank.org

		www.saarc.org www.wto.org www.asean.or www.bricscci.com
4.	Journals	1. Journal of International Business Studies 2. Journal of International Business Management & Research 3. Foreign Trade Review
5.	Supplementary Readings	1. https://fittfortrade.com/global-business-environment 2. https://www.wto.org/ 3. https://www.eximbankindia.in/ 4. INFLIBNET http://nlist.inflibnet.ac.in 5. J-GATE http://jgateplus.com 6. EBSCO http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
6.	Practical Component	1. Prepare country wise resource profile and identify the major advantage areas for trade of that country. 2. Case discussion on various Global Environmental issues.

Semester	II	Total Credit	4
Course Code	FOC-203	Credit Pattern	L-45, T-6, P-9
Course Title	Financial Markets		
Course Outcomes			
	The students will be able to:		
1.	Develop different aspects of business finance.		
2.	Analyze the connection between Mutual Funds, Portfolio Management and Micro Finance.		
3.	Evaluate concepts in corporate restructuring and financial decision making.		

Unit Number	Contents	Number of Sessions	
1	Money Markets in India: Meaning of Money market , need , Money Market instruments call money market, treasury bill market, commercial bill market, markets for commercial paper & certificate of deposit. Present position of money market in India	L= 11	
		T=	P=
1	Introduction to Financial Markets: Meaning, Definition, Functions, Types of Financial Markets: Equity Market, Debt Market, Derivatives Market, Commodities Market, Role of Financial Market	and Markets	
2	Introduction to Capital Markets: Meaning, Definition, Functions, Types of Capital Markets : Primary Market, Secondary Market, Role of Capital Market Difference between Financial market and Capital Market		
2.	Primary Capital Market: Meaning, role and Functions, Methods of selling corporates securities in the primary capital market, Advantages	L= 12	
3	Initial Public Offer (IPO): Meaning, Capital Markets, IPO, Advantages, Disadvantages of Investing in IPO, Process of IPO	Included in Google	
		T=	P=
3.	Secondary Capital Market (Stock Exchange): Meaning, evolution of stock markets in India, Role and functions of stock exchange. Trading mechanism in stock market.	L= 11	
4	SEBI :Role and Functions of SEBI in regulating capital markets in India Depository: Meaning, role, benefits and present position in India. National Securities Depository Limited (NSDL) and Central Depository Services India Limited (CDSL)	T=	P=

4.	Supplementary Readings	1.The Economic Times 2.Business Standard 3.Business Line 4.Global Business Review 5.Business Today

Course Code	FOC-204	Total Credit	2
Course Title	Computerized Accounting (Tally Prime- Lab Based Practicals)	Credit Pattern	L-15, T-5 P-10

Level of Knowledge: Advanced Knowledge

Course Outcomes:

	The students will be able to :
1.	Demonstrate the applications of accounting with Tally.
2.	Generate accounting and inventory master, vouchers and basic reports in tally.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Chapter 1: Fundamentals of Accounting This chapter summarizes the Fundamentals of Accountancy, starting with the accounting terms, concepts, right up to the double entry system of accounting. It explains the need and usage of Golden Rules of Accounting in the books of	L=7	
		T=3	P=5

	accounting and recording the business transactions. Chapter 2: Introduction to Tally Prime This introductory chapter on Accounting using Tally explains how simple it is to download and install Tally in the system. This chapter helps you understand the simplest way of creating a company and the company features and configurations.	
2	Chapter 3: Maintaining Chart of Accounts This chapter shows you how simple it is to create, alter and display the Chart of Accounts such as Ledgers, Groups, Stock Items and Units of Measure Creation. Chapter 4: Recording and Maintaining Accounting Transactions This chapter covers how to record transactions such as Receipt, Contra, Payment, Purchase, Sales, Debit Note, Credit Note, and Journal Vouchers with practical scenarios. E invoicing using tally.	L=8
		T=2 P=5

Learning Resources		
1	Reference books	1.Tally ACE book from Tally Education Private Ltd. 2.SoumyaBehera- -Learn Tally ERP 9 in 30 days, B.K. Publications: 3.JosephBradyand Ellen Monk--Concepts in Enterprise ResourcePlanning,S.Chand (G/L) & CompanyLtd 4.Kogent SolutionsInc- -Tally.ERP9 in SimpleSteps, Dreamtech Press 5.AsokKNadhani,-MasteringTallyERP9: Basic Accounts,Invoice, Inventory, BPBPublications
2.	E-Libraries	<u>INFLIBNET</u> http://nlist.inflibnet.ac.in = <u>GATE</u> http://jgateplus.com <u>EBSCO</u> http://search.ebscohost.com www.tallyeducation.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same

Note: This beginner level certification will recognize skills of a candidates learning Tally Prime. Online assessment will be conducted and successful candidates will earn a verifiable digital certificate from Tally.

Tally certifies candidate as job ready and opens up multiple career opportunities. A certified candidate can opt to become an entrepreneur as well.

MODE OF ASSESSMENT

Assessment Format: Online

Duration: One Hour

No. of Exams: One Exam

Certification Type: Digital

Semester	II	Total Credits	4
Course Code	FOC 205 - A	Credit Pattern	L 45, T 7, P – 8
Course Title	FINANCIAL PLANNING		
Course Outcomes	The Student Will be able to		
1	Understand the fundamental concepts in Financial Planning		
2	Explain the financial planning process and the value of Financial Planning		
3	Develop Financial Plan on the basis of components of Financial Planning		
4	Apply recognized financial planning principles and industry standards to the systematic analysis of financial position and requirements.		

Syllabus

Unit Number	Contents	Number of Sessions	
		L = 11	
1	Financial Planning Process: Benefits of making a Financial Plan, Components of a Financial Plan, Steps in Financial Planning Process: Establishing and Defining the Relationship with the Client – Collecting Client’s Information – Analyzing the Client’s Financial Status – Determination of Personal Financial Goals – Developing Financial Planning Recommendations – Implementing the Recommendations – Monitoring and Reviewing the Client’s Situation, Regulatory Environment for Financial Planning, Regulation related to Individuals, Regulation related to Financial Institutions		
2	Personal Financial Statement & Economic Environment Analysis: Cash Inflows and Outflows, Cash Management, Income and Expenditure Statements, Budgeting and Forecasting, Monitoring Budgets and Provisions for Savings.	L = 11	

	Behavioural Finance and Investor Psychology: Prospect Theory, Herd Behaviour, Anchoring and Contrarian Investing, Mental Accounting and Gambler's Fallacy, Value Investing and Behavioural Finance, Emotions in Financial Decision Making, Skewness of Asset Allocation due to Bias, Basic Investment Style and its Drawbacks.		
3	Risk Analysis and Insurance Planning: Risk Management and Insurance decision in personal financial planning, Evaluation of Proposals of various Insurance policies and strategies for General Insurance, Life Insurance, Motor Insurance, Medical Insurance Investment Planning: Risk Return Analysis, Mutual Funds, Derivatives, Asset Allocation, Investment Strategies and Portfolio Construction and Management	L = 12	
4	Retirement Planning and Employees Benefits: Retirement need analysis techniques, Development of Retirement Plan, Various Retirement Schemes such as Employees Provident Fund (EPF), Public Provident Fund (PPF), Superannuation Fund, Gratuity, Other Pension Plans. The Financial Planning Process within a Compliance Framework: Regulations governing Financial Planning and Wealth Management Practice in India, SEBI Investment Advisors Regulations, SEBI Investor Protection Guidelines, RBI Investor Protection Guidelines, PFRDA Investor Protection Guidelines. Code of Ethics of FPSB India, Practice Standards for a Financial Planning Professional	L = 11	

Note:

1. Case Studies on each Aspects mentioned in Syllabus need to be discussed
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	a. Sinha M, (2016) 2nd Edition, "Financial Planning", McGraw Hill India b. Mitra S, et. al.(2015), 1 st Edition, "Financial Planning – Theory and Practice", Sage Texts
2	Reference Books	a. Indian Institute of Banking and Finance, (2017), 4 th Edition, "Introduction to Financial Planning", Taxmann Publications

		Pvt. Ltd. b. Rajput V K, (2021), 1st Edition, “ 5 W’s of Financial Planning”Notion Press c. Kale N, (2020), 1st Edition, “Ultimate Financial Planning Guide”, Ultimate FinPlan d. Prasanna C, (2021), 6th Edition, “Investment Analysis and Portfolio Management”, McGraw Hill India e. Mohaptra R K, (2016), 1st Edition, “Retirement Planning”, Blue Rose Publishers f. Ackert L and Deaves R (2012), 1st Edition, “Understanding Behavioral Finance”, Cengage Learning India g. George E R and Michael M, (2017), 13th Edition, “Principles of Risk Management and Insurance”, Pearson Education
3	Websites	a. https://jamapunji.pk/financial-planning/planning-process b. www.fpsb.org/about-financial-planning/financial-planning-process/ c. www.financestrategists.com/financial-advisor/financial-planning/ financial – planning- process/ d. https://talentedge.com/articles/what-are-the-six-steps-in-the-financial-planning-process/
4	Research Articles	a. Rentala R R, 2018, ‘<i>A Research Study on Financial Planning and Investment Behavior of Individual Investors of Tirupathi Town, Andhra Pradesh</i>’, Indian Journal of Creative Research Thoughts, Vol. 6(1), pp 1266 - 1273 b. Shah S , et.al.,2016, “<i>A Study of Personal Financial Planning Process and Socio-Economic Decision-Making in Households</i>” Published in proceedings of International Conference on Interdisciplinary Issues for Empowering Trade, Industry and Society Organised by Nirma University, https://ssrn.com/abstract=2813484 c. Karve D and Deogharkar H, 2015, ‘<i>A Study of Financial Planning Need Analysis</i>’, International Journal of Arts, Humanities and Management Studies, Vol.1(12), pp 155 -164
5	Journals	a. Journal of Financial Planning b. Financial Planning Research Journal c. Financial Planning Review d. Journal of Financial Planning and Management
6	Practical Component	a. Case Studies of Creating Tailor made Financial Plan b. Case Studies on Cash Inflow and Outflow c. Case Studies on Preparation of Income and Expenditure Statements

	d. Case Study on Budgeting and Forecasting

Semester	II	Total Credits	4
Course Code	FOC 205 - B	Credit Pattern	L 45, T 7, P – 8
Course Title	FINANCIAL SERVICES MARKETING		
Course Outcomes	The Student Will be able to		
1	Understand Marketing Environment and Theoretical Background related to Marketing of Financial Products and Services.		
2	Appreciate the different Marketing Strategies used by the Financial Institutions and their Marketing Mix.		
3	Gain Knowledge about the Ethical Issues in Service Marketing and how Banks do Market of their Products and Services.		

Syllabus

Unit Number	Contents	Number of Sessions	
		L = 11	
1	Overview of Financial Services: Evolution of Financial Service: Meaning of Financial Services, Types of Financial Services, Fund based and Non-fund based, Significance of financial services, Growth of financial services in India, Emerging Trends in financial services and constraints in growth of financial services,		
2	Classification of financial Services: Banking and Non Banking Finance Companies - Retail Banking, Corporate Banking, Introduction to Mutual Fund, Types of Mutual Funds. Other Financial Services : Leasing finance, Hire purchase, Factoring, Forfaiting, Consumer finance, Securitization, Venture capital, Loan Syndication, Custodial and Depository Services, Credit Rating ,Insurance business and Bancassurance. Portfolio Management Services : Meaning, Importance, Objectives, Strategies, Role of Portfolio Manager	L = 11	
3	Financial Services Marketing Mix : a. Service Design and Development of New Financial Products and Services, Strategic Market	L = 12	

	Planning in Financial Services, Segmenting the Financial Consumer b. Service Blueprinting, Pricing of Financial Products and Services, Distribution of Financial Products Promoting Financial Products and Services. c. Role of Employee and Customer in Financial Service Delivery, Customer Retention Strategies, Web Marketing, Rural Marketing, Social Marketing		
4	Understanding Consumer Behaviour in Financial Services: Consumer Decision Making in Financial Services, Customer Expectations and Perceptions, Defining and Measuring Service Quality and Customer Satisfaction in Financial Services. Contemporary Issues in Marketing of Financial Services: Regulations governing Financial Services Marketing, Regulations in India related to financial service marketing, Ethical issues in the marketing of financial services, Introduction to Marketing Analytics in Financial Services, Challenges faced by today's marketing decision makers.	L = 11	

Note:

3. Case Studies on each Aspects mentioned in Syllabus need to be discussed
4. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	a. Giri Y L and Giri V V, (2013) 1st Edition, "Financial Services Marketing", Nirali Prakashan b. Bapat D, (2013), 1st Edition, " Marketing of Financial Services", Dreamtech Press
2	Reference Books	h. Solanki R B and Malik R, (2019), 1st Edition, " Marketing of Financial Products and Services", JSR Publishing House LLP i. Gordon E and Natarajan K (2016), 10th Edition "Financial Markets and Services", Himalaya Publishing House j. Chandni Rani, et. al., (2022), 1st Edition, "Financial Markets and Services", Bharti Publications k. Ennew C, et.al., (2013), 3rd Edition, "Financial Services Marking – An International Guide to Principles and Practice", Routledge Taylor and Francis Group l. Ehrlich E and Fanelli D, (2012), 2nd Edition, "The Financial

		Services Marketing Handbook”, Bloomberg Press m. Harrison T, (2008), 2nd Edition, “Financial Services Marketing”, Prentice Hall n. Farquhar J D and Meidan A, (2010), 2nd Edition, “Marketing Financial Services”, Red Globe Press
3	Websites	a. www.forbes.com/sites/bernardmarr/2022/03/25/the-4-biggest-future-trends-in-the-financial-sector/ b. www.protium.co.in/2023/02/16/financial-sector-trends/ c. http://elearning.nokomis.in/UploadDocuments/Marketing%20Of%20Financial%20Services/chp%204%20Marketing%20of%20Financial%20Services/PPT/chp%204.pdf d. www.pwc.com/us/en/industries/financial-services/library/shaping-consumer-behaviour.html
4	Research Articles	a. Mahajan S Y, 2016, ‘<i>A Study of Marketing of Financial Services in Rural Areas with Special Reference to Districts in the State of Maharashtra</i>’, Indian Journal of Research, Vol. 5(3), pp 234 - 236 b. Sharma P and Shrivastava A K 2011, ‘<i>Marketing Strategy for Financial Services in Indian Financial Service Institution</i>’, FIIB Business Review, Vol. 10(4), pp 404 - 412 c. Vijaya B and Ashok A, 2020, ‘<i>Contemporary Issues and Challenges in Indian Banking Sector</i>’, International Research Journal of Education and Technology, Vol.1(3), pp 15 -19 d. Singh T A, 2019, “<i>Marketing of Financial Services in 21st Century</i>”, The Business and Management Review, Vol.10(4), pp 50 – 55
5	Journals	a. International Journal of Financial Studies b. Journal of banking and Finance c. Indian Journal of Finance d. International Journal of Finance and Banking Research
6	Practical Component	a. Case Studies on Strategic Market Planning in Financial Services b. Case Studies on Financial Services Marketing c. Case Studies on Measuring Service Quality and Customer Satisfaction in Financial Services

Semester	II	Total Credit	4

Course Code	FOC-206	Credit Pattern	P-4
Course Title	Field Project		

Course Outcomes	
	The students will be able to:
1.	Identify the research problem and formulate objectives.
2.	Apply appropriate methodology with proper tools and techniques.
3.	Analyze and interpret the data collected from different sources
4.	Design a project report.

Syllabus:

Project Work and Viva-Voce: 100 Marks

Project Work 40 Marks

Viva-Voce 60 Marks

Project Work:

- 1) Project report can be prepared on any compulsory or respective optional subject based on field work. However, it is better to select any topic from their own specialization because it should be their worthwhile experience in their own specialized subject.
- 2) Students are required to prepare the Project Report based on the field work and studying the current trends in commerce & Management under the guidance of the Project Guide. Project Report should not be based on only secondary data.
- 3) The Project Report contents at least following aspects:
 - (a) **Chapter-I Introduction:** It will include Statement of the Problem, Objectives of the Project, methodology, scope and limitations, chapter scheme etc.
 - (b) **Chapter-II Review of Literature/Theoretical Background/Conceptual Framework**
 - (c) **Chapter-III Profile of the Organization/Area**
 - (d) **Chapter-IV Analysis and Interpretation of the Data**
 - (e) **Chapter-V Conclusion:** It will include observations, findings, suggestions, and conclusions.
- 4) Project Work will be done by the student individually.
- 5) The Project report shall consist of at least typed 50 Pages.
- 6) Two Copies of typed Project Report should be submitted to the department.
- 7) All recognized P.G. Teachers under the Faculty of Commerce and Management are eligible to work as Project Guide.
- 8) The Responsibility of guiding the projects will be shared by all recognized and P.G. Teachers in proportion.
- 9) All students should submit the Project report on or before due date without fail.

Viva-voce:

- 1) The panel of experts should try to verify that the candidate has done the project on his own and also identify his/her insight in the research problem concerned. The quality of the work should be evaluated on the basis of novelty, contribution to the society or business and developing critical thinking, analytical thinking and decision-making skills towards students.
- 2) Panel of viva-voce examination will consist of two experts (one expert is internal and one is external. The college will appoint these experts and the remuneration as well as TA/DA will be paid by the college to all two experts as per the college rules.
- 3) The evaluation of Project Work-Viva Voce for 100 marks will be made collectively by Internal & External

Examiners and the average of these marks will be taken as final marks. The Chairman has to submit final marks to the examination department.

4) The evaluation of Project Work-Viva-Voce will be conducted after completion of the Semester-III but before the commencement of theory examination. It will be conducted by the Internal & External Examiners.

Semester	III	Total Credit	4
Course Code	FOC -301	Credit Pattern	L-45, T-6, P-9
Course Title	Management Accounting		

Course Outcomes	
	The students will be able to :
1.	Explain the fundamentals of Management Accounting.
2.	Analyze financial statements.
3.	Evaluate the financial position of the organization.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Management Accounting: Meaning of Management Accounting, Scope and Functions of Management Accounting, Role of Management Accountant in Decision Making, Management Accounting vs. Financial Accounting, Tools and Techniques of Management Accounting Practical: Group discussion can be conducted in the classroom on the contents of Unit-I	L= 11	
		T= 2	P= 2
2	Analysis of Financial Statements: Meaning and Types of Financial Statements, Analysis of financial statements: Comparative Statement Analysis, Common-size Statement Analysis, Trend Analysis and Ratio Analysis- Classification of Ratios, Advantages and Limitations of Accounting ratios. Practical: Download financial statements of any company and analyse it with any technique of financial analysis. Also write interpretation.	L= 12	
		T= 1	P= 3
3	Working Capital: Meaning, Significance and Determinants of Working Capital, Operating Cycle, Types of Working Capital, Estimation of Working Capital Requirements. Practical: Exercise for Simulation of estimation of working capital can be arranged in the classroom.	L= 11	
		T= 2	P= 2

4	Funds flow Statement and Cash Flow Statement: Meaning of Fund and Funds Flow Statement, Identifying Flow of Funds, Preparation of Funds Flow Statement, Meaning of Cash Flow Statement, Utility of Cash Flow Statement and Preparation of Cash Flow Statement(AS-3) Difference between Funds Flow Statement and Cash Flow Statement Practical: a) Prepare fund flow statement on hypothetical data and try to interpret it. b) Download cash flow statement of any company and interpret it.	L=11	
		T= 1	P= 2

Learning Resources		
1.	Text Books	1. Bhattacharya S K and Dearden J. Accounting for Management: Text and Cases 2. Debarshi Bhattacharyya, Management Accounting, Pearson Publication House, ISBN: 9788131731789 3. S P Jain & K L Narang. Cost Accounting, Himalaya Publication House 4. Charles T Horngren and others. Cost Accounting ñ a Managerial Emphasis
2.	Reference Books	1. Khan M Y & Jain P K. Management Accounting, Himalaya Publication House. 2. Pandey I. M: Management Accounting, Vikas Publication House 3. Khan and Jain: Management Accounting: Tata McGraw-Hill, New Delhi 4. Bhattacharyya S K and Dearden J-: Accounting for Management: Vikas Publishing Pvt. Ltd. New Delhi 5. Charles T. Horngren, Introduction to management Accounting, Prentice Hall of India, New Delhi. 6. Accounting : A Managerial Emphasis, Prentice Hall, Delhi 7. Maheshwari: Principles of Management Accounting 8. Robert Anthony and Vijay Govindrajana - Management Control System
3.	Websites	1. www.udemy.com 2. www.manipalprolearn.com 3. INFLIBNET http://nlist.inflibnet.ac.in 4. J-GATE http://jgateplus.com 5. EBSCO http://search.ebscohost.com 6. Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same

4.	Journals	1. The Chartered Accountant Journal. 2. The Chartered Secretary Journal. 3. The Management Accountant Journal
5.	Supplementary Readings	1. Finance India 2. Journal of Accounting & Finance 3. Business Line
6.	Practical Component	1. Practical Problems on Financial Statement Analysis. 2. Practical Problems on Working Capital. 3. Practical Problems on Fund Flow Statement.

Semester	III	Total Credit	4
Course Code	FOC -302	Credit Pattern	L-45, T-6, P-9
Course Title	Direct & Indirect Taxes		

Course Outcomes	
	The students will be able to:
1.	Assess applicability of GST liability.
2.	Analyze deductions from gross total income.
3.	Evaluate the income under different heads and taxability.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Definitions, Exemptions & Deductions: Definitions Under the Income Tax Act, 1961, Exemptions Under Section -10, Deductions from Gross Total Income Under Chapter – VI A. Practical: Group discussion can be conducted in the classroom on the contents of Unit-I	L= 11	
		T= 2	P= 2
2	Taxable Income and Tax Liability: Computation of Taxable Income and Tax Liability of Individual, H.U.F., Firm, Association of Persons and Limited Company. Practical: Collect data from any individual or any other assessee and compute taxable income and tax liability.	L= 12	
		T= 1	P= 3
3	Clubbing of Income and Online Tax Governance:	L= 11	

	Clubbing of Income, Set-off and Carry Forward of Losses, E- Filing of Returns, Online Payment of Tax. Practical: Make e-filing of IT return of any individual.	T= 2	P= 2
4	Introduction to GST: Introduction to Goods and Service Tax (GST), Concept of GST, Nature and Basis of Charge, Registration under GST, Valuation of Taxable Services, Provisions Pertaining to Returns Under GST. Practical: Group discussion on any point given in Unit-IV.	L=11 T= 1	P= 2

Learning Resources		
1.	Text Books	1. Singhania, V. K. and Singhania, M. (66th edition) <i>Students' guide to Income Tax including GST for AY 2022-23</i>. New Delhi: Taxmann's publication 2. Manoharan, T. N. (40th edition, 2023) <i>Students' Handbook on Taxation for AY 2023-24</i>. Mumbai: Snow white publication 3. Prasad Bhagawati – Income Tax Law & Practice 4. Mehrotra H.C. – Income Tax Law 5. Dinkar Pagare – Income Tax Law and Practice 6. Ahuja & Gupta – Systematic Approach to Income Tax
2.	Reference Books	1) Singhania – Student's Guide to Income Tax 2) Prasad Bhagwati – Income Tax Law & Practice 3) Mehrotra H.C. – Income Tax Law 4) DinkarPagare –Income Tax Law and Practice 5) Ahuja and Gupta – Systematic Approach to Income Tax 6) Singhania, V. K. (45th Edition) <i>Direct Taxes Ready Reckoner for AY 2021-22 & 2022-23</i>. New Delhi: Taxmann's publication 7) Singhania, V. K. and Singhania, M. (24th edition AY 2022-23) <i>Students' guide to Income Tax including GST Problems & Solutions</i>. New Delhi: Taxmann's publication
3.	Websites	1. https://icmai.in/TaxationPortal/ 2. www.icaai.org 3. www.icsi.edu 4. www.incometaxindia.gov.in
4.	Journals	1. The Tax Referencer 2. RBI Bulletin 3. Chartered Accountant Journal

5.	Supplementary Readings	1. Business Today 2. The Economic Times 3. The Financial Express
6.	Practical Component	1. Practical Problems on Different Heads of Income. 2. Practical Problems on Clubbing of Income. 3. Practical Problems on exemptions and deductions 4. Practical should be taken in the classroom on E-filing of Income Tax Return, Online Payment of Tax, and GST Registration.

Semester	III	Total Credit	4
Course Code	FOC-303	Credit Pattern	L-45, T-4, P-11
Course Title	Financial Data Analysis Using Excel (Lab Based Practicals)		

Course Outcomes	
	The students will be able to:
1.	Apply the basic excel tools generally employed in financial data analysis.
2.	Analyze the financial statements using excel.
3.	Interpret financial statements using excel.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Financial Statement Analysis: Introduction, objectives of analysis of financial statement-tools of financial statement analysis - Multi - step income statement, Horizontal analysis, Communized analysis, Trend analysis, Balance Sheet Analysis.	L= 11	
		T= 1	P= 3
2	Various Financial Statements: Cash Flow- Concept, Meaning and Uses and Importance of the statements, Funds Flow- Concept, Meaning and Uses and Importance of the statements, Ratios-Various Useful Ratios in the business and their implications. Financial Forecasting: Sales forecast, preparation of proforma income statement, proforma balance sheet, growth and external funds requirement, computerized financial planning system.	L= 12	
		T= 1	P= 2
3	Basics of Excel: Introduction to spreadsheets, reading data, manipulating data. Basic spreadsheet operations and functions. some more useful functions such as the	L= 11	
		T= 1	P= 3

	IF, nested IF, VLOOKUP functions in Excel. Introduction to the Data filtering capabilities of Excel, the construction of Pivot Tables to organize data and introduction to charts in Excel. Constructing various Line, Bar and Pie charts. Using the Pivot chart features of Excel.		
4	Financial Data Analysis Using Excel: - Preparing the financial statements using excel, Linking the two statements, Comparing the two statements, Validating the results- Splitting Screens, Conditional Formatting, Formatting the Tables for easy understanding, Time Value of Money	L=11	
		T= 1	P= 3

Learning Resources			
1.	Text Books	1. Friedson and Alvarez, “Financial Statement Analysis: A practioners’ Guide”, Wiley finance. 2. Leonard Soffer and Robin Soffer, “Financial Statement Analysis: A Valuation Approach”, Pearson Education, Latest Edition. 3. Microsoft Data Analysis by Denise Etheridge, Wiley Publications.	
2.	Reference Books	1. Bernstein, Leopold A., “Understanding Corporate Reports: A guide to financial statements”, Dow Jones-Irwin, Latest Edition. 2. Ambrish Gupta, “Financial Accounting for Managers: An Analytical Perspective”, Prentice Hall. 3. Dr. S.N. Maheswari, Management Accounting Sexana, Management Accounting	
3.	Websites	1. www.inteleants.com/analytics-modeling-excel-programming.html 2. www.wiley.com 3. www.excelforum.com	
4.	Journals	1. Finance India 2. Chartered Accountant Journal 3. Indian Journal of Finance (New Sub.) 4. Journal of Accounting & Finance	
5.	Supplementary Readings	1. Calcutta Statistical Association Bulletin 2. RBI Bulletin 3. Tax Reference 4. The Management Accountant	
6.	Practical Component	Hands on experience of ratio analysis, financial forecasting, comparative study etc. of Financial Statements with using Excel.	

Course Code	FOC-304	Total Credit	2
Course Title	TDS Using Tally (Lab Based Practicals)	Credit Pattern	L-15, T-2, P-13

Level of Knowledge: Advanced Knowledge	
Course Outcomes:	
	The students will be able to :
1.	Show the practical applications of TDS using Tally.
2.	Generating TDS reports using Tally.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Chapter 1: Introduction to TDS This chapter covers Fundamentals of TDS and Introducing Capital to Business.	L=7	
	Chapter 2: Configuring TDS at Different Levels This chapter covers topics including how to activate TDS, Creation of TDS Masters and defining TDS at Group and Ledger.	T=1	P=7
	Chapter 3: Basic TDS Transactions This chapter elaborates Booking of Expenses and Deducting TDS on Multiple Expenses.		
	Chapter 4: Advanced TDS Transactions - Part A This chapter covers Booking Advanced Expenses and Reversal of Expenses.		
2	Chapter 5: Advanced TDS Transactions - Part B This chapter covers TDS on Works Contract attracting GST and TDS on Interest Paid.	L=8	
	Chapter 6: TDS Payment to Department This chapter covers Basic TDS Transactions, TDS Payment to Government, and other such transactions.	T=1	P=6
	Chapter 7: TDS Reports This chapter covers Generating TDS Challan and Generating TDS Reports. Use of tally while filing TDS retruns.		

Learning Resources		
1	Reference books	1.Tally ACE book from Tally Education Private Ltd. 2.SoumyaBehera- -Learn Tally ERP 9 in 30 days, B.K. Publications: 3.JosephBradyand Ellen Monk--Concepts in Enterprise ResourcePlanning,S.Chand (G/L) & CompanyLtd 4.Kogent SolutionsInc-- -Tally.ERP9 in SimpleSteps, Dreamtech Press 5.AsokKNadhani,-MasteringTallyERP9: Basic Accounts,Invoice, Inventory, BPBPublications
2.	E-Libraries	INFLIBNEThttp://nlist.inflibnet.ac.in J-

		GATE http://jgateplus.com EBSCO http://search.ebscohost.com www.tallyeducation.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same

Note: This advanced level certification will recognize skills of a candidates learning path in TDS using Tally Prime. Online assessment will be conducted and successful candidates will earn a verifiable digital certificate from Tally.

TDS using Tally certifies candidate as job ready and opens up multiple career opportunities. A certified candidate can opt to become an entrepreneur as well.

MODE OF ASSESSMENT

Assessment Format: Online

Duration: One Hour

No. of Exams: One Exam

Certification Type: Digital

Semester	III	Total Credits	4
Course Code	FOC 305 - A	Credit Pattern	L 45, T 7, P – 8
Course Title	STRATEGIC FINANCIAL MANAGEMENT		
Course Outcomes	The Student Will be able to		
1	Analyze Financial Statements using various techniques		
2	Estimate Working Capital Requirements		
3	Evaluate investment proposals using Capital Budgeting Technique		

Syllabus

Unit Number	Contents	Number of Sessions	
		L = 11	
1	Introduction :Meaning of Business Finance, Evolution of Business Finance, Nature and Scope of Financial Management, Financial Objectives or Goals : Profit maximization vs. Wealth Maximization, Cardinal Principles of Financial Management, Role of Finance		

	Manager in Modern Competitive Environment, Concept of Financial Decisions, Major Financial Decision Areas, Basic Factors influencing Financial Decisions. Financial Statements and Analysis – Concept & Anatomy of Financial Statements, Tools of Financial Analysis: trend analysis, common size statements, comparative statements, Concepts of Ratio Analysis, Advantages and Limitations of Ratio Analysis, Analysis and Interpretation of Financial Statement using the techniques of Ratio Analysis.		
2	Cost of Capital and Capital Budgeting : Concept and Significance of Cost of Capital, Factors Affecting Cost of Capital, Measurement of Cost of Capital, Weighted Average Cost of Capital, Marginal Cost of Capital Concept and Techniques of Capital Budgeting Decisions: Nature and Types of Investment Decisions, Investment Evaluation Criteria, Evaluation of different proposals using Capital Budgeting Methods	L = 11	
3	Leverages: Concept of Leverage, Types of Leverage – Operating Leverage, Financial Leverage and Combined Leverage Capital Structure: Concept, Assumptions, Approaches – Net Income Approach, Net Operating Income Approach, Traditional Approach, MM Approach; Factors influencing Capital Structure	L = 12	
4	Working Capital Management: Concept of Working Capital, Significance and Importance of Working Capital, Determinants of Working Capital, Constituents of Working Capital, Estimating Working Capital Needs. Cash Management: Facets of Cash Management, Motives for Holding Cash, Cash Planning, Management of Cash Flows.	L = 11	

Note:

5. Case Studies on each Aspects mentioned in Syllabus need to be discussed
6. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	a. Pandey I M, 11th Edition, “Financial Management”, Vikas Publishing House Pvt. Ltd. b. Srivastava R M, (2009), 8th Edition, “Financial Management”,

		Pragati Prakashan
2	Reference Books	o. Khan M Y and Jain P K, (2018), 8th Edition, "Financial Management – Text, Problems and Cases", Tata Mcgraw Hill Education Pvt. Ltd. p. Prasanna C, (2019), 10th Edition "Financial Management – Theory and Practice ", Tata Mcgraw Hill Education Pvt. Ltd. q. Kishore R M, (2020), 8th Edition, Financial Management – Theory, Problems, Cases, Taxmann's Publication Pvt. Ltd., Chennai r. Kapil S, (2011), 1st Edition, "Financial Management", Pearson Publication House s. Shapiro A C, (2020), 11th Edition, "Multinational Financial Management", Wiley Dreamtech t. Sharma S K And Sareen R, (2019), 1st Edition, "Fundamentals of Financial Management", Sultan Chand & Sons (P) Ltd. u. Palanivelu V R, (2018), 3rd Edition, "Financial Management – Theory Problems and Solutions", Sultan Chand & Sons (P) Ltd. v. Maheshwari S N, (2019), 15th Edition, "Financial Management – Principles and Practice", Sultan Chand & Sons (P) Ltd.
3	Websites	a. www.cfainstitute.org/en/membership/professional-development/refresher-readings/financial-analysis-techniques b. www.aafmindia.co.in/financial-statement-analysis-tools-limitation-uses-process c. www.corporatefinanceinstitute.com/resources/capital-markets/cash-management d. www.corporatefinanceinstitute.com/resources/equities/dividend-policy e. www.economicdiscussion.net/financial-Management/dividend-policy/33373
4	Research Articles	a. Madhumitha Kesavan, 2019, '<i>Profit Maximisation vs. Wealth Maximisation</i>', Indian Journal of Applied Research, Vol. 9(2), pp 42-44 b. Ntiedo B E, Nseabasi E and Paul O U, 2017, '<i>Finance Manager and the Finance Function in Business Sustainability</i>', Indian Journal of Business Marketing and Management, Vol. 2(1), pp 31-38 c. Muhammad Y and Bris P, 2021, '<i>Effects of Working Capital</i>

		<i>Management on firm performance: Evidence from the EGQM certified firms</i>, Cogent Economics and Finance, Vol.9(1), pp 1-12 d. Bagga R and Kaur J, 2016, '<i>Capital Structure, Cost of Capital and Value; A Study of Manufacturing Vis-à-vis Service Industries in India</i>', Paripex – Indian Journal of Research, Vol.5(5), pp 441-443 e. Barnes A J, 1964, '<i>A Pedagogic Note on Cost of Capital</i>', Journal of Finance, March, pp 65-85 f. Imegi J C and Nwokoye G A, 2015, '<i>The Effectiveness of Capital Budgeting Techniques in Evaluating Projects' Profitability</i>', African Research Review, Vol. 9 (2), pp 166-188
5	Journals	a. Journal of Accounting Research b. Global Finance Journal c. Indian Journal of Finance
6	Practical Component	a. Practical Problems on Ratio Analysis b. Practical Problems on Cost of Capital c. Practical Problems on Capital Budgeting d. Practical Problems on Working Capital

Semester	III	Total Credits	4
Course Code	FOC 305 - B	Credit Pattern	L 45, T 7, P – 8
Course Title	INVESTMENT MANAGEMENT		
Course Outcomes	The Student Will be able to		
1	Understand the conceptual framework of Securities		
2	Acquaint with the process of Investment Decisions		
3	Deal with how Debt and Equity Securities are Valued for Investment Decision Making Purpose		

Syllabus

Unit Number	Contents	Number of Sessions	
		L = 11	
1	Introduction: Meaning and definitions of Investment, Objectives of Investments, Classifications of Investments, Modes of Investment, Scope of Investment Management, Factors affecting Investment decisions, Process of Investment decisions, Difference between Investment & Speculation and Investment & Gambling, Real Assets and Financial		

	Assets – Meaning and Types, Features of an ideal investment programme.		
2	Valuation of Securities: Meaning and types of securities - equity based and debt based, Valuation of securities - bond and equity valuation, Legal framework of Security Markets in India, Organized Stock Exchanges, Trading and Operational Mechanism of Stock Exchanges in India, Listing of Securities, Online trading, Dematerialization, Depositories and Depository Participants, WAP Enabled Trading.	L = 11	
3	Mutual Funds : Mutual Funds – Concepts and Origins of Mutual Funds, Types of Mutual Funds, Importance of Mutual Funds, Estimation of Net Assets Value of Mutual Funds, Mutual Funds in India. Security Market Analysis: Fundamental Analysis, Economic, Industry and Company Analyses, Technical Analysis – Methods of Technical Analysis : Dow Theory and Random Walk Hypothesis	L = 12	
4	Investment and Taxation : Investment Management, Portfolio Management – Meaning of Portfolio Management, Principles of Portfolio Management, Ingredients of Portfolio Management, Selection of Portfolio – Markowitz Diversification Model, Investment and Taxation, Long term and Short term Gains, Taxation of Capital Gains, Dividend Taxation, Interest Taxation, Tax Saving Ideas, Tax Free Bonds	L = 11	

Note:

7. Case Studies on each Aspects mentioned in Syllabus need to be discussed
8. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

Learning Resources		
1	Text Books	a. Bhalla V K (2008), 19 th Edition, “Investment Management” , S Chand & Co. b. Rustagi R P, (2014), 1 st Edition, “Investment Management – Theory and Practice”, Sultan Chand & Sons
2	Reference Books	w. Natrajan L (2000) 1 st Edition,, “Investment Management”, Margam Publications x. Bailey J V, Alexander G J and Sharpe W F (2000) 3rd Edition, “Fundamentals of Investments”, Prentice Hall y. Barbudhe V K, et. al., (2020), 1 st Edition, “Investment

		Management”, Notion Press z. Agarwal M R (2014), 1st Edition, “Investment Management”, Garima Publications aa. Srivastava R (2017), 1st Edition, “Investment Management”, Wiley bb. Prasanna C, (2021), 6th Edition, “Investment Analysis and Portfolio Management”, McGraw Hill India cc. Jordan B D, Miller T W and Dolvin S D, (2011), 6th Edition, “Fundamentals of Investment”, McGraw Hill dd. Bodie Z, Kane M and Marcus A J (2009), 8th Edition, “Investments”, McGraw Hill
3	Websites	a. www.financestrategists.com/wealth-management/investment-management/ b. https://theinvestorsbook.com/investment-decision.html c. www.economicdiscussion.net/investment/securities/security-valuation-meaning-and-factors-financial-economics/29857 d. www.cfainstitute.org/en/membership/professional-development/refresher-readings/portfolio-management-overview
4	Research Articles	a. Gill S, et. al., 2018, ‘<i>Factors effecting Investment Decision Making Behaviour: The Mediating Role of Information Searches</i>’, European Online Journal of Natural and Social Sciences, Vol. 7(4), pp 758 - 767 b. Virlics A, 2013, ‘<i>Investment Decision Making and Risk</i>’, Procedia Economics and Finance, Vol.6, pp 169 -177 c. Kane A, et.al., 1999, ‘<i>The Valuation of Security Analysis</i>’, The Journal of Portfolio Management, Vol.25(3), pp 25 -37
5	Journals	a. Journal of Investment Management b. Journal of Portfolio Management c. Journal of Investing d. Journal of Economics, Finance and Management Studies
6	Practical Component	a. Case Studies on Valuation of Securities b. Case Studies on Estimation of Net Assets Value of Mutual Funds

Semester	IV	Total Credit	4
Course Code	FOC -401	Credit Pattern	L-45, T-6, P-9

Course Title	Financial Reporting

Course Outcomes	
	The students will be able to:
1.	Explain the financial statements for stakeholders.
2.	Analyze the impact of GAAP and its application for reporting and compliance.
3.	Evaluate financial statements for strategic decision-making.
4.	Interpret the ongoing developments for financial reporting.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Financial Reporting: Concept, Meaning, Importance of Financial Reporting, Users of Financial Statements, Objectives of preparing Financial Statements, Underlying Assumptions.	L= 11	
		T= 2	P= 2
2	Financial Statements of Corporate Entities: Relevance of Accounting Standards and Guidance Notes issued by ICAI to Financial Reporting, GAAP, IFRS, Ind-AS etc. Attributes of Good financial Reporting, Best Practices, Common Defects in financial reporting.	L= 12	
		T= 1	P= 3
3	Group Financial Statements: Framework for preparation and presentation of financial statements, Consolidated Income Statement, balance Sheet and Cash Flow Statements for Group of companies (AS-21). Ind AS on Disclosures in the Financial Statements (Ind AS-24, Ind As-33, Ind AS-108)	L= 11	
		T= 2	P= 2
4	Emerging Trends in Reporting: Integrated Reporting, Corporate Social Responsibility Reporting, Human Resources Reporting, Value Added Statement, Sustainability Reporting- Concept of Triple Bottom Line Reporting, Global Reporting Initiative (GRI), International Federation of Accountants (IFAC). Brief Introduction to Income Computation and Disclosure Standards (ICDS)- under the IT Act.	L=11	
		T= 1	P= 2

Practical Problems

1. Practical problems on group financial statements.
2. Disclosures

Learning Resources		
1.	Text Books	1.Financial Analysis for Management Decisions, By M .Sarngadharam & S.Rajitha Kumar, New Century Publications, Jan 2011

		2. Corporate Financial Reporting and Analysis, Ashish K Bhattacharya May 2018, PHI Learning 3. Financial Reporting under IND-AS and AS-Covering Sch III, ICDS, and ICAI Guidance Notes, Bloomsbury; Second edition (28 April 2019) 4. Students' Guide to Accounting and Financial Standards, Financial Times/ Prentice Hall; 9 edition (15 May 2003)
2.	Reference Books	1. Cases in Financial Reporting, International Edition, Michael Sandretto, CENGAGE Learning Custom Publishing, 2011 2. Financial statements, Revised and Expanded edition: A step by step guide to understanding and creating financial reports, Kindle Edition by Thomas R. Itteleson.
3.	Websites	1. www.icaai.org.in 2. www.bseindia.com 3. www.annualreports.com 4. www.finstanon.com 5. INFLIBNET http://nlist.inflibnet.ac.in 6. J-GATE http://jgateplus.com 7. EBSCO http://search.ebscohost.com 8. Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4.	Journals	1. Finance India 2. Chartered Accountant Journal 3. Indian Journal of Finance (New Sub.) 4. Journal of Accounting & Finance
5.	Supplementary Readings	1. Business Standard 2. Business Line 3. The Financial Express 4. Manuals of ICAI
6.	Practical Component	1. Practical Problems on Financial Reporting 2. Group Financial Statements 3. Cash Flow Statement 3. Emerging Trends in Reporting 4. Financial Data Analysis using Prowess-IQ

Course Title	FOC 402: Indian Economic Environment
Semester	IV
Course Outcome	After Completing course on Indian Economic Environment, the learner will be able to: 1. Review dynamics of Indian Economic Environment 2. Critique the sectoral performance and their role in economic development 3. Understand the importance of national income estimation in policy formulation 4. Review and critique planning and policy environment in India

Syllabus:

Unit No.	Contents	
1	Introduction to Indian Economy Nature and Characteristics of a Developing Economy, India - A Rapidly Developing Economy (RDE): Opportunities and Major issues of Development, The Concept of Human Development Index, Poverty and Multidimensional Poverty Index, Employment and Unemployment Trends in India, Millennium Development Goals and Indian Economy.	L = 11
		T = 2 P = 2
2	Indian Economy and Sectoral Distribution Agriculture Economy: Role, Land tenure system in Agriculture Sector, Production and Productivity Issues, New Agriculture Policy 2000, Importance and Performance of Agro-Based Industry in India, Government support system for development of agriculture sector Manufacturing Sector: Role, Growth and Performance, MSME Sector: Role and Performance, Opportunities and Challenges in India, New Industrial Policy 1991, Introduction to Industrial Revolution 4.0, Government support system for development of manufacturing sector Service Sector: Importance, Growth and development, recent trends in service sector in India and Government support system for development of service sector.	L = 11
		T = 2 P = 2
3	National Income and Planning Experience in India: National Income: Trends, Growth and Structure, Limitations of National Income estimates, Planning Experience of India: Objectives and Performance (X, XI and XII FYPs), NITI Ayog: Objectives, Structure and Performance, Financial Inclusion through Jan Dhan Bank Accounts, Direct Benefit Transfer (DBT) and Role of Aadhar Card, Demographic Dividend of India.	L = 11
		T = 2 P = 2
4	Policy Environment of Indian Economy: Economic Reforms in India: History and NEP 1991, Fiscal Policy: Objectives, Sources of Revenue: Direct and indirect taxes, Trends in Tax Revenue of Central and State Governments, Public expenditure and Public Debt in India- Deficit financing, Latest Fiscal Policy and its implementation in India, Monitory Policy: Objectives, RBI and its role in Monitory Management Fiscal Responsibility and Budget management Act 2013, Foreign Trade Policy of India: Historical Review and FTP 2023	L = 11
		T = 2 P = 2

Note:

1. Case studies on each of the aspects mentioned in the syllabus need to be discussed
2. Necessary Audio and Video case studies must be shown in the class

Learning Resources		
1	Text Books	1. Dutt Gaurav and Mahajan Ashwini, (2022), " Dutt and Sundarm's Indian Economy" 71st Edition, S. Chand and Co. New Delhi. 2. Mishra, S. K., Puri, V. K, Garg Bharat, (2022), "Indian Economy: Its Development Experience", 40th Revised and Update Publication, Himalaya Publishing House, Mumbai 3. Agarwal, M.K, Agarwal, A.N, (2002) "Indian Economy – Developmental Problems and Policies", 44th Edition, New Age International Pvt. Ltd., Mumbai
2	Reference books	1. Kapila Uma, (2023), "Indian Economy Since Independence: A Comprehensive Analysis of India's Economy 1947-2-23" 34th Edition, Academic Foundation, Delhi 2. Somayajulu, V.V.N, (2015), "Indian Economy and Economic Reforms in Inter-industry Economics Frameworks: Studies of Newly Emerging Sectoral Impacts", 1st Edition, Himalaya Publishing House, Mumbai 3. Ahluwalia, I.J. and I.M.D. Little (Eds.) (1999), India's Economic Reforms and Development (Essays in honor of Manmohan Singh), Oxford University Press, New Delhi. 4. Bardhan, P.K., (1998), "The Political Economy of Development in India", 9th Edition Oxford University Press, New Delhi. 5. Annual Reports: Ministry of Rural Development, Govt. of India • Periodicals: Yojana (Marathi) Yojana (English) Kurukshetra (English) – All published by Publications Division, Ministry of I & B, Government of India, New Delhi
3	Websites	• https://www.rbi.org.in/home.aspx • http://finmin.nic.in/ • http://indiabudget.nic.in/budget.asp • https://www.cmie.com/ • http://www.niti.gov.in/ • http://censusindia.gov.in/ • http://mospi.nic.in/ • www.epw.in
4	Journals	• Journal of Applied Economics (https://www.tandfonline.com/toc/recs20/current) • Indian-Economic-Journal (https://journals.sagepub.com/home/IEJ) • Journal-of Indian-School-of-Political-Economy (https://www.i-scholar.in/index.php/JISPE)

5	Supplementary Reading	• Economics Times Daily • Business Standard Daily • Business Today Daily • Monetary Policy of India • Fiscal Policy of India
6	Practical Component	• Collect Economic Survey of India of last Five Years and prepare a report on trends in major macro-economic variables of the country • Establish the relationship between sectoral growth patterns and business environment by collecting data on three major sectors of the economy

Semester	IV	Total Credit	4
Course Code	FOC-403	Credit Pattern	L-45, T-8, P-7
Course Title	Human Resources Management		
Course Outcomes:- Students will be able to:			
1	Identify the wide range of sources for attracting and recruiting talent and appropriate process for selecting candidates		
2	Conduct job analysis, develop job descriptions and job specifications		
3	Design and evaluate the performance management program.		
4	Develop, implement, and evaluate employee orientation, training, and development programs.		
5	Explain, design and evaluate the compensation management		

Syllabus –

Unit Number	Contents	Number of Sessions	
1	Human Resource Management Concepts (15) Meaning, Objectives, Scope, Functions, Difference between personnel Management and Human Resource Management, Job Analysis, Job Description and Job Specification,, Concept of Human Resource Planning and its Process,	L= 11	
		T= 2	P= 2
	Employee Procurement and Development (15)	L= 12	

	Recruitment: - Definition, Sources Of Recruitment, Employee Selection – Essential and Process. Concept of Placement and Orientation. Mobility of Employees:- Internal and External. Concept of training and development, difference between training and development, Methods of training and development.	T= 2	P= 1
3	Performance and Career Management: (15) Career Planning- Benefits of Career Planning, Career Anchor, Career stages, Suggestions for effective career development. Basic Concepts In Performance Appraisal, Methods Of Performance Appraisal, Problems And Solution of Performance Appraisals	L= 11	
		T= 2	P= 2
4	Compensation Management and Maintenance of Human (15) Compensation Management:- Concept, Factors To Be Considered for Fixing Compensation , Components of compensation. Health, Safety and Welfare Provisions as per Factories Act 1948.	L=11	
		T= 2	P= 2

Note:

1. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed.
2. Video cases and Documentary Films relating to the syllabus to be exhibited in the class.

Learning Resources		
1	Text Books	1. K. Ashwathappa, Human Resource Management. 2. Bohlander And Snell, Managing Human Resources 13th Edition, Thomson – South Western. 3. David A. Decenzo, Stephen P. Robbins, Personnel / HRM (3rd Edition), Prentice Hall Of India, New Delhi. 4. S. C. Srivastava ,Industrial Relations and Labour Laws, Vikas Publishing House
2	Reference books	1. Gary Dessler, Human Resource Management Prentice Hall Of India, New Delhi, Tenth Edition. 2. Mathis, Jackson, Tripathy, Human Resource Management: A South-Asian Perspective, Cengage Learning. 3. S. D. Puneekar, Labour Welfare, Trade Unions and Industrial Relations By(13th Edition), Himalaya Publishing House. 4. N.D.Kapoor—Commercial Law—Sultan Chand publishers, New Delhi.
3	Websites	1. www.citehr.com 2. www.peoplematters.com 3. www.hrmguide.net
4	Journals	1. Indian Journal of Training and Development 2. Indian Journal of Human Development 3. Personnel Today

		4. Manpower Journal
5	Supplementary Reading:	Articles available on topics on : www.hbr.com
6	Practical Component:	1. Visit an organization and prepare Job analysis report of any position. 2. Prepare advertisement as part of recruitment for given position. 3. Debate Pros and cons of different training methods

Semester-IV			
Course Code	FOC-404-A	Type	
Course Title	Cost & Management Audit		

Level of Knowledge: Advanced Knowledge	
Course Outcomes	
1	Understand Fundamentals cost and management audit
2	Develop the skill of recording auditing information and preparation of audit reports in accordance with standards.
3	equip the students with the knowledge of the Techniques and Methods of planning and executing the Cost and Management Audit.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction: Nature, Objects and scope of Cost Audit. The concept of efficiency Audit, Proprietary Audit, Social Audit, Systems Audit, Advantages of Cost Audit. Appointment of Cost Auditor: Appointment, Rights, Responsibilities, Status, Relationship and Professional and legal liabilities under Companies Act, 2013 and Cost and Works Accountants Act, 1959 and other Statutes as amended from time to time.	L= 9	
		T= 1	P= 2

2	Planning and Execution of the Audit : Familiarization with the Industry, The production Process, System and Procedure, List of records and reports, preparation of the Cost Audit Programme, Verification of Cost records and reports, Evaluation of Internal Control System, Audit notes and Working Papers, Cost Audit in E.D.P. Environment. Cost Audit reports-Contents of the report, Distinction between 'Notes' 'Qualifications' to the report.	L= 9	
		T= 2	P= 1
3	Management Audit: Meaning, Nature and Scope, Organizational needs for Management Audit and its coverage over and above other audit procedure.	L= 9	
		T=1	P=2
4	Process of Management Audit: Audit of the Management Process and Functions such as Planning, Organization, Staffing, Co-ordination, communication, Direction and Control. Evaluation of M.I.S and Control System with special emphasis on corporate image and behavioral problems. Corporate Service Audit-Research and Development, import substitution, Customers channel (export). Social Audit of Business Enterprises Audit of special Responsibility of Management.	L= 9	
		T= 2	P= 1
5	Numerical Problems on Cost and Management Audit: Preparation of Cost Sheet and Quotation Calculation of Prices to be quoted. Valuation of Closing stock of Raw Material, W.I.P, Finished Goods and Scrap, Power Cost, Calculation of different ratios, Suggestions for Improvements, Element wise contribution to the variation of profits, Costing and Financial Profit and Loss Account and reconciliation between them.	L= 9	
		T= 2	P= 1

Learning Resources		
1.	Reference books	List of Books Recommended for Study (1) Cost Audit and Management Audit — D. Dutta Chowdhury Publication Central Publication, Calcutta. (2) I.C.W.A of India's Publications : (A) Industry wise cost accounting record, rules and cost audit report rules (b) guidelines on Cost Audit (C) Cost Audit report rules (D)Cost Audit Social Objectives. (3) Cost audit and Management Audit — V. K. Saxena and C. D. Vashistha, Sultan Chand and Sons, Delhi. (4) Cost Audit and Management Audit — N.P. Agarwal Publication. (5) The Management Audit — P. William, Leonar Publication. (6) Efficiency Audit : Mohanlal Jain, Printwell Jaipur. (7) Efficiency Audit : Laxmi Narayan-Longman Publication. (8) Institute of Cost and Works Accountants of India-Cost Audit Social Objectives. (9) Laws on Cost Audit - N. Banerjee, International Law Book Centre, Calcutta. (10) Cost and Management Audit — Rajnathan, Publisher - Tata McGraw Hill.
2.	Journals	1. The Chartered Accountant Journal. 2. The Chartered Secretary Journal. 3. The Management Accountant Journal, Printer & Publisher, CMA

		Kaushik Banerjee, and Editor: CMA Dr Debaprosanna Nandy, ISSN: 09723528
3.	E- Libraries	1. INFLIBNET http://nlist.inflibnet.ac.in 2. J-GATE http://jgateplus.com 3. EBSCO http://search.ebscohost.com 4. Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same

Semester	IV	Total Credit	4
Course Code	FOC-405-B	Credit Pattern	L-45, T-6, P-9
Course Title	Bank Financial Management		

Course Outcomes	
	The students will be able to learn:
1.	Understand the concepts of financial markets and bank, their working and importance.
2	Develop necessary competencies expected of a banking professional
3	Develop skills for asset liability management in the context of bank financial management.

Syllabus:

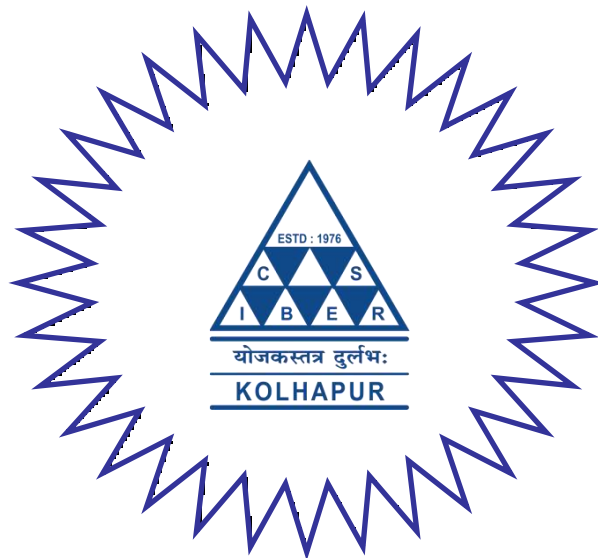
Unit Number	Contents
1	Conceptual Framework: Overview of Financial System, Introduction to Financial Management in Banks, Financial Analysis of Banks
2	Management of Funds: SourcesManagement of Owned Funds, Management of Borrowed Funds, Cost of Funds,InvestmentsForms of Bank Investment, Long-term Investments, Short-term Investments, Investments in Guilds and other Financial Securities, Investment in Foreign Exchange
3	Financial Estimates and Projections: Estimation of Cost of Project & Means of Finance, Projection of Financial Statements & Profitability,Project Financing- Long Term Sources and Short-Term Sources, Classification of Internal and External Sources of Finance. Appraisal of Term Loans by Financial Institutions and Bank Financial Statement Analysis
4	Risk Management: An overview, Estimating/Forecasting of Risks, Measuring Risks, Management of Risks, Asset-Liability Management, Special Issues: Accounting Policies, Pricing of Bank Products & Services

Learning Resources		
1.	Text Books	- IIBF, 2010, Bank Financial Management, Macmillan Publishers India Ltd. - Chandra Prasanna (2014), Projects: Planning, Analysis, Selection, financing, McGraw-Hill India Pvt. Ltd., New Delhi. - Kulkarni, P V. and Satyaprasad, B. G.(2011), Financial Management, Himalaya Publishing House, Mumbai. - Rustagi, R. P. (2016), Fundamentals of Financial Management, Taxman Publication, New Delhi. - Pandey, I. M. (2015), Financial Management, Vikas Publishing House, New Delhi.
2.	Reference Books	- Sinkey, Joseph F., 1998, Commercial Bank Financial Management, Prentice Hall International, Inc. Ltd. - Reddy, B.R., 2004, Management of Non-Performing Assets In Bank Financial Institutions, Serials Publications
3.	Websites	- Bankingupdate.com - Rbi.org.in https://www.ccilindia.com/Pages/default.aspx
4.	Journals	- Indian Journal of Finance, - Capial Market - ArthaVijnana, Journal of the Gokhale Institute of Politics and Economics - Finance India, Indian Institute of Finance
5.	Supplementary Reading	- Current Affairs Weekly, Magazines - Financial Dailies
6.	Practical Component	- Compare balance sheets of two banks and provide the result of the comparison in the form of a report - Prepare a report showing comparative position of tier-wise capital for five different banks - Discuss the investment patterns of banks having their HOs in Kolhapur and submit a report thereof. - Obtain the feedback of banks having their HOs in Kolhapur on the Risk Management as a critical banking function. - Preparation of projected financial statements in respect of proposed project. - Preparing project proposal for any proposed business unit.

**Chhatrapati Shahu Institute of Business
Education & Research, Kolhapur**

(An Autonomous Institute under UGC Act.)

Master of Commerce M.Com.



Structure & Syllabus of the M.Com Program

(Revised and Effective from 2021-22)

INTRODUCTION:

M.Com is two years full time English Medium course with Semester Pattern, offering **Advanced Accounting & Finance Specialization.**

PROGRAMME OUTCOMES OF THE M.COM (PO)

1. To provide a systematic and rigorous learning and exposure to Accounting and Finance related disciplines.
2. To train the student to develop conceptual, applied and research skills as well as competencies required for effective problem solving and right decision making in routine and special activities relevant to Accounting, and Finance Transactions of a business.
3. To acquaint a student with conventional as well as contemporary areas in the discipline of Commerce.
4. To facilitate the students for conducting business, accounting and auditing practices, role of regulatory bodies in corporate and financial sectors nature of various financial instruments.

PROGRAMME SPECIFIC OUTCOMES OF THE M.COM (PSO)

1. Develop an ability to apply knowledge acquired in problem solving.
2. The students can work in different domains like Accounting, Taxation, Costing, and Finance.
3. Ability to work in MNCs as well as private and public companies.

ELIGIBILITY:

Any person who has taken the degree of the B.Com. (Bachelor of Commerce) or B.B. A. (Bachelor of Business Administration) or B.M.S. (Bachelor of Management Studies) of Shivaji University or of any other University recognized by this University as equivalent thereto shall be admitted to the examination, for the Degree of M.Com. (Master of Commerce) in accordance with the relevant Regulations.

DURATION:

The degree of **M.Com** shall be full time course and its duration shall be of **Two Years**. The course consists of Four Semesters. The examination to be held in the First and Second semester will be called M.Com Part – I (First Year) and the examination to be held in the Third and Fourth Semester will be called M.Com Part – II (Second Year).

1. If a candidate fails to clear all the theory papers and project report within **Six** years of his/her registration, the past performance will stand automatically nullified.
2. If a candidate discontinues any of the terms (i.e. Semester – I to IV) on any account, he/she will be allowed to complete the incomplete terms in the subsequent years subject to the condition that it is within the stipulated time duration of **Six** years.
3. In addition to the above, once a student's term (Semester) is granted, he/she shall be allowed to appear and pass in any of the subsequent examinations held, provided the examinations are within the stipulated period of **Six** years.
4. In case the term (Semester) is not granted the student has to seek fresh admission in the next year and complete the term and pass the examination. This too within **Six** years of his/her registration.

PROGRAMME COMPLETION WITH BREAK IN BETWEEN:

A student who has passed M.Com. – I and is seeking admission to M.Com – II after a long gap (Provided the gap lies within the stipulated duration of **Six** years) should complete the course syllabus which was in existence at the time of admission.

ASSESSMENT:

Taking into consideration the UGC and AICTE requirements, CSIBER has adopted “Credit Grade Based Performance Assessment System” (CGPA). Each paper is of 100 marks and a contact hour for each paper is 60. One credit is allotted to 15 contact hours. All papers are considered as Full credit papers i.e. **four** credits are allotted to each paper.

For Theory Paper of 100 Marks: The distribution of the marks will be as follows –

- Internal Marks i.e. Concurrent Evaluation - **40 Marks**
- External Marks i.e. Semester End examination- **60 marks**

For the Project Work of 100 marks, the distribution of the marks will be as follows:

To pass the Project Work & Viva Voce exam candidate must obtain a minimum of 40% of the marks for each part (**i.e. 40% for Project Report & 40% for Project Viva**). The assessment of 60 marks will be done by internal & external examiner. (i.e. 30 marks of internal examiner & 30 marks of external examiner.) The average of both the examiners will be considered for final calculation. If a candidate fails in the project report and its viva-voce, he/she will be required to join the particular project report and its viva-voce as a fresh candidate in the subsequent year.

Project Report out of 40% minimum **16 Marks will be required.**

Project Viva Voce out of 60% minimum **24 Marks will be required**

Breakup of Internal Marks i.e. Concurrent evaluation –

Break up of Internal Marks: 40

Sr. No	Particulars	Marks
1.	Class Participation	10
2.	Moodle Test/Class Test/Online Test	10
3.	Seminars / Library Based Assignment/ Case Study/ Practical	10
4.	Field Based Project/ Book Reading Review/ Home Assignment	10
	Total	40

Note

For every Semester End examination Class Participation and Moodle Test/ Class Test/Online Test marks are compulsory. For remaining 20 marks any of the above two heads can be selected by the faculty. The final internal marks will be calculated using the heads shown in above table. **The internal marks obtained by the student have to be disclosed by the teachers and signed by the student.**

Value Added Certificate Courses (Non-Credit Courses)

1. Certified Recognized Employed Tally Certification (Semester-I, II & III)

- a. Tally Essential Course Level-I (M. Com-I, Semester-I)
- b. Tally Essential Course Level-II (M. Com-I, Semester-II)
- c. TDS Using Tally (M. Com-II, Semester-III)

Note- The students should choose One Certificate Course from the above list.

2. MOOC Course (Semester-II & III)

The students will complete any one online MOOC Course. The list of recognized MOOC course for M.Com students will be given by the department at the start of semester.

3. Certificate Course on Seeking Perfection for Stress Free Life (Semester-IV)

Assessment

- 1. The assessment of theory papers will be done by an Internal and External examiner. A difference of more than **20%** in the marks awarded by these examiners would necessitate the evaluation of this paper by the Third examiner. The **‘nearest highest’** marks will be considered for determining the average mark of such papers.

2. The examiners should submit the marks on separate sheets supplied to them. No marks should be entered directly in the inside pages of the answer book.
3. Once the Student has passed in the internal marks (**Concurrent evaluation out of 40**) and submitted to the examination department, they should be carried forward whenever required.
4. Students who failed in the internal marks (Concurrent evaluation out of 40) in such cases student should reappear for the same, and then only the revised marks will be considered for further calculation.
5. There shall be seven questions, question no.1 and 7 shall be compulsory and from question no. 2 to 6 student has to attempt any 3. Equal weightage should be given to each unit.

STANDARD OF PASSING:

1. In order to pass in a paper / head, a candidate will have to obtained 40% in the internal marks (**16 marks out of 40**), 40% marks in theory in each paper (**24 marks out of 60**).
2. To pass M. Com Examination, a candidate will have to pass in all four semesters in two parts i.e. Part I (SEM. I & II) and Part II (SEM III & IV).
3. A candidate will be permitted to proceed the next semester even though he/she fails a number of subjects.
4. A student who has passed in Part – I or Part – II alone shall not take the examination in the Part again.
5. A candidate who has passed in any of the paper / head of passing shall not be allowed to appear again for that paper / head.

Semester Performance Index (SPI)/Cumulative Performance Index (CPI) will be as follows.

Grading System:

In order to pass in paper/ head a candidate will have to obtain 40% marks in Theory and minimum of 40% marks in Internal. However, in order to pass in each individual paper the candidate should score a minimum of 40% marks for M.Com Programme.

Grade Table For M.Com Programme Semester Examination (Full Credit 100 Marks)			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
96 – 100	S+	10.0	Exemplary
91 – 95	S	9.0	
86 – 90	E+	8.5	Outstanding
81 – 85	E	8.0	
76 – 80	O+	7.5	Excellent
71 – 75	O	7.0	
66 – 70	A+	6.5	Very Good
61 – 65	A	6.0	
56 – 60	B+	5.5	Good
51 – 55	B	5.0	
46-50	C+	4.5	Average
40-45	C	4.0	
--	X	0.0	Fail
--	XX	---	Incomplete

Grade Table For M.Com Programme Semester Examination (Half Credit 50 Marks)			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
48 – 50	S+	10.0	Exemplary
46 –47	S	9.0	
43 – 45	E+	8.5	Outstanding
41 –42	E	8.0	
38 – 40	O+	7.5	Excellent
36 – 37	O	7.0	
33 – 35	A+	6.5	Very Good
31 – 32	A	6.0	
28– 30	B+	5.5	Good
26 – 27	B	5.0	
23-25	C+	4.5	Average
20-22	C	4.0	
--	X	0.0	Fail
--	XX	---	Incomplete

Final Result: For the final result of the student Cumulative Performance Index (CPI) based on total earned credits vis-à-vis total earned grade points shall be calculated.

Final Result For M.Com Programme		
CPI	Grade	Classification of Final
9.0-10.0	S	Exemplary
8.0-8.9	E	Excellent
7.0-7.9	O	Outstanding
6.0-6.9	A	Very Good
5.0-5.9	B+	Good
4.0-4.9	B	Average
0.0-4.9	X	Fail

Note: An aggregate of **4.0** credit points are required to pass the M.Com program.

CALCULATION OF PERFORMANCE INDICES:

A distinction of the performance of one student from the other student is rather impossible to carry out from the grades obtained by a student in all the courses taken by him in a semester/year. Hence, the evaluation of various courses is cumulated in two performance indices termed as semester performance index (SPI) and cumulative performance index (CPI), the explanation of which is given below:

Semester Performance Index (SPI):

The performance of a student in a semester is indicated by a number called Semester Performance Index (SPI). SPI is the weighted average of all the grade points obtained by him in all the courses registered during the semester. If G_i is a grade with numerical equivalent as G_i obtained by a student for the course with credit C_i then, SPI for that semester is calculated using formula.

$$SPI = \frac{\sum C_i G_i}{\sum C_i}$$

Where summation is for all the courses registered by a student in that Semester SPI is calculated to two decimal places and rounded off. SPI once calculated shall never be modified. Generally, for the students failed in regular examinations SPI is calculated only after the declaration of re-examination grades.

Cumulative Performance Index (CPI):

An up-to-date assessment of the overall performance of a student from the first semester till completion of the programme is obtained by calculating an index called as Cumulative Performance Index (CPI). The CPI is weighted average of the grade points obtained in all the courses registered by a student since the first semester of the programme.

Besides SPI, CPI is also calculated at the end of every semester up to two decimal places and is rounded off. It is
$$CPI = \frac{\sum_i C_i g_i}{\sum_i C_i}$$
 ensure that one course appears only once in calculation of CPI and the denominator in above equation does not exceed the total number of credits registered by him.

GRACE MARKS UNDER DIFFERENT ORDINANCE:

S.O. No. 1:-Grace Marks for Passing in each head of Passing (Theory/Practical/Oral/Sessional/External/Internal).

The Examinee shall be given the benefit of grace marks only for passing in each head of Passing (Theory/Practical/Oral/Sessional/ in External /Internal examination as follows.

Head of Passing	Grace Marks
Upto -50	2
051-100	3
101-150	4
151-200	5
201-250	6
251-300	7
301-350	8
351-400	9
And 401 and above.	10

Provided that the benefit of such gracing marks in different heads of passing shall not exceed 1% of the aggregate marks in that examination.

Provided further that the benefit of gracing of Marks under this Ordinance shall be applicable only if the candidate passes the entire examination of Trimester/Semester.

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM, CCIII, NCTE and UGC etc.

S.O. NO. 2:- GRACE MARKS FOR GETTING HIGHER CLASS

A Candidate who passes in all the subjects and heads of passing in the examination without the benefit of either gracing or condonation rules and whose total number of Marks falls short for securing Second Class/Higher Second Class or First Class by marks not more 1% of the aggregate marks of that examination or up to 10 marks, whichever is less, shall be given the required marks to get the next higher class of grade as the case may be.

Provided that benefits of above mentioned grace marks shall not be given, if the candidate fails to secure necessary passing marks in the aggregate head of passing also, if prescribed in the examination concerned.

Provided further that the benefits of above mentioned grace marks shall be given to the candidate for such examination/s only for which provision of award of class has been prescribed.

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM, CCII, NCTE and UGC etc.

S.O. NO. 3 CONDONATION

If a candidate fails in more than one head of passing, his/her deficiency of marks in such head of passing may be condoned by not more than 1% at the aggregate marks of the examination. However condonation, whether in one head of passing or aggregate head of passing be restricted to maximum up to 10 marks only.

Condonation of deficiency of marks be shown in the statement of Marks in the form of asterisk and Ordinance number

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as AICTE, MCI, Bar Council, CCIM, CCII, NCTE and UGC etc.

BACKLOG:

A candidate will be permitted to proceed to the second, third and fourth Semester even though he/she fails in one or more subjects of the first semester, provided the first semester term is granted.

NATURE OF THEORY QUESTION PAPER
Out Line Theory Question Paper of M.Com Programme
(Four Unit Course)

Class:

Subject:

Paper no. :

Time: Three hours

Total Marks: 60

INSTURUCTIONS:

1. Question no. 1 is **COMPULSORY**
2. Attempt any **FOUR** from Q. No.2 to Q. No.7.
3. Figures to right indicate **FULL** marks

Q.1.:	Case study / Problems (Based on Unit I to IV)	(12)
Q.2:	Problems / Brief answer Questions A and B (Based on Unit I)	(12)
Q.3:	Problems / Brief answer Questions A and B (Based on Unit II)	(12)
Q.4:	Problems / Brief answer Questions A and B (Based on Unit III)	(12)
Q.5:	Problems / Brief answer Questions A and B (Based on Unit IV)	(12)
Q.6:	a) Question (Based on Unit I or III)	(06)
	b) Question (Based on Unit II or IV)	(06)
Q.7:	Write Short Answers .	(12)
	a) Based on Unit I	(3 Marks)
	b) Based on Unit II	(3 Marks)
	c) Based on Unit III	(3 Marks)
	d) Based on Unit IV	(3 Marks)

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M.Com Program Course Structure
Revised Structure of M.Com
(With Effect from 2021-22)
M.Com - I Year

M.Com-I Semester – I								
Nature of choice	Subjects Code	Subjects	Credits	LTP	Contact Hours	Int. Marks	Ext. Marks	Total Marks
Core Courses (CC)	CC-101	Business Management	4	3:1:0	60	40	60	100
	CC-102	Managerial Economics	4	3:1:0	60	40	60	100
Discipline Specific Elective (DSE) Specialization (Any Two)	DSE-101-A	Advanced Accountancy Paper-I	4	3:0:1	60	40	60	100
	DSE-101-B	Advanced Accountancy Paper-II (Auditing)	4	3:0:1	60	40	60	100
	DSE-101-C	Business Analysis & Valuation	4	3:0:1	60	40	60	100
Total			16	NA	240	160	240	400

M.Com-I Semester – II								
Nature of choice	Subjects Code	Subjects	Credits	LTP	Contact Hours	Int. Marks	Ext. Marks	Total Marks
Core Courses (CC)	CC-201	Organizational Behaviour	4	3:1:0	60	40	60	100
	CC-202	Research Methodology For Business	4	3:0:1	60	40	60	100
Discipline Specific Elective (DSE) Specialization (Any Two)	DSE-201-A	Advanced Accountancy Paper-III	4	3:0:1	60	40	60	100
	DSE-201-B	Business Finance Paper-IV	4	3:0:1	60	40	60	100
	DSE-201-C	Personal Financial Planning	4	3:0:1	60	40	60	100
Total			16		240	160	240	400

Revised Structure of M.Com
(With Effect from 2021-22)
M.Com - II Year

M.Com-II Semester – III								
Nature of choice	Subjects Code	Subjects	Credits	LTP	Contact Hours	Int. Marks	Ext. Marks	Total Marks
Core Courses (CC)	CC-301	Management Accounting	4	3:0:1	60	40	60	100
	CC-302	International Business	4	3:0:1	60	40	60	100
	CC-303	Project Work and Viva-Voce	4	0:0:4	50 Days	40	60	100
Discipline Specific Elective (DSE) Specialization (Any Two)	DSE-301-A	Advanced Accountancy Paper-V (Costing)	4	3:0:1	60	40	60	100
	DSE-301-B	Financial Data Analysis using Excel Paper-VI	4	3:0:1	60	40	60	100
	DSE-301-C	Financial Reporting	4	3:0:1	60	40	60	100
Total			20		240	200	300	500

M.Com-II Semester – IV								
Nature of choice	Subjects Code	Subjects	Credits	LTP	Contact Hours	Int. Marks	Ext. Marks	Total Marks
Core Courses	CC-401	Management Control System	4	3:0:1	60	40	60	100
	CC-402	Financial Management	4	3:0:1	60	40	60	100
Discipline Specific Elective (DSE) Specialization (Any Two)	DSE-401-A	Advanced Accountancy Paper-VII (Taxation)	4	3:1:0	60	40	60	100
	DSE-401-B	Advanced Accountancy Paper-VIII (Contemporary Issues in Accounting)	4	3:1:0	60	40	60	100
	DSE-401-C	Corporate Tax Structure and Planning	4	3:1:0	60	40	60	100
Total			16		240	160	240	400

Value Added Certificate Courses (Non-Credit Courses)

1. Certified Recognized Employed Tally Certification (Semester-I, II & III)

- a. Tally Essential Course Level-I (M. Com-I, Semester-I)
- b. Tally Essential Course Level-II (M. Com-I, Semester-II)
- c. TDS Using Tally (M. Com-II, Semester-III)

Note- The students should choose One Certificate Course from the above list.

2. MOOC Course (Semester-II & III)

The students will complete any one online MOOC Course. The list of recognized MOOC course for M.Com students will be given by the department at the start of semester.

3. Certificate Course on Seeking Perfection for Stress Free Life (Semester-IV)

Semesters	Core Credits	DSE	Total	Contact Hours	Total Marks
I	2 x 4 = 08	2 x 4 = 08	16	240	400
II	2 x 4 = 08	2 x 4 = 08	16	240	400
III	3 x 4 = 12	2 x 4 = 08	20	240	500
IV	2 x 4 = 08	2 x 4 = 08	16	240	400
Total Marks	400	400			1700
Total Credits	36	32	68		
Percentage	36.00	32.00	68		

Note: Average Contact hours per semester are 240 hours.

Summary:

Particulars	No. of Papers
Core Courses	09
Discipline Specific Electives	08
Total	17 Papers

M.Com. SEMESTER - I

Semester	I	Total Credit	4
Course Code	CC-101	Credit Pattern	L-45, T-6, P-9
Course Title	Business Management		

Course Outcomes

	The students will be able to:
1.	Discuss the theoretical aspects of management and strategic management.
2.	Assess the theoretical aspects of contemporary issues in management.
3.	Evaluate the contribution towards management thoughts.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Management: Definition, Nature, Significance, Managerial Skills, Mitzberg's Role, Management as a Profession, Code of Conduct for Managers. Functional areas of Management - Human Resource, Finance, Production and Marketing. Practical: Visit any organisation and study the role of managers. Visit and study the functional activities of the companies. Submit the hand written report to the College/ Institution/ Department	L= 11	
		T= 2	P= 2
2	Contribution towards Management Thought: A) Contribution of Frank Gilbreth, Mary Parker Follett. Tom Peters and Robert Waterman. B) Organizational Learning Approach- Need and Evaluation. Virtual Organization - Features and Implications. Practical: Visit any organization and study the management thought of concern organization and submit the hand written report to the College/ Institution/ Department.	L= 12	
		T= 1	P= 3
3	Strategic Management: (A) Concept, Importance, Levels of Strategy, Strategic Intent, Different type of Strategies, Strategic Analysis and Choice - Corporate Level Analysis (GAP analysis, BCG Matrix, GE9 Cell Matrix), Industry Level Analysis (Porter's 5 Forces Model). (B) Strategy implementation and control- Techniques of Strategy Evaluation - Functional Issues, Behavioural Issues and McKinsey's 7-S Model. Strategic Control Technique. Practical: Visit to company, bank, NGOs etc. and study the adopted strategies by the same. Develop strategies for the companies. Submit the best suggested strategies for the visited company to the College/ Institution/ Department.	L= 11	
		T= 2	P= 2
4	Contemporary Issues in Management: (A) Ethical Issues- Social, Cultural, Financial, Marketing and Environment related Issues. (B) Management of 21 st Century Organization - Challenges and Opportunities in E-Commerce, E-Business and M-Commerce. Practical: Visit to company, social organizations etc. for collecting 21 st Century issues in management and submit the hand written report about ethical issues and challenges before the organization to the College/ Institution/ Department.	L=11	
		T= 1	P= 2

Learning Resources		
1	Text Books	1. Principles of Management – T Ramasamy 2. Principles of Management – P.C. Tripathi and P.N. Reddy 3. Arun Kumar and Meenakshi, Organizational behaviour: A modern approach, Vikas Publishing House, 2011. 4. Ashwathappa, Organization Behaviour, Himalaya Publication House 5. Stephen P Robbins, Timothy A. Judge, Neharika Vohra, Organizational behaviour, Pearson, 14th Edition, 2012. 6. SubbaRao P & HimaBindu, Management Theory & Practice Text & Cases – Himalaya Publication. 7. VSP Rao, Management: Text and Cases, Excel Books 8. Koontz, Essentials of Management, 8/e, McGraw Hill
2	Reference Books	1. Essentials Of Management – Koontz And Weinrich 2. Modern Management – Certo – Prentice Hall 3. Principles Of Management- Dr. Kiran Nerkar and Dr. Vilas Chopade 4. Principles Of Management – L.M. Prasad 5. Principles Of Management – R.M. Srivastava 6. New Era of Management – Richard L. Daft 7. Essentials of Management – Peter Drucker 8. Management – Stephen P. Robins – Prentice Hall 9. Modern Business Administration and Management – S. A. Sherlekar - Himalaya Publication 10. Management Concept and Strategies – J. S. Chandra 11. In Search of Excellence - Tom Peters and Robert H. Waterman, Strategic management – Azhar Kazmi 12. Principles of management – P.C.Tripathi and P.N.Reddy 13. Principles of Management – Koontz, O'Donnell and Weihrich
3	Websites	1. www.iupindia.in 2. www.wisdomjobs.com. 3. http://www.mbaexamnotes.com 4. INFLIBNET http://nlist.inflibnet.ac.in 5. J-GATE http://jgateplus.com 6. EBSCO http://search.ebscohost.com 7. Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4	Journals	1. Business Perspective & Research 2. Indian Journal of Management 3. Prabandhan- Journal of Management 4. Vikalpa 5. Management Today 6. Asian Journal of Management 7. Case folio The IUP Journal of Management Case Studies
5	Supplementary Reading	1. Business India The Magazine of Corporate World. 2. South Asian Journal of Practical Research. 3. The Times of India 4. Business Standard
6	Practical Component	1. Studying organizational structure of any company and classifying it into different types of organizations which are studied and justifying why such structure is chosen by that organization. 2. Preparing the leadership profiles of any 5 business leaders and studying their

M.Com. Syllabus (CBCS-Effective From 2021-22)

		leadership qualities. 3. Class debate on different basis of departmentalization 4. Identify any business leader and list his qualities that made him a good leader. 5. Library Exercise on CSR activities undertaken by any one company of your choice

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Semester	I	Total Credit	4
Course Code	CC-102	Credit Pattern	L-44, T-08, P-08
Course Title	Managerial Economics		

Course Outcomes: Students will be able to

	The students will be able to:
1.	Explain the theories and concepts of managerial economics.
2.	Apply theories in business situation.
3.	Evaluate the theories of economics.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Managerial Economics Meaning, Nature, Scope and Importance, Economic Theory and Managerial Theory, Role and Responsibilities of manager- managerial Economics and Decisions making, Objectives of Business Firm	L= 11	
		T= 2	P= 2
2	Demand Analysis and Consumer Behavior Demand Function Concept and Types of Elasticity of Demand, Measurement of Price Elasticity of Demand- Applications of Elasticity of Demand in Managerial decision, Revealed Preference Theory – Theory of Consumer's Choice under Risks, Demand Forecasting : Meaning and Methods	L= 11	
		T= 2	P= 2
3	Theory of Production, Price Determination and Pricing Practices Production Function : Short run, Long run and Cob-Douglas – Break Even Analysis, Price and Output Determination under Monopolistic Competition and Oligopoly (Collusive and Non-Collusive), Pricing Practices: Cost Plus, Multiple, Dumping and Transfer, Capital Budgeting- Criteria for Project Appraisal	L=11	
		T=2	P=2
4	Theory of Business Cycles and Inflation Meaning, Phases of Business Cycles, Theories of Business Cycles: Cob-Web, Hicks ,Monetary theories of Inflation : Friedman theory, Income theory, Structurlist theories :Mark up theory by Ackley- Bottleneck theory by Eckstim	L= 11	
		T= 2	P= 2

Learning Resources

1	Text Books	- Ahuja H L(2015), Principles of Economics, S Chand Publisher, New Delhi - Dewett KK and Verma(2014), Elements of Economics, Viva Books, New Delhi
2	Reference books	- Ahuja H.L, Modern Micro Economics, S Chand& Co., New Delhi, (2000) - Paul Samuelson, Economics, Mcgraw Hill Inc, New Delhi, (2000)

M.Com. Syllabus (CBCS-Effective From 2021-22)

		3. Branson, William H. Macroeconomic Theory and Policy. HarperCollins India Pvt. Ltd. 4. Oliver J. Blanchard, Macroeconomics, Pearson Education 5. G. S. Gupta, Macroeconomics: Theory and Applications, McGraw-Hill Education 6. Shapiro, Macroeconomic Analysis 7. Paul A Samuelson, William D Nordhaus, and Sudip Chaudhuri, Macroeconomic, McGraw-Hill Education 8. Mithani D.M. Money, Banking, International Trade and Public Finance, 7 Vaish M.C. Monetary Theory 9. Agarwal H.S. Principles of Economics 9 Haberler, Theory of International trade 10 K.K. Dewett, Monetary Theory 11. H.L. Ahuja, Macro Economics: Theory and Policy 12 Jhingan M.L. Macro Economic Theory 12. Gupta S.B. Monetary Economics
3	Websites	www.rbi.org.in www.mygov.gov.in
4	Journals	Arth Samwad Economic and Political Weekly
5	Supplementary Reading	Economics Survey Union Budget of India
6	Practical Component	1. Demand estimation for small vendors in your locality 2. Examining market structure for various products

Semester		I	Total Credit	4
Course Code		DSE-101-A	Credit Pattern	L-45, T-6, P-9
Course Title		Advanced Accountancy Paper-I		

Course Outcomes	
	The students will be able to:
1.	Discuss the concept of accounting standards and its practical applications.
2.	Apply the accounting knowledge to take business decisions.
3.	Prepare the final accounts for different sectors.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Accounting Standard Meaning, Objectives and Need of Accounting Standard, Introduction to IFRSs, Distinction between GAAPs and IFRSs, Disclosure of Accounting Policies (AS-1) and Valuation of Inventories (AS-2) Practical: Visit Chartered Accountant's Office and discuss the ideas of accounting standards, IFRSs and GAAPs Arrange students group discussion or seminar on AS-1 and AS-2	L= 11	
		T= 2	P= 2
2	Accounting for Service Industries: Accounting of Hotel: Nature of Hotel business, Sources of Revenue and Heads of Expenditures of Hotel, Visitors' ledgers and Preparation of Final Accounts Accounting of Hospitals: Introduction, Introduction, Incomes and Expenditure, Capital and Revenue, OPD and IPD register Practical: Visit to any Hotel and arrange discussion with hotel's manager regarding hotel's accounting process Visit to any Hospital and arrange discussion with hospital manager regarding	L= 12	
		T= 1	P= 3

M.Com. Syllabus (CBCS-Effective From 2021-22)

	hospital's accounting process		
3	Accounts of Banking Companies Business of banking companies – some important provisions of Banking Regulation Act of 1949 – minimum capital and reserves – restriction on commission – brokerage – discounts – statutory reserves – cash reserves – books of accounts – special features of bank accounting, final accounts -Balance sheet and profit and loss account – Concept of NPA & Revenue Recognition in case of NPA– rebate on bill discounted – acceptance – endorsement and other obligations – problems as per new provisions. Practical: Download financial statements of banking company and discuss on them in the classroom.	L= 11	
		T= 2	P= 2
4	Accounting of Insurance Companies General and Life Insurance, Introduction, Accounting forms, Financial Statements with schedules, IRDA Regulations related to financial statements of insurance companies. Practical: Download financial statements of insurance company and discuss on them in the classroom. Arrange visit to insurance company branch office to know their accounting process	L=11	
		T= 1	P= 2

Learning Resources

1.	Text Books	1. Bose, D. (2010). Advanced Accounting. Prentice Hall India Learning Private Limited. 2. Made Gowda – Advanced Accounting, Himayala Publication House 3. Jawaharlal, Managerial Accounting, Himayala Publication House 4. S.N. Maheswari, Advanced Accountancy, Vikas Publishers 5. R. Venkataramana, Advanced Accountancy, Vikas Publication House 6. S. P. Jain and K. L. Narang – Advanced Accountancy, Kalyani Publication House. 7. Paduka's Students Handbook on Advanced Auditing; CA Final; Padhukas Publication.
2.	Reference Books	1. R L Gupta, Advanced Accountancy, Sultan Chand Publication 2. Shukla and Grewal, Advanced Accountancy, S Chand Publication 3. Corporate Accounting by S.N.Maheshwari – Vikas Publication 4. Narayanaswamy, R.: Financial Accounting: A Managerial Perspective, Prentice Hall of India, Delhi. 4. Gupta, S. C.; Gupta, M. P.; Shukla, M. C.; Agrawal, B. M. and Grewal, T. S. (2019). Advanced Corporate Accounting, S. Chand & Company, New Delhi. 5. Shukla, M. C.; Grewal, T. S. and Gupta, S. C.; (2016). Advanced Accounts, S. Chand & Company, New Delhi. 6. Arulnandan, M. A. and Raman, K. S. (2018). Advanced Accountancy (Corporate Accounting) Vol. II, Himalaya Publishing House, Mumbai. 7. Gupta, R. L. and Radhaswamy, M. (2018). Advanced Accountancy Vol. II, Sultan Chand and Sons; New Delhi. 8. Maheshwari, S. N.; Maheshwari, Suneel and Maheshwari, Sharad K. (2018). Corporate Accounting. Vikas Publication House, New Delhi. 9. Shukla M. C. ; Grewal T.S. and Gupta S.C. - Advanced Accounts; S.Chand and Co. New Delhi. 10. Jain, S. P.; Narang, K. L.; Agrawal, Simmi and Sehgal, Monik (2018). Advanced

M.Com. Syllabus (CBCS-Effective From 2021-22)

		Accountancy (Corporate Accounting) Vol. II, Kalyani Publishers, New Delhi. 11.Hanif, M. and Mukharjee, A (2018). Modern Accountancy Vol. II, McGraw Hill Education India (Private) Ltd., Noida.
3.	Websites	1.INFLIBNET http://nlist.inflibnet.ac.in 2.J;GATE http://jgateplus.com 3.EBSO http://search.ebscohost.com 4. www.icaai.org. 5.Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4.	Journals	1. The Chartered Accountant Journal. 2. The Chartered Secretary Journal. 3. The Management Accountant Journal. 4. Finance India 5.Journal of Accounting & Finance
5.	Supplementary Reading	1.CA IPCC Study Material 2. Relevant Study Material Issued by ICAI 3.Relevant Study Material Issued by ICSI 4.Relevant Study Material Issued by ICWAI
6.	Practical Component	1. Practical problems on banks & insurance companies. 2. Identifying accounting policies and making valuation of inventories. 3. Preparation of accounts of hotels and hospitals. 4. Preparation of consolidated financial statements of group of companies. 5. Application of accounting process for insurance companies.

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Semester	I	Total Credit	4
Course Code	DSE-101-B	Credit Pattern	L-45, T-6, P-9
Course Title	Advanced Accountancy Paper-II (Auditing)		

Course Outcomes	
	The students will be able to:
1.	Describe the basic concepts and objectives of audit.
2.	Apply working knowledge of generally accepted auditing procedures.
3.	Evaluate the techniques of conducting audit of various entities.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Nature, Objectives and Scope of Audit: Understand the functional Classification and Qualities of Auditor – Define Audit and understand the Objectives of Audit, Principles governing Audit. – Distinguish between Audit and investigation- Understand Different types of audit and relationship of auditing with other disciplines.	L= 11	
	Audit Strategy, Audit Planning and Audit Programme: Understand Audit Planning and overall Audit Strategy for an Audit – Draft Audit Programme.	T= 2	P= 2
	Audit Documentation and Audit Evidence: Understand the concept of		

M.Com. Syllabus (CBCS-Effective From 2021-22)

	Audit Documentation – Nature and Purpose of Audit Documentation – Audit file, assembly of Final Audit File, ownership of Audit Documentation.		
2	Risk Assessment and Internal Control: Audit Risk, Risk of Material Misstatement and its components, Risk Assessment procedure – Concept of Internal Control, Components of Internal control and controls relevant to audit – Identify significant Risks. Fraud and Responsibilities of the Auditor in this regard: Understand the types of Fraud and Errors. – Definition of fraud, Understand reason behind management/ employee committing fraud and error – Analyze the duty of Auditor regarding detection of fraud and error – Understand the responsibilities of Auditors in case of fraud	L= 11	
		T= 1	P= 3
3	The Company Audit: Understand the Qualifications and Disqualification of Auditors – Know the procedures of Appointment, reappointment, filing up casual vacancy and removal of Auditor – Understand Powers and Duties of Auditor Audit of Banks: Understand the legal framework for bank Audit. – Gain the Knowledge of Financial Statements of Banks. – Understand the Audit Approach for items of Profit and Loss in case of Banks. – Learn the important items such as Advances, NPA's etc.	L= 11	
		T= 2	P= 2
4	Audit of Different types of entities: Understand the procedures to be adopted for auditing of Non-Profit Organization (NGO) and Charitable Institutions. - Gain knowledge of auditing procedure of sole trader firm, educational Institutions, hospitals, clubs, cinema, hotels, etc. - Identify the Audit Procedure of Government, Local Bodies, Co-operative Societies, etc. Audit Report: Contents of Audit Report	L=12	
		T=2	P=2

Learning Resources

1.	Text Books	1. A Handbook on Practical Audit – B N Tandon 2. Auditing Principals and Practice – Ravindra Kumar and Virendra Sharma 3. Principal and Practice of Auditing – Dinkar Pagare 4. Relevant Study Material of ICAI
2.	Reference Books	1. Taxman's Auditing and Assurance – Pankaj Garg 2. Shaitya Bhawan Publication – Auditing – Dr T R Sharma 3. Auditing Principals, Practices and Problems – Jagdish Prakash 4. Taxman's Concurrent Auditing in Bank – D P Gupta 5. Paduka's Student Handbook on Advance Auditing – Padhukas Publication 6. Bestword's Auditing and Assurance – CA Surbhi Bansal 7. A Practical Guide to Company Audit – CA Virendra K Pamecha 8. Bharat's Statutory Audit - CA Kamal Garg
3.	Websites	1. www.icai.org 2. https://www.vsijaipur.com 3. www.icma.in 4. Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4.	Journals	1. The Chartered Accountant Journal. 2. The Chartered Secretary Journal. 3. The Management Accountant Journal 4. Capital Market 5. Finance India 6. Journal of Accounting & Finance
5.	Supplementary	1. The Financial Express

M.Com. Syllabus (CBCS-Effective From 2021-22)

	Readings	2. The Economics Times 3. Business Line

Semester	I	Total Credit	4
Course Code	DSE-101-C	Credit Pattern	L-45, T-6, P-9
Course Title	Business Analysis and Valuation		
Course Outcomes			
	The students will be able to:		
1.	Explain the concepts of business analysis and valuation.		
2.	Apply the concepts for managerial decisions.		
3.	Interpret the statements for managerial decision-making.		

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction: Concept and objectives of business valuation; types of business valuation – assets, liabilities, earnings, securities valuation; uses of valuation; approaches to valuation – book value, liquidation, replacement and break-up value; cash flow and dividend discount models; P/E multiples, pitfalls in valuation – bias, uncertainty and complexity.	L= 11	
		T= 2	P= 2
2	Divisional Performance and Valuation: Evaluation of divisional performance Contribution margin approach, Return as investment approach, Residual income approach, Advantages and disadvantages, Non-financial measures of performance.	L= 12	
		T= 1	P= 3
3	Managerial Decisions: Cost behavior, Determination of sales mix, Exploring new markets, Discontinuance of a product line, Make or buy decisions, Equipment Replacement Decision, Change versus Status Quo, Expand or contract, Shut down or continue.	L= 11	
		T= 2	P= 2
4	Corporate Valuation: Cost analysis for pricing decisions, Objectives of pricing, Product pricing methods, Full cost pricing, Mark-up pricing, Break-even pricing, Target pricing, Conversion cost pricing, Differential cost pricing	L=11	
		T= 1	P= 2

Learning Resources

1.	Text Books	1. Charles T. Horngren, G.L. Sundem and W.O. Stratoon, Introduction to Management Accounting, Pearson, Delhi. 2. Jawaharala, Management Accounting, Himalaya Publishers, Mumbai. 3. Kulshrestha, N.K., Management Accounting, Tata McGraw Hill, New Delhi. 4. Maheswari, S.N., Principles of Management Accounting, Sultan Chand & Sons, New Delhi. 5. Prashanta Atma, Cost and management Accounting, Himalaya Publishing House, Hyderabad. 6. Robert S. Kaplan and Anthony A. Atkinso, Advanced management Accounting, Prentice hall, New Delhi.
2.	Reference Books	1. Sahaf M.A., Management Accounting Principles and Practice, Vikas Publishing House, Mumbai. 2. Sharma R.K and Gupta, S.K., Management Accounting, Kalyani Publishers, Ludhiana. Palepu, Healy and Bernard, Business Analysis and Valuation, Cengage Learning, New Delhi.

M.Com. Syllabus (CBCS-Effective From 2021-22)

		3. Prasanna Chandra, Corporate Valuation and Value Creation, TMH, New Delhi
3.	Websites	1.INFLIBNEThttp://nlist.inflibnet.ac.in 2.J-GATEhttp://jgateplus.com 3.EBSCOhttp://search.ebscohost.com 4.Library online Opac Address: http://192.168.1.111:8080/opac 5. www.icaai.org. 6. https://icmai.in/icmai/index.php 7. https://finmin.nic.in/ *For INFLIBNET individual usernames and passwords are already given. Use the same
4.	Journals	1.The Quarterly Journal of Indian Institute of Finance 2.Journal of the Institute of Chartered Accounts of India 3.The Management Accountant 4. The Chartered Accountant Journal. 5. The Chartered Secretary Journal. 6. The Management Accountant Journal
5.	Supplementary Reading	1.The Economic Times 2.The Business Standard 3.CMA Students E-Bulletin 4.Business Line
6.	Practical Component	1. Practical problems on determination of sales mix. 2. Practical problems on exploring new markets. 3. Practical problems on discontinue or make or buy decision. 4. Practical problems on shut down or expand business. 5. Practical problems on cost analysis for pricing decisions. 6. Companies data analysis using Prowess-IQ. 7. Field based project on cost data. 8.Practical on preparation of Management Information Reports

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M.Com. SEMESTER - II

Semester	II	Total Credit	4
Course Code	CC-201	Credit Pattern	L-45, T-6, P-9
Course Title	Organizational Behaviour		

Course Outcomes	
	The students will be able to:
1.	Describe the concepts of organizational Behaviour.
2.	Assess the behavioral elements of organizational behavior.
3.	Evaluate theories of organizational behavior.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Organizational Behaviour: Concept, significance, Nature and scope of OB, contributing disciplines to OB, relationship between management and organizational Behaviour, Ethical issues in OB, Historical Development of OB, Models of OB. Practical: Visit any nearby organization and observe management functions perform therein and report. Submit handwritten report.	L= 11	
		T= 2	P= 2
2	Individual and Group Behaviour: Foundations of Individual Behaviour-Personality (Concepts, Determinants and types), Perception (meaning, process, factors affecting perception), Attitude (Concept, formation and types), Values (Concept, types and formation) and Job Satisfaction (Concept, Determinants and Measurements), Learning (Meaning, determinants, principles) Foundations of Group Behaviour: Definition and importance of group, Types of group, Process of group development, Group Behaviour (Norms, Cohesion, Role intergroup Conflicts), Group performance factors, Quality Circle and Work Teams Practical: Classify the types of personality of sample employees in nearby organization.	L= 12	
		T= 1	P= 3
3	Organizational Conflict and Negotiation Organizational Conflict: Concept, types, sources and levels of organizational conflict, Traditional and modern approach to conflict, Functional and dysfunctional organizational conflict, conflict process, resolution of conflict. Negotiation: bargaining strategies, the negotiation process, individual differences in negotiation effectiveness, third party negotiations. Practical: Prepare a poster on organizational conflicts and their resolution.	L= 11	
		T= 2	P= 2
4	Organizational Culture and Work Life Balance Organizational culture: Definition, types, functions, creating, sustaining and changing culture a culture. Quality of Work life: concept, constituents of QWL, QWL in Indian context. Managing work life conflicts in organizations Practical: Prepare a report on organizational culture adopted in hereby organization	L=11	
		T= 1	P= 2

Learning Resources		
1	Text Books	1.Principles of Management – T Ramasamy 2.Principles of Management – P.C. Tripathi and P.N. Reddy 3. Arun Kumar and Meenakshi, Organizational behaviour: A modern approach, Vikas Publishing House, 2011. 3.Ashwathappa, Organization Behaviour, Himalaya Publication House 4.Stephen P Robbins, Timothy A. Judge, Neharika Vohra, Organizational behaviour, Pearson, 14th Edition, 2012.

M.Com. Syllabus (CBCS-Effective From 2021-22)

		5.SubbaRao P &HimaBindu, Management Theory & Practice Text & Cases – Himalaya Publication. 6.VSP Rao, Management: Text and Cases, Excel Books 7.Koontz, Essentials of Management, 8/e, McGraw Hill
2	Reference Books	1.Essentials Of Management – Koontz And Weinrich 2.Modern Management – Certo – Prentice Hall 3.Principles Of Management- Dr. KiranNerkar and Dr. Vilas Chopade 4.Principles Of Management – L.M. Prasad 5.Principles Of Management – R.M. Srivastava 6.New Era of Management – Richard L. Daft 7.Essentials of Management – Peter Drucker 8.Management – Stephen P. Robins – Prentice Hall 9.Modern Business Administration and Management – S. A. Sherlekar - Himalaya Publication 10.Management Concept and Strategies – J. S. Chandra 11.Management and Organizational Behaviour – P. Subbarao 12.Organizational Behaviour – Keith davis 13.Organizational Behaviour – Stephen Ronnins 14.Organizational Behaviour – Dr. Anjali Ghanekar 15.Organizational Behaviour – Dr. C.B.Gupta 16.Organizational Behaviour – Dr. S.S.Khanka 17.Organizational Behaviour – Stephen Robbins & Timothy Judge, 15th Edition, Pearson, Prentice Hall.
3	Websites	1.www.iupindia.in 2.www.wisdomjobs.com. 3.http://www.mbaexamnotes.com 4.INFLIBNEThttp://nlist.inflibnet.ac.in 5.J-GATEhttp://jgateplus.com 6.EBSOhttp://search.ebscohost.com 7.Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4	Journals	1. 1.Business Perspective & Research 2. Indian Journal of Management 3. Prabandhan- Journal of Management 4. Vikalpa 5. Management Today 6. Asian Journal of Management 7. Case folio The IUP Journal of Management Case Studies
5	Supplementary Reading	1. Business India The Magazine of Corporate World. 2. South Asian Journal of Practical Research. 3. The Times of India 4. Business Standard
6	Practical Component	1. Studying organizational structure of any company and classifying it into different types of organizations which are studied and justifying why such structure is chosen by that organization. 2. Preparing the leadership profiles of any 5 business leaders and studying their leadership qualities. 3. Class debate on different basis of departmentalization 4. Identify any business leader and list his qualities that made him a good leader.

M.Com. Syllabus (CBCS-Effective From 2021-22)

		5. Library Exercise on CSR activities undertaken by any one company of your choice

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Semester	II	Total Credit	4
Course Code	CC-202	Credit Pattern	L-45, T-6, P-9
Course Title	Research Methodology For Business		

Course Outcomes	
	The students will be able to:
1.	Explain fundamental concepts of research methodology.
2.	Apply techniques of research methodology.
3.	Develop Research Report.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Basics of Research: Meaning and objectives of research, research in commerce and Management, Types of research, review of literature, research process, methods of research: Case study and survey method. Practical: (a) Identification of research problem. (b) Classification of research problem according to types. (c) Formulation of research questions and objectives.	L= 11	
		T= 2	P= 2
2	Research Design: Meaning and components of research design, exploratory research design, descriptive research design, diagnostic research design and experimental research design, Hypothesis: Meaning and Types of Hypothesis, process of formulating hypothesis. Sample Design- sampling techniques: random and non-random sampling methods. Practical: (a) Preparation of Research Design. (b) Formulation of Hypothesis. (c) Selection of appropriate sampling design.	L= 12	
		T= 1	P= 3
3	Methods of Data Collection: Meaning of Data, Types of data-quantitative and qualitative, sources- Primary and secondary, methods of primary data collection-questionnaire method, interview method, observation method, focus group interview method, types of questions in questionnaire, sources of secondary data, classification, tabulation and graphical presentation. Practical: (a) Preparation of questionnaire (b) Preparation of interview schedule/observation schedule (c) Extraction of data from secondary sources (RBI, Government websites, national and international apex bodies etc.) (d) Classification of data and tabulation.	L= 11	
		T= 2	P= 2
4	Data Presentation and Analysis: Analysis and Interpretation of Data using various descriptive statistical tools (measure of central tendency, measures of dispersion, correlation and regression)	L=11	
		T= 1	P= 2

M.Com. Syllabus (CBCS-Effective From 2021-22)

	Hypothesis testing by suitable methods. (Parametric and non-parametric tests), Chi-square test, One Sample 't' test and independent sample 't' test, layout of research project, steps involved in report writing, requisites of good research report. Report Writing and Presentation: Types of Report, Formats of Research Report, Presentation of Report, Methods and importance of Citation (APA & Chicago methods) & bibliography in Research, Ethical issues in Research and plagiarism. Practical: (a) Analysis and interpretation of classified data by using statistical tools. (b) Testing of hypothesis by using appropriate test. (c) Report writing according to objectives and hypothesis. [Use any suitable software for the purpose of (a) and (b)]		

Learning Resources

1.	Text Books	- Goode And Hatt : Methods In Social Research, Mc-Graw Hill, Kogakusha Ltd., New York. - V.P. Michael: Research Methodology In Management, Himalaya Publishing House, Mumbai, 1985. - Kerlinger. Fred N.: Foundations of Behaviourial Research, New York, Holt, Rinehart And Winston, 1973. - Dorald S. Tull, Del I Hawkins: Marketing Research, Prentice Hall Of India, New Delhi, 1996. - G.C. Beri: Marketing Research Tata Mcgraw Hill Publishing Company Limited, New Delhi, 2000 - C.R. Kothari Research MethOdology Methods And Techniques, Wiley Eastern. - Hans Raj: Theory And Practice In Social Research, Surjeet Publications, Delhi
2.	Reference Books	- The Practice of Social Research by Earl R. Babbie, Wadsworth, 13thEdition - Business Research Methods by William G. Zikmund, Barry J. Babin, Jon C. Carr, Mitch Griffin, Cengage Learning, 8th Edition - Approaches to social research by Royce Singleton, Bruce C. Straits, Margaret Miller Straits, Oxford University Press, 2ndEdition - Handbook of Research Design and Social Measurement by Delbert Charles Miller, Neil J. Salkind, Sage Publication, 6thEdition - Research Methods: The Basics by Nicholas S. R. Walliman, Nicholas Walliman, Routledge, 1stEdition - SPSS Handbook by Himalaya Publications - Michael V. P. 'Research Methodology in Management, Himalaya Publishing House, New Delhi - Krishnasawami O. R. and Ranganathan M., 'Methodology of Research in Social Sciences', Himalaya Publishing House, New Delhi - Pauline V. Young, 'Scientific Social Surveys and Research', Prentice-Hall of Indian Pvt. Ltd., New Delhi. 5. Sachdeva J. K., Business Research Methodology, Himalaya Publishing House, New Delhi - Gupta S. C., "Fundamentals of Statistics", Himalaya Publishing House. - Gupta S. P. "Statistical Methods", Sultan Chand and Sons, New Delhi
3.	Websites	- INFLIBNET http://nlist.inflibnet.ac.in - J-GATE http://jgateplus.com - EBSCO http://search.ebscohost.com https://shodhganga.inflibnet.ac.in/ - Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4.	Journals	- Business Perspectives and Research (New Sub.) - Asia-Pacific Journal of Management Research and Innovation (New Sub.) - Jindal Journal of Business Research(New)

M.Com. Syllabus (CBCS-Effective From 2021-22)

		4. South Asian Journal of Management Research (SAJMR) 5. Indian Journal of Commerce 6. Indian Journal of Accounting 7. Management Accountant
5.	Supplementary Readings	1. Business Research Methods by Naval Bajpai, Pearson, 1st Edition 2. Vikalpa: The Journal for Decision Makers 3. Research reports on Shodhganga
6.	Practical Component	1. Survey study 2. Research paper publication 3. Field Research Projects 4. Identifying and selecting research problem, 5. Preparing research design. 6. Preparing questionnaire/schedule and collecting data. 7. Analyzing and interpreting data and writing research report.

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Semester	II	Total Credit	4
Course Code	DSE-201-A	Credit Pattern	L-45, T-6, P-9
Course Title	Advanced Accountancy Paper-III		

Course Outcomes	
	The students will be able to:
1.	Describe the basic concepts of advanced accounting.
2.	Apply working knowledge of generally accepted accounting procedures.
3.	Evaluate the techniques of accounting for various entities.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Accounting for Amalgamation: Accounting for Amalgamation, Absorption (AS-14) and Reconstruction of companies. Practical: Arrange group discussion on reasons of amalgamation and absorption; and Analyze any case study of amalgamation or absorption. Arrange group discussion on reconstruction and Analyze case study of external and internal reconstruction of a company.	L= 11	
		T= 2	P= 2
2	Accounting of Cooperative Societies: Consumer, Credit and Dairy units as per Maharashtra Cooperative Societies Act. Practical: Visit any cooperative society to see their accounting process and discuss with respective authority who look after accounting in the concern cooperative. Take interview of Cooperative auditor or Chartered Accountant in respect of cooperative accounting.	L= 12	
		T= 1	P= 3
3	Accounting for Lease (AS-19): Introduction, Types of Lease, Accounting for Operating Lease and Finance Lease Practical: Arrange students' seminar, quiz or group discussion on the difference between operating lease and finance lease. Arrange guest lecture of or workshop by inviting chartered accountant or cost accountant or expert in lease business.	L= 11	
		T= 2	P= 2
4	Social Responsibility Accounting, Environment Accounting and Human Resource	L=11	

M.Com. Syllabus (CBCS-Effective From 2021-22)

	Accounting- Meaning, Objectives and Need Accounting of Fixed Assets (AS-10) and Accounting of Investments (AS-13). Practical: Arrange seminar/group discussion/panel discussion on the concepts of Social Responsibility Accounting, Environment Accounting and Human Resource Accounting. Download annual report of any listed company and analyze the financial statement to understand their compliance with AS-10 and AS-13.	T= 1	P= 2

Learning Resources

1.	Text Books	1. Bose, D. (2010). Advanced Accounting. Prentice Hall India Learning Private Limited. 2. Made Gowda – Advanced Accounting, Himayala Publication House 3. Jawaharlal, Managerial Accounting, Himayala Publication House 4. S.N. Maheswari, Advanced Accountancy, Vikas Publishers 5. R. Venkataramana, Advanced Accountancy, Vikas Publication House 6. S. P. Jain and K. L. Narang – Advanced Accountancy, Kalyani Publication House. 7. Paduka's Students Handbook on Advanced Auditing; CA Final; Padhukas
2.	Reference Books	1) Gupta, S. C.; Gupta, M. P.; Shukla, M. C.; Agrawal, B. M. and Grewal, T. S. (2019). Advanced Corporate Accounting, S. Chand & Company, New Delhi. 2) Shukla, M. C.; Grewal, T. S. and Gupta, S. C.; (2016). Advanced Accounts, S. Chand & Company, New Delhi. 3) Arulnandan, M. A. and Raman, K. S. (2018). Advanced Accountancy (Corporate Accounting) Vol. II, Himalaya Publishing House, Mumbai. 4) Gupta, R. L. and Radhaswamy, M. (2018). Advanced Accountancy Vol. II, Sultan Chand and Sons; New Delhi. 5) Maheshwari, S. N.; Maheshwari, Suneel and Maheshwari, Sharad K. (2018). Corporate Accounting. Vikas Publication House, New Delhi. 6) Shukla M. C. ; Grewal T.S. and Gupta S.C. - Advanced Accounts; S.Chand and Co. New Delhi. 7) Jain, S. P.; Narang, K. L.; Agrawal, Simmi and Sehgal, Monik (2018). Advanced Accountancy (Corporate Accounting) Vol. II, Kalyani Publishers, New Delhi. 8) Hanif, M. and Mukharjee, A (2018). Modern Accountancy Vol. II, McGraw Hill Education India (Private) Ltd., Noida.
3.	Websites	1. INFLIBNET http://nlist.inflibnet.ac.in 2. J;GATE http://jgateplus.com 3. EBSCO http://search.ebscohost.com 4. www.icaai.org . 5. Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4.	Journals	1. Indian Journal of Accounting 2. Indian Journal of Commerce 3. The Chartered Accountant 4. Management Accountant
5.	Supplementary Readings	- Chakraborty, Hrishikesh, Advanced Accountancy, Oxford University Press - Original documents of Accounting Standards issued by ICAI - Companies Act 2013
6.	Practical Component	1. Recording transactions regarding amalgamation, absorption and reconstruction. 2. Preparing financial statements of cooperatives in accordance with Maharashtra Cooperative Societies Act.

M.Com. Syllabus (CBCS-Effective From 2021-22)

		3. Recording transactions related to operating and finance lease. 4. Demonstrating concepts of social responsibility accounting, environment accounting and human resources accounting and performing accounting of fixed assets and investments according to AS-10 and AS-13.

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Semester	II	Total Credit	4
Course Code	DSE-201-B	Credit Pattern	L-45, T-6, P-9
Course Title	Business Finance Paper-IV		

Course Outcomes	
	The students will be able to:
1.	Discuss the different aspects of business finance.
2.	Analyze the connection between Mutual Funds, Portfolio Management and Micro Finance.
3.	Evaluate concepts in corporate restructuring and financial decision making.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Capital Markets: Primary Capital Market: Meaning, role and functions, Methods of selling corporate securities in primary capital market. Underwriting of Securities. Secondary Capital Market (Stock Exchange): Meaning, evolution of stock market in India, Role and functions of stock exchange. Trading mechanism in stock market. SEBI and Credit Rating: Role of SEBI in regulating capital markets in India. Credit Rating: Meaning, need, credit rating agencies in India, Credit rating methodology. Depository: Meaning, role, benefits and present position in India. National Securities Depository Limited (NSDL) and Central Depository Services India Limited (CDSL) Practical: Visit to any share broker office and observe share trading activities.	L= 11	
		T= 2	P= 2
2	Mutual Funds, Portfolio Management and Micro Finance: Mutual Funds: Concept, importance, Types of Mutual Funds- -Money Market Funds, Income Funds, Bond Funds, Balanced Funds, Equity Funds, International Funds, Specialty Funds, Index Funds, Exchange-Traded Funds- Present position of Mutual Funds in India. Portfolio Management: Meaning, importance, objectives. Various issues in portfolio construction, revision and evaluation. Financial Inclusion: Meaning, need and government policy. Micro-Finance: Concept, characteristics, need, present position in India. Practical: Make small research in latest top 10 Performing Mutual Funds.	L= 12	
		T= 1	P= 3
3	Corporate Restructuring: Corporate Failure: Meaning, causes and remedies. Corporate Restructuring: Meaning, forms- Mergers and Amalgamation, Acquisitions, Take-over, Demergers, divestiture, Buy outs, Financial Restructuring, and Strategic alliances- meaning, benefits and legal procedure. Practical: Prepare & presentation on latest 5 cases of corporate restructure.	L= 11	
		T= 2	P= 2
4	Financial Decision Making: Project Feasibility or Viability Analysis: Concept – Free Cash Flow, Net Present Value (NPV) and Methods, Profitability Index, Pay Back Period. Make or Buy Decision: Meaning, Methodology. Profit maximization through optimum product mix Practical: Prepare hypothetical case study of a project and analyses by different methods of project selection.	L=11	
		T= 1	P= 2

Learning Resources		
1.	Text Books	1. Prasanna Chandra. "Investment Analysis And Portfolio Management". Tata Mcgraw Hill. 2. Donalf E. Fisher – Ronald J. Jordan. "Security Analysis And Portfolio Management". Prentice – Hall India. 3. Security Analysis and Portfolio Management, Prasanna Chandra, Tata McGraw Hill 4. Portfolio Management- Kevin 5. Portfolio Management- Prasanna Chandra 6. Portfolio Management- Barua 7. Stock Exchanges and Investments- Raghunathan 8. Security Analysis and Portfolio Management- Fisher and Jordon 9. Portfolio Management – V. K. Bhalla
2.	Reference Books	1. Financial Management, Prasanna Chandra, Tata McGraw Hill, 2. Security Analysis and Portfolio Management, Ravi Kishor, Taxman Publishers 3. Financial Management, Khan & Jain, Tata McGraw Hill 4. Fundamentals of Investment Management, Hirt and Block, Tata McGraw Hill. Ed 2009. 5. Portfolio Management Handbook, Robert A. Strong, Jaico Publishing House, Mumbai 6. Financial Management-Rajiv Shrivastava and Anil Misra, Oxford University Press, New Delhi 7. Financial Management- Dr. Anil Kumar Dhagat, Kognet Learning Solutions Inc., Dreamtech Press, New Delhi 8. Finance Sense ---Finance for Non-finance Executives, Prasanna Chandra, Tata McGraw Hill Education Pvt. Ltd., New Delhi 9. Investment and Securities Market in India- V.A.Avdhani 10. Security Analysis and Portfolio Management- Sasidharan/ Mathews 11. Security Analysis and Portfolio Management- PunithavathyPandian 12. Portfolio Management Handbook- Robert A. Strong 13. Stock Exchange and Investment- Raghunathan 14. Stock Exchange Trading in India- Gupta L.C. 15. Capital Issues, SEBI and Listing- Chandratre K.R 16. Corporate Mergers, Amalgamations & Take Over- Verma J.C. 17. Corporate Restructuring and Indian Perspective- Mattoo P.K 18. International Business-Aswthappa, TMH, N. Delhi
3.	Websites	1. www.nseindia.com 2. www.bseindia.com 3. www.moneycontrol.com 4. www.advisorkhoj.com 5. www.dsij.in
4.	Journals	1. Indian Journal of Research in Capital Markets, ISSN 2394-3459, Indexed in Google Scholar, IC Value(2015), 2. Capital Market Law Journal, ISSN 1750-7219, ELSSN 1750-7227. 3. Indian Journal of Finance 4. Capital Market 5. Journal of Emerging Market Finance (New Sub.) 6. Dalal Street Investment Journal
5.	Supplementary	1. The Economic Times

M.Com. Syllabus (CBCS-Effective From 2021-22)

	Readings	2.Business Standard 3.Business Line 4.Global Business Review 5.Business Today 6.INFLIBNET http://nlist.inflibnet.ac.in 7.J-GATE http://jgateplus.com 8.EBSO http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
6.	Practical Component	1.Fundamental analysis of listed companies 2.Technical analysis of listed companies on Bombay Stock Exchange 3. Capital Asset Pricing Model. 4. Security Pricing 6.Bond Valuation

Semester	II	Total Credit	4
Course Code	DSE-201-C	Credit Pattern	L-45, T-6, P-9
Course Title	Personal Financial Planning		

Course Outcomes	
	The students will be able to:
1.	Discuss the concepts of the personal financial planning.
2.	Evaluate personal financial planning with complete understanding of credit, investment and pension
3.	Apply the knowledge for personal financial planning.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Financial Planning: Globally accepted six steps financial planning process; General principles of cash flow planning, budgeting, legal aspects of financial planning. Overview of risk management: investments, insurance, retirement solutions, tax and estate planning.	L= 11	
		T= 2	P= 2
2	Investment Environment: Types of investment options available to an individual investor - bonds, equity shares, mutual funds, fixed deposits, PPF, financial derivatives, commodity derivatives, gold and bullion, ETFs, REITs, real estate etc. Objectives and rewards of investing. Investment constraints (tax considerations, unique needs etc.). Impact of inflation and indexation. Sources of financial information. Understanding mutual funds (Schemes, NAV calculation, load structure, Systematic Investment Plans, Systematic withdrawal plan etc.)	L= 12	
		T= 1	P= 3
3	Personal Financial Planning: Personal financial planning process. Setting personal financial goals. Life cycle approach to financial planning. Components of financial plan; developing financial plan; Using time value concept to estimate savings. Evaluation of tax saving instruments. Objectives of will and creating a valid will; living will and power of attorney. Planning for life insurance and health insurance. Primary clauses in Insurance agreement. Main contents of healthcare insurance.	L= 11	
		T= 2	P= 2
4	Credit Planning and Retirement Planning: Assessment of credit - types, advantages, disadvantages. Consumer and housing finance planning. EMI calculations - methods and implications. Reverse mortgage. Education loan. Credit card management; credit limits, overdraft protection, grace period. Credit Bureaus - individual credit history and ranking, identity theft and protection against identity thefts. Retirement planning and pension plans. Impact of taxes and inflation.	L=11	
		T= 1	P= 2

Learning Resources		
1.	Text Books	1. Madura, Jeff, Personal Finance, Pearson. 2. Kapoor, J R, Dlabay & Hughes R, Personal Finance, McGraw Hill. 3. Keown, A J, Personal Finance – Turning money into wealth, Pearson Publication. 4. Bajtelsmit, Vickie L. & Rastelli Linda G., Wiley Pathways Personal Finance, Wiley. 5. Rachel Siegel & Carol Yacht, Personal Finance, Saylor Foundation, Flat World Knowledge.
2.	Reference Books	1. Essential of Financial Management by I.M.Pandey, Vikas Publication 2. Bhalla V .K & S Shiva Ramu, "International Business Environment & Management" Anmol Publication House.. 3. J. Fred. Weston, Mark L. Michell, J. Harold Mulherin, "Take Overs, Restructing & Corporate Governance" Pearson Education Inc. 4.M. Y. Khan "Indian Financial System" Tata McGraw-Hill Publishing Company Ltd.,New Delhi.
3.	Websites	1. https://www.fincart.com 2. https://www.moneycontrol.com 3. https://scripbox.com 4. INFLIBNET http://nlist.inflibnet.ac.in 5. J-GATE http://jgateplus.com 6. EBSCO http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4.	Journals	1. Tax Reference 2. Journal of Emerging Market Finance (New Sub.) 3. Journal of Accounting & Finance 4. Indian Journal of Research in Capital Markets (New Sub.) 5. Finance India 6. Capital Market
5.	Supplementary Readings	1. Business Line 2. The Financial Express 3. The Economic Times 4. Arth-Sanwand 5. Artha Vijnana
6.	Practical Component	1. Preparation of Financial Planning Report 2. Portfolio Management Services 3. Organise visit to Wealth Management Companies

M.Com. II

SEMESTER-III

Semester	III	Total Credit	4
Course Code	CC-301	Credit Pattern	L-45, T-6, P-9
Course Title	Management Accounting		

Course Outcomes	
	The students will be able to :
1.	Explain the fundamentals of Management Accounting.
2.	Analyze financial statements.
3.	Evaluate the financial position of the organization.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Management Accounting: Meaning of Management Accounting, Scope and Functions of Management Accounting, Role of Management Accountant in Decision Making, Management Accounting vs. Financial Accounting, Tools and Techniques of Management Accounting Practical: Group discussion can be conducted in the classroom on the contents of Unit-I	L= 11	
		T= 2	P= 2
2	Analysis of Financial Statements: Meaning and Types of Financial Statements, Analysis of financial statements: Comparative Statement Analysis, Common-size Statement Analysis, Trend Analysis and Ratio Analysis- Classification of Ratios, Advantages and Limitations of Accounting ratios. Practical: Download financial statements of any company and analyse it with any technique of financial analysis. Also write interpretation.	L= 12	
		T= 1	P= 3
3	Working Capital: Meaning, Significance and Determinants of Working Capital, Operating Cycle, Types of Working Capital, Estimation of Working Capital Requirements. Practical: Exercise for Simulation of estimation of working capital can be arranged in the classroom.	L= 11	
		T= 2	P= 2
4	Funds flow Statement and Cash Flow Statement: Meaning of Fund and Funds Flow Statement, Identifying Flow of Funds, Preparation of Funds Flow Statement, Meaning of Cash Flow Statement, Utility of Cash Flow Statement and Preparation of Cash Flow Statement(AS-3) Difference between Funds Flow Statement and Cash Flow Statement Practical: a) Prepare fund flow statement on hypothetical data and try to interpret it. b) Download cash flow statement of any company and interpret it.	L=11	
		T= 1	P= 2

Learning Resources		
1.	Text Books	1. Bhattacharya S K and Dearden J. Accounting for Management: Text and Cases 2. Debarshi Bhattacharyya, Management Accounting, Pearson Publication House, ISBN: 9788131731789 3. S P Jain & K L Narang. Cost Accounting, Himalaya Publication House 4. Charles T Horngren and others. Cost Accounting ñ a Managerial Emphasis
2.	Reference Books	1. Khan M Y & Jain P K. Management Accounting, Himalaya Publication House. 2. Pandey I. M: Management Accounting, Vikas Publication House 3. Khan and Jain: Management Accounting: Tata McGraw-Hill, New Delhi 4. Bhattacharyya S K and Dearden J-: Accounting for Management: Vikas Publishing Pvt. Ltd. New Delhi 5. Charles T. Horngren, Introduction to management Accounting, Prentice Hall of India, New Delhi. 6. Accounting : A Managerial Emphasis, Prentice Hall, Delhi 7. Maheshwari: Principles of Management Accounting 8. Robert Anthony and Vijay Govindrajana - Management Control System
3.	Websites	1. www.udemy.com 2. www.manipalprolearn.com 3. INFLIBNET http://nlist.inflibnet.ac.in 4. J-GATE http://jgateplus.com 5. EBSCO http://search.ebscohost.com 6. Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4.	Journals	1. The Chartered Accountant Journal. 2. The Chartered Secretary Journal. 3. The Management Accountant Journal
5.	Supplementary Readings	1. Finance India 2. Journal of Accounting & Finance 3. Business Line
6.	Practical Component	1. Practical Problems on Financial Statement Analysis. 2. Practical Problems on Working Capital. 3. Practical Problems on Fund Flow Statement.

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Semester	III	Total Credit	4
Course Code	CC-302	Credit Pattern	L-45, T-6, P-9
Course Title	International Business Environment		

Course Outcomes	
	The students will be able to:
1.	Discuss the concept of global economic and business world.
2.	Assess the theories of international business environment.
3.	Evaluate the role of various regulatory bodies of international business environment.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	International Business Environment Nature and Scope, Issues in foreign investment-technology transfer, pricing and regulations, Human resource issues and Environmental issues, Emerging economies and trade blocks	L= 11	
		T= 2	P= 2
2	International Marketing International Marketing – meaning, features, need and problems, Entry strategies, market selection, International production and supply chains, Methods of Payments in international trade	L= 12	
		T= 1	P= 3
3	International Business Regulations Bilateral and multilateral trade laws, WTO- Settlement and Dhoha round of talks, Dispute settlement mechanism under WTO, Problems of Patent laws	L= 11	
		T= 2	P= 2
4	International Economy and India India's foreign trade in post globalization era, India and IMF, IBRD, Role of India in SAARC, BRICS and India	L=11	
		T= 1	P= 2

Learning Resources		
1.	Text Books	1.Subba Rao, “ International Business: Text and Cases”, Himalaya Publishing House, 2nd Revised Edition 2.Francis Cherunilam, “International Business Environment”, Himalaya Publishing House, 3. Aswathappa. K, “International Business”, Tata McGraw Hill – Education , 2008
2.	Reference Books	1. Mead R. (2004) International Management: Cross Cultural Dimensions,3rd ed. New York Wily 2.Vyuptakesh Sharan, (2004) International Business: Concept, Environment and Strategy, Pearson education, Singapore 3.Yarbraugh B V (2005) The World Economy: Trade and Finance, 7th Ed Thomas south western USA 4.Manab Adhikari,Global (2006) Business Management(An International economic environment), Macmillan India Ltd 5.Hill C.W. L. and jain A. K.(2007) International Business Competing in Global market Place, McGraw Hill New Delhi 6.Graham John L, Salwan Prashant, Cateora Philip R, (2008)International Marketing 13th Ed. Tata McGraw- Hill, 7.Varshney R.L. and Bhattacharya B, (2012)International Marketing Management - An Indian Perspective, 24th Ed S.Chand New Delhi

M.Com. Syllabus (CBCS-Effective From 2021-22)

		8.Jeevnandam C. International Business S.Chand New Delhi 2008 9.Paul Justein International Business, 5th Ed (2011)Prentice Hall of India,Pvt Ltd new Delhi 10.Keegan Warren J. and Green Mark C. Global Marketing,4th Ed.(2009) Prentice Hall India,Pvt Ltd 11.Bhalla V. K. and Ramu S.S.(2009)International Business Environment, Anmol Prakashan New Delhi 12.William Kerr and Nicholas Perdikis, “A Guide to the Global Business Environment” Edward Elgar Publications 13.Adhikary, Manab: Global Business Management, Macmillan, New Delhi. 14. Black and Sundaram: International Business Environment, Prentice Hall of India, New Delhi. 15.V.K. Bhalla & S. Shiva Ramu: International Business Environment & Management, Anmol Publication Pvt. Ltd, New Delhi.
3.	Websites	www.worldbank.org www.saarc.org www.adb.org www.icj-cji.org www.wipo.int www.wto.org www.asean.org www.who.int www.un.org www.bricscci.com
4.	Journals	1.Harward Business Review 2.Journal of International Business Studies 3.Journal of International Business Management & Research 4.Foreign Trade Review
5.	Supplementary Readings	1.https://fittfortrade.com/global-business-environment 2.https://www.wto.org/ 3.https://www.eximbankindia.in/ 4.INFLIBNET http://nlist.inflibnet.ac.in 5.J-GATE http://jgateplus.com 6.EBSCO http://search.ebscohost.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
6.	Practical Component	1. Prepare country wise resource profile and identify the major advantage areas for trade of that country. 2. Make classroom presentation on legal and financial environment impact on international business of selected country.

Semester	III	Total Credit	4
Course Code	CC-303	Credit Pattern	P-4
Course Title	Project Work and Viva-Voce		

Course Outcomes	
	The students will be able to:
1.	Identify the research problem and formulate objectives.
2.	Apply appropriate methodology with proper tools and techniques.
3.	Analyze and interpret the data collected from different sources
4.	Design a project report.

Syllabus:

Project Work and Viva-Voce: 100 Marks

Project Work 40 Marks

Viva-Voce 60 Marks

Project Work:

- 1) Project report can be prepared on any compulsory or respective optional subject based on field work. However, it is better to select any topic from their own specialization because it should be their worthwhile experience in their own specialized subject.
- 2) Students are required to prepare the Project Report based on the field work and studying the current trends in commerce & Management under the guidance of the Project Guide. Project Report should not be based on only secondary data.
- 3) The Project Report contents at least following aspects:
 - (a) **Chapter-I Introduction:** It will include Statement of the Problem, Objectives of the Project, methodology, scope and limitations, chapter scheme etc.
 - (b) **Chapter-II Review of Literature/Theoretical Background/Conceptual Framework**
 - (c) **Chapter-III Profile of the Organization/Area**
 - (d) **Chapter-IV Analysis and Interpretation of the Data**
 - (e) **Chapter-V Conclusion:** It will include observations, findings, suggestions, and conclusions.
- 4) Project Work will be done by the student individually.
- 5) The Project report shall consist of at least typed 50 Pages.
- 6) Two Copies of typed Project Report should be submitted to the department.
- 7) All recognized P.G. Teachers under the Faculty of Commerce and Management are eligible to work as Project Guide.
- 8) The Responsibility of guiding the projects will be shared by all recognized and P.G. Teachers in proportion.
- 9) All students should submit the Project report on or before due date without fail.

Viva-voce:

- 1) The panel of experts should try to verify that the candidate has done the project on his own and also identify his/her insight in the research problem concerned. The quality of the work should be evaluated on the basis of novelty, contribution to the society or business and developing critical thinking, analytical thinking and decision-making skills towards students.
- 2) Panel of viva-voce examination will consist of two experts (one expert is internal and one is external. The college will appoint these experts and the remuneration as well as TA/DA will be paid by the college to all two experts as per the college rules.
- 3) The evaluation of Project Work-Viva Voce for 100 marks will be made collectively by Internal & External Examiners and the average of these marks will be taken as final marks. The Chairman has to submit final marks to the examination department.
- 4) The evaluation of Project Work-Viva-Voce will be conducted after completion of the Semester-III but before the commencement of theory examination. It will be conducted by the Internal & External Examiners.

Semester	III	Total Credit	4
Course Code	DSE-301-A	Credit Pattern	L-45, T-6, P-9
Course Title	Advanced Accountancy Paper-V (Costing)		

Course Outcomes	
	The students will be able to:
1.	Describe the elements of cost and cost sheet.
2.	Apply the knowledge and skill to prepare job cost sheet and contract account.
3.	Evaluate the different elements of cost.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction and Elements of Cost: Meaning, scope, objectives and advantages of cost accounting, Elements of Cost – Material Cost, Labour Cost and Overheads; Classification of cost, cost unit, cost center, preparation of cost sheet and quotation. Practical: a) Group discussion can be conducted in the classroom on the contents of Unit-I b) Collect cost data from any organization and prepare cost sheet	L= 11	
		T= 2	P= 2
2	Job Costing and Contract Costing: Job Costing – Job Costing and Unit Costing: Meaning, Features, Practical Applications of Job Costing and Unit Costing, Preparation of Job Cost Sheet. Contract Costing- Contract Costing: Meaning, Features, Accounting Procedure, Retention money, Escalation Clause, Work in Progress, Cost Plus Contract. Preparation of Contract Account Practical: a) Collect cost data from organization which are working on job contract basis and prepare job cost sheet b) Collect cost data from any contractor and prepare contract account for a single contract	L= 12	
		T= 1	P= 3
3	Process Costing and Service Costing: Process Costing: Meaning and its Applications, Concept of Equivalent Production, Preparation of Process Accounts, Concepts of Joint Products and By Products. Service Costing : Meaning and Definition, Application of Service Costing, Determination of Service Cost in Transport Industry Practical: a) Visit any processing unit and prepare Process Accounts b) Visit any service organization and determine service cost.	L= 11	
		T= 2	P= 2
4	Reconciliation of Cost and Financial Accounts: Need for Reconciliation of Cost and Financial Accounts. Preparation of Statement of Reconciliation of Cost and Financial Accounts Practical Collect cost data and financial data from any organization and prepare Statement of Reconciliation of Cost and Financial Accounts	L=11	
		T= 1	P= 2

Learning Resources		
1.	Text Books	1. Institute of Cost and Works Accountants of India-Cost Audit Social Objectives. 2. Laws on Cost Audit - N. Banerjee, International Law Book Centre, Calcutta. 3. Cost and Management Audit — Rajnathan, Publisher - Tata McGraw Hill.
2.	Reference Books	1. Cost accounting – B.K.Bhar 2. Cost accounting – Jain and Narang 3. Cost accounting – S N Maheshwari 4. Cost accounting (Problems & Solutions) – Khanna, Pandey, Arora & Ahuja 5. Cost accounting – Shukla, Grewal & Gupta
3.	Websites	1. www.icmai.in 2. www.microvistatech.com 3. www. globalcma.in 4. INFLIBNET http://nlist.inflibnet.ac.in 5. J-GATE http://jgateplus.com 6. EBSCO http://search.ebscohost.com 7. Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4.	Journals	1. The Chartered Accountant Journal. 2. The Chartered Secretary Journal. 3. The Management Accountant Journal, 4. The Indian Journal of Commerce 5. Indian Journal of Management
5.	Supplementary Readings	1. Asian Journal of Management Cases (New Sub.) 2. Foreign Trade Review (New Sub.) 3. Jindal Journal of Business Research(New)
6.	Practical Component	1. Preparation of Cost Sheet 2. Numerical Problems on Job Costing and Contract Costing. 3. Numerical Problems on Process Costing and Service Costing. 4. Numerical Problems on Reconciliation of Cost and Financial Accounts

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Semester	III	Total Credit	4
Course Code	DSE-301-B	Credit Pattern	L-45, T-4, P-11
Course Title	Financial Data Analysis Using Excel Paper- VI		

Course Outcomes	
	The students will be able to :
1.	Apply the basic excel tools generally employed in financial data analysis.
2.	Analyze the financial statements using excel.
3.	Interpret financial statements using excel.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Financial Statement Analysis: Introduction, objectives of analysis of financial statement-tools of financial statement analysis - Multi - step income statement, Horizontal analysis, Communized analysis, Trend analysis, Balance Sheet Analysis.	L= 11	
		T= 1	P= 3
2	Various Financial Statements: Cash Flow- Concept, Meaning and Uses and Importance of the statements, Funds Flow- Concept, Meaning and Uses and Importance of the statements, Ratios-Various Useful Ratios in the business and their implications. Financial Forecasting: Sales forecast, preparation of proforma income statement, proforma balance sheet, growth and external funds requirement, computerized financial planning system.	L= 12	
		T= 1	P= 2
3	Basics of Excel: Introduction to spreadsheets, reading data, manipulating data. Basic spreadsheet operations and functions. some more useful functions such as the IF, nested IF, VLOOKUP functions in Excel. Introduction to the Data filtering capabilities of Excel, the construction of Pivot Tables to organize data and introduction to charts in Excel. Constructing various Line, Bar and Pie charts. Using the Pivot chart features of Excel.	L= 11	
		T= 1	P= 3
4	Financial Data Analysis Using Excel: - Preparing the financial statements using excel, Linking the two statements, Comparing the two statements, Validating the results- Splitting Screens, Conditional Formatting, Formatting the Tables for easy understanding, Time Value of Money	L=11	
		T= 1	P= 3

Learning Resources		
1.	Text Books	1. Friedson and Alvarez, "Financial Statement Analysis: A practioners' Guide", Wiley finance. 2. Leonard Soffer and Robin Soffer, "Financial Statement Analysis: A Valuation Approach", Pearson Education, Latest Edition. 3. Microsoft Data Analysis by Denise Etheridge, Wiley Publications.
2.	Reference Books	1. Bernstein, Leopold A., "Understanding Corporate Reports: A guide to financial statements", Dow Jones-Irwin, Latest Edition. 2. Ambrish Gupta, "Financial Accounting for Managers: An Analytical Perspective", Prentice Hall. 3.Dr. S.N. Maheswari, Management Accounting Sexana, Management Accounting

M.Com. Syllabus (CBCS-Effective From 2021-22)

3.	Websites	1.www.inteleants.com/analytics-modeling-excel-programming.html 2.www.wiley.com 3. www.excelforum.com
4.	Journals	1.Finance India 2. Chartered Accountant Journal 3. Indian Journal of Finance (New Sub.) 4. Journal of Accounting & Finance
5.	Supplementary Readings	1.Calcutta Statistical Association Bulletin 2. RBI Bulletin 3. Tax Reference 4.The Management Accountant
6.	Practical Component	Hands on experience of ratio analysis, financial forecasting, comparative study etc. of Financial Statements with using Excel.

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Semester	III	Total Credit	4
Course Code	DSE-301-C	Credit Pattern	L-45, T-6, P-9
Course Title	Financial Reporting		

Course Outcomes	
	The students will be able to:
1.	Explain the financial statements for stakeholders.
2.	Analyze the impact of GAAP and its application for reporting and compliance.
3.	Evaluate financial statements for strategic decision-making.
4.	Interpret the ongoing developments for financial reporting.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Financial Reporting: Concept, Meaning, Importance of Financial Reporting, Users of Financial Statements, Objectives of preparing Financial Statements, Underlying Assumptions.	L= 11	
		T= 2	P= 2
2	Financial Statements of Corporate Entities: Relevance of Accounting Standards and Guidance Notes issued by ICAI to Financial Reporting, GAAP, IFRS, Ind-AS etc. Attributes of Good financial Reporting, Best Practices, Common Defects in financial reporting.	L= 12	
		T= 1	P= 3
3	Group Financial Statements: Framework for preparation and presentation of financial statements, Consolidated Income Statement, balance Sheet and Cash Flow Statements for Group of companies (AS-21). Ind AS on Disclosures in the Financial Statements (Ind AS-24, Ind As-33, Ind AS-108)	L= 11	
		T= 2	P= 2
4	Emerging Trends in Reporting: Integrated Reporting, Corporate Social Responsibility Reporting, Human Resources Reporting, Value Added Statement, Sustainability Reporting- Concept of Triple Bottom Line Reporting, Global Reporting Initiative (GRI), International Federation of Accountants (IFAC). Brief Introduction to Income Computation and Disclosure Standards (ICDS)- under the IT Act.	L=11	
		T= 1	P= 2

Practical Problems

1. Practical problems on group financial statements.
2. Disclosures

Learning Resources		
1.	Text Books	1.Financial Analysis for Management Decisions, By M .Sarngadharam & S.Rajitha Kumar, New Century Publications, Jan 2011 2.Corporate Financial Reporting and Analysis, Ashish K Bhattacharya May 2018, PHI Learning 3.Financial Reporting under IND-AS and AS-Covering Sch III, ICDS, and ICAI Guidance Notes, Bloomsbury; Second edition (28 April 2019) 4.Students' Guide to Accounting and Financial Standards, Financial Times/ Prentice Hall; 9 edition (15 May 2003)
2.	Reference Books	1.Cases in Financial Reporting, International Edition, Michael Sandretto, CENGAGE Learning Custom Publishing, 2011 2. Financial statements, Revised and Expanded edition: A step by step guide to understanding and creating financial reports, Kindle Edition by Thomas R. Itteleson.
3.	Websites	1.www.icaai.org.in 2.www.bseindia.com 3.www.annualreports.com 4. www.finstanon.com 5.INFLIBNEThttp://nlist.inflibnet.ac.in 6.J-GATEhttp://jgateplus.com 7.EBSOhttp://search.ebscohost.com 8.Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4.	Journals	1.Finance India 2.Chartered Accountant Journal 3. Indian Journal of Finance (New Sub.) 4.Journal of Accounting & Finance
5.	Supplementary Readings	1.Business Standard 2. Business Line 3. The Financial Express 4.Manuals of ICAI
6.	Practical Component	1.Practical Problems on Financial Reporting 2.Group Financial Statements 3.Cash Flow Statement 3.Emerging Trends in Reporting 4.Financial Data Analysis using Prowess-IQ

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M.Com.

SEMESTER - IV

Semester	IV	Total Credit	4
Course Code	CC-401	Credit Pattern	L-45, T-6, P-9
Course Title	Management Control System		

Course Outcomes	
	The students will be able to:
1.	Describe the fundamentals of Management Control System and Reporting.
2.	Apply techniques of MCS for decision making.
3.	Interpret business decisions using techniques of MCS.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Management Control System: Meaning, Need, Importance and Scope of Management Control System, Management Control Process; Strategic Planning-Meaning, Difference between Strategic Planning and Management Control and Reporting to Management Types of Reports and Characteristics of good report. Practical: Group discussion can be conducted in the classroom on the contents of Unit-I.	L= 11	
		T= 2	P= 2
2	Marginal Costing and CVP Analysis: Meaning and Application of Marginal Costing, Break-Even Analysis, Cost-Volume- Profit (CVP) Analysis, Decision Making through Marginal Costing- Make or Buy Decision, Shut Down or Continue Decision, CVP Analysis in Multi-product Decision, Alternative Course of Action. Practical: a) Exercise for Simulation of computing break-even point and margin of safety and interpret the situations. b) Draw break-even charts on graph paper considering hypothetical data and compare output of graphical method with algebraic method.	L= 12	
		T= 1	P= 3
3	Budget and Budgetary Control: Meaning of Budget and Budgetary Control, Objectives, Advantages and Limitations; Types of Budgets – Production, Sales, Cash, Master Budget, Fixed and Flexible Budget; Capital Expenditure Budgeting (Note: Problems will be asked on Cash Budget, Flexible Budget and Capital Budget only) Practical: Role Play can be arranged to know the working of budget committee works in budgetary control system or Visit any organization which has well established budgetary control system and discuss with budget officer regarding it.	L= 11	
		T= 2	P= 2
4	Standard Costing and Variance Analysis: Meaning of Standard Cost and Standard Costing, Setting a System of Standard Costing, Advantages and Limitations; Variance Analysis- Material Cost Variances, Labour Cost Variances and Overhead Variances Practical: a) Compute variances on the basis of hypothetical data and interpret it.	L=11	
		T= 1	P= 2

M.Com. Syllabus (CBCS-Effective From 2021-22)

	b) Analyse variances for such any organization which has well established budgetary control system and discuss with budget officer regarding it.		

Learning Resources

1.	Text Books	1. Bhattacharya S K and Dearden J. Accounting for Management: Text and Cases 2. Debarshi Bhattacharyya, Management Accounting, Pearson Publication House, ISBN: 9788131731789 3. S P Jain & K L Narang. Cost Accounting, Himalaya Publication House 4. Charles T Horngren and others. Cost Accounting ñ a Managerial Emphasis
2.	Reference Books	1. Khan M Y & Jain P K. Management Accounting, Himalaya Publication House. 2. Pandey I. M: Management Accounting, Vikas Publication House 3. Khan and Jain: Management Accounting: Tata McGraw-Hill, New Delhi 4. Bhattacharyya S K and Dearden J-: Accounting for Management: Vikas Publishing Pvt. Ltd. New Delhi 5. Manmohan & Goyal : Principles of Management Accounting 6. Maheshwari: Principles of Management Accounting 7. Robet Anthony and Vijay Govindrajan - Management Control System
3.	Websites	1. www.udemy.com 2. www.manipalprolearn.com 3. INFLIBNET http://nlist.inflibnet.ac.in 4. J-GATE http://jgateplus.com 5. EBSCO http://search.ebscohost.com 6. Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4.	Journals	1. The Chartered Accountant Journal. 2. The Chartered Secretary Journal. 3. The Management Accountant Journal
5.	Supplementary Readings	1. Finance India 2. Journal of Accounting & Finance 3. Business Line
6.	Practical Component	1. Practical Problems on CVP analysis. 2. Practical Problems on Budget & Budgetary Control. 3. Practical Problems on Standard Costing and Variance Analysis.

Semester	IV	Total Credit	4
Course Code	CC-402	Credit Pattern	L-45, T-6, P-9
Course Title	Financial Management		

Course Outcomes	
	The students will be able to :
1.	Analyze working capital statement for decision making.
2.	Apply cash management technique for cash control.
3.	Evaluating investment proposals using capital budgeting technique.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Nature and Scope of Financial Management: Nature, significance, objectives and scope of financial management; risk-return and value of the firm; financial distress and insolvency; financial sector reforms and their impact on financial management; functions of finance executive in an organization; financial management – recent developments.	L= 11	
		T= 2	P= 2
2	Capital Budgeting Decisions: Planning and control of capital expenditure; capital budgeting process; techniques of capital budgeting- discounted and non-discounted cash flow methods, choice of methods; capital rationing; Working Capital Management: Meaning & Concept of Working Capital, Types of Working Capital, Determinants of Working Capital, Factors influencing working capital, Assessment of Working Capital, Working Capital, A Policy Decision, Control of Working Capital, Gross working capital, Net working capital.	L= 12	
		T= 1	P= 3
3	Capital Structure Decisions: Meaning and significance of capital structure; capital structure vis-a-vis financial structure; capital structure planning and designing; optimal capital structure; determinants of capital structure; capital structure and valuation - theoretical analysis; EBIT – EPS analysis; cost of capital; factors affecting cost of capital, measurement of cost of capital, weighted average cost of capital, marginal cost of capital; risk and leverage; measures of leverage, leverage effects on shareholders returns.	L= 11	
		T= 2	P= 2
4	Dividend Policy: Introduction; types, determinants and constraints of dividend policy; different dividend theories — Walter's Model, Gordon's Model and Modigliani-Miller Hypothesis of dividend irrelevance; forms of dividend; dividend policy - practical considerations and legal constraints; corporate dividend practices in India; statutory framework.	L=11	
		T= 1	P= 2

Learning Resources		
1.	Text Books	1.M.Y. Khan & P.K. Jain: Financial Management – Text and Problems; Tata McGraw Hill Publishing Co. Ltd., New Delhi. 2.Prasanna Chandra: Financial Management – Theory & Practice; Tata McGraw Hill Publishing Co. Ltd., New Delhi. 3.I.M. Pandey: Financial Management (2005); Vikas Publishing House Pvt. Ltd., New Delhi. 4.R.P. Rustagi: Financial Management – Theory, Concepts and Problems; Galgotia Publishing Co., Karol Bagh, New Delhi. 5.S.N. Maheshwari: Financial Management – Principles & Practice; Sultan Chand & Sons, Darya Ganj, New Delhi.
2.	Reference Books	1. S.C. Kuchhal: Financial Management (Sixteenth Edition); Chaitanya Publishing House, Allahabad. 2. J.C. Vanhorne: Financial Management & Policy; Prentice Hall of India (P) Ltd., New Delhi. 3.Sabir Kumar Banerjee: Financial Management; S.Chand & Co. Ltd., New Delhi.

M.Com. Syllabus (CBCS-Effective From 2021-22)

		4. J.C. Verma: A Manual of Merchant Banking (Practice and Procedures); Bharat Law House, New Delhi. 5.Scott L. William: Contemporary Financial Markets and Services; West Publishing Company, St. Paul (USA). 6.V.K. Bhalla: Financial Management and Policy; Anmol Publications Pvt. Ltd., Darya Ganj, New Delhi-110002. 7.John C. Hull: Options, Futures and other Derivative Securities; Prentice- Hall, Inc., Englewood Cliffs, N.J. USA. 8.V.A. Avadhani: Treasury Management in India; Himalaya Publishing House. Hudson Robert: Treasury Management; Blackwell, 108, Cowley Road, Oxford, U.K.
3.	Websites	1. https://finmin.nic.in/ 2. www.indiabudget.gov.in 3. www.capitalindia.com 4. https://dor.gov.in/
4.	Journals	1. The Chartered Accountant Journal. 2. The Chartered Secretary Journal. 3. The Management Accountant Journal, Printer & Publisher, CMA 4. Indian Journal of Finance 5. International Journal of Applied Business & Economic Research 6. Finance India 7. Journal of Accounting & Finance 8. Journal of Emerging Market Finance (New Sub.)
5.	Supplementary Readings	1.Finance India 2.The Economic Times 3. Business Standard 4.Business Line 5.The Financial Express 6.Economic Survey 7.INFLIBNET http://nlist.inflibnet.ac.in 8.J-GATE http://jgateplus.com 9.EBSCO http://search.ebscohost.com 10.Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
6.	Practical Component	1. Practical problems on capital budgeting decisions 2.Practical problems on capital structure decisions 3.Practical problems on dividend policy 4. Practical problems on working capital 5. To prepare capital structure of own company 6. Financial data analysis of companies

Semester	IV	Total Credit	4
Course Code	DSE-401-A	Credit Pattern	L-45, T-6, P-9
Course Title	Advanced Accountancy Paper-VII (Taxation)		

Course Outcomes	
	The students will be able to:
1.	Assess applicability of GST liability.
2.	Analyze deductions from gross total income.
3.	Evaluate the income under different heads and taxability.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Definitions, Exemptions & Deductions: Definitions Under the Income Tax Act, 1961, Exemptions Under Section -10, Deductions from Gross Total Income Under Chapter – VI A. Practical: Group discussion can be conducted in the classroom on the contents of Unit-I	L= 11	
		T= 2	P= 2
2	Taxable Income and Tax Liability: Computation of Taxable Income and Tax Liability of Individual, H.U.F., Firm, Association of Persons and Limited Company. Practical: Collect data from any individual or any other assessee and compute taxable income and tax liability.	L= 12	
		T= 1	P= 3
3	Clubbing of Income and Online Tax Governance: Clubbing of Income, Set-off and Carry Forward of Losses, E- Filing of Returns, Online Payment of Tax. Practical: Make e-filing of IT return of any individual.	L= 11	
		T= 2	P= 2
4	Introduction to GST: Introduction to Goods and Service Tax (GST), Concept of GST, Nature and Basis of Charge, Registration under GST, Valuation of Taxable Services, Provisions Pertaining to Returns Under GST. Practical: Group discussion on any point given in Unit-IV.	L=11	
		T= 1	P= 2

Learning Resources		
1.	Text Books	1. Vinodkumar Singhania - Students Guide to Income Tax 2. Prasad Bhagawati – Income Tax Law & Practice 3. Mehotra H.C. – Income Tax Law 4. Dinkar Pagare – Income Tax Law and Practice 5. Ahuja & Gupta – Systematic Approach to Income Tax

M.Com. Syllabus (CBCS-Effective From 2021-22)

2.	Reference Books	1) Singhania – Student’s Guide to Income Tax 2) Prasad Bhagwati – Income Tax Law & Practice 3) Mehrotra H.C. – Income Tax Law 4) DinkarPagare –Income Tax Law and Practice 5) Ahuja and Gupta – Systematic Approach to Income Tax
3.	Websites	1. https://icmai.in/TaxationPortal/ 2. www.icaai.org 3. www.icsi.edu 4. www.incometaxindia.gov.in
4.	Journals	1. The Tax Referencer 2. RBI Bulletin 3. Chartered Accountant Journal
5.	Supplementary Readings	1. Business Today 2. The Economic Times 3. The Financial Express
6.	Practical Component	1. Practical Problems on Different Heads of Income. 2. Practical Problems on Clubbing of Income. 3. Practical should be taken in the classroom on E-filing of Income Tax Return, Online Payment of Tax, and GST Registration.

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Semester	IV	Total Credit	4
Course Code	DSE-401-B	Credit Pattern	L-45, T-6, P-9
Course Title	Advanced Accountancy Paper-VIII (Contemporary Issues in Accounting)		

Course Outcomes	
	The students will be able to :
1	Discuss the contemporary issues in accounting.
2	Assess the impact of contemporary issues in accounting.
3	Evaluate the impact of contemporary issues on accounting.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Recent Developments in Accounting: Concept, Scope and Significance of Forensic Accounting, Concept and Provisions of Corporate Social Responsibility, Carbon Credit, Concept of Segmental Reporting Practical: Group discussion can be conducted in the classroom on the contents of Unit-I	L= 11	
		T= 2	P= 2
2	Inflation Accounting: CPP Method, CAA Method and Hybrid Method, Preparation of Restated Income Statement and Balance Sheet Practical: Download the financial statements of any company and prepare restating financial statements.	L= 12	
		T= 1	P= 3
3	Economic Value Added: Value Added Statement- Value Added Concept, Treatment of Certain Items, Advantages and Limitations of Value Added Statement and Preparation of Value Added Statement; Economic Value Added- Concept and Utility of EVA and Preparation of Statement Showing Computation of EVA. Practical A) Collect data from any company and prepare Value added statement. B) Collect data from any company and prepare statement showing Economic Value Added.	L= 11	
		T= 2	P= 2
4	Accounting for Financial Instruments: Definitions, Methods of Trading, Margin, Option, Provisions in Accounting Standards 30,31 and 32- Recognition and Measurement, Presentation and Disclosure Practical: Download the annual report of any listed company and analyse contents with reference to AS-30, 31 & 32.	L=11	
		T= 1	P= 2

Learning Resources		
1.	Text Books	1. Bose, D. (2010). Advanced Accounting. Prentice Hall India Learning Private Limited. 2. Made Gowda – Advanced Accounting, Himayala Publication House 3. Jawaharlal, Managerial Accounting, Himayala Publication House 4. S.N. Maheswari , Advanced Accountancy, Vikas Publishers 5. R. Venkataramana, Advanced Accountcy, Vikas Publication House

M.Com. Syllabus (CBCS-Effective From 2021-22)

		6. S. P. Jain and K. L. Narang – Advanced Accountancy, Kalyani Publication House. 7. Paduka's Students Handbook on Advanced Auditing; CA Final; Padhukas
2.	Reference Books	1. Corporate Accounting – Maheshwari and Maheshwari, Vikas Publications, 2. Advanced Accountancy – Shukla, Grewal, Gupta 3. Advanced Accountancy – Jain and Narang 4. Financial Management – Ravi M. Kishore 5. Financial Management – M. Y. Khan & P. K. Jain
3.	Websites	1. INFLIBNET http://nlist.inflibnet.ac.in 2. JGATE http://jgateplus.com 3. EBSCO http://search.ebscohost.com 4. www.icaai.org . 5. Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same
4.	Journals	1. The Chartered Accountant Journal. 2. The Chartered Secretary Journal. 3. The Management Accountant Journal. 4. Finance India 5. Journal of Accounting & Finance
5.	Supplementary Readings	1. CA IPCC Study Material 2. Relevant Study Material Issued by ICAI 3. Relevant Study Material Issued by ICSI 4. Relevant Study Material Issued by ICWAI
6.	Practical Component	1. Practical Problems on Inflation Accounting 2. Practical Problems on Economic Value Added.

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Semester	IV	Total Credit	4
Course Code	DSE-401—C	Credit Pattern	L-45, T-6, P-9
Course Title	Corporate Tax Structure and Planning		

Course Outcomes	
	The students will be able to :
1.	Explain the concepts in corporate tax structure planning.
2.	Apply the various provisions of the law to manage the tax liability.
3.	Evaluate the sources of income and their taxability.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction of Tax Planning: Meaning of tax planning and management, tax evasion and tax avoidance; Nature and scope of tax planning and management in the corporate sector; Justification of corporate tax planning and management.	L= 11	
		T= 2	P= 2
2	Assessment of Companies: Residential Status and incidence of Tax, Computation of corporate tax: Carry forward and set off of losses in the case of certain companies under Sec. 79 of Income-tax Act, 1961; Deductions available to corporate assessee, Computation of taxable income of companies; Computation of amount of corporate tax liability; Minimum Alternate Tax; Tax on distributed profits of domestic companies; Tax on income distributed to unit holders.	L= 12	
		T= 1	P= 3
3	Tax Planning and Financial Management Decisions: Capital structure decisions; Dividend Policy; Bonus Share; Investments and Capital Gains. Owning or leasing of an asset; purchase of assets by installment system or Hire System; Purchase of an asset out of own funds or out of borrowed capital; manufacturing or buying; Repairing, replacing, renewing or renovating an asset; Sale of assets used for scientific research; Shutting down or continuing operations. Private equity	L= 11	
		T= 2	P= 2
4	Business Reorganisation: Tax Planning in respect of amalgamation or demerger of companies, Slump sale, conversion of a firm into a company. Conversion of Sole Proprietorship into Company, Conversion of company into Limited Liability Partnership.	L=11	
		T= 1	P= 2

Learning Resources		
1.	Text Books	1. Lal. B. B & N. Vashisht, Direct Taxes Income Tax, Wealth Tax and Tax Planning. 2. Taxman, The Tax and Corporate Law Weekly. 3. Bhagmati Prasad, Direct Taxes And Laws And Practice, Wishwa Prakashan,
2.	Reference Books	1. Srinivas.E.A, Corporate Tax Planning, Tata McGraw Hill, 2. Singhanian, Vinod. K, Taxmann's Direct Taxes, Law & Practice. 3. Ahuja. Girish & Ravi Gupta, Bharat's Professional Approach to Direct Taxes, Law & Practice, Bharat Law House Pvt. Ltd.
3.	Websites	1. www.icaai.org.in 2. www.icsi.edu.in 3. www.incometaxindiaefiling.gov.in 4. INFLIBNET http://nlist.inflibnet.ac.in 5. J-GATE http://jgateplus.com 6. EBSCO http://search.ebscohost.com 7. Library online Opac Address: http://192.168.1.111:8080/opac For INFLIBNET individual usernames and passwords are already given. Use the

M.Com. Syllabus (CBCS-Effective From 2021-22)

		same
4.	Journals	1.Tax Reference 2.Finance India 3. Chartered Secretary 4. Chartered Accountant Journal
5.	Supplementary Readings	1.The Economic Times 2. The Financial Express 3. Business Standard
6.	Practical Component	1.Practical Problems on Computation of Income 2.Tax Planning

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Value Added Certificate Courses (Non-Credit Courses)

Course Code	Certificate Course-I (Semester-I)	Total Credit	2
Course Title	Tally Essential Course Level-I	Credit Pattern	L-15, T-5 P-10

Level of Knowledge: Advanced Knowledge

Course Outcomes:

	The students will be able to :
1.	Demonstrate the applications of accounting with Tally.
2.	Generate accounting and inventory master, vouchers and basic reports in tally.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Chapter 1: Fundamentals of Accounting This chapter summarizes the Fundamentals of Accountancy, starting with the accounting terms, concepts, right up to the double entry system of accounting. It explains the need and usage of Golden Rules of Accounting in the books of accounting and recording the business transactions. Chapter 2: Introduction to Tally Prime This introductory chapter on Accounting using Tally explains how simple it is to download and install Tally in the system. This chapter helps you understand the simplest way of creating a company and the company features and configurations.	L=7	
		T=3	P=5
2	Chapter 3: Maintaining Chart of Accounts This chapter shows you how simple it is to create, alter and display the Chart of Accounts such as Ledgers, Groups, Stock Items and Units of Measure Creation. Chapter 4: Recording and Maintaining Accounting Transactions This chapter covers how to record transactions such as Receipt, Contra, Payment, Purchase, Sales, Debit Note, Credit Note, and Journal Vouchers with practical scenarios.	L=8	
		T=2	P=5

Learning Resources

1	Reference books	1.Tally ACE book from Tally Education Private Ltd. 2.SoumyaBehera--Learn Tally ERP 9 in 30 daysl, B.K. Publications: 3.Joseph Brady and Ellen Monk - -Concepts in Enterprise Resource Planningl, S.Chand (G/L) & Company Ltd 4.Kogent Solutions Inc – -Tally .ERP 9 in Simple Stepsl, Dreamtech Press 5.Asok K Nadhani ,-Mastering Tally ERP 9: Basic Accounts, Invoice, Inventoryl, BPB Publications
2.	E-Libraries	<u>INFLIBNET</u> http://nlist.inflibnet.ac.in <u>J-GATE</u> http://jgateplus.com <u>EBSCO</u> http://search.ebscohost.com www.tallyeducation.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same

Note: This beginner level certification will recognize skills of a candidates learning Tally Prime. Online assessment will be conducted and successful candidates will earn a verifiable digital certificate from Tally.

Tally certifies candidate as job ready and opens up multiple career opportunities. A certified candidate can opt to become an entrepreneur as well.

MODE OF ASSESSMENT

Assessment Format: Online

Duration: One Hour

No. of Exams: One Exam

Certification Type: Digital

Course Code	Certificate Course-II (Semester-II)	Total Credit	2
Course Title	Tally Essential Course Level-II	Credit Pattern	L-15, T-4, P-11

Level of Knowledge: Advanced Knowledge

Course Outcomes:

	The students will be able to :
1.	Demonstrate the applications of accounting of banking.
2.	Evaluate financial statements as well as evaluation of stock and company data.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Chapter 1: Banking This chapter covers the basic Banking Feature, Cheque Printing, Bank Reconciliation, and Generating Deposit Slips including Payment Advice.	L=7	
		T=2	P=6
2	Chapter 2: Generating Financial Statements and MIS Reports This chapter covers all MIS reports in Tally; Trail Balance, Balance Sheet, Profit and Loss account, Cash Flow Statement, Ratio Analysis, Daybook, Receipts and Payments, Purchase and Sales Register including Inventory Reports.	L=8	
		T=2	P=5
2	Chapter 3: Data Security This chapter covers Securing Financial Information of the Company, Creating Security Control, User Roles, Creation of Users and Change User.	L=8	
		T=2	P=5
2	Chapter 4: Company Data Management This chapter covers how to securely take company data and restore without any data loss.	L=8	
		T=2	P=5

Learning Resources		
1	Reference books	1.Tally ACE book from Tally Education Private Ltd. 2.SoumyaBehera--Learn Tally ERP 9 in 30 daysl, B.K. Publications: 3.Joseph Brady and Ellen Monk - -Concepts in Enterprise Resource Planningl, S.Chand (G/L) & Company Ltd 4.Kogent Solutions Inc – -Tally .ERP 9 in Simple Stepsl, Dreamtech Press 5.Asok K Nadhani ,-Mastering Tally ERP 9: Basic Accounts, Invoice, Inventoryl, BPB Publications
2.	E-Libraries	<u>INFLIBNET</u> http://nlist.inflibnet.ac.in <u>J-GATE</u> http://jgateplus.com <u>EBSCO</u> http://search.ebscohost.com www.tallyeducation.com Library online Opac Address: http://192.168.1.111:8080/opac *For INFLIBNET individual usernames and passwords are already given. Use the same

Note: This advanced level certification will recognize skills of a candidates learning Tally Prime. Online assessment will be conducted and successful candidates will earn a verifiable digital certificate from Tally.

Tally certifies candidate as job ready and opens up multiple career opportunities. A certified candidate can opt to become an entrepreneur as well.

MODE OF ASSESSMENT

Assessment Format: Online

Duration: One Hour

No. of Exams: One Exam

Certification Type: Digital

Course Code	Certificate Course-III (Semester-III)	Total Credit	2
Course Title	TDS Using Tally	Credit Pattern	L-15, T-2, P-13

Level of Knowledge: Advanced Knowledge

Course Outcomes:

The students will be able to :

1. Show the practical applications of TDS using Tally.
2. Generating TDS reports using Tally.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Chapter 1: Introduction to TDS This chapter covers Fundamentals of TDS and Introducing Capital to Business.	L=7	
	Chapter 2: Configuring TDS at Different Levels This chapter covers topics including how to activate TDS, Creation of TDS Masters and defining TDS at Group and Ledger.	T=1	P=7
	Chapter 3: Basic TDS Transactions This chapter elaborates Booking of Expenses and Deducting TDS on Multiple Expenses.		
	Chapter 4: Advanced TDS Transactions - Part A This chapter covers Booking Advanced Expenses and Reversal of Expenses.		
2	Chapter 5: Advanced TDS Transactions - Part B This chapter covers TDS on Works Contract attracting GST and TDS on Interest Paid.	L=8	
	Chapter 6: TDS Payment to Department This chapter covers Basic TDS Transactions, TDS Payment to Government, and other such transactions.	T=1	P=6
	Chapter 7: TDS Reports This chapter covers Generating TDS Challan and Generating TDS Reports.		

Learning Resources

1	Reference books	1.Tally ACE book from Tally Education Private Ltd. 2.SoumyaBehera--Learn Tally ERP 9 in 30 daysl, B.K. Publications: 3.Joseph Brady and Ellen Monk - --Concepts in Enterprise Resource Planningl, S.Chand (G/L) & Company Ltd 4.Kogent Solutions Inc --Tally .ERP 9 in Simple Stepsl, Dreamtech Press 5.Asok K Nadhani ,-Mastering Tally ERP 9: Basic Accounts, Invoice, Inventoryl, BPB Publications
2.	E-Libraries	INFLIBNEThttp://nlist.inflibnet.ac.in J-GATEhttp://jgateplus.com EBSCOhttp://search.ebscohost.com www.tallyeducation.com Library online Opac Address: http://192.168.1.111:8080/opac

		*For INFLIBNET individual usernames and passwords are already given. Use the same

Note: This advanced level certification will recognize skills of a candidates learning path in TDS using Tally Prime. Online assessment will be conducted and successful candidates will earn a verifiable digital certificate from Tally.

TDS using Tally certifies candidate as job ready and opens up multiple career opportunities. A certified candidate can opt to become an entrepreneur as well.

MODE OF ASSESSMENT

Assessment Format: Online

Duration: One Hour

No. of Exams: One Exam

Certification Type: Digital

Course Code	Certificate Course-IV (Semester-IV)	Total Credit	2
Course Title	Certificate Course on Seeking Perfection for Stress Free Life	Credit Pattern	L-10, T-2, P-18

Level of Knowledge: Advanced Knowledge

Course Outcomes:

	The students will be able to :
1.	Develop self regulation and positive attitude.
2.	Help in character formation, transformation and self evaluation.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Discovering Oneself, Understanding roots of thoughts and emotions, Live Light-With Skills, Live Right- With Values, Concentration, Confidence, Courage, Time Management, Relationship Management & Healthy Lifestyle	L=5	
		T=1	P=9
2	Habit and Change, Heartful Communication and Observation, Self Respect and Self Love, Peer Pressure, Science behind Heart & Mediation, Choices and Acceptance, Interest and Involvement	L=5	
		T=1	P=9

Learning Resources

1	Reference books	- The Heartfulness way by Kamlesh Patel, - Designing Destiny by Kamlesh Patel, - Geeta, 10 books Vivekananda Granthavali
2.	Website	www.heartfulness.org

**CSIBER TRUST'S
CHHATRAPATI SHAHU INSTITUTE OF
BUSINESS EDUCATION & RESEARCH**

(AN AUTONOMOUS INSTITUTE)

CPE Phase III, Accredited By NAAC 'A⁺' (CGPA 3.55)

University Road, Kolhapur – 416 004 (MS)

D. K. Shinde School of Social Work

**MASTER OF SOCIAL WORK
M.S.W.**



**REVISED MSW PROGRAMME STRUCTURE AND
SYLLABUS
AS PER C. B. C. S. PATTERN
WITH EFFECT FROM THE YEAR 2021-22**

MSW- CBCS SYLLABUS 2021-22

MASTER OF SOCIAL WORK (M.S.W.) PROGRAMME OUTCOMES (POs)

1. **Conceptual Knowledge:** Graduates will be able to conceptualize, organize, analyse and resolve complex social problems by using their domain knowledge of social work methods.
2. **Social Commitment:** Demonstrate ethical and professional behavior in social work practice
3. **Leadership & Innovation Skills:** Graduates will be able to adopt and adapt the contemporary trends in their domain area as well as innovations, emerging technology and global changes while leading and managing social work services
4. **Soft Skills:** Graduates will practice and perform effective communication skills and soft skills under various social situations.
5. **Social Entrepreneurial Skills:** Graduates will be able to identify, assess and shape entrepreneurial opportunities and evaluate their potential for starting an enterprise
6. **Effective Citizenship:** Graduates will demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
7. **Self-directed and life long learning:** Graduates will be able to engage in continuous learning for professional growth and development
8. **Environment and sustainability:** Graduates will gain ability to take decisions keeping in mind the need for sustainable and holistic development.
9. **Scientific Temper:** - Gaining aptitude for research for contribution to knowledge enterprise and documentation of social work theory and practice.
10. **Stakeholder Concern:** Graduates will address ethical, legal and cultural issues of organization and society by utilizing their conceptual knowledge
11. **Problem solving:** Graduates will possess and use competencies in quantitative and qualitative techniques for problem solving in their respective functional areas.

MSW Programm Rules & Regulation

I. General Rules :

** The following rules and regulations are subject to modification as per changing norms of UGC.*

1. Every candidate for the Master of Social Work (MSW) must have obtained the Bachelor's Degree of the Shivaji University in any faculty or a Bachelor's Degree of any other University recognized as equivalent to the Bachelor's Degree of the Shivaji University. General candidates should have at least 45% aggregate marks & 40% for reserved candidates. PREFERENCE shall be given to those possessing a degree in Social Work (**BSW**) and other Social Sciences.
2. The course of the study for the degree of Master of Social Work shall be full time course and its duration shall be of two years. The course consists of four Semesters. At the end of each Semester there shall be an examination. The examination to be held in the First and Second Semester will be called Part – I Examination and the Examination to be held in the Third and Fourth Semesters will be called Part – II Examination.
3. The M.S.W. Part-I course shall provide for basic courses and M.S.W. Part-II course shall provide for specializations.
4. The students shall be required to attend a minimum of 75% classes in each subject and concurrent fieldwork sessions in order to be eligible for taking theory & fieldwork examinations.
5. All the students have to wear prescribed dress code on the scheduled days ie. on every Monday and Thursday
6. Except in the field work and Research Project there shall be in each paper in each semester an Internal Assessment of 40 marks assigned to the paper & an examination for the remaining 60 marks to be held at the end of Semester.
7. The theory examination carrying 60 marks assigned to the subject will cover the entire syllabus prescribed for the respective papers (in each semester) (a) A paper carrying 60 marks for theory examination will be of 3 hours duration.
8. The Internal assessment will be done by relevant department faculty members
9. The candidates for M.S.W. examination will be examined in the following subjects for Part I & II Examination. (vide MSW program structure)
10. If a candidate fails to clear all the theory papers and project report within **Six** years of his/her registration, the past performance will stand automatically nullified.
11. If a candidate discontinues any of the Semester on any account, he/she will be allowed to complete the incomplete semesters in the subsequent years subject to the condition that it is within the stipulated time duration of **Six** years.

MSW- CBCS SYLLABUS 2021-22

12. In addition to the above, once a student's Semester is granted, he/she shall be allowed to appear and pass in any of the subsequent examinations held, provided the examinations are within the stipulated period of **Six** years. In case the term (Semester) is not granted the student has to seek fresh admission in the next year and complete the term and pass the examination. This too within **Six** years of his/her registration.

- **Course Completion with Break in Between :**

A student who has passed MSW. – I and is seeking admission to MSW. – II after a long gap (Provided the gap lies within the stipulated duration of **Six** years) should complete the course syllabus which is in existence at the time he is seeking admission for the academic year.

II. ASSESSMENT:

Taking into consideration the UGC and AICTE requirements, CSIBER has adopted "Credit Grade Performance Assessment System" (CGPA). Each paper is of 100 marks and contact hours for each paper is 45 hours. One credit is allotted to 15 contact hours. All papers are considered as Full credit papers i.e. **three** credits are allotted to each paper. However for General Elective Course Paper consists of 60 contact hours & accordingly 4 credits are allotted. The summary of credit distribution of entire MSW program is given below.

Summary of MSW Programme Structure as per CBCS

Semester s	Core Credi ts	DSE Credi ts	GE Credi ts	AEC Credi ts	Total Credi ts	Conta ct Hours	Total Mar ks
I	30	4		2	36	586	750
II	32	4	2	2	40	616	800
III	32	4	2	2	40	616	800
IV	30	4		2	36	586	750
Total	124	16	4	8	152	2404	3100
Percenta ge	67	16		10	100%	--	--

- 1) For the paper of 100 marks. The distribution of the marks will be as follows –

SL No.	Nature	CC/DSE 100Marks	GE/AEC/AECC 50Marks
i	Internal Marks (Concurrent evaluation)	40 Marks	20 Marks
ii	External Marks (End Semester examination)	60 marks	30 Marks No Theory Exams

MSW- CBCS SYLLABUS 2021-22

Concurrent Evaluation: Internal marks breakup

	40 marks	20 marks
Class participation	10 marks	10 marks
Moodle test	10 marks	5 marks
Seminar	10 marks	-
Class Assignment /pre Class reading	05 marks	5 marks
Book Review (Subject Related Books)	05 marks	-
TOTAL	40 marks	20 marks

Concurrent Field Work Breakup For 200 Marks

MSW - I YEAR

Semester I	Marks	Semester II	Marks
Field work Orientation	50	Rural camp	50
Field work Internal	50	Field work Internal	50
Field Work Report	50	Field Work Report	50
Field work viva-voce	50	Field work viva-voce	50
Total	200	Total	200

MSW - II YEAR

Semester III	Marks	Semester IV	Marks
Field work Orientation	50	Study Tour	50
Field work Internal	50	Field work Internal	50
Field Work Report	50	Field Work Report	50
Field work viva-voce	50	Field work viva-voce	50
Total	200	Total	200

The Internal Marks assigned by the teachers shall be shown to the students and their signature should be obtained.

2) For the Project Work of 100 marks, the distribution of the marks will be as follows –

- i) Project Report - 40 Marks
- ii) Viva Voce - 60 Marks

3) The assessment of papers will be done by an Internal and External examiners. A difference of more than **20%** in the marks awarded by these examiners would necessitate the valuation of the paper by a third examiner. The average of the nearest two will be awarded to candidate

- 4) Once the Student passes in the internal evaluation (Concurrent evaluation out of 40 Marks/20 Marks) and the record is submitted to the examination department, it should be carried forward whenever required and it cannot be improved in any case.
- 5) Students who fail in the internal evaluation (Concurrent evaluation out of 40 Marks/20 Marks) should reappear for the same, then only the revised marks will be considered for further calculation.

III. STANDARD OF PASSING:

- 1) In order to pass in a paper/head, a candidate will have to obtain 50% in the internal marks (Concurrent evaluation), 40% marks in theory, and a minimum of 50% of the marks in aggregate in each paper head.
- 2) To pass the MSW examination, a candidate will have to pass in all Four Semester in Two Parts i.e. Part – I (Semester – I & II) and Part – II (Semester – III & IV)
- 3) To pass the Project work a candidate must obtain a minimum of 50% of the Project Report and Viva Voce marks. If a candidate fails in the project report and its Viva-Voce, he/she will have to reappear for the same in the subsequent semester with fresh new project work, similarly to pass concurrent field work a candidate must obtain minimum 50% of marks in concurrent field work and Viva-Voce . If candidates fails in concurrent field work / viva-voce, he/ she will have to reappear for the same in the subsequent semester.
- 4) A candidate from the first year MSW will be eligible to be admitted to MSW-II year (Semester III) if he/she is not having more than 5 (**Five**) papers backlog of the First Year (that is Semester – I & II).

IV Grading System:

Grade Table for Semester Examination			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
96-100	S+	10.0	SUPER
91-95	S	9.0	
86-90	E+	8.5	Exemplary
81-85	E	8.0	
76-80	O+	7.5	Outstanding
71-75	O	7.0	
66-70	A+	6.5	Good
61-65	A	6.0	
56-60	B+	5.5	Average
50-55	B	5.0	
Below 50	X	0.0	Failed

There shall be numerical marking for each course, which will be converted into Grade.

Full Credit 100 Marks / Half Credit 50 Marks

Grade Table for Semester Examination			
Marks Obtained	Letter Grade	Grade Point	Description of Performance
48-50	S+	10.0	SUPER
46-47	S	9.0	
43-45	E+	8.5	Exemplary
41-42	E	8.0	
38-40	O+	7.5	Outstanding
36-37	O	7.0	
33-35	A+	6.5	Good
31-32	A	6.0	
28-30	B+	5.5	Average
25-27	B	5.0	
Less than 25	X	0.0	Failed

V. CALCULATION OF PERFORMANCE INDICES:

A distinction of the performance of one student from the other student is rather impossible to carry out from the grades obtained by a student in all the courses taken by him in a Semester/year. Hence, the evaluation of various courses is cumulated in two performance indices termed as Semester performance index (SPI) and cumulative performance index (CPI) the explanation of which is given below:

Semester Performance Index (SPI):

The performance of a student in a Semester is indicated by a number called Semester Performance Index (SPI). SPI is the weighted average of all the grade points obtained by him in all the courses registered during the Semester r. If G_i is a grade with numerical equivalent as g_i obtained by a student for the course with credit c_i then, SPI for that Semester is calculated using formula.

$$SPI = \frac{\sum c_i g_i}{\sum c_i}$$

Where summation is for all the courses registered by a student in that Semester. SPI is calculated to two decimal places and rounded off. SPI once calculated shall be modified. Generally, for the students failed in regular examinations SPI is calculated only after the declaration of re-examination grades.

Cumulative Performance Index (CPI):

An up-to-date assessment of the overall performance of a student from the first Semester till completion of the programme is obtained by calculating an index called as Cumulative Performance Index (CPI). The CPI is weighted average of the grade points obtained in all the courses registered by a student since the first Semester of the programme.

$$SPI = \frac{\sum c_i g_i}{\sum c_i}$$

Besides SPI, CPI is also calculated at the end of every semester upto two decimal places and is rounded off. It is necessary to ensure that one course appears only once in calculation of CPI and the denominator in above equation does not exceed the total number of credits registered by him.

Initially there is certain trepidation in the minds of students and there are some difficulties in understanding the mechanics of this system. Therefore, it was decided that for the first year of implementation, on the mark sheets, both, the marks and the grade points and credits should be shown.

VI. GRACE MARKS UNDER DIFFERENT ORDINANCE.

S.O. No. 1:-Grace Marks for Passing in each head of Passing (Theory/Practical/ Oral/ Sectional/External/Internal)

The Examinee shall be given the benefit of grace marks only for passing in each head of Passing (Theory/Practical/Oral/Sectional/ in External /Internal examination as follows.

Result		
CPI	Final Grade	Classification of Final Result.
9.6-10.0	S+	SUPER
9.1-9.5	S	
8.6-9.0	E+	Exemplary
8.1-8.5	E	
7.6-8.0	O+	Outstanding
7.1-7.5	O	
6.6-7.0	A+	Good
6.1-6.5	A	
5.6-6.0	B+	Average
5.0-5.5	B	

Final Result: For the final result of the student Cumulative Performance Index (CPI) based on total earned credits vis-à-vis total earned grade points shall be calculated as under.

Total earned grade points / Total credits **124**

Note: To pass MSW a student should get a minimum of 5.0 in CPI

S.O. No. 2:- Grace Marks for getting higher Class

A Candidate who passes in all the subjects and heads of passing in the examination without the benefit of either gracing or condonation rules and whose total number of Marks falls short for securing Higher Class or Grade by marks not more than 1% of the aggregate marks of that examination or upto 10 marks, whichever is less, shall be given the required marks to get the next higher class of grade as the case may be.

Provided that benefits of above mentioned grace marks shall not be given, if the candidate fails to secure necessary passing marks in the aggregate head of passing also, if prescribed in the examination concerned.

Provided further that the benefits of above mentioned grace marks shall be given to the candidate for such examination/s only for which provision of award of class has been prescribed. Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as UGC.

S.O. No. 3 Condonation

If a candidate fails in one or more head of passing, having passed in all other heads of passing, his/her deficiency of marks in such head of passing may be condoned by not more than 1% at the aggregate marks of that examination or 10 marks of the total Number of marks of that of passing in which he/she is failing whichever is less. However condonation, whether in one head of passing or aggregate head of passing be restricted to maximum upto 10 marks only.

Condonation of deficiency of marks be shown in the statement of Marks in the form of asterisk and Ordinance number

Provided further that this gracing is concurrent with the rules and guidelines of Professional statutory bodies at the All India level such as UGC.

MSW- CBCS SYLLABUS 2021-22

M.S.W. Programme Structure (Revised) as per Choice Based Credit System (CBCS)

SEMESTER – I

W.e.f. 2021-2022

Duration 16 Weeks

Nature of Course	Course Code	Course	Credits	Contact Hours				Int. & Ext. Marks	Marks
				Lecture	Tutorial	Practice	Total		
CC	CC 101	History and Philosophy of Social Work	4	45	8	7	60	40+60	100
	CC 102	Work With Individuals & Families	4	45	8	7	60	40+60	100
	CC 103	Work With Groups	4	45	8	7	60	40+60	100
	CC 104	Indian Social Problems & Social Services	4	45	8	7	60	40+60	100
	CC 105	Orientation and Concurrent Field Work	4	--	--	256	256	50+50	100
	CC 106	Field Work Report and Viva-Voce	4	--	--			50+50	100
DSE (Any One)	DSE 101A	Sociology In relation to Social Work	4	45	8	7	60	40+60	100
	DSE 101B	Dynamics of Human Behaviour							
GE	-	-	-	-	-	-	-	-	-
AEC	AEC 101	Computer Skills	2	20	5	5	30	20+30	50
		Total	30	245	45	296	586		750

Note:Concurrent field work 32 hrs = 1 credit

Every course (theory) 15 hrs = 1credit

CC : Core Course

DSE : Discipline Specific Elective

GE : Generic Elective

AEC : Ability Enhancement Course

AEC : Ability Enhancement Compulsory Course

MSW- CBCS SYLLABUS 2021-22

SEMESTER – II

Duration 16 Weeks

Nature of Course	Course Code	Course	Credits	Contact Hours				Int. & Ext. Marks	Marks
				Lecture	Tutorial	Practice	Total		
CC	CC 201	Community Organization and Social Action	4	45	8	7	60	40+60	100
	CC 202	Social Welfare Administration	4	45	8	7	60	40+60	100
	CC 203	Social Work Research	4	45	8	7	60	40+60	100
	CC 204	Social Policy, Planning and Development	4	45	8	7	60	40+60	100
	CC 205	Rural Camp and Concurrent Field Work	4	--	--	256	256	50+50	100
	CC 206	Field Work Report and Viva-Voce	4	--	--			50+50	100
DSE (Any One)	DSE 201A	Economics in Relation to Social Work	4	45	8	7	60	40+60	100
	DSE 201B	Social Work Practice in the Field of Health							
GE (Any One)	GE 201A	Environment and Development	2	20	5	5	30	20+30	50
	GE 201B	Office Automation							
	GE 201C	Fundamentals of Management							
	GE 201D	Principles of Economics							
GE 2	Social Work	Indian Social Problem and Social Service	-	-	-	-	-	-	-
AECC	AECC 201	Professional Communication Skills	2	26	4	-	30	20+30	50
		Total	32	271	54	291	616		800

MSW- CBCS SYLLABUS 2021-22

SEMESTER – III

Group A – Human Resource Management & Labour Welfare (HRM & LW)

Duration 16 Weeks

Nature of Course	Course Code	Course	Credits	Contact Hours				Int. & Ext. Marks	Marks
				Lecture	Tutorial	Practice	Total		
CC	HRCC 301	Labour Welfare – I	4	45	8	7	60	40+60	100
	HRCC 302	Human Resource Management	4	45	8	7	60	40+60	100
	HRCC 303	Labour Legislations – I	4	45	8	7	60	40+60	100
	HRCC 304	Counselling : Theory & Practice	4	45	8	7	60	40+60	100
	HRCC 305	Orientation and Concurrent Field Work	4	--	--	256	256	50+50	100
	HRCC 306	Field Work Report and Viva-Voce	4	--	--			50+50	100
DSE (Any One)	HRDSE 301A	Labour Economics	4	45	8	7	60	40+60	100
	HRDSE 301B	Trade Unions							
GE (Any One)	GE 301A	Disaster Management	2	20	5	5	30	20+30	50
	GE 301B	E-Commerce							
	GE 301C	ED-Entrepreneurship Development							
	GE 301D	Basics of Indian Economy							
	GE Social work	Corporate Social Responsibility	-	-	-	-	-	-	-
AEC	AEC 301A	Project Planning and Implementation Skills	2	20	5	5	30	20+30	50
		Total	32	265	47	299	616		800

MSW- CBCS SYLLABUS 2021-22

SEMESTER – III

Group B – Urban and Rural Community Development (URCD)

Duration 16 Weeks

Nature of Course	Course Code	Course	Credits	Contact Hours				Int. & Ext. Marks	Marks
				Lecture	Tutorial	Practice	Total		
CC	CDCC 301	Rural and Urban Sociology	4	45	8	7	60	40+60	100
	CDCC 302	Rural Community Development	4	45	8	7	60	40+60	100
	CDCC 303	Panchayat Raj In India	4	45	8	7	60	40+60	100
	CDCC 304	Counselling : Theory & Practice	4	45	8	7	60	40+60	100
	CDCC 305	Orientation and Concurrent Field Work	4	--	--	256	256	50+50	100
	CDCC 306	Field Work Report and Viva-Voce	4	--	--			50+50	100
DSE (Any One)	CDDSE 301A	Co-operation	4	45	8	7	60	40+60	100
	CDDSE 301B	NGO Management							
GE (Any One)	GE 301A	Disaster Management	2	20	5	5	30	20+30	50
	GE 301B	E-Commerce							
	GE 301C	ED-Entrepreneurship Development							
	GE 301D	Basics of Indian Economy							
	GE Social work	Corporate Social Responsibility	-	-	-	-	-	-	-
AEC	AEC 301A	Project Planning and Implementation Skills	2	20	5	5	30	20+30	50
		Total	32	265	47	299	616		800

MSW- CBCS SYLLABUS 2021-22

SEMESTER – III Group E – Medical and Psychiatric Social Work (MPSW)

Duration 16 Weeks

Nature of Course	Course Code	Course	Credits	Contact Hours				Int. & Ext. Marks	Marks
				Lecture	Tutorial	Practice	Total		
CC	MPCC 301	Preventive and Social Medicine	4	45	8	7	60	40+60	100
	MPCC 302	Psychopathology and Mental Health – I	4	45	8	7	60	40+60	100
	MPCC 303	Medical and Psychiatric Social Work	4	45	8	7	60	40+60	100
	MPCC 304	Counselling : Theory & Practice	4	45	8	7	60	40+60	100
	MPCC 305	Orientation and Concurrent Field Work	4	--	--	256	256	50+50	100
	MPCC 306	Field Work Report and Viva-Voce	4	--	--			50+50	100
DSE (Any One)	MPDSE 301A	Developmental Psychology	4	45	8	7	60	40+60	100
	MPDSE 301B	Hospital Management							
GE (Any One)	GE 301A	Disaster Management	2	20	5	5	30	20+30	50
	GE 301B	E-Commerce							
	GE 301C	ED-Entrepreneurship Development							
	GE 301D	Basics of Indian Economy							
	GE Social work	Corporate Social Responsibility	-	-	-	-	-	-	-
AEC	AEC 301A	Project Planning and Implementation Skills	2	20	5	5	30	20+30	50
		Total	32	265	47	299	616		800

MSW- CBCS SYLLABUS 2021-22

SEMESTER – IV Group A – Human Resource Management & Labour Welfare (HRM & LW)

Duration 16 Weeks

Nature of Course	Course Code	Course	Credits	Contact Hours				Int. & Ext. Marks	Marks
				Lecture	Tutorial	Practice	Total		
CC	HRCC 401	Labour Welfare – II	4	45	8	7	60	40+60	100
	HRCC 402	Labour Legislations – II	4	45	8	7	60	40+60	100
	HRCC 403	Organizational Behavior	4	45	8	7	60	40+60	100
	HRCC 404	Industrial Relations	4	45	8	7	60	40+60	100
	HRCC 405	Study Tour and Concurrent Field Work	4	--	--	256	256	50+50	100
	HRCC 406	Field Work Report and Viva-Voce	4	--	--			50+50	100
DSE (Any One)	HRDSE 401A	Research Project	4	45	8	7	60	40+60	100
	HRDSE 401B	Corporate Social Responsibility							
	HRDSE 401C	Women and Society							
GE	-	-	-	-	-	-	-	-	-
AECC	AECC 401	Employability Skills	2	20	5	5	30	20+30	50
		Total	30	245	45	296	586		750

***Note:** There is no Theory Examination for DSE 401, DSE 402 & DSE 403 Paper. However there will be special assignments like Seminar, Class assignments, etc. to be conducted by respective faculty members and external examiner.

MSW- CBCS SYLLABUS 2021-22

SEMESTER – IV Group B – Urban and Rural Community Development (URCD)

Duration 16 Weeks

Nature of Course	Course Code	Course	Credits	Contact Hours				Int. & Ext. Marks	Marks
				Lecture	Tutorial	Practice	Total		
CC	CDCC 401	Social Legislation	4	45	8	7	60	40+60	100
	CDCC 402	Urban Community Development & Municipal Administration	4	45	8	7	60	40+60	100
	CDCC 403	Social Inclusion & Exclusion of Weaker Section	4	45	8	7	60	40+60	100
	CDCC 404	Rural Economy	4	45	8	7	60	40+60	100
	CDCC 405	Study Tour and Concurrent Field Work	4	--	--	256	256	50+50	100
	CDCC 406	Field Work Report and Viva-Voce	4	--	--			50+50	100
DSE (Any One)	CDDSE 401A	Research Project	4	45	8	7	60	40+60	100
	CDDSE 401B	Corporate Social Responsibility							
	CDDSE 401C	Women and Society							
GE	-	-	-	-	-	-	-	-	-
AECC	AECC 401	Employability Skills	2	20	5	5	30	20+30	50
		Total	30	245	45	296	586		750

***Note:** There is no Theory Examination for DSE 401, DSE 402 & DSE 403 Paper. However there will be special assignments like Seminar, Class assignments, etc. to be conducted by respective faculty members and external examiner.

MSW- CBCS SYLLABUS 2021-22

SEMESTER – IV Group E – Medical and Psychiatric Social Work (MPSW)

Duration 16 Weeks

Nature of Course	Course Code	Course	Credits	Contact Hours				Int. & Ext. Marks	Marks
				Lecture	Tutorial	Practice	Total		
CC	MPCC 401	Therapeutic Interventions	4	45	8	7	60	40+60	100
	MPCC 402	Psychopathology and Mental Health – II	4	45	8	7	60	40+60	100
	MPCC 403	Community Psychiatry	4	45	8	7	60	40+60	100
	MPCC 404	Social Psychology	4	45	8	7	60	40+60	100
	MPCC 405	Study Tour and Concurrent Field Work	4	--	--	256	256	50+50	100
	MPCC 406	Field Work Report and Viva-Voce	4	--	--			50+50	100
DSE (Any One)	MPDSE 401A	Research Project	4	45	8	7	60	40+60	100
	MPDSE 401B	Community Health							
	MPDSE 401C	Women and Society							
GE	-	-	-	-	-	-	-	-	-
AECC	AECC 401	Employability Skills	2	20	5	5	30	20+30	50
		Total	30	245	45	296	586		750
		TOTAL MSW I (Sem I & Sem II)	62				1202		1550
		TOTAL MSW II (Sem III & Sem IV)	62				1202		1550
		TOTAL MSW I & II	124				2404		3100

***Note:** There is no Theory Examination for DSE 401, DSE 402 & DSE 403 Paper. However there will be special assignments like Seminar, Class assignments, etc. to be conducted by respective faculty members and external examiner.

Concurrent field work breakup pattern for 200 marks
MSW - I YEAR

Semester I Marks	Semester II Marks
Field work Orientation 50	Rural camp 50
Field work Internal 50	Field work Internal 50
Field Work Report 50	Field Work Report 50
Field work viva-voce 50	Field work viva-voce 50
Total 200	Total 200

MSW - II YEAR

Semester III Marks	Semester IV Marks
Field work Orientation 50	Study Tour 50
Field work Internal 50	Field work Internal 50
Field Work Report 50	Field Work Report 50
Field work viva-voce 50	Field work viva-voce 50
Total 200	Total 200

Tutorials includes individual interaction, counselling, group discussion, providing special teaching for weak students etc

Practice includes involving students in research article reviewing, organising -blood donation camp, role play, street play, field work, poster exhibition etc

MSW SEMESTER-I

MSW- CBCS SYLLABUS 2021-22

Semester	I	Total Credit	4
Course Code	CC 101	Credit Pattern	L-45, T-8, P-7
Course Title	HISTORY AND PHILOSOPHY OF SOCIAL WORK		

Course Outcomes: Students will be able to	
1	Describe the concepts of Social Work Education
2	Develop Insight into the history and evolution of Social Work Profession
3	Familiarize the students to the core values and philosophy of social work profession and enable them to imbibe these values into their professional selves.
4	Analyze Social Work Practice Theories, models and perspectives for practice
5	Identify the issues and challenges of Social Work Profession

Syllabus:

Unit Number	Contents	Number of Session	
1	Indian culture and traditional social service, religious roots of charity and philanthropy, History of social reform, social reform movement, contemporary social work, human Rights and NGOs, Role of NGOs in protecting and promoting Human rights.	L=12	
		T=2	P=2
2	Definition and nature of professional social work, value of social work Ethics in social work, Guiding principles for social worker and Role of social worker concept of welfare state.	L=11	
		T=2	P=1
3	Concept and scope of social work Evaluation of social work, social welfare like Child Youth, Women, Aged, social services social reform, social security and objectives of social work.	L=11	
		T=2	P=2
4	Historical Development of social work in India, Ancient, Medieval, and British period, after independence Period, social work in U.K. U.S.A. Elizabeth poor law, Role of private Agencies in social work. Introduction to models of social work.	L=11	
		T=2	P=2

MSW- CBCS SYLLABUS 2021-22

Learning Resources:		
1	Text Book	1. R. Wadia , History & Philosophy of social work India , Allied publication Mumbai 2. D. Paul Chaudary, Introduction to social work, Atmaram and sons Delhi. 3. Gore M.S., Social work and social work education, Asia publication House, Bombay 4. S. D. Mudgal, Social work education today and tomorrow, Book enclave Jaipur
2	Reference books	1. Fink A.E., The field of social work, Hanry holt & Co. NewYork 2. Hajira Kumar, Theories in social work practice, Friends publication new Delhi 3. Rameshwari D. and prakash, Social work Practice, Mangalore publication Jaipur 4. Bradford W. Sheaffer, Techniques & guidelines for social work Practice, Allyn & Bacon Landon
3	Websites	ddceutkal.ac.in.master-social-work https://archive.org https://www.academia.edu https://msw.usc.edu
4	Journals	1. “Perspectives in Social Work”, College of Social Work, Nirmala Niketan , Mumbai.c 2. The Indian Journal of Social Work, Tata Institute of Social Science, Mumbai. 3. “Social Welfare”, Central Social Welfare Board
5	Supplementary Readings	1. Lurie H.L, Encyclopedia o social work Vol 1, 2, 3, National association of social workers Newyork 2. Kendall K. A., Refeliction on social work education, International association of school of social work Network
6	Practical Components	1. To understand the stages in Social Work practice will be given for field work in in NGO’s. 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

MSW- CBCS SYLLABUS 2021-22

COPO MAPPING

MSW-1	History and philosophy of social work									sem 1	CC101
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1		3	2			3					
1.2						3					
1.3	3		2		2		2	2			
1.4				3					2		
Total	3	3	2	3		3	2		2	3	2

MSW- CBCS SYLLABUS 2021-22

Semester	I	Total Credit	4
Course Code	CC 102	Credit Pattern	L-45, T-8, P-7
Course Title	WORK WITH INDIVIDUALS AND FAMILIES		

Course Outcomes: Students will be able to	
1	Describe the concepts of Case Work
2	Apply essential knowledge and skills required for practicing social casework in various settings
3	Develop the capacity to understand and accept the uniqueness of individuals and working
4	Develop the ability to critically analyze problems of individuals and families and factors affecting them
5	Evaluate new trends in Case work

Syllabus:

Unit Number	Contents	Number of Session	
1	Definitions, concept, scope, nature and importance of case work. Historical development of the work with individuals and families. Principles, skills, techniques, philosophical assumptions, values, use of self and self-awareness in professional practice.	L=12	
		T=2	P=2
2	Components of case work (person, problem, place and process), concept of adjustment (individual differences and coping/defense mechanisms). Role of case worker from initial to termination stage (intake, study, diagnosis (assessment), treatment (intervention), follow up, termination and evaluation.	L=11	
		T=2	P=1
3	Case work settings (institutional and non-institutional), family counselling centres, schools, hospitals, correctional institutions, special cell for women and children, de-addiction centre. Case work approaches: Promotive, development and remedial. Recording –Concepts, importance, principles, skills. Types of records- Summary/process. Need for preserving and follow-up records.	L=11	
		T=2	P=2
4	Models/Theories of work with individuals and families: Psychoanalytic behavioural, humanistic, person-centered, cognitive, family therapy. Crisis intervention: Definition, concept, signs and symptoms, causes, types of crisis situations, crisis interview, intervention stages.	L=11	
		T=2	P=2

MSW- CBCS SYLLABUS 2021-22

Learning Resources:		
1	Text Book	1. Eileen Gambrill, "Case Work- A Competency- Based approach," Prentic-Hill, Inc., Englewood Cliffs, New Jersey, 2013. 2. Eileen Gambrill, "Social work Practice- A Critical Thinker's Guide", Oxford University Press, 1997. 3. Armando T. Morales, "Social Work- A Profession of Many Faces", Allyn and Bacon, London, 1998.
2	Reference books	1. Ministry of Welfare, Government of India, "Encyclopaedia of Social Work in India" Volume – 1,2,3, 4. 2. Grace Mathew, "An Introduction to Social Work", Tata Institute of Social Science, Mumbai, 1992. 3. Helen Harris Perlman, "Social Case Work- A Problem- solving process", Rawat Publications, Mumbai, 2011. 4. Neha Arora, "Case Work- concept and Principles", Book Enclave, Jaipur. 5. Gordon Hamilton, "Theory and Practice of Social Case Work", Rawat Publications, Jaipur. 6. R.K. Upadhyay, "Social Case Work- A Therapeutic Approach", Rawat Publications, Jaipur.
3	Websites	www.labourlawagency.com www.irhrjournal.com www.cswb.gov.in
4	Journals	"Perspectives in Social Work", College of Social Work, Nirmala Niketan, Mumbai.c The Indian Journal of Social Work, Tata Institute of Social Science, Mumbai. "Social Welfare", Central Social Welfare Board
5	Supplementary Readings	1. D. Paul Chowdhry, "Introduction to Social Work", Atma Ram & sons, New Delhi, 1992. 2. Sanjay Bhattacharya, "Social Work- An Integrated Approach", Deep & Deep Publications, New Delhi, 2005 3. Hajira Kumar, "Theories in Social Work Practices", Friends Publications, New Delhi, 1995.
6	Practical Components	1. To understand the stages in case work students will be given case work in NGO's. 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

COPO MAPPING

MSW-1	work with individuals and families									sem 1	CC102
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	2		3				2			
1.2						2	2		3	3	3
1.3		2		3	3		3	2			3
1.4		3	2	3	1	3	3				3
Total	3	3	3	3	3	3	3	2	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	I	Total Credit	4
Course Code	CC 103	Credit Pattern	L-45, T-8, P-7
Course Title	WORK WITH GROUPS		

Course Outcomes: Students will be able to	
1	Describe the concepts of Group Work
2	Apply relevant theories, and models to resolve group related issues
3	Analyze the Group Process
4	Apply knowledge about the group formation and use of variety of group approaches
5	Develop Effective team-work and leadership skills.
6	Evaluate and Appreciate the importance of groups in the life of an individual

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction: Group work as method of social work. Definitions of Social group work. Development of Social group work in India and abroad. Characteristics, functions, purpose and objectives of group work. Principles of Group work. Distinction between Case work and group work.	L=12	
		T=2	P=2
2	Concept of group and group formation process, Types of groups-Primary, Secondary Group and their characteristics Recreational, Educational Developmental and therapeutic groups. Group Work Process (Assessing and establishing objectives, diagnosis interventions and helping process treatment in groups.)	L=11	
		T=2	P=1
3	Program planning and development, Problem Solving techniques, Interaction Process Analysis (IPA Model) and Factors affecting interpersonal relationship. Transactional Analysis -basic assumptions, theoretical concepts and types of transactions. Transactional Analysis as a social work treatment method and family therapy.	L=11	
		T=2	P=2
4	Scope of Group work with children, women, youth and aged. Recording, its types, Principles & Importance of recording in group work. Knowledge of Skills and Techniques in social group work for effective work with groups, Essential qualities of group worker.	L=11	
		T=2	P=2

MSW- CBCS SYLLABUS 2021-22

Learning Resources		
1	Text Books	1. Introduction to social welfare: Walter A. Friedlander and Robert Z. Apat, Prentice hall of India Private Limited, New Delhi 2. Group theory for social workers-An introduction: Ken Heap, Pergamon press New York 3. Social group work theory and practice: P.D. Misra and Bina Misra, New Royal book company, Lucknow 4. Group work : helping process ; Gisela Konopka, Prenticehall, Inc Englewood Cliffs, New Jersey USA
2	Reference books	1. Group work : helping process ; Gisela Konopka, Prenticehall, Inc Englewood Cliffs, New Jersey USA 2. Group Dynamics: Shaw, Marlin , Tata McGraw Hill publishing, New Delhi 3. Introduction to Group Work: David Capuzzi, Douglas R. Gross, Mark D Stauffer, Rawat Publications, Jaipur/New Delhi.
3	Websites	en.wikipedia.org/wiki/Social_work_with_groups www.tandfonline.com/toc/wswg20/current
4	Journals	Indian journal of social work. International Journal of social work Social work journal of India
5	Supplementary Reading	Social welfare Magazines / Kurukshetra , Hand book of group work
6	Practical Component	Application of methods and skills of Group work in dealing with children , youth , women and ageds in Social organisations, institute and community.

COPO MAPPING

MSW-1	work with groups									sem 1	CC103
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3			2		3				3	3
1.2		3				3	3		3		
1.3	3	2		3	2					3	3
1.4		3	3				2	3	3		
Total	3	3	3	3	2	3	3	3	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	I	Total Credit	4
Course Code	CC 104	Credit Pattern	L-45, T-8, P-7
Course Title	INDIAN SOCIAL PROBLEMS AND SOCIAL SERVICES		

Course Outcomes: Students will be able to	
1	Describe the concepts of Indian Social Problems and Services
2	Analyze social behavior and determine the effects on society.
3	Apply the knowledge of social work methods for intervention
4	Develop Independent judgment, intercultural and regional Sensitivity global and national perspectives to solve problems.

Syllabus:

Unit Number	Contents	Number of Session	
1	Genesis and nature of various categories of Social Problems Definition of Social deviance and control, social disorganization and social problems, study and analysis of specifics social problems in relation to their nature, causative factors, extent and magnitude	L=12	
		T=2	P=2
2	An overview of major social problems, Juvenile delinquency, Crime, Prostitution, Dowry, AIDS, Beggary-Alcoholism and Drug Addition.	L=11	
		T=2	P=1
3	Problems of vulnerable groups problems of Children Youth, Aged, Physically and mentally handicapped. Role of the Social Worker in identifying the Social Problem and developing strategies for help.	L=11	
		T=2	P=2
4	Nature of social conflict in India, like ethnic, regional, linguistic, caste and communal, Atrocities on scheduled castes and scheduled tribes	L=11	
		T=2	P=2

MSW- CBCS SYLLABUS 2021-22

Learning Resources:		
1	Text Books	1. Ahuja R 1993 Indian Social System-Rawat Publication New Delhi. 2. Akbar M.J. 1988 Riot After Tiot; Reports on caste & Communal Violence in India New Delhi : Penguin Books. 3. Bardhan P. 1984 the Political Economy of Development in India Delhi: Oxford Press. 4. Betelle A. 1966 Caste, Class and Power Bombay: Oxford Uni, Press. 5. Black C.E. 1966 The Dynamics of Modernization: A study in Comparative History New York: Harper & Row. 6. Madan G.R. 1985 Indian Social Problems Vol. I and II Allied Pub. Pvt. Ltd. Bombay.
2	Reference Books	1. Coser I.A. 1956 The functions of Social Conflict Glencoc Illinois; Free Press. 2. Dahrendorf R. 1957 Class & Class ' Conflicts in an Industrialized Society London Routldge &Kengan Paul. 3. DandekarV.M. 1977 Nature of Class Conflict in the Indian Society Bom Bharat Foundation. 4. Das A. &Nilkanth V. (Ed.) 1979Agrarian Relations in India Delhi:Manohar.
3	Website	https://journals.sagpub.com www.ndpublisher.in www.ukessays.com www.open.edu7.sociology
4	Journals	International Journal of Social Science Indian Journal of Social Work
5	Supplementary reading	Encyclopedia in Social Work Vol-I & II Dictionary of Social Work
6	Practical Component	1. Visit to various NGO's 2. Concurrent Field Work 3. Case studies on various social problems 4. Organised Group discussion with problematics 5. Celebrate different days related to Social issues.

MSW- CBCS SYLLABUS 2021-22

COPPO Mapping

MSW-1	Indian social problems and services									sem 1	CC104
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	3	3	3	3						
1.2		3	3		3				3	3	
1.3		3	3	3			2				3
1.4	3	3				2	3	2	2	3	
Total	3	3	3	3	3	2	3	3	3	3	3

CC 105 ORIENTATIONS AND CONCURRENT FIELD WORK

- Introduction
- Field work activities
- Work habits and adjustment to the agency
- Professional Development
- Casework practice
- Group work practice
- Community Organisation Practice
- Social Welfare Administration Practice
- Record writing
- Supervision
- Field work diary recordings, monthly attendance sheets and summary of supervisory conferences
- Field work agencies

INTRODUCTION :

Field Work is a guided interaction process between student and the actual life situation initiated with a view to bring about fuller development of human-environmental potential

Supervised field work is required of all students, because learning by doing is an important aspect of professional education. Field Work is for 15 hours per week. Every student has a field work placement in a social service department/agency or organization where he/she learns to use the social work methods of casework, group work, community organization and social welfare administration

OBJECTIVES OF FIELD WORK :

1. To study and understand the behavior of individuals families, groups and the community under both normal and stress conditions
2. To integrate theory and practice through direct involvement in helping activities
3. To develop appropriate values and attitudes
4. To develop self – awareness and social awareness.

FIELD WORK SUPERVISION:

Every student is placed under the guidance of a field work supervisor who gives the necessary orientation as regards the agency's set-up and the nature of work there. Supervisory process serves to fulfill the service functions of the agency and the educational needs of the student. Weekly supervisory conference is held in order that the student may plan and discuss his/her work with the supervisor and get guidance as regards the day to day activities. Student's field work records serve as tools for learning and teaching besides fulfilling the administrative requirements of the agency. The Supervisor is available at other time also for on the spot guidance and consultation.

FIELD WORK ACTIVITIES:

Field Work tasks and activities are decided according to the personal and situational needs of client and the learning needs of the student. Skills of social work practice are developed as a result of carrying out, in a planned manner, the tasks with reference to the individual family, group and the community and reflecting upon process and results of each task. The student and the supervisor can use the weekly conference for an ongoing evaluation of the former's performance in addition to the other purposes for which the conference is used. The assessment of field work performance covers the following areas:

I. Work habits and adjustment to the agency

1. Punctuality and regularity (as seen in attendance at the agency, keeping appointments, submitting recording, attending supervisory conference etc.)
2. Responsibility (as seen in planning work, discharging duties on time, taking seriously the various aspects of work and in having on overall sense of accountability to the agency)

II. Professional development

3. (a) Assimilation of basic values like consideration of human worth and dignity and the human right to be helped as regards needs.
(b) Use of principles like acceptance, confidentiality, client self-determination and client participation.
(c) Interest in Work
(d) Level of self-awareness, sensitivity and objectivity
(e) Controlled use of the self with awareness of feelings.

III. Casework practice

4. (a) Ability to demonstrate concern for the client and ability to establish rapport
(b) Ability to use various casework techniques consciously
(c) Ability to explore and make use of community resources
5. (a) Ability to collect pertinent information for the study of a case
(b) Ability to identify social and psychological factors and to see the connections among these factors in the causation of the problem/s
6. (a) Ability to make a plan for suitable action
(b) Ability to carry out the plan systematically

IV. Group Work Practice

7. (a) Ability to identify needs of group members and ensure their fulfillment through appropriate group processes
(b) Ability to relate oneself to individuals in a group situation and to the group as an entity
8. (a) Ability to analyse and distinguish different components of the group process: (i) Member Roles (ii) Structure of group (iii) Interaction Patterns (iv) Communication Patterns (v) Conflict resolution (vi) Decision making (vii) Group Climate (viii) Goal Formulation
(b) Ability to identify appropriate roles for oneself in the different components of group processes mentioned above.
9. (a) Ability to assess the level and needs of the group and thus determine intervention strategy of worker
(b) Nature of programme planning skills and ability to mobilize resources
(c) Comments on personal qualities of the worker that enhance or block his/her effectiveness

V. Community Organisation Practice

10. (a) Ability to understand with reference to the field work agency the following (1) Concept of community and community organization (2) The relevance of the agency as a primary or secondary setting
11. (a) Ability to perceive organizations as community resources and to understand them as sub-systems in larger systems
(b) Ability to identify linkages between sub-systems and systems
12. (a) Ability to understand the various strategies used by the agency for change

(b) Ability to identify the model of C.O. used by agency.

VI. Social Welfare Administration Practice

13. (a) Ability to understand human need at the individual, family, group and community level and the range of human needs of the target groups covered by the agency
(b) Ability to understand the range of services offered
(c) Knowledge about legislations, national policies and programmes related to the activities of the agency
14. (a) Knowledge and understanding of the agency structure policies, routines, objectives, committees, boards and authority relationships
(b) Knowledge of basic element of office management, ability to maintain inter and intra agency communication, writing letters, minutes etc.
15. (a) Ability to maintain purposeful relationships with the agency staff at all levels and with fellow-students
(b) Ability to work as a member of a team, ability to organise and plan one's own work and to coordinate it with the goals of the team
(c) Qualities of leadership and initiative, use of administrative skills related to special projects.

VII. Record Writing

16. (a) Ability to use definite, specific, concrete and correct language
(b) Ability to write clearly and to maintain an appropriate level of uniformity and standardization

VIII. Supervision

17. (a) Ability to accept supervision : (Ability to accept the authority of the supervisor, ability to establish purposeful relationship with the supervisor, extent of dependence on the supervisor, ability to discuss situations, relationships, problems, plans etc.)
(b) Ability to accept criticism and make constructive use of supervision and supervisory conferences (whether the students prepares for conferences, tries to apply in practice what he/she has learnt in supervisory conferences, tries to clarify his/her thinking etc.)

CC 106: FIELD WORK REPORT AND VIVA-VOCE

FIELD WORK DIARY, RECORDING, MONTHLY ATTENDANCE SHEETS AND SUMMARY OF SUPERVISORY CONFERENCES

Every student is expected to maintain/prepare the following regularly or at appointed times:

- (a) A diary of activities and account of time spent for each activity. Points from supervisory conferences should also be noted down in the diary.
- (b) Detailed reports of activities (field work records)
- (c) Summary of Supervisory Conferences which has to be submitted to the Field Work coordinator at the end of every month (cyclostyled forms will be provided for this purpose) and
- (d) Monthly field work attendance sheets. Cyclostyled forms are available in the office for this purpose

At the end of every month, field work attendance sheets should be submitted to the field work supervisor so that the letter may forward it to the office, on the First Wednesday of the following month. Those who are under the direct supervision of agency social workers are required to submit the attendance sheets (after it has been duly signed by the supervisor) to the head of the department who is in charge of his/her placement (A Speciman copy is given to you)

The diary and recording should be submitted every week to the supervisor for review and discussion

Leave of Absence from Field Work

Absence from field work should be avoided as far as possible. For valid reasons, however, leave of absence is allowed for 2 days in a semester. If any student is absent for more than two days, all the days of absence (including the first two days) will have to be compensated in accordance with the instructions of the field work supervisor.

Mid-Year Evaluation and Final Evaluation

There will be a mid-year evaluation in early December for assessing the students field work performance during the I semester. The supervisor will write the report after a supervisory conference which will be specially geared to the discussion of work performance. There will be no grading for mid-year evaluation. The purpose of mid-year evaluation conference and report is that the student may get information and awareness of his/her strengths and weaknesses as regards as field work performance of the I semester and plan for better performance in the second semester.

At the end of the academic year, in March, every supervisor will submit to the Institute a written evaluation report on the students field work. Grades will be given by the field work supervisor in consultation with the field work coordinator.

Any student who does not come up to a certain minimum level of performance which is required for passing in field work, may be asked at the discretion of the faculty, either to leave the Institute or put in extra work to improve his/her field work performance.

FIELD WORK PRACTICUM: CONCURRENT FIELD WORK

The main object of concurrent field work is to provide opportunities for applying the knowledge learnt in the class room to real life situation (field reality) to understand and develop effective course of action (learning of intervention methods) according to needs of client system. And evaluate the experiences while working with the individual, groups and communities. Fieldwork enables the student to integrate and reinforce the knowledge and information acquired in the classroom with actual practice, under competent **supervision** by the agency and faculty supervisors. Every student is expected to work for 15 hrs. per week at various organizations or community settings.

FIELD WORK EVALUATION CRITERIA: (Applicable for the all four Semesters)

1) Analytical Ability:

- a. To understand evolution of agency, philosophy, policy and administration programmes.
- b. To identify roles of other departments and personnel in implementation of agency policies & programmes (in secondary settings).
- c. To understand the dynamics of the agency – roles, decision-making process, conflict solving procedures.
- d. To begin to situate agency in context of larger social system.
- e. To understand Profile of client system and causative factors affecting its needs and problems.
- f. To understand social work intervention utilized by agency in response to needs of client system.
- g. To assess one's own tasks in relation to problem situation.

2) Problem Solving Skills:

- a. To assess the problem situation and outlines the plan of action.
- b. To utilize problem solving process beginning with fact finding to evaluation of social work process in relation to needs, problems and aspirations of the client system.
- c. To develop and utilize working relationships with agency, client system and other related system.
- d. To utilise different techniques of problem solving, interviewing, home visits, communication and programme media mobilization of human and material resources.
- e. To utilise problem solving strategies selectively with individuals groups and communities.
- f. To understand the importance work in different administrative procedures – filing – maintaining registers, fund raising staff meetings.
- g. To develop basic skills of management of services, planning, organizing, implementing and evaluation.
- h. To participate in liaison work with other organizations and systems in terms of obtaining sanctions for programmes, interpreting social work intervention and networking on common issues.
- i. To understand the significance of and participates in teamwork in one's discipline as well as in the interdisciplinary team.
- j. To learn to priorities tasks and organize workload.
- k. To understand the importance of recording as a tool for learning and administration.
- l. Learn to record facts selectively and logical-assessment of problem situation, students feelings, reflections and intervention modalities.

3) Personal development:

- a. Appreciation and utilization of principles of social work in respect of persons, social justice, equality, opportunities, acceptance of the client system and its potential.
- b. Work with commitment in the agency in terms of fulfillment of tasks, disciplined use of self (dress, behavior, regularity, self control, awareness of bias and cultural blocks).
- c. Developing positive identification with the profession, conviction of the necessity of social work intervention.

4) Use of field Instructions :

- a. Understanding the significance of field instruction as a tool for professional training.
- b. Accepts the roles of faculty advisor, field instructor and field contact and utilises their expertise in one's own training.
- c. Indicates a gradual movement from a dependence on the instructor to performing ones role and tasks more independently.
- d. Utilises individual and group conferences for professional growth by accepting both the positive and negative remarks of the instructor.
- e. Actively participates in the group conferences and appreciates the participation of others.
- f. Makes efforts to improve performance through self-learning by reading learning from one's experiences and those of others.
- g. Develops ability for self-evaluation on going and periodic.

MSW- CBCS SYLLABUS 2021-22

Semester	I	Total Credit	4
Course Code	DSE 101A	Credit Pattern	L-45, T-8, P-7
Course Title	SOCIOLOGY IN RELATION TO SOCIAL WORK		

Course Outcomes: Students will be able to	
1	Describe the various aspects of Sociology.
2	Apply relevant theories, concepts and models to resolve social issues.
3	Demonstrate how self develops through various process of interaction.
4	Demonstrate how societal and structural factors influence individual behaviour.
5	Know the basic social institutions like family, marriage, kinship in a scientific way.
5	Explain social change and the factors affecting social change.

Syllabus:

Unit Number	Contents	Number of Session	
1	Meaning , scope ad significance of sociology – relationship of sociology with Psychology , Economics, History , Anthropology and Social work	L=12	
		T=2	P=2
2	Meaning and type of social structures: The concept, process and agents of socialization, Importance and roles of social institutions –marriage, family, religion, state and law.	L=11	
		T=2	P=1
3	Tribal, rural and urban society – Role of primary and secondary group in social controls, Types of social mobility's.	L=11	
		T=2	P=2
4	Definition and causes of social change-Theories of social change, Social stratification in India- Significance of a theoretical understanding of society for social work.	L=11	
		T=2	P=2

MSW- CBCS SYLLABUS 2021-22

Learning Resources:		
1	Text Book	1. Srinivas M.N. (1960), Social Change in Modern India, Bombay Allied Publishers 2. Vidyabhushan & Dr. D.R. Sachdeva (1999), An Introduction to sociology, Kitab Mahal, Allahabad 3. M. Harmlambous with R.M. Heald (2000), Sociology theories and prospective, Impression Oxford University Press. 4. K. Kumar (1982), Principles of sociology, Neelam Sales corporation, Agra
2	Reference books	1. S. Guruswamy (1995), Development of sociology, Sterling publishers Pvt, Ltd., Bombay 2. K. Singh (1997), Problems of sociology , Prakashan Kendra Mumbai 3. Ghanshyam Shah (1997), Social transformation In India, Rawat Publications, Jaipur & New Delhi 4. Maclever R.M. & Page C.H., (1985), Sex, Gender and Society, Temple Smith London
3	Websites	www.socialworkhelper.com www.socialjustice.nic.in www.cswb.gov.in
4	Journals	“Perspectives in Social Work”, College of Social Work, Nirmala Niketan , Mumbai.c The Indian Journal of Social Work, Tata Institute of Social Science, Mumbai. “Social Welfare”, Central Social Welfare Board
5	Supplementary Readings	1. Singh Y. (1973) Modernisation of India “Tradition : A Systematic Study of Social Change” Thomson Press Ltd., Delhi 2. Bottomore T.B. (1962), Sociology : A Guide to Professionals & Literatures, George Allen, New York 3. Gore M.S. (1965), Social Work and Social Work Education, Asian Publishing House, Bombay 4. D. Paul Chowdhary (1990), Introduction to Social Work Atma ram & Sons, Delhi.
6	Practical Components	1. To understand the stages in Social Work practice will be given for field work in in NGO’s. 2. Video cases and documentary films relating to the syllabus to be screened in the class.

MSW- CBCS SYLLABUS 2021-22

COPPO Mapping

MSW-1	sociology in relation to social work									sem 1	DSE 101A
CO/PO	p1	P2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	2	2				3		2		
1.2	3		3	3	2	3		3	3		
1.3	3		3	3		3	3	3	3	3	3
1.4	3	3	3	3	2			2		3	3
Total	3	3	3	3	2	3	3	3	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	I	Total Credit	4
Course Code	DSE 101B	Credit Pattern	L-45, T-8, P-7
Course Title	DYNAMICS OF HUMAN BEHAVIOR		

Course Outcomes: Students will be able to	
1	Describe the development of behaviour and its biological characteristics over the life span
2	To introduce students to the basic concepts of the field of psychology with an emphasis on Applications of psychology in everyday life
3	Analyze human behavior on the basis of scientific enquiry and critical thinking
4	Describe the psychological processes behind adaptive and maladaptive human behavior.
5	Recognize the dynamic interactions between human behaviors and social environment.
6	Recognize the ways in which different approaches to understanding human behaviors in social environment.

Syllabus:

Unit Number	Contents	Number of Session	
1	Understanding Human Behaviour: Heredity-concept and mechanisms, Environment-Internal and external. Interplay of Heredity of Environment in shaping human behaviour.	L=12	
		T=2	P=2
2	Human Growth and Behaviour: Stages of human development: Prenatal, Infancy, childhood, adolescence, adulthood and old age	L=11	
		T=2	P=1
3	Psycho-social process: Attitude, prejudices, public opinion, collective behaviour and leadership behaviour. Psychological process: Perception, learning, memory, emotions and motivation.	L=11	
		T=2	P=2
4	Personality: Definition, Characteristics and types of Personality, Adjustment throughout life: concept of adjustment and maladjustment. Factors in adjustment: frustration, conflict coping devices and stress.	L=11	
		T=2	P=2

MSW- CBCS SYLLABUS 2021-22

Resources Learning		
1	Text Book	1. Fernald L. D. and Fernald P. S. 5th Edition, 2012, Introduction to Psychology, AITBS Publishers, India 2. Carson, Butcher, Mineka 2003: Abnormal Psychology and Modern Life, Pearson education, Delhi 3. Kuppaswamy B.1999: An Introduction to social psychology, Media Promoter and publications Pvt Ltd, Mumbai 4. Hurlock E.B. 1978: Child Development , 6th Edition, McGraw Hill Ltd ,International Edition
2	Reference books	1. Newman B.M.1978: Adolescent Development, MerillPub.Co. Colambia 2. Schiamberg L.B. 1985: Human development, Logon MacMillian Pub company 2nd Edition
3	Websites	1. https://ijip.in/ 2. http://www.devpsy.org/ 3. https://www.simplypsychology.org/
4	Journals	1. Journal of Indian Association for Child and Adolescent Mental Health (JIACAM) 2. Indian Journal of Human Development (IJHD)
5	Supplementary Reading	1. Hurlock E.B. 1971: Development Psychology 5th Edition, Tata Macgraw Hill, New Delhi, 2. Morgan and King, 2000: Introduction to Psychology, Tata Macgaw Hill Publication , Delhi
6	Practical Components	1. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 2. Video cases and documentary films relating to the syllabus to be exhibited in the class. 3. Observing behaviour of the different person of various age groups.

COPPO Mapping

MSW-1	Dynamics of Human Behaviour									sem 1	DSE 101B
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3		3	3	2	3	2		3		
1.2	3	3		3			3	2	3		
1.3				3	2		2	3	3	3	3
1.4	3	3	3	3		3	3			2	
Total	3	3	3	3	2	3	3	3	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	I	Total Credit	2
Course Code	AEC 101	Credit Pattern	L-10 T:5 P:15
Course Title	COMPUTER SKILLS		

Course Outcomes:	
1.	Understand basic concepts and computer terminology.
2.	Prepare proper documents
3.	Prepare effective presentation
4.	Analyze any data with the help of spreadsheets.

Syllabus:

Unit Number	Contents	No. of Sessions	
1	MS-Word: Component of MS-Word window, Page-Setup in MS-Word, Formatting the Document, Inserting & Formatting table, Inserting various objects in the document, Mail-Merge Utility, Cursor Control Keys. MS-PowerPoint creation of slides, Applying Animation Effects, Slide Transition Effects, Views In PowerPoint, Use of Text, Images, ClipArt's, Hyperlinks, Video and Audio and Action Buttons In Presentation	L=5	
		T=3	P=8
2	Data Analysis Through Excel and Presentation Techniques. MS-Excel: Features Of Excel, Formatting Work Sheet-Formatting cell, conditional formatting, Lookup Functions, IF, SUM, SUMIF, SUMIFS, COUNT, COUNTIF, COUNTIFS, COUNTBLANK Functions, TEXT Functions, Decision Making Using – Goal Basic Data Analysis – Sorting, Summarizing, Filtering, Validating Data, SPSS: Menu, Creating data file, Defining Variables, Sorting, Splitting File, Selecting Cases, Computing new variables, Recoding variables	L=5	
		T=2	P=7

MSW- CBCS SYLLABUS 2021-22

Learning Resources		
1	Text Books	1. Computer Fundamentals by P. K. Sinha & Priti Sinha, 5th edition, BPB pub. 2. Computer Fundamentals by Balguruswami 3. Microsoft Office 2013 All-In-One For Dummies By Peter Weverka, Wiley India Pvt Ltd, ISBN 10: 812654175X 4. Microsoft Office 2010 Digital Classroom by AGI Creative Team John Wiley & Sons; Pap/Psc edition (1 March 2011) ISBN-10: 0470577770 5. Operating System Concepts: International Student Version By <u>Silberschatz</u> Wiley; Eighth edition (20 April 2009) ISBN-10: 8126520515
2	Reference books	1. Microsoft Office 2010 Bible By <u>John Walkenbach</u> Wiley India Private Limited (28 September 2010) ISBN-10: 8126528397 2. Microsoft Windows Operating System Essentials By <u>Tom Carpenter</u> John Wiley & Sons (9 February 2012) ISBN-10: 1118195523 3. Microsoft Windows Operating System Essentials By <u>Tom Carpenter</u> ISBN: 978-1-118-19552-9 4. Fundamentals Of Computers 5Ed By V. Rajaraman Publisher: Phi Learning Pvt Ltd ISBN 10: 8120340114
3	Websites	https://www.zuaneducation.co www.klientsolutech.com https://www.udemy.com https://koreinfotech.com https://www.homeandlearn.co
4	Journals	0. Compute Journals by Oxford University Press – ISSN: 0010-4620 (print); 1460-2067 (web) 1. Journals in computer Science. 2. Journal of Information Technology, ISSN No .2253-4126 3. Journals in Computer Science - Elsevier
5	Supplementary Reading	0. Various articles 1. Various Magazine on Information Technology
6	Practical Components	0. Total eight practical sessions on MS-Word, MS-Excel and MS-PowerPoint

COPO Mapping

MSW-1	Computer Skills									sem 1	AEC-101
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	3	2	3	2	3					
1.2	3			3		3	3	2	2	1	3
1.3		3								3	3
1.4		2		3	3		3			3	3
1.5	3	2	3			3				3	3
Total	3	3	3	3	3	3	3	2	2	3	3

MSW SEMESTER-II

MSW- CBCS SYLLABUS 2021-22

Semester	II	Total Credit	4
Course Code	CC 201	Credit Pattern	L-45, T-08, P-07
Course Title	COMMUNITY ORGANIZATION AND SOCIAL ACTION		

Course Outcomes: Students will be able to	
1	Describe the concepts of Community Organization and Social Action
2	Demonstrate skills to identify communities, assess their needs and plan appropriate community interventions.
3	Demonstrate skills in community mapping, recognizing complexities and identify groups to work with
4	Show ability to reflect and contextualize various types of community interventions
5	Develop an insight into different perspectives in relation to community organization and use them in their work

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Historical Growth of Community Social Work in India – Concept, definition and principles of community organization	L=12	
		T=2	P=2
2	Community Development Programmes and Panchayat Raj – Community Organisation and Human Rights, Various approaches of Community Organisation; locality development, Social Planning, Gandhian approach	L=11	
		T=2	P=1
3	Concept, Definition and Principles of Social Action – The significance of life style approach in Social Action	L=11	
		T=2	P=2
4	Social Action across the India – Role of Social Worker in social action. Use of media and public opinion building in Social Action – Social Action and Social Movement.	L=11	
		T=2	P=2

MSW- CBCS SYLLABUS 2021-22

Learning Resources		
1	Text Books	1. Khinduka S.K. & Coughlan, Bernald (1965), Social Work In India, Kitab Mahal, New Delhi 2. Divekar V.D. (1991), Social Reform Movements in India A Historical Prospective, Popular Prakashan, Mumbai 3. Gore, M.S. (1993), The Social Context of Ideology, Ambedkars Social & Political Thoughts, Sage Publication, New Delhi
2	Reference books	1. G.R. Madan (2002), Indian Social Problems Vol. I & II, Allied Publishers, New Delhi 2. Somesh Kumar (2002), Methods for Community Participation : A Complete Guide for Practitioners, Sage Publication, New Delhi 3. Rothman Jack, Erlich John & Tropman John (1987), Strategies of Community Intervention for Community organization, Peacock Publishers, London
3	Websites	www.socialjustice.nic.in www.egyankosh.ac.in www.cswb.gov.in
4	Journals	1. India journal of Social Work, TISS, Mumbai. 2. Social Welfare, Govt. of India. 3. Samajkalyan, Govt. of India. 4. Social Action : A Quarterly review of social trends and social action, trust, Delhi
5	Supplementary Reading	1. NCAS (2010), Fearless Minds : Right based approach to organising advocacy, National Centre for advocacy, Pune 2. Srivasta S.K. (1988), Social Movements for Development , Chug Publications, Allahabad 3. Siddique H.Y. (1984), Social Work and Social Action, Harmony Publications, New Delhi 4. Vohra Gautam (1990), Alerting Structures : Innovative Experiments at the grassroots 5. Vettival, Surendra (1992), Community Participation : Empowering the poorest, Role of NGO's, Vetri Publishers, New Delhi
6	Practical Component	Visit to NGO's for understanding actual functioning and implementation of welfare schemes.

MSW- CBCS SYLLABUS 2021-22

COPO Mapping

MSW-1	Community Organization and Social Action									Sem -2	CC201
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	3									
1.2			2	3	2	3			2	2	
1.3	2	3	2	3	3				2	2	3
1.4	3	2	2						3		3
Total	3	3	2	3	3	3			2	2	3

MSW- CBCS SYLLABUS 2021-22

Semester	II	Total Credit	4
Course Code	CC 202	Credit Pattern	L-45, T-8, P-7
Course Title	SOCIAL WELFARE ADMINISTRATION		

Course Outcomes: Students will be able to	
1	Describe the concepts of Social Welfare Administration and the relevant theories of Administration
2	Develop Administrative and Managerial skills
3	Apply relevant theories, concepts and models to resolve administrative issues.
4	Develop Effective team-work and leadership skills.
5	Develop insight into social welfare administration as a profession

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Definition, scope, Principles of Social Welfare Administration. Distinction between Public administration and Social welfare administration. Role of volunteers in social welfare	L= 12	
		T= 2	P= 2
2	Definition of Corporate Governance and its principles. Functions of Management – POSDCORB. State Social Welfare Advisory Board : Composition and Functions of the Board. CSWB Central Social Welfare Board and Its Composition and functions/programmes on social welfare.	L= 11	
		T= 2	P= 1
3	Introduction, Definitions of Social Welfare organization. Ingredients of an organization: Role of local bodies and NGO's in social welfare (Rural, Urban & Tribal areas. Registration of an NGO Under the Societies Registration Act, 1961, The Trust Act, 1882, The Companies Act, 2013. Advantages of registration.	L=11	
		T=2	P=2
4	Management of Social Welfare Organizations: Constituents of social welfare organization – General body, Managing/Executive committee: Responsibilities and functions of board members. Committees: Types of Committees, Principles of effective committees. Financial Administration: Financial sources – Grant in aid. Budgeting: meaning, purpose, method and sources. Guiding principles of budget.	L= 11	
		T=2	P=2

Learning Resources

MSW- CBCS SYLLABUS 2021-22

1	Text Books	1. D. Paul Chowdhry (1992), Social Welfare Administration, Atma Ram and Sons, Delhi. 2. S. M. Jha. (2002). Social Marketing, Himalaya Publishing House, Bangalore.
2	Reference books	1. S. L. Goel (2003) Public Administration: Theory and Practice, Deep and Deep Publications Pvt. Ltd. New Delhi. 2. Sameer Dehpande, Nancy R. Lee (2013), Social Marketing in India, Sage Publications, New Delhi.
3	Websites	www.socialjustice.nic.in www.egyankosh.ac.in www.cswb.gov.in
4	Journals	India journal of Social Work, TISS, Mumbai. Social Welfare, Govt. of India. Samajkalyan, Govt. of India.
5	Supplementary Reading	Encyclopedia of Social Work.
6	Practical Component	Visit to NGO's for understanding actual functioning and implementation of welfare schemes.

COPO Mapping

MSW- CBCS SYLLABUS 2021-22

MSW-1	Social Welfare Administration									sem 2	CC202
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	2			2						
1.2		3			2				3		3
1.3	3			3		2				3	
1.4		2	3			3			3	2	
Total	3	2	3	3	2	3	2	3	3	3	3

Semester	II	Total Credit	4
Course Code	CC 203	Credit Pattern	L-45, T-8, P-7

MSW- CBCS SYLLABUS 2021-22

Course Title	SOCIAL WORK RESEARCH

Course Outcomes: Students will be able to	
1	Describe the concepts of Research
2	Develop attitude and aptitude in basic research process
3	Develop analytical skills within the field of social work research.
4	Demonstrate ability to conduct research in social work
5	Identify researchable area/topic in social work
6	Develop skills of data collection, organization, presentation, analysis and report writing.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Scientific method; its characteristics and purpose, Steps in scientific method, Scientific method and social work research.	L= 12	
		T= 2	P= 2
2	Formulation of research problem: Concepts, operationalization of concepts, variables, Hypotheses - types and functions, and test; attributes of a sound hypothesis.	L=11	
		T= 2	P= 1
3	Research Design: Meaning, Need of Research Design, Features of Good Design, Concepts Relating to Research Design, Types of Research Designs, and Comparison between Different Designs. Sources of Data: Primary and Secondary Sources, Official Sources and Data from Agencies. Selection of Appropriate Method, Tools: Interview Schedules, Questionnaires, Observation and Interview method.	L=11	
		T= 2	P= 2
4	Sampling: Introduction, terms and terminologies, Advantages of sampling. Methods of Sampling: Probability Sampling and Non-probability Sampling methods. Determination of sample size: factors to be considered. Research proposal and Report writing: Functions of research proposal, its Ingredients, proposals for funded research, Purpose of research report, its contents, Characteristics of a good report	L=11	
		T= 2	P= 2

MSW- CBCS SYLLABUS 2021-22

Learning Resources		
1	Text Books	1. Kothari C.R. and Gurav Garg (2014): Research Methodology: Methods and Techniques, New Age International Publishers, New Delhi 2. Laladas D. K. (2000), “Practice of Social Work Research”, Rawat Publications, Jaipur, New Delhi 3. Allen R. and Earl B, “Research Methods for Social Work” Second Edition, Brooks Cole Publishing Company, Pacific Grove, California
2	Reference books	1. Laldas D. K.(2005), “Designs of Social Research”, Rawat Publications, New Delhi 2. Goode W. J. and Hatt P.K., “ Methods in Social Research”, McGraw Hill, New York 3. Kaplan A., “The Conduct of Inquiry, Methodology for Behavioural Science”, Chander Publishing Company, California 4. Lakatos I., “The Methodology of Scientific Research Programme (Vol.I)”, Cambridge University Press Cambridge 5. Thyer A. B., “The Handbook of Social Work Research Methods”, Sage Publications Inc., International Educational and Professional Publishers, New Delhi, 2000 6. Lawrence Neuman W (2007): Social Research Methods: Qualitative and Quantitative Approaches, Pearson Education, New Delhi 7. Nicholas Walliman (2005) Your Research Project, Vistaar Publications
3	Websites	http://uk.sagepub.com/en-gb/eur/understanding-social-work-research/book235928 https://sk.sagepub.com/books/social-work-research-in-practice
4	Journals	https://www.jstor.org/journal/jsoc_isociworkres https://www.journals.uchicago.edu/toc/jsswr/current
5	Supplementary Reading	Kerliner F. R., “Foundations of Behavioural Research”, Sujreet Publications, New Delhi
6	Practical Component	Practical sessions on social work research during rural camp.

MSW- CBCS SYLLABUS 2021-22

COPO Mapping

MSW-1	Social Work Research									sem 2	CC203
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	3							3		2
1.2			3				3		3	3	3
1.3	3		3		3		2	3	3		3
1.4		3			3		3		3	3	3
Total	3	3	3		3		3	3	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	II	Total Credit	4
Course Code	CC 204	Credit Pattern	L-45, T-8,P-7
Course Title	SOCIAL POLICY, PLANNING & DEVELOPMENT		

Course Outcomes: Students will be able to	
1	Describe the concepts of Social Policy, Planning and Development.
2	Apply relevant theories, concepts and models to resolve social issues.
3	Identify social welfare policy and how it impacts clients' needs and services
4	Apply critical thinking skills throughout the process of policy evaluation and development
5	Demonstrate the understanding of how to advocate for social and economic justice for diverse client populations.
6	demonstrate the ability to apply research to inform policy development and evaluation

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Concept, Meaning and importance of policy, social policy: definition, characteristics, scope, process, Distinction between Social Policy and Economic Policy, Important Concepts: Welfare State re-distribution, democracy and accountability.	L= 12	
		T=2	P=2
2	Social Development Planning: Concept of social development planning, scope of social planning, Linkage between social policy and planning, social development as a process of change, Role of Social Worker in policy formulation and planning.	L= 11	
		T=2	P=1
3	Social Policy In India: 1. Sources of Policy, Indian Constitution-Fundamental rights and Directive Principles of state 2. Policy Formulation Process: NitiAayog (Planning Commission), Role of International Organisations (UN, WTO, World Bank etc.)	L= 11	
		T=2	P=2
4	Strategies of Social Development: Rural, Urban and Tribal Development : Concept, Problems & Programmes Socio-Legal Provision for Special groups: 1. Rights of the disadvantaged and the constitution 2. Provisions for Women 3. Provisions for Persons with disability 4. Provisions for children 5. CSR 6. Legal Aid and Govt. Initiatives	L= 11	
		T=2	P=2

Resources Learning		
1	Text Book	1. Gore M.S. (1985): Social aspects of development, Rawat Publication, Jaipur 2. Gokhale S.D (1974): Social welfare legend and Legacy, Popular Prakashan, Mumbai 3. Datta-Sundarm (2003): Indian Economy, Popular Prakashan,

MSW- CBCS SYLLABUS 2021-22

		Mumbai 4. Sharma P. N. and Shastri. C : Social planning concepts and techniques, Print House, Lucknow
2	Reference books	1. Titmus R. M. (1974): Social Policy, An Introduction, George Allen and Unwin, London 2. Reheman. M (2006): Rural development and Rural workers, Commonwealth Pub, Delhi. 3. Patil B.R. (1978): The economics of Social Work in India, Somaiya, Mumbai 4. Academic Foundation (2005) : India's Five year plans, Books and CD.
3	Websites	1. http://guide2socialwork.com/social-policy-in-india/ 2. http://www.unrisd.org/unrisd/website/document.nsf/(httpPublications)/7EE221555523155DC1256C77003CFAED?OpenDocument 3. https://link.springer.com/content/pdf/10.1057/9780230523975_13.pdf
4	Journals	1. The Journal of Social Welfare and Management 2. Indian Journal of Public Administration
5	Supplementary Reading	1. Pathak S. (1981): Social Welfare An Evolutionary and development perspective, MacMilan India, Delhi 2. Kulkarni P.D.(1979):Social policy and Social Development in India, Asso of school of SW inIndia
6	Practical Components	1. Preparing the policy planning and development plan for Gram Panchayat / Local Bodies. 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

COPO Mapping

MSW-1	Social Policy Planning and Development					sem 2	CC204

MSW- CBCS SYLLABUS 2021-22

CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3				2		3				
1.2	3				2	3			3	3	
1.3		3	2		2	3	3		2	3	3
1.4	3		3	3	3	3	2		3	3	3
Total	3	3	3	2	2	3	2	3	3	3	3

CC 205 RURAL CAMPAND CONCURRENT FIELD WORK

- Introduction
- Field work activities
- Work habits and adjustment to the agency
- Professional Development
- Casework practice
- Group work practice
- Community Organisation Practice
- Social Welfare Administration Practice
- Record writing
- Supervision
- Field work diary recordings, monthly attendance sheets and summary of supervisory conferences
- Field work agencies

INTRODUCTION :

Field Work is a guided interaction process between student and the actual life situation initiated with a view to bring about fuller development of human-environmental potential

Supervised field work is required of all students, because learning by doing is an important aspect of professional education. Field Work is for 15 hours per week. Every student has a field work placement in a social service department/agency or organization where he/she learns to use the social work methods of casework, group work, community organization and social welfare administration

OBJECTIVES OF FIELD WORK :

1. To study and understand the behavior of individuals families, groups and the community under both normal and stress conditions
2. To integrate theory and practice through direct involvement in helping activities
3. To develop appropriate values and attitudes
4. To develop self – awareness and social awareness.

FIELD WORK SUPERVISION:

Every student is placed under the guidance of a field work supervisor who gives the necessary orientation as regards the agency's set-up and the nature of work there. Supervisory process serves to fulfill the service functions of the agency and the educational needs of the student. Weekly supervisory conference is held in order that the student may plan and discuss his/her work with the supervisor and get guidance as regards the day to day activities. Student's field work records serve as tools for learning and teaching besides fulfilling the administrative requirements of the agency. The Supervisor is available at other time also for on the spot guidance and consultation.

FIELD WORK ACTIVITIES:

Field Work tasks and activities are decided according to the personal and situational needs of client and the learning needs of the student. Skills of social work practice are developed as a result of carrying out, in a planned manner, the tasks with reference to the individual family, group and the community and reflecting upon process and results of each task. The student and the supervisor can use the weekly conference for an ongoing evaluation of the former's performance in addition to the other purposes for which the conference is used. The assessment of field work performance covers the following areas:

IV. Work habits and adjustment to the agency

5. Punctuality and regularity (as seen in attendance at the agency, keeping appointments, submitting recording, attending supervisory conference etc.)
6. Responsibility (as seen in planning work, discharging duties on time, taking seriously the various aspects of work and in having on overall sense of accountability to the agency)

V. Professional development

7. (a) Assimilation of basic values like consideration of human worth and dignity and the human right to be helped as regards needs.
(b) Use of principles like acceptance, confidentiality, client self-determination and client participation.
(c) Interest in Work
(d) Level of self-awareness, sensitivity and objectivity
(e) Controlled use of the self with awareness of feelings.

VI. Casework practice

8. (a) Ability to demonstrate concern for the client and ability to establish rapport
(b) Ability to use various casework techniques consciously
(c) Ability to explore and make use of community resources
5. (a) Ability to collect pertinent information for the study of a case
(b) Ability to identify social and psychological factors and to see the connections among these factors in the causation of the problem/s
6. (a) Ability to make a plan for suitable action
(b) Ability to carry out the plan systematically

IV. Group Work Practice

7. (a) Ability to identify needs of group members and ensure their fulfillment through appropriate group processes
(b) Ability to relate oneself to individuals in a group situation and to the group as an entity
8. (a) Ability to analyse and distinguish different components of the group process: (i) Member Roles (ii) Structure of group (iii) Interaction Patterns (iv) Communication Patterns (v) Conflict resolution (vi) Decision making (vii) Group Climate (viii) Goal Formulation
(b) Ability to identify appropriate roles for oneself in the different components of group processes mentioned above.
9. (a) Ability to assess the level and needs of the group and thus determine intervention strategy of worker
(b) Nature of programme planning skills and ability to mobilize resources
(c) Comments on personal qualities of the worker that enhance or block his/her effectiveness

V. Community Organisation Practice

10. (a) Ability to understand with reference to the field work agency the following (1) Concept of community and community organization (2) The relevance of the agency as a primary or secondary setting
11. (a) Ability to perceive organizations as community resources and to understand them as sub-systems in larger systems
(b) Ability to identify linkages between sub-systems and systems
12. (a) Ability to understand the various strategies used by the agency for change
(b) Ability to identify the model of C.O. used by agency.

VI. Social Welfare Administration Practice

13. (a) Ability to understand human need at the individual, family, group and community level and the range of human needs of the target groups covered by the agency
(b) Ability to understand the range of services offered
(c) Knowledge about legislations, national policies and programmes related to the activities of the agency
14. (a) Knowledge and understanding of the agency structure policies, routines, objectives, committees, boards and authority relationships
(b) Knowledge of basic element of office management, ability to maintain inter and intra agency communication, writing letters, minutes etc.
15. (a) Ability to maintain purposeful relationships with the agency staff at all levels and with fellow-students
(b) Ability to work as a member of a team, ability to organise and plan one's own work and to coordinate it with the goals of the team
(c) Qualities of leadership and initiative, use of administrative skills related to special projects.

VII. Record Writing

16. (a) Ability to use definite, specific, concrete and correct language
(b) Ability to write clearly and to maintain an appropriate level of uniformity and standardization

VIII. Supervision

17. (a) Ability to accept supervision : (Ability to accept the authority of the supervisor, ability to establish purposeful relationship with the supervisor, extent of dependence on the supervisor, ability to discuss situations, relationships, problems, plans etc.)
(b) Ability to accept criticism and make constructive use of supervision and supervisory conferences (whether the students prepares for conferences, tries to apply in practice what he/she has learnt in supervisory conferences, tries to clarify his/her thinking etc.)

CC 206: FIELD WORK REPORT AND VIVA-VOCE

FIELD WORK DIARY, RECORDING, MONTHLY ATTENDANCE SHEETS AND SUMMARY OF SUPERVISORY CONFERENCES

Every student is expected to maintain/prepare the following regularly or at appointed times:

- (a) A diary of activities and account of time spent for each activity. Points from supervisory conferences should also be noted down in the diary.
- (b) Detailed reports of activities (field work records)
- (c) Summary of Supervisory Conferences which has to be submitted to the Field Work coordinator at the end of every month (cyclostyled forms will be provided for this purpose) and
- (d) Monthly field work attendance sheets. Cyclostyled forms are available in the office for this purpose

At the end of every month, field work attendance sheets should be submitted to the field work supervisor so that the letter may forward it to the office, on the First Wednesday of the following month. Those who are under the direct supervision of agency social workers are required to submit the attendance sheets (after it has been duly signed by the supervisor) to the head of the department who is in charge of his/her placement (A Speciman copy is given to you)

The diary and recording should be submitted every week to the supervisor for review and discussion

Leave of Absence from Field Work

Absence from field work should be avoided as far as possible. For valid reasons, however, leave of absence is allowed for 2 days in a semester. If any student is absent for more than two days, all the days of absence (including the first two days) will have to be compensated in accordance with the instructions of the field work supervisor.

Mid-Year Evaluation and Final Evaluation

There will be a mid-year evaluation in early December for assessing the students field work performance during the I semester. The supervisor will write the report after a supervisory conference which will be specially geared to the discussion of work performance. There will be no grading for mid-year evaluation. The purpose of mid-year evaluation conference and report is that the student may get information and awareness of his/her strengths and weaknesses as regards as field work performance of the I semester and plan for better performance in the second semester.

At the end of the academic year, in March, every supervisor will submit to the Institute a written evaluation report on the students field work. Grades will be given by the field work supervisor in consultation with the field work coordinator.

Any student who does not come up to a certain minimum level of performance which is required for passing in field work, may be asked at the discretion of the faculty, either to leave the Institute or put in extra work to improve his/her field work performance.

FIELD WORK PRACTICUM: CONCURRENT FIELD WORK

The main object of concurrent field work is to provide opportunities for applying the knowledge learnt in the class room to real life situation (field reality) to understand and develop effective course of action (learning of intervention methods) according to needs of client system. And evaluate the experiences while working with the individual, groups and communities. Fieldwork enables the student to integrate and reinforce the knowledge and information acquired in the classroom with actual practice, under competent **supervision** by the agency and faculty supervisors. Every student is expected to work for 15 hrs. per week at various organizations or community settings.

FIELD WORK EVALUATION CRITERIA: (Applicable for the all four Semesters)

1) Analytical Ability:

- h. To understand evolution of agency, philosophy, policy and administration programmes.
- i. To identify roles of other departments and personnel in implementation of agency policies & programmes (in secondary settings).
- j. To understand the dynamics of the agency – roles, decision-making process, conflict solving procedures.
- k. To begin to situate agency in context of larger social system.
- l. To understand Profile of client system and causative factors affecting its needs and problems.
- m. To understand social work intervention utilized by agency in response to needs of client system.
- n. To assess one's own tasks in relation to problem situation.

2) Problem Solving Skills:

- m. To assess the problem situation and outlines the plan of action.
- n. To utilize problem solving process beginning with fact finding to evaluation of social work process in relation to needs, problems and aspirations of the client system.
- o. To develop and utilize working relationships with agency, client system and other related system.
- p. To utilise different techniques of problem solving, interviewing, home visits, communication and programme media mobilization of human and material resources.
- q. To utilise problem solving strategies selectively with individuals groups and communities.
- r. To understand the importance work in different administrative procedures – filing – maintaining registers, fund raising staff meetings.
- s. To develop basic skills of management of services, planning, organizing, implementing and evaluation.
- t. To participate in liaison work with other organizations and systems in terms of obtaining sanctions for programmes, interpreting social work intervention and networking on common issues.
- u. To understand the significance of and participates in teamwork in one's discipline as well as in the interdisciplinary team.
- v. To learn to priorities tasks and organize workload.
- w. To understand the importance of recording as a tool for learning and administration.
- x. Learn to record facts selectively and logical-assessment of problem situation, students feelings, reflections and intervention modalities.

3) Personal development:

- d. Appreciation and utilization of principles of social work in respect of persons, social justice, equality, opportunities, acceptance of the client system and its potential.
- e. Work with commitment in the agency in terms of fulfillment of tasks, disciplined use of self (dress, behavior, regularity, self control, awareness of bias and cultural blocks).
- f. Developing positive identification with the profession, conviction of the necessity of social work intervention.

4) Use of field Instructions:

- h. Understanding the significance of field instruction as a tool for professional training.
- i. Accepts the roles of faculty advisor, field instructor and field contact and utilises their expertise in one's own training.
- j. Indicates a gradual movement from a dependence on the instructor to performing ones role and tasks more independently.
- k. Utilises individual and group conferences for professional growth by accepting both the positive and negative remarks of the instructor.
- l. Actively participates in the group conferences and appreciates the participation of others.
- m. Makes efforts to improve performance through self-learning by reading learning from one's experiences and those of others.

- n. Develops ability for self-evaluation on going and periodic.

MSW- CBCS SYLLABUS 2021-22

Semester	II	Total Credit	4
Course Code	DSE 201A	Credit Pattern	L-45, T-8, P-7
Course Title	ECONOMICS IN RELATION TO SOCIAL WORK		

Course Outcomes: Students will be able to	
1	Describe various core economic terms, concepts, and theories relevant to social work
2	Demonstrate the ability to employ the “economic way of thinking.
3	Recognize the role of ethical values in economic decisions.
4	Apply economic theories and concepts to contemporary social issues, as well as formulation and analysis of policy.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to economics, Some elementary concepts in economics, micro and macroeconomics distinction, Nature of theories and laws in economics, Central problems of a society, Economics and social work. Elementary theories of consumption and distribution, Marginal utility approach, Indifference curve approach, Law of demand and its limitations, Supply, Law of supply, Factors affecting supply, Elasticity of demand and supply.	L= 12	
		T= 2	P= 2
2	Indian Economic Environment: Meaning of underdevelopment, Basic characteristics of India as a developing economy, Socio-economic problems-Poverty, Unemployment, and urbanization, Planning in India-Objectives of Planning, achievements and failures.	L= 11	
		T= 2	P= 1
3	Agriculture and Industry: Features and importance, Low productivity of agriculture and government measures, Indian industries-Role and importance.	L= 11	
		T= 2	P= 2
4	Human resources and economic development, Theory of Demographic transition, Size, growth of population in India-sex and age composition, Density of population-Quality of population-National population policy-Human development Index. Occupational pattern and economic development, workforce participation rate in India-Occupational pattern-trends and analysis in pre and post-independence period	L= 11	
		T= 2	P= 2

MSW- CBCS SYLLABUS 2021-22

Learning Resources		
1	Text Books	1. Ruddar Datt & Sundaram K.P.M., Indian Economy, S.Chand & Co., Publications, New Delhi, 2013 2. Agrawal, A. N., Indian Economy, Vikas Publishing house, New Delhi, 2010 3. Ahuja, H.L., Advanced Economic Theory, S. Chand & Co., Publications, New Delhi, 2009.
2	Reference books	1. Jhingan, M.L., Micro Economics, Concept publications, New Delhi, 2009 2. Samuelson, P.A., Economics: An Introductory Analysis, McGraw Hill Book Co. Inc., New York, 2005 3. World Development Reports (2005-2018). 4. Human Development Reports, UNDP(2005-2018)
3	Websites	www.india.gov.in (Government of India) www.undp.org.in (United Nations Development Programme) www.nird.org.in (National Institute of Rural Development, Hyderabad)
4	Journals	1. International Journal of social and economic Research. 2. Health and Social work. 3. The Indian Economic Journal.
5	Supplementary Reading	1. Janakarajan S, Indian Economy in Transition: Essays in Honor of C.T. Kurien, Sage Publications India Pvt., Ltd, Delhi, 2015 2. Satyanarayana, G., Indian Economy towards Inclusive Growth, New Century Publications, Delhi, 2013.
6	Practical Component	1. Visit to few consumers and make a list of factors affecting their demand 2. Compute the HDI for selected village

MSW- CBCS SYLLABUS 2021-22

COPO Mapping

MSW-1	Economics in Relation to Social work									sem 2	DSE-201 A
CO.PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3		2						3	2	
1.2	3	2	3		2		2		2		
1.3					3						3
1.4					3		3	3	2	3	2
Total	3	2	3		3		3	3	2	2	3

MSW- CBCS SYLLABUS 2021-22

Semester	II	Total Credit	4
Course Code	DSE 201B	Credit Pattern	L-45, T-8, P-7
Course Title	SOCIAL WORK PRACTICE IN THE FIELD OF HEALTH		

Course Outcomes: Students will be able to

1	Describe concepts of health
2	Develop an understanding of the healthcare system in India, health policies and legislative provisions relating to health.
3	Develop an understanding of the existing programs and services at local, national and international levels.
4	help them develop skills in program planning and education for different target groups about the handling of health problems
5	Develop a critical understanding and appreciation of the role of social worker in the emerging health sector in the country and the challenges involved.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Health: Concept Of Health, Definition Of Health, New Philosophy Of Health, Dimensions Of Health, Changing Perspective Of Care, Indigenous Health System, Health Status In India.	L= 12	
		T=2	P=2
2	National Health Policy And Programmes: National Tuberculosis Control Programme (NTCP), National Nutritional Programme (NNP), National AIDS Control Programme, National Family Welfare Programme, National Immunization Programme(EPI & UPI), National Cancer Control Programme, National Mental Health Programme(NMHP	L= 11	
		T=2	P=1
3	Hospital Social Work: Application Of Social Work Methods, Skills And Techniques In Health Set-Up, Role Of Social Work In Prevention And Control Of Health Problems. Health Services In Hospitals, Work With Patients (Individual, Family, Group And Community); Team Work Approach; Discharge Plan And Rehabilitation; Programmes,	L=11	
		T=2	P=2
4	Community Health Care: Concept Of Community Health And Health Care, Health Care Systems, Levels Of Health Care, Health Hazards And Common Community Health Problems, Health Care, Health Care Systems, Role Of Social Work In Community Health And Community Mental Health. School Health Services : Concept And Definition Of School Health , Health Status Of School School Children , Objectives Of School Health Services, School Health Problems, Aspects Of School Health Services, School Health Programmes. Health	L= 11	
		T=2	P=2

MSW- CBCS SYLLABUS 2021-22

	Education.		

Learning Resources		
1	Text Books	1. John J. Hulon : Principles of Public Health Administration 2. Text Book of Preventive & Social medicine M.B. Bhanot Pub. Jabalapur, 1990 Park J.E. & Park K 3. Sunital Roy : A Hand Book of Preventive & Social medicine 4. SunderlalAdarsh, Pankaj 'Text Book of Community Medicine (Preventive & social medicine) 5. M.C. Gupta & B.K. Mahajan : Textbook of preventiveand social Medicine. 6. Dr B. S. Nagaraj : Community Medicine without Tears: Mysore printing and publishing house ,Mysore 7. Medical Social Work by KEM Hospital &Sheth G.S. Medical College Mannul.
2	Reference books	1. S.R.Mehta(1992) : Society and Health A Sociological Perspective Vikas Publishing House New Delhi. 2. MalavikaKapur : Mental Health In Indian Schools. 3. :A Text book For The Health Worker (ANM) Volume II 4. O.P.Ghai/ A.M ChalkleyPiyush Gupta (2000): Essential Preventive & Social Medicine
3	Websites	au.ask.com/Public health journalslist/Search no more www.teoma.co.uk/Free public healthjournals/Search no more www.answersite.com/Public healthjournals www.teoma.co.uk
4	Journals	Public health journals , Destinations: Bombai, New Delhi ,
5	Supplementary Reading	Dr B. S. Nagaraj : Community Medicine without Tears: Mysore printing and publishing house ,Mysore
6	Practical Component	Apply Social work techniques and skills in hospital setups.

MSW- CBCS SYLLABUS 2021-22

COPO Mapping

MSW-1	Social Work Practice in the Field of Health									sem 2	DSE-201B
CO.PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	3		3		3					
1.2					3		2	3			3
1.3	3	3		3		3		3	3	3	3
1.4	3	3	3	3		3	2		2	2	3
Total	3	3	3	3	2	3	2	3	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	II	Total Credit	3
Course Code	AEC 201	Credit Pattern	L-35, T-5, P-5
Course Title	STATISTICS		

Course Outcomes: Students will be able to	
1	Describe the concepts of statistics
2	Apply the statistical functions and graphical techniques.
3	Learn probability concepts and rules - Identify components of probability - Assess probabilities and apply probability formulas
4	Apply numerical techniques for describing and summarizing data - Identify, compute, and interpret descriptive statistical summary measures
5	Apply methodologies underlying data collection, its analysis , interpretations of data and testing the hypothesis

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Definition, Uses and Limitation of Statistics, importance of statistics in social research. Measurement and levels of measurement Classification and tabulation of data, diagrammatic representation	L= 7	
		T= 1	P= 1
2	Measures of Central tendency: Mean Median and Mode Advantages and disadvantages of each. Impact of levels of measurement on averages.	L= 7	
		T= 1	P= 1
3	Measures of dispersion: Range, Mean Deviation, Standard Deviation Quartile Deviation, Coefficient of Variation. Absolute and relative measures of dispersion.	L=7	
		T=1	P=1
4	Correlation: Scatter diagram, Karl Pearson's correlation coefficient, its properties, Rank correlation coefficient. Regression: linear regression, two lines of regression	L= 7	
		T= 1	P= 1
5	Testing of hypothesis: Need of testing, Introductory concepts of testing, the logic of testing, Tests based on Z, t and chi-square.	L= 7	
		T= 1	P= 1

MSW- CBCS SYLLABUS 2021-22

Learning Resources		
1	Text Books	1. Gupta S. P. (2008). Statistical Methods, New Delhi, Sultan Chand & Sons. 2. Shenoy G V and Pant M. (1994). Statistical Methods in Business and Social Sciences, , New Delhi, MacMillan India Ltd 3. Medhi J (2006) Statistical Methods, New Delhi, Wiley Eastern Ltd.
2	Reference books	1. Frank H. and Althoen S C (1994) Statistics Concepts and Applications, Cambridge University Press. 2. Spiegel M R and Stephens L J (1999) Statistics, Singapore, Mc Graw Hill. 3. Boslaugh S and Watters P A(2008) Statistics in a nutshell, Navi Mumbai, O'REILLY 4. Pal N and Sarkar S (2005) Statistics Concepts and Applications, New Delhi, PHI 5. Nadar E N (2011) Statistics, New Delhi, PHI.
3	Websites	1. https://www.khanacademy.org/math/statistics-probability 2. https://www.mathsisfun.com/data/index.html 3. https://socialresearchmethods.net
4	Journals	1. Indian Journal of Social Work 2. Perspectives in Social Work (These Journals will help students understand how statistics is applied in social work research)
5	Supplementary Reading	1. The Use and Misuse of Statistics in Social Work, Kate Holladay Claghorn, <i>Publications of the American Statistical Association</i>, Vol. 11, No. 82 (Jun., 1908), pp. 150-167(Available in JSTOR under NLIST-INFLIBNET)
6	Practical Component	Practice problems specified in Moodle

MSW- CBCS SYLLABUS 2021-22

COPO Mapping

MSW-1	Statistics									sem 2	AEC-201
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3		3		2						
1.2			3		3		3		3	3	3
1.3	3		3		3				3	3	3
1.4	3		3		3		3		3	3	3
Total	3	3	3		3		3		3	3	3

MSW-GROUP A SEMESTER-III

MSW- CBCS SYLLABUS 2021-22

Semester	III	Total Credit	3
Course Code	HR CC 301	Credit Pattern	L-35 T-5 P-5
Course Title	LABOUR WELFARE - I		

Course Outcomes: Students will be able to	
1	Describe the various aspects of Labour Welfare
2	Develop a clear sense of Industrial Relations Problems there of like co-operation & conflict.
3	Understand the causes of Industrial disputes & collective Bargaining
4	Identify the role of healthy Labor Participation through committees for Industrial development
5	Build Modern procedure & Disciplining Procedure & Action.

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Concepts, Definition, Objectives and scope of labour welfare. Theories and principles of labour welfare. Labour welfare and welfare state: Concept of welfare state, labour policy. Labour welfare objectives. Changing concept of labour: Commodity, machinery concept, goodwill concept and goodwill concept.	L= 7	
		T=1	P=1
2	Labour Welfare in India: Main stages of growth of labour welfare in India. Welfare of special categories of labour: Children, casual, manual, migrant, agricultural, contract labour.	L= 7	
		T=1	P=1
4	Industrial Hygiene and occupational Diseases: Industrial health and hygiene: personal hygiene, hygiene education and occupational health services. Health problems of employees, occupational diseases- lead, phosphorous g, mercury poisoning etc. Their treatment and prevention. Voluntary and statutory welfare services: Education, training and lectures for employees and their families: Lectures on health, small saving, self- employment training, scholarships, recreation activities, transport services, industrial housing facilities and credit co-operative and consumer co-operative societies	L= 7	
		T=1	P= 1
		T=1	P= 1

MSW- CBCS SYLLABUS 2021-22

Resources Learning		
1	Text Book	1. Ratna Sen ,”Industrial Relations, “ Trinity Press, Chennai,2014. 2. P.Subba Rao, “Personnel and Human Resource Management”, Himalaya Publishing House, New Delhi,2013. 3. K. Aswathappa, “Organizational Behaviour”, Himalaya Publishing House, New Delhi,
2	Reference books	1. C.B. Mamoria, Satish Mamoria, S.V.Gankar, ”Dynamics of Industrial Relations”, Himalaya Publishing House, New Delhi, 2012 2. A.M. Sarma, “Aspects of Labour Welfare and Social Security”, 12th Edition, Himalaya Publishing House, New Delhi, 2018. 3. S.D.Punekar, S.B. Deodhar, Mrs. Saraswathi Sankarn, “Labour Welfare, Trade Unionism and Industrial Relations, Revised Edition, 2007. 4. B.D.Rawat, “Labour welfarism in India, Problems & Prospects,” RBSA Publishers SMS Highway, Jayapur, 1988. 5. Meenakshi Gupta, “ Labour Welfare and Social Security in Unorganized Sectors”, Deep & Deep Publications Pvt. Ltd., New Delhi, 2007. 6. M. Velusamy, “Labour Welfare-Legislation & Social Security”, Dominant Publishers & Distributers Pvt. Ltd., New Delhi, 2014.
3	Websites	www.labourlawagency.com www.irhrjournal.com
4	Journals	1. The Indian Journal of Industrial Relations. 2. Aps Labour Digest
5	Supplementary Reading	1. R.S.Kulkarni, “ Management of Labour(Practice & Procedures)” ,Kulkarni Publications Pune, 2002. 2. T.N Bhagoliwala,” Economics of Labour & Industrial Relations”, Sahitya Bhawan, Agra. 3. M. Velusamy, “ Labour Welfare –Legislation & Social Security”, Dominant Publishers & Distributors Pvt. Ltd, New Delhi, 2014.
6	Practical Components	1. Survey to be conduct for knowing the statutory and non-statutory welfare facilities provided by the employer. 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

MSW- CBCS SYLLABUS 2021-22

COPPO Mapping

MSW-II	Labour Welfare-1									sem 3	HR CC301
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3		3								
1.2	3	3	3					1		2	3
1.3	3	3		3		3	3		3		3
1.4	3	3		3		2					
Total	3	3	3	3		3	3	1	3	2	3

MSW- CBCS SYLLABUS 2021-22

Semester	III	Total Credit	3
Course Code	HR CC 302	Credit Pattern	L-35, T-5, P-5
Course Title	HUMAN RESOURCE MANAGEMENT		

Course Outcomes: Students will be able to	
1	Integrate perspective on role of HRM in modern business.
2	Plan human resources and implement techniques of job design
3	Develop Competency to recruit, train, and appraise the performance of employees
4	Plan Rational design of compensation and salary administration
5	handle employee issues and evaluate the new trends in HRM

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Foundations of Human Resource Management: Concept ,Importance, Aim and concerns of HRM., Development of HRM. Human resource policies; Environmental factors affecting HRM,Strategic HRM, Role of H R practioner,HRIS in organizations. International HRM.	L= 7	
		T= 1	P= 1
2	Employee Resourcing: Job Analysis,HR Planning,Recruitment, selection process, Induction ,Transfer and Promotion.	L= 7	
		T= 1	P= 1
3	Reward system and Pay plans: ,Elements of reward management, Factors affecting pay levels. Job evaluation:Purpose, features and Methodology . Pay structure:Purpose,basis of pay structure.Benefits and Services.	L=7	
		T=1	P=1
4	Human Resource Development: Concept,Philosophy Nature,Objectives ,Need and Importance of Human Resource Development,HRD strategy and HRD systems..Evaluation and measuring of HRD; HRD Audit; Trends of HRD in India Appraisal and Development: Performance appraisal: Uses, Process and Methods of performance appraisal.Training and Developoment:Steps to Training and Development.Components of Management training, Benefits of employee training.H R Audit,Competency mapping , Balanced Scorecard .organizational Learning: Concept and Significance. Knowledge Management. and,Talent Management	L= 7	
		T= 1	P= 1

MSW- CBCS SYLLABUS 2021-22

Learning Resources		
1	Text Books	1. Armstrong Michael -A Handbook of Human Resource Management practice,Kegan Paul Ltd,London. 2. Ashwathappa, Human Resource and Personnel Management,Tata MacGraw Hill,New Delhi 3. Basotia G R,Human Resource Management,Mangal Deep Publications,Jaipur. 4. Sharma A M,Personnel and Human Resource Management,Himalaya publishing House,Mumbai.
2	Reference books	1. Decenzo D A and Robbins S Resource Management- P.6th edition,John Wiley & Sons,Inc,New york. 2. Gary Desslar ,Human Resource Management,Prentice Hall of India Pvt Ltd,New Delhi 3. William B W & Davies,Human Resources and Personnel Management, Tata McGraw Hill publishing companyLtd New Delhi,1993. 4. Adams, Chris and Kennerley, Mike and Neely, Andrew, The Performance Prism: The Scorecard for Measuring and Managing Business Success, London: Financial Times Prentice Hall, 2002. 5. Kaplan, Robert S. and Norton, David P. The StrategyFocused Organization: How Balanced Scorecard Companies Thrive in the New Business SEnvironment, Boston: Harvard Business Press, 2000. 6. Houston, D.M. Work-life balance in the 21st century Publisher:Palgrave Macmillan, 7. Seema Sanghi ,The Handbook of Competency Mapping ,Understanding, Designing and Implementing Competency Models in Organizations,THIRD EDITION.
3	Websites	https://www.questia.com/library/economics-and-business/business/management/human-resource-management http://www.hrmguide.net/ http://www.whatishumanresource.com/hrm-text-books
4	Journals	South Asian Journal of Human Resource Management http://www.sciencepublishinggroup.com/j/jhrm https://www.journals.elsevier.com/human-resource-management-review
5	Supplementary Reading	Rao T V. Readings in Human Resource Development,Oxford andIBH Publishing Co.Ltd,New Delhi,1991.
6	Practical Component	Field work Two days in a week

MSW- CBCS SYLLABUS 2021-22

COPO Mapping

MSW-II	Human Resource Management									sem 3	HRCC302
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	3	3			3					
1.2		3	3	3			3	2	3	3	3
1.3			3		3		2		3	3	3
1.4	3	3	3	3		3	3	3	3	3	3
Total	3	3	3	3	3	2	3	2	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	III	Total Credit	3
Course Code	HRCC 303	Credit Pattern	L-35, T-05, P-05
Course Title	LABOUR LEGISLATIONS – I		

Course Outcomes: Students will be able to	
1	Describe the concepts of Management
2	Apply relevant theories, concepts and models to resolve organizational issues.
3	Learn the salient features of welfare and wage Legislations also to integrate the knowledge of Labor Law in General HRD Practice.
4	Apply the laws relating to Industrial Relations, Social Security and Working conditions to take appropriate decisions

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to labour laws. Historical development, principles and classifications of labour laws	L= 7	
		T= 1	P= 1
2	Labour Legislation on Industrial Relations 1.The Industrial Disputes Act,1947 2.The Industrial Employment(standing Orders) Act1946	L= 7	
		T= 1	P= 1
3	Labour Legislation on Industrial Relations 3.The Trade Unions Act,1926 4.The Bombay Industrial Relations Act1946 Labour Legislation on Industrial Relations 5.Maharashtra Recognition of Trade Union and Prevention of Unfair Labour Practice Act,1971	L=7	
		T=1	P=1
4	Labour legislation on working conditions 6.The Factories Act,1948(with rules) 7.The contract Labour(regulation and abolition) Act,1970 8.The Bombay shops and establishment Act, 1948 9.The child labour(prohibition and regulation)Act,1986	L= 7	
		T= 1	P= 1

MSW- CBCS SYLLABUS 2021-22

Learning Resources		
1	Text Books	1. Hand book of Industrial law:N.D.Kapoor,Sultan Chand and sons,New Delhi 2. Labour and industrial laws: P.K.Padhi, PHI Learning Private Limited,New Delhi 3. Industrial Relations and Labour Laws:S.C Srivastva ,Vikas publishers New Delhi 4. Labour Laws in brief:A.K.Sinha ,Excel Books publisher,New Delhi
2	Reference books	1. Labour legisartion : Sudeshna Singh and Praveen Kumar.Publisher-Vayu Education of India, 2. New DelhiIndustrial relations,Trade Unions and Labour legislation:P.R.N.Sinha Publisher Pearson Education ,New Delhi 3. Labour legislation: P Saravanel,Publisher-Eswar Press NewDelhi
3	Websites	www.comply4hrs.com https://labour.gov.in www.clrindia.com
4	Journals	Indian Journal of Industrial Relations Indian labour journal Labour digest
5	Supplementary Reading	Industrial Jurisprudence and labour legislation:A.M.Sarma, Himalaya Publishing House,Newdelhi
6	Practical Component	Field work in Industrial setting

MSW- CBCS SYLLABUS 2021-22

COPPO Mapping

MSW-- II	Labour Legislations-1									sem 3	HR CC303
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3										
1.2	3	3	2		3	3			3	3	3
1.3	3	3			3	3			3	3	3
1.4	3	3	2		3	3			3	3	3
Total	3	3	2		3	3			3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	III	Total Credit	3
Course Code	HR CC 304	Credit Pattern	L-35, T-5, P-5
Course Title	COUNSELLING THEORY AND PRACTICE		

Course Outcomes: Students will be able to	
1	Discuss the use of counseling techniques in human services practice, addressing questions of ethical practice
2	Describe basic principles of psychodynamic, cognitive-behavioral and humanistic-existential theories
3	demonstrate beginning counselling skills
4	Reflect upon and evaluate the importance of self-awareness, their own values and beginning skill development.
5	Understand Theories and models of counseling

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Counselling: Concept, Difference Between Counselling And Guidance Definition, Principles, Assumptions, Objectives, Stages And Scope Of Counselling In Various Set Up.	L= 7	
		T= 1	P= 1
2	Types Of Counselling: Educational, Vocational, Personal, Social, Marriage And Family Counselling, Counselling For Counselling In Health, Industrial And Social Organization /Set Up. Crises Counselling For Special Population Like Children, Youths And Women.	L= 7	
		T= 1	P= 1
3	Approaches To Counselling: Directive, Non-Directive, Group And Eclectic. Models And Dimensions Of Counselling. Modern Trends Of Counselling . Theories Of Counselling: Carl Rogers's Theory, Sigmund Freud Theory, REBT, Eric Berne's TA Theory. Stages Of Counselling: Egan's Model (Beginning, Middle, Endings), Role And Responsibilities Of Counsellor, Skills And Techniques Of Counseling; Counsellor Use Of Self,	L=7	
		T=1	P=1
4	Counselling Centers: Guidelines To Set Counselling Centre, Family Counselling Centers, Child Guidance Clinic And De-Addiction Centre And Rehabilitation Centre. Its Functions, Importance And Limitations.	L= 7	
		T= 1	P= 1

MSW- CBCS SYLLABUS 2021-22

Learning Resources		
1	Text Books	1. Dave Mearas and Brian Thorne: Person centered counselling in Action published by Sage Publication .2000. 2. Ramnath Sharma & Rachana Sharma: Guidance and Counselling in India, published by Atlantic Pub, Delhi 2004. 3. Bharki n Mukupadhya: Counselling and Guidance
2	Reference books	1. K.S Lakshmi: Encyclopedia of Guidance and Counselling, published A Mittal Pub, Vol.1,2,3,4. 2005. 2. Mishra R.S.: Guidance and Counselling, Vol.1&2 published by APH Publication Corporation, New Delhi, 2004. 3. Ramesh Chandra: Psychology, Counselling and Therapeutic Practices, published by Isha Books, Delhi 2004. 4. Robert L. Gibson & Mariaune H. Mitchell: Introduction to Counselling and Guidance, published by Pearson Education, Delhi 2005. 5. Tara Chand Sharma: Modern Methods of Guidance and Counselling, published by Swarup and Sons, New Delhi, 2002.
3	Websites	1. www.directhit.com/ 2. http://www.griffenmill.com/design15_counselling_website_design 3. https://counsellingtutor.com/basic-counselling-skills/
4	Journals	1. British Journal of guidance and counselling 2. Indian Journal of social work
5	Supplementary Reading	1. Steve Cooper: A comprehensive handbook for counselling, published by Infinity Books, New Delhi, 2005. Case studies
6	Practical Component	Apply their counselling skills at home and workplace. Start up their own Counselling and guidance Centres

MSW- CBCS SYLLABUS 2021-22

COPO Mapping

MSW-II	Counselling Theory and Practice									sem 3	HRCC304
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3					3			3		
1.2		3	3	3	3	3	3	3	2		3
1.3	3	3		2			3		3		3
1.4		3	3	3			3	3			3
Total	3	3	3	3	3	3	3	3	3	3	3

HR CC 305 ORIENTATION AND CONCURRENT FIELD WORK

INTRODUCTION :

- a) History and Development of the Organization.
- b) Plant Layout, Manufacturing Process and various of Products.
- c) Organizational Structure and Chart.
- d) Working of Time Office:
 1. Attendance reporting system.
 2. Shifts and hours of work.
 3. Muster Roll
 4. Leave Records and Registers.
 5. Salary and Wage Register.
 6. Weekly Off and paid holidays.
 7. Study of Returns required to be filed under various Legislations.
 8. Attendance system
 9. Measures to Control of Absenteeism.

LABOUR WELFARE : SEMESTER – III

1. Working conditions: Study in the light of provisions of the factories Act of 1948 (Working hours, Temperature, Health, Safety etc.)
2. Statutory and Non-Statutory Welfare Measures, Various Committees.
Canteen Committee, Safety Committee, Sports Committee, Creche, Co-operative Credit and Consumer Societies and their administration.
3. Safety and Health:
Industrial Safety, Health, Hygiene, Occupational diseases and hazards. Preventive and curative programme, safety committee.
4. Accidents, Nature, extent, causes, First Aid, Medicine, Accident Report.
5. Plant Layout and House Keeping.
6. Factory Inspection and Reports / Returns, Maintenance of various registers under statutory provisions like, P.F. cut register, E.S.I. register, Factory Inspection register, Govt. Labour Officer Register, Accident Report Register etc.
7. Fire prevention and protection, Fire fighting and prevention, Training of employees to handle fire prevention equipments.
8. Industrial Social Work, Implementation of various social activities for employees and their family's wellbeing.

INDUSTRIAL RELATIONS : SEMESTER-III

Types of I.R. : Formal, Informal and Mixed

1. Industrial Disputes – Types, Number and Causes, Settlement machinery – Joint Management Council, Works Committee, Conciliation, Arbitration and adjudication. (Quote Cases).
2. Manifestation of Industrial Conflict – Strikes – Legal, illegal, Rights to Strike and Prevention of Strike, Lock Out, Gheraos and other Non-Co-operative tactics, Legal provisions and restrictions.
3. Grievances, Machinery for Grievance redressal, Grievance Procedure.
4. Study of Settlement / The Award and Reward.
5. Standing Orders / Model/ Certified.
6. Discipline Maintenance.
7. Procedure of Disciplinary Actions.
8. Misconducts.

9. Principle of Natural justice.
10. Show Cause Notice, Charge sheet.
11. Domestic inquiry proceedings, Findings.
12. Punishment / Action.
13. Supervision – Nature and types.
14. Employer – employee relations.
15. Employer – Trade Unions relations.
16. Process of Collective bargaining

HUMAN RESOURCE MANAGEMENT – SEMESTER – III

1. Internal Organization of Personnel Department, Status and Role.
2. Line and Staff functions and relations.
3. HR Policies.
4. Human Resource Planning in organizations.
5. Recruitment, Advertisement, Notification of Vacancies to employment exchange, Other sources of recruitment, Recruitment Policies.
6. Selection Process.
7. Placement and Induction Process.
8. Transfer, Promotion and Demotion Policies.
9. Separation, discharge, dismissal, Lay off and retrenchment.
10. Leave and Holidays and their administration.
11. Study of Absenteeism and Labour Turnover – extent, rate, causes and effects.
12. Study of Problematic employees and role of Industrial Social Work.
13. Reward System and Pay Plan – Wage and Salary Reward Management System, Dearness and other allowances, Monetary Benefits, Production Incentives and Bonus, Managerial Reward System.
14. Counseling in Organizations.
15. Human Resource Information System.
16. Working on Small Projects to identify problems and solutions.

Study of Wage Agreements / Awards. The scales of increments.

Wage / Salary in relation with -

- a) Capacity of the employer to pay
- b) Industry-cum-Region principle.

Present wage levels and the minimum wages, fair wages and living wages.

LABOUR LEGISLATION - SEMESTER – III :

Study of the following Acts and Rules made hereunder in their application to the organization.

- a) The Factories Act, 1948.
 - b) The Industrial Dispute Act, 1947.
 - c) The Industrial employment (Standing Orders) Act 1946.
 - d) Bombay Industrial Relations Act 1946
 - e) The Contract Labour (regulation & Abolition) Act, 1970.
 - f) The Bombay Shops and Establishment Act, 1948.
 - g) The trade Unions Act, 1926.
 - h) Maharashtra Recognition of Trade Unions and Prevention of Unfair Labour Practice Act, 1971.
- Prepare a note on one or two case studies based on the legal issue decided at High Court or Supreme Court (Refer Labour Law Journals).

HR CC 306: FIELD WORK REPORT AND VIVA-VOCE

FIELD WORK DIARY, RECORDING, MONTHLY ATTENDANCE SHEETS AND SUMMARY OF SUPERVISORY CONFERENCES

Every student is expected to maintain/prepare the following regularly or at appointed times:

- (e) A diary of activities and account of time spent for each activity. Points from supervisory conferences should also be noted down in the diary.
- (f) Detailed reports of activities (field work records)
- (g) Summary of Supervisory Conferences which has to be submitted to the Field Work coordinator at the end of every month (cyclostyled forms will be provided for this purpose) and
- (h) Monthly field work attendance sheets. Cyclostyled forms are available in the office for this purpose

At the end of every month, field work attendance sheets should be submitted to the field work supervisor so that the letter may forward it to the office, on the First Wednesday of the following month. Those who are under the direct supervision of agency social workers are required to submit the attendance sheets (after it has been duly signed by the supervisor) to the head of the department who is in charge of his/her placement (A Speciman copy is given to you)

The diary and recording should be submitted every week to the supervisor for review and discussion

Leave of Absence from Field Work

Absence from field work should be avoided as far as possible. For valid reasons, however, leave of absence is allowed for 2 days in a semester. If any student is absent for more than two days, all the days of absence (including the first two days) will have to be compensated in accordance with the instructions of the field work supervisor.

Mid-Year Evaluation and Final Evaluation

There will be a mid-year evaluation in early December for assessing the students field work performance during the I semester. The supervisor will write the report after a supervisory conference which will be specially geared to the discussion of work performance. There will be no grading for mid-year evaluation. The purpose of mid-year evaluation conference and report is that the student may get information and awareness of his/her strengths and weaknesses as regards as field work performance of the I semester and plan for better performance in the second semester.

At the end of the academic year, in March, every supervisor will submit to the Institute a written evaluation report on the students field work. Grades will be given by the field work supervisor in consultation with the field work coordinator.

Any student who does not come up to a certain minimum level of performance which is required for passing in field work, may be asked at the discretion of the faculty, either to leave the Institute or put in extra work to improve his/her field work performance.

FIELD WORK PRACTICUM: CONCURRENT FIELD WORK

The main object of concurrent field work is to provide opportunities for applying the knowledge learnt in the class room to real life situation (field reality) to understand and develop effective course of action (learning of intervention methods) according to needs of client system. And evaluate the experiences while working with the individual, groups and communities. Fieldwork enables the student to integrate and reinforce the knowledge and information acquired in the classroom with actual practice, under competent **supervision** by the agency and faculty supervisors. Every student is expected to work for 15 hrs. per week at various organizations or community settings.

FIELD WORK EVALUATION CRITERIA: (Applicable for the all four Semesters)

1) Analytical Ability:

- a. To understand evolution of agency, philosophy, policy and administration programmes.
- b. To identify roles of other departments and personnel in implementation of agency policies & programmes (in secondary settings).
- c. To understand the dynamics of the agency – roles, decision-making process, conflict solving procedures.
- d. To begin to situate agency in context of larger social system.
- e. To understand Profile of client system and causative factors affecting its needs and problems.
- f. To understand social work intervention utilized by agency in response to needs of client system.
- g. To assess one's own tasks in relation to problem situation.

2) Problem Solving Skills:

- a. To assess the problem situation and outlines the plan of action.
- b. To utilize problem solving process beginning with fact finding to evaluation of social work process in relation to needs, problems and aspirations of the client system.
- c. To develop and utilize working relationships with agency, client system and other related system.
- d. To utilise different techniques of problem solving, interviewing, home visits, communication and programme media mobilization of human and material resources.
- e. To utilise problem solving strategies selectively with individuals groups and communities.
- f. To understand the importance work in different administrative procedures – filing – maintaining registers, fund raising staff meetings.
- g. To develop basic skills of management of services, planning, organizing, implementing and evaluation.
- h. To participate in liaison work with other organizations and systems in terms of obtaining sanctions for programmes, interpreting social work intervention and networking on common issues.
- i. To understand the significance of and participates in teamwork in one's discipline as well as in the interdisciplinary team.
- j. To learn to priorities tasks and organize workload.
- k. To understand the importance of recording as a tool for learning and administration.
- l. Learn to record facts selectively and logical-assessment of problem situation, students feelings, reflections and intervention modalities.

3) Personal development:

- a. Appreciation and utilization of principles of social work in respect of persons, social justice, equality, opportunities, acceptance of the client system and its potential.
- b. Work with commitment in the agency in terms of fulfillment of tasks, disciplined use of self (dress, behavior, regularity, self control, awareness of bias and cultural blocks).
- c. Developing positive identification with the profession, conviction of the necessity of social work intervention.

4) Use of field Instructions :

- a. Understanding the significance of field instruction as a tool for professional training.
- b. Accepts the roles of faculty advisor, field instructor and field contact and utilises their expertise in one's own training.
- c. Indicates a gradual movement from a dependence on the instructor to performing ones role and tasks more independently.
- d. Utilises individual and group conferences for professional growth by accepting both the positive and negative remarks of the instructor.
- e. Actively participates in the group conferences and appreciates the participation of others.
- f. Makes efforts to improve performance through self-learning by reading learning from one's experiences and those of others.

MSW- CBCS SYLLABUS 2021-22

g. Develops ability for self-evaluation on going and periodic.

Semester	III	Total Credit	3
Course Code	HR DSE 301A	Credit Pattern	L-35, T-5, P-5
Course Title	LABOUR ECONOMICS		

Course Outcomes: Students will be able to	
1	Describe the various aspects of Labour Economics
2	Develop critical thinking to carry out investigation about various socio-economic issues objectively while bridging the gap between theory and practice.
3	Apply relevant theories, concepts and models to resolve issues related to labour economics.
4	Evaluate the aspects associated with socio-economics issues and its impact on social development
5	Create awareness to develop a rational and an enlightened citizens.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Labour Economics: Concept, Nature, Scope and Significance, Characteristics of Labour, Nature of labour problems in Developing Economies	L= 7	
		T= 1	P= 1
2	Labour Force in India, Population and Labour force, Social and Economic Characteristics of Industrial labour in India, Efficiency of labour, Migratory nature, Absenteeism, Labour turnover.	L= 7	
		T= 1	P= 1
3	Market for Labour, Concept of Supply of Labour, Factors affecting Supply of Labour, Demand for Labour, Factors influencing demand for Labour, Wage Differentials, Wage Policy in India, Labour Policy in India and Five year plans. Employment Theories: Classical and Keynesian, Types and causes of unemployment, Unemployment and Govt. measures w.r.t. India	L= 7	
		T= 1	P= 1
4	Concept of productivity: Total Productivity, Average Productivity and Marginal Productivity, Value and Physical Productivity, Linking wages and Bonus with Productivity. Economic reforms and Labour: Introduction of Economic reforms, Globalisation and Major events for workers-Competitiveness, technological change, changing work organization and flexibility, Globalisation policies-Impact on labour.	L= 7	
		T= 1	P= 1

MSW- CBCS SYLLABUS 2021-22

Learning Resources		
1	Text Books	Bhagoliwal T.N., Labour and Industrial Relations, Sahithya Bhvavn, Agra, 2000 Thagi B. P., Labour Economics and Social Welfare, Jaiparkash Nath, New Delhi 2005 Gupta P.K., Labour Economics, Vrinda Publications Pvt. Ltd., Delhi, 2012
2	Reference books	Reynolds L. G., Labour Economics and Labour relations, Prentice Hall of India, New Delhi, 2002 Sandrina Cazes and Sher Verick(2013): Perspectives on Labour Kaufman Bruce E and Hotchkiss Julie L (2009): Labour Market Economics, Cengage Learning, New Delhi Borjas, George J., Labor Economics, 2ed, Irwin McGraw Hill, Boston, USA, 1999 Butler, Arthur D, Labour Economics and Institutions, Amerind Publishing Co, 1961 Chauhan, M.S., Labor Economics: Issues and Policies, Global Publications, Delhi, 2011 Joshi, M.V, Labor Economics and Labour Problems, Atlantic Publishers and Distributors (p) Ltd., 2014 Chadda, Ravi, Labour Economics, Sumit Entreprises, New Delhi, 2011 Economics for Development, International Labour Office, Geneva
3	Websites	www.ilo.org www.labour.nic.in www.vvgnli.org www.milc.co.in www.isleijle.org www.ihindia.org www.iza.org
4	Journals	Indian Journal Of Labor Economics Indian Society for Labor Economics The Economics And Labor Relation Review International Journal of Research and Analytical Reviews
5	Supplementary Reading	Economic Survey, Government of India,(Various Issues) India Development Report, IGIDR, Mumbai,(Various Issues)
6	Practical Component	To Visit a Local Industrial Unit and Identify the Problems of Labour. To Visit local industrial Unit and measure Total, Average and marginal Productivity of Labour.

MSW- CBCS SYLLABUS 2021-22

COPO Mapping

MSW-II	Labour Economics									sem 3	HRDSE301A
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3								3		
1.2		3	3	3		3		3	3	3	3
1.3	3	3	3		3	3		3	3	3	3
1.4	3				3	3		3	3	3	3
Total	3	3	3	3	3	3		3	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	III	Total Credit	3
Course Code	HR DSE 301B	Credit Pattern	L-35,T-5, P-5
Course Title	TRADE UNIONS		

Course Outcomes: Students will be able to	
1	Describe the concepts Trade Union
2	Analyze the process, functions Trade Union
3	Promote dialogue between all the partners involved in union education to improve the coordination of activities.
4	Develop union education networks for knowledge sharing, capacity building and influencing social and economic policies

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Labour movement: Concepts of labour movement, birth of labour problems. New industrialization. Theories of labour (trade union) movement, growth of Indian labour movement. Important characteristics of labour movement in U.K., U.S.A., and U.S.S.R.	L=7	
		T=1	P=1
2	Organization of Labour: Concept and history of trade unionism. Development of trade unionism in India. Types of trade union.	L=7	
		T=1	P=1
3	Role and Functions of trade unions: Union role in job security, wage determination, labour welfare, productivity participation, economic development and industrial relations, trade unions and policies, trade unions and law.	L=7	
		T=1	P=1
4	Structure and Government: Union structure at national, state and local level. Central labour organizations, state level organizations and local. Problems of union, membership. Union reorganization methods: Closed shop/union shop, membership verification, check –off, secret ballot, code of discipline. Union Finance: Source of union finance- membership fee, sale of periodicals, interest on deposits and miscellaneous. Pattern of expenditure. Budgeting and financial accounts. Problem and Perspective: problem of organizing and sustain union. Social responsibility of Indian trade unions. Problem of white collar unions, organizations of agriculture and rural labour, unorganized labour	L=7	
		T=1	P=1

MSW- CBCS SYLLABUS 2021-22

Learning Resources		
1	Text Book	1. Ratna Sen ,”Industrial Relations, “ Trinity Press, Chennai,2014. 2. P.Subba Rao, “Personnel and Human Resource Management”, Himalaya Publishing House, New Delhi,2013. 3. K. Aswathappa, “Organizational Behaviour”, Himalaya Publishing House, New Delhi,
2	Reference books	1. G.P.Sinha, P.R.N. Sinha, Industrial Relations and Labour Legislation”, Oxford & IBH Publishing co.,Clautta.1977. 2. V.M. Karnik,” Indian Trade Unions –A Survey” Bombay Popular Prakashan,1978. 3. S.D.Punekar, S.B. Deodhar, Mrs. Saraswathi Sankarn, “Labour Welfare, Trade Unionism and Industrial Relations, Revised Edition, 2007. 4. R.C.Saxena, S.R.Saxena, “Labour Problems and Social Welfare”, Prakashan Kendra, Lucknow, 1990. 5. A.M. Sarma, “Industrial Relations”, Himalaya Publishing House, Pune,2012 6. S.K.Puri, “ Labour and Industrial Law”, Allahabad Law Agency, Faridabad,2002.
3	Websites	www.labourlawagency.com www.irhrjournal.com www.iupindia.in
4	Journals	1. The Indian Journal of Industrial Relations. 2. Aps Labour Digest
5	Supplementary Reading	1. R.S.Kulkarni, “ Management of Labour(Practice & Procedures)”,Kulkarni Publications Pune, 2002. 2. T.N Bhagoliwala,” Economics of Labour & Industrial Relations”, Sahitya Bhawan, Agra. 3. M. Velusamy, “ Labour Welfare –Legislation & Social Security”, Dominant Publishers & Distributors Pvt. Ltd, New Delhi, 2014.
6	Practical Components	1. Discussion will be arrange with trade union leader to know their role & function in negotiation. 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

MSW- CBCS SYLLABUS 2021-22

COPPO Mapping

MSW-II	Trade Unions									sem 3	HRDSE301B
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3		3								
1.2	3	3	3			2			3	3	
1.3		3	3	3			3	3	3	3	3
1.4		3	3		2			3	3	3	3
Total	3	3	3	3	2	2	3	3	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	III	Total Credit	2/ 30 Hours
Course Code	AEC301	Credit Pattern	L-20, T-5, P-5
Course Title	PROJECT PLANNING AND IMPLEMENTATION SKILLS		

Course Outcomes: Students will be able to

1	Develop research and communication Skills.
2	Formulate and Develop Project Proposal and enhance managerial skills.

Syllabus:

Unit Number	Contents	Number of Session	
1	Project Proposal: Project-Definition and Components of Project, Planning Proposal, Steps in Project Formulation. Develop Communication strategy Design: Implementing the communication programme, Communication for Monitoring and evaluation of Project.	L=10	
		T=2	P=3
2	Management, Administration and Implementation skills of Project: Planning for Recruitment, Selection, Placement, Induction and Training and Development: Training and Performance appraisal system. Mass media (TV spot, radio spot and newspaper; Online campaign) Social media (Face book, twitter, Whats App etc)	L=10	
		T=3	P=2

Resources Learning

1	Text Book	1. Jain, N.K. (2006). Handbook for NGO's: An Encyclopedia for Non Government Organisation and Voluntary Agencies Incorporating Project Proposal and Implementation, Funding, Nabhi publication 2. Bardach, E. Pateshvik, E.M. (2012). A Practical Guide for

		Policy Analysis. Sage Publication 3. Planning, Monitoring and Evaluation: Methods and Tools for Poverty and Inequality Reduction Programs. The World Bank. Washington, http://siteresources.worldbank.org/EXTPOVERTY/Resources/ME_ToolsMethodsNov2.pdf 4. Thompson, L.L. (2015). Making the Team. Noida: Pearson India.
2	Reference books	Gary Spolander, Linda Martin (2012) Successful Project Management in Social Work and Social Care
3	Websites	https://niti.gov.in/planningcommission.gov.in/docs/plans/planrel/fiveyr/10th/volume3/v3_ch5.pdf
4	Journals	http://www.pmworldjournal.net/ https://niti.gov.in/planningcommission.gov.in/docs/plans/planrel/fiveyr/10th/volume3/v3_ch5.pdf
5	Supplementary Reading	Hahn Christopher, Design and implementation of project management in Social Work practice
6	Practical Components	1. Prepare a City development plan of your city. 2. Develop an Integrated service module for children Women and old age persons

COPPO Mapping

MSW-II	Computer Applications (Theory)									sem 3	AEC301A
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3								3		
1.2	3	2	3	3	2	3	3	2	3		3
1.3	3	3	3	3	2	3	3	2	3	3	3
1.4	3	3	3	3	2	3	3	2	3	3	3
Total	3	3	3	3	2	3	3	2	3	3	3

MSW-GROUP B SEMESTER-III

MSW- CBCS SYLLABUS 2021-22

Semester	III	Total Credit	3
Course Code	CDCC 301	Credit Pattern	L-35, T-5, P-5
Course Title	RURAL AND URBAN SOCIOLOGY		

Course Outcomes: Students will be able to	
1	Describe the concepts of rural and urban sociology
2	Apply relevant theories, concepts and models to work with the communities
3	Analyze the nature of infrastructure strategies and issues of rural and urban societies and focus on the strategies of improvising rural and urban management programs
4	Evaluate the new trends in the government system and structure for empowerment of people.

Syllabus:

Unit Number	Contents	Number of Session	
1	Nature and scope of rural sociology. The Indian village as a community	L=7	
		T=1	P=1
2	Type of villages in India, Caste and Class occupation in Indian	L=7	

MSW- CBCS SYLLABUS 2021-22

	Villages Agrarian struggle in India	T=1	P=1
3	Mode of production in Indian Agriculture, Rural problems like – Rural industries, superstition, health & sanitation, addiction.	L=7	
		T=1	P=1
4	Nature and scope of urban sociology. Growth and development of cities Urbanization and Industrialization Urban social problems like migrations, slums, prostitution, crime Concept of town planning and regional planning Urban peoples participation. Future of city life	L=7	
		T=1	P=1

Learning Resources:

1	Text Book	1. Desai A.R. (1994), Rural Sociology in India 2. Madan, G.R. (2002) Social Problems Vol. I & II, Allied Publishers, New Delhi
2	Reference books	1. Srinivas Y.T. (1985) Rural Industrialisation in India An Approach, Sterling Publications, New Delhi 2. Sharma Rajendra (2004), Urban Sociology, Atlantic Publishers & Distributors, Delhi 3. N. Jaypalan (2002), Urban Sociology, Atlantic Publishers & Distributors, Delhi 4. MurlithanaNaidu K. (1992), Rural Development & Planning prospectives, Reliance Publishing house, New Delhi
3	Websites	www.questia.com www.goodreads.com www.amazon.com https://books.google.co.in
4	Journals	Ntnu.edu.tw <u>Journal of Rural Social Sciences - A Peer-Reviewed</u> https://www.questia.com › library › journal-of-rural-social-sciences
5	Supplementary	1. Patel M.L. (1985), Regional Development in India Emporium

MSW- CBCS SYLLABUS 2021-22

	Readings	Publishing, New Delhi 2. Sharma Sanjay (2006), Urban life in India, Vista International Publishing House, Delhi 3. Mohanty L.N. (2005), Slum in India, APH Publishing Corporation, New Delhi
6	Practical Components	1. Case study on Rural Social problem 2. Interact with Rural people 3. Visit to different cast communities 4. Prepare report of Jajwani System.

COPPO Mapping

MSW-II	Rural and Urban Sociology									sem 3	CDCC301
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
1.1	3								3		
1.2		3				2		3	3		3
1.3						3		3	3	3	
1.4		3	2			3	3	3	3	3	3
Total	3	3	2			3	3	3	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	III	Total Credit	3
Course Code	CD CC 302	Credit Pattern	L-35, T-5, P-5
Course Title	RURAL COMMUNITY DEVELOPMENT		

Course Outcomes: Students will be able to	
1	Describe the concepts of rural community development
2	Analyze the process of Rural Development in general and address them through various development strategies
3	Apply the knowledge of social political and economical structure of development
4	Evaluate new trends in planning and development of rural areas
5	Identify the importance of empowerment of women and community participation for micro-finance and governance.

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Definition, concept, Nature of Rural Community development, Assumption and Historical background off rural development, Etwa project off Rural development, Gurgaon movement, Bhudhan and Gramdhan, Rural leadership. Type of leadership & Rural Community Development.	L= 7	
		T=1	P=1
2	NGOs in Rural Development, perspectives, Approach and role of voluntary organization in rural Development, Five year plan and	L=7	

MSW- CBCS SYLLABUS 2021-22

	Rural community development, Different method of Rural Community Development, Characteristic of community development agencies and programmes of Rural Community Development.	T=1	P=1
3	Integrated Rural development programme its implementation, Performance and its problem of I.R.D.P., Pradhan Mantri Kaushallya Vikas Yojna. PMKVY, Nature Scope and extent of rural enterpreneurship of Rural Development, Problems of PMKVY. Rural Industrialization, Types of Rural Industries, Role off cottage and small scale industries in Rural Community Development, Rural Reconstruction, Role of social worker in Rural reconstruction.	L=7	
		T=1	P=1
4	Community mobilization, Needs, Benefit Long term and short term benefit s, Techniques for community mobilizing, Role of community worker in community mobilization Grass root level planning and rural development Need for PRA, Implementation of PRA, tips for conducting PRA, PRA method and approach. Experience of state national policies and experience of Rural Community Development Schemes, Strategy for rural development Micro, Macro level planning , Origin off social Action in India, Elements of social action in India, Elements of social action and community development, Need of Rural Development, Social action and Swach Bharat Abhiyan.	L=7	
		T=1	P=1

Resources Learning

1	Text Book	1. Muniratna Naidu: Rural Development and planning perspectives , Reliance publication House, New Delhi 2. Desai I. P. and Chaudary B. L. : History off rural development in India, Reliance publication House, New Delhi 3. N. R. Inamdar : Community Development and Democratic growth, Popular Publication
2	Reference books	1. Willam w Biddle : The Community Development Process, Amerind Publication 2. Katar Sing : Rural Development, SAGE publication PVT. India 3. G. P. Mishra and B.K. Bajpai : Community organization and rural development an Inda perceptive Rawat Publications Asha Patil : Community Organization and Rural Development An India Perceptive, PHI Learning Private Ltd.
3	Websites	www.rural.nic.in megcnrd.gov.in

MSW- CBCS SYLLABUS 2021-22

4	Journals	<u>Journal of Rural and Community Development – Journals:</u> https://journals.brandonu.ca/jrcd Journal of Rural Development: nirdprojms.in
5	Supplementary Readings	1. K. Venkata Reddy : Agricultural and Rural development, Himalaya publishing House 2. Patel M. L. : Regional Development in India, Emporium Book new Delhi
6	Practical Components	Field work on rural community development projects.

COPPO Mapping

MSW-II	Rural Community Development									sem 3	CDCC302
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3								3		
1.2		3	3	3		3	3	3	3		3
1.3		3	3	3	3	3	2	3	3		3
1.4		3		3	3	3	3	3	3	3	3
Total	3	3	3	3	3	3	3	3	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	III	Total Credit	3
Course Code	CD CC 303	Credit Pattern	L=35, T=5, P=5
Course Title	PANCHAYAT RAJ IN INDIA		

Course Outcomes: Students will be able to	
1	Describe the various aspects of Panchayat Raj in India
2	Develop effective strategies to Reduce rural-urban disparities in terms of economic development, employment and infrastructure.
3	Apply relevant theories, concepts and models to resolve areas related to agricultural development, cottage industry and allied sectors
4	Analyze the process of panchayat raj system for eliminating or minimizing gender disparities and social evils within rural society.

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Origin and growth of Panchayat Raj In India Role of panchayat raj in rural development	L= 7	
		T=1	P=1
2	Structure of Panchayat Raj at district, block and village level Functions and finance of Panchayat Raj system Gram Sabha and Social Audit	L=7	
		T=1	P=1
3	The main features of Panchayat Raj In Maharashtra Problems of Panchayat Raj Institutions.	L=7	
		T=1	P=1
4	Role of state and central government in Panchayat Raj. The salient features of the 73 rd amendment Act 1992 of Panchayat Raj Institution.	L=7	
		T=1	P=1

MSW- CBCS SYLLABUS 2021-22

Resources Learning		
1	Text Book	1. Khanna, B.S. (1996), Panchayat Raj In India, Deep & Deep Publications, New Delhi 2. Ram Reddy (1977) Pattern of Panchayat Raj In India, Macmillan Company of India, New Delhi
2	Reference books	1. M.K. Gandhi (2012), Panchayat Raj, Navjivan, Mumbai 2. Rakesh Arora & Meenakshi Ahuja (2009), Panchayat Raj Participation & Decentralisation, Rawat Publications, New Delhi 3. B.C. Barik & U.C. Sahoo, Panchayat Raj Institution & Rural Development, Rawat Publications, New Delhi
3	Websites	https://rural.nic.in https://www.panchayat.gov.in
4	Journals	Panchayati Raj: Panchayat System in India - Law Times Journal https://lawtimesjournal.in › Articles <u>Journal of Rural Development - Nird</u> www.nird.org.in › jrd <u>Review of the 73rd Constitutional Amendment: Issues and ...</u> https://journals.sagepub.com › doi › full
5	Supplementary Readings	Desai, Vasant (1990), Panchayat Raj Power to the people, Himalaya Publishing House, Mumbai Nupur Tiwari (2016), Panchayat Raj & Women Empowerment, New Centre, New Delhi
6	Practical Components	Field Work focusing on working of Panchayat Raj at district, block and village level.

COPO Mapping

MSW-II	Panchayat Raj in India									sem 3	CDCC303
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3										
1.2		3	3	3	3	3	3	3	3		3
1.3		3		3	3	3	3	3		3	3
1.4		3			3	3			3	3	3
Total	3	3	3	3	3	3	3	3	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	III	Total Credit	3
Course Code	CD CC 304	Credit Pattern	L-35, T-5, P-5
Course Title	COUNSELLING THEORY AND PRACTICE		

Course Outcomes: Students will be able to	
1	Understand the need and application of various counselling techniques.
2	Identify the psycho-social issues, factors and their implications. Apply coping strategies to deal with them.
3	Set up a Counselling / Child Guidance Centres

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Counselling: Concept, Difference Between Counselling And Guidance Definition, Principles, Assumptions, Objectives, Stages And Scope Of Counselling In Various Set Up.	L= 7	
		T= 1	P= 1
2	Types Of Counselling: Educational, Vocational, Personal, Social, Marriage And Family Counselling, Counselling For Counselling In Health, Industrial And Social Organization /Set Up. Crises Counselling For Special Population Like Children, Youths And Women.	L= 7	
		T= 1	P= 1
3	Approaches To Counselling: Directive, Non-Directive, Group And Eclectic. Models And Dimensions Of Counselling. Modern Trends Of Counselling . Theories Of Counselling: Carl Rogers's Theory, Sigmund Freud Theory, REBT, Eric Berne's TA Theory. Stages Of Counselling: Egan's Model (Beginning, Middle, Endings), Role And Responsibilities Of Counsellor, Skills And Techniques Of Counseling; Counsellor Use Of Self,	L=7	
		T=1	P=1
4	Counselling Centers: Guidelines To Set Counselling Centre, Family Counselling Centers, Child Guidance Clinic And De-Addiction Centre And Rehabilitation Centre. Its Functions, Importance And Limitations	L= 7	
		T= 1	P= 1

MSW- CBCS SYLLABUS 2021-22

Learning Resources		
1	Text Books	1. Dave Mearas and Brian Thorne: Person centered counselling in Action published by Sage Publication .2000. 2. Ramnath Sharma & Rachana Sharma: Guidance and Counselling in India, published by Atlantic Pub, Delhi 2004. 3. Bharkin Mukupadhya: Counselling and Guidance
2	Reference books	1. K.S Lakshmi: Encyclopedia of Guidance and Counselling, published A Mittal Pub, Vol.1,2,3,4. 2005. 2. Mishra R.S.: Guidance and Counselling, Vol.1&2 published by APH Publication Corporation, New Delhi, 2004. 3. Ramesh Chandra: Psychology, Counselling and Therapeutic Practices, published by Isha Books, Delhi 2004. 4. Robert L. Gibson & Mariaune H. Mitchell: Introduction to Counselling and Guidance, published by Pearson Education, Delhi 2005. 5. Tara Chand Sharma: Modern Methods of Guidance and Counselling, published by Swarup and Sons, New Delhi, 2002.
3	Websites	1. www.directhit.com/ 2. http://www.griffenmill.com/design15_counselling_website_design 3. https://counsellingtutor.com/basic-counselling-skills/
4	Journals	1. British Journal of guidance and counselling 2. Indian Journal of social work
5	Supplementary Reading	1. Steve Cooper: A comprehensive handbook for counselling, published by Infinity Books, New Delhi, 2005. Case studies
6	Practical Component	Apply their counselling skills at home and workplace. Start up their own Counselling and guidance Centres

MSW- CBCS SYLLABUS 2021-22

COPO Mapping

MSW-II	Counselling Theory and Practice									sem 3	HRCC304
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3					3			3		
1.2		3	3	3	3	3	3	3	2		3
1.3	3	3		2			3		3		3
1.4		3	3	3			3	3			3
Total	3	3	3	3	3	3	3	3	3	3	3

CDCC 305 ORIENTATION AND CONCURRENT FIELD WORK

I Orientation / Acquaintance Phase :

About the Agency:

Organization (G.O/NGO): History, aim and objectives, Functions, Staffing, Financial resources, salary, leaves, registers maintained, benefits of employees, insurance scheme.

Village/Slums/Urban : A brief observation : demographic, social, cultural, religious, political and economic aspects of community.

II. Study Phase (Detailed Background)

Organisation :-

Programmes and Services, Budget allocation to different programmes, Actual explain; target reached number of beneficiaries, (Secondary data for the last 5 years may be collected to evaluate the agency's work).

Rural Agency

Geographic	:	Size of village, growth
Demographic	:	Population : Child, Women, Youth, aged, SC & ST, disabled, Labour etc.
Social	:	Religion, Caste, Family, Languages communal harmony.
Cultural	:	Customs, traditions, taboos, practices
Educational	:	Literacy : Male & Female, SC & ST, Functioning of Balawadis, Anganwadis Schools, Adult Education.
Health	:	Primary health centre, primary health unit, Clinics.
Economic	:	Agriculture : Dry Land, irrigated land Major crops, occupations, marketing, land reforms.
Banking	:	Nationalized Bank, Co-operative societies, credit societies, self- help groups, Home / Cottage / Village / Small Scale Industries, Unorganized Sector.
Ecological	:	Geographical structure (plain, hill etc) natural resources (Solar, air, water, minerals) pollution (air, water, sound atmosphere).
Housing	:	Housing Pattern (Kutcha, or pucca) overcrowded, congested.
Political	:	Panchayat Raj System, Panchayat Raj Act.

URBAN AGENCY

Geographic	:	Urban Size
Demographic	:	Population : Child, women, youth, aged disabled, labour, SC & ST, Infant Mortality Rate.
Social	:	Religion, Caste, language, Family, harmony, slums.
Cultural	:	Customs, traditions, practices, celebrations.
Education	:	Literacy : Male & Female, SC & ST, Functioning of Balawadies, Anganwadies, Schools, Colleges and Adult education centers.
Health	:	PHC, PHU, Clinics, nursing homes, etc.
Economic	:	Occupation / Division of labour - Marketing - Banking sector – NABARD National Banks - Co-operative Societies

MSW- CBCS SYLLABUS 2021-22

		- Small Scale and large scale industries
		- Business / organized sector
Ecological	:	Geographical Structure(Plain, hill, desert area)Natural resourcesForestryPollution (air, water, sounds and atmosphere)
Housing	:	Housing pattern (Kutcha, semi pucca,)OvercrowdedCongested
Political	:	Municipal Administrations Zilla Panchayat Laws for Environmental Protection
Beuracratic	:	District Administrations Govt. agencies working for development and welfare of people.
NGO _s	:	Non-Govt. organizations functioning in the area.

III. PROBLEM PHASE (Student needs to study about problem)

Rural problems : Rural fieldwork

1. URBAN PROBLEMS : Urban field work

- Poverty
- Illiteracy
- Ignorance (Lack of awareness)
- Communal and Caste tension
- Migration
- Deforestation
- Pollution
- Pollution growth
- Destitute, orphan, disabled (mentally, physically, visually and hearing).
- Child labour / bonded labour
- Unequal wage to women
- Atrocity on women
- Exploitation of SC & ST
- Problems of weaker section
- Marital disharmony
- Suicide
- Dowry deaths
- Alcoholism
- Aged
- Diseases

Note : Students placed in G.O. and N.G.O. will have to identify beneficiaries or Problems.

IV. RESOURCE PHASE :Organization (G.O. / NGO)

- Development and welfare programmes of the Agency
- Subsidiary offices
- Know Social Legislations

RURAL :

- Rural development programmes:
- IRDP, ICDS, TRYSEM, PMRY, JRY
- Programmes of different govt. agencies
(Adult Education, Women and Child Welfare, SC & ST welfare, Youth welfare, Slum Labour Welfare, health etc.)
- Five year plans
- NGOs working in the Area
- Know Social Legislations

URBAN :

- Urban development programmes :
Swarna Jayanti Shahari Rojgar Yojana, ICDS, PMRY, TRYSEM, JRY
- Municipal administration
- Programmes of different government agencies
(Adult Education, Women and Child Welfare, Youth Welfare, Slum development, SC & ST Welfare, Labour Welfare, health etc.)
- Five year plans

SOCIAL LEGISLATIONS :

- SC & ST (Prevention of atrocities) Act, 1989
- Dowry Prohibition Act, 1962
- The equal remuneration Act, 1976
- The Medical Termination of Pregnancy Act, 1971
- The Juvenile Justice Act, 1986
- The child Marriage Restraint, Act, 1929
- The Child Labour (Prohibition & Regulation) Act, 1986
- The Hindu Marriage Act, 1955
- The Adoption and Maintenance Act, 1956
- The Minority and Guardianship Act, 1956
- The Beggary prohibition Act, 1962
- Laws Relating to Leprosy patients
- Public Trust and Charity Commissions
- The consumer protection Act, 1986

NOTE – A student placed in government, non-governmental organizations, rural or urban agency need to have introductory knowledge of the above legislations.

V. RESOURCE – PROBLEM INTERACTION PHASE

Identification of problem(s) and need(s) of beneficiaries

- Prioritizing the problems and needs
- Identification of resources
- Govt. agencies
- Non-govt. Organizations
- Community
- Mobilization of resources

VII. INTERVENTION PHASE

- Helping the beneficiaries
- Referred services: Juvenile home, state home, hostel, correctional institution, short-stay house, de-addiction centre, general hospital psychiatric centre, family counselling centre, Remand home, artificial limb centre, foster care adoption.
- Economic support: Loan facility – sponsorship
- Counseling and guidance
- Conducting Lectures on social issues
- Organizing recreational activities
- Creating awareness / mobilization of
 - Public opinion on any current issue
 - Restoring communal harmony
 - Independent living skills
 - Environmental Education
 - Legal awareness

VII. TERMINATION PHASE

- Supervising
- Monitoring
- Appraising and
- Evaluating the work undertaken.

METHODOLOGICAL ADVICES FOR FIELD – WORKER

- Conduct case studies on any problem –
- Solving issue, family, problem etc.
- Report – writing of aid provided to the beneficiaries.
- Evaluation study can be taken up
- Play enabler, guide, liaison, helper and catalyst roles, wherever necessary.
- Rapport building with community and beneficiary of needy is the corner stone of social work.
- Keep intact communication with needy.
- Adopt and apply different methods of social work.
- Try to bridge resource – need interaction
(Cash, kind, knowledge, and emotional and social support are the resources to be assessed by a social worker).

CD CC 306: FIELD WORK REPORT AND VIVA-VOCE

**FIELD WORK DIARY, RECORDING, MONTHLY ATTENDANCE SHEETS AND
SUMMARY OF SUPERVISORY CONFERENCES**

Every student is expected to maintain/prepare the following regularly or at appointed times:

- (a) A diary of activities and account of time spent for each activity. Points from supervisory conferences should also be noted down in the diary.
- (b) Detailed reports of activities (field work records)
- (c) Summary of Supervisory Conferences which has to be submitted to the Field Work coordinator at the end of every month (cyclostyled forms will be provided for this purpose) and
- (d) Monthly field work attendance sheets. Cyclostyled forms are available in the office for this purpose

At the end of every month, field work attendance sheets should be submitted to the field work supervisor so that the letter may forward it to the office, on the First Wednesday of the following month. Those who are under the direct supervision of agency social workers are required to submit the attendance sheets (after it has been duly signed by the supervisor) to the head of the department who is in charge of his/her placement (A Speciman copy is given to you)

The diary and recording should be submitted every week to the supervisor for review and discussion

Leave of Absence from Field Work

Absence from field work should be avoided as far as possible. For valid reasons, however, leave of absence is allowed for 2 days in a semester. If any student is absent for more than two days, all the days of absence (including the first two days) will have to be compensated in accordance with the instructions of the field work supervisor.

Mid-Year Evaluation and Final Evaluation

There will be a mid-year evaluation in early December for assessing the students field work performance during the I semester. The supervisor will write the report after a supervisory conference which will be specially geared to the discussion of work performance. There will be no grading for mid-year evaluation. The purpose of mid-year evaluation conference and report is that the student may get information and awareness of his/her strengths and weaknesses as regards as field work performance of the I semester and plan for better performance in the second semester.

At the end of the academic year, in March, every supervisor will submit to the Institute a written evaluation report on the students field work. Grades will be given by the field work supervisor in consultation with the field work coordinator.

Any student who does not come up to a certain minimum level of performance which is required for passing in field work, may be asked at the discretion of the faculty, either to leave the Institute or put in extra work to improve his/her field work performance.

FIELD WORK PRACTICUM: CONCURRENT FIELD WORK

The main object of concurrent field work is to provide opportunities for applying the knowledge learnt in the class room to real life situation (field reality) to understand and develop effective course of action (learning of intervention methods) according to needs of client system. And evaluate the experiences while working with the individual, groups and communities. Fieldwork enables the student to integrate and reinforce the knowledge and information acquired in the classroom with actual practice, under competent **supervision** by the agency and faculty supervisors. Every student is expected to work for 15 hrs. per week at various organizations or community settings.

FIELD WORK EVALUATION CRITERIA: (Applicable for the all four Semesters)

1) Analytical Ability:

- a. To understand evolution of agency, philosophy, policy and administration programmes.
- b. To identify roles of other departments and personnel in implementation of agency policies & programmes (in secondary settings).
- c. To understand the dynamics of the agency – roles, decision-making process, conflict solving procedures.
- d. To begin to situate agency in context of larger social system.
- e. To understand Profile of client system and causative factors affecting its needs and problems.
- f. To understand social work intervention utilized by agency in response to needs of client system.
- g. To assess one's own tasks in relation to problem situation.

2) Problem Solving Skills:

- a. To assess the problem situation and outlines the plan of action.
- b. To utilize problem solving process beginning with fact finding to evaluation of social work process in relation to needs, problems and aspirations of the client system.
- c. To develop and utilize working relationships with agency, client system and other related system.
- d. To utilise different techniques of problem solving, interviewing, home visits, communication and programme media mobilization of human and material resources.
- e. To utilise problem solving strategies selectively with individuals groups and communities.
- f. To understand the importance work in different administrative procedures – filing – maintaining registers, fund raising staff meetings.
- g. To develop basic skills of management of services, planning, organizing, implementing and evaluation.
- h. To participate in liaison work with other organizations and systems in terms of obtaining sanctions for programmes, interpreting social work intervention and networking on common issues.
- i. To understand the significance of and participates in teamwork in one's discipline as well as in the interdisciplinary team.
- j. To learn to priorities tasks and organize workload.
- k. To understand the importance of recording as a tool for learning and administration.
- l. Learn to record facts selectively and logical-assessment of problem situation, students feelings, reflections and intervention modalities.

3) Personal development:

- a. Appreciation and utilization of principles of social work in respect of persons, social justice, equality, opportunities, acceptance of the client system and its potential.
- b. Work with commitment in the agency in terms of fulfillment of tasks, disciplined use of self (dress, behavior, regularity, self control, awareness of bias and cultural blocks).
- c. Developing positive identification with the profession, conviction of the necessity of social work intervention.

4) Use of field Instructions :

- a. Understanding the significance of field instruction as a tool for professional training.
- b. Accepts the roles of faculty advisor, field instructor and field contact and utilises their expertise in one's own training.
- c. Indicates a gradual movement from a dependence on the instructor to performing ones role and tasks more independently.

- d. Utilises individual and group conferences for professional growth by accepting both the positive and negative remarks of the instructor.
- e. Actively participates in the group conferences and appreciates the participation of others.
- f. Makes efforts to improve performance through self-learning by reading learning from one's experiences and those of others.
- g. Develops ability for self-evaluation on going and periodic.

MSW- CBCS SYLLABUS 2021-22

Semester	III	Total Credit	3
Course Code	CDDSE 301A	Credit Pattern	L-35, T-5, P-5
Course Title	CO-OPERATION		

Course Out Comes: Students will be able to	
1	Describe the concept of Cooperation
2	Apply relevant theories, concepts and models of cooperation in relation to social work
3	Analyze the relation between professional social work and cooperative philosophy
4	Evaluate the aspects associated with the opportunities and challenges in front of various cooperative societies in the country

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Cooperatives: Definition of co-operation, Nature and Scope of Co-operative organisations, Identity of co-operatives, I.C.A. Principles of co-operation, Raiffeisen and Schultz Principles, Rochdale Pioneers. Co-operation and Economic Systems: Co-operation and Capitalism, Co-operation and Socialism, Co-operatives and Joint-stock companies, Partnership, Public-sector enterprises.	L= 7	
		T= 1	P= 1
2	Co-operative Movement in India: Historical Perspective, Development during Plan periods, Progress, Achievements and Weaknesses of co-operative movement in India.	L= 7	
		T= 1	P= 1
3	Types of Co-operatives: Structure and Development of co-operatives with respect to Credit Societies, Co-operative Marketing, Co-operatives in Maharashtra with emphasis on Sugar and Dairy co-operatives. Co-operatives and Other Institutions: Reserve Bank of India (R.B.I.) and co-operative movement, State and co-operative movement, Rural Credit co-operatives and N.A.B.A.R.D	L= 7	
		T= 1	P= 1
4	Co-operative Education and Training: Objectives, Educational arrangements in India and other countries, Central Committee for co-operative training, National Co-operative Union of India, Training Institutions, Members Education Programme, Evaluation of Training and Problems.	L= 7	
		T= 1	P= 1

Learning Resources		
1	Text Books	1. Hajela T.M. (1990): Principles, Problems, and Practice of Co-operation, Svivalal Agrawal and Co., 2. Mathur B.S. (2003): Co-operation In India, Sahitya Bahvan Publication, Agra 3. Sarada V, "Cooperation"
2	Reference books	1. R. D. Bedi: "Theory, History and Practice of Co-Operation". Loyal Books Depot, 1997. 2. R Rajagopalan (Ed), "Rediscovering Co-Operation Vol I,II And III", Irma, Anand, 1996. 3. P.R Dubhashi, "Principles and Philosophy of Co-Operation". VMNICM, Pune, 1970. 4. B.P. Sinha: "Co-Operation: Instrument for Socio .Economic Justice". Himalaya Publishing House, New Delhi, 1992. 5. Divakar Jha: "A Pesspective on Co-Operative Marketing" Vikas Publishing House, New Delhi, 1997.
3	Websites	1. www.agriculture.gov.in/ 2. www.manage.gov.in 3. www.ica.coop/ 4. www.vamnico.gov.in 5. www.agricoop.nic.in
4	Journals	1. Journal of Cooperative 2. Sugar cooperatives
5	Supplementary Reading	Economic Survey, Government of India,(Various Issues) India Development Report, IGIDR, Mumbai,(Various Issues)
6	Practical Component	1. Vist to few consumers and make a list of factors affecting their demand 2. Compute the HDI for selected village 3. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed. 4. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

MSW- CBCS SYLLABUS 2021-22

COPPO Mapping

MSW-II	Co-operation									sem 3	CD DSE301A
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	3			3					3	
1.2	3			3		3		3	3		
1.3	3	3			3	3	3	3		3	
1.4	3	3	3			3	3			3	
Total	3	3	3	3	3	3	3	3	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	III	Total Credit	3
Course Code	CD DSE 301B	Credit Pattern	L-35, T-5, P-5
Course Title	ECOLOGY AND DEVELOPMENT		

Course Outcomes: Students will be able to	
1	Describe the various aspects of ecology and development. Issues related to the environment
2	Apply various strategies for social awareness on causes, implications to protect and prevent ecological imbalances.
3	Analyze the ecological process of development.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Society And Environment: Physical Environment, Influence Of Physical Environment On Society. Environmental Education: Environmental Education, Environmental Movements In India(SardarSarovar Project, Silent Valley, Bichhari Case) Curent Issues Of Environment (Climate Change)	L= 7	
		T=1	P= 1
2	Ecology And Ecosystem: Concept, Definition, Scope and basic principles of ecology and environment. Biological levels of organization, population, community, ecosystem and biosphere. Components Natural Resources And Life Style. Utilization And Management Of Forest, Land, Water, Air, Energy Sources.	L= 7	
		T=1	P= 1
3	Public Participation: - Growth And Structure Of Communities; Characteristics, Impact Of Population Growth On Environment-Deforestation, Problems Of Ecological Imbalances: Deforestation, Threats To Wild Life, Use Of Chemicals And Pesticides, Mining And Ozone Depletion, Green House Effect, Global Warming, Acid Rain. Awareness amongst public participation, Advantages and disadvantages of public participation, Identification of participants and techniques for conflict management, Incorporation of results in decision makings. Role Of NGO In Environment Management.	L= 7	
		T=1	P= 1
4	Environmental Pollution: Pollution Types, Sources, Treatment And Consequences, Prevention And Control Of Pollution. Waste-Matter Disposal, Recycling And Renewal Problems And Issues Including Unplanned Urbanization. Environmental Protection And Preservation Work With Interdisciplinary Team, Socio-Cultural And Institutional Issues. Environmental Laws: Legal Provisions For Environment Protection. Environmental Laws: The Water Act, 1974, The Air Act 1981, The Environment Act 1981. Role Of Social Worker In Protection And Preservation Of Environment.Environment Management- Maintaining, Improving And Enhancing. Social	L= 7	
		T=1	P= 1

MSW- CBCS SYLLABUS 2021-22

	Forestry		

Learning Resources		
1	Text Books	1. P.D Sharma , (2015), Ecology and Environment, Rastogi publications Meerut 2. R., N.C. Saxena & T. Shah (1989) – To the Hands of the Poor: Water and Trees, New Delhi: Oxford and IBH. Chambers, 3. Gurdip Singh (2005) Environmental Law in India, Mac Millan India Ltd, New Delhi
2	Reference books	1. Bandyopadhyay, J. (ed.) 1985 – India’s Environment: Crisis and Response, Dehradun: Natraj Publishers. 2. Burch, W.R. (1987) – Human Ecology and Environment Management, Mimeo, School of Forestry and Environment Studies, Yale University. 3. S.C. Shastri (2005) Environmental Law, Eastern Book Company, Luknow
3	Websites	esajournals.onlinelibrary.wiley.com/journal/14610248 onlinelibrary.wiley.com/journal/19399170 www.journals.elsevier.com
4	Journals	<u>Journal of Ecology - Wiley Online Library</u> <u>Indian Journal of Ecology Indian Ecological Society</u>
5	Supplementary Reading	S.C. Shastri (2005) Environmental Law, Eastern Book Company, Luknow
6	Practical Component	Awareness about ecological issues and solution. Environment Protection and Safety

COPPO Mapping

MSW-II	Ecology and Development									sem3	CDDSE301B
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3							3	3		
1.2	3	3	2	2	3	3		3	3	3	
1.3		3	3		2	3	3	3	3	3	3
1.4	3	3		3			3	3	3	3	3
Total	3	3	3	2	2	3	3	3	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	III	Total Credit	1
Course Code	AEC 301A	Credit Pattern	L-15, T-0, P-0
Course Title	COMPUTER APPLICATIONS (THEORY)		

Course Outcomes:	
1	Describe the concepts and their application of statistics in social work
2	Ability to design, set up and conduct practical
3	Ability to use the techniques, skills, and modern Software tools for software development
4	Ability to design, develop and verify software systems to meet desired needs within realistic constraints ensuring quality, reliability, security in addition to satisfying economical, ethical, social and environmental constraints.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction: Definition, Characteristics of computers, Evolution of computers, computer generations, applications of computers, Use of computers in social work Basic Computer Organization: Input unit, Output unit, Storage Unit, Arithmetic Logic Unit, Control Unit, Central processing unit, system concept Different types of input-output devices and secondary storage devices	L= 5	
		T=0	P=0
2	Computer Software: Types of Software, Computer languages, Operating Systems, its functions, popular operating systems, Windows, its features. Application Software Packages: Word processing package, spread sheet package, presentation package Features of Ms Word, mail merge and features of Ms PowerPoint	L= 4	
		T= 0	P=0
3	Excel: worksheets, workbook, calculations by formula, operator precedence, relative, absolute and mixed cell references.	L=2	
		T=0	P= 0
4	SPSS: Menu, Creating data file, Defining variables, sorting, splitting file, selecting cases, computing new variable, recoding variables.	L= 2	
		T=0	P= 0
5	Internet: Introduction, history, Basic Services, Electronic mail, File transfer protocol, World Wide Web, www Browsers, internet search engines, Uses of internet.	L= 2	
		T= 0	P= 0

Learning Resources		
1	Text Books	1. Sinha P K & Sinha P (2011) Computer Fundamentals, PBP Publications. 2. Saxena S (2003) A First Course in Computers, Noida, Vikas Publishing House Pvt. Ltd. 3. Pandya K, Bulsari S and Sinha S (2012) SPSS in simple steps, Delhi, Dreamtech Press 4. Leon A and Leon M.(2012) Internet for Everyone, Chennai, Leon Vikas.
2	Reference books	1. Schwartz S. (2012). Microsoft Office 2010, Noida, Pearson. 2. Cunningham J B and Aldrich J O (2012) Using SPSS: An Interactive Hands-On Approach, New Delhi, SAGE 3. Gupta S L and Gupta H (2011) SPSS 17.0 for Researchers, New Delhi, international book house Pvt. Ltd.
3	Websites	https://www.javatpoint.com/computer-fundamentals-tutorial https://www.tutorialspoint.com/computer_fundamentals/ http://vikaspedia.in/education/Digital%20Literacy/it-literacy-courses-in-associating-with-msup/computer-fundamentals
4	Journals	PC World E Week (Available in EBSCO)
5	Supplementary Reading	Parker-Oliver, D., &Demiris, G. (2006). Social Work Informatics: A New Specialty. Social Work, 51(2), 127-134. (Available in JSTOR under NLIST-Inflibnet)

COPO Mapping

MSW-II	Computer Applications (Theory)									sem 3	AEC301A
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3								3		
1.2	3	2	3	3	2	3	3	2	3		3
1.3	3	3	3	3	2	3	3	2	3	3	3
1.4	3	3	3	3	2	3	3	2	3	3	3
Total	3	3	3	3	2	3	3	2	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	III	Total Credit	2
Course Code	AEC 301B	Credit Pattern	L-0, T-0, P-60
Course Title	COMPUTER APPLICATIONS (PRACTICAL)		

Course Outcomes: Students will be able to	
1	Make use Office Automation Tools like word processors, spreadsheets and presentation tools.
2	Utilize multimedia authoring tools to design small applications using sound, audio, and video/animation.
3	Handle Computer Networks, modems and routers, and efficiently use Internet
4	Develop and implement a simple project based on case studies.
5	Apply statistical data analysis through Excel
6	Analyze statistical data through SPSS

Syllabus:

Requirement: 2 Sessions of 2Hrs on each of the following		
No	Software	Concepts/ topics to be covered in the exercise
1	Ms Word	Editing, formatting, text box, tables, clip art
2	Ms Word	Mail merge
3	Ms Power Point	Creation of presentations, slide layouts, Animation effects Inserting charts, tables, clip art, smartart graphics
4	Ms Excel	Use of formula, formatting options, relative cell reference
5	Ms Excel	Use of functions, bar & pie diagrams
6	Ms Excel	Statistical data analysis in Excel, absolute cell reference, mixed cell reference
7	Ms Excel	Sorting, filtering, Categorical data Analysis, t test
8	Ms Excel	Correlation, regression, scatter diagram
9	Ms Excel	Pivot tables, Ch- Square test
10	SPSS	Entering data on SPSS and generating descriptive statistics, graphs
11	SPSS	Computation of new variables and categorical data analysis
12	SPSS	Data editing and verification of normality
13	SPSS	Correlation and regression Analysis
14	SPSS	t tests
15	SPSS	Chi Square test

Learning Resources		
1	Text Books	1. Saxena S (2003) A First Course in Computers, Noida, Vikas Publishing House Pvt. Ltd. 2. Pandya K, Bulsari S and Sinha S (2012) SPSS in simple steps, Delhi, Dreamtech Press
2	Reference books	1. Frye C (2012) Microsoft Excel 2010 Step by Step, Delhi, PHI Learning Pvt. Ltd. 2. Schwartz S. (2012). Microsoft Office 2010, Noida, Pearson. 3. Cunningham J B and Aldrich J O (2012) Using SPSS: An Interactive Hands-On Approach, New Delhi, SAGE
3	Websites	https://www.javatpoint.com/computer-fundamentals-tutorial https://www.tutorialspoint.com/computer_fundamentals/ http://vikaspedia.in/education/Digital%20Literacy/it-literacy-courses-in-associating-with-msup/computer-fundamentals
4	Journals	PC World E Week (Available in EBSCO)
5	Supplementary Reading	Parker-Oliver, D., &Demiris, G. (2006). Social Work Informatics: A New Specialty. Social Work, 51(2), 127-134. (Available in JSTOR under NLIST-Inflibnet)
6	Practical Components	Students will be given Computer practical work on various topics.

COPPO Mapping

MSW II	Computer Applications (practicals)									sem 3	AEC310B
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3								3		
1.2	3	2	3	3	2	3	3	2	3		3
1.3	3	3	3	3	2	3	3	2	3	3	3
1.4	3	3	3	3	2	3	3	2	3	3	3
1.5	3	3	3	3	2	3	3	2	3		3
Total	3	3	3	3	2	3	3	2	3	3	3

MSW-GROUP E SEMESTER-III

MSW- CBCS SYLLABUS 2021-22

Semester	III	Total Credit	3
Course Code	MP CC 301	Credit Pattern	L-35, T-5, P-5
Course Title	PREVENTIVE AND SOCIAL MEDICINE		

Course Outcomes: Students will be able to	
1	Describe the various aspects of preventive and social medicine
2	Identify health problems of the community in the context of the sociocultural milieu.
3	Evaluate the aspects associated with human behaviour and its effect on health.
4	Identify groups which require special attention (elderly, adolescents, gender the poor and other marginalized groups) including those facing occupational hazards
5	Formulate objectives, prepare action plan, implement programs and monitor, supervise and evaluate them
6	Apply relevant theories, concepts and models to resolve organizational issues

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Medicine And Its Historical Development: The Growth Of Preventive Medicine. Its Concept Definition, Importance and Scope In Society. The Advent Of Social Medicine, Its Concept Definition And Scope For Social Health.	L= 7	
		T=1	P=1
2	Nutrition: Nutritional Classification Of Food, Importance Of Balance Diets., Nutritional Diseases: Protein Energy Malnutrition (PEM).Protein Deficiency In The Adult, Malnutritional Diseases, Anemia-Zero Phtharmia-Iodine Deficiency In Adult (IDD), And Endemic Flourosis Etc. National Nutritional Programmes	L=7	
		T=1	P=1
3	RCH And MCH Programmes And Schemes: RCH, MCH Care - Antenatal, Intra-Natal And Post-Natal Care, Problems, Indicators Of MCH, MCH And Family Welfare Services. Obstetrics: Definition, Concept, Problems Preventive And Social Aspects In Obstetrics, Pediatrics: Definition Concepts, Problems Of Children, Preventive And Social Aspects In Pediatrics. Geriatrics: Care And Welfare Of Aged, Preventive And Social Aspects.	L=7	
		T=1	P=1
4	GeneralEpidemiology: Definition, Its Nature And Scope, Disease, Modes Of Disease Transmission, General Measures Of Communicable Diseases, Control And Vaccination. Alcoholism and Drug Dependence: Alcohol and Drug Related Problems, Its Causes, Preventive And Curative Services, Role Of Social Worker In PSM Unit Of Health Set Up and De-Addiction Centre.	L=7	
		T=1	P=1

Resources Learning		
1	Text Book	1. John J. Hulon : Principles of Public Health Administration 2. Park J.E. & Park K. Text Book of Preventive & Social medicine M.B. Bhanot Pub. Jabalapur, 1990 3. Sunital Roy : A Hand Book of Preventive & Social medicine 4. Sunderlal Adarsh, Pankaj 'Text Book of Community Medicine (Preventive & social medicine)
2	Reference books	1. M.C. Gupta & B.K. Mahajan : Textbook of preventiveand social Medicine. 2. Dr B. S. Nagaraj : Community Medicine without Tears: Mysore printing and publishing house ,Mysore 3. Medical Social Work by KEM Hospital & Sheth G.S. Medical College Mannul S.R.Mehta(1992) : Society and Health A Sociological Perspective Vikas Publishing House New Delhi.
3	Websites	Department of Preventive and Social Medicine All India ... aiihph.gov.in > department-of-preventive-and-social-medicine IAPSM Indian Association of Preventive and Social Medicine iapsm.org
4	Journals	Indian Journal of Preventive & Social Medicine - MedIND medind.nic.in > ibl > iblm <u>Journal of Preventive Medicine & Public Health (JPMPH)</u> https://www.jpmp.org
5	Supplementary Readings	1. Malavika Kapur : Mental Health In Indian Schools. 2. A.M Chalkley :A Text book For The Health Worker (ANM) Volume II 3. O.P.Ghai/ Piyush Gupta (2000): Essential Preventive & Social Medicine
6	Practical Components	Students will be given field task to understand health program of national, State and local level.

MSW- CBCS SYLLABUS 2021-22

MSW-II	Preventive and Social Medicine									sem 3	MPCC301
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	3							3		
1.2	3		3	3		2	3	2	3	3	
1.3	3		3	3	3	1	3	2	3	3	
1.4	3		3	3	3	2	3	2	3		
Total	3	3	3	3	3	2	3	2	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	III	Total Credit	3
Course Code	MP CC 302	Credit Pattern	L=35, T=5, P=5
Course Title	PSYCHOPATHOLOGY & MENTAL HEALTH – I		

Course Outcomes: Students will be able to	
1	Describe the various aspects of Psychopathology and mental health
2	Apply Knowledge and skills in the assessment of mental health
	Apply skills in identifying nature and degree of psychopathology .
	Develop Knowledge and skills in assessment and diagnostic methods that contribute to effective and culturally relevant practice.
	Apply various soft Skills to life and in clinical situations.

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Concept of mental health and mental illness, Mental health as a part of general health, Ethics, values in mental health. Core concepts in philosophy and mental health. Misconceptions about mental illnesses, concepts of normality and abnormality, Adaptive and Maladaptive behaviours, Historical views of Abnormal behaviours.	L= 7	
		T=1	P=1
2	Determinants of personality, Diagnosis and classifications of Mental Disorders ICD-10 and DSM-V. Need and limitations of classifications. Etiology : Bio-psycho-social factors in psychiatric disorders. Assessment in psychiatry - psychiatric interviewing case history recording and mental status examination psychiatric rating scales, case vignettes	L=7	
		T=1	P=1
3	Symptomatology - disorders of perception, thought, speech, memory, emotions, experience of the self, consciousness and motor disorders, orientation to psychiatric syndrome. Schizophrenia and its types, other psychiatric disorders, Mood disorders, Anxiety based disorders, Adjustment disorders, paranoia (delusional disorders).	L=7	
		T=1	P=1
4	Somatoform disorders (Neurotic, stress-related and somatoform disorders), Disorders of Adult Personality and Behaviour, sleep disorders, its types, causes and treatment modalities.	L=7	
		T=1	P=1

MSW- CBCS SYLLABUS 2021-22

Resources Learning		
1	Text Book	1. Essentials of mental health and Psychiatric Nursing- K P Neeraja 2. International Classification of Disease (ICD-10) 3. Diagnostic and statistical Manual -IV
2	Reference books	1. Richardson R. Bootzin, Abnormal Psychology – Current perceptsives, Random House, New York 2. WHO Geneva, The ICD – 10 classification of Mental and Behavioural disorders – clinical descriptions & diagnostic guidelines 3. Bhatia M.S. (1992), Essentials of psychiatry, CBS Publication, Delhi 4. H.J. Kaplan, Sadock, (1990), Synopsis of psychiatry, Williams & wilkins, London 5. Michael Gelder, Dennis Gath, Oxford text book of psychiatry, Oxford University Press 6. Robert C.C. et. Al. Abnormal psychology & modern life – Harper Collings psy., New York 7. Carson R.C., Butcher J.N. & Mineka S, Abnormal Psychology & Modern life, Longman, New York 8. Commission on mental health of children 1973 : social change & the mental health of children, Harper & Row, New York 9. Colin Dyer - Research in Psychology – A practical guide to methods & statistics 10. Inside the mind of Toyota – Satoshi Hino – Management principles of enduring growth 11. Frank J Landy & Jeffrey M. Conte work in the 21st century. An introduction to industrial & organization and Psychology second edition. Blackwell Publications 12. A Wiley Brand, Dr. Peter J Hills, Dr. Michael Pake - Cognitive Psychology for Dummies 13. James N. Butehor, Susav Mineka, Joy M. Hootey - Abnormal Psychology (15th Edition) 14. Leshe A Willer, Robrt C Lovler, Sandren A MeIntire - Psychology Testing - A practical approach (4th Edition) 15. M Tamilarasan – Rawat Publication - Medical Sociology 16. Edited by Abraham - Social work in mental health – Areas of practice, Challenges & way forward 17. KringJohnson, DavisonNeale - Abnormal Psychology – (11th Edition) 18. William & Ray - Abnormal Psychology – neuroscience perspective on human behavior & experience 19. Kearney Trull - Abnormal pay & life – A Dimensional approach 20. Emil Kraepelin - Psychiatry – A textbook for studying & Physicians Vol. I 21. Robert L Solso, Otto H, Maclin, M. Kimberly Maclin – (8th Edition) Community Psychology 22. Anand jerard, Sebastine, M Gabrel - Health & Social Work Practice – New Frontiers & Challenges 23. Rehabilitation Counseling in Physical & Mental Health Edited by

MSW- CBCS SYLLABUS 2021-22

		Hetherington 24. Jordon E Franklin. - Clinical Assessment for social workers (2nd Edition) 25. Anil Pathak - Field Work training in Social Work 26. Martine Herbal - Clinical Child & Adolescent Psychology (3rd Edition) 27. Philip Fellin - Mental Health & Mental Illness Policies Programmes & Services 28. William Korham (4th Edition) - Sociology of Mental Disorders 29. Dr. I Sundar - Principles of Medical Sociology 30. Arun Kumar - Clinical Psychology 31. Mory Nomme Russell - Clinical Social Work – Research & Practice
3	Websites	www.mentalhealth.gov www.psy.unsw.edu.au www.similarweb.com (Lists of Top Websites Ranking in Mental Health)
4	Journals	1. Indian journal of social work, TISS Mumbai 2. contemporary social work, Nirmala Niketan, mumbai
5	Supplementary Readings	Abnormal Psychology, developmental psychology, oxford textbook of psychiatry(may you), synopsis of psychiatry(Kaplan) Mental health in India (pornima mane) positive psychology
6	Practical Components	1. Field work, workshop, training 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

MSW-II	Psychopathology and Mental Health-1									sem 3	MPCC302
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3		1	3	2	1		2	3	2	
1.2		3	1	1	2	1	3	1	3	3	
1.3		3	1	3	2	1	3	2	3	2	3
1.4		3	1	1	2	1	3	1	3	3	3
Total	3	3	1	1	2	1	3	2	2	2	2

MSW- CBCS SYLLABUS 2021-22

Semester	III	Total Credit	3
Course Code	MP CC 303	Credit Pattern	L-35, T-5, P-5
Course Title	MEDICAL AND PSYCHIATRIC SOCIAL WORK		

Course Outcomes: Students will be able to

1	Describe the concepts of medical and psychiatric social work
2	Evaluate the aspects associated with medical social work and psychiatric social work
3	Apply relevant theories, concepts and models to resolve health issues of community
4	Develop Effective team-work and leadership skills
5	Evaluate the role & functions of a medical and Psychiatric social worker in various settings

Syllabus

Unit Number	Contents	No. Of Sessions	
1	Anatomy and physiology of the human, Respiratory system, Digestive system, Central nervous system, Cardiovascular system, skeletal muscular system, Genitourinary system, Reproductive system (male and female) Endocrine system, Health status and health care in rural and urban areas.	L= 7	
		T=1	P=1
2	Historical development of medical social work in India and other countries. Medical Social Work : Definition, Concept Nature and Scope, Modern Trends in Medical Social Work, Psychosocial factors associated with the disease, changing concepts of patient as a person.	L=7	
		T=1	P=1
3	Health Care Models : Medical health Model, prevention and promotion model, integrative model, developmental model, holistic approach to health and Alternative system of health, major communicable diseases - TB, STD, AIDS, Polio, diarrheal diseases, malaria, Typhoid, Leprosy, Major non-communicable diseases - cancer diabetes, hypertension, cardiovascular, Hematological, physical disability, Nutritional pediatric, Geriatric diseases.	L=7	
		T=1	P=1
4	Psychiatric Social Work : Definition, Concept, Nature and Scope. Historical Development in India and abroad. Role of psychiatric social worker in study, diagnosis and treatment. Modern trends in psychiatric social work. Challenges in the field of psychiatric social work. Application of Case work and Group work practice in psychiatric settings. Rehabilitation of psychiatric Patients : Role of psychiatric social worker in rehabilitation, Planning, Mobilization, Reintegration of the patient in the family and community Concepts of therapeutic community, patient hospitalization, Day care centers, half way homes, sheltered workshops, concept of well-being. Concept of mental hygiene and health mental health perspectives, Role of psychiatric social worker in different settings - mental hospitals, child guidance clinic, school mental health programme, family counseling centers, De-addiction centers, Geriatric centers, Epilepsy Clinics	L=7	
		T=1	P=1

Resources Learning		
1	Text Book	1. Community Medicine 2. Community Mental Health- Dr Parthsarthy 3. Papers on social work-G R BANEERJEE 4. Psychiatric social work-Ratna Verma 5. Preventive and social medicine-park and park
2	Reference books	1. Pathak, S.H. (1962), Medical Social Work In India, VG Mehta, Bombay 2. Goldskine D (1954), Reading in the theory & Practice of Medical Social Work 3. Bartlett H.M. (1934), Medical social work, University of Chicago press, Chicago 4. Park, J. E. Park K. (1989), Textbook of preventive & social medicine, M.S. Banarasi das Bhanot, Jabalpur 5. Bajpai, P.K. , Social work perspective on health 6. Jones Maxwell, The therapeutic community, Basic books, New York 7. Verma Ratna (1991), Psychiatric social work in India, Sage Publication, New Delhi 8. Dickson Clifford Maratha, Social Work practice with mentally retarded, Collier Macmillan 1981 9. (Skill training for social workers – A manual – Sudha Datar, Ruma Bawikar , Geeta Rao, Nagmani Rao & Ujwala Madekar.) 10. Social Psychiatry – Verma, Kulahra, Masserman, Malhotra, Malik 11. Stress & Work – Perspectives an understanding & Managing Stress – Edited by Don Pestanjee, Satish Pandey – Sage.) 12. Human Psychology – Arthur J Vander) James H Shreman, Durothy S Lyciano 13. Positive Psychology – Steve R Baumgardner, Mare K. Crothers. – Peason 14. Comprehensive Strers management (10th Edition) – Jerrold S Greenberg, Mary land – Tata McGraw Hill 15. Textbook of Cognitive Psychology – Abirlal Mukharjee 16. Positive Psychology. The Scientific & Practical Explanations & Human Strengths (7th Edition)
3	Websites	https://www.mswguide.org> Social Work Careers https://www.ecfmg.org/echo/team-psych-msw-html https://www.jobhero.com/ medical-social-worker-job-description https://www.onlinemswprograms.com https://pswjjournal.org

MSW- CBCS SYLLABUS 2021-22

		https://socialworklicensure.org/types-of-social-workers/psychiatric-social-worker/ https://www.mswguide.org/careers/medical-social-work/ http://nimhans.ac.in/psychiatric-social-work-2/ http://cswnn.edu.in
4	Journals	1. Social welfare, 2. kurukshetra 3. Indian journal of psychiatric social work 4. Health and social work
5	Supplementary Readings	Medical social work(KEM Hospital Mumbai, Medical social work, Health care for health workers, papers on social work(G R Banerjee) medical social work 9B T Lawani) Field work training (S I Subedar)
6	Practical Components	1. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 2. Video cases and documentary films relating to the syllabus to be exhibited in the class

COPO MAPPING

MSW-II	Medical and Psychiatric Social Work									sem 3	MPCC303
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1		1			1				3		
1.2	3	3		3		3					3
1.3	3	3		2		3		3	3		3
1.4	3	3	3	3	1	3	3		2		3
Total	3	3	3	3	1	3	3	3	2		3

MSW- CBCS SYLLABUS 2021-22

Semester	III	Total Credit	3
Course Code	MPCC 304	Credit Pattern	L-35, T-5, P-5
Course Title	COUNSELLING THEORY AND PRACTICE		

Course Outcomes: Students will be able to	
1	Recall the basic concepts of Counselling and Guidance
2	Categorize the various types of counselling and counselling relationship
3	Categorise various types of communication in counselling
4	Predict the skills and qualities of counsellor

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Counselling: Concept, Difference Between Counselling And Guidance Definition, Principles, Assumptions, Objectives, Stages And Scope Of Counselling In Various Set Up.	L= 7	
		T= 1	P= 1
2	Types Of Counselling: Educational, Vocational, Personal, Social, Marriage And Family Counselling, Counselling For Counselling In Health, Industrial And Social Organization /Set Up. Crises Counselling For Special Population Like Children, Youths And Women.	L= 7	
		T= 1	P= 1
3	Approaches To Counselling: Directive, Non-Directive, Group And Eclectic. Models And Dimensions Of Counselling. Modern Trends Of Counselling . Theories Of Counselling: Carl Rogers's Theory, Sigmund Freud Theory, REBT, Eric Berne's TA Theory.	L=7	
		T=1	P=1
4	Stages Of Counselling: Egan's Model (Beginning, Middle, Endings), Role And Responsibilities Of Counsellor, Skills And Techniques Of Counseling; Counsellor Use Of Self. Counselling Centers: Guidelines To Set Counselling Centre, Family Counselling Centers, Child Guidance Clinic And De-Addiction Centre And Rehabilitation Centre. Its Functions, Importance And Limitations	L= 7	
		T= 1	P= 1

Learning Resources		
1	Text Books	1. Dave Mearas and Brian Thorne: Person centered counselling in Action published by Sage Publication .2000. 2. Ramnath Sharma & Rachana Sharma: Guidance and Counselling in India, published by Atlantic Pub, Delhi 2004. 3. Bharkin Mukupadhy: Counselling and Guidance
2	Reference books	1. K.S Lakshmi: Encyclopedia of Guidance and Counselling, published A Mittal Pub, Vol.1,2,3,4. 2005. 2. Mishra R.S.: Guidance and Counselling, Vol.1&2 published by APH Publication Corporation, New Delhi, 2004. 3. Ramesh Chandra: Psychology, Counselling and Therapeutic Practices, published by Isha Books, Delhi 2004. 4. Robert L. Gibson & Mariaune H. Mitchell: Introduction to Counselling and Guidance, published by Pearson Education, Delhi 2005. 5. Tara Chand Sharma: Modern Methods of Guidance and Counselling, published by Swarup and Sons, New Delhi, 2002.
3	Websites	1. www.directhit.com/ 2. http://www.griffenmill.com/design15 counselling website design 3. https://counsellingtutor.com/basic-counselling-skills/
4	Journals	1. British Journal of guidance and counselling 2. Indian Journal of social work
5	Supplementary Reading	1. Steve Cooper: A comprehensive handbook for counselling, published by Infinity Books, New Delhi, 2005. Case studies
6	Practical Component	Apply their counselling skills at home and workplace. Start up their own Counselling and guidance Centres

COPO MAPPING

MSW-34	Counselling Theory and Practice									sem 3	MPCC304
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3					3			3		
1.2		3	3	3	3	3	3	3	2		3
1.3	3	3		2			3		3		3
1.4		3	3	3			3	3			3
Total	3	3	3	3	3	3	3	3	3	3	3

MPCC 305 ORIENTATION AND CONCURRENT FIELD WORK

General:

- a) Historical Development of the Organization / Institute
- b) Nature of organization / services.
- c) Working Hours.
- d) Organization Structure (Staff Pattern)
- e) Records and Registers Maintained.
- f) Leaves / Salary / Benefits for Employees.

MEDICAL SOCIAL WORK:

1. Concept of Health. Concept of disease. Pathogenesis period. Environmental factor disease due to multiple factors.
2. Level of Prevention. Health promotion. Specific protection early diagnosis treatment. Disability limitation. Rehabilitation. Mass health examination.
3. Alcoholism and drug dependency – Community Health.
4. Concept of a patient as a person. Social and Emotional component associated with various physical disorders and their socio-economic implication with regard to tuberculosis. Cancer, veneers, diseases, Leprosy and other effect on individual and family.
5. Concept of case and rehabilitation, social psychological factors involved in disease their treatment and rehabilitation.
6. Orientation of Registration like ESI Act and HTP Act 1971.
7. Hospital Administration. Health Centers, Clinics, Public Health programme Mobile Medical units. The Role of Social Worker in all the above agencies.
8. Role of social worker in the hospital set-up (Admission Procedure, Discharge. Follow up, home visits, case history taking etc.)
9. Organizing Recreational activities. Public Health Programmes.
10. Role of Social Worker with Aids Victims. Child Guidance Clinic.

PSYCHIATRIC SOCIAL WORK:

1. Concept of disease. DSM classification / ICD classification of disease and limitation of DSM and ICD classification of Mental disorder.
2. Role of social worker in the study and treatment of psychiatric disorders, procedure for admission, into case history taking procedure and discharge from mental hospital. Follow-ups. Home visits.
3. Signs and Symptoms of Mental Disorders:
Disorders of perception. Thinking emotion, memory, ??? Attention and concentration
Interviewing. Clinical Examination and Record Keeping. Pattern of Abnormal (maladaptive) behavior stress and adjustment disorders anxiety based disorders.
4. Mood Disorders: Normal Depression mild to moderate. Mon. Disorders moderate to severe Disorder – suicide.
5. Schizophrenia: Factors, sub types of schizophrenia.
6. Orientation of 1) Narcotic Drugs and Psychotropic substance Act. 2) Mental Health Act : Mental Hygiene Promotion of Mental – Health Prevention of Mental Illness.
7. Psychiatric social workers participation in Psychodramas -Concept of Patient as a person, social and Emotional component associated with various disorder and their effects on individual and family.
8. Concept of care and Rehabilitation. Socio-Psychological factors involved in disorder their treatment and rehabilitation.
9. Hospital Administration, Organizing Recreational activities. Public Health Programmes. Community Mental Health Programme.

MP : CC 306: FIELD WORK REPORT AND VIVA-VOCE FIELD WORK DIARY, RECORDING, MONTHLY ATTENDANCE SHEETS AND SUMMARY OF SUPERVISORY CONFERENCES

Every student is expected to maintain/prepare the following regularly or at appointed times:

- (a) A diary of activities and account of time spent for each activity. Points from supervisory conferences should also be noted down in the diary.
- (b) Detailed reports of activities (field work records)
- (c) Summary of Supervisory Conferences which has to be submitted to the Field Work coordinator at the end of every month (cyclostyled forms will be provided for this purpose) and
- (d) Monthly field work attendance sheets. Cyclostyled forms are available in the office for this purpose

At the end of every month, field work attendance sheets should be submitted to the field work supervisor so that the letter may forward it to the office, on the First Wednesday of the following month. Those who are under the direct supervision of agency social workers are required to submit the attendance sheets (after it has been duly signed by the supervisor) to the head of the department who is in charge of his/her placement (A Speciman copy is given to you)

The diary and recording should be submitted every week to the supervisor for review and discussion

Leave of Absence from Field Work

Absence from field work should be avoided as far as possible. For valid reasons, however, leave of absence is allowed for 2 days in a semester. If any student is absent for more than two days, all the days of absence (including the first two days) will have to be compensated in accordance with the instructions of the field work supervisor.

Mid-Year Evaluation and Final Evaluation

There will be a mid-year evaluation in early December for assessing the students field work performance during the I semester. The supervisor will write the report after a supervisory conference which will be specially geared to the discussion of work performance. There will be no grading for mid-year evaluation. The purpose of mid-year evaluation conference and report is that the student may get information and awareness of his/her strengths and weaknesses as regards as field work performance of the I semester and plan for better performance in the second semester.

At the end of the academic year, in March, every supervisor will submit to the Institute a written evaluation report on the students field work. Grades will be given by the field work supervisor in consultation with the field work coordinator.

Any student who does not come up to a certain minimum level of performance which is required for passing in field work, may be asked at the discretion of the faculty, either to leave the Institute or put in extra work to improve his/her field work performance.

FIELD WORK PRACTICUM: CONCURRENT FIELD WORK

The main object of concurrent field work is to provide opportunities for applying the knowledge learnt in the class room to real life situation (field reality) to understand and develop effective course of action (learning of intervention methods) according to needs of client system. And evaluate the experiences while working with the individual, groups and communities. Fieldwork enables the student to integrate and reinforce the knowledge and information acquired in the classroom with actual practice, under competent **supervision** by the agency and faculty supervisors. Every student is expected to work for 15 hrs. per week at various organizations or community settings.

FIELD WORK EVALUATION CRITERIA: (Applicable for the all four Semesters)

1) Analytical Ability:

- a. To understand evolution of agency, philosophy, policy and administration programmes.
- b. To identify roles of other departments and personnel in implementation of agency policies & programmes (in secondary settings).
- c. To understand the dynamics of the agency – roles, decision-making process, conflict solving procedures.
- d. To begin to situate agency in context of larger social system.
- e. To understand Profile of client system and causative factors affecting its needs and problems.
- f. To understand social work intervention utilized by agency in response to needs of client system.
- g. To assess one's own tasks in relation to problem situation.

2) Problem Solving Skills:

- a. To assess the problem situation and outlines the plan of action.
- b. To utilize problem solving process beginning with fact finding to evaluation of social work process in relation to needs, problems and aspirations of the client system.
- c. To develop and utilize working relationships with agency, client system and other related system.
- d. To utilise different techniques of problem solving, interviewing, home visits, communication and programme media mobilization of human and material resources.
- e. To utilise problem solving strategies selectively with individuals groups and communities.
- f. To understand the importance work in different administrative procedures – filing – maintaining registers, fund raising staff meetings.
- g. To develop basic skills of management of services, planning, organizing, implementing and evaluation.
- h. To participate in liaison work with other organizations and systems in terms of obtaining sanctions for programmes, interpreting social work intervention and networking on common issues.
- i. To understand the significance of and participates in teamwork in one's discipline as well as in the interdisciplinary team.
- j. To learn to priorities tasks and organize workload.
- k. To understand the importance of recording as a tool for learning and administration.
- l. Learn to record facts selectively and logical-assessment of problem situation, students feelings, reflections and intervention modalities.

3) Personal development:

- a. Appreciation and utilization of principles of social work in respect of persons, social justice, equality, opportunities, acceptance of the client system and its potential.
- b. Work with commitment in the agency in terms of fulfillment of tasks, disciplined use of self (dress, behavior, regularity, self control, awareness of bias and cultural blocks).
- c. Developing positive identification with the profession, conviction of the necessity of social work intervention.

4) Use of field Instructions :

- a. Understanding the significance of field instruction as a tool for professional training.
- b. Accepts the roles of faculty advisor, field instructor and field contact and utilises their expertise in one's own training.
- c. Indicates a gradual movement from a dependence on the instructor to performing ones role and tasks more independently.
- d. Utilises individual and group conferences for professional growth by accepting both the positive and negative remarks of the instructor.
- e. Actively participates in the group conferences and appreciates the participation of others.
- f. Makes efforts to improve performance through self-learning by reading learning from one's experiences and those of others.
- g. Develops ability for self-evaluation on going and periodic.

MSW- CBCS SYLLABUS 2021-22

Semester	III	Total Credit	3
Course Code	MP DSE 301A	Credit Pattern	L-35, T-5, P-5
Course Title	DEVELOPMENTAL PSYCHOLOGY		

Course Outcomes: Students will be able to	
1	Describe the concepts of developmental Psychology
2	Demonstrate the hazards while practicing in field
3	Apply relevant theories, concepts and models of behaviour
4	Demonstrate the appropriate milestones to the developmental period
5	Evaluate new trends in psychology
6	Formulate estimate and measure the personality using the techniques
7	Gain Skills on basic Human Understanding

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Developmental Psychology: Definition of Developmental Psychology, objectives of Developmental Psychology , Meaning, goal and attitude towards developmental changes, Significant facts about development. Life Span: Stages of life span, condition influencing longevity.	L= 7	
		T=1	P=1
2	The Prenatal and Infancy Period: Characteristics, beginning of life, Importance of conception, Time table of Prenatal development and hazards. Infancy: Characteristics, adjustment to Infancy, Conditions Influencing adjustment to Post –Natal Life, hazards of Infancy, effects of prematurity.	L=7	
		T=1	P=1
3	Babyhood and Childhood Period: Babyhood development tasks, hazards. Early Childhood: development tasks, hazards. Late Childhood: development tasks, hazards. Puberty and Adolescence: Puberty: effects of Puberty, hazards. Adolescence: Characteristics, physical changes, emotionality, social changes, interests, family relationships and hazards	L=7	
		T=1	P=1
4	. Adulthood: Characteristics, developmental tasks, Personal and Social adjustment, social mobility in early adulthood, vocational and marital adjustment, assessment, Success of adjustment to adulthood. Middle age: Personal and Social adjustment, vocational and family adjustment. Old Age: Personal, social, vocational and family adjustment.	L=7	
		T=1	P=1

Resources Learning		
1	Text Book	1. Hurlock E.B. : Child Development ,Tata MacGraw Hill Pub Ltd ,New York, 1984. 2. Hurlock E.B.: Development Psychology-A life span Approach, Tata MacGraw Hill Pub Ltd,New York, 1994. 3. Sharma R.N : Development Psychology, Surjeet Pub, Delhi, 1993. 4. Date Sushma : Child Development, Sheth Publication Pvt Ltd, 1996
2	Reference books	1. MichaleKerfoot et al : Problems of Childhood and Adolescence, McMillan, London, 1998. 2. Liebert RM: Development Psychology, Prentice Hall of India, New Delhi, 1979.
3	Websites	http://www.devpsy.org/ https://www.apa.org/pubs/journals/dev/ https://www.psychologytoday.com/intl/blog/fulfillment-any-age/201403/the-best-psychology-websites-you-probably-never-heard-about
4	Journals	1. Journal of Indian Association for Child and Adolescent Mental Health (JIACAM) 2. Indian Journal of Human Development (IJHD)
5	Supplementary Readings	1. Hurlock E.B.: Development Psychology, Tata MacGraw Hill Pub Ltd, 1978. 2. Chaube SP: Development Psychology, Neelkamal Pub, Ltd, 2007.
6	Practical Components	Student shall prepare the chart of various physical and psychological changes in different age groups.

COPO MAPPING

MSW-II	Developmental Psychology									sem 3	MPDSE301A
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3								3		
1.2	3	3				3	3		3	3	3
1.3	3	3			2	3	3		3	3	3
1.4	3	3				3	3		3	3	3
Total	3	3	3	3	2	3	3		3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	III	Total Credit	3
Course Code	MP DSE 301B	Credit Pattern	L-35, T-5, P-5
Course Title	HOSPITAL MANAGEMENT		

Course Outcomes: Students will be able to	
1	Describe the concepts of Management
2	Analyze the management process
3	Apply the management functions to take appropriate decisions for welfare
4	Formulate ideas and develop and participate in implementation of plans
5	Take a proactive and self-reflective role in working and to develop professional relationship
6	Evaluate new trends in management

Syllabus

Unit Number	Contents	No. Of Sessions	
1	Hospital Management: Meaning & concept, Growing s Unique features, Significance of Hospital Management, characteristics of modern hospitals as an organization, resource management, principles of management, Privatization in Health sector.	L= 7	
		T=1	P=1
2	Hospital Administration : Meaning and Concept of Hospital Management, Process and its Functions, Application of Hospital administration in Social Work (POSTCORB), Team work, Administration of patient related schemes – Medical Insurance (Cashless benefits, CGHS, ECHS, CSMA, TPA, ESI)	L=7	
		T=1	P=1
3	Behavioral concepts and theories—Cognitive process, perception process and its stages, creativity and problem solving, motivation process, different types of motives, selected theories of motivation, motivating medical and paramedical professionals, leadership, conflict management, team building, major components of OB, personality development. Legal and medical issues in hospitals. Social Work Intervention: Dealing with crisis situation, Methods of infection control, Development of staff – In service training, On job training, higher courses, specialized training, preventive steps for Hospital Management	L=7	
		T=1	P=1
4	Preventive steps for doctors/hospitals to avoid litigation – high risk, consent form, dying declaration, death certificate, post mortem report, recording, skills & techniques in completing medical & technical procedures in hospital. Legal aspects in Hospital Administration : General important legal knowledge pertaining to IPC, CRPC, Civil PC. Labour Laws applicable to hospitals. Management ethics, social objectives and responsibilities of management, corporate social responsibility.	L=7	
		T=1	P=1

Resources Learning		
1	Text Book	1. Hospital Management- K V Ramani 2. Hospitals, Facilities, Planning, and Management 3. Hospital Information Systems- S A Kelkar
2	Reference books	1. Shelly & Taylor - Health Psychology (7th Edition) 2. S. M. Jha – Himalaya - Hospital Management 3. V. Sujatha - Sociology of health medicine 4. D. K. Sharma, R. C. Goyal - Hospital Administration & Human Resource Management 5. Mor'a Stewart, Debra Rote - Communicating with medical patients 6. Michael Drafke - The Human Side of organization (10th Edition) 7. A System Approach – Elizabeth L Hollo way - Clinical Suspension 8. Angelo Kinicki, Robert Kreitner - Organizational Behaviour Concepts, Skills & Practice 9. David A Whetten, Kim S. Camera - Developing Management Skills 10. Francis C. M. - Hospital Administration 11. William Grangt - Hospital Management 12. Lynne Milward - Understanding Occupational & Organizational Psychology
3	Websites	http://superclinic.in http://www.ahaindia.org https://www.kemhospitalhmi.com https://www.amity.edu/aiha/
4	Journals	Journal of biomedical informatics Journal of medical ethics International journal of evidence based health care
5	Supplementary Readings	Organizational behavior, Hospital Administration, Health Care management,, Social Welfare Administration
6	Practical Components	1. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 2. Video cases and documentary films relating to the syllabus to be exhibited in the class

COPO MAPPING

MSW-II	Hospital Management									sem 3	MPDSE301B
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	3	3				2		3		
1.2	3	3	3	3	3	3	3	3	2	3	3
1.3	3	3	3	3	3	3	3	3	3	3	3
1.4	3	3	3	3	3	3	3	3		3	3
Total	3	3	3	3	3	3	3	3	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	III	Total Credit	1
Course Code	AEC 301A	Credit Pattern	L-15, T-0, P-0
Course Title	COMPUTER APPLICATIONS (THEORY)		

Course Outcomes:	
1	Describe the concepts and their application of statistics in social work
2	Ability to design, set up and conduct practical
3	Ability to use the techniques, skills, and modern Software tools for software development
4	Ability to design, develop and verify software systems to meet desired needs within realistic constraints ensuring quality, reliability, security in addition to satisfying economical, ethical, social and environmental constraints

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction: Definition, Characteristics of computers, Evolution of computers, computer generations, applications of computers, Use of computers in social work Basic Computer Organization: Input unit, Output unit, Storage Unit, Arithmetic Logic Unit, Control Unit, Central processing unit, system concept Different types of input-output devices and secondary storage devices	L= 5	
		T=0	P=0
2	Computer Software: Types of Software, Computer languages, Operating Systems, its functions, popular operating systems, Windows, its features. Application Software Packages: Word processing package, spread sheet package, presentation package Features of Ms Word, mail merge and features of Ms PowerPoint	L= 4	
		T= 0	P=0
3	Excel: worksheets, workbook, calculations by formula, operator precedence, relative, absolute and mixed cell references.	L=2	
		T=0	P= 0
4	SPSS: Menu, Creating data file, Defining variables, sorting, splitting file, selecting cases, computing new variable, recoding variables.	L= 2	
		T=0	P= 0
5	Internet: Introduction, history, Basic Services, Electronic mail, File transfer protocol, World Wide Web, www Browsers, internet search engines, Uses of internet.	L= 2	
		T= 0	P= 0

Learning Resources		
1	Text Books	1. Sinha P K & Sinha P (2011) Computer Fundamentals, PBP Publications. 2. Saxena S (2003) A First Course in Computers, Noida, Vikas Publishing House Pvt. Ltd. 3. Pandya K, Bulsari S and Sinha S (2012) SPSS in simple steps, Delhi, Dreamtech Press 4. Leon A and Leon M.(2012) Internet for Everyone, Chennai, Leon Vikas.
2	Reference books	1. Schwartz S. (2012). Microsoft Office 2010, Noida, Pearson. 2. Cunningham J B and Aldrich J O (2012) Using SPSS: An Interactive Hands-On Approach, New Delhi, SAGE 3. Gupta S L and Gupta H (2011) SPSS 17.0 for Researchers, New Delhi, international book house Pvt. Ltd.
3	Websites	https://www.javatpoint.com/computer-fundamentals-tutorial https://www.tutorialspoint.com/computer_fundamentals/ http://vikaspedia.in/education/Digital%20Literacy/it-literacy-courses-in-associating-with-msup/computer-fundamentals
4	Journals	PC World E Week (Available in EBSCO)
5	Supplementary Reading	Parker-Oliver, D., &Demiris, G. (2006). Social Work Informatics: A New Specialty. Social Work, 51(2), 127-134. (Available in JSTOR under NLIST-Inflibnet)

COPO MAPPING

MSW-II	Computer Application(Theory)									sem 3	AEC301
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3								3		
1.2	3	2	3	3	2	3	3	2	3		3
1.3	3	3	3	3	2	3	3	2	3	3	3
1.4	3	3	3	3	2	3	3	2	3	3	3
Total	3	3	3	3	2	3	3	2	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	III	Total Credit	2
Course Code	AEC 301B	Credit Pattern	L-0, T-0, P-60
Course Title	COMPUTER APPLICATIONS (PRACTICAL)		

Course Outcomes: Students will be able to	
1	Make use Office Automation Tools like word processors, spreadsheets and presentation tools.
2	Utilize multimedia authoring tools to design small applications using sound, audio, and video/animation.
3	Handle Computer Networks, modems and routers, and efficiently use Internet
4	Develop and implement a simple project based on case studies.
5	Apply statistical data analysis through Excel
6	Analyze statistical data through SPSS

Syllabus:

Requirement: 2 Sessions of 2Hrs on each of the following		
No	Software	Concepts/ topics to be covered in the exercise
1	Ms Word	Editing, formatting, text box, tables, clip art
2	Ms Word	Mail merge
3	Ms Power Point	Creation of presentations, slide layouts, Animation effects Inserting charts, tables, clip art, smartart graphics
4	Ms Excel	Use of formula, formatting options, relative cell reference
5	Ms Excel	Use of functions, bar & pie diagrams
6	Ms Excel	Statistical data analysis in Excel, absolute cell reference, mixed cell reference
7	Ms Excel	Sorting, filtering, Categorical data Analysis, t test
8	Ms Excel	Correlation, regression, scatter diagram
9	Ms Excel	Pivot tables, Ch- Square test
10	SPSS	Entering data on SPSS and generating descriptive statistics, graphs
11	SPSS	Computation of new variables and categorical data analysis
12	SPSS	Data editing and verification of normality
13	SPSS	Correlation and regression Analysis
14	SPSS	t tests
15	SPSS	Chi Square test

MSW- CBCS SYLLABUS 2021-22

Learning Resources		
1	Text Books	1. Saxena S (2003) A First Course in Computers, Noida, Vikas Publishing House Pvt. Ltd. 2. Pandya K, Bulsari S and Sinha S (2012) SPSS in simple steps, Delhi, Dreamtech Press
2	Reference books	1. Frye C (2012) Microsoft Excel 2010 Step by Step, Delhi, PHI Learning Pvt. Ltd. 2. Schwartz S. (2012). Microsoft Office 2010, Noida, Pearson. 3. Cunningham J B and Aldrich J O (2012) Using SPSS: An Interactive Hands-On Approach, New Delhi, SAGE
3	Websites	https://www.javatpoint.com/computer-fundamentals-tutorial https://www.tutorialspoint.com/computer_fundamentals/ http://vikaspedia.in/education/Digital%20Literacy/it-literacy-courses-in-associating-with-msup/computer-fundamentals
4	Journals	PC World E Week (Available in EBSCO)
5	Supplementary Reading	Parker-Oliver, D., &Demiris, G. (2006). Social Work Informatics: A New Specialty. Social Work, 51(2), 127-134. (Available in JSTOR under NLIST-Inflibnet)
6	Practical Components	Students will be given Computer practical work on various topics.

COPO MAPPING

MSW-II	Computer Application (Practicals)									sem 3	AEC301B
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3								3		
1.2	3	2	3	3	2	3	3	2	3		3
1.3	3	3	3	3	2	3	3	2	3	3	3
1.4	3	3	3	3	2	3	3	2	3	3	3
Total	3	3	3	3	2	3	3	2	3	3	3

MSW-GROUP A SEMESTER-IV

MSW- CBCS SYLLABUS 2021-22

Semester	IV	Total Credit	3
Course Code	HR CC 401	Credit Pattern	L-35 T-5 P-5
Course Title	LABOUR WELFARE - II		

Course Outcomes: Students will be able to	
1	Recognize and State the concept of labor welfare
2	Interpret and illustrate the changing scenarios of the labor approaches
3	Summaries the importance of occupational health and industrial hazards
4	Relate and interpret the occupational disease and its safety management
5	Experiment and outline the relation to work culture and productivity
6	Identify the suitable labor legislation and the working labor welfare
7	Extrapolate the use of legislations in the context of Labor Welfare

Syllabus

Unit Number	Contents	No. of Sessions	
1	Working conditions and hazards: Working conditions and hazards in factories, Mines, docks and Plantation.	L= 7	
		T=1	P=1
2	Social Security : Concept, Definition, objectives, social assistance, social insurance, Public Service. Historical development. ILO social security. Indian social security system. Financing of social security schemes, social security and the National Economy.	L= 7	
		T=1	P=1
3	Workers' Education Scheme : Objectives of worker's education scheme, Venue and technique, workers' education in India. Three level of training programme. Syllabi of Workers' Education Scheme. Special programmes for unorganized sector workers. Pattern of Workers' Education Scheme. Role of employer and trade unions for workers' education scheme. Evaluation of the scheme and recent trends.	L= 7	
		T=1	P= 1
4	Welfare Officer : Labour Welfare and Welfare officer in Indian industry. Evolution and development of the institution of welfare officer. Tata Institute of Social Science, Mumbai, Delhi School of Social Work and more. Appointment of welfare officer. Role and responsibilities and qualifications of welfare officer, duties, functions and his position in the management. The Maharashtra Welfare Officer Rules, 1966. Agencies for Labour Welfare: Welfare work by central, State,	L= 7	
		T=1	P= 1

MSW- CBCS SYLLABUS 2021-22

	local govt. and Management and Trade Unions. Social obligation of industry. Industrial Social Work: Social Work Practice. Use of social work methods. The skills of social work. Personnel social worker and counseling services		

Resources Learning			
1	Text Book	1. Ratna Sen ,”Industrial Relations, “ Trinity Press, Chennai,2014. 2. P.Subba Rao, “Personnel and Human Resource Management”, Himalaya Publishing House, New Delhi,2013. 3. K. Aswathappa, “Organizational Behaviour”, Himalaya Publishing House, New Delhi,	
2	Reference books	1. C.B. Mamoria, Satish Mamoria, S.V.Gankar, ”Dynamics of Industrial Relations”, Himalaya Publishing House, New Delhi, 2012 2. A.M. Sarma, “Aspects of Labour Welfare and Social Security”, 12th Edition, Himalaya Publishing House, New Delhi, 2018. 3. S.D.Punekar, S.B. Deodhar, Mrs. Saraswathi Sankarn, “Labour Welfare, Trade Unionism and Industrial Relations, Revised Edition, 2007. 4. B.D.Rawat, “Labour welfarism in India, Problems & Prospects,” RBSA Publishers SMS Highway, Jayapur, 1988. 5. Meenakshi Gupta, “ Labour Welfare and Social Security in Unorganized Sectors”, Deep & Deep Publications Pvt. Ltd., New Delhi, 2007. 6. M. Velusamy, “Labour Welfare-Legislation & Social Security”, Dominant Publishers & Distributors Pvt. Ltd., New Delhi, 2014.	
3	Websites	www.labourlawagency.com www.irhrjournal.com	
4	Journals	1. The Indian Journal of Industrial Relations. 2. Aps Labour Digest	
5	Supplementary Reading	1. R.S.Kulkarni, “ Management of Labour(Practice & Procedures)”,Kulkarni Publications Pune, 2002. 2. T.N Bhagoliwala,” Economics of Labour & Industrial Relations”, Sahitya Bhawan, Agra. 3. M. Velusamy, “ Labour Welfare –Legislation & Social Security”, Dominant Publishers & Distributors Pvt. Ltd, New Delhi, 2014.	
6	Practical Components	1. Survey to be conduct for knowing the statutory and non-statutory welfare facilities provided by the employer. 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.	

COPO MAPPING

MSW-II	Labour Welfare-II									sem 4	HR CC401
	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3		3								
1.2	3	3	3					1		2	3
1.3	3	3		3		3	3		3		3
1.4	3	3		3	2	2					
Total	3	3	3	3		3			3	2	3

Semester	IV	Total Credit	3
Course Code	HRCC 402	Credit Pattern	L-35, T-5, P-5
Course Title	LABOUR LEGISLATIONS – II		

Course Outcomes: Students will be able to	
1	Elaborate the concept of Industrial Relations.
2	Illustrate the role of trade union in the industrial setup.
3	Outline the important causes & impact of industrial disputes.
4	summarize the important provisions of Employers compensation Act 1923, & Payment of Bonus Act 1965
5	Summarize the important provisions of Social Security Legislations, in reference to Maternity Benefit Act 1961, Employees Provident Fund Act 1952, and Payment of Gratuity Act 1972.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Labour administration -Machinery for enforcement of various labour laws	L= 7	
		T= 1	P= 1
2	Labour Legislation on Social Security 1.The Employees' Compensation Act,1923 2.The Employees' State Insurance Act,1923	L= 7	
		T= 1	P= 1
3	Labour Legislation on Social Security 3. The Payment of Gratuity Act, 1972 4. The Maternity Benefit Act, 1961 Labour legislation on Social Security 5.The Payment of Bonus Act,1965 6.The EPF and MP Act,1952	L=7	
		T=1	P=1
4	Labour legislation on Social Security & wages 7.The Employees Pension Schemes 1995 8.The Payment of Wages Act,1936 9.The Minimum Wages Act,1948	L= 7	
		T= 1	P= 1

Learning Resources		
1	Text Books	1. Hand book of Industrial law:N.D.Kapoor,Sultan Chand and sons,New Delhi 2. Labour and industrial laws: P.K.Padhi, PHI Learning Private Limited,New Delhi 3. Industrial Relations and Labour Laws:S.C Srivastva ,Vikas publishers New Delhi 4. Labour Laws in brief:A.K.Sinha ,Excel Books publisher,New Delhi
2	Reference books	1. Labour legisartion : Sudeshna Singh and Praveen Kumar.Publisher-Vayu Education of India, 2. New DelhiIndustrial relations,Trade Unions and Labour legislation:P.R.N.Sinha Publisher Pearson Education ,New Delhi 3. Labour legislation: P Saravanel,Publisher-Eswar Press NewDelhi
3	Websites	www.comply4hrs.com https://labour.gov.in www.clrindia.com
4	Journals	Indian Journal of Industrial Relations Indian labour journal Labour digest
5	Supplementary Reading	Industrial Jurisprudence and labour legislation:A.M.Sarma, Himalaya Publishing House,Newdelhi
6	Practical Component	Field work in Industrial setting

COPO MAPPING

MSW-II	Labour Legislations-II									sem 4	HR CC402
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3										
1.2	3	3	2		3	3			3	3	3
1.3	3	3			3	3			3	3	3
1.4	3	3	2		3	3			3	3	3
Total	3	3	2			3			3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	IV	Total Credit	3
Course Code	HRCC 403	Credit Pattern	L-35, T5 P5
Course Title	ORGANISATIONAL BEHAVIOUR		

Course Outcomes: Students will be able to	
1	Identify as a professional social worker and conduct oneself accordingly
2	Apply social work ethical principles to guide professional practice
3	Compare and contrast theories of organizational behavior.
4	Analyze management issues as related to organizational behavior
5	Evaluate ethical issues as related to organizational behavior.
6	Examine challenges of effective organizational communication.
7	Examine the differences and similarities between leadership, power, and management
8	Assess the impact of culture on organizational behavior.

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Fundamentals of Organisational Behaviour: Concept and definition of OB, Historical Development of OB. Models of OB. Organisational Behaviour System, Social systems and organizational culture Understanding a Social System, Social Culture, Role, Status.	L= 7	
		T=1	P=1
2	Individual Dimensions of O B: Individual differences and work behavior, Perception, Attitude, Motivation, stress management and Emotional Intelligence.	L=7	
		T=1	P=1
3	Social Dimensions of OB: work Group and Group Dynamics in organization. – Interpersonal relations and Team building, conflicts and Negotiation Structural Dimensions of OB: Job Design and Organisational Design. Organisational Development and Change management.	L=7	
		T=1	P=1
4	Organisational process :, Communication , The importance of communication, The communication process, Power and Politics. Leadership :Meaning – Importance– Theories of Leadership Organizational culture. ,Influencing culture change. Quality of Work Life, work - Life Balance	L=7	
		T=1	P=1

Learning Resources		
1	Text Book	1. Davis K and Newstorm W I. Human Behaviour at Work, Tata McGraw- Hill publishing co. 2002 2. Fred Luthans, Organisational Behaviour, Tata McGraw- Hill Book Co. 2005 3. Robbins P S, Organisational Behaviour, Prentice Hall International, Inc 2009.
2	Reference books	Subba Rao, Management and Organisational Behaviour, Texts and cases, Himalaya publishing House, Mumbai, 2005. Ashwathappa, K. Organisational Behaviour, Text, cases and Games, Himalaya publishing House, New Delhi, 2008. Greenberg, J. (2004). Managing behavior in organizations, 4th ed. Upper Saddle River, NJ: Prentice Hall. ISBN#: 0-13-144746-7
3	Websites	http://obweb.org/ http://wps.pearsoned.co.uk/ema_uk_he_rollinson_orgbehav_4/
4	Journals	https://www.wiley.com/en-us/Journal+of+Organizational+Behavior-p-9780JNRL01270 https://onlinelibrary.wiley.com/journal/10991379
5	Supplementary Readings	Uma Sekheran, Organisational Behaviour, Text and cases, Tata McGraw- Hill publishing co. 1992.
6	Practical Components	Case studies and Role play

COPO MAPPING

MSW-II	Organisational Behaviour									sem 4	HR CC403
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3						3	3	3	1	-
1.2	3	3	3	3	2	3	3	3	3	2	3
1.3	3	3	3	3	3	3	3	2	3	3	3
1.4	3	3	2	3	3	3	3	2	3	3	3
Total	3	3	3	3	3	3	3	3	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	IV	Total Credit	3
Course Code	HRCC 404	Credit Pattern	L-35, T-5, P-5
Course Title	INDUSTRIAL RELATIONS		

Course Outcomes: The students will able to

1	Describe the various concepts of industrial relations
2	Demonstrate the functions of industrial relations in the context of development
3	Analyze the IR process to take appropriate decisions
4	Evaluate new trends in industrial relations

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Concept, Theory and Systems of Industrial Relations. Industrial Relations in India. Objectives, genesis and growth of industrial relations. Aspects of industrial relations. Historical perspective.	L= 7	
		T=1	P=1
2	Shop floor supervision and its problems. Standing Orders: Model and Certified Standing Orders. Objectives of Standing Orders. Employee Grievance- definition, nature and causes of grievance. Grievance handling procedure. Code of discipline in industry. Domestic Inquiry: Oral warning, warning in writing, show-cause, charge sheet, appointment of enquiry officer and his qualification, duties, role and functions	L=7	
		T=1	P=1
3	Industrial Conflict, genesis of Industrial conflicts: Definition and essentials of a dispute: Classification of industrial disputes. Preventive measures of industrial disputes. Tripartite and Bipartite bodies, Settlement Machineries: Mediation, Conciliation, Arbitration, Adjudication.	L=7	
		T=1	P=1
4	Collective Bargaining: Definition, functions and characteristics of collective bargaining, Forms of collective bargaining. Importance of collective bargaining, process of collective bargaining, tactics used in collective bargaining, recharging and implementing agreement. The State Policy and Industrial Relations Policy, State Inventor, Relevant articles (under Indian Constitution), Recommendations of National Commission on Labour and Industrial Relations Policy. Industrial Democracy and peace. Workers' participation in Management, works committee and joint management council- Forms of Workers' participation in Management.	L=7	
		T=1	P=1

Resources Learning		
1	Text Book	1. Ratna Sen ,”Industrial Relations, “ Trinity Press, Chennai,2014. 2. P.Subba Rao, “Personnel and Human Resource Management”, Himalaya Publishing House, New Delhi,2013. 3. K. Aswathappa, “Organizational Behaviour”, Himalaya Publishing House, New Delhi,
2	Reference books	1. C.B. Mamoria, Satish Mamoria, S.V.Gankar, ”Dynamics of Industrial Relations”, Himalaya Publishing House, New Delhi, 2012 2. A.M. Sarma, “Aspects of Labour Welfare and Social Security”, 12th Edition, Himalaya Publishing House, New Delhi, 2018. 3. S.D.Punekar, S.B. Deodhar, Mrs. Saraswathi Sankarn, “Labour Welfare, Trade Unionism and Industrial Relations, Revised Edition, 2007. 4. B.D.Rawat, “Labour welfarism in India, Problems & Prospects,” RBSA Publishers SMS Highway, Jayapur, 1988. 5. Meenakshi Gupta, “ Labour Welfare and Social Security in Unorganized Sectors”, Deep & Deep Publications Pvt. Ltd., New Delhi, 2007. 6. M. Velusamy, “Labour Welfare-Legislation & Social Security”, Dominant Publishers & Distributers Pvt. Ltd., New Delhi, 2014.
3	Websites	www.labourlawagency.com www.irhrjournal.com
4	Journals	1. The Indian Journal of Industrial Relations. 2. Aps Labour Digest
5	Supplementary Readings	1. R.S.Kulkarni, “ Management of Labour(Practice & Procedures)”,Kulkarni Publications Pune, 2002. 2. T.N Bhagoliwala,” Economics of Labour & Industrial Relations”, Sahitya Bhawan, Agra. 3. M. Velusamy, “ Labour Welfare –Legislation & Social Security”, Dominant Publishers & Distributors Pvt. Ltd, New Delhi, 2014.
6	Practical Components	Survey to be conduct for knowing the statutory and non-statutory welfare facilities provided by the employer.

COPO MAPPING

MSW-II	Industrial Relation									sem 4	HR CC404
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3										
1.2	3	3		3	3	2	3		3	3	3
1.3	3	3	3	2	3	3	3	3	3	3	3
1.4	3	3	3	2	3	3	3	3	3	3	3
Total	3	3	3	2	3	2	3	3	3	3	3

HR CC 405 STUDY TOUR AND CONCURRENT FIELD WORK

STUDY TOUR IN THE MONTH OF FEBRUARY (COMPULSORY)

LABOUR WELFARE

Working conditions & hazards

1. Labour Welfare Officer – Qualification, Service conditions, status and role.
2. Social security – ESI Scheme, Provident Fund and its working, Gratuity Terms and Conditions for payment, maternity benefit, workmen's Compensation, Pension etc.
3. Workers Education scheme: Objectives, Training Programme, etc.
4. Housing Facilities – Types, allotment, Rent (HRA) and other conveniences.
5. Transport Facilities, Traveling allowance.
6. Recreation and educational facilities, scholarships and other benefits.
7. Agencies for Labours Welfare – Management, Union and State, its role.
8. Industrial Social Work. (Identifying chronic problems among workers, if any and mobilizing resources to address the workers problem)

INDUSTRIAL RELATIONS AND TRADE UNIONS

1. Trade Unions in the establishment; its growth and development. Rights and privileges of registered trade unions, duties and liabilities. Present, membership, finance, affiliation and constitution. Role in industrial relations. Relationship with employer.
2. Industrial conflict – preventive measures.
3. Study of various codes and Bipartite and Tripartite Bodies, Grievance Committee, Works Committee, shop council, joint council etc.
4. Collective Bargaining and industrial co-operation: contents and coverage. Process of negotiations.
5. Workers participation in Management – Aims and objectives. Forms and level of participation. Joint Management Council.
6. Role of Trade Unions in labour welfare, job security, productivity and participation in management

HUMAN RESOURCES DEVELOPMENT

1. HRD functions in the organization.
2. Human Resource Planning, Planning System, Process and Accounting.
3. Performance Appraisal System. Methods of Performance appraisal. Performance appraisal and merit rating.
4. Training and Development – Training System – Development of Human Resources.
5. Career Planning – Human Resource Development and Career Planning.
6. Study of Work environment. Motivation in organization. Motivation Techniques.
7. Communication : Process of Communication, Purpose, Media and Bargain.
8. Organizational development and strategy.

LABOUR LEGISLATION

(Study of practical aspects like filing, returns, submitting reports to authorities under the various legislations)

1. The Workman's Compensation Act, 1923.
2. The Employees State Insurance Act, 1948.
3. The Payment of Gratuity Act, 1972.
4. The Maternity Benefit Act, 1965.
5. The Payment of Bonus Act, 1965.
6. The Employees' Provident Fund Act, 1952
7. The Employees' Pension Scheme 1995.
8. The Payment of Wages Act 1936.
9. The Minimum Wages Act 1948.
10. Preparation of Case Studies from Labour Law Journals etc.

INDUSTRIAL SOCIAL WORK

1. Handling of the Problem Cases related to -
 - a) Housing
 - b) Absenteeism
 - c) Wages and Leave
 - d) Work load and work performance
 - e) Retirement
 - f) Adjustments to Job working conditions, Safety and Health.
 - g) Indebtedness.
 - h) In-discipline and Insubordination and relationship with co-workers and supervisors.
2. Participation in Workers Education Scheme and in arranging Welfare Programmes for the workers.
3. Visiting Housing Colonies and studying the problems of the residents and promoting community organization amongst them conducting awareness programmes, counseling to workers and their families, arranging get together for employees and their families.

PRACTICAL WORK

- 1) The students shall be assigned the work on the following under or in co-operation with the Officers concerned.
- 2) Receiving and handling complaints and Grievances.
- 3) Reporting on the Committee Functions.
- 4) Working on Annual and other types of Returns.
- 5) Working on Reports to be sent by the Factory.
- 6) Drafting Circulars, Notices, Letters, Memos, etc.
- 7) Working on P.F., Co-operative Society, Canteen Administration, Works Committee, Recreation and other Committees.
- 8) Submitting Report on working conditions in factory on the following points:
 - b) Employment, Recruitment etc.
 - c) Holidays with Pay.
 - d) Working Conditions.
 - e) Accidents and Occupational Diseases.
 - f) Wages and other Allowances.
 - g) Housing.
 - h) Industrial Relations.
 - i) Employee counseling and use of Methods of Social Work.
- 9) Report on Labour Turnover, Absenteeism, Tardiness, Loitering etc.
- 10) Report on cases of adjustment referred to by Factory Doctor, L.W.O.L.O., P.M., Departmental Head, etc.
- 11) Any other assignment given by the Agency supervisor.

TOOLS FOR FIELD WORK PROCESS :

1. Observation and actual participation in work situations.
2. Interviews with the employee on the shop floor.
3. Study of files, Reports, Manuals, Journals and Records pertaining to HRM.
4. Participation in Joint Committee Meetings and Work Committee.
5. Discussion with Labour and Welfare Officers and other Personnel.
6. Preparation of Statistics, Charts, Graphs, etc. regarding various Personnel data, such as Recruitment, Labour Turnover, Absenteeism, Accidents, etc. and if possible conducting of small scale research on these topics.
7. Recording experience in fieldwork journal and reporting experience in field work conferences.

**HR CC 406: FIELD WORK REPORT AND VIVA-VOCE
FIELD WORK DIARY, RECORDING, MONTHLY ATTENDANCE SHEETS AND
SUMMARY OF SUPERVISORY CONFERENCES**

Every student is expected to maintain/prepare the following regularly or at appointed times:

- (a) A diary of activities and account of time spent for each activity. Points from supervisory conferences should also be noted down in the diary.
- (b) Detailed reports of activities (field work records)
- (c) Summary of Supervisory Conferences which has to be submitted to the Field Work coordinator at the end of every month (cyclostyled forms will be provided for this purpose) and
- (d) Monthly field work attendance sheets. Cyclostyled forms are available in the office for this purpose

At the end of every month, field work attendance sheets should be submitted to the field work supervisor so that the letter may forward it to the office, on the First Wednesday of the following month. Those who are under the direct supervision of agency social workers are required to submit the attendance sheets (after it has been duly signed by the supervisor) to the head of the department who is in charge of his/her placement (A Speciman copy is given to you)

The diary and recording should be submitted every week to the supervisor for review and discussion

Leave of Absence from Field Work

Absence from field work should be avoided as far as possible. For valid reasons, however, leave of absence is allowed for 2 days in a semester. If any student is absent for more than two days, all the days of absence (including the first two days) will have to be compensated in accordance with the instructions of the field work supervisor.

Mid-Year Evaluation and Final Evaluation

There will be a mid-year evaluation in early December for assessing the students field work performance during the I semester. The supervisor will write the report after a supervisory conference which will be specially geared to the discussion of work performance. There will be no grading for mid-year evaluation. The purpose of mid-year evaluation conference and report is that the student may get information and awareness of his/her strengths and weaknesses as regards as field work performance of the I semester and plan for better performance in the second semester.

At the end of the academic year, in March, every supervisor will submit to the Institute a written evaluation report on the students field work. Grades will be given by the field work supervisor in consultation with the field work coordinator.

Any student who does not come up to a certain minimum level of performance which is required for passing in field work, may be asked at the discretion of the faculty, either to leave the Institute or put in extra work to improve his/her field work performance.

FIELD WORK PRACTICUM: CONCURRENT FIELD WORK

The main object of concurrent field work is to provide opportunities for applying the knowledge learnt in the class room to real life situation (field reality) to understand and develop effective course of action (learning of intervention methods) according to needs of client system. And evaluate the experiences while working with the individual, groups and communities. Fieldwork enables the student to integrate and reinforce the knowledge and information acquired in the classroom with actual practice, under competent **supervision** by the agency and faculty supervisors. Every student is expected to work for 15 hrs. per week at various organizations or community settings.

FIELD WORK EVALUATION CRITERIA: (Applicable for the all four Semesters)

1) Analytical Ability:

- a. To understand evolution of agency, philosophy, policy and administration programmes.
- b. To identify roles of other departments and personnel in implementation of agency policies & programmes (in secondary settings).
- c. To understand the dynamics of the agency – roles, decision-making process, conflict solving procedures.
- d. To begin to situate agency in context of larger social system.
- e. To understand Profile of client system and causative factors affecting its needs and problems.
- f. To understand social work intervention utilized by agency in response to needs of client system.
- g. To assess one's own tasks in relation to problem situation.

2) Problem Solving Skills:

- a. To assess the problem situation and outlines the plan of action.
- b. To utilize problem solving process beginning with fact finding to evaluation of social work process in relation to needs, problems and aspirations of the client system.
- c. To develop and utilize working relationships with agency, client system and other related system.
- d. To utilise different techniques of problem solving, interviewing, home visits, communication and programme media mobilization of human and material resources.
- e. To utilise problem solving strategies selectively with individuals groups and communities.
- f. To understand the importance work in different administrative procedures – filing – maintaining registers, fund raising staff meetings.
- g. To develop basic skills of management of services, planning, organizing, implementing and evaluation.
- h. To participate in liaison work with other organizations and systems in terms of obtaining sanctions for programmes, interpreting social work intervention and networking on common issues.
- i. To understand the significance of and participates in teamwork in one's discipline as well as in the interdisciplinary team.
- j. To learn to priorities tasks and organize workload.
- k. To understand the importance of recording as a tool for learning and administration.
- l. Learn to record facts selectively and logical-assessment of problem situation, students feelings, reflections and intervention modalities.

3) Personal development:

- a. Appreciation and utilization of principles of social work in respect of persons, social justice, equality, opportunities, acceptance of the client system and its potential.
- b. Work with commitment in the agency in terms of fulfillment of tasks, disciplined use of self (dress, behavior, regularity, self control, awareness of bias and cultural blocks).
- c. Developing positive identification with the profession, conviction of the necessity of social work intervention.

4) Use of field Instructions :

- h. Understanding the significance of field instruction as a tool for professional training.
- a. Accepts the roles of faculty advisor, field instructor and field contact and utilises their expertise in one's own training.
- b. Indicates a gradual movement from a dependence on the instructor to performing ones role and tasks more independently.
- c. Utilises individual and group conferences for professional growth by accepting both the positive and negative remarks of the instructor.
- d. Actively participates in the group conferences and appreciates the participation of others.
- e. Makes efforts to improve performance through self-learning by reading learning from one's experiences and those of others.
- f. Develops ability for self-evaluation on going and periodic.

HR DSE 401A: Research Project

Students who opt for research project are required to start their research work at the beginning of third semester under the guidance of allotted faculty member. The selection of agency/industry for data collection needs to be done with consultation of organization and faculty supervisor. The research proposals shall be prepared as per format given below

1. Topic, Problem – Introduction and Review of literature
2. Objectives of the study
3. Tentative Research Methodology
4. References

The final research report shall have following chapter scheme

Title of the study

I Introduction

II. Review of literature

III. Research Methodology

Iv. Data Interpretation

v. Summary, suggestion and conclusion

Appendix – Interview schedule, Photos, Graphs, and bibliography etc.

The final research report shall be submitted to organization/industry and respective guide (one hard copy, one soft copy to HOD). Last date for submission is on or before 15th March.

MSW-II	Research Project									sem 4	HR DSE401A
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3		3			3	3	3	3	3	3
1.2	3	3	3	3	3	3	3	3	3	3	3
1.3	3	3	3	3	3	3	3	3	3	3	3
1.4	3	3	3	3	3	3	3	3	3	3	3
Total	3	3	3	3	3	3	3	3	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	IV	Total Credit	3
Course Code	HRDSE 401B	Credit Pattern	L-35, T-5, P-5
Course Title	CORPORATE SOCIAL RESPONSIBILITY		

Course Outcomes: Students will be able to	
1	Describe the concept and the scope and complexity of corporate social responsibility (CSR)
2	Analyze the connections between corporate strategy and CSR and the impact on foundational organizational principles such as mission and vision.
3	Demonstrate a multi-stakeholder perspective in viewing CSR issues.
4	Analyze the complex issues confronting organizational leaders as they develop their CSR programs.
5	Evaluate the level of commitment to CSR of various organizations and explain how it can be a source of competitive advantage.
6	Analyze the impact of CSR implementation on corporate culture, particularly as it relates to social issues.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to CSR: Meaning & Definition of CSR, History & evolution of CSR. International framework for corporate social Responsibility, Millennium Development goals, Sustainable development goals, Relationship between CSR and MDGs. United Nations (UN) Global Compact 2011. UN guiding principles on business and human rights.– Globalization and CSR.	L= 7	
		T= 1	P= 1
2	CSR through triple bottom line and Sustainable Business; Triple Bottom Line Approach of CSR: Economic, Social and Environmental. Stake holders and Social Preferences: Customer, Employees, Communities, Investors. Carroll's model.	L= 7	
		T= 1	P= 1
3	Indian perspectives and approaches: Models of CSR in India,. Initiatives in India. Corporate Governance and CSR , CSR Policy and guidelines , Legal frame work, rules and regulations, Company Act 2013 - relevant provisions of CSR. Role of Government and NGO in CSR. Business Benefits of CSR.	L=7	
		T=1	P=1
4	Designing a CSR policy – Factors influencing CSR policy – Managing CSR in an organization – Role of HR Professionals in CSR – Global Recognitions of CSR- ISO 14000 - SA 8000 - AA 1000 - Codes formulated by UN Global Compact – UNDP, Global Reporting Initiative.	L= 7	
		T= 1	P= 1

MSW- CBCS SYLLABUS 2021-22

	Implementing CSR – CSR in the marketplace – CSR in the workplace – CSR in the community – CSR in the ecological environment – CSR in India: Legal provisions and specifications on CSR . Current trends and opportunities in CSR.		

Learning Resources			
1	Text Books	1. Benn & Bolton, (2011). Key concepts in corporate social responsibility. Australia: Sage Publications Ltd. 2. Bradshaw, T. and D. Vogel. (1981). Corporations and their critics: Issues and answers to the problems of corporate social responsibility. New York: McGraw Hill Book Company 3. Brummer, J.J. (1991). Corporate Responsibility and Legitimacy: An interdisciplinary analysis. Westport, CT: Greenwood Press. 4. Cannon, T. (1992). Corporate responsibility (1st ed.) London: Pitman Publishing. 5. Crane, A. et al., (2008). The Oxford handbook of corporate social responsibility. New York: Oxford University Press Inc.	
2	Reference books	1. Lourdes Poobala Rayen- Corporate Social responsibility. 2. Ellington. J. (1998). Cannibals with forks: The triple bottom line of 21st century business. New Society Publishers 3. Baxi C.V and Ajit P, Corporate Social Responsibility, Concept & Cases: “The Indian Experience, Excel Books. 4. Reddy S and Stefan S (2004). Corporate Social Responsibility: Sustainable Supply Chains. Hyderabad: ICFAI University Press. 5. Werther, W. B. & Chandler, D. (2011). Strategic corporate social responsibility. Thousand Oaks, CA: Sage	
3	Websites	www.forbes.com www.referenceforbusiness.com www.justmeans.com www.corporatesocialresponsibility.org	
4	Journals	International Journal of Corporate Social Responsibility Home https://jcsr.springeropen.com Sustainability Accounting, Management and Policy Journal, Emerald, 2010- -World Review of Entrepreneurship, Management and Sustainable Development, Inderscience Publishers, 2005-	
5	Supplementary Reading	1. http://www.diegdi.de/CMSHomepage/openwebcms3.nsf/%28ynDK_contentByKey%29/ENTR-7BMDUB/\$FILE/Studies%2026.pdf 2. Modi P.K., Corporate Social Capital Liability. Arise Publishers & Distributors. First editions - 2009 3. Sharma, J.P., Corporate Governance, Business Ethics & CSR, Ane Books Pvt Ltd, New Delhi.	

MSW- CBCS SYLLABUS 2021-22

6	Practical Component	Visit to industries to study and record various CSR activities and discuss the same with students and teachers to know the merits and demerits of CSR.

COPO MAPPING

MSW-II	Corporate Social Responsibility									sem 4	HR DSE401B
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3										3
1.2		3		3			2	3	3	3	3
1.3					3	3		3	3		3
1.4		3	3	3		3	3	3	3	3	
Total	3	3	3	3	3	3	3	3	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	IV	Total Credit	3
Course Code	HR DSE 401C	Credit Pattern	L-35, T-5, P-5
Course Title	WOMEN AND SOCIETY		

Course Outcomes: Students will be able to	
1	Understand the way women centric ideas, values, and themes inform and impact culture and society, both now and in the past.
2	Comprehend the impact of gender on individuals' historical and contemporary agency, and how the ability to express agency has shaped people's lives in various geographical settings.
3	analyze, interpret, and understand the complex interrelationships between the real situation and feminist concepts and importance of Women Health and Legal Rights
4	understand of women's historical and contemporary agency and how these have shaped women's lives in various geographic settings

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Womenhood : Concept of Womenhood, Importance of women studies, Approaches to study of Women: Psycho analytical, Functional, Feminist, Problems of Women in the field of education, health, family and society.	L= 7	
		T=1	P=1
2	Gender and Equity: Status of Women in different community Tribal, Rural and Urban related to Gender equality, Educational, Economical, Social and Religious, Social Reform movements in upliftment of women in India	L=7	
		T=1	P=1
3	Women and Work: Problems of Women in the field of Organized, Unorganized and Household sectors; Legal Measures related to work and wages: Minimum Wages ct 1948, Equal Remuneration Act 1060, Factories Act 1948, Anti Sexual harassment Act 2013 Violence on Women: Definition, Concept Types of Violence; Legal measures relating to violence Dowry Prohibition Act 1961, Immoral traffic Prevention Act 1986, Domestic Violence Act 2005, Medical Termination of Pregnancy and Prenatal diagnostic technique (PNDT) Act 1994	L=7	
		T=1	P=1
4	Legislations: As preventive measure for women 1) Constitutional Measures 2) Salient Features of legal Protection Application of Social work techniques , Role of Social Worker in women Empowerment and development, Role of Government and NGOs in Women Welfare, National Commission for Women, Schemes for Women development.	L=7	
		T=1	P=1
		T=1	P=1

Resources Learning		
1	Text Book	1. Anjana Mantra-Sinha : Women in changing Society. Ashish Publishing House, New Delhi. 2. Bela Rani Sharma : Marriage family, Violence and Divorce, Mangaldeep Publication, Jaipur. 3. Nomita Aggrawal : Women in Law in India,, Women Studies and development Centre, University of Delhi. 4. Premlata Pujari and Vijaykumar Kaushik : Women power in India, Kanishka Publishers, Delhi
2	Reference books	1. S.K. Pandit : Women in Society, Rajat Publication, Delhi. 2. Sayapalan N. Women Studies, Atlantic Publishers, New Delhi.
3	Websites	http://www.unwomen.org/en https://now.org/issues/ http://ncw.nic.in/
4	Journals	https://journals.sagepub.com/home/ijg https://www.tandfonline.com/toc/rajw20/current https://journals.tdl.org/jrwg/
5	Supplementary Readings	1. Ram Ahuja : Violence against Women, Rawat Publication, Jaipur. 2. S.K. Ghosh : Indian Women through ages, Ashish Publishing House, Delhi
6	Practical Components	1. Presentation of articles on women issues. 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

COPO MAPPING

MSW-II	Women and society									sem 4	HR DSE401C
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1		3	2			3					
1.2						3					
1.3	3		2								
1.4				3					2		
Total	3	3	2	3		3			2	3	2

MSW- CBCS SYLLABUS 2021-22

Semester	IV	Total Credit	3
Course Code	AEC 401	Credit Pattern	L=35, T=5, P=5
Course Title	SOFT SKILL DEVELOPMENT		

Course Outcomes: Students will be able to	
1	Describe the concept, the significance and essence of a wide range of soft skills.
2	Apply soft skills in a wide range of routine social and professional settings.
3	Employ soft skills to improve interpersonal relationships
4	Apply soft skills to enhance employability and ensure workplace and career success.

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Soft skills: Meaning , Soft Skills Vs Hard Skills Critical thinking, creative thinking, empathy, Interpersonal relationship, communication, coping with stress, coping with emotions, problem solving and decision making	L= 7	
		T=1	P=1
2	Situation Analysis: Planning, Problem analysis, Stakeholder analysis, Objective analysis, strategy analysis, Logical Framework Analysis, Activity planning- Yearly and its breakups and Preparation of communication Project plan	L=7	
		T=1	P=1
3	Social Skills: Personality Development, Emotional Intelligence, Etiquettes and Mannerism Interpersonal Skills and Therapeutic Skills Self Development: Meaning, Need; Understanding perception; Self awareness and Sensitivity Development. Job preparations: Resume Writing, Group discussion, Interview and Negotiation	L=7	
		T=1	P=1
4	Training Methods: Meaning, Working with Individuals and families; Intake Interviews, Meeting, Guidelines for Training and use of Stimulation Games, Groups: group Discussion, Role play, Socialization and Communities	L=7	
		T=1	P=1

Learning Resources		
1	Text Book	1. Datar et al. (2010) Skill Training For Social Worker(A Manual); Sage publication Pvt Ltd. New Delhi 2. Hariharan S., Sundararajan N & Shanmugapriya SP (2010). Soft skills, communication skills, employability skills, corporate skills. MJ Publishers, Chennai 3. Gelder, M. (2000). New Oxford textbook of psychiatry. Oxford: Oxford University Press. Kaplan, H.L., Freedman A.M. & Saddock B.J. (1980), Comprehensive Textbook of Psychiatry, Volume 1, 2 & 3, 4. Sharma & Shriram (2017) Project Planning Analysis and Management , 1st publications Galaxy Books , Jaipur
2	Reference books	1. Rivett, Mark (2003), “Family Therapy In Focus”, Sage Publication New Delhi 2. Munter, M. (2006). “Guide to managerial communication: Effective business writing and speaking” (7th ed.). 3. Penrose, J., & Rasberry, R. (2004). “Business communication for Managers”: An advanced approach (5th ed.). 4. Mosam Sinha (2016), Communication For Management” Yking Book, Jaipur
3	Websites	www.skillsyouneed.com www.skillsoft.com
4	Journals	1. International journal of business and research
5	Supplementary Readings	1. Gajendra Singh Chauhan & Sangeeta Sharma (2016): “Soft Skills (an integrated Approach to Maximise Personality)”, Chaudhary Press , Delhi 2. Rae, Leslie (2005). Skills of Interviewing
6	Practical Components	1. Soft skill development programs and work shops in skill laboratory, through training, workshops etc 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

COPO MAPPING

MSW-II	Soft Skills Development									sem 4	AEC401
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	3	2			3					
1.2		3		3		3			3		3
1.3	3	3	2	3					3	3	3
1.4		3		3					2	3	3
Total	3	3	2	3		3			3	3	3

MSW-GROUP B SEMESTER-IV

MSW- CBCS SYLLABUS 2021-22

Semester	IV	Total Credit	3
Course Code	CD CC 401	Credit Pattern	L=35, T=5, P=5
Course Title	SOCIAL LEGISLATION		

Course Outcomes: Students will be able to	
1	Understand Indian Constitution, legislation, sectorial policies and human rights particularly for women, children, and aged and marginalized groups.
2	Create Scope of social legislation for social control, social change, and social justice
3	Apply social work skills, knowledge, values, principles and ethics to identify and defend human rights violations.
4	Explain legal and Constitutional safeguards clearly in person and through e-content/social media to make people aware about their rights.

Syllabus:

Unit Number	Contents	No. Of Sessions	
1	Definition and scope of social legislation in India – social disorganisation and social legislation. Role of social worker in legal aid – law and morals	L= 7	
		T=1	P=1
2	Indian constitution: History and preambles of constitution – fundamental rights and duties, Directive principles of state policies	L=7	
		T=1	P=1
3	Main provisions of Indian Penal Code 1860 The Right to Information Act 2005 The Pre-Conception and Pre-Natal Diagnostic Techniques (prohibition of sex selection) Act 2003 The Anti Ragging Act 2009	L=7	
		T=1	P=1
4	The Special Marriage Act 1954 The Scheduled Cast and Scheduled Tribes (prevention of atrocities) Act 1989 The Domestic Violence Act 2005 Juvenile Justice (protection and care) Act 2015	L=7	
		T=1	P=1

Learning Resources		
1	Text Book	1. Gangarde K.D., Social Legislation In India (Vol. I & II) 2. Gurjeet Singh, The Law of Consumer Protection In Justice within reach 3. Kappor N.D., (2000), Legislation, Sultan Chand & Sons, New Delhi 4. Kisana Lala, Legislative Process In India Deep & Deep Publication, New Delhi
2	Reference books	1. Manooja D.C., Adoption & Practice, Deep & Deep Publication, New Delhi 2. Naval T.R., (2001) Law of Prevention of Atrocities on the Scheduled castes and tribes, Concept Publishing Company, New Delhi 3. Paras Diwan, The Human Rights & Law, Deep & Deep Publication, New Delhi
3	Websites	Home : Ministry of Social Justice and Empowerment ... socialjustice.nic.in Home Ministry of Law & Justice GoI lawmin.gov.in
4	Journals	<u>Journal of Social Welfare and Family Law</u> https://www.tandfonline.com › loi › rjsf20 <u>Social Legislation - University of Chicago Press Journals</u> https://www.journals.uchicago.edu › doi › abs
5	Supplementary Readings	1. Tacker & C., Underdeveloped Societies (Vol. I), Mumba 2. Zhabwala N., I.P. C. 1860, Cr. P.C. Indian Evidence Act, 1860.
6	Practical Components	Students will be asked to visit law enforcing machineries to understand law implementation procedure.

COPO MAPPING

MSW-II		Social legislation								sem 4	CDCC401
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3		3	3	3	3	3				
1.2	3	3	2	2		3	3	3	3	3	3
1.3	3	3	2	2	2	3	3	3	3	3	3
1.4	3	3	2	2		3	3	3	3	3	3
Total	3	3	2	2	2	3	3	3	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	IV	Total Credit	3
Course Code	CD CC 402	Credit Pattern	L=35, T=5, P=5
Course Title	URBAN COMMUNITY DEVELOPMENT & MUNICIPAL ADMINISTRATION		

Course Outcomes: Students will be able to	
1	Describe the concept of the urban community & challenges in the Urban Development Sector
2	Integrating the optimization techniques for global best practices
3	Enhance critical thinking by making them participate in social activities and imbibe human values among them.
4	Encourage the students to participate in research at different levels through projects, interviews, surveys and field visits
5	Develop insight towards gender, religion, and class equality

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Urban community development, concept, objectives, principles and strategies, Review of urban community Development project in voluntary & government sector.	L= 7	
		T=1	P=1
2	Social implication of urban development, growth of slums, slum-city relationship, unorganized sector of urban economy.	L=7	
		T=1	P=1
3	Urbanisation and urban poverty, the urban community development the approach & recent trend. Role of banks, industries & voluntary organizations in urban community Development.	L=7	
		T=1	P=1
4	Training for urban community development personnel. Urban basic services: Process and Prospects. Introduction to local self government, their functions, finances, personnel and problems Urban development by local governments.	L=7	
		T=1	P=1

MSW- CBCS SYLLABUS 2021-22

Resources Learning		
1	Text Book	1. Bose Ashish, Studies in India's urbanization, 1901-71, Tata McGraw Hill New York, 1978. 2. Clinard M.B., Slums & community development, Experiments in self help Free Press NY, 1966. 3. Jacob Z.T., Urban Community Development Rawat Pub. New Delhi, 1993. Long Norman, Introduction to the sociology of Rural Development Tavistock London, 1984.
2	Reference books	1. Shabbir C.G., Rural Development in Asia Case studies on programme implementation. Sterling Pub. New Delhi, 1985. 2. Verma R.M.(Ed.), Perspectives on Social Welfare S. Chand & Co. Ltd. New Delhi, 1984. 3. Dr. B.S.Gunjal, Community organisaition and social Action(Methods of social work), IBH Prakashan. 4. Margaret Ledwith, Community development : A critical Approach, Rawat Publication, 2006
3	Websites	<u>Home Ministry of Rural Development GoI</u> <u>https://rural.nic.in</u> <u>Department of Rural Development Ministry of Rural ...</u> <u> departments > department-rural-development">https://rural.nic.in > departments > department-rural-development</u> Important websites : Ministry of Urban Development <u> link > important-websites">mohua.gov.in > link > important-websites</u> <u>Department of Urban Development & Municipal Affairs</u> <u>www.wburbanservices.gov.in</u> <u>नगरविकासविभाग - Government of Maharashtra</u> <u>https://urban.maharashtra.gov.in</u>
4	Journals	<u>Journal of Urban Planning and Development ASCE Library</u> <u> journal > jupddm">https://ascelibrary.org > journal > jupddm</u> <u>International Journal of Urban Sustainable Development: Vol</u> <u> toc > tjue20 > current">https://www.tandfonline.com > toc > tjue20 > current</u> <u>Journal of Urban Design - Taylor & Francis Online</u> <u> loi > cjud20">https://www.tandfonline.com > loi > cjud20</u>
5	Supplementary Readings	1. Ev. L.K. Thakur, Social work and community development, Jnanada Prakashan, 2014. 2. K.C. Shrivramkrishnan, Biplab Dasgupta, M.N. Buch, Urbnsiation in India : Basic services and peoples participation, Ashokkumar Mittal publication, 1993.
6	Practical Components	Special field assignments to understand the working of GO's and NGO's towards community development.

COPO MAPPING

MSW-II	Urban and Rural Community Development & Municipal Administration									sem 4	CDCC402
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3		3	3			3		3		
1.2		3			3	3				3	3
1.3	3	3				3		3	3	3	
1.4		3	3	3		3	3			3	3
Total	3	3	3	3	3	3	3	3	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	IV	Total Credit	3
Course Code	CDCC 403	Credit Pattern	L-35, T-5, P-5
Course Title	SOCIAL INCLUSION & EXCLUSION OF WEAKER SECTION		

Course Outcomes: Students will be able to

1	describe the various concepts of social inclusion and exclusion of weaker section
2	Apply the Social Inclusion methods in social contexts.
3	Develop the values: Social Justice, non-violence, human dignity, etc.
4	Evaluate the new trends in social inclusion

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Meaning criteria and classification scheduled castes, scheduled Tribes. Other backward classes. Agricultural labor and unorganized Labors & social Inclusion.	L= 7	
		T= 1	P= 1
2	Social Inequality in India. Nature of social exclusion, consequences of social Inequality, Culture of rural urban and tribal community, social exclusion and Inclusion of, sex, ethnic, linguistic, cast and communal in different state.	L= 7	
		T= 1	P= 1
3	Situation on scheduled cast scheduled tribes and other backwards class in India Nature of wider society. Ways of Integration, problems of integration constitutional provisions and safeguards, Laws to abolish untouchability and caste disabilities. Planning and strategy for the development of scheduled caste and scheduled tribes need of reservation, Reservation policy of seats in the legislature, service and educational Institution, critical review of Government and Non-Government agencies.	L=7	
		T=1	P=1
4	Welfare scheme for scheduled cast scheduled Tribes and backward class, social and economic status, problems comforted by weaker section. Government policy and welfare programmes during five year plan. Role of NGOs for development of weaker section. Role & Functiions of Social worker in the area of S. C. S. T. O.B.C V.J.N.T. and other weaker Sections in the area of welfare & Development.	L= 7	
		T= 1	P= 1

Learning Resources		
1	Text Books	1. Sing S. K.- Indian Institute of Advanced study 2. Agarwal S. N.- India's Population 3. Ghurye G. S.-The scheduled Tribes. 4. Nadeem Hasnain, Tribal India, Palaka Prakashan Delhi. 5. K. L. Sharma, Cast & Class in India, Rawat Publication Delhi 6. J. H. Hanttan, Cast in India, Oxford university press 7. K. Vijay Kumar, Empowerment of Weaker section, Serials Publication
2	Reference books	1. Government of India, Annual Report of the SC/ST commissioner. 2. Krishnan Ohandra Ramotra, Development process & scheduled cast, Rawat publication Delhi 3. V. K. Singh, Social problems of Untouchable Castes, D.P.S. Publishing 4. Seema pasrich, Cast based reservation in India, Deep & deep Publication 5. Sangeet Kumar, Changing Role of the cast system, Rawat publication
3	Websites	https://sk.sagepub.com www.researchgate.net www.deakin.edu.au www.palgrave.com
4	Journals	Journal of Poverty and Social Justice: Ingenta Connect ... https://www.ingentaconnect.com/content/tpp/jpsj <u>Impact of Religion-Based Caste System on the Dynamics of ...</u> https://journals.sagepub.com/doi/full
5	Supplementary Reading	1. Seval Kumar, Right of unorganized worker, Discovery publication PVT. L.T.D. 2. G.S. Ghurey, The scheduled tribe, Popular Publication 3. Naik T.K., Development of Weaker section, Association of school of social work social work education & development of weaker section
6	Practical Component	1. Visit to various communities to understand the current situation relating to caste system.

COPO MAPPING

MSW-II	Social Inclusion and Exclusion of Weaker Section									sem 4	CDCC403
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3								3		
1.2	3	3	3	2		3			3		
1.3	3	3			3	3			3	3	3
1.4	3	3	3		3	3	3		3	3	3
Total	3	3	3	3	3	3			3		3

MSW- CBCS SYLLABUS 2021-22

Semester	IV	Total Credit	3
Course Code	CDCC404	Credit Pattern	L-35, T-5, P-5
Course Title	RURAL ECONOMY		

Course Outcomes: Students will be able to

1	describe the basic concepts of rural economy in the context of social work
2	Apply the theories, models and approaches of rural economy in social context
3	Evaluate factors and components of Rural Economy.
4	Evaluate new trends in Growth and Development.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Rural economics: Concept and Nature. Characteristics and conditions of Rural Economy in India. Comparison between concept of Economic Growth and Economic Development, Ragnar Nurkse Theory, W. A Lewis Theory, W. W. Rostow's Stages of economic development	L= 7	
		T= 1	P= 1
2	Agriculture-Industry interaction in India, Agriculture in India-Features, Role and Importance. Factors affecting productivity, Government measures, Land reforms. Rural Industrialisation, Small and Cottage Industries in Rural India-Role, Progress and Problems.	L= 7	
		T= 1	P= 1
3	Rural Finance and Marketing sources, Problem of rural indebtedness, Role of financial institutions and non-institutional agencies, Rural Marketing: Traditional Marketing-Regulated and Co-operative marketing. Rural Entrepreneurship: Meaning, Characteristics, Objectives of Rural Entrepreneurship, Types of Rural Entrepreneurship, Problems, Government and non-government institutions, Case studies of successful Rural Entrepreneurship in India.	L= 7	
		T= 1	P= 1
4	Rural Labour and Employment: Distinction between Agriculture and Rural labour, Characteristics of Rural Labour, Nature and Extent of Rural unemployment, Govt. measures to remove unemployment. Poverty, Inequality and Planning Process: The concept of poverty, Studies of Poverty in India, International comparisons of Poverty and Inequality of Income, Five year plans and removal of poverty, Economic reforms and poverty alleviation	L= 7	
		T= 1	P= 1

Learning Resources		
1	Text Books	1. Choudhury S.K., Rural Economy, Sumit Entreprises, New Delhi, 2009 2. Jain, Gopal Lal, Rural Economy and Society towards Development, Managaldeep Publications, Jaipur, 2000 3. Kapila Uma(2015): Indian Economy since independence, Academic Foundation, New Delhi
2	Reference books	1. Datt R and Sundaram K P M(2014): Indian Economy, S. Chand and Co., New Delhi 2. Agarwal A N(2012): Indian Economy: Problems of Development and Planning, New Age International Publishers(P) Ltd. New Delhi 3. Misra S K and Puri V K(2010) Indian Economy, Himalaya Publishing House, New DelMittal, A.C., Rural Economy, Vista International Publishing House, Delhi, 2006 4. Parmar G.A., Rural Economics, Shree Niwas Publications, Delhi, 2013 5. Jain, Gopal Lal, Rural Economy and Society towards Development, Managaldeep Publications, Jaipur, 2000 6. Verma, Niraj Kumar, Rural Economy of India: Globalisation, High Growth Trajectory, Strategy for Inclusive and Holistic Development, Deep and Deep Publications Pvt., Ltd., New Delhi, 2012
3	Websites	www.nird.org.in www.rural.nic.in www.msme.gov.in www.niti.gov.in
4	Journals	Indian Journal Of Finance Indian Journal of Finance and Economic Management The quarterly Journal Of Finance :Finance India Journal of Financial Economics
5	Supplementary Reading	Socio- Economic Caste Census, Government of India India Development Reports, IGIDR, Mumbai Economic Survey, Government of India World Development Reports
6	Practical Component	1. To visit a near village Locality and identify the problems of Farmers and Rural Labour and learn factors affecting on the productivity. 2. To Visit Any Rural Enterprise(Micro,Small , Medium) and to Measure Economic Viability of the unit.

COPO MAPPING

MSW-II	Rural Economy									sem 4	CDCC404
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	3				3		3			3
1.2	3	3				3			3	3	
1.3	3	3	2	2	2	3		3	3		3
1.4	3	3	2			3	3		3	3	3
Total	3	3	2	3	2	3	3	3	3	3	3

CDCC 405 STUDY TOUR AND CONCURRENT FIELD WORK STUDY TOUR IN THE MONTH OF FEBRUARY , (COMPULSORY)

I. Orientation / Acquaintance Phase :

About the Agency:

Organization (G.O/NGO): History, aim and objectives, Functions, Staffing, Financial resources, salary, leaves, registers maintained, benefits of employees, insurance scheme.

Village/Slums/Urban : A brief observation : demographic, social, cultural, religious, political and economic aspects of community.

II. Study Phase (Detailed Background)

Organisation :-

Programmes and Services, Budget allocation to different programmes, Actual explain; target reached number of beneficiaries, (Secondary data for the last 5 years may be collected to evaluate the agency's work).

Rural Agency

Geographic	:	Size of village, growth
Demographic	:	Population : Child, Women, Youth, aged, SC & ST, disabled, Labour etc.
Social	:	Religion, Caste, Family, Languages communal harmony.
Cultural	:	Customs, traditions, taboos, practices
Educational	:	Literacy : Male & Female, SC & ST, Functioning of Balawadis, Anganwadis Schools, Adult Education.
Health	:	Primary health centre, primary health unit, Clinics.
Economic	:	Agriculture : Dry Land, irrigated land Major crops, occupations, marketing, land reforms.
Banking	:	Nationalized Bank, Co-operative societies, credit societies, self-help groups, Home / Cottage / Village / Small Scale Industries, Unorganized Sector.
Ecological	:	Geographical structure (plain, hill etc) natural resources (Solar, air, water, minerals) pollution (air, water, sound atmosphere).
Housing	:	Housing Pattern (Kutcha, or pucca) overcrowded, congested.
Political	:	Panchayat Raj System, Panchayat Raj Act.

URBAN AGENCY

Geographic	:	Urban Size
Demographic	:	Population : Child, women, youth, aged disabled, labour, SC & ST, Infant Mortality Rate.
Social	:	Religion, Caste, language, Family, harmony, slums.
Cultural	:	Customs, traditions, practices, celebrations.
Education	:	Literacy : Male & Female, SC & ST, Functioning of Balawadies, Anganwadies, Schools, Colleges and Adult education centers.
Health	:	PHC, PHU, Clinics, nursing homes, etc.
Economic	:	Occupation / Division of labour
		- Marketing
		- Banking sector – NABARD National Banks
		- Co-operative Societies
		- Small Scale and large scale industries
		- Business / organized sector
Ecological	:	Geographical Structure

(Plain, hill, desert area)

Natural resources

Forestry

Pollution (air, water, sound and atmosphere)

Housing	:	Housing pattern (Kutcha, semi pucca,) Overcrowded Congested
Political	:	Municipal Administrations Zilla Panchayat Laws for Environmental Protection
Beuracritic welfare of	:	District Administrations Govt. agencies working for development and people.
NGO _s	:	Non-Govt. organizations functioning in the area.

III. PROBLEM PHASE

(Student needs to study about problem)

Rural problems: Rural fieldwork

- Poverty
- Illiteracy
- Ignorance (Lack of awareness)
- Communal and Caste tension
- Migration
- Deforestation
- Pollution
- Pollution growth
- Destitute, orphan, disabled
(mentally, physically, visually and hearing).
- Child labour / bonded labour
- Unequal wage to women
- Atrocity on women
- Exploitation of SC & ST
- Problems of weaker section
- Marital disharmony
- Suicide
- Dowry deaths
- Alcoholism
- Aged
- Diseases

URBAN PROBLEMS : Urban field work

- Poverty
- Illiteracy
- Unemployment
- Communal and caste tension
- Migration
- Industrialization & Urbanization
- Pollution
- Deforestation
- Population growth
- Prostitution
- Crime
- Child labour / street children
- Addiction (alcohol & drug)

- Beggary
- Marital disharmony
- Slum
- SC & ST backward and weaker sections
- Suicide
- Dowry deaths
- Atrocity on women
- Aged
- Diseases

Note : Students placed in G.O. and N.G.O. will have to identify beneficiaries or Problems.

IV. RESOURCE PHASE :

Organization (G.O. / NGO)

- Development and welfare programmes of the Agency
- Subsidiary offices
- Know Social Legislations

RURAL :

- Rural development programmes:
- IRDP, ICDS, TRYSEM, PMRY, JRY
- Programmes of different govt. agencies
(Adult Education, Women and Child Welfare, SC & ST welfare, Youth welfare, Slum Labour Welfare, health etc.)
- Five year plans
- NGOs working in the Area
- Know Social Legislations

URBAN :

- Urban development programmes :
Swarna Jayanti Shahari Rojgar Yojana, ICDS, PMRY, TRYSEM, JRY
- Municipal administration
- Programmes of different government agencies
(Adult Education, Women and Child Welfare, Youth Welfare, Slum development, SC & ST Welfare, Labour Welfare, health etc.)
- Five year plans

SOCIAL LEGISLATIONS :

- SC & ST (Prevention of atrocities) Act, 1989
- Dowry Prohibition Act, 1962
- The equal remuneration Act, 1976
- The Medical Termination of Pregnancy Act, 1971
- The Juvenile Justice Act, 1986
- The child Marriage Restraint, Act, 1929
- The Child Labour (Prohibition & Regulation) Act, 1986
- The Hindu Marriage Act, 1955
- The Adoption and Maintenance Act, 1956
- The Minority and Guardianship Act, 1956
- The Beggary prohibition Act, 1962
- Laws Relating to Leprosy patients
- Public Trust and Charity Commissions
- The consumer protection Act, 1986

NOTE – A student placed in government, non-governmental organizations, rural or urban agency need to have introductory knowledge of the above legislations.

V. RESOURCE – PROBLEM INTERACTION PHASE

- Identification of problem(s) and need(s) of beneficiaries
- Prioritizing the problems and needs
- Identification of resources
- Govt. agencies
- Non-govt. Organizations
- Community
- Mobilization of resources

VI. INTERVENTION PHASE

- Helping the beneficiaries
- Referred services: Juvenile home, state home, hostel, correctional institution, short-stay house, de-addiction centre, general hospital psychiatric centre, family counselling centre, Remand home, artificial limb centre, foster care adoption.
- Economic support: Loan facility – sponsorship
- Counseling and guidance
- Conducting Lectures on social issues
- Organizing recreational activities
- Creating awareness / mobilization of
 - Public opinion on any current issue
 - Restoring communal harmony
 - Independent living skills
 - Environmental Education
 - Legal awareness

VII. TERMINATION PHASE

- Supervising
- Monitoring
- Appraising and
- Evaluating the work undertaken.

METHODOLOGICAL ADVICES FOR FIELD – WORKER

- Conduct case studies on any problem –
- Solving issue, family, problem etc.
- Report – writing of aid provided to the beneficiaries.
- Evaluation study can be taken up
- Play enabler, guide, liaison, helper and catalyst roles, wherever necessary.
- Rapport building with community and beneficiary of needy is the corner stone of social work.
- Keep intact communication with needy.
- Adopt and apply different methods of social work.
- Try to bridge resource – need interaction

(Cash, kind, knowledge, and emotional and social support are the resources to be assessed by a social worker).

CD : CC 406: FIELD WORK REPORT AND VIVA-VOCE

FIELD WORK DIARY, RECORDING, MONTHLY ATTENDANCE SHEETS AND SUMMARY OF SUPERVISORY CONFERENCES

Every student is expected to maintain/prepare the following regularly or at appointed times:

- A diary of activities and account of time spent for each activity. Points from supervisory conferences should also be noted down in the diary.
- Detailed reports of activities (field work records)
- Summary of Supervisory Conferences which has to be submitted to the Field Work coordinator at the end of every month (cyclostyled forms will be provided for this purpose) and
- Monthly field work attendance sheets. Cyclostyled forms are available in the office for this purpose

At the end of every month, field work attendance sheets should be submitted to the field work supervisor so that the letter may forward it to the office, on the First Wednesday of the following month. Those who are under the direct supervision of agency social workers are required to submit the attendance sheets (after it has been duly signed by the supervisor) to the head of the department who is in charge of his/her placement (A Speciman copy is given to you)

The diary and recording should be submitted every week to the supervisor for review and discussion

Leave of Absence from Field Work

Absence from field work should be avoided as far as possible. For valid reasons, however, leave of absence is allowed for 2 days in a semester. If any student is absent for more than two days, all the days of absence (including the first two days) will have to be compensated in accordance with the instructions of the field work supervisor.

Mid-Year Evaluation and Final Evaluation

There will be a mid-year evaluation in early December for assessing the students field work performance during the I semester. The supervisor will write the report after a supervisory conference which will be specially geared to the discussion of work performance. There will be no grading for mid-year evaluation. The purpose of mid-year evaluation conference and report is that the student may get information and awareness of his/her strengths and weaknesses as regards as field work performance of the I semester and plan for better performance in the second semester.

At the end of the academic year, in March, every supervisor will submit to the Institute a written evaluation report on the students field work. Grades will be given by the field work supervisor in consultation with the field work coordinator.

Any student who does not come up to a certain minimum level of performance which is required for passing in field work, may be asked at the discretion of the faculty, either to leave the Institute or put in extra work to improve his/her field work performance.

FIELD WORK PRACTICUM: CONCURRENT FIELD WORK

The main object of concurrent field work is to provide opportunities for applying the knowledge learnt in the class room to real life situation (field reality) to understand and develop effective course of action (learning of intervention methods) according to needs of client system. And evaluate the experiences while working with the individual, groups and communities. Fieldwork enables the student to integrate and reinforce the knowledge and information acquired in the classroom with actual practice, under competent **supervision** by the agency and faculty supervisors. Every student is expected to work for 15 hrs. per week at various organizations or community settings.

FIELD WORK EVALUATION CRITERIA: (Applicable for the all four Semesters)

1) Analytical Ability:

- a. To understand evolution of agency, philosophy, policy and administration programmes.
- b. To identify roles of other departments and personnel in implementation of agency policies & programmes (in secondary settings).
- c. To understand the dynamics of the agency – roles, decision-making process, conflict solving procedures.
- d. To begin to situate agency in context of larger social system.
- e. To understand Profile of client system and causative factors affecting its needs and problems.
- f. To understand social work intervention utilized by agency in response to needs of client system.
- g. To assess one's own tasks in relation to problem situation.

2) Problem Solving Skills:

- a. To assess the problem situation and outlines the plan of action.
- b. To utilize problem solving process beginning with fact finding to evaluation of social work process in relation to needs, problems and aspirations of the client system.
- c. To develop and utilize working relationships with agency, client system and other related system.
- d. To utilise different techniques of problem solving, interviewing, home visits, communication and programme media mobilization of human and material resources.
- e. To utilise problem solving strategies selectively with individuals groups and communities.
- f. To understand the importance work in different administrative procedures – filing – maintaining registers, fund raising staff meetings.
- g. To develop basic skills of management of services, planning, organizing, implementing and evaluation.
- h. To participate in liaison work with other organizations and systems in terms of obtaining sanctions for programmes, interpreting social work intervention and networking on common issues.
- i. To understand the significance of and participates in teamwork in one's discipline as well as in the interdisciplinary team.
- j. To learn to priorities tasks and organize workload.
- k. To understand the importance of recording as a tool for learning and administration.
- l. Learn to record facts selectively and logical-assessment of problem situation, students feelings, reflections and intervention modalities.

3) Personal development:

- a. Appreciation and utilization of principles of social work in respect of persons, social justice, equality, opportunities, acceptance of the client system and its potential.
- b. Work with commitment in the agency in terms of fulfillment of tasks, disciplined use of self (dress, behavior, regularity, self control, awareness of bias and cultural blocks).
- c. Developing positive identification with the profession, conviction of the necessity of social work intervention.

4) Use of field Instructions :

- a. Understanding the significance of field instruction as a tool for professional training.
- b. Accepts the roles of faculty advisor, field instructor and field contact and utilises their expertise in one's own training.
- c. Indicates a gradual movement from a dependence on the instructor to performing ones role and tasks more independently.
- d. Utilises individual and group conferences for professional growth by accepting both the positive and negative remarks of the instructor.
- e. Actively participates in the group conferences and appreciates the participation of others.
- f. Makes efforts to improve performance through self-learning by reading learning from one's experiences and those of others.

- g. Develops ability for self-evaluation on going and periodic.

CD DSE 401A: RESEARCH PROJECT

Students who opt for research project are required to start their research work at the beginning of third semester under the guidance of allotted faculty member. The selection of agency/industry for data collection needs to be done with consultation of organization and faculty supervisor. The research proposals shall be prepared as per format given below

1. Topic, Problem – Introduction and Review of literature
2. Objectives of the study
3. Tentative Research Methodology
4. References

The final research report shall have following chapter scheme

Title of the study

I Introduction

II. Review of literature

III. Research Methodology

Iv. Data Interpretation

v. Summary, suggestion and conclusion

Appendix – Interview schedule, Photos, Graphs, and bibliography etc.

The final research report shall be submitted to organization/industry and respective guide (one hard copy, one soft copy to HOD). Last date for submission is on or before 15th March.

MSW-II	Research Project									sem 4	CD DSE401A
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3		3			3	3	3	3	3	3
1.2	3	3	3	3	3	3	3	3	3	3	3
1.3	3	3	3	3	3	3	3	3	3	3	3
1.4	3	3	3	3	3	3	3	3	3	3	3
Total	3	3	3	3	3	3	3	3	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	IV	Total Credit	3
Course Code	CD DSE 401B	Credit Pattern	L-35, T-5, P-5
Course Title	CORPORATE SOCIAL RESPONSIBILITY		

Course Outcomes: Students will be able to

1	Describe the concept and the scope and complexity of corporate social responsibility (CSR).
2	Analyze the connections between corporate strategy and CSR and the impact on foundational organizational principles such as mission and vision.
3	Demonstrate a multi-stakeholder perspective in viewing CSR issues.
4	Analyze the complex issues confronting organizational leaders as they develop their CSR programs.
5	Evaluate the level of commitment to CSR of various organizations and explain how it can be a source of competitive advantage.
6	Analyze the impact of CSR implementation on corporate culture, particularly as it relates to social issues.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to CSR: Meaning & Definition of CSR, History & evolution of CSR. International framework for corporate social Responsibility, Millennium Development goals, Sustainable development goals, Relationship between CSR and MDGs. United Nations (UN) Global Compact 2011. UN guiding principles on business and human rights.– Globalization and CSR.	L= 7	
		T= 1	P= 1
2	CSR through triple bottom line and Sustainable Business; Triple Bottom Line Approach of CSR: Economic, Social and Environmental. Stake holders and Social Preferences: Customer, Employees, Communities, Investors. Carroll's model. Indian perspectives and approaches: Models of CSR in India,. Initiatives in India. Corporate Governance and CSR , CSR Policy and guidelines , Legal frame work, rules and regulations, Company Act 2013 - relevant provisions of CSR. Role of Government and NGO in CSR. Business Benefits of CSR.	L= 7	
		T= 1	P= 1
3	Designing a CSR policy – Factors influencing CSR policy – Managing CSR in an organization – Role of HR Professionals in CSR – Global Recognitions of CSR- ISO 14000 - SA 8000 - AA 1000 - Codes formulated by UN Global Compact – UNDP, Global Reporting Initiative.	L=7	
		T=1	P=1
4	Implementing CSR – CSR in the marketplace – CSR in the workplace	L= 7	

MSW- CBCS SYLLABUS 2021-22

	– CSR in the community – CSR in the ecological environment – CSR in India: Legal provisions and specifications on CSR . Current trends and opportunities in CSR.	T= 1	P= 1

Learning Resources			
1	Text Books	1. Benn & Bolton, (2011). Key concepts in corporate social responsibility. Australia: Sage Publications Ltd. 2. Bradshaw, T. and D. Vogel. (1981). Corporations and their critics: Issues and answers to the problems of corporate social responsibility. New York: McGraw Hill Book Company 3. Brummer, J.J. (1991). Corporate Responsibility and Legitimacy: An interdisciplinary analysis. Westport, CT: Greenwood Press. 4. Cannon, T. (1992). Corporate responsibility (1st ed.) London: Pitman Publishing. 5. Crane, A. et al., (2008). The Oxford handbook of corporate social responsibility. New York: Oxford University Press Inc.	
2	Reference books	1. Lourdes Poobala Rayen- Corporate Social responsibility. 2. Ellington. J. (1998). Cannibals with forks: The triple bottom line of 21st century business. New Society Publishers 3. Baxi C.V and Ajit P, Corporate Social Responsibility, Concept & Cases: “The Indian Experience, Excel Books. 4. Reddy S and Stefan S (2004). Corporate Social Responsibility: Sustainable Supply Chains. Hyderabad: ICFAI University Press. 5. Werther, W. B. & Chandler, D. (2011). Strategic corporate social responsibility. Thousand Oaks, CA: Sage	
3	Websites	www.forbes.com www.referenceforbusiness.com www.justmeans.com www.corporatesocialresponsibility.org	
4	Journals	International Journal of Corporate Social Responsibility Home https://jcsr.springeropen.com Sustainability Accounting, Management and Policy Journal, Emerald, 2010- -World Review of Entrepreneurship, Management and Sustainable Development, Inderscience Publishers, 2005-	
5	Supplementary Reading	1. http://www.diegdi.de/CMSHomepage/openwebcms3.nsf/%28ynDK_contentByKey%29/ENTR-7BMDUB/\$FILE/Studies%2026.pdf 2. Modi P.K., Corporate Social Capital Liability. Arise Publishers & Distributors. First editions - 2009 3. Sharma, J.P., Corporate Governance, Business Ethics & CSR, Ane Books Pvt Ltd, New Delhi.	

MSW- CBCS SYLLABUS 2021-22

6	Practical Component	Visit to industries to study and record various CSR activities and discuss the same with students and teachers to know the merits and demerits of CSR.

COPO MAPPING

MSW- II	Corporate Social Responsibility									sem 4	CD DSE401B
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3										3
1.2		3		3			2	3	3	3	3
1.3					3	3		3	3		3
1.4		3	3	3		3	3	3	3	3	
Total	3	3	3	3	3	3	3	3	3	3	3

MSW- CBCS SYLLABUS 2021-22

Semester	IV	Total Credit	3
Course Code	CD DSE 401C	Credit Pattern	L-35, T-5, P-5
Course Title	WOMEN AND SOCIETY		

Course Outcomes: Students will be able to	
1	Understand the way women centric ideas, values, and themes inform and impact culture and society, both now and in the past.
2	Comprehend the impact of gender on individuals' historical and contemporary agency, and how the ability to express agency has shaped people's lives in various geographical settings.
3	analyze, interpret, and understand the complex interrelationships between the real situation and feminist concepts and importance of Women Health and Legal Rights
4	understand of women's historical and contemporary agency and how these have shaped women's lives in various geographic settings

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Womenhood : Concept of Womenhood, Importance of women studies, Approaches to study of Women: Psycho analytical, Functional, Feminist, Problems of Women in the field of education, health, family and society.	L= 7	
		T=1	P=1
2	Gender and Equity: Status of Women in different community Tribal, Rural and Urban related to Gender equality, Educational, Economical, Social and Religious, Social Reform movements in upliftment of women in India	L=7	
		T=1	P=1
3	Women and Work: Problems of Women in the field of Organized, Unorganized and Household sectors; Legal Measures related to work and wages: Minimum Wages ct 1948, Equal Remuneration Act 1060, Factories Act 1948, Anti Sexual harassment Act 2013 Violence on Women: Definition, Concept Types of Violence; Legal measures relating to violence Dowry Prohibition Act 1961, Immoral traffic Prevention Act 1986, Domestic Violence Act 2005, Medical Termination of Pregnancy and Prenatal diagnostic technique (PNDT) Act 1994	L=7	
		T=1	P=1
4	Legislations: As preventive measure for women 3) Constitutional Measures 4) Salient Features of legal Protection Application of Social work techniques , Role of Social Worker in women Empowerment and development, Role of Government and NGOs in Women Welfare, National Commission for Women, Schemes for Women development.	L=7	
		T=1	P=1
		T=1	P=1

MSW- CBCS SYLLABUS 2021-22

Resources Learning		
1	Text Book	1. Anjana Mantra-Sinha : Women in changing Society. Ashish Publishing House, New Delhi. 2. Bela Rani Sharma : Marriage family, Violence and Divorce, Mangaldeep Publication, Jaipur. 3. Nomita Aggrawal : Women in Law in India,, Women Studies and development Centre, University of Delhi. 4. Premlata Pujari and Vijaykumar Kaushik : Women power in India, Kanishka Publishers, Delhi
2	Reference books	1. S.K. Pandit : Women in Society, Rajat Publication, Delhi. 2. Sayapalan N. Women Studies, Atlantic Publishers, New Delhi.
3	Websites	http://www.unwomen.org/en https://now.org/issues/ http://ncw.nic.in/
4	Journals	https://journals.sagepub.com/home/ijg https://www.tandfonline.com/toc/rajw20/current https://journals.tdl.org/jrwg/
5	Supplementary Readings	1. Ram Ahuja : Violence against Women, Rawat Publication, Jaipur. 2. S.K. Ghosh : Indian Women through ages, Ashish Publishing House, Delhi
6	Practical Components	1. Presentation of articles on women issues. 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

COPO MAPPING

MSW-II	Women and society									sem 4	CD DSE401C
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1		3	2			3					
1.2						3					
1.3	3		2								
1.4				3					2		
Total	3	3	2	3		3			2	3	2

MSW- CBCS SYLLABUS 2021-22

Semester	IV	Total Credit	3
Course Code	AEC 401	Credit Pattern	L=35, T=5, P=5
Course Title	SOFT SKILL DEVELOPMENT		

Course Outcomes: Students will be able to	
1	Describe the concept, the significance and essence of a wide range of soft skills.
2	Apply soft skills in a wide range of routine social and professional settings.
3	Employ soft skills to improve interpersonal relationships
4	Apply soft skills to enhance employability and ensure workplace and career success.

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Soft skills: Meaning , Soft Skills Vs Hard Skills Critical thinking, creative thinking, empathy, Interpersonal relationship, communication, coping with stress, coping with emotions, problem solving and decision making	L= 7	
		T=1	P=1
2	Situation Analysis: Planning, Problem analysis, Stakeholder analysis, Objective analysis, strategy analysis, Logical Framework Analysis, Activity planning- Yearly and its breakups and Preparation of communication Project plan	L=7	
		T=1	P=1
3	Social Skills: Personality Development, Emotional Intelligence, Etiquettes and Mannerism Interpersonal Skills and Therapeutic Skills Self Development: Meaning, Need; Understanding perception; Self awareness and Sensitivity Development. Job preparations: Resume Writing, Group discussion, Interview and Negotiation	L=7	
		T=1	P=1
4	Training Methods: Meaning, Working with Individuals and families; Intake Interviews, Meeting, Guidelines for Training and use of Stimulation Games, Groups: group Discussion, Role play, Socialization and Communities	L=7	
		T=1	P=1

Learning Resources		
1	Text Book	1. Datar et al. (2010) Skill Training For Social Worker(A Manual); Sage publication Pvt Ltd. New Delhi 2. Hariharan S., Sundararajan N & Shanmugapriya SP (2010). Soft skills, communication skills, employability skills, corporate skills. MJ Publishers, Chennai 3. Gelder, M. (2000). New Oxford textbook of psychiatry. Oxford: Oxford University Press. Kaplan, H.L., Freedman A.M. & Saddock B.J. (1980), Comprehensive Textbook of Psychiatry, Volume 1, 2 & 3, 4. Sharma & Shriram (2017) Project Planning Analysis and Management , 1st publications Galaxy Books , Jaipur
2	Reference books	1. Rivett, Mark (2003), “Family Therapy In Focus”, Sage Publication New Delhi 2. Munter, M. (2006). “Guide to managerial communication: Effective business writing and speaking” (7th ed.). 3. Penrose, J., & Rasberry, R. (2004). “Business communication for Managers”: An advanced approach (5th ed.). 4. Mosam Sinha (2016), Communication For Management” Yking Book, Jaipur
3	Websites	www.skillsyouneed.com www.skillsoft.com
4	Journals	1. International journal of business and research
5	Supplementary Readings	1. Gajendra Singh Chauhan & Sangeeta Sharma (2016): “Soft Skills (an integrated Approach to Maximise Personality)”, Chaudhary Press , Delhi 2. Rae, Leslie (2005). Skills of Interviewing
6	Practical Components	1. Soft skill development programs and work shops in skill laboratory, through training, workshops etc 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

COPO MAPPING

MSW-II	Soft Skills Development									sem 4	AEC401
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	3	2			3		2			
1.2		3		3	3	3			3		3
1.3	3	3	2	3	3		3	2	3	3	3
1.4		3		3	3		3		2	3	3
Total	3	3	2	3	3	3			3	3	3

MSW-GROUP E SEMESTER-IV

MSW- CBCS SYLLABUS 2021-22

Semester	IV	Total Credit	3
Course Code	MP CC 401	Credit Pattern	L-35, T-5, P-5
Course Title	THERAPEUTIC INTERVENTIONS		

Course Objectives	
1	Describe the various concepts of therapeutic interventions
2	Identify the major theories of psychotherapies in clinical practice
3	Analyze factors and features common to all methods of psychotherapy, and identify features unique to each of the major theoretical orientations.
4	Critically evaluate each theory based on the relevant scientific evidence.
5	Apply major therapies used in practice.
6	Aecognize ethical dilemmas and their importance.

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Psychotherapy: definition, elements, differences and similarities with counseling and psychotherapy, Social values and psychotherapy, effectiveness of psychotherapy.	L= 7	
		T=1	P=1
2	Theories of psychotherapy: psychoanalysis theory, Adler's theory, Transactional analysis theory, Heniz Hartman's theory Behavior theory: history of behavior therapy: Classical conditioning, operant conditioning , social learning approach. Behavior therapy; goals and assessment. Treatment approach systematic desensitization, Vivo exposure, Aversion therapy, Imaginal flooding therapy, Modeling technique and Assertiveness therapy	L=7	
		T=1	P=1
3	Cognitive behavioral therapy, Rational Emotive Behavioral therapy, Stress- inoculation therapy . Humanistic Experimental therapies: Client-centered therapy, Existential therapy, Gestalt therapy, therapy for interpersonal relationship: Marital therapy, Family system therapy.	L=7	
		T=1	P=1
4	Therapeutic Intervention at various setups: Children problems with reference to Child Guidance Clinic and Children's Home, Women problems with unmarried mothers, Sex workers and Rape victims, Family Counseling centers, De-addiction centers, Half Way Home, Rehabilitation centers.	L=7	
		T=1	P=1

MSW- CBCS SYLLABUS 2021-22

Resources Learning		
1	Text Book	1. Baron : Introduction to Psychology 2. Carson, R.C. Butcher, Mineka 2006 : Abnormal Psychology and Modern life, Pearson Education, Delhi 3. Kalpan H.I. & Sadoch J., 1991: Synopsis of Psychiatry, Williams & Willikins, USA 4. Richard Stens: The practice of behavior and cognitive psychotherapy, Cambridge University Press Cambridge, 1995 5. Theories of Psychotherapy and Counselling, Wordsworth Books/Cole, Australia Psychology, Company Pacific grove, California. 6. Shraf, Richard S. (1999): Theories of Psychotherapy and counseling: concepts and cases, Australia, Cole Thomson Learning 7. Tantom Digby (2002): Psychotherapy and Counselling in practice, A Narrative Framework, Cambridge University Press 8. Wilkinson, Kate (2008) : Psychotherapy Training and Practice, A Journey into the shadow of side, London, Karnae Books Ltd.
2	Reference books	1. Theories of Psychotherapy and Counselling, Wordsworth 2. Scott, Jan (1995) : Cognitive therapy in Clinical Practice, London: Routledge 3. Jena, SPK (2008): Behavior therapy technique, sage publications, New Delhi.
3	Websites	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3146194/ http://www.napsindia.org/ http://innerspacetherapy.in/
4	Journals	http://www.indianjournals.com/ijor.aspx?target=ijor:ijcp&type=home https://link.springer.com/article/10.1007/s10879-016-9348-1 https://www.longdom.org/psychology-psychotherapy.html
5	Supplementary Readings	1. Scott, Jan (1995) : Cognitive therapy in Clinical Practice, London: Routledge 2. Jena, SPK (2008): Behavior therapy technique, sage publications, New Delhi.
6	Practical Components	1. Learner have to present therapy model on various psychological disorder. 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

COPO MAPPING

MSW-II	THERAPEUTIC INTERVENTIONS									sem 4	MPCC401
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1		3	2			3					
1.2						3					
1.3	3		2								
1.4				3					2		
Total	3	3	2	3		3			2	3	2

MSW- CBCS SYLLABUS 2021-22

Semester	IV	Total Credit	3
Course Code	MP CC 402	Credit Pattern	L-35, T-5, P-5
Course Title	PSYCHOPATHOLOGY AND MENTAL HEALTH – II		

Course Outcomes: Students will be able to	
1	Describe the key features of the major mental disorders, including primary presenting features, co-morbidity, prevalence and incidence data, course and outcome.
2	explain the dominant psychological models explaining the aetiology and maintenance of the major mental disorders
3	Critically evaluate the empirical status of the dominant psychological models explaining the aetiology and maintenance of the major mental disorders.
4	Apply a bio psychosocial framework for understanding the onset and course of major mental disorders.

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Historical perspectives in abnormal behavior - psychodynamic behavior, Humanistic - Existential and Socio-cultural, Neuroscience perspectives, concept of Diagnostic relationship and models of relationships.	L= 7	
		T=1	P=1
2	Life-stress and coping ! Stress and Mental health problems, especially among children, adolescents, women, workers, elderly, coping with stress and crisis, use of internal and external resources in coping.	L=7	
		T=1	P=1
3	Organic mental disorders - Dementia and Epilepsy, Human sexuality, sexual dysfunction and gender identity disorders, sleep disorders, Geriatric psychiatry. Biologically based Therapies :Electro convulsive therapies (ECT), Psychosurgery, Microanalysis, Drug Therapy, insulin coma therapy and Drug therapy for children	L=7	
		T=1	P=1
4	Child Psychiatry : Disorders of psychological development, behavioural and emotional disorders of childhood and adolescence. Its types causes and management. Pervasive developmental disorders - Mental Retardation and Autism, its types, causes and treatment modalities. Concepts of psychiatric emergencies, suicide and crisis.	L=7	
		T=1	P=1

Resources Learning		
1	Text Book	1. Essentials of Psychiatry 2. Hand book of Psychiatry 3. Clinical Psychiatry 4. ICD-10 and DSM-IV/V
2	Reference books	1. Richardson R. Bootzin, Abnormal Psychology – Current perceptives, Random House, New York 2. Dr. Arun Rukadikar & Dr. Mary P. Rukadikar, Mental Disorders and you – An illustrated and easy guide to mental disorders for the mentally ill & their families 3. Patricia Casey & Brendan Kelly, clinical psychopathology 4. WHO Geneva, The ICD – 10 classification of Mental and Behavioural disorders – clinical descriptions & diagnostic guidelines 5. Bhatia M.S. (1992), Essentials of psychiatry, CBS Publication, Delhi 6. H.J. Kaplan, Sadock, (1990), Synopsis of psychiatry, Williams & Wilkins, London 7. Michael Gelder, Dennis Gath, Oxford text book of psychiatry, Oxford University Press 8. Robert C.C. et. Al. Abnormal psychology & modern life – Harper Collings psy., New York 9. Carson R.C., Butcher J.N. & Mineka S, Abnormal Psychology & Modern life, Longman, New York 10. Inside the mind of Toyota – Satoshi Hino – Management principles of enduring growth 11. Frank J Landy & Jeffrey M. Conte work in the 21st century. An introduction to industrial & organization and Psychology second edition. Blackwell Publications 12. A Wiley Brand, Dr. Peter J Hills, Dr. Michael Pake - Cognitive Psychology for Dummies 13. James N. Butcher, Susan Mineka, Joy M. Hooley - Abnormal Psychology (15th Edition) 14. Leslie A. Waller, Robert C. Lovler, Sandra A. McIntire - Psychology Testing - A practical approach (4th Edition) 15. M. Tamilarasan – Rawat Publication - Medical Sociology 16. Edited by Abraham - Social work in mental health – Areas of practice, Challenges & way forward 17. Kring Johnson, Davison Neale - Abnormal Psychology – (11th Edition) 18. Anil Pathak - Field Work training in Social Work 19. Martine Herbal - Clinical Child & Adolescent Psychology (3rd Edition) 20. Philip Fellin - Mental Health & Mental Illness Policies Programmes & Services

MSW- CBCS SYLLABUS 2021-22

		21. William Korham (4 th Edition) - Sociology of Mental Disorders
3	Websites	www.nimh.nih.gov www.nami.org https://www.verywellmind.com/an-overview-of-psychopathology
4	Journals	1. Journal of mental health and psychiatry 2. Indian journal of psychiatric social work
5	Supplementary Readings	Abnormal Psychology(james coleman), Clinical Psychology, Abnormal Psychology and maladaptive behavior General Psychology
6	Practical Components	1. Field work, training soft skills , training etc 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

COPO MAPPING

MSW- II	PSYCHOPATHOLOGY AND MENTAL HEALTH – II									sem 4	MPCC402
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1		3	2			3					
1.2						3					
1.3	3		2								
1.4				3					2		
Total	3	3	2	3		3			2	3	2

MSW- CBCS SYLLABUS 2021-22

Semester	IV	Total Credit	3
Course Code	MP CC 403	Credit Pattern	L-35, T-5, P-5
Course Title	COMMUNITY PSYCHIATRY		

Course Outcomes: Students will be able to	
1	Describe the complexity and dilemmas of diverse perspectives in the field of mental health and distress
2	Develop insight on the importance of service users/‘survivors’ experiences and perspectives
3	Assess how mental health issues can affect everyone
4	Explain the range of potential risks faced by service users/‘survivors’ in their everyday lives.

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Community psychiatry; Definition, concept, nature and scope. Historical development of community psychiatry, Principles, features and programs in community mental health. Prevention of mental illness. Health policy and programme; millennium development goals, peoples charter on health, health status of India, health vision 2020, health indicators	L= 7	
		T=1	P=1
2	Disaster Management- Global warming and MPSW intervention, Community health problems resulting from disaster epidemics. Man made disasters- Nuclear, industrial, terrorism attack. National and international health organization. Disaster of Mental Health Management, PTSD, Mental Health Education, Civil Society and mental health, Mental health programmes in india.	L=7	
		T=1	P=1
3	National Mental Health Act 1987, National Mental Health Programme of India, MTP Act 1971 and MTP rules and regulation 2003, ESI Act, NDPS Act. The Pre conception and Pre Natal Diagnostic Technique Act 1994. The Transplantation of Human Organ Act 1994. Concepts of - Forensic Psychiatry, forensic medicine, Psychological well being, Social well-being, Positive Psychology and Emotional intelligence. Life skills for social work practice, Fundamentals of Forensic Psychiatry, Criminal and civil responsibility of the insane. Role of forensic medicine in community welfare, Duties of doctors and social workers towards the society and state.	L=7	
		T=1	P=1
4	Psychiatric social work intervention in; Child Abuse, Psycho social care for marital and family life, Parenting, counseling services for suicide prevention and psychiatric emergencies, school mental health, family mental health, youth mental health. Community based rehabilitation for Neurological and mental disorders. Role of family and community in the treatment of	L=7	
		T=1	P=1

MSW- CBCS SYLLABUS 2021-22

	mentally ill, preparing the family and community for return of the patient and follow up.		

Resources Learning			
1	Text Book	1. Crisis Resolution and Home Treatment in mental Health—Soniya Johnson 2. Improving Mental Health, The global challenge- Willey Blackwell	
2	Reference books	1. Karen M Allen, William J Spitzer - Socialwork practice in health care – Advanced approaches & emerging trends 2. Jamet Walkar & Karen Crawford - Social work & human development 3. G. R. Snyder, Shane L Lopez. - Positive Psychology – The Scientific & practical Explanations of human strengths 4. William Cockerham - Medical Sociology (6th Edition) 5. Edited by Geffrey Nelsen & Isae prilletskaia - Community Psychology 6. Robert Constable, Daniel B. Lee - Social Work with families – Content & Process 7. Community Health Approach to the assessment of infants & their parents – The CARE Programme. 8. Edited by Howard M. Rebeach & John C Bruha - Handbook of clinical sociology 9. Walter H Green, Bruce G. Simons – Morton- Introduction to health Education 10. George R, Palmor & Theresa Ho - Health EconomCritical & Global Analysis 11. V. V. Kulkarni - Dimensions of Community Work 12. Eric Lager MD , Israel Zwerling - Psychology in the community – A Psychoanalytically based guide to the treatment of the Adult 13. Richard A Kurtz, H Paul Chalafant - Sociology of Medicine & Illness – (2nd Edition) 14. Sara Cartis & Ann Taket - Health & Societies – Changing perspectives 15. Mckenrie, James. - Introduction to Committee health 16. Dr. Pradeep Kumar Regal Publications - Medical negligence & consumer law	
3	Websites	http://nimhans.ac.in/sakalawara-community-mental-health-center/ https://sites.google.com/view/aacp123/home https://www.mhinnovation.net/organisations/sangath http://www.indjsp.org/article.asp?issn=0971-9962;year=2018;volume=34;issue=4;spage=281;epage=284;aulast=Murthy	

MSW- CBCS SYLLABUS 2021-22

4	Journals	Journal of Rural and Community Psychiatry Publons https://publons.com > journal > journal-of-rural-and-community-psychiatry Community Psychiatry The British Journal of Psychiatry ... https://www.cambridge.org > core > the-british-journal-of-psychiatry > article
5	Supplementary Readings	Introduction to social work, community mental health in india, preventive and social medicine(park and park)
6	Practical Components	Assess community mental health issues by visiting government hospitals, public health departments, etc.

COPO MAPPING

MSW-II	COMMUNITY PSYCHIATRY									sem 4	MPCC403
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1		3	2			3					
1.2						3					
1.3	3		2		3						
1.4				3		3			2		
Total	3	3	2	3		3			2	3	2

MSW- CBCS SYLLABUS 2021-22

Semester	IV	Total Credit	3
Course Code	MP CC 404	Credit Pattern	L-35, T-5, P-5
Course Title	SOCIAL PSYCHOLOGY		

Course Outcomes: Students will be able to	
1	Describe the fundamental theories of social psychology
2	Develop skills in critically evaluating social psychological experiments
3	Analyse real-world problems using social psychological theories
4	Develop an insight of the emerging areas of social psychology

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Social Psychology: Concept, Definitions, Values And Historical Development. Theories In Social Psychology Scope And Application Of Social Psychology In Legal System, Psychology In Work Setting And Consumer Behavior.	L= 7	
		T=1	P=1
2	Self And Personality :Self Concept, Stages Of Growth Of Self ,Self Presentation ,Influence Of Language Internalization , Self Perception, Ego-Involvement And Self Esteem And Self As Social Representation.	L=7	
		T=1	P=1
3	Social Behavior And Social Control; Meaning , Concept, Nature And Effect On Society. Prosocial Behaviour: Concept, Causes Of Pro-Social Behavior, Learning To Act Pro Socially, Psychological States That Leads To Pro Social Behavior, Situational Factors Affecting Prosocial Behavior,. Equity And Reactance Theory. Threat To Self Esteem Model. The Latane And Darley Model (Helping In Emergency Situations). Long Term Relationship: Evaluating Relationship, How Relationship Develop. Social Exchange Theory Intimate Relationship, Marriage And Cohabitation, Relationship Decline And Termination	L=7	
		T=1	P=1
4	Social Psychology Of Health: The Concept And Application Of Social Psychology To Medicine, (Changes In Medical Problems In Recent Years, Behavioural Medicine And Health Psychology), Preventing Self -Destructive Behaviours, Compliance And Adherence To Medical Recommendations And Behavior Factors As Cause To Disease	L=7	
		T=1	P=1

Resources Learning		
1	Text Book	1. Lindegren, H.C.& Byrne, D. – Psychology: An Introduction to Behavioural Sciences, New York: John Wiley & Sons Inc. 2. Seema Pasricha: Social Psychology, Deep & Deep Publication Pvt. Ltd. New Delhi, 2007. 3. Girishbala Mohanty : “ Social Psychology” –Kalyani Publishers, New Delhi, 2005.
2	Reference books	1. Mathur S.S : “Social Psychology” – Vinod Pustak, Mandir, Agra-2 2. Brigham Jon C.: “Social Psychology” –Harper Collins Publishers, New York, 1991. Robert A. Baron, Donn Byrne : Social Psychology, Prentice Hall, New Delhi, 1995
3	Websites	<u>Social Psychology Network</u> https://www.socialpsychology.org <u>Social Psychology Simply Psychology</u> https://www.simplypsychology.org/social-psychology
4	Journals	<u>The Journal of Social Psychology:</u> https://www.tandfonline.com/toc/vsoc20/current <u>Social Psychology - Hogrefe Publishing Corp</u> https://us.hogrefe.com/products/journals/social-psychology
5	Supplementary Readings	1. Supriya Paliwal : “Social Psychology” – RBSA Publishers, Jaipur, 2002. 2. Kuppaswamy B. : “ An Introduction to Social Psychology” –Media Promoters & Publishers Pvt. Ltd. Mumbai, 2004.
6	Practical Components	1. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 2. Video cases and documentary films relating to the syllabus to be exhibited in the class.

COPO MAPPING

MSW-II	SOCIAL PSYCHOLOGY									sem 4	MPCC404
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1		3	2			3					
1.2						3					
1.3	3		2								
1.4				3					2		
Total	3	3	2	3		3			2	3	2

MP CC 405: STUDY TOUR AND CONCURRENT FIELD WORK STUDY TOUR IN THE MONTH OF FEBRUARY, (COMPULSORY)

GENERAL:

- a) Historical Development of the Organization / Institute
- b) Nature of organization / services.
- c) Working Hours.
- d) Organization Structure (Staff Pattern)
- e) Records and Registers Maintained.
- f) Leaves / Salary / Benefits for Employees.

MEDICAL SOCIAL WORK :

1. Concept or Health. Concept of disease. Pathogenesis period. Environmental factor disease due to multiple factors.
2. Level of Prevention. Health promotion. Specific protection early diagnosis treatment. Disability limitation. Rehabilitation. Mass health examination.
3. Alcoholism and drug dependency – Community Health.
4. Concept of a patient as a person. Social and Emotional component associated with various physical disorders and their socio-economic implication with regard to tuberculosis. Cancer, veneers, diseases, Leprosy and other effect on individual and family.
5. Concept of case and rehabilitation, social psychological factors involved in disease their treatment and rehabilitation.
6. Orientation of Registration like ESI Act and HTP Act 1971.
7. Hospital Administration. Health Centers, Clinics, Public Health programme, Mobile Medical units. The Role of Social Worker in all the above agencies.
8. Role of social worker in the hospital set-up (Admission Procedure, Discharge. Follow up, home visits, case history taking etc.)
9. Organizing Recreational activities. Public Health Programmes.
10. Role of Social Worker with Aids Victims. Child Guidance Clinic.

PSYCHIATRIC SOCIAL WORK:

1. Concept of disease. DSM classification / ICD classification of disease and limitation of DSM and ICD classification of Mental disorder.
2. Role of social worker in the study and treatment of psychiatric disorders, procedure for admission, into case history taking procedure and discharge from mental hospital. Follow-ups. Home visits.
3. Signs and Symptoms of Mental Disorders:
Disorders of perception. Thinking emotion, memory,??? Attention and concentration Interviewing. Clinical Examination and Record Keeping. Pattern of Abnormal (maladaptive) behavior stress and adjustment disorders anxiety based disorders.
4. Mood Disorders: Normal Depression mild to moderate. Mon. Disorders moderate to severe Disorder – suicide.
5. Schizophrenia: Factors, sub types of schizophrenia.
6. Orientation of 1) Narcotic Drugs and Psychotropic substance Act. 2) Mental Health Act : Mental Hygiene Promotion of Mental – Health Prevention of Mental Illness.
7. Psychiatric social workers participation in Psychodramas -Concept of Patient as a person, social and Emotional component associated with various disorder and their effects on individual and family.
8. Concept of care and Rehabilitation. Socio-Psychological factors involved in disorder their treatment and rehabilitation.
9. Hospital Administration, Organizing Recreational activities. Public Health Programmes. Community Mental Health Programme.

MP CC 406: FIELD WORK REPORT AND VIVA-VOCE

FIELD WORK DIARY, RECORDING, MONTHLY ATTENDANCE SHEETS AND SUMMARY OF SUPERVISORY CONFERENCES

Every student is expected to maintain/prepare the following regularly or at appointed times:

- A diary of activities and account of time spent for each activity. Points from supervisory conferences should also be noted down in the diary.
- Detailed reports of activities (field work records)
- Summary of Supervisory Conferences which has to be submitted to the Field Work coordinator at the end of every month (cyclostyled forms will be provided for this purpose) and
- Monthly field work attendance sheets. Cyclostyled forms are available in the office for this purpose

At the end of every month, field work attendance sheets should be submitted to the field work supervisor so that the letter may forward it to the office, on the First Wednesday of the following month. Those who are under the direct supervision of agency social workers are required to submit the attendance sheets (after it has been duly signed by the supervisor) to the head of the department who is in charge of his/her placement (A Speciman copy is given to you)

The diary and recording should be submitted every week to the supervisor for review and discussion

Leave of Absence from Field Work

Absence from field work should be avoided as far as possible. For valid reasons, however, leave of absence is allowed for 2 days in a semester. If any student is absent for more than two days, all the days of absence (including the first two days) will have to be compensated in accordance with the instructions of the field work supervisor.

Mid-Year Evaluation and Final Evaluation

There will be a mid-year evaluation in early December for assessing the students field work performance during the I semester. The supervisor will write the report after a supervisory conference which will be specially geared to the discussion of work performance. There will be no grading for mid-year evaluation. The purpose of mid-year evaluation conference and report is that the student may get information and awareness of his/her strengths and weaknesses as regards as field work performance of the I semester and plan for better performance in the second semester.

At the end of the academic year, in March, every supervisor will submit to the Institute a written evaluation report on the students field work. Grades will be given by the field work supervisor in consultation with the field work coordinator.

Any student who does not come up to a certain minimum level of performance which is required for passing in field work, may be asked at the discretion of the faculty, either to leave the Institute or put in extra work to improve his/her field work performance.

FIELD WORK PRACTICUM: CONCURRENT FIELD WORK

The main object of concurrent field work is to provide opportunities for applying the knowledge learnt in the class room to real life situation (field reality) to understand and develop effective course of action (learning of intervention methods) according to needs of client system. And evaluate the experiences while working with the individual, groups and communities. Fieldwork enables the student to integrate and reinforce the knowledge and information acquired in the classroom with actual practice, under competent **supervision** by the agency and faculty supervisors. Every student is expected to work for 15 hrs. per week at various organizations or community settings.

FIELD WORK EVALUATION CRITERIA: (Applicable for the all four Semesters)

1) Analytical Ability:

- To understand evolution of agency, philosophy, policy and administration programmes.
- To identify roles of other departments and personnel in implementation of agency policies & programmes (in secondary settings).
- To understand the dynamics of the agency – roles, decision-making process, conflict solving procedures.
- To begin to situate agency in context of larger social system.
- To understand Profile of client system and causative factors affecting its needs and problems.
- To understand social work intervention utilized by agency in response to needs of client system.

- g. To assess one's own tasks in relation to problem situation.

2) Problem Solving Skills:

- a. To assess the problem situation and outlines the plan of action.
- b. To utilize problem solving process beginning with fact finding to evaluation of social work process in relation to needs, problems and aspirations of the client system.
- c. To develop and utilize working relationships with agency, client system and other related system.
- d. To utilise different techniques of problem solving, interviewing, home visits, communication and programme media mobilization of human and material resources.
- e. To utilise problem solving strategies selectively with individuals groups and communities.
- f. To understand the importance work in different administrative procedures – filing – maintaining registers, fund raising staff meetings.
- g. To develop basic skills of management of services, planning, organizing, implementing and evaluation.
- h. To participate in liaison work with other organizations and systems in terms of obtaining sanctions for programmes, interpreting social work intervention and networking on common issues.
- i. To understand the significance of and participates in teamwork in one's discipline as well as in the interdisciplinary team.
- j. To learn to priorities tasks and organize workload.
- k. To understand the importance of recording as a tool for learning and administration.
- l. Learn to record facts selectively and logical-assessment of problem situation, students feelings, reflections and intervention modalities.

3) Personal development:

- d. Appreciation and utilization of principles of social work in respect of persons, social justice, equality, opportunities, acceptance of the client system and its potential.
- e. Work with commitment in the agency in terms of fulfillment of tasks, disciplined use of self (dress, behavior, regularity, self control, awareness of bias and cultural blocks).
- f. Developing positive identification with the profession, conviction of the necessity of social work intervention.

4) Use of field Instructions :

- a. Understanding the significance of field instruction as a tool for professional training.
- b. Accepts the roles of faculty advisor, field instructor and field contact and utilises their expertise in one's own training.
- c. Indicates a gradual movement from a dependence on the instructor to performing ones role and tasks more independently.
- d. Utilises individual and group conferences for professional growth by accepting both the positive and negative remarks of the instructor.
- e. Actively participates in the group conferences and appreciates the participation of others.
- f. Makes efforts to improve performance through self-learning by reading learning from one's experiences and those of others.
- g. Develops ability for self-evaluation on going and periodic.

MSW- CBCS SYLLABUS 2021-22

MP DSE 401A: RESEARCH PROJECT

Students who opt for research project are required to start their research work at the beginning of third semester under the guidance of allotted faculty member. The selection of agency/industry for data collection needs to be done with consultation of organization and faculty supervisor. The research proposals shall be prepared as per format given below

1. Topic, Problem – Introduction and Review of literature
2. Objectives of the study
3. Tentative Research Methodology
4. References

The final research report shall have following chapter scheme

Title of the study

- I. Introduction
- II. Review of literature
- III. Research Methodology
- IV. Data Interpretation
- V. Summary, suggestion and conclusion

Appendix – Interview schedule, Photos, Graphs, and bibliography etc.

The final research report shall be submitted to organization/industry and respective guide (one hard copy, one soft copy to HOD). Last date for submission is on or before 15th March.

MSW-II	Research Project										sem 4	MPDSE401A
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10		p11
1.1	3		3			3	3	3	3	3		3
1.2	3	3	3	3	3	3	3	3	3	3		3
1.3	3	3	3	3	3	3	3	3	3	3		3
1.4	3	3	3	3	3	3	3	3	3	3		3
Total	3	3	3	3	3	3	3	3	3	3		3

MSW- CBCS SYLLABUS 2021-22

Semester	IV	Total Credit	3
Course Code	MP DSE 401B	Credit Pattern	L-35, T- 5, P-5
Course Title	COMMUNITY HEALTH		

Course Outcomes: Students will be able to	
1	Describe the various concepts of Community Health
2	Identify the the psycho-social needs of Patients in hospital set ups
3	Apply the knowledge and Skill of Social work in preventing, promoting and treatment of the Diseases
4	Analyze the models of health intervention and rehabilitation

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Health: Concept Of Health, Definition Of Health, Positive Health, Health A Relative Concept Ecology Of Health, Medicine As An Art And Science, Health And Welfare.	L= 7	
		T= 1	P= 1
2	Health Care Of The Community: Concept of Community Health Care, Community Diagnosis, Health Status and Health Problems and Models of Health Care System and Three Tier Health Care System. Health Development: , Health Development, Right To Health, Responsibility For Health, Health Dimension and Determinants of Health , and Indicators of Health.	L= 7	
		T= 1	P= 1
3	Mental Health: Mental Health Meaning, Causes Of Mental Ill Health, Preventive Aspects Of Mental Illness and Mental Health Services.	L=7	
		T=1	P=1
4	Levels Of Prevention: Primary, Secondary, And Tertiary Prevention. Health Promotion, Specific Protection, Mass Health Examination Early Diagnosis And Treatment, Disability Limitation and Rehabilitation	L= 7	
		T= 1	P= 1

Learning Resources		
1	Text Books	1. John J. Hulon : Principles of Public Health Administration 2. Park J.E. & Park K. Text Book of Preventive & Social medicine M.B. Bhanot Pub. Jabalapur, 1990 3. Sunderlal Adarsh, Pankaj 'Text Book of Community Medicine (Preventive & social medicine) 4. M.C. Gupta & B.K. Mahajan : Textbook of preventive and social Medicine. 5. A.M Chalkley : A Text book For The Health Worker (ANM) Volume II
2	Reference books	1. Dr B. S. Nagaraj : Community Medicine without Tears: Mysore printing and publishing house ,Mysore 2. Medical Social Work by KEM Hospital & Sheth G.S. Medical College Mannul 3. S.R.Mehta(1992) : Society and Health A Sociological Perspective Vikas Publishing House New Delhi. 4. Malavika Kapur : Mental Health In Indian Schools.
3	Websites	au.ask.com/Public health journalslist/Search no more www.teoma.co.uk/Free public health journals/Search no more <u>www.answersite.com/Public health journals</u> <u>www.teoma.co.uk</u>
4	Journals	Public health journals , Destinations: Bombai, New Delhi,
5	Supplementary Reading	1. Sunital Roy : A Hand Book of Preventive & Social medicine 2. Malavika Kapur : Mental Health In Indian Schools.
6	Practical Component	Orientation and concurrent Fieldwork Training in Hospital Training

COPO MAPPING

MSW- CBCS SYLLABUS 2021-22

MSW-II	Community Health									sem 4	MP DSE401B
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3										3
1.2		3		3			2	3	3	3	3
1.3					3	3		3	3		3
1.4		3	3	3		3	3	3	3	3	
Total	3	3	3	3	3	3	3	3	3	3	3

Semester	IV	Total Credit	3
Course Code	MP DSE 401C	Credit Pattern	L-35, T-5, P-5
Course Title	WOMEN AND SOCIETY		

MSW- CBCS SYLLABUS 2021-22

Course Outcomes: Students will be able to	
1	Understand the way women centric ideas, values, and themes inform and impact culture and society, both now and in the past.
2	Comprehend the impact of gender on individuals' historical and contemporary agency, and how the ability to express agency has shaped people's lives in various geographical settings.
3	analyze, interpret, and understand the complex interrelationships between the real situation and feministic concepts and importance of Women Health and Legal Rights
4	understand of women's historical and contemporary agency and how these have shaped women's lives in various geographic settings

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Womenhood : Concept of Womenhood, Importance of women studies, Approaches to study of Women: Psycho analytical, Functional, Feminist, Problems of Women in the field of education, health, family and society.	L= 7	
		T=1	P=1
2	Gender and Equity: Status of Women in different community Tribal, Rural and Urban related to Gender equality, Educational, Economical, Social and Religious, Social Reform movements in upliftment of women in India	L=7	
		T=1	P=1
3	Women and Work: Problems of Women in the field of Organized, Unorganized and Household sectors; Legal Measures related to work and wages: Minimum Wages ct 1948, Equal Remuneration Act 1060, Factories Act 1948, Anti Sexual harassment Act 2013, Violence on Women: Definition, Concept Types of Violence; Legal measures relating to violence Dowry Prohibition Act 1961, Immoral traffic Prevention Act 1986, Domestic Violence Act 2005, Medical Termination of Pregnancy and Prenatal diagnostic technique (PNDT) Act 1994	L=7	
		T=1	P=1
4	Legislations: As preventive measure for women 5) Constitutional Measures 6) Salient Features of legal Protection Application of Social work techniques, Role of Social Worker in women Empowerment and development, Role of Government and NGOs in Women Welfare, National Commission for Women, Schemes for Women development.	L=7	
		T=1	P=1
		T=1	P=1

Resources Learning

MSW- CBCS SYLLABUS 2021-22

1	Text Book	1. Anjana Mantra-Sinha : Women in changing Society. Ashish Publishing House, New Delhi. 2. Bela Rani Sharma : Marriage family, Violence and Divorce, Mangaldeep Publication, Jaipur. 3. Nomita Aggrawal : Women in Law in India,, Women Studies and development Centre, University of Delhi. 4. Premlata Pujari and Vijaykumar Kaushik : Women power in India, Kanishka Publishers, Delhi
2	Reference books	1. S.K. Pandit : Women in Society, Rajat Publication, Delhi. 2. Sayapalan N. Women Studies, Atlantic Publishers, New Delhi.
3	Websites	http://www.unwomen.org/en https://now.org/issues/ http://ncw.nic.in/
4	Journals	https://journals.sagepub.com/home/ijg https://www.tandfonline.com/toc/rajw20/current https://journals.tdl.org/jrwg/
5	Supplementary Readings	1. Ram Ahuja : Violence against Women, Rawat Publication, Jaipur. 2. S.K. Ghosh : Indian Women through ages, Ashish Publishing House, Delhi
6	Practical Components	1. Presentation of articles on women issues. 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

COPO MAPPING

MSW-II	Women and society									sem 4	MP DSE401C
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1		3	2			3		2			
1.2					2	3				2	3
1.3	3		2					3			2
1.4				3	3				2		
Total	3	3	2	3	2	3		2	2	3	3

Semester	IV	Total Credit	3

MSW- CBCS SYLLABUS 2021-22

Course Code	AEC 401	Credit Pattern	L-35, T-5, P-5
Course Title	SOFT SKILL DEVELOPMENT		

Course Outcomes: Students will be able to	
1	Describe the concept, the significance and essence of a wide range of soft skills.
2	Apply soft skills in a wide range of routine social and professional settings.
3	Employ soft skills to improve interpersonal relationships
4	Apply soft skills to enhance employability and ensure workplace and career success.

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Soft skills: Meaning , Soft Skills Vs Hard Skills Critical thinking, creative thinking, empathy, Interpersonal relationship, communication, coping with stress, coping with emotions, problem solving and decision making	L= 7	
		T=1	P=1
2	Situation Analysis: Planning, Problem analysis, Stakeholder analysis, Objective analysis, strategy analysis, Logical Framework Analysis, Activity planning- Yearly and its breakups and Preparation of communication Project plan	L=7	
		T=1	P=1
3	Social Skills: Personality Development, Emotional Intelligence, Etiquettes and Mannerism Interpersonal Skills and Therapeutic Skills, Self Development: Meaning, Need; Understanding perception; Self awareness and Sensitivity Development. Job preparations: Resume Writing, Group discussion, Interview and Negotiation	L=7	
		T=1	P=1
4	Training Methods: Meaning, Working with Individuals and families; Intake Interviews, Meeting, Guidelines for Training and use of Stimulation Games, Groups: group Discussion, Role play, Socialization and Communities	L=7	
		T=1	P=1

Learning Resources		
1	Text Book	1. Datar et al. (2010) Skill Training For Social Worker(A Manual); Sage publication Pvt Ltd. New Delhi 2. Hariharan S., Sundararajan N & Shanmugapriya SP (2010). Soft skills, communication skills, employability skills, corporate skills. MJ Publishers, Chennai 3. Gelder, M. (2000). New Oxford textbook of psychiatry. Oxford: Oxford University Press. Kaplan, H.L., Freedman A.M. & Saddock B.J. (1980), Comprehensive Textbook of Psychiatry, Volume 1, 2 & 3, 4. Sharma & Shriram (2017) Project Planning Analysis and Management , 1st publications Galaxy Books , Jaipur
2	Reference books	1. Rivett, Mark (2003), “Family Therapy In Focus”, Sage Publication New Delhi 2. Munter, M. (2006). “Guide to managerial communication: Effective business writing and speaking” (7th ed.). 3. Penrose, J., & Rasberry, R. (2004). “Business communication for Managers”: An advanced approach (5th ed.). 4. Mosam Sinha (2016), Communication For Management” Yking Book, Jaipur
3	Websites	www.skillsyouneed.com www.skillsoft.com
4	Journals	1. International journal of business and research
5	Supplementary Readings	1. Gajendra Singh Chauhan & Sangeeta Sharma (2016): “Soft Skills (an integrated Approach to Maximise Personality)”, Chaudhary Press , Delhi 2. Rae, Leslie (2005). Skills of Interviewing
6	Practical Components	1. Soft skill development programs and work shops in skill laboratory, through training, workshops etc 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

COPO MAPPING

MSW-II	Soft Skills Development									sem 4	AEC401
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	3	2			3		2			
1.2		3		3	3	3			3		3
1.3	3	3	2	3	3		3	2	3	3	3
1.4		3		3	3		3		2	3	3
Total	3	3	2	3	3	3			3	3	3

MSW- CBCS SYLLABUS 2021-22

CSIBER TRUST's
D.K.SHINDE SCHOOL OF SOCIAL WORK
Agency Linkages For Concurrent Field Work
(Structured & Unstructured Settings)

MSW – I

SR.NO.	NAME OF AGENCIES
1	School For The Blind Kolhapur.
2	V.M. Lohia School For Deaf And Dumb, Kolhapur.
3	Dr. Radhakrishana Balkalyansankul, Kolhapur.
4	Ahilyabaiholkar Girls Observation Home, Kolhapur
5	Anathmahila Ashram.
6	Shishu Griha - Boys Observation Home.
7	Swadhar Leprosy Colony, Shenda Park, Kolhapur.
8	Chetana Vikas Mandir, (School For Mentally Challenged) Kolhapur.
9	Sudhakar Joshi Nagar Slum, Kolhapur
10	Swayam School For Mentally Challenged Kolhapur.
11	Takala Slum, Kolhapur
12	Tejeswani Mahil Aadhar Graha, Sambhaji Nagar, Kolhapur.
13	Mahila Dakshata Samiti, Kolhapur.
14	Swana Jayanti Shehri Rojagar Yojana, Kolhapur.
15	Helpers Of The Handicapped, Kolhapur.
16	Rajendra Nagar Slum, Kolhapur.
17	Prabudha Bharat High School, Kolhapur.
18	State Home For Men, Kolhapur.
19	Sadar Bazar Slum, Kolhapur.
20	Kalamba Central Prison, Kolhapur.
21	Matoshree Aged Home, Chambukhadi, Kolhapur.
22	National Rural Development Society, Kolhapur.
23	Pratham, Mangalwar Peth, Kolhapur.
24	Narl Paramedical Centre.
25	Matoshree, R. K. Nagar, Kolhapur
26	Men Against Violence & Abuse, {Mava} Csiber Campus, Kolhapur
27	Counselling Centre Karveer Kolhapur
28	Dr. Swavepalli Radhakrishna Municipal School
29	Child Welfare Committee (CWC) Kolhapur
30	T.B. Control Program, Kolhapur Municipal Corporation
31	Municipal School, Kolhapur
32	Family Counselling Center, SP office, Kolhapur
33	Babasaheb Nadgonda Patil Trust, Kolhapur
34	Saolokhe Nagar Slum, Kolhapur
35	RAY Scheme (Rajiv Awas Yojana), Municipal School, Kolhapur
36	Setu Social Organisation, Kolhapur

**MSW II GROUP ‘ A’
HUMAN RESOURCE MANAGEMENT AND LABOUR WELFARE**

SR.NO.	NAME OF AGENCIES
1.	Popular Industries, Udayamnagar,Kolhapur
2.	Gokul Dudh , Gokulshirgaon
3.	Indocount, Gokulshirgaon
4.	Menonbearings, Gokulshirgaon
5.	Arvindcotspin Gokulshirgaon
6.	Shahu Sugar Mill Kagal
7.	Menon Alkop 5-Star Midc,Kagal
8.	Mather And Platt, Gokulshirgaon
9.	Shantaram Machinaries, Gokulshirgaon
10.	Kirloskar Oil Engine Limited (Koel)5 Star Midc,Kagal
11.	Menon&Menon,Vikramnagar
12.	Sound Castings,5-Star Midc,Kagal
13.	Kolhapur Steels, Shirol
14.	Menon Pistons,Shirol
15.	Manugraph ,Shirol
16.	S.B. Reshellers,Shirol
17.	Navamahasrasoot Girni,Sajini
18.	Shriram Foundries,Shirol
19.	Indocount,5 Star Midc,Kagal
20.	Soktas,5 Star Midc,Kagal
21.	Ghatgepatil Industries,Uchgaon
22.	Mantri Metalics Shirol
23.	Mantri Metalics , 5- Star Midc,Kagal
24.	Elcom, Gandhi Nagar/, 5- Star Midc,Kagal
25.	Sound Castings,Shirol
26.	Padmawathi Steels, Kagal
27.	Caspro,Shirol
28.	Monte Textiles
29.	Nagreeka Exports,Yavluj
30.	Sultanpure Textiles,Ichalkaranji
31.	Kulkarni Power Tools,Jaysingpur
32.	Saroj Industries,Shirol
33.	Menon & Menon, 5- Star Midc, Kagal
34.	Tulip, Shirol
35.	Ghatage Patil Industries 5- Star Midc, Kagal
36.	Warna Dudh Warnanagar
37.	Mayura Steels , Midc Shirol

MSW- CBCS SYLLABUS 2021-22

MSW II GROUP ' B' URBAN AND RURAL COMMUNITY DEVELOPMENT

SR.NO.	NAME OF AGENCIES
1	Swana Jayanti Shehari Rojga Ryojana, Kolhapur.
2	Nehru Yuva Kendra
3	District Social Welfare Office
4	District Adult Education Department
5	Swayamsidha (Training Centre For Women)
6	District Probation Office
7	Takala Slum
8	Panchayat Samiti
9	Matoshree Aged Home
10	Matoshree Aged Home
11	Kolhapur District Central Co-Operative Bank Ltd.
12	Shri Sonal Mahila Utkarsh
13	Mahila Arthik Vikas Mahamandal
14	District Women And Child Welfare Dept.
15	Rajendra Nagar Slum
16	Urban Basic Services For Poor.
17	Dept. Of Community Medicine, D. Y. Patil Medical College, Kolhapur.
18	National Rural Development Society, Kolhapur.
19	Navchaitanya De Addiction Center, R.K. Nagar, Kolhapur.
20	Disaster Risk Management, Collector Office, Kolhapur.
21	Adivasinirantarsanstha, RK Nagar, Kolhapur
22	Gram Panchyat Wathar Village
23	Siddhagiri Kanerimath
24	Water & Sanitation Kolhapur
25	Kolhapur Cancer Hospital
26	Grampanchyat Asurle Porle Village
27	Menon & Menon Vikram Nagar Kolhapur
28	Kirloskar Oil Engines Midc Shirol
29	Jilha Udyog Bhavan
30	Maharaashtra Centre Interpretation Development (MCED)
31	Gram Panchyat Kogil Khurd Village
32	T.B Control Department Municipal Corporation Kolhapur
33	Karveer Pancayat Samiti Kolhapur
34	Child Line Kolhapur
35	Sakhi Sanghtana Kolhapur
36	Network Of Kolhapur People Living With HIV (NKP)
37	Muslim Samaj & Shikshan Brobhodhan Sanstha

MSW-II GROUP 'E'
MEDICAL AND PSYCHIATRIC SOCIAL WORK

SR.NO.	NAME OF AGENCIES
1	Kripamai Institute Of Mental Health, Miraj.
2	Chhatrapatipramilaraje Hospital, Kolhapur.
3	Swastik Hospital, Kolhapur.
4	Dhanvantari Hospital, Kolhapur.
5	Wanless Hospital, Miraj.
6	Shree Shanti Clinic, Kolhapur.
7	Patanjali Clinic, Kolhapur.
8	Service Hospital, Kolhapur.
9	D. Y. Patil Medical Hospital, Kolhapur.
10	Sankalp, Health Care Unit, Kolhapur.
11	City Hospital, Rajarampuri, Kolhapur
12	NKP Shahupuri, Kolhapur
13	Indian Red-Cross Society, Kolhapur
14	Panchgangahospital, Ganga Vesh, Kolhapur
15	Samvad Clinic For Hearing
16	Savitribai Phule Hospital , Kolhapur
17	Kolhapur Cancer Centre
18	Richardson Leprosy Mission , Miraj
19	Lotus Foundation , Kolhapur

CSIBER TRUST'S
**CHHATRAPATI SHAHU INSTITUTE OF
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CPE Phase III, Accredited By NAAC 'A⁺' (CGPA 3.30)

University Road, Kolhapur – 416 004 (MS)

D. K. Shinde School of Social Work

**MASTER OF SOCIAL WORK
M.S.W.**



MSW PROGRAMME STRUCTURE AND SYLLABUS

**AS PER NEPGUIDELINES
WITH EFFECT FROM THE YEAR 2023-24**

Semester	I	Total Credit	4
Course Code	DSC -501 Major	Credit Pattern	L-45, T-8, P-7
Course Title	HISTORY AND PHILOSOPHY OF SOCIAL WORK		

Course Outcomes: Students will be able to		Levels
1	Judge the core values and philosophy of Social Work Profession	5
2	Examine the concepts of Social Work Education and Profession	4
3	Analyze the Theories and Models of Social Work Practice	6
4	Formulate the issues and challenges in Social Work Profession	4

Syllabus:

Unit Number	Contents	Number of Session	
1	Historical Development of Social Work: Ancient, Medieval, Pre & Post-Independence Period. Social Work in U.K. & U.S.A. Elizabeth poor law, Role of private Agencies in social work. Introduction to models of social work.	L=12	
		T=2	P=2
2	Perspective of Social Work Profession : Indian culture and traditional social service, religious roots of charity and philanthropy, Social Reform Movement, Role of NGOs in protecting and promoting Human Rights	L=11	
		T=2	P=2
3	Theories and Models of Social Work Practice: Theories and Models in Social Work Practice. Social Welfare with reference to Children, Youth, Women, Aged and Differently Abled. Importance of Social Security.	L=11	
		T=2	P=1
4	Professional Social Work: Concept, Values and Ethics In Social Work, Guiding principles for Social Worker, Role of Social Worker in Welfare State. Future Trends in Social Work Profession.	L=11	
		T=2	P=2

Learning Resources:		
1	Text Book	1. WadiaR., History & Philosophy of social work India , Allied

		publication Mumbai 2. ChaudaryD. Paul, Introduction to Social Work, Atmaram and sons Delhi. 3. Gore M.S., Social work and social work education, Asia publication House, Bombay 4. MudgalS. D., Social work education today and tomorrow, Book enclave Jaipur
2	Reference books	1. Fink A.E., The field of social work, Hanry holt & Co. NewYork 2. Hajira Kumar, Theories in social work practice, Friends publication new Delhi 3. Rameshwari D. and Prakash, Social work Practice, Mangalore publication Jaipur 4. Bradford W. Sheaffer, Techniques & guidelines for social work Practice, Allyn& Bacon Landon
3	Websites	ddceutkal.ac.in.master-social-work https://archive.org https://www.academia.edu https://msw.usc.edu
4	Journals	1. “Perspectives in Social Work”, College of Social Work, NirmalaNiketan , Mumbai. 2. The Indian Journal of Social Work, Tata Institute of Social Science, Mumbai. 3. “Social Welfare”, Central Social Welfare Board
5	Supplementary Readings	1. Lurie H.L, Encyclopedia o social work Vol 1, 2, 3, National association of social workers Newyork 2. Kendall K. A., Refeliction on social work education, International association of school of social work Network
6	Practical Components	1. To understand the stages in Social Work practice will be given for field work in in NGO’s. 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

Semester	I	Total Credit	4
Course Code	DSC -502Major	Credit Pattern	L-45, T-8, P-7
Course Title	WORK WITH INDIVIDUALS, FAMILIES & GROUPS		

Course Outcomes: Students will be able to		Level
1	Examine the concepts of Case Work & Group work	4
2	Analyze essential knowledge and skills required for practicing social casework and Social Group work in various set ups	4
3	Assess the capacity and accept the uniqueness of individuals and Group	5
4	Develop the ability to critically analyze the problems and factors affecting Individuals, families and Groups	6

Syllabus:

Unit Number	Contents	Number of Session	
1	Case Work: Concept, Scope, Nature and Components of case work. Historical development, objectives Principles, Skills, Techniques, Philosophical Assumptions, Values, Role of case worker in various settings. Distinction Between Case Work And Group Work.	L=12	
		T=2	P=2
2	Theories Of Case Work: Psychoanalytic Theory, Behavioral Theory, Humanistic And Person-Centered Theory, Cognitive Theory, Marital and Family Therapy, and Crisis Interventions. Case work Approaches.	L=11	
		T=2	P=1
3	Group Work: Concept and Historical Development. Types Of Social Groups, Functions, Objectives, Principles, Skills & Techniques in Group Work Process. Role And Responsibilities Of Group Worker, Scope of Group Work in various Set Ups.	L=11	
		T=2	P=2
4	Program Planning and Development: Program Planning And Development, Problem Solving Techniques, Interaction Process Analysis (IPA Model) and Factors Affecting Interpersonal Relationship. Transactional Analysis As A Social Work Treatment Method And Family Therapy. Recording In Case Work And Group Work.	L=11	
		T=2	P=2

Learning Resources:

1	Text Book	1. Gambrill Eileen (2013), "Case Work- A Competency-Based approach," Prentice-Hill, Inc., Englewood Cliffs, New Jersey. 2. Friedlander Walter A. and Apate Robert Z (2011). Introduction to social welfare; Prentice hall of India Private Limited, New Delhi 3. Gambrill Eileen, (1997) "Social work Practice- A Critical Thinker's Guide", Oxford University Press,. 4. Morales Armando T. (1998)., "Social Work- A Profession of Many Faces", Allyn and Bacon, London,
2	Reference books	1. Ministry of Welfare, Government of India, "Encyclopaedia of Social Work in India" Volume – 1,2,3, 4. 2. Mathew Grace, (1992) "An Introduction to Social Work", Tata Institute of Social Science, Mumbai,. 3. Perlman Helen Harris, (2011) "Social Case Work- A Problem- Solving Process", Rawat Publications, Mumbai, 4. Konopka Gisela (Group work :helping process ;Prenticehall, Inc Englewood Cliffs, New Jersey USA 5. Shaw, Marlin "Group Dynamics", Tata McGraw Hill publishing, New Delhi 6. Capuzzi David, Douglas R. Gross, Stauffer Mark D "Introduction to Group Work", Rawat Publications, Jaipur/New Delhi.
3	Websites	en.wikipedia.org/wiki/Social_work_with_groups www.tandfonline.com/toc/wswg20/current www.labourlawagency.com www.irhrjournal.com www.cswb.gov.in
4	Journals	"Indian Journal Of Social Work" "International Journal Of Social Work" "Social Work Journal Of India" "Perspectives In Social Work", College of Social Work, Nirmala Niketan , Mumbai. "The Indian Journal of Social Work", Tata Institute of Social Science, Mumbai.
5	Supplementary Readings	1. Chowdhry D. Paul (1992), David Capuzzi, Douglas R. Gross, Mark D Stauffer "Introduction to Social Work", Atma Ram & sons, New Delhi,. Social welfare Magazines / Kurukshetra , Hand book of group work
6	Practical Components	1. To understand the stages in case work students will be given case work in NGO's. 2. Video cases and documentary films relating to the syllabus to be exhibited in the class.

Semester	I	Total Credit	4
Course Code	DSC-503 Major	Credit Pattern	L-45, T-8, P-7
Course Title	SOCIAL WORK RESEARCH		

Course Outcomes: Students will be able to			Level
1	Classify the various Concepts Of Research		3
2	Examine the Research Problem		4
3	Design Research For Social Work Intervention		6
4	Formulate Research Proposals For Projects.		6

Unit Number	Contents	Number of Session	
1	Social Work Research: Scientific Method; its characteristics and purpose, Steps in scientific method, Scientific method and social work research Formulation of research problem: Concepts, operationalization of concepts, variables, Hypotheses - types and functions, and test ; attributes of a sound hypothesis.	L=12	
		T=2	P=2
2	Research Design: Meaning, Need of Research Design, Features of Good Design, Concepts Relating to Research Design, Types of Research Designs, and Comparison between Different Designs	L=11	
		T=2	P=1
3	Sources of Data: Primary and Secondary Sources, Official Sources and Data form Agencies. Selection of Appropriate Method, Tools: Interview Schedules, Questionnaires, Observation and Interview method	L=11	
		T=2	P=2
4	Sampling: Introduction, terms and terminologies, Advantages of sampling. Methods of Sampling: Probability Sampling and Non-probability Sampling methods. Determination of sample size: factors to be considered. Research Proposal And Report Writing: Functions of research proposal, its Ingredients, proposals	L=11	
		T=2	P=2

	for funded research, Purpose of research report, its contents, Characteristics of a good report.		

Learning Resources		
1	Text Books	1. Kothari C.R. and GuravGarg (2014): Research Methodology: Methods and Techniques, New Age International Publishers, New Delhi 2. Laladas D. K. (2000), “Practice of Social Work Research”, Rawat Publications, Jaipur, New Delhi 3. Allen R. and Earl B, “Research Methods for Social Work” Second Edition, Brooks Cole Publishing Company, Pacific Grove, California
2	Reference books	1. Laldas D. K.(2005), “Designs of Social Research”, Rawat Publications, New Delhi 2. Goode W. J. and Hatt P.K., “ Methods in Social Research”, McGraw Hill, New York 3. Kaplan A., “The Conduct of Inquiry, Methodology for Behavioural Science”, Chander Publishing Company, California 4. Lakatos I., “The Methodology of Scientific Research Programme (Vol.I)”, Cambridge University Press Cambridge 5. Thyer A. B., “The Handbook of Social Work Research Methods”, Sage Publications Inc., International Educational and Professional Publishers, New Delhi, 2000 6. LawrenceNeuman W (2007): Social Research Methods: Qualitative and Quantitative Approaches, Pearson Education, New Delhi 7. Nicholas Walliman (2005) Your Research Project, Vistaar Publications
3	Websites	http://uk.sagepub.com/en-gb/eur/understanding-social-work-research/book235928 https://sk.sagepub.com/books/social-work-research-in-practice
4	Journals	https://www.jstor.org/journal/jsoc_isociworkres https://www.journals.uchicago.edu/toc/jsswr/current

5	Supplementary Reading	Kerliner F. R., “Foundations of Behavioural Research”, Sujreeth Publications ,New Delhi
6	Practical Component	Practical sessions on social work research during rural camp.

Semester	I	Total Credit	4	DS C- 504 (A) M
Course Code	DSC-504 (A) Major	Credit Pattern	P 120	
Course Title	ORIENTATION VISITS AND FIELDWORK PRACTICUM			

jor ORIENTATION VISITS AND FIELDWORK PRACTICUM

- Introduction
- Field work activities
- Work habits and adjustment to the agency
- Professional Development
- Casework practice
- Group work practice
- Community Organization Practice
- Social Welfare Administration Practice
- Record writing
- Supervision
- Field work diary recordings, monthly attendance sheets and summary of supervisory conferences
- Field work agencies

INTRODUCTION:

Field Work is a guided interaction process between student and the actual life situation initiated with a view to bring about fuller development of human-environmental potential

Supervised field work is required of all students, because learning by doing is an important aspect of professional education. Field Work is for 15 hours per week. Every student has a field work placement in a social service department/agency or organization where he/she learns to use the social work methods of casework, group work, community organization and social welfare administration

OBJECTIVES OF FIELD WORK:

1. To study and understand the behavior of individuals families, groups and the community under both normal and stress conditions
2. To integrate theory and practice through direct involvement in helping activities
3. To develop appropriate values and attitudes
4. To develop self – awareness and social awareness.

FIELD WORK SUPERVISION:

Every student is placed under the guidance of a field work supervisor who gives the necessary orientation as regards the agency's set-up and the nature of work there. Supervisory process serves to fulfill the service functions of the agency and the educational needs of the student. Weekly supervisory conference is held in order that the student may plan and discuss his/her work with the supervisor and get guidance as regards the day to day activities. Student's field work records serve as tools for learning and teaching besides fulfilling the administrative requirements of the agency. The Supervisor is available at other time also for on the spot guidance and consultation.

FIELD WORK ACTIVITIES:

Field Work tasks and activities are decided according to the personal and situational needs of client and the learning needs of the student. Skills of social work practice are developed as a result of carrying out, in a planned manner, the tasks with reference to the individual family, group and the community and reflecting upon process and results of each task. The student and the supervisor can use the weekly conference for an ongoing evaluation of the former's performance in addition to the other purposes for which the conference is used. The assessment of field work performance covers the following areas:

I. Work habits and adjustment to the agency

1. Punctuality and regularity (as seen in attendance at the agency, keeping appointments, submitting recording, attending supervisory conference etc.)
2. Responsibility (as seen in planning work, discharging duties on time, taking seriously the various aspects of work and in having on overall sense of accountability to the agency)

II. Professional development

3. (a) Assimilation of basic values like consideration of human worth and dignity and the human right to be helped as regards needs.
(b) Use of principles like acceptance, confidentiality, client self-determination and client participation.
(c) Interest in Work
(d) Level of self-awareness, sensitivity and objectivity
(e) Controlled use of the self with awareness of feelings.

III. Casework practice

4. (a) Ability to demonstrate concern for the client and ability to establish rapport
(b) Ability to use various casework techniques consciously
(c) Ability to explore and make use of community resources
5. (a) Ability to collect pertinent information for the study of a case
(b) Ability to identify social and psychological factors and to see the connections among these factors in the causation of the problem/s
6. (a) Ability to make a plan for suitable action
(b) Ability to carry out the plan systematically

IV. Group Work Practice

7. (a) Ability to identify needs of group members and ensure their fulfillment through appropriate group processes
(b) Ability to relate oneself to individuals in a group situation and to the group as an entity
8. (a) Ability to analyse and distinguish different components of the group process: (i) Member Roles (ii) Structure of group (iii) Interaction Patterns (iv) Communication Patterns (v) Conflict resolution (vi) Decision making (vii) Group Climate (viii) Goal Formulation
(b) Ability to identify appropriate roles for oneself in the different components of group processes mentioned above.
9. (a) Ability to assess the level and needs of the group and thus determine intervention strategy of worker
(b) Nature of programme planning skills and ability to mobilize resources

(c) Comments on personal qualities of the worker that enhance or block his/her effectiveness

V. Record Writing

16. (a) Ability to use definite, specific, concrete and correct language
(b) Ability to write clearly and to maintain an appropriate level of uniformity and standardization

VI. Supervision

17. (a) Ability to accept supervision : (Ability to accept the authority of the supervisor, ability to establish purposeful relationship with the supervisor, extent of dependence on the supervisor, ability to discuss situations, relationships, problems, plans etc.)
(b) Ability to accept criticism and make constructive use of supervision and supervisory conferences (whether the students prepares for conferences, tries to apply in practice what he/she has learnt in supervisory conferences, tries to clarify his/her thinking etc.)

Semester	I	Total Credit	4	DSC -504 (B)
Course Code	DSC-504 (B) Major	Credit Pattern	P 120	
Course Title	FIELD WORK REPORT & FIELDWORK VIVA VOCE			

Major
FIELD WORK REPORT

**FIELD WORK DIARY, RECORDING, MONTHLY ATTENDANCE SHEETS AND
SUMMARY OF SUPERVISORY CONFERENCES**

Every student is expected to maintain/prepare the following regularly or at appointed times:

- (a) A diary of activities and account of time spent for each activity. Points from supervisory conferences should also be noted down in the diary.
(b) Detailed reports of activities (field work records)
(c) Summary of Supervisory Conferences which has to be submitted to the Field Work coordinator at the end of every month (cyclostyled forms will be provided for this purpose) and
(d) Monthly field work attendance sheets. Cyclostyled forms are available in the office for this purpose

At the end of every month, field work attendance sheets should be submitted to the field work supervisor so that the letter may forward it to the office, on the First Wednesday of the following month. Those who are under the direct supervision of agency social workers are required to submit the attendance sheets (after it has been duly signed by the supervisor) to the head of the department who is in charge of his/her placement (A Speciman copy is given to you)

The diary and recording should be submitted every week to the supervisor for review and discussion

Leave of Absence from Field Work

Absence from field work should be avoided as far as possible. For valid reasons, however, leave of absence is allowed for 2 days in a semester. If any student is absent for more than two days, all the days of absence (including the first two days) will have to be compensated in accordance with the instructions of the field work supervisor.

Mid-Year Evaluation and Final Evaluation

There will be a mid-year evaluation in early December for assessing the student's field work performance during the semester I. The supervisor will write the report after a supervisory conference

which will be specially geared to the discussion of work performance. There will be no grading for mid-year evaluation. The purpose of mid-year evaluation conference and report is that the student may get information and awareness of his/her strengths and weaknesses as regards as field work performance of the I semester and plan for better performance in the second semester.

At the end of the academic year, in March, every supervisor will submit to the Institute a written evaluation report on the students field work. Grades will be given by the field work supervisor in consultation with the field work coordinator.

Any student who does not come up to a certain minimum level of performance which is required for passing in field work, may be asked at the discretion of the faculty, either to leave the Institute or put in extra work to improve his/her field work performance.

FIELD WORK PRACTICUM: CONCURRENT FIELD WORK

The main object of concurrent field work is to provide opportunities for applying the knowledge learnt in the class room to real life situation (field reality) to understand and develop effective course of action (learning of intervention methods) according to needs of client system. And evaluate the experiences while working with the individual, groups and communities. Fieldwork enables the student to integrate and reinforce the knowledge and information acquired in the classroom with actual practice, under competent **supervision** by the agency and faculty supervisors. Every student is expected to work for 15 hrs. per week at various organizations or community settings.

FIELD WORK EVALUATION CRITERIA: (Applicable for the all four Semesters)

1) Analytical Ability

- a. To understand evolution of agency, philosophy, policy and administration programmes.
- b. To identify roles of other departments and personnel in implementation of agency policies & programmes (in secondary settings).
- c. To understand the dynamics of the agency – roles, decision-making process, conflict solving procedures.
- d. To begin to situate agency in context of larger social system.
- e. To understand Profile of client system and causative factors affecting its needs and problems.
- f. To understand social work intervention utilized by agency in response to needs of client system.
- g. To assess one's own tasks in relation to problem situation.

2) Problem Solving Skills

- a. To assess the problem situation and outlines the plan of action.
- b. To utilize problem solving process beginning with fact finding to evaluation of social work process in relation to needs, problems and aspirations of the client system.
- c. To develop and utilize working relationships with agency, client system and other related system.
- d. To utilise different techniques of problem solving, interviewing, home visits, communication and programme media mobilization of human and material resources.
- e. To utilise problem solving strategies selectively with individuals groups and communities.
- f. To understand the importance work in different administrative procedures – filing – maintaining registers, fund raising staff meetings.
- g. To develop basic skills of management of services, planning, organizing, implementing and evaluation.
- h. To participate in liaison work with other organizations and systems in terms of obtaining sanctions for programmes, interpreting social work intervention and networking on common issues.
- i. To understand the significance of and participates in teamwork in one's discipline as well as in the interdisciplinary team.
- j. To learn to priorities tasks and organize workload.
- k. To understand the importance of recording as a tool for learning and administration.

- l. Learn to record facts selectively and logical-assessment of problem situation, students feelings, reflections and intervention modalities.

3) Personal development

- a. Appreciation and utilization of principles of social work in respect of persons, social justice, equality, opportunities, acceptance of the client system and its potential.
- b. Work with commitment in the agency in terms of fulfillment of tasks, disciplined use of self (dress, behavior, regularity, self control, awareness of bias and cultural blocks).
- c. Developing positive identification with the profession, conviction of the necessity of social work intervention.

4) Use of field Instructions

- a. Understanding the significance of field instruction as a tool for professional training.
- b. Accepts the roles of faculty advisor, field instructor and field contact and utilises their expertise in one's own training.
- c. Indicates a gradual movement from a dependence on the instructor to performing ones role and tasks more independently.
- d. Utilises individual and group conferences for professional growth by accepting both the positive and negative remarks of the instructor.
- e. Actively participates in the group conferences and appreciates the participation of others.
- f. Makes efforts to improve performance through self-learning by reading learning from one's experiences and those of others.
- g. Develops ability for self-evaluation on going and periodic.

Semester	I	Total Credit	4
Course Code	SSC -501 (E)	Credit Pattern	L-45, T-8, P-7
Course Title	INDIAN SOCIAL PROBLEMS AND SOCIAL SERVICES		

Course Outcomes: Students will be able to		Level
1	Examine the various Social Problems in India	4
2	Analyse social behaviour and determine the effects on society.	4
3	Assess the knowledge of social work methods for intervention	4
4	Develop Intervention strategies to solve the Social Problem.	6

Syllabus:

Unit Number	Contents	Number of Session	
1	Indian Social Problems: Genesis and nature of various categories of Social Problems, Social Deviance And Control, Social Disorganization, Analysis of Specific Social Problems, their Causative Factors, Extent and Magnitude	L=12	
		T=2	P=2
2	Classification of Social Problems in Society: An overview of Major Social Problems, Juvenile Delinquency, Crime, Prostitution, Dowry, AIDS, Beggary-Alcoholism and Drug Addiction.	L=11	
		T=2	P=1
3	Problems Of Vulnerable Groups: Children, Youth, Women, Aged, Differently Abled, Role of the Social Worker in identifying the Social Problem and developing strategies for help.	L=11	
		T=2	P=2
4	Social Conflicts: Nature of Social Conflicts in India, like Religious, Ethnic, Regional, Linguistic, Caste And Communal, Atrocities On Scheduled Castes And Scheduled Tribes	L=11	
		T=2	P=2

Learning Resources:		
1	Text Books	1. Ahuja R 1993 Indian Social System-Rawat Publication New Delhi. 2. Akbar M.J. 1988 Riot After Tiot; Reports on caste & Communal Violence in India New Delhi : Penguin Books.

		3. Bardhan P. 1984 the Political Economy of Development in India Delhi: Oxford Press. 4. Betelle A. 1966 Caste, Class and Power Bombay: Oxford Uni, Press. 5. Black C.E. 1966 The Dynamics of Modernization: A study in Comparative History New York: Harper & Row. 6. Madan G.R. 1985 Indian Social Problems Vol. I and II Allied Pub. Pvt. Ltd. Bombay.
2	Reference Books	1. Coser I.A. 1956 The functions of Social Conflict Glencoc Illinois; Free Press. 2. Dahrendorf R. 1957 Class & Class ' Conflicts in an Industrialized Society London Routledge&Kengan Paul. 3. DandekarV.M. 1977 Nature of Class Conflict in the Indian Society Bom Bharat Foundation. 4. Das A. &Nilkanth V. (Ed.) 1979Agrarian Relations in India Delhi:Manohar.
3	Website	https://journals.sagpub.com www.ndpublisher.in www.ukessays.com www.open.edu7.sociology
4	Journals	International Journal of Social Science Indian Journal of Social Work
5	Supplementary reading	Encyclopedia in Social Work Vol-I & II Dictionary of Social Work
6	Practical Component	1. Visit to various NGO's 2. Concurrent Field Work 3. Case studies on various social problems 4. Organised Group discussion with problematics 5. Celebrate different days related to Social issues.

Semester	I	Total Credit	4
Course Code	SSC -502 (E)	Credit Pattern	L-45, T-8, P-7
Course Title	FUNDAMENTALS OF PSYCHOLOGY		

Course Outcomes: Students will be able to		Level
1	Classify the knowledge of psychology in everyday life	5
2	Analyze the stages of human growth and behavior across the life span	4
3	Assess the psychological processes in human behavior.	5
4	Formulate personality characteristics in adjustment and maladjustment	6

Syllabus:

Unit Number	Contents	Number of Session	
1	Understanding Human Behavior: Heredity-Concept And Mechanisms, Environment-Internal and external. Interplay of Heredity of Environment in shaping human behavior.	L=12	
		T=2	P=2
2	Stages Of Human Development: Characteristics, Developmental Tasks And Hazards In Prenatal, Infancy, Childhood, Adolescence, Adulthood And Old Age Stages	L=11	
		T=2	P=1
3	Psycho-Social Process: Attitude, prejudices, public opinion, collective behavior and leadership behavior. Psychological process: Perception, learning, memory, emotions and motivation.	L=11	
		T=2	P=2
4	Personality: Definition, Characteristics and types of Personality, Adjustment Throughout Life: concept of adjustment and maladjustment. Factors in adjustment: frustration, conflict coping devices and stress.	L=11	
		T=2	P=2

Resources Learning

1	Text Book	1. Fernald L. D. and Fernald P. S. 5th Edition, 2012, Introduction to Psychology, AITBS Publishers, India 2. Carson, Butcher, Mineka 2003: Abnormal Psychology and Modern Life, Pearson education, Delhi 3. Kuppaswamy B.1999: An Introduction to social psychology, Media Promoter and publications Pvt Ltd, Mumbai 4. Hurlock E.B. 1978: Child Development , 6th Edition, McGraw Hill Ltd ,International Edition
2	Reference books	1. Newman B.M.1978: Adolescent Development, MerillPub.Co. Colambia 2. Schiamberg L.B. 1985: Human development, Logon MacMillian Pub company 2nd Edition
3	Websites	1. https://ijip.in/ 2. http://www.devpsy.org/ 3. https://www.simplypsychology.org/
4	Journals	1. Journal of Indian Association for Child and Adolescent Mental Health (JIACAM) 2. Indian Journal of Human Development (IJHD)
5	Supplementary Reading	1. Hurlock E.B. 1971: Development Psychology 5th Edition, Tata Macgraw Hill, New Delhi, 2. Morgan and King, 2000: Introduction to Psychology, Tata Macgaw Hill Publication , Delhi
6	Practical Components	1. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 2. Video cases and documentary films relating to the syllabus to be exhibited in the class. 3. Observing behaviour of the different person of various age groups.

MSW

SEMESTER-II

Semester	II	Total Credit	4
Course Code	DSC -505 Major	Credit Pattern	L-45, T-08, P-07
Course Title	COMMUNITY ORGANIZATION AND SOCIAL ACTION		

Course Outcomes: Students will be able to		Level
1	Examine the concepts of Community Organization and Social Action	4
2	Assess their needs and plan appropriate community interventions strategies.	5
3	Recommend various types of community interventions	5
4	Develop an insight community organization.	6

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Community Work: Historical Growth of Community Social Work in India – Concept, And Principles Of Community Organization	L=12	
		T=2	P=2
2	Community Development Programmes: Community Development Programmes and Panchayat Raj – Community Organization and Human Rights, Various Approaches Of Community Organization: Locality Development, Social Planning, Gandhi an approach	L=11	
		T=2	P=1
3	Social Action: Concept, and Principles of Social Action – The significance of life style approach in Social Action, Social Action across the India – Role of Social Worker in social action. Use of media and public opinion building in Social Action	L=11	
		T=2	P=2
4	Social Action And Social Movement: – Historical Growth of Social Movement in India : Ancient, Medieval and Modern Period	L=11	
		T=2	P=2

Learning Resources		
1	Text Books	1. Khinduka S.K. & Coughlan, Bernald (1965), Social Work In India, Kitab Mahal, New Delhi 2. Divekar V.D. (1991), Social Reform Movements in India A Historical Prospective, Popular Prakashan, Mumbai 3. Gore, M.S. (1993), The Social Context of Ideology,

		Ambedkars Social & Political Thoughts, Sage Publication, New Delhi
2	Reference books	1. G.R. Madan (2002), Indian Social Problems Vol. I & II, Allied Publishers, New Delhi 2. Somesh Kumar (2002), Methods for Community Participation : A Complete Guide for Practitioners, Sage Publication, New Delhi 3. Rothman Jack, Erlich John & Tropman John (1987), Strategies of Community Intervention for Community organization, Peacock Publishers, London
3	Websites	www.socialjustice.nic.in www.egyankosh.ac.in www.cswb.gov.in
4	Journals	1. India journal of Social Work, TISS, Mumbai. 2. Social Welfare, Govt. of India. 3. Samajkalyan, Govt. of India. 4. Social Action : A Quarterly review of social trends and social action, trust, Delhi
5	Supplementary Reading	1. NCAS (2010), Fearless Minds : Right based approach to organising advocacy, National Centre for advocacy, Pune 2. Srivasta S.K. (1988), Social Movements for Development , Chug Publications, Allahabad 3. Siddique H.Y. (1984), Social Work and Social Action, Harmony Publications, New Delhi 4. Vohra Gautam (1990), Alerting Structures : Innovative Experiments at the grassroots 5. Vettival, Surendra (1992), Community Participation : Empowering the poorest, Role of NGO's, Vetri Publishers, New Delhi
6	Practical Component	Visit to NGO's for understanding actual functioning and implementation of welfare schemes.

Semester	II	Total Credit	4
Course Code	DSC -506 Major	Credit Pattern	L-45, T-8, P-7

Course Title	SOCIAL POLICY& SOCIAL WELFARE ADMINISTRATION

Course Outcomes: Students will be able to		Level
1	Examine the concepts of Social Policy and Planning.	4
2	Analyze Policy Formulation Process and Social Welfare Schemes.	4
3	Assess the concepts of Social Welfare Administration.	5
4	Develop solution for Administrative issues.	6

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Social Policy: Concept of Policy, Social Policy: Definition, Characteristics, Scope, Process, Distinction Between Social Policy And Economic Policy, Important Concepts: Welfare State, Re-Distribution, Democracy And Accountability.	L= 12	
		T= 2	P= 2
2	Policy Formulation: Policy Formulation Process, NitiAayog (Planning Commission), and Social Welfare Schemes: Children, Youth, Women, Old Age, Backward Classes and Differently Abled.	L= 11	
		T= 2	P= 1
3	Social Welfare Administration: Definition, Scope & Principles Of Social Welfare Administration, Role Of Volunteers In Social Welfare, Functions Of Management – POSDCORB, CSWB, SSWB, Various National and State Commissions.	L=11	
		T=2	P=2
4	Implementation Of Social Welfare Schemes : Ministries And Departments of Social Empowerment ,Tribal, Woman and Child National Institute Of Social Defense, National Institute Of Public Cooperation And Child Development (NIPCCD), National Institute Of Rural Development (NIRD).	L= 11	
		T=2	P=2

Resources Learning		
1	Text Book	1. Gore M.S. (1985): Social aspects of development, Rawat Publication, Jaipur 2. Gokhale S.D (1974): Social welfare legend and Legacy, Popular Prakashan, Mumbai 3. Datta-Sundarm (2003): Indian Economy, Popular Prakashan, Mumbai 4. Sharma P. N. and Shastri. C : Social planning concepts and techniques, Print House, Lucknow 5. D. Paul Chowdhry (1992), Social Welfare Administration, Atma Ram and Sons, Delhi. 6. S. M. Jha. (2002). Social Marketing, Himalaya Publishing House, Bangalore.
2	Reference books	1. S. L. Goel (2003) Public Administration: Theory and Practice, Deep and Deep Publications Pvt. Ltd. New Delhi. 2. Sameer Dehpande, Nancy R. Lee (2013), Social Marketing in India, Sage Publications, New Delhi.
3	Websites	1. http://guide2socialwork.com/social-policy-in-india/ 2. http://www.unrisd.org/unrisd/website/document.nsf/(httpPublications)/7EE221555523155DC1256C77003CFAED?OpenDocument 3. https://link.springer.com/content/pdf/10.1057/9780230523975_13.pdf 4. www.socialjustice.nic.in 5. www.egyankosh.ac.in 6. www.cswb.gov.in
4	Journals	1. The Journal of Social Welfare and Management 2. Indian Journal of Public Administration 3. Samajkalyan, Govt. of India.
5	Supplementary Reading	1. Pathak S. (1981): Social Welfare An Evolutionary and development perspective, MacMilan India, Delhi 2. Kulkarni P.D.(1979):Social policy and Social Development in India, Asso of school of SW inIndia
6	Practical Components	1. Preparing the policy planning and development plan for Gram Panchayat / Local Bodies. 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class. 4. Visit to NGO's for understanding actual functioning and implementation of welfare schemes

Semester	II	Total Credit	4
Course Code	DSC-507Major	Credit Pattern	L-45, T-8, P-7
Course Title	STATISTICS		

Course Outcomes: Students will be able to		Level
1	Examine descriptive and inferential statistics methods in the field and research.	4
2	Analyse the relationship between the variables of the study.	4
3	Recommend technique for the population based on sample results.	5
4	Formulate descriptive and inferential statistics methods in the field and research.	6

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction: Definition, Uses and Limitation of Statistics, importance of statistics in social research. Measurement and levels of measurement Classification and tabulation of data, diagrammatic Representation, Frequency distribution.	L= 12	
		T= 2	P= 2
2	Measures of Central Tendency and Dispersion Mean, Median, Mode, Empirical relationship between mean, mode and Median Range, Standard Deviation, Variance, Coefficient of Variance, Quartile Deviation, Advantages and Disadvantages of each measures.	L= 11	
		T= 2	P= 2
3	Correlation and Regression Analysis Correlation: Scatter diagram, Karl Pearson's correlation coefficient, its properties, Rank correlation coefficient. Regression: linear regression, two lines of regression	L= 11	
		T=2	P=2
4	Statistical Inference and Hypothesis Testing Testing of hypothesis: Need of testing, Introductory concepts of testing, the logic of testing, Tests based on 'Z', "t" and chi-square.	L= 11	
		T= 2	P= 1

Learning Resources		
1	Text Books	1. Gupta S. P. (2008). Statistical Methods, New Delhi, Sultan Chand & Sons. 2. Shenoy G V and Pant M. (1994). Statistical Methods in Business and Social Sciences, , New Delhi, 3. MacMillan India Ltd 4. Boslaugh S and Watters P A(2008) Statistics in a nutshell, Navi Mumbai, O'REILLY
2	Reference books	1. Frank H. and Althoen S C (1994) Statistics Concepts and Applications, Cambridge University Press. 2. Medhi J (2006) Statistical Methods, New Delhi, Wiley Eastern Ltd. 3. Nadar E N (2011) Statistics, New Delhi, PHI.
3	Websites	1. https://www.khanacademy.org/math/statistics-probability/summarizing-quantitative-data/variance-standard-deviation-population/a/calculating-standard-deviation-step-by-step 2. https://www.mathsisfun.com/
4	Journals	Indian Journal of Social Work Perspectives in Social Work (These journals will help students understand how statistics is applied in Social Work Research)
5	Supplementary Reading	1. Spiegel M R and Stephans L J (1999) Statistics, Singapore, McGraw Hill. 2. Pal N and Sarkar S (2005) Statistics Concepts and Applications, New Delhi, PHI
6	Practical Component	Practice problem specified in classroom

Semester	I	Total Credit	4
Course Code	DSC-508 (A)Major	Credit Pattern	P-120
Course Title	RURAL CAMP AND FIELD WORK PRACTICUM		

Course Outcomes: Students will be able to		Level
1	Develop practice skills by applying classroom theory to real life situations	
2	Determine which approaches work in practice and how they must be adapted to specific situations	
3	Understand the effect of the organizational context on professional practice while developing skills in agency-based social work	
4	Learn to Formulate to use supervision and consultation appropriately, engage in self-assessment and Develop a professional identity	

INTRODUCTION:

Field Work is a guided interaction process between student and the actual life situation initiated with a view to bring about fuller development of human-environmental potential

Supervised field work is required of all students, because learning by doing is an important aspect of professional education. Field Work is for 15 hours per week. Every student has a field work placement in a social service department/agency or organization where he/she learns to use the social work methods of casework, group work, community organization and social welfare administration

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1. To study and understand the behavior of individuals families, groups and the community under both normal and stress conditions
2. To integrate theory and practice through direct involvement in helping activities
3. To develop appropriate values and attitudes
4. To develop self – awareness and social awareness.

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Every student is placed under the guidance of a field work supervisor who gives the necessary orientation as regards the agency's set-up and the nature of work there. Supervisory process serves to

fulfill the service functions of the agency and the educational needs of the student. Weekly supervisory conference is held in order that the student may plan and discuss his/her work with the supervisor and get guidance as regards the day to day activities. Student's field work records serve as tools for learning and teaching besides fulfilling the administrative requirements of the agency. The Supervisor is available at other time also for on the spot guidance and consultation.

FIELD WORK ACTIVITIES:

Field Work tasks and activities are decided according to the personal and situational needs of client and the learning needs of the student. Skills of social work practice are developed as a result of carrying out, in a planned manner, the tasks with reference to the individual family, group and the community and reflecting upon process and results of each task. The student and the supervisor can use the weekly conference for an ongoing evaluation of the former's performance in addition to the other purposes for which the conference is used. The assessment of field work performance covers the following areas:

Work habits and adjustment to the agency

1. Punctuality and regularity (as seen in attendance at the agency, keeping appointments, submitting recording, attending supervisory conference etc.)
2. Responsibility (as seen in planning work, discharging duties on time, taking seriously the various aspects of work and in having on overall sense of accountability to the agency)

Professional Development

3. (a) Assimilation of basic values like consideration of human worth and dignity and the human right to be helped as regards needs.
- (b) Use of principles like acceptance, confidentiality, client self-determination and client participation.
- (c) Interest in Work
- (d) Level of self-awareness, sensitivity and objectivity
- (e) Controlled use of the self with awareness of feelings.

Community Organization Practice

1. (a) Ability to understand with reference to the field work agency the following (1) Concept of community and community organization (2) The relevance of the agency as a primary or secondary setting
2. (a) Ability to perceive organizations as community resources and to understand them as sub-systems in larger systems
3. (b) Ability to identify linkages between sub-systems and systems
4. (a) Ability to understand the various strategies used by the agency for change
5. (b) Ability to identify the model of C.O. used by agency.

Social Welfare Administration Practice

1. (a) Ability to understand human need at the individual, family, group and community level and the range of human needs of the target groups covered by the agency
- (b) Ability to understand the range of services offered
- (c) Knowledge about legislations, national policies and programmes related to the activities of the agency
2. (a) Knowledge and understanding of the agency structure policies, routines, objectives, committees, boards and authority relationships
- (b) Knowledge of basic element of office management, ability to maintain inter and intra agency communication, writing letters, minutes etc.
3. (a) Ability to maintain purposeful relationships with the agency staff at all levels and with fellow-students

- (b) Ability to work as a member of a team, ability to organize and plan one's own work and to coordinate it with the goals of the team
- (c) Qualities of leadership and initiative, use of administrative skills related to special projects.

Record Writing

1. (a) Ability to use definite, specific, concrete and correct language
- (b) Ability to write clearly and to maintain an appropriate level of uniformity and standardization

Supervision

1. (a) Ability to accept supervision : (Ability to accept the authority of the supervisor, ability to establish purposeful relationship with the supervisor, extent of dependence on the supervisor, ability to discuss situations, relationships, problems, plans etc.)
- (b) Ability to accept criticism and make constructive use of supervision and supervisory conferences (whether the students prepares for conferences, tries to apply in practice what he/she has learnt in supervisory conferences, tries to clarify his/her thinking etc.)

Semester	I	Total Credit	4
Course Code	DSC-508 (B)Major	Credit Pattern	P-120
Course Title	FIELD WORK REPORT AND FIELD WORK VIVA-VOCE		

FIELD WORK DIARY, RECORDING, MONTHLY ATTENDANCE SHEETS AND SUMMARY OF SUPERVISORY CONFERENCES

Every student is expected to maintain/prepare the following regularly or at appointed times:

- (a) A diary of activities and account of time spent for each activity. Points from supervisory conferences should also be noted down in the diary.
- (b) Detailed reports of activities (field work records)
- (c) Summary of Supervisory Conferences which has to be submitted to the Field Work coordinator at the end of every month (cyclostyled forms will be provided for this purpose) and
- (d) Monthly field work attendance sheets. Cyclostyled forms are available in the office for this purpose

At the end of every month, field work attendance sheets should be submitted to the field work supervisor so that the letter may forward it to the office, on the First Wednesday of the following month. Those who are under the direct supervision of agency social workers are required to submit the attendance sheets (after it has been duly signed by the supervisor) to the head of the department who is in charge of his/her placement (A Speciman copy is given to you)

The diary and recording should be submitted every week to the supervisor for review and discussion

Leave of Absence from Field Work

Absence from field work should be avoided as far as possible. For valid reasons, however, leave of absence is allowed for 2 days in a semester. If any student is absent for more than two days, all the days of absence (including the first two days) will have to be compensated in accordance with the instructions of the field work supervisor.

Mid-Year Evaluation and Final Evaluation

There will be a mid-year evaluation in early December for assessing the students field work performance during the I semester. The supervisor will write the report after a supervisory conference which will be specially geared to the discussion of work performance. There will be no grading for mid-year evaluation. The purpose of mid-year evaluation conference and report is that the student may get information and awareness of his/her strengths and weaknesses as regards as field work performance of the I semester and plan for better performance in the second semester.

At the end of the academic year, in March, every supervisor will submit to the Institute a written evaluation report on the students field work. Grades will be given by the field work supervisor in consultation with the field work coordinator.

Any student who does not come up to a certain minimum level of performance which is required for passing in field work, may be asked at the discretion of the faculty, either to leave the Institute or put in extra work to improve his/her field work performance.

FIELD WORK PRACTICUM: CONCURRENT FIELD WORK

The main object of concurrent field work is to provide opportunities for applying the knowledge learnt in the class room to real life situation (field reality) to understand and develop effective course of action (learning of intervention methods) according to needs of client system. And evaluate the experiences while working with the individual, groups and communities. Fieldwork enables the student to integrate and reinforce the knowledge and information acquired in the classroom with actual practice, under competent **supervision** by the agency and faculty supervisors. Every student is expected to work for 15 hrs. per week at various organizations or community settings.

FIELD WORK EVALUATION CRITERIA: (Applicable for the all four Semesters)

1) Analytical Ability:

- h. To understand evolution of agency, philosophy, policy and administration programmes.
- i. To identify roles of other departments and personnel in implementation of agency policies & programmes (in secondary settings).
- j. To understand the dynamics of the agency – roles, decision-making process, conflict solving procedures.
- k. To begin to situate agency in context of larger social system.
- l. To understand Profile of client system and causative factors affecting its needs and problems.
- m. To understand social work intervention utilized by agency in response to needs of client system.
- n. To assess one's own tasks in relation to problem situation.

2) Problem Solving Skills:

- m. To assess the problem situation and outlines the plan of action.
- n. To utilize problem solving process beginning with fact finding to evaluation of social work process in relation to needs, problems and aspirations of the client system.
- o. To develop and utilize working relationships with agency, client system and other related system.
- p. To utilise different techniques of problem solving, interviewing, home visits, communication and programme media mobilization of human and material resources.
- q. To utilise problem solving strategies selectively with individuals groups and communities.
- r. To understand the importance work in different administrative procedures – filing – maintaining registers, fund raising staff meetings.
- s. To develop basic skills of management of services, planning, organizing, implementing and evaluation.
- t. To participate in liaison work with other organizations and systems in terms of obtaining sanctions for programmes, interpreting social work intervention and networking on common issues.
- u. To understand the significance of and participates in teamwork in one's discipline as well as in the interdisciplinary team.
- v. To learn to priorities tasks and organize workload.
- w. To understand the importance of recording as a tool for learning and administration.

- x. Learn to record facts selectively and logical-assessment of problem situation, students feelings, reflections and intervention modalities.

3) Personal development:

- a. Appreciation and utilization of principles of social work in respect of persons, social justice, equality, opportunities, acceptance of the client system and its potential.
- b. Work with commitment in the agency in terms of fulfillment of tasks, disciplined use of self (dress, behavior, regularity, self control, awareness of bias and cultural blocks).
- c. Developing positive identification with the profession, conviction of the necessity of social work intervention.

4) Use of field Instructions:

- h. Understanding the significance of field instruction as a tool for professional training.
- i. Accepts the roles of faculty advisor, field instructor and field contact and utilises their expertise in one's own training.
- j. Indicates a gradual movement from a dependence on the instructor to performing ones role and tasks more independently.
- k. Utilises individual and group conferences for professional growth by accepting both the positive and negative remarks of the instructor.
- l. Actively participates in the group conferences and appreciates the participation of others.
- m. Makes efforts to improve performance through self-learning by reading learning from one's experiences and those of others.

Develops ability for self-evaluation on going and periodic.

Semester	II	Total Credit	4
Course Code	SSC -503 (E)	Credit Pattern	L-45, T-8, P-7
Course Title	PRINCIPLES OF ECONOMICS AND INDIAN ECONOMY		

Course Outcomes: Students will be able to		Level
1	Analyse various core economic terms, concepts, and theories relevant to social work	4
2	Develop the ability to employ the “economic way of thinking.	3
3	Evaluate the role of economic decisions.	5
4	Apply economic theories and concepts to contemporary social issues, as well as formulation and analysis of policy.	3

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Economics: Some elementary concepts in economics, micro and macroeconomics distinction, Nature of theories and laws in economics, Central problems of a society, Economics and social work. Elementary theories of consumption and distribution, Marginal utility approach, Indifference curve approach, Law of demand and its limitations, Supply, Law of supply, Factors affecting supply, Elasticity of demand and supply.	L= 12	
		T= 2	P= 2
2	Indian Economic Environment: Meaning of underdevelopment, Basic characteristics of India as a developing economy, Socio-economic problems-Poverty, Unemployment, and urbanization, Planning in India-Objectives of Planning, achievements and failures.	L= 11	
		T= 2	P= 1
3	Agriculture and Industry: Features and importance, Low productivity of agriculture and government measures, Indian industries-Role and importance.	L= 11	
		T= 2	P= 2
4	Human Resources And Economic Development: Human resources and economic development, Theory of Demographic transition, Size, growth of population in India-sex and age composition, Density of population-Quality of population-National population policy-Human development Index. Occupational pattern and economic development, workforce participation rate in India-Occupational pattern-trends and analysis in pre and post-Independence period	L= 11	
		T= 2	P= 2

1	Text Books	1. RuddarDatt&Sundaram K.P.M., Indian Economy, S.Chand& Co., Publications, New Delhi, 2013 2. Agrawal, A. N., Indian Economy, Vikas Publishing house, New Delhi, 2010 3. Ahuja, H.L., Advanced Economic Theory, S. Chand & Co., Publications, New Delhi, 2009.
2	Reference books	1. Jhingan, M.L., Micro Economics, Concept publications, New Delhi, 2009 2. Samuelson, P.A., Economics: An Introductory Analysis, McGraw Hill Book Co. Inc., New York, 2005 3. World Development Reports (2005-2018). 4. Human Development Reports, UNDP(2005-2018)
3	Websites	www.india.gov.in (Government of India) www.undp.org.in (United Nations Development Programme) www.nird.org.in (National Institute of Rural Development, Hyderabad)
4	Journals	1. International Journal of social and economic Research. 2. Health and Social work. 3. The Indian Economic Journal.
5	Supplementary Reading	1. Janakarajan S, Indian Economy in Transition: Essays in Honor of C.T. Kurien, Sage Publications India Pvt., Ltd, Delhi, 2015 2. Satyanarayana, G., Indian Economy towards Inclusive Growth, New Century Publications, Delhi, 2013.
6	Practical Component	1. Vist to few consumers and make a list of factors affecting their demand 2. Compute the HDI for selected village

Semester	II	Total Credit	4
Course Code	SSC -504 (E)	Credit Pattern	L-45, T-8, P-7
Course Title	HEALTH AND SOCIAL WORK		

Course Outcomes: Students will be able to		Level
1	Evaluate the importance of health and the various concepts of Health and Health Care Systems	5
2	Appraise the National Health Policy And Programme	5
3	Asses the Health Care service and systems in Hospital Set up.	5
4	Develop skills to appreciate the key role of Social workers in Community Health.	6

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Health: Concept Of Health, Definition Of Health, New Philosophy Of Health, Dimensions Of Health, Changing Perspective Of Care, Indigenous Health Care System, Levels Of Health Care, Health Status In India.	L= 12	
		T=2	P=2
2	National Health Policy And Programme: National Tuberculosis Control Programme (NTCP), National Nutritional Programme (NNP), National AIDS Control Programme, National Family Welfare Programme, National Immunization Programme(EPI & UPI), National Cancer Control Programme, National Mental Health Programme(NMHP)	L= 11	
		T=2	P=1
3	Hospital Social Work: Application Of Social Work Methods, Skills And Techniques In Health Set-Up, Role Of Social Work In Prevention And Control Of Health Problems. Health Services In Hospitals, Work With Patients (Individual, Family, Group And Community); Team Work Approach; Discharge Plan And Rehabilitation Programme,	L=11	
		T=2	P=2
4	Community Health Care: Concept Of Community Health and Community Mental Health, Common Community Health problems and Hazards. Role Of Social Work In Community Health And Mental Health. School Health Services: Concept Of School Health, Health Status Of School Children, Objectives Of School Health Services, School Health Problems, Aspects Of School Health Services, School Health Programmes.	L= 11	
		T=2	P=2

Learning Resources

1	Text Books	1. John J. Hulon : Principles of Public Health Administration 2. Text Book of Preventive & Social medicine M.B. Bhanot Pub. Jabalapur, 1990 Park J.E. & Park K 3. Sunital Roy : A Hand Book of Preventive & Social medicine 4. SunderlalAdarsh, Pankaj 'Text Book of Community Medicine (Preventive & social medicine) 5. M.C. Gupta & B.K. Mahajan : Textbook of preventiveand social Medicine. 6. Dr B. S. Nagaraj : Community Medicine without Tears: Mysore printing and publishing house ,Mysore 7. Medical Social Work by KEM Hospital &Sheth G.S. Medical College Mannul.
2	Reference books	1. S.R.Mehta(1992) : Society and Health A Sociological Perspective Vikas Publishing House New Delhi. 2. MalavikaKapur : Mental Health In Indian Schools. 3. :A Text book For The Health Worker (ANM) Volume II 4. O.P.Ghai/ A.M ChalkleyPiyush Gupta (2000): Essential Preventive & Social Medicine
3	Websites	au.ask.com/Public health journalslist/Search no more www.teoma.co.uk/Free public healthjournals/Search no more www.answersite.com/Public healthjournals www.teoma.co.uk
4	Journals	<u>Public health journals, Destinations: Bombai, New Delhi,</u>
5	Supplementary Reading	Dr B. S. Nagaraj : Community Medicine without Tears: Mysore printing and publishing house ,Mysore
6	Practical Component	Apply Social work techniques and skills in hospital setups.

MSW-GROUP A

SEMESTER-III

Semester	III	Total Credit	3
Course Code	HR CC 301	Credit Pattern	L-35 T-5 P-5
Course Title	LABOUR WELFARE - I		

Course Outcomes: Students will be able to	
1	Describe the various aspects of Labour Welfare
2	Develop a clear sense of Industrial Relations Problems there of like co-operation & conflict.
3	Understand the causes of Industrial disputes & collective Bargaining
4	Identify the role of healthy Labor Participation through committees for Industrial development
5	Build Modern procedure & Disciplining Procedure & Action.

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Concepts, Definition, Objectives and scope of labour welfare. Theories and principles of labour welfare. Labour welfare and welfare state: Concept of welfare state, labour policy. Labour welfare objectives. Changing concept of labour: Commodity, machinery concept, goodwill concept and goodwill concept.	L= 7	
		T=1	P=1
2	Labour Welfare in India: Main stages of growth of labour welfare in India. Welfare of special categories of labour: Children, casual, manual, migrant, agricultural, contract labour.	L= 7	
		T=1	P=1
4	Industrial Hygiene and occupational Diseases: Industrial health and hygiene: personal hygiene, hygiene education and occupational health services. Health problems of employees, occupational diseases- lead, phosphorous g, mercury poisoning etc. Their treatment and prevention. Voluntary and statutory welfare services: Education, training and lectures for employees and their families: Lectures on health, small saving, self- employment training, scholarships, recreation activities, transport services, industrial housing facilities and credit co-operative and consumer co-operative societies	L= 7	
		T=1	P= 1
		T=1	P= 1

Resources Learning		
1	Text Book	1. Ratna Sen ,”Industrial Relations, “ Trinity Press, Chennai,2014. 2. P.Subba Rao, “Personnel and Human Resource Management”, Himalaya Publishing House, New Delhi,2013. 3. K. Aswathappa, “Organizational Behaviour”, Himalaya Publishing House, New Delhi,
2	Reference books	1. C.B. Mamoria, Satish Mamoria, S.V.Gankar, ”Dynamics of Industrial Relations”, Himalaya Publishing House, New Delhi, 2012 2. A.M. Sarma, “Aspects of Labour Welfare and Social Security”, 12th Edition, Himalaya Publishing House, New Delhi, 2018. 3. S.D.Punekar, S.B. Deodhar, Mrs. Saraswathi Sankarn, “Labour Welfare, Trade Unionism and Industrial Relations, Revised Edition, 2007. 4. B.D.Rawat, “Labour welfarism in India, Problems & Prospects,” RBSA Publishers SMS Highway, Jayapur, 1988. 5. Meenakshi Gupta, “ Labour Welfare and Social Security in Unorganized Sectors”, Deep & Deep Publications Pvt. Ltd., New Delhi, 2007. 6. M. Velusamy, “Labour Welfare-Legislation & Social Security”, Dominant Publishers & Distributers Pvt. Ltd., New Delhi, 2014.
3	Websites	www.labourlawagency.com www.irhrjournal.com
4	Journals	1. The Indian Journal of Industrial Relations. 2. Aps Labour Digest
5	Supplementary Reading	1. R.S.Kulkarni, “ Management of Labour(Practice & Procedures)”,Kulkarni Publications Pune, 2002. 2. T.N Bhagoliwala,” Economics of Labour & Industrial Relations”, Sahitya Bhawan, Agra. 3. M. Velusamy, “ Labour Welfare –Legislation & Social Security”, Dominant Publishers & Distributors Pvt. Ltd, New Delhi, 2014.
6	Practical Components	1. Survey to be conduct for knowing the statutory and non-statutory welfare facilities provided by the employer. 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

COPPO Mapping

MSW-II	Labour Welfare-1									sem 3	HR CC301
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3		3								
1.2	3	3	3					1		2	3
1.3	3	3		3		3	3		3		3
1.4	3	3		3		2					
Total	3	3	3	3		3	3	1	3	2	3

Semester	III	Total Credit	3
Course Code	HR CC 302	Credit Pattern	L-35, T-5, P-5
Course Title	HUMAN RESOURCE MANAGEMENT		

Course Outcomes: Students will be able to	
1	Integrate perspective on role of HRM in modern business.
2	Plan human resources and implement techniques of job design
3	Develop Competency to recruit, train, and appraise the performance of employees
4	Plan Rational design of compensation and salary administration
5	handle employee issues and evaluate the new trends in HRM

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Foundations of Human Resource Management: Concept ,Importance, Aim and concerns of HRM., Development of HRM. Human resource policies; Environmental factors affecting HRM,Strategic HRM, Role of H R practioner,HRIS in organizations. International HRM.	L= 7	
		T= 1	P= 1
2	Employee Resourcing: Job Analysis,HR Planning,Recruitment, selection process, Induction ,Transfer and Promotion.	L= 7	
		T= 1	P= 1
3	Reward system and Pay plans: ,Elements of reward management, Factors affecting pay levels. Job evaluation:Purpose, features and Methodology . Pay structure:Purpose,basis of pay structure.Benefits and Services.	L=7	
		T=1	P=1
4	Human Resource Development: Concept,Philosophy Nature,Objectives ,Need and Importance of Human Resource Development,HRD strategy and HRD systems..Evaluation and measuring of HRD; HRD Audit; Trends of HRD in India Appraisal and Development: Performance appraisal: Uses, Process and Methods of performance appraisal.Training and Developoment:Steps to Training and Development.Components of Management training, Benefits of employee training.H R Audit,Competency mapping , Balanced Scorecard .organizational Learning: Concept and Significance. Knowledge Management. and,Talent Management	L= 7	
		T= 1	P= 1

Learning Resources		
1	Text Books	1. Armstrong Michael -A Handbook of Human Resource Management practice,Kegan Paul Ltd,London. 2. Ashwathappa, Human Resource and Personnel Management,Tata MacGraw Hill,New Delhi 3. Basotia G R,Human Resource Management,Mangal Deep Publications,Jaipur. 4. Sharma A M,Personnel and Human Resource Management,Himalaya publishing House,Mumbai.
2	Reference books	1. Decenzo D A and Robbins S Resource Management- P.6th edition,John Wiley & Sons,Inc,New york. 2. Gary Desslar ,Human Resource Management,Prentice Hall of India Pvt Ltd,New Delhi 3. William B W & Davies,Human Resources and Personnel Management, Tata McGraw Hill publishing companyLtd New Delhi,1993. 4. Adams, Chris and Kennerley, Mike and Neely, Andrew, The Performance Prism: The Scorecard for Measuring and Managing Business Success, London: Financial Times Prentice Hall, 2002. 5. Kaplan, Robert S. and Norton, David P. The StrategyFocused Organization: How Balanced Scorecard Companies Thrive in the New Business SEnvironment, Boston: Harvard Business Press, 2000. 6. Houston, D.M. Work-life balance in the 21st century Publisher:Palgrave Macmillan, 7. Seema Sanghi ,The Handbook of Competency Mapping ,Understanding, Designing and Implementing Competency Models in Organizations,THIRD EDITION.
3	Websites	https://www.questia.com/library/economics-and-business/business/management/human-resource-management http://www.hrmguide.net/ http://www.whatishumanresource.com/hrm-text-books
4	Journals	South Asian Journal of Human Resource Management http://www.sciencepublishinggroup.com/j/jhrm https://www.journals.elsevier.com/human-resource-management-review
5	Supplementary Reading	Rao T V. Readings in Human Resource Development,Oxford andIBH Publishing Co.Ltd,New Delhi,1991.
6	Practical Component	Field work Two days in a week

COPO Mapping

MSW-II	Human Resource Management									sem 3	HRCC302
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	3	3			3					
1.2		3	3	3			3	2	3	3	3
1.3			3		3		2		3	3	3
1.4	3	3	3	3		3	3	3	3	3	3
Total	3	3	3	3	3	2	3	2	3	3	3

Semester	III	Total Credit	3
Course Code	HRCC 303	Credit Pattern	L-35, T-05, P-05
Course Title	LABOUR LEGISLATIONS – I		

Course Outcomes: Students will be able to	
1	Describe the concepts of Management
2	Apply relevant theories, concepts and models to resolve organizational issues.
3	Learn the salient features of welfare and wage Legislations also to integrate the knowledge of Labor Law in General HRD Practice.
4	Apply the laws relating to Industrial Relations, Social Security and Working conditions to take appropriate decisions

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to labour laws. Historical development, principles and classifications of labour laws	L= 7	
		T= 1	P= 1
2	Labour Legislation on Industrial Relations 1.The Industrial Disputes Act,1947 2.The Industrial Employment(standing Orders) Act1946	L= 7	
		T= 1	P= 1
3	Labour Legislation on Industrial Relations 3.The Trade Unions Act,1926 4.The Bombay Industrial Relations Act1946 Labour Legislation on Industrial Relations 5.Maharashtra Recognition of Trade Union and Prevention of Unfair Labour Practice Act,1971	L=7	
		T=1	P=1
4	Labour legislation on working conditions 6.The Factories Act,1948(with rules) 7.The contract Labour(regulation and abolition) Act,1970 8.The Bombay shops and establishment Act, 1948 9.The child labour(prohibition and regulation)Act,1986	L= 7	
		T= 1	P= 1

Learning Resources		
1	Text Books	1. Hand book of Industrial law:N.D.Kapoor,Sultan Chand and sons,New Delhi 2. Labour and industrial laws: P.K.Padhi, PHI Learning Private Limited,New Delhi 3. Industrial Relations and Labour Laws:S.C Srivastva ,Vikas publishers New Delhi 4. Labour Laws in brief:A.K.Sinha ,Excel Books publisher,New Delhi
2	Reference books	1. Labour legisartion : Sudeshna Singh and Praveen Kumar.Publisher-Vayu Education of India, 2. New DelhiIndustrial relations,Trade Unions and Labour legislation:P.R.N.Sinha Publisher Pearson Education ,New Delhi 3. Labour legislation: P Saravanel,Publisher-Eswar Press NewDelhi
3	Websites	www.comply4hrs.com https://labour.gov.in www.clrindia.com
4	Journals	Indian Journal of Industrial Relations Indian labour journal Labour digest
5	Supplementary Reading	Industrial Jurisprudence and labour legislation:A.M.Sarma, Himalaya Publishing House,Newdelhi
6	Practical Component	Field work in Industrial setting

COPPO Mapping

MSW-- II	Labour Legislations-1									sem 3	HR CC303
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3										
1.2	3	3	2		3	3			3	3	3
1.3	3	3			3	3			3	3	3
1.4	3	3	2		3	3			3	3	3
Total	3	3	2		3	3			3	3	3

Semester	III	Total Credit	3
Course Code	HR CC 304	Credit Pattern	L-35, T-5, P-5
Course Title	COUNSELLING THEORY AND PRACTICE		

Course Outcomes: Students will be able to	
1	Discuss the use of counseling techniques in human services practice, addressing questions of ethical practice
2	Describe basic principles of psychodynamic, cognitive-behavioral and humanistic-existential theories
3	demonstrate beginning counselling skills
4	Reflect upon and evaluate the importance of self-awareness, their own values and beginning skill development.
5	Understand Theories and models of counseling

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Counselling: Concept, Difference Between Counselling And Guidance Definition, Principles, Assumptions, Objectives, Stages And Scope Of Counselling In Various Set Up.	L= 7	
		T= 1	P= 1
2	Types Of Counselling: Educational, Vocational, Personal, Social, Marriage And Family Counselling, Counselling For Counselling In Health, Industrial And Social Organization /Set Up. Crises Counselling For Special Population Like Children, Youths And Women.	L= 7	
		T= 1	P= 1
3	Approaches To Counselling: Directive, Non-Directive, Group And Eclectic. Models And Dimensions Of Counselling. Modern Trends Of Counselling . Theories Of Counselling: Carl Rogers's Theory, Sigmund Freud Theory, REBT, Eric Berne's TA Theory. Stages Of Counselling: Egan's Model (Beginning, Middle, Endings), Role And Responsibilities Of Counsellor, Skills And Techniques Of Counseling; Counsellor Use Of Self,	L=7	
		T=1	P=1
4	Counselling Centers: Guidelines To Set Counselling Centre, Family Counselling Centers, Child Guidance Clinic And De-Addiction Centre And Rehabilitation Centre. Its Functions, Importance And Limitations.	L= 7	
		T= 1	P= 1

Learning Resources

1	Text Books	1. Dave Mearas and Brian Thorne: Person centered counselling in Action published by Sage Publication .2000. 2. Ramnath Sharma & Rachana Sharma: Guidance and Counselling in India, published by Atlantic Pub, Delhi 2004. 3. Bharkin Mukupadhya: Counselling and Guidance
2	Reference books	1. K.S Lakshmi: Encyclopedia of Guidance and Counselling, published A Mittal Pub, Vol.1,2,3,4. 2005. 2. Mishra R.S.: Guidance and Counselling, Vol.1&2 published by APH Publication Corporation, New Delhi, 2004. 3. Ramesh Chandra: Psychology, Counselling and Therapeutic Practices, published by Isha Books, Delhi 2004. 4. Robert L. Gibson & Mariaune H. Mitchell: Introduction to Counselling and Guidance, published by Pearson Education, Delhi 2005. 5. Tara Chand Sharma: Modern Methods of Guidance and Counselling, published by Swarup and Sons, New Delhi, 2002.
3	Websites	1. www.directhit.com/ 2. http://www.griffenmill.com/design15 counselling website design 3. https://counsellingtutor.com/basic-counselling-skills/
4	Journals	1. British Journal of guidance and counselling 2. Indian Journal of social work
5	Supplementary Reading	1. Steve Cooper: A comprehensive handbook for counselling, published by Infinity Books, New Delhi, 2005. Case studies
6	Practical Component	Apply their counselling skills at home and workplace. Start up their own Counselling and guidance Centres

COPO Mapping

MSW-II	Counselling Theory and Practice									sem 3	HRCC304
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3					3			3		
1.2		3	3	3	3	3	3	3	2		3
1.3	3	3		2			3		3		3
1.4		3	3	3			3	3			3
Total	3	3	3	3	3	3	3	3	3	3	3

HR CC 305ORIENTATION AND CONCURRENT FIELD WORK

INTRODUCTION :

- a) History and Development of the Organization.
- b) Plant Layout, Manufacturing Process and various of Products.
- c) Organizational Structure and Chart.
- d) Working of Time Office:
 1. Attendance reporting system.
 2. Shifts and hours of work.
 3. Muster Roll
 4. Leave Records and Registers.
 5. Salary and Wage Register.
 6. Weekly Off and paid holidays.
 7. Study of Returns required to be filed under various Legislations.
 8. Attendance system
 9. Measures to Control of Absenteeism.

LABOUR WELFARE : SEMESTER – III

1. Working conditions: Study in the light of provisions of the factories Act of 1948 (Working hours, Temperature, Health, Safety etc.)
2. Statutory and Non-Statutory Welfare Measures, Various Committees. Canteen Committee, Safety Committee, Sports Committee, Creche, Co-operative Credit and Consumer Societies and their administration.
3. Safety and Health: Industrial Safety, Health, Hygiene, Occupational diseases and hazards. Preventive and curative programme, safety committee.
4. Accidents, Nature, extent, causes, First Aid, Medicine, Accident Report.
5. Plant Layout and House Keeping.
6. Factory Inspection and Reports / Returns, Maintenance of various registers under statutory provisions like, P.F. cut register, E.S.I. register, Factory Inspection register, Govt. Labour Officer Register, Accident Report Register etc.
7. Fire prevention and protection, Fire fighting and prevention, Training of employees to handle fire prevention equipments.
8. Industrial Social Work, Implementation of various social activities for employees and their family's wellbeing.

INDUSTRIAL RELATIONS : SEMESTER-III

Types of I.R. : Formal, Informal and Mixed

1. Industrial Disputes – Types, Number and Causes, Settlement machinery – Joint Management Council, Works Committee, Conciliation, Arbitration and adjudication. (Quote Cases).
2. Manifestation of Industrial Conflict – Strikes – Legal, illegal, Rights to Strike and Prevention of Strike, Lock Out, Gheraos and other Non-Co-operative tactics, Legal provisions and restrictions.
3. Grievances, Machinery for Grievance redressal, Grievance Procedure.
4. Study of Settlement / The Award and Reward.
5. Standing Orders / Model/ Certified.
6. Discipline Maintenance.
7. Procedure of Disciplinary Actions.
8. Misconducts.
9. Principle of Natural justice.
10. Show Cause Notice, Charge sheet.
11. Domestic inquiry proceedings, Findings.
12. Punishment / Action.
13. Supervision – Nature and types.
14. Employer – employee relations.

15. Employer – Trade Unions relations.
16. Process of Collective bargaining

HUMAN RESOURCE MANAGEMENT – SEMESTER – III

1. Internal Organization of Personnel Department, Status and Role.
2. Line and Staff functions and relations.
3. HR Policies.
4. Human Resource Planning in organizations.
5. Recruitment, Advertisement, Notification of Vacancies to employment exchange, Other sources of recruitment, Recruitment Policies.
6. Selection Process.
7. Placement and Induction Process.
8. Transfer, Promotion and Demotion Policies.
9. Separation, discharge, dismissal, Lay off and retrenchment.
10. Leave and Holidays and their administration.
11. Study of Absenteeism and Labour Turnover – extent, rate, causes and effects.
12. Study of Problematic employees and role of Industrial Social Work.
13. Reward System and Pay Plan – Wage and Salary Reward Management System, Dearness and other allowances, Monetary Benefits, Production Incentives and Bonus, Managerial Reward System.
14. Counseling in Organizations.
15. Human Resource Information System.
16. Working on Small Projects to identify problems and solutions.

Study of Wage Agreements / Awards. The scales of increments.

Wage / Salary in relation with -

- a) Capacity of the employer to pay
- b) Industry-cum-Region principle.

Present wage levels and the minimum wages, fair wages and living wages.

LABOUR LEGISLATION - SEMESTER – III :

Study of the following Acts and Rules made hereunder in their application to the organization.

- a) The Factories Act, 1948.
- b) The Industrial Dispute Act, 1947.
- c) The Industrial employment (Standing Orders) Act 1946.
- d) Bombay Industrial Relations Act 1946
- e) The Contract Labour (regulation & Abolition) Act, 1970.
- f) The Bombay Shops and Establishment Act, 1948.
- g) The trade Unions Act, 1926.
- h) Maharashtra Recognition of Trade Unions and Prevention of Unfair Labour Practice Act, 1971.

Prepare a note on one or two case studies based on the legal issue decided at High Court or Supreme Court (Refer Labour Law Journals).

HR CC 306: FIELD WORK REPORT AND VIVA-VOCE

FIELD WORK DIARY, RECORDING, MONTHLY ATTENDANCE SHEETS AND SUMMARY OF SUPERVISORY CONFERENCES

Every student is expected to maintain/prepare the following regularly or at appointed times:

- (a) A diary of activities and account of time spent for each activity. Points from supervisory conferences should also be noted down in the diary.
- (b) Detailed reports of activities (field work records)
- (c) Summary of Supervisory Conferences which has to be submitted to the Field Work coordinator at the end of every month (cyclostyled forms will be provided for this purpose) and
- (d) Monthly field work attendance sheets. Cyclostyled forms are available in the office for this purpose

At the end of every month, field work attendance sheets should be submitted to the field work supervisor so that the latter may forward it to the office, on the First Wednesday of the following month. Those who are under the direct supervision of agency social workers are required to submit the attendance sheets (after it has been duly signed by the supervisor) to the head of the department who is in charge of his/her placement (A Speciman copy is given to you)

The diary and recording should be submitted every week to the supervisor for review and discussion

Leave of Absence from Field Work

Absence from field work should be avoided as far as possible. For valid reasons, however, leave of absence is allowed for 2 days in a semester. If any student is absent for more than two days, all the days of absence (including the first two days) will have to be compensated in accordance with the instructions of the field work supervisor.

Mid-Year Evaluation and Final Evaluation

There will be a mid-year evaluation in early December for assessing the students field work performance during the I semester. The supervisor will write the report after a supervisory conference which will be specially geared to the discussion of work performance. There will be no grading for mid-year evaluation. The purpose of mid-year evaluation conference and report is that the student may get information and awareness of his/her strengths and weaknesses as regards as field work performance of the I semester and plan for better performance in the second semester.

At the end of the academic year, in March, every supervisor will submit to the Institute a written evaluation report on the students field work. Grades will be given by the field work supervisor in consultation with the field work coordinator.

Any student who does not come up to a certain minimum level of performance which is required for passing in field work, may be asked at the discretion of the faculty, either to leave the Institute or put in extra work to improve his/her field work performance.

FIELD WORK PRACTICUM: CONCURRENT FIELD WORK

The main object of concurrent field work is to provide opportunities for applying the knowledge learnt in the class room to real life situation (field reality) to understand and develop effective course of action (learning of intervention methods) according to needs of client system. And evaluate the experiences while working with the individual, groups and communities. Fieldwork enables the student to integrate and reinforce the knowledge and information acquired in the classroom with actual practice, under competent **supervision** by the agency and faculty supervisors. Every student is expected to work for 15 hrs. per week at various organizations or community settings.

FIELD WORK EVALUATION CRITERIA: (Applicable for the all four Semesters)

1) Analytical Ability:

- a. To understand evolution of agency, philosophy, policy and administration programmes.

- b. To identify roles of other departments and personnel in implementation of agency policies & programmes (in secondary settings).
- c. To understand the dynamics of the agency – roles, decision-making process, conflict solving procedures.
- d. To begin to situate agency in context of larger social system.
- e. To understand Profile of client system and causative factors affecting its needs and problems.
- f. To understand social work intervention utilized by agency in response to needs of client system.
- g. To assess one's own tasks in relation to problem situation.

2) Problem Solving Skills:

- a. To assess the problem situation and outlines the plan of action.
- b. To utilize problem solving process beginning with fact finding to evaluation of social work process in relation to needs, problems and aspirations of the client system.
- c. To develop and utilize working relationships with agency, client system and other related system.
- d. To utilise different techniques of problem solving, interviewing, home visits, communication and programme media mobilization of human and material resources.
- e. To utilise problem solving strategies selectively with individuals groups and communities.
- f. To understand the importance work in different administrative procedures – filing – maintaining registers, fund raising staff meetings.
- g. To develop basic skills of management of services, planning, organizing, implementing and evaluation.
- h. To participate in liaison work with other organizations and systems in terms of obtaining sanctions for programmes, interpreting social work intervention and networking on common issues.
- i. To understand the significance of and participates in teamwork in one's discipline as well as in the interdisciplinary team.
- j. To learn to priorities tasks and organize workload.
- k. To understand the importance of recording as a tool for learning and administration.
- l. Learn to record facts selectively and logical-assessment of problem situation, students feelings, reflections and intervention modalities.

3) Personal development:

- a. Appreciation and utilization of principles of social work in respect of persons, social justice, equality, opportunities, acceptance of the client system and its potential.
- b. Work with commitment in the agency in terms of fulfillment of tasks, disciplined use of self (dress, behavior, regularity, self control, awareness of bias and cultural blocks).
- c. Developing positive identification with the profession, conviction of the necessity of social work intervention.

4) Use of field Instructions :

- a. Understanding the significance of field instruction as a tool for professional training.
- b. Accepts the roles of faculty advisor, field instructor and field contact and utilises their expertise in one's own training.
- c. Indicates a gradual movement from a dependence on the instructor to performing ones role and tasks more independently.
- d. Utilises individual and group conferences for professional growth by accepting both the positive and negative remarks of the instructor.
- e. Actively participates in the group conferences and appreciates the participation of others.
- f. Makes efforts to improve performance through self-learning by reading learning from one's experiences and those of others.
- g. Develops ability for self-evaluation on going and periodic.

Semester	III	Total Credit	3
Course Code	HR DSE 301A	Credit Pattern	L-35, T-5, P-5
Course Title	LABOUR ECONOMICS		

Course Outcomes: Students will be able to	
1	Describe the various aspects of Labour Economics
2	Develop critical thinking to carry out investigation about various socio-economic issues objectively while bridging the gap between theory and practice.
3	Apply relevant theories, concepts and models to resolve issues related to labour economics.
4	Evaluate the aspects associated with socio-economics issues and its impact on social development
5	Create awareness to develop a rational and an enlightened citizens.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Labour Economics: Concept, Nature, Scope and Significance, Characteristics of Labour, Nature of labour problems in Developing Economies	L= 7	
		T= 1	P= 1
2	Labour Force in India, Population and Labour force, Social and Economic Characteristics of Industrial labour in India, Efficiency of labour, Migratory nature, Absenteeism, Labour turnover.	L= 7	
		T= 1	P= 1
3	Market for Labour, Concept of Supply of Labour, Factors affecting Supply of Labour, Demand for Labour, Factors influencing demand for Labour, Wage Differentials, Wage Policy in India, Labour Policy in India and Five year plans. Employment Theories: Classical and Keynesian, Types and causes of unemployment, Unemployment and Govt. measures w.r.t. India	L= 7	
		T= 1	P= 1
4	Concept of productivity: Total Productivity, Average Productivity and Marginal Productivity, Value and Physical Productivity, Linking wages and Bonus with Productivity. Economic reforms and Labour: Introduction of Economic reforms, Globalisation and Major events for workers-Competitiveness, technological change, changing work organization and flexibility, Globalisation policies-Impact on labour.	L= 7	
		T= 1	P= 1

Learning Resources

1	Text Books	Bhagoliwal T.N., Labour and Industrial Relations, Sahithya Bhvavn, Agra, 2000 Thagi B. P., Labour Economics and Social Welfare, Jaiparkash Nath, New Delhi 2005 Gupta P.K., Labour Economics, Vrinda Publications Pvt. Ltd., Delhi, 2012
2	Reference books	Reynolds L. G., Labour Economics and Labour relations, Prentice Hall of India, New Delhi, 2002 Sandrina Cazes and Sher Verick(2013): Perspectives on Labour Kaufman Bruce E and Hotchkiss Julie L (2009): Labour Market Economics, Cengage Learning, New Delhi Borjas, George J., Labor Economics, 2ed, Irwin McGraw Hill, Boston, USA, 1999 Butler, Arthur D, Labour Economics and Institutions, Amerind Publishing Co, 1961 Chauhan, M.S., Labor Economics: Issues and Policies, Global Publications, Delhi, 2011 Joshi, M.V, Labor Economics and Labour Problems, Atlantic Publishers and Distributors (p) Ltd., 2014 Chadda, Ravi, Labour Economics, Sumit Entreprises, New Delhi, 2011 Economics for Development, International Labour Office, Geneva
3	Websites	www.ilo.org www.labour.nic.in www.vvgnli.org www.milc.co.in www.isleijle.org www.ihindia.org www.iza.org
4	Journals	Indian Journal Of Labor Economics Indian Society for Labor Economics The Economics And Labor Relation Review International Journal of Research and Analytical Reviews
5	Supplementary Reading	Economic Survey, Government of India,(Various Issues) India Development Report, IGIDR, Mumbai,(Various Issues)
6	Practical Component	To Visit a Local Industrial Unit and Identify the Problems of Labour. To Visit local industrial Unit and measure Total, Average and marginal Productivity of Labour.

COPO Mapping

MSW-II	Labour Economics									sem 3	HRDSE301A
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3								3		
1.2		3	3	3		3		3	3	3	3
1.3	3	3	3		3	3		3	3	3	3
1.4	3				3	3		3	3	3	3
Total	3	3	3	3	3	3		3	3	3	3

Semester	III	Total Credit	3
Course Code	HR DSE 301B	Credit Pattern	L-35,T-5, P-5

Course Title	TRADE UNIONS

Course Outcomes: Students will be able to	
1	Describe the concepts Trade Union
2	Analyze the process, functions Trade Union
3	Promote dialogue between all the partners involved in union education to improve the coordination of activities.
4	Develop union education networks for knowledge sharing, capacity building and influencing social and economic policies

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Labour movement: Concepts of labour movement, birth of labour problems. New industrialization. Theories of labour (trade union) movement, growth of Indian labour movement. Important characteristics of labour movement in U.K., U.S.A., and U.S.S.R.	L=7	
		T=1	P=1
2	Organization of Labour: Concept and history of trade unionism. Development of trade unionism in India. Types of trade union.	L=7	
		T=1	P=1
3	Role and Functions of trade unions: Union role in job security, wage determination, labour welfare, productivity participation, economic development and industrial relations, trade unions and policies, trade unions and law.	L=7	
		T=1	P=1
4	Structure and Government: Union structure at national, state and local level. Central labour organizations, state level organizations and local. Problems of union, membership. Union reorganization methods: Closed shop/union shop, membership verification, check –off, secret ballot, code of discipline. Union Finance: Source of union finance- membership fee, sale of periodicals, interest on deposits and miscellaneous. Pattern of expenditure. Budgeting and financial accounts. Problem and Perspective: problem of organizing and sustain union. Social responsibility of Indian trade unions. Problem of white collar unions, organizations of agriculture and rural labour, unorganized labour	L=7	
		T=1	P=1

Learning Resources		
1	Text Book	1. Ratna Sen ,”Industrial Relations, “ Trinity Press, Chennai,2014. 2. P.Subba Rao, “Personnel and Human Resource Management”, Himalaya Publishing House, New Delhi,2013. 3. K. Aswathappa, “Organizational Behaviour”, Himalaya Publishing House, New Delhi,
2	Reference books	1. G.P.Sinha, P.R.N. Sinha, Industrial Relations and Labour Legislation”, Oxford & IBH Publishing co.,Clautta.1977. 2. V.M. Karnik,” Indian Trade Unions –A Survey” Bombay Popular Prakashan,1978. 3. S.D.Punekar, S.B. Deodhar, Mrs. Saraswathi Sankarn, “Labour Welfare, Trade Unionism and Industrial Relations, Revised Edition, 2007. 4. R.C.Saxena, S.R.Saxena, “Labour Problems and Social Welfare”, Prakashan Kendra, Lucknow, 1990. 5. A.M. Sarma, “Industrial Relations”, Himalaya Publishing House, Pune,2012 6. S.K.Puri, “ Labour and Industrial Law”, Allahabad Law Agency, Faridabad,2002.
3	Websites	www.labourlawagency.com www.irhrjournal.com www.iupindia.in
4	Journals	1. The Indian Journal of Industrial Relations. 2. Aps Labour Digest
5	Supplementary Reading	1. R.S.Kulkarni, “ Management of Labour(Practice & Procedures)”,Kulkarni Publications Pune, 2002. 2. T.N Bhagoliwala,” Economics of Labour & Industrial Relations”, Sahitya Bhawan, Agra. 3. M. Velusamy, “ Labour Welfare –Legislation & Social Security”, Dominant Publishers & Distributors Pvt. Ltd, New Delhi, 2014.
6	Practical Components	1. Discussion will be arrange with trade union leader to know their role & function in negotiation. 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

COPPO Mapping

MSW-II	Trade Unions									sem 3	HRDSE301B
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3		3								
1.2	3	3	3			2			3	3	
1.3		3	3	3			3	3	3	3	3
1.4		3	3		2			3	3	3	3
Total	3	3	3	3	2	2	3	3	3	3	3

Semester	III	Total Credit	2/ 30 Hours

Course Code	AEC301	Credit Pattern	L-20, T-5, P-5
Course Title	PROJECT PLANNING AND IMPLEMENTATION SKILLS		

Course Outcomes: Students will be able to

1	Develop research and communication Skills.
2	Formulate and Develop Project Proposal and enhance managerial skills.

Syllabus:

Unit Number	Contents	Number of Session	
1	Project Proposal: Project-Definition and Components of Project, Planning Proposal, Steps in Project Formulation. Develop Communication strategy Design: Implementing the communication programme, Communication for Monitoring and evaluation of Project.	L=10	
		T=2	P=3
2	Management, Administration and Implementation skills of Project: Planning for Recruitment, Selection, Placement, Induction and Training and Development: Training and Performance appraisal system. Mass media (TV spot, radio spot and newspaper; Online campaign) Social media (Face book, twitter, Whats App etc)	L=10	
		T=3	P=2

Resources Learning

1	Text Book	1. Jain, N.K. (2006). Handbook for NGO's: An Encyclopedia for Non Government Organisation and Voluntary Agencies Incorporating Project Proposal and Implementation, Funding, Nabhi publication 2. Bardach, E. Pateshvik, E.M. (2012). A Practical Guide for Policy Analysis. Sage Publication 3. Planning, Monitoring and Evaluation: Methods and Tools for Poverty and Inequality Reduction Programs. The World Bank. Washington,

		http://siteresources.worldbank.org/EXTPOVERTY/Resources/ME_ToolsMethodsNov2.pdf 4. Thompson, L.L. (2015). Making the Team. Noida: Pearson India.
2	Reference books	Gary Spolander, Linda Martin (2012) Successful Project Management in Social Work and Social Care
3	Websites	<u>https://niti.gov.in/planningcommission.gov.in/docs/plans/planrel/fiveyr/10th/volume3/v3_ch5.pdf</u>
4	Journals	<u>http://www.pmworldjournal.net/</u> <u>https://niti.gov.in/planningcommission.gov.in/docs/plans/planrel/fiveyr/10th/volume3/v3_ch5.pdf</u>
5	Supplementary Reading	Hahn Christopher, Design and implementation of project management in Social Work practice
6	Practical Components	1. Prepare a City development plan of your city. 2. Develop an Integrated service module for children Women and old age persons

MSW-II	Computer Applications (Theory)									sem 3	AEC301A
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3								3		
1.2	3	2	3	3	2	3	3	2	3		3
1.3	3	3	3	3	2	3	3	2	3	3	3
1.4	3	3	3	3	2	3	3	2	3	3	3
Total	3	3	3	3	2	3	3	2	3	3	3

MSW-GROUP B

SEMESTER-III

Semester	III	Total Credit	3
Course Code	CDCC 301	Credit Pattern	L-35, T-5, P-5
Course Title	RURAL AND URBAN SOCIOLOGY		

Course Outcomes: Students will be able to	
1	Describe the concepts of rural and urban sociology
2	Apply relevant theories, concepts and models to work with the communities
3	Analyze the nature of infrastructure strategies and issues of rural and urban societies and focus on the strategies of improvising rural and urban management programs
4	Evaluate the new trends in the government system and structure for empowerment of people.

Syllabus:

Unit Number	Contents	Number of Session	
1	Nature and scope of rural sociology. The Indian village as a community	L=7	
		T=1	P=1

2	Type of villages in India, Caste and Class occupation in Indian Villages Agrarian struggle in India	L=7	
		T=1	P=1
3	Mode of production in Indian Agriculture, Rural problems like – Rural industries, superstition, health & sanitation, addiction.	L=7	
		T=1	P=1
4	Nature and scope of urban sociology. Growth and development of cities Urbanization and Industrialization Urban social problems like migrations, slums, prostitution, crime Concept of town planning and regional planning Urban peoples participation. Future of city life	L=7	
		T=1	P=1

Learning Resources:		
1	Text Book	1. Desai A.R. (1994), Rural Sociology in India 2. Madan, G.R. (2002) Social Problems Vol. I & II, Allied Publishers, New Delhi
2	Reference books	1. Srinivas Y.T. (1985) Rural Industrialisation in India An Approach, Sterling Publications, New Delhi 2. Sharma Rajendra (2004), Urban Sociology, Atlantic Publishers & Distributors, Delhi 3. N. Jaypalan (2002), Urban Sociology, Atlantic Publishers & Distributors, Delhi 4. MurlithanaNaidu K. (1992), Rural Development & Planning prospectives, Reliance Publishing house, New Delhi
3	Websites	www.questia.com www.goodreads.com www.amazon.com https://books.google.co.in
4	Journals	Ntnu.edu.tw

		<u>Journal of Rural Social Sciences - A Peer-Reviewed</u> <u>https://www.questia.com › library › journal-of-rural-social-sciences</u>
5	Supplementary Readings	1. Patel M.L. (1985), Regional Development in India Emporium Publishing, New Delhi 2. Sharma Sanjay (2006), Urban life in India, Vista International Publishing House, Delhi 3. Mohanty L.N. (2005), Slum in India, APH Publishing Corporation, New Delhi
6	Practical Components	1. Case study on Rural Social problem 2. Interact with Rural people 3. Visit to different cast communities 4. Prepare report of Jajwani System.

COPPO Mapping

MSW-II	Rural and Urban Sociology									sem 3	CDCC301
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
1.1	3								3		
1.2		3				2		3	3		3
1.3						3		3	3	3	
1.4		3	2			3	3	3	3	3	3

Total	3	3	2			3	3	3	3	3	3

Semester	III	Total Credit	3
Course Code	CD CC 302	Credit Pattern	L-35, T-5, P-5
Course Title	RURAL COMMUNITY DEVELOPMENT		

Course Outcomes: Students will be able to	
1	Describe the concepts of rural community development
2	Analyze the process of Rural Development in general and address them through various development strategies
3	Apply the knowledge of social political and economical structure of development
4	Evaluate new trends in planning and development of rural areas
5	Identify the importance of empowerment of women and community participation for micro-finance and governance.

Syllabus:

Unit Number	Contents	No. of Sessions

1	Definition, concept, Nature of Rural Community development, Assumption and Historical background off rural development, Etwa project off Rural development, Gurgaon movement, Bhudhan and Gramdhan, Rural leadership. Type of leadership & Rural Community Development.	L= 7	
		T=1	P=1
2	NGOs in Rural Development, perspectives, Approach and role of voluntary organization in rural Development, Five year plan and Rural community development, Different method of Rural Community Development, Characteristic of community development agencies and programmes of Rural Community Development.	L=7	
		T=1	P=1
3	Integrated Rural development programme its implementation, Performance and its problem of I.R.D.P., Pradhan Mantri Kaushallya Vikas Yojna. PMKVY, Nature Scope and extent of rural enterenurship of Rural Development, Problems of PMKVY. Rural Industrialization, Types of Rural Industries, Role off cottage and small scale industries in Rural Community Development, Rural Reconstruction, Role of social worker in Rural reconstruction.	L=7	
		T=1	P=1
4	Community mobilization, Needs, Benefit Long term and short term benefit s, Techniques for community mobilizing, Role of community worker in community mobilization Grass root level planning and rural development Need for PRA, Implementation of PRA, tips for conducting PRA, PRA method and approach. Experience of state national policies and experience of Rural Community Development Schemes, Strategy for rural development Micro, Macro level planning , Origin off social Action in India, Elements of social action in India, Elements of social action and community development, Need of Rural Development, Social action and Swach Bharat Abhiyan.	L=7	
		T=1	P=1

Resources Learning		
1	Text Book	1. Muniratna Naidu: Rural Development and planning perspectives , Reliance publication House, New Delhi 2. Desai I. P. and Chaudary B. L. : History off rural development in India, Reliance publication House, New Delhi 3. N. R. Inamdar : Community Development and Democratic growth, Popular Publication

2	Reference books	1. Willam w Biddle : The Community Development Process, Amerind Publication 2. Katar Sing : Rural Development, SAGE publication PVT. India 3. G. P. Mishra and B.K. Bajpai : Community organization and rural development an India perceptive Rawat Publications Asha Patil : Community Organization and Rural Development An India Perceptive, PHI Learning Private Ltd.
3	Websites	www.rural.nic.in megcnrd.gov.in
4	Journals	<u>Journal of Rural and Community Development – Journals:</u> https://journals.brandonu.ca/jrcd Journal of Rural Development: nirdprojms.in
5	Supplementary Readings	1. K. Venkata Reddy : Agricultural and Rural development, Himalaya publishing House 2. Patel M. L. : Regional Development in India, Emporium Book new Delhi
6	Practical Components	Field work on rural community development projects.

COPO Mapping

MSW-II	Rural Community Development									sem 3	CDCC302
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3								3		
1.2		3	3	3		3	3	3	3		3
1.3		3	3	3	3	3	2	3	3		3
1.4		3		3	3	3	3	3	3	3	3
Total	3	3	3	3	3	3	3	3	3	3	3

Semester	III	Total Credit	3
Course Code	CD CC 303	Credit Pattern	L=35, T=5, P-5

Course Title	PANCHAYAT RAJ IN INDIA

Course Outcomes: Students will be able to	
1	Describe the various aspects of Panchayat Raj in India
2	Develop effective strategies to Reduce rural-urban disparities in terms of economic development, employment and infrastructure.
3	Apply relevant theories, concepts and models to resolve areas related to agricultural development, cottage industry and allied sectors
4	Analyze the process of panchayat raj system for eliminating or minimizing gender disparities and social evils within rural society.

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Origin and growth of Panchayat Raj In India Role of panchayat raj in rural development	L= 7	
		T=1	P=1
2	Structure of Panchayat Raj at district, block and village level Functions and finance of Panchayat Raj system Gram Sabha and Social Audit	L=7	
		T=1	P=1
3	The main features of Panchayat Raj In Maharashtra Problems of Panchayat Raj Institutions.	L=7	
		T=1	P=1
4	Role of state and central government in Panchayat Raj. The salient features of the 73 rd amendment Act 1992 of Panchayat Raj Institution.	L=7	
		T=1	P=1

Resources Learning		
1	Text Book	1. Khanna, B.S. (1996), Panchayat Raj In India, Deep & Deep Publications, New Delhi 2. Ram Reddy (1977) Pattern of Panchayat Raj In India, Macmillan Company of India, New Delhi
2	Reference books	1. M.K. Gandhi (2012), Panchayat Raj, Navjivan, Mumbai 2. Rakesh Arora & Meenakshi Ahuja (2009), Panchayat Raj Participation & Decentralisation, Rawat Publications, New Delhi 3. B.C. Barik & U.C. Sahoo, Panchayat Raj Institution & Rural Development, Rawat Publications, New Delhi
3	Websites	https://rural.nic.in https://www.panchayat.gov.in
4	Journals	Panchayati Raj: Panchayat System in India - Law Times Journal https://lawtimesjournal.in › Articles <u>Journal of Rural Development - Nird</u> www.nird.org.in › jrd <u>Review of the 73rd Constitutional Amendment: Issues and ...</u> https://journals.sagepub.com › doi › full
5	Supplementary Readings	Desai, Vasant (1990), Panchayat Raj Power to the people, Himalaya Publishing House, Mumbai Nupur Tiwari (2016), Panchayat Raj & Women Empowerment, New Centre, New Delhi
6	Practical Components	Field Work focusing on working of Panchayat Raj at district, block and village level.

COPO Mapping

MSW-II	Panchayat Raj in India									sem 3	CDCC303
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3										
1.2		3	3	3	3	3	3	3	3		3
1.3		3		3	3	3	3	3		3	3
1.4		3			3	3			3	3	3
Total	3	3	3	3	3	3	3	3	3	3	3

Semester	III	Total Credit	3

Course Code	CD CC 304	Credit Pattern	L-35, T-5, P-5
Course Title	COUNSELLING THEORY AND PRACTICE		

Course Outcomes: Students will be able to	
1	Understand the need and application of various counselling techniques.
2	Identify the psycho-social issues, factors and their implications. Apply coping strategies to deal with them.
3	Set up a Counselling / Child Guidance Centres

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Counselling: Concept, Difference Between Counselling And Guidance Definition, Principles, Assumptions, Objectives, Stages And Scope Of Counselling In Various Set Up.	L= 7	
		T= 1	P= 1
2	Types Of Counselling: Educational, Vocational, Personal, Social, Marriage And Family Counselling, Counselling For Counselling In Health, Industrial And Social Organization /Set Up. Crises Counselling For Special Population Like Children, Youths And Women.	L= 7	
		T= 1	P= 1
3	Approaches To Counselling: Directive, Non-Directive, Group And Eclectic. Models And Dimensions Of Counselling. Modern Trends Of Counselling . Theories Of Counselling: Carl Rogers's Theory, Sigmund Freud Theory, REBT, Eric Berne's TA Theory. Stages Of Counselling: Egan's Model (Beginning, Middle, Endings), Role And Responsibilities Of Counsellor, Skills And Techniques Of Counseling; Counsellor Use Of Self,	L=7	
		T=1	P=1
4	Counselling Centers: Guidelines To Set Counselling Centre, Family Counselling Centers, Child Guidance Clinic And De-Addiction Centre And Rehabilitation Centre. Its Functions, Importance And Limitations	L= 7	
		T= 1	P= 1

Learning Resources

1	Text Books	1. Dave Mearas and Brian Thorne: Person centered counselling in Action published by Sage Publication .2000. 2. Ramnath Sharma & Rachana Sharma: Guidance and Counselling in India, published by Atlantic Pub, Delhi 2004. 3. Bharkin Mukupadhyaya: Counselling and Guidance
2	Reference books	1. K.S Lakshmi: Encyclopedia of Guidance and Counselling, published A Mittal Pub, Vol.1,2,3,4. 2005. 2. Mishra R.S.: Guidance and Counselling, Vol.1&2 published by APH Publication Corporation, New Delhi, 2004. 3. Ramesh Chandra: Psychology, Counselling and Therapeutic Practices, published by Isha Books, Delhi 2004. 4. Robert L. Gibson & Mariaune H. Mitchell: Introduction to Counselling and Guidance, published by Pearson Education, Delhi 2005. 5. Tara Chand Sharma: Modern Methods of Guidance and Counselling, published by Swarup and Sons, New Delhi, 2002.
3	Websites	1. www.directhit.com/ 2. http://www.griffenmill.com/design15 counselling website design 3. https://counsellingtutor.com/basic-counselling-skills/
4	Journals	1. British Journal of guidance and counselling 2. Indian Journal of social work
5	Supplementary Reading	1. Steve Cooper: A comprehensive handbook for counselling, published by Infinity Books, New Delhi, 2005. Case studies
6	Practical Component	Apply their counselling skills at home and workplace. Start up their own Counselling and guidance Centres

COPO Mapping

MSW-II	Counselling Theory and Practice									sem 3	HRCC304
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3					3			3		
1.2		3	3	3	3	3	3	3	2		3
1.3	3	3		2			3		3		3
1.4		3	3	3			3	3			3
Total	3	3	3	3	3	3	3	3	3	3	3

CDCC 305 ORIENTATION AND CONCURRENT FIELD WORK

I Orientation / Acquaintance Phase :

About the Agency:

Organization (G.O/NGO): History, aim and objectives, Functions, Staffing, Financial resources, salary, leaves, registers maintained, benefits of employees, insurance scheme.

Village/Slums/Urban : A brief observation : demographic, social, cultural, religious, political and economic aspects of community.

II. Study Phase (Detailed Background)

Organisation :-

Programmes and Services, Budget allocation to different programmes, Actual explain; target reached number of beneficiaries, (Secondary data for the last 5 years may be collected to evaluate the agency's work).

Rural Agency

Geographic	:	Size of village, growth
Demographic	:	Population : Child, Women, Youth, aged, SC & ST, disabled, Labour etc.
Social	:	Religion, Caste, Family, Languages communal harmony.
Cultural	:	Customs, traditions, taboos, practices
Educational	:	Literacy : Male & Female, SC & ST, Functioning of Balawadis, Anganwadis Schools, Adult Education.
Health	:	Primary health centre, primary health unit, Clinics.
Economic	:	Agriculture : Dry Land, irrigated land Major crops, occupations, marketing, land reforms.
Banking	:	Nationalized Bank, Co-operative societies, credit societies, self- help groups, Home / Cottage / Village / Small Scale Industries, Unorganized Sector.
Ecological	:	Geographical structure (plain, hill etc) natural resources (Solor, air, water, minerals) pollution (air, water, sound atmosphere).
Housing	:	Housing Pattern (Kutchha, or pucca) overcrowded, congested.
Political	:	Panchayat Raj System, Panchayat Raj Act.

URBAN AGENCY

Geographic	:	Urban Size
Demographic	:	Population : Child, women, youth, aged disabled, labour, SC & ST, Infant Mortality Rate.
Social	:	Religion, Caste, language, Family, harmony, slums.
Cultural	:	Customs, traditions, practices, celebrations.
Education	:	Literacy : Male & Female, SC & ST, Functioning of Balawadies, Anganwadies, Schools, Colleges and Adult education centers.
Health	:	PHC, PHU, Clinics, nursing homes, etc.
Economic	:	Occupation / Division of labour - Marketing - Banking sector – NABARD National Banks - Co-operative Societies - Small Scale and large scale industries - Business / organized sector

Ecological	:	Geographical Structure(Plain, hill, desert area)Natural resourcesForestryPollution (air, water, sound and atmosphere)
Housing	:	Housing pattern (Kutcha, semi pucca,)OvercrowdedCongested
Political	:	Municipal Administrations Zilla Panchayat Laws for Environmental Protection
Beuracratic	:	District Administrations Govt. agencies working for development and welfare of people.
NGO _s	:	Non-Govt. organizations functioning in the area.

III. PROBLEM PHASE (Student needs to study about problem)

Rural problems : Rural fieldwork

1. URBAN PROBLEMS : Urban field work

- Poverty
- Illiteracy
- Ignorance (Lack of awareness)
- Communal and Caste tension
- Migration
- Deforestation
- Pollution
- Pollution growth
- Destitute, orphan, disabled
- (mentally, physically, visually and hearing).
- Child labour / bonded labour
- Unequal wage to women
- Atrocity on women
- Exploitation of SC & ST
- Problems of weaker section
- Marital disharmony
- Suicide
- Dowry deaths
- Alcoholism
- Aged
- Diseases

Note : Students placed in G.O. and N.G.O. will have to identify beneficiaries or Problems.

IV. RESOURCE PHASE :Organization (G.O. / NGO)

- Development and welfare programmes of the Agency
- Subsidiary offices
- Know Social Legislations

RURAL :

- Rural development programmes:
- IRDP, ICDS, TRYSEM, PMRY, JRY
- Programmes of different govt. agencies
(Adult Education, Women and Child Welfare, SC & ST welfare, Youth welfare, Slum Labour Welfare, health etc.)
- Five year plans
- NGOs working in the Area
- Know Social Legislations

URBAN :

- Urban development programmes :
Swarna Jayanti Shahari Rojgar Yojana, ICDS, PMRY, TRYSEM, JRY
- Municipal administration
- Programmes of different government agencies
(Adult Education, Women and Child Welfare, Youth Welfare, Slum development, SC & ST Welfare, Labour Welfare, health etc.)
- Five year plans

SOCIAL LEGISLATIONS :

- SC & ST (Prevention of atrocities) Act, 1989
- Dowry Prohibition Act, 1962
- The equal remuneration Act, 1976
- The Medical Termination of Pregnancy Act, 1971
- The Juvenile Justice Act, 1986
- The child Marriage Restraint, Act, 1929
- The Child Labour (Prohibition & Regulation) Act, 1986
- The Hindu Marriage Act, 1955
- The Adoption and Maintenance Act, 1956
- The Minority and Guardianship Act, 1956
- The Beggary prohibition Act, 1962
- Laws Relating to Leprosy patients
- Public Trust and Charity Commissions
- The consumer protection Act, 1986

NOTE – A student placed in government, non-governmental organisations, rural or urban agency need to have introductory knowledge of the above legislations.

V. RESOURCE – PROBLEM INTERACTION PHASE

Identification of problem(s) and need(s) of beneficiaries

- Prioritizing the problems and needs
- Identification of resources
- Govt. agencies
- Non-govt. Organizations
- Community
- Mobilization of resources

I. INTERVENTION PHASE

- Helping the beneficiaries
- Referred services: Juvenile home, state home, hostel, correctional institution, short-stay house, de-addiction centre, general hospital psychiatric centre, family counselling centre, Remand home, artificial limb centre, foster care adoption.
- Economic support: Loan facility – sponsorship
- Counseling and guidance
- Conducting Lectures on social issues
- Organizing recreational activities
- Creating awareness / mobilization of
 - Public opinion on any current issue
 - Restoring communal harmony
 - Independent living skills
 - Environmental Education
 - Legal awareness

VII. TERMINATION PHASE

- Supervising
- Monitoring
- Appraising and
- Evaluating the work undertaken.

METHODOLOGICAL ADVICES FOR FIELD – WORKER

- Conduct case studies on any problem –
- Solving issue, family, problem etc.
- Report – writing of aid provided to the beneficiaries.
- Evaluation study can be taken up
- Play enabler, guide, liaison, helper and catalyst roles, wherever necessary.
- Rapport building with community and beneficiary of needy is the corner stone of social work.
- Keep intact communication with needy.
- Adopt and apply different methods of social work.
- Try to bridge resource – need interaction
(Cash, kind, knowledge, and emotional and social support are the resources to be assessed by a social worker).

CD CC 306: FIELD WORK REPORT AND VIVA-VOCE

FIELD WORK DIARY, RECORDING, MONTHLY ATTENDANCE SHEETS AND SUMMARY OF SUPERVISORY CONFERENCES

Every student is expected to maintain/prepare the following regularly or at appointed times:

- (a) A diary of activities and account of time spent for each activity. Points from supervisory conferences should also be noted down in the diary.
- (b) Detailed reports of activities (field work records)
- (c) Summary of Supervisory Conferences which has to be submitted to the Field Work coordinator at the end of every month (cyclostyled forms will be provided for this purpose) and
- (d) Monthly field work attendance sheets. Cyclostyled forms are available in the office for this purpose

At the end of every month, field work attendance sheets should be submitted to the field work supervisor so that the letter may forward it to the office, on the First Wednesday of the following month. Those who are under the direct supervision of agency social workers are required to submit the attendance sheets (after it has been duly signed by the supervisor) to the head of the department who is in charge of his/her placement (A Speciman copy is given to you)

The diary and recording should be submitted every week to the supervisor for review and discussion

Leave of Absence from Field Work

Absence from field work should be avoided as far as possible. For valid reasons, however, leave of absence is allowed for 2 days in a semester. If any student is absent for more than two days, all the days of absence (including the first two days) will have to be compensated in accordance with the instructions of the field work supervisor.

Mid-Year Evaluation and Final Evaluation

There will be a mid-year evaluation in early December for assessing the students field work performance during the I semester. The supervisor will write the report after a supervisory conference which will be specially geared to the discussion of work performance. There will be no grading for mid-year evaluation. The purpose of mid-year evaluation conference and report is that the student may get information and awareness of his/her strengths and weaknesses as regards as field work performance of the I semester and plan for better performance in the second semester.

At the end of the academic year, in March, every supervisor will submit to the Institute a written evaluation report on the students field work. Grades will be given by the field work supervisor in consultation with the field work coordinator.

Any student who does not come up to a certain minimum level of performance which is required for passing in field work, may be asked at the discretion of the faculty, either to leave the Institute or put in extra work to improve his/her field work performance.

FIELD WORK PRACTICUM: CONCURRENT FIELD WORK

The main object of concurrent field work is to provide opportunities for applying the knowledge learnt in the class room to real life situation (field reality) to understand and develop effective course of action (learning of intervention methods) according to needs of client system. And

evaluate the experiences while working with the individual, groups and communities. Fieldwork enables the student to integrate and reinforce the knowledge and information acquired in the classroom with actual practice, under competent **supervision** by the agency and faculty supervisors. Every student is expected to work for 15 hrs. per week at various organizations or community settings.

FIELD WORK EVALUATION CRITERIA: (Applicable for the all four Semesters)

1) Analytical Ability:

- a. To understand evolution of agency, philosophy, policy and administration programmes.
- b. To identify roles of other departments and personnel in implementation of agency policies & programmes (in secondary settings).
- c. To understand the dynamics of the agency – roles, decision-making process, conflict solving procedures.
- d. To begin to situate agency in context of larger social system.
- e. To understand Profile of client system and causative factors affecting its needs and problems.
- f. To understand social work intervention utilized by agency in response to needs of client system.
- g. To assess one's own tasks in relation to problem situation.

2) Problem Solving Skills:

- a. To assess the problem situation and outlines the plan of action.
- b. To utilize problem solving process beginning with fact finding to evaluation of social work process in relation to needs, problems and aspirations of the client system.
- c. To develop and utilize working relationships with agency, client system and other related system.
- d. To utilise different techniques of problem solving, interviewing, home visits, communication and programme media mobilization of human and material resources.
- e. To utilise problem solving strategies selectively with individuals groups and communities.
- f. To understand the importance work in different administrative procedures – filing – maintaining registers, fund raising staff meetings.
- g. To develop basic skills of management of services, planning, organizing, implementing and evaluation.
- h. To participate in liaison work with other organizations and systems in terms of obtaining sanctions for programmes, interpreting social work intervention and networking on common issues.
- i. To understand the significance of and participates in teamwork in one's discipline as well as in the interdisciplinary team.
- j. To learn to priorities tasks and organize workload.
- k. To understand the importance of recording as a tool for learning and administration.
- l. Learn to record facts selectively and logical-assessment of problem situation, students feelings, reflections and intervention modalities.

3) Personal development:

- a. Appreciation and utilization of principles of social work in respect of persons, social justice, equality, opportunities, acceptance of the client system and its potential.

- b. Work with commitment in the agency in terms of fulfillment of tasks, disciplined use of self (dress, behavior, regularity, self control, awareness of bias and cultural blocks).
- c. Developing positive identification with the profession, conviction of the necessity of social work intervention.

4) Use of field Instructions :

- a. Understanding the significance of field instruction as a tool for professional training.
- b. Accepts the roles of faculty advisor, field instructor and field contact and utilises their expertise in one's own training.
- c. Indicates a gradual movement from a dependence on the instructor to performing ones role and tasks more independently.
- d. Utilises individual and group conferences for professional growth by accepting both the positive and negative remarks of the instructor.
- e. Actively participates in the group conferences and appreciates the participation of others.
- f. Makes efforts to improve performance through self-learning by reading learning from one's experiences and those of others.
- g. Develops ability for self-evaluation on going and periodic.

Semester	III	Total Credit	3
Course Code	CDDSE 301A	Credit Pattern	L-35, T-5, P-5
Course Title	CO-OPERATION		

Course Out Comes: Students will be able to	
1	Describe the concept of Cooperation
2	Apply relevant theories, concepts and models of cooperation in relation to social work
3	Analyze the relation between professional social work and cooperative philosophy
4	Evaluate the aspects associated with the opportunities and challenges in front of various cooperative societies in the country

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to Cooperatives: Definition of co-operation, Nature and Scope of Co-operative organisations, Identity of co-operatives, I.C.A. Principles of co-operation, Raiffeisen and Schultz Principles, Rochdale Pioneers. Co-operation and Economic Systems: Co-operation and Capitalism, Co-operation and Socialism, Co-operatives and Joint-stock companies, Partnership, Public-sector enterprises.	L= 7	
		T= 1	P= 1
2	Co-operative Movement in India: Historical Perspective, Development during Plan periods, Progress, Achievements and Weaknesses of co-operative movement in India.	L= 7	
		T= 1	P= 1
3	Types of Co-operatives: Structure and Development of co-operatives with respect to Credit Societies, Co-operative Marketing, Co-operatives in Maharashtra with emphasis on Sugar and Dairy co-operatives. Co-operatives and Other Institutions: Reserve Bank of India (R.B.I.) and co-operative movement, State and co-operative movement, Rural Credit co-operatives and N.A.B.A.R.D	L= 7	
		T= 1	P= 1
4	Co-operative Education and Training: Objectives, Educational arrangements in India and other countries, Central Committee for co-operative training, National Co-operative Union of India, Training Institutions, Members Education Programme, Evaluation of Training and Problems.	L= 7	
		T= 1	P= 1

Learning Resources		
1	Text Books	1. Hajela T.M. (1990): Principles, Problems, and Practice of Co-operation, Svivalal Agrawal and Co., 2. Mathur B.S. (2003): Co-operation In India, Sahitya Bahvan Publication, Agra 3. Sarada V, "Cooperation"
2	Reference books	1. R. D. Bedi: "Theory, History and Practice of Co-Operation". Loyal Books Depot, 1997. 2. R Rajagopalan (Ed), "Rediscovering Co-Operation Vol I,II And III", Irma, Anand, 1996. 3. P.R Dubhashi, "Principles and Philosophy of Co-Operation". VMNICM, Pune, 1970. 4. B.P. Sinha: "Co-Operation: Instrument for Socio .Economic Justice". Himalaya Publishing House, New Delhi, 1992. 5. Divakar Jha: "A Pesspective on Co-Operative Marketing" Vikas Publishing House, New Delhi, 1997.
3	Websites	1. www.agriculture.gov.in/ 2. www.manage.gov.in 3. www.ica.coop/ 4. www.vamnico.gov.in 5. www.agricoop.nic.in
4	Journals	1. Journal of Cooperative 2. Sugar cooperatives
5	Supplementary Reading	Economic Survey, Government of India,(Various Issues) India Development Report, IGIDR, Mumbai,(Various Issues)
6	Practical Component	1. Vist to few consumers and make a list of factors affecting their demand 2. Compute the HDI for selected village 3. Case Studies on Each of the Aspects Mentioned in the Syllabus need to be discussed. 4. Video cases and Documentary Films relating to the syllabus to be exhibited in the class

COPO Mapping

MSW-II	Co-operation									sem 3	CD DSE301A
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	3			3					3	
1.2	3			3		3		3	3		
1.3	3	3			3	3	3	3		3	
1.4	3	3	3			3	3			3	
Total	3	3	3	3	3	3	3	3	3	3	3

Semester	III	Total Credit	3
Course Code	CD DSE 301B	Credit Pattern	L-35, T-5, P-5
Course Title	ECOLOGY AND DEVELOPMENT		

Course Outcomes: Students will be able to	
1	Describe the various aspects of ecology and development. Issues related to the environment
2	Apply various strategies for social awareness on causes, implications to protect and prevent ecological imbalances.
3	Analyze the ecological process of development.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Society And Environment: Physical Environment, Influence Of Physical Environment On Society. Environmental Education: Environmental Education, Environmental Movements In India(SardarSarovar Project, Silent Valley, Bichhari Case) Curent Issues Of Environment (Climate Change)	L= 7	
		T=1	P= 1
2	Ecology And Ecosystem: Concept, Definition, Scope and basic principles of ecology and environment. Biological levels of organization, population, community, ecosystem and biosphere. Components Natural Resources And Life Style. Utilization And Management Of Forest, Land, Water, Air, Energy Sources.	L= 7	
		T=1	P= 1
3	Public Participation: - Growth And Structure Of Communities; Characteristics, Impact Of Population Growth On Environment-Deforestation, Problems Of Ecological Imbalances: Deforestation, Threats To Wild Life, Use Of Chemicals And Pesticides, Mining And Ozone Depletion, Green House Effect, Global Warming, Acid Rain. Awareness amongst public participation, Advantages and disadvantages of public participation, Identification of participants and techniques for conflict management, Incorporation of results in decision makings. Role Of NGO In Environment Management.	L= 7	
		T=1	P= 1
4	Environmental Pollution: Pollution Types, Sources, Treatment And Consequences, Prevention And Control Of Pollution. Waste-Matter Disposal, Recycling And Renewal Problems And Issues Including Unplanned Urbanization. Environmental Protection And Preservation Work With Interdisciplinary Team, Socio-Cultural And Institutional Issues. Environmental Laws: Legal Provisions For Environment Protection. Environmental Laws: The Water Act, 1974, The Air	L= 7	
		T=1	P= 1

	Act 1981, The Environment Act 1981. Role Of Social Worker In Protection And Preservation Of Environment.Environment Management- Maintaining, Improving And Enhancing. Social Forestry		

Learning Resources		
1	Text Books	1. P.D Sharma , (2015), Ecology and Environment, Rastogi publications Meerut 2. R., N.C. Saxena & T. Shah (1989) – To the Hands of the Poor: Water and Trees, New Delhi: Oxford and IBH. Chambers, 3. Gurdip Singh (2005)Environmental Law in India, Mac Millan India Ltd, New Delhi
2	Reference books	1. Bandyopadhyay, J. (ed.) 1985 – India’s Environment: Crisis and Response, Dehradun: Natraj Publishers. 2. Burch, W.R. (1987) – Human Ecology and Environment Management, Mimeo, School of Forestry and Environment Studies, Yale University. 3. S.C. Shastri (2005) Environmental Law, Eastern Book Company, Luknow
3	Websites	esajournals.onlinelibrary.wiley.com/journal/14610248 onlinelibrary.wiley.com/journal/19399170 www.journals.elsevier.com
4	Journals	Journal of Ecology - Wiley Online Library Indian Journal of Ecology Indian Ecological Society
5	Supplementary Reading	S.C. Shastri (2005) Environmental Law, Eastern Book Company, Luknow
6	Practical Component	Awareness about ecological issues and solution. Environment Protection and Safety

MSW-II	Ecology and Development									sem3	CDDSE301B
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3							3	3		
1.2	3	3	2	2	3	3		3	3	3	
1.3		3	3		2	3	3	3	3	3	3
1.4	3	3		3			3	3	3	3	3

Total	3	3	3	2	2	3	3	3	3	3	3

COPO Mapping

Semester	III	Total Credit	1
Course Code	AEC 301A	Credit Pattern	L-15, T-0, P-0
Course Title	COMPUTER APPLICATIONS (THEORY)		

Course Outcomes:	
1	Describe the concepts and their application of statistics in social work
2	Ability to design, set up and conduct practical
3	Ability to use the techniques, skills, and modern Software tools for software development
4	Ability to design, develop and verify software systems to meet desired needs within realistic constraints ensuring quality, reliability, security in addition to satisfying economical, ethical,

	social and environmental constraints.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction: Definition, Characteristics of computers, Evolution of computers, computer generations, applications of computers, Use of computers in social work Basic Computer Organization: Input unit, Output unit, Storage Unit, Arithmetic Logic Unit, Control Unit, Central processing unit, system concept Different types of input-output devices and secondary storage devices	L= 5	
		T=0	P=0
2	Computer Software: Types of Software, Computer languages, Operating Systems, its functions, popular operating systems, Windows, its features. Application Software Packages: Word processing package, spread sheet package, presentation package Features of Ms Word, mail merge and features of Ms PowerPoint	L= 4	
		T= 0	P=0
3	Excel: worksheets, workbook, calculations by formula, operator precedence, relative, absolute and mixed cell references.	L=2	
		T=0	P= 0
4	SPSS: Menu, Creating data file, Defining variables, sorting, splitting file, selecting cases, computing new variable, recoding variables.	L= 2	
		T=0	P= 0
5	Internet: Introduction, history, Basic Services, Electronic mail, File transfer protocol, World Wide Web, www Browsers, internet search engines, Uses of internet.	L= 2	
		T= 0	P= 0

Learning Resources

1	Text Books	1. Sinha P K & Sinha P (2011) Computer Fundamentals, PBP Publications. 2. Saxena S (2003) A First Course in Computers, Noida, Vikas Publishing House Pvt. Ltd. 3. Pandya K, Bulsari S and Sinha S (2012) SPSS in simple steps, Delhi, Dreamtech Press 4. Leon A and Leon M.(2012) Internet for Everyone, Chennai, Leon Vikas.
2	Reference books	1. Schwartz S. (2012). Microsoft Office 2010, Noida, Pearson. 2. Cunningham J B and Aldrich J O (2012) Using SPSS: An Interactive Hands-On Approach, New Delhi, SAGE 3. Gupta S L and Gupta H (2011) SPSS 17.0 for Researchers, New Delhi, international book house Pvt. Ltd.
3	Websites	https://www.javatpoint.com/computer-fundamentals-tutorial https://www.tutorialspoint.com/computer_fundamentals/ http://vikaspedia.in/education/Digital%20Literacy/it-literacy-courses-in-associating-with-msup/computer-fundamentals
4	Journals	PC World E Week (Available in EBSCO)
5	Supplementary Reading	Parker-Oliver, D., &Demiris, G. (2006). Social Work Informatics: A New Specialty. Social Work, 51(2), 127-134. (Available in JSTOR under NLIST-Inflibnet)

COPO Mapping

MSW-II	Computer Applications (Theory)									sem 3	AEC301A
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3								3		
1.2	3	2	3	3	2	3	3	2	3		3
1.3	3	3	3	3	2	3	3	2	3	3	3
1.4	3	3	3	3	2	3	3	2	3	3	3
Total	3	3	3	3	2	3	3	2	3	3	3

Semester	III	Total Credit	2
Course Code	AEC 301B	Credit Pattern	L-0, T-0, P-60
Course Title	COMPUTER APPLICATIONS (PRACTICAL)		

Course Outcomes: Students will be able to	
1	Make use Office Automation Tools like word processors, spreadsheets and presentation tools.
2	Utilize multimedia authoring tools to design small applications using sound, audio, and video/animation.
3	Handle Computer Networks, modems and routers, and efficiently use Internet
4	Develop and implement a simple project based on case studies.
5	Apply statistical data analysis through Excel
6	Analyze statistical data through SPSS

Syllabus:

Requirement: 2 Sessions of 2Hrs on each of the following		
No	Software	Concepts/ topics to be covered in the exercise
1	Ms Word	Editing, formatting, text box, tables, clip art
2	Ms Word	Mail merge
3	Ms Power Point	Creation of presentations, slide layouts, Animation effects Inserting charts, tables, clip art, smartart graphics
4	Ms Excel	Use of formula, formatting options, relative cell reference
5	Ms Excel	Use of functions, bar & pie diagrams
6	Ms Excel	Statistical data analysis in Excel, absolute cell reference, mixed cell reference
7	Ms Excel	Sorting, filtering, Categorical data Analysis, t test
8	Ms Excel	Correlation, regression, scatter diagram
9	Ms Excel	Pivot tables, Ch- Square test
10	SPSS	Entering data on SPSS and generating descriptive statistics, graphs
11	SPSS	Computation of new variables and categorical data analysis
12	SPSS	Data editing and verification of normality
13	SPSS	Correlation and regression Analysis
14	SPSS	t tests
15	SPSS	Chi Square test

Learning Resources		
1	Text Books	1. Saxena S (2003) A First Course in Computers, Noida, Vikas Publishing House Pvt. Ltd. 2. Pandya K, Bulsari S and Sinha S (2012) SPSS in simple steps, Delhi, Dreamtech Press
2	Reference books	1. Frye C (2012) Microsoft Excel 2010 Step by Step, Delhi, PHI Learning Pvt. Ltd. 2. Schwartz S. (2012). Microsoft Office 2010, Noida, Pearson. 3. Cunningham J B and Aldrich J O (2012) Using SPSS: An Interactive Hands-On Approach, New Delhi, SAGE
3	Websites	https://www.javatpoint.com/computer-fundamentals-tutorial https://www.tutorialspoint.com/computer_fundamentals/ http://vikaspedia.in/education/Digital%20Literacy/it-literacy-courses-in-associating-with-msup/computer-fundamentals
4	Journals	PC World E Week (Available in EBSCO)
5	Supplementary Reading	Parker-Oliver, D., &Demiris, G. (2006). Social Work Informatics: A New Specialty. Social Work, 51(2), 127-134. (Available in JSTOR under NLIST-Inflibnet)
6	Practical Components	Students will be given Computer practical work on various topics.

COPO Mapping

MSW II	Compiter Applications (practicals)									sem 3	AEC310B
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3								3		
1.2	3	2	3	3	2	3	3	2	3		3
1.3	3	3	3	3	2	3	3	2	3	3	3
1.4	3	3	3	3	2	3	3	2	3	3	3
1.5	3	3	3	3	2	3	3	2	3		3
Total	3	3	3	3	2	3	3	2	3	3	3

MSW-GROUP E

SEMESTER-III

Semester	III	Total Credit	3
Course Code	MP CC 301	Credit Pattern	L-35, T-5, P-5
Course Title	PREVENTIVE AND SOCIAL MEDICINE		

Course Outcomes: Students will be able to	
1	Describe the various aspects of preventive and social medicine
2	Identify health problems of the community in the context of the sociocultural milieu.
3	Evaluate the aspects associated with human behaviour and its effect on health.
4	Identify groups which require special attention (elderly, adolescents, gender the poor and other marginalized groups) including those facing occupational hazards
5	Formulate objectives, prepare action plan, implement programs and monitor, supervise and evaluate them
6	Apply relevant theories, concepts and models to resolve organizational issues

Syllabus:

Unit Number	Contents	No. of Sessions

1	Medicine And Its Historical Development: The Growth Of Preventive Medicine. Its Concept Definition, Importance and Scope In Society. The Advent Of Social Medicine, Its Concept Definition And Scope For Social Health.	L= 7	
		T=1	P=1
2	Nutrition: Nutritional Classification Of Food, Importance Of Balance Diets., Nutritional Diseases: Protein Energy Malnutrition (PEM).Protein Deficiency In The Adult, Malnutritional Diseases, Anemia-Zero Phtharmia-Iodine Deficiency In Adult (IDD), And Endemic Flourosis Etc. National Nutritional Programmes	L=7	
		T=1	P=1
3	RCH And MCH Programmes And Schemes: RCH, MCH Care - Antenatal, Intra-Natal And Post-Natal Care, Problems, Indicators Of MCH, MCH And Family Welfare Services. Obstetrics: Definition, Concept, Problems Preventive And Social Aspects In Obstetrics, Pediatrics: Definition Concepts, Problems Of Children, Preventive And Social Aspects In Pediatrics. Geriatrics: Care And Welfare Of Aged, Preventive And Social Aspects.	L=7	
		T=1	P=1
4	GeneralEpidemiology: Definition, Its Nature And Scope, Disease, Modes Of Disease Transmission, General Measures Of Communicable Diseases, Control And Vaccination. Alcoholism and Drug Dependence: Alcohol and Drug Related Problems, Its Causes, Preventive And Curative Services, Role Of Social Worker In PSM Unit Of Health Set Up and De-Addiction Centre.	L=7	
		T=1	P=1

Resources Learning		
1	Text Book	1. John J. Hulon : Principles of Public Health Administration 2. Park J.E. & Park K. Text Book of Preventive & Social medicine M.B. Bhaniot Pub. Jabalapur, 1990 3. Sunital Roy : A Hand Book of Preventive & Social medicine 4. Sunderlal Adarsh, Pankaj 'Text Book of Community Medicine (Preventive & social medicine)

2	Reference books	1. M.C. Gupta & B.K. Mahajan : Textbook of preventive and social Medicine. 2. Dr B. S. Nagaraj : Community Medicine without Tears: Mysore printing and publishing house ,Mysore 3. Medical Social Work by KEM Hospital & Sheth G.S. Medical College Mannul S.R.Mehta(1992) : Society and Health A Sociological Perspective Vikas Publishing House New Delhi.
3	Websites	Department of Preventive and Social Medicine All India ... aaihph.gov.in › department-of-preventive-and-social-medicine IAPSM Indian Association of Preventive and Social Medicine iapsm.org
4	Journals	Indian Journal of Preventive & Social Medicine - MedIND medind.nic.in › ibl › iblm <u>Journal of Preventive Medicine & Public Health (JPMPH)</u> https://www.jpmp.org
5	Supplementary Readings	1. Malavika Kapur : Mental Health In Indian Schools. 2. A.M Chalkley :A Text book For The Health Worker (ANM) Volume II 3. O.P.Ghai/ Piyush Gupta (2000): Essential Preventive & Social Medicine
6	Practical Components	Students will be given field task to understand health program of national, State and local level.

MSW-II	Preventive and Social Medicine									sem 3	MPCC301
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	3							3		
1.2	3		3	3		2	3	2	3	3	
1.3	3		3	3	3	1	3	2	3	3	
1.4	3		3	3	3	2	3	2	3		
Total	3	3	3	3	3	2	3	2	3	3	3

Semester	III	Total Credit	3
Course Code	MP CC 302	Credit Pattern	L=35, T=5, P=5
Course Title	PSYCHOPATHOLOGY & MENTAL HEALTH – I		

Course Outcomes: Students will be able to	
1	Describe the various aspects of Psychopathology and mental health
2	Apply Knowledge and skills in the assessment of mental health
	Apply skills in identifying nature and degree of psychopathology .
	Develop Knowledge and skills in assessment and diagnostic methods that contribute to effective and culturally relevant practice. Apply various soft Skills to life and in clinical situations.

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Concept of mental health and mental illness, Mental health as a part of general health, Ethics, values in mental health. Core concepts in philosophy and mental health. Misconceptions about mental illnesses, concepts of normality and abnormality, Adaptive and Maladaptive behaviours, Historical views of Abnormal behaviours.	L= 7	
		T=1	P=1
2	Determinants of personality, Diagnosis and classifications of Mental Disorders ICD-10 and DSM-V. Need and limitations of classifications. Etiology : Bio-psycho-social factors in psychiatric disorders. Assessment in psychiatry - psychiatric interviewing case history recording and mental status examination psychiatric rating scales,	L=7	
		T=1	P=1

	case vignettes		
3	Symptomatology - disorders of perception, thought, speech, memory, emotions, experience of the self, consciousness and motor disorders, orientation to psychiatric syndrome. Schizophrenia and its types, other psychiatric disorders, Mood disorders, Anxiety based disorders, Adjustment disorders, paranoia (delusional disorders).	L=7	
		T=1	P=1
4	Somatoform disorders (Neurotic, stress-related and somatoform disorders), Disorders of Adult Personality and Behaviour, sleep disorders, its types, causes and treatment modalities.	L=7	
		T=1	P=1

Resources Learning		
1	Text Book	1. Essentials of mental health and Psychiatric Nursing- K P Neeraja 2. International Classification of Disease (ICD-10) 3. Diagnostic and statistical Manual -IV
2	Reference books	1. Richardson R. Bootzin, Abnormal Psychology – Current perceptsives, Random House, New York 2. WHO Geneva, The ICD – 10 classification of Mental and Behavioural disorders – clinical descriptions & diagnostic guidelines 3. Bhatia M.S. (1992), Essentials of psychiatry, CBS Publication, Delhi 4. H.J. Kaplan, Sadock, (1990), Synopsis of psychiatry, Williams & wilkins, London 5. Michael Gelder, Dennis Gath, Oxford text book of psychiatry, Oxford University Press 6. Robert C.C. et. Al. Abnormal psychology & modern life – Harper Collings psy., New York 7. Carson R.C., Butcher J.N. & Mineka S, Abnormal Psychology & Modern life, Longman, New York 8. Commission on mental health of children 1973 : social change & the mental health of children, Harper & Row, New York 9. Colin Dyer - Research in Psychology – A practical guide to methods & statistics 10. Inside the mind of Toyota – Satoshi Hino – Management principles of enduring growth 11. Frank J Landy & Jeffrey M. Conte work in the 21st century. An introduction to industrial & organization and Psychology

		second edition. Blackwell Publications 12. A Wiley Brand, Dr. Peter J Hills, Dr. Michael Pake - Cognitive Psychology for Dummies 13. James N. Butehor, Susav Mineka, Joy M. Hootey - Abnormal Psychology (15th Edition) 14. Leshe A Willer, Robrt C Lovler, Sandren A Melntire - Psychology Testing - A practical approach (4th Edition) 15. M Tamilarasan – Rawat Publication - Medical Sociology 16. Edited by Abraham - Social work in mental health – Areas of practice, Challenges & way forward 17. KringJohnson, DavisonNeale - Abnormal Psychology – (11th Edition) 18. William & Ray - Abnormal Psychology – neuroscience perspective on human behavior & experience 19. Kearney Trull - Abnormal pay & life – A Dimensional approach 20. Emil Kraepelin - Psychiatry – A textbook for studying & Physicians Vol. I 21. Robert L Solso, Otto H, Maclin, M. Kimberly Maclin – (8th Edition) Community Psychology 22. Anand jerard, Sebastine, M Gabrel - Health & Social Work Practice – New Frontiers & Challenges 23. Rehabilitation Counseling in Physical & Mental Health Edited by Hetherington 24. Jordon E Franklin. - Clinical Assessment for social workers (2nd Edition) 25. Anil Pathak - Field Work training in Social Work 26. Martine Herbal - Clinical Child & Adolescent Psychology (3rd Edition) 27. Philip Fellin - Mental Health & Mental Illness Policies Programmes & Services 28. William Korham (4th Edition) - Sociology of Mental Disorders 29. Dr. I Sundar - Principles of Medical Sociology 30. Arun Kumar - Clinical Psychology 31. Mory Nomme Russell - Clinical Social Work – Research & Practice
3	Websites	www.mentalhealth.gov www.psy.unsw.edu.au www.similarweb.com (Lists of Top Websites Ranking in Mental Health)
4	Journals	1. Indian journal of social work, TISS Mumbai 2. contemporary social work, Nirmala Niketan, mumbai
5	Supplementary Readings	Abnormal Psychology, developmental psychology, oxford textbook of psychiatry(may you), synopsis of psychiatry(Kaplan) Mental health in India (pornima mane) positive psychology

6	Practical Components	1. Field work, workshop, training 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

MSW-II	Psychopathology and Mental Health-1									sem 3	MPCC302
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3		1	3	2	1		2	3	2	
1.2		3	1	1	2	1	3	1	3	3	
1.3		3	1	3	2	1	3	2	3	2	3
1.4		3	1	1	2	1	3	1	3	3	3
Total	3	3	1	1	2	1	3	2	2	2	2

Semester	III	Total Credit	3
Course Code	MP CC 303	Credit Pattern	L-35, T-5, P-5
Course Title	MEDICAL AND PSYCHIATRIC SOCIAL WORK		

Course Outcomes: Students will be able to	
1	Describe the concepts of medical and psychiatric social work
2	Evaluate the aspects associated with medical social work and psychiatric social work
3	Apply relevant theories, concepts and models to resolve health issues of community
4	Develop Effective team-work and leadership skills
5	Evaluate the role & functions of a medical and Psychiatric social worker in various settings

Syllabus

Unit Number	Contents	No. Of Sessions	
1	Anatomy and physiology of the human, Respiratory system, Digestive system, Central nervous system, Cardiovascular system, skeletal muscular system, Genitourinary system, Reproductive system (male and female) Endocrine system, Health status and health care in rural and urban areas.	L= 7	
		T=1	P=1
2	Historical development of medical social work in India and other countries. Medical Social Work : Definition, Concept Nature and Scope, Modern Trends in Medical Social Work, Psychosocial factors associated with the disease, changing concepts of patient as a person.	L=7	
		T=1	P=1
3	Health Care Models : Medical health Model, prevention and promotion model, integrative model, developmental model, holistic approach to health and Alternative system of health, major communicable diseases - TB, STD, AIDS, Polio, diarrheal diseases, malaria, Typhoid, Leprosy, Major non-communicable diseases - cancer diabetes, hypertension, cardiovascular, Hematological, physical disability, Nutritional pediatric, Geriatric diseases.	L=7	
		T=1	P=1
4	Psychiatric Social Work : Definition, Concept, Nature and Scope. Historical Development in India and abroad. Role of psychiatric social worker in study, diagnosis and treatment. Modern trends in psychiatric social work. Challenges in the field of psychiatric social work. Application of Case work and Group work practice in psychiatric settings. Rehabilitation of psychiatric Patients : Role of	L=7	
		T=1	P=1

	psychiatric social worker in rehabilitation, Planning, Mobilization, Reintegration of the patient in the family and community Concepts of therapeutic community, patient hospitalization, Day care centers, half way homes, sheltered workshops, concept of well-being. Concept of mental hygiene and health mental health perspectives, Role of psychiatric social worker in different settings - mental hospitals, child guidance clinic, school mental health programme, family counseling centers, De-addiction centers, Geriatric centers, Epilepsy Clinics		

Resources Learning			
1	Text Book	1. Community Medicine 2. Community Mental Health- Dr Parthsarthy 3. Papers on social work-G R BANEERJEE 4. Psychiatric social work-Ratna Verma 5. Preventive and social medicine-park and park	
2	Reference books	1. Pathak, S.H. (1962), Medical Social Work In India, VG Mehta, Bombay 2. Goldskine D (1954), Reading in the theory & Practice of Medical Social Work 3. Bartlett H.M. (1934), Medical social work, University of chicago press, Chicago 4. Park, J. E. Park K. (1989), Textbook of preventive & social medicine, M.S. Banarasi das Bhanot, Jabalpur 5. Bajpai, P.K. , Social work perspective on health 6. Jones Maxwell, The therapeutic community, Basic books, New York 7. Verma Ratna (1991), Psychiatric social work in India, Sage Publication, New Delhi 8. Dickson Clifford Maratha, Social Work practice with mentally retarded, Collier Macmillan 1981 9. (Skill training for social workers – A manual – Sudha Datar, Ruma Bawikar , Geeta Rao, Nagmani Rao & Ujwala Madekar.) 10. Social Psychiatry – Verma, Kulahra, Masserman, Malhotra, Malik 11. Stress & Work – Perspectives an understanding & Managing Stress – Edited by Don Pestanjee, Satish Pandey – Sage.) 12. Human Psychology – Arthur J Vander) James H Shreman, Durothy S Lyciano 13. Positive Psychology – Steve R Baumgardner, Mare K. Crothers. –	

		Peason 14. Comprehensive Strers management (10th Edition) – Jerrold S Greenberg, Mary land – Tata Mcgraw Hill 15. Textbook of Cognitive Psychology – Abirlal Mukharjee 16. Positive Psychology. The Scientific & Practical Explanations & Human Strengths (7th Edition)
3	Websites	https://www.mswguide.org> Social Work Careers https://www.ecfmg.org/echo/team-psych-msw-html https://www.jobhero.com/medical-social-worker-job-description https://www.onlinemswprograms.com https://pswjjournal.org https://socialworklicensure.org/types-of-social-workers/psychiatric-social-worker/ https://www.mswguide.org/careers/medical-social-work/ http://nimhans.ac.in/psychiatric-social-work-2/ http://cswnn.edu.in
4	Journals	1. Social welfare, 2. kurukshtera 3. Indian journal of psychiatric social work 4. Health and social work
5	Supplementary Readings	Medical social work(KEM Hospital Mumbai, Medical social work, Health care for health workers, papers on social work(G R Banerjee) medical social work 9B T Lawani) Field work training (S I Subedar)
6	Practical Components	1. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 2. Video cases and documentary films relating to the syllabus to be exhibited in the class

COPO MAPPING

MSW-II	Medical and Psychiatric Social Work									sem 3	MPCC303
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1		1			1				3		
1.2	3	3		3		3					3
1.3	3	3		2		3		3	3		3
1.4	3	3	3	3	1	3	3		2		3
Total	3	3	3	3	1	3	3	3	2		3

Semester	III	Total Credit	3
Course Code	MPCC 304	Credit Pattern	L-35, T-5, P-5
Course Title	COUNSELLING THEORY AND PRACTICE		

Course Outcomes: Students will be able to	
1	Recall the basic concepts of Counselling and Guidance
2	Categorize the various types of counselling and counselling relationship
3	Categorise various types of communication in counselling
4	Predict the skills and qualities of counsellor

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Counselling: Concept, Difference Between Counselling And Guidance Definition, Principles, Assumptions, Objectives, Stages And Scope Of Counselling In Various Set Up.	L= 7	
		T= 1	P= 1
2	Types Of Counselling: Educational, Vocational, Personal, Social, Marriage And Family Counselling, Counselling For Counselling In Health, Industrial And Social Organization /Set Up. Crises Counselling For Special Population Like Children, Youths And Women.	L= 7	
		T= 1	P= 1
3	Approaches To Counselling: Directive, Non-Directive, Group And Eclectic. Models And Dimensions Of Counselling. Modern Trends Of Counselling . Theories Of Counselling: Carl Rogers's Theory, Sigmund Freud Theory, REBT, Eric Berne's TA Theory.	L=7	
		T=1	P=1
4	Stages Of Counselling: Egan's Model (Beginning, Middle, Endings), Role And Responsibilities Of Counsellor, Skills And Techniques Of Counseling; Counsellor Use Of Self. Counselling Centers: Guidelines To Set Counselling Centre, Family Counselling Centers, Child Guidance Clinic And De-Addiction Centre And Rehabilitation Centre. Its Functions, Importance And Limitations	L= 7	
		T= 1	P= 1

Learning Resources		
1	Text Books	1. Dave Mearas and Brian Thorne: Person centered counselling in Action published by Sage Publication .2000. 2. Ramnath Sharma & Rachana Sharma: Guidance and Counselling in India, published by Atlantic Pub, Delhi 2004. 3. Bharkir n Mukupadhya: Counselling and Guidance
2	Reference books	1. K.S Lakshmi: Encyclopedia of Guidance and Counselling, published A Mittal Pub, Vol.1,2,3,4. 2005. 2. Mishra R.S.: Guidance and Counselling, Vol.1&2 published by APH Publication Corporation, New Delhi, 2004. 3. Ramesh Chandra: Psychology, Counselling and Therapeutic Practices, published by Isha Books, Delhi 2004. 4. Robert L. Gibson & Mariaune H. Mitchell: Introduction to Counselling and Guidance, published by Pearson Education, Delhi 2005. 5. Tara Chand Sharma: Modern Methods of Guidance and Counselling, published by Swarup and Sons, New Delhi, 2002.
3	Websites	1. www.directhit.com/ 2. http://www.griffenmill.com/design15_counselling_website_design 3. https://counsellingtutor.com/basic-counselling-skills/
4	Journals	1. British Journal of guidance and counselling 2. Indian Journal of social work
5	Supplementary Reading	1. Steve Cooper: A comprehensive handbook for counselling, published by Infinity Books, New Delhi, 2005. Case studies
6	Practical Component	Apply their counselling skills at home and workplace. Start up their own Counselling and guidance Centres

COPO MAPPING

MSW-34	Counselling Theory and Practice									sem 3	MPCC304
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3					3			3		
1.2		3	3	3	3	3	3	3	2		3
1.3	3	3		2			3		3		3
1.4		3	3	3			3	3			3
Total	3	3	3	3	3	3	3	3	3	3	3

MPCC 305 ORIENTATION AND CONCURRENT FIELD WORK

General:

- a) Historical Development of the Organization / Institute
- b) Nature of organization / services.
- c) Working Hours.
- d) Organization Structure (Staff Pattern)
- e) Records and Registers Maintained.
- f) Leaves / Salary / Benefits for Employees.

MEDICAL SOCIAL WORK:

1. Concept of Health. Concept of disease. Pathogenesis period. Environmental factor disease due to multiple factors.
2. Level of Prevention. Health promotion. Specific protection early diagnosis treatment. Disability limitation. Rehabilitation. Mass health examination.
3. Alcoholism and drug dependency – Community Health.
4. Concept of a patient as a person. Social and Emotional component associated with various physical disorders and their socio-economic implication with regard to tuberculosis. Cancer, veneers, diseases, Leprosy and other effect on individual and family.
5. Concept of case and rehabilitation, social psychological factors involved in disease their treatment and rehabilitation.
6. Orientation of Registration like ESI Act and HTP Act 1971.
7. Hospital Administration. Health Centers, Clinics, Public Health programme Mobile Medical units. The Role of Social Worker in all the above agencies.
8. Role of social worker in the hospital set-up (Admission Procedure, Discharge. Follow up, home visits, case history taking etc.)
9. Organizing Recreational activities. Public Health Programmes.
10. Role of Social Worker with Aids Victims. Child Guidance Clinic.

PSYCHIATRIC SOCIAL WORK:

1. Concept of disease. DSM classification / ICD classification of disease and limitation of DSM and ICD classification of Mental disorder.
2. Role of social worker in the study and treatment of psychiatric disorders, procedure for admission, into case history taking procedure and discharge from mental hospital. Follow-ups. Home visits.
3. Signs and Symptoms of Mental Disorders:
Disorders of perception. Thinking emotion, memory, ??? Attention and concentration
Interviewing. Clinical Examination and Record Keeping. Pattern of Abnormal (maladaptive) behavior stress and adjustment disorders anxiety based disorders.
4. Mood Disorders: Normal Depression mild to moderate. Mon. Disorders moderate to severe Disorder – suicide.
5. Schizophrenia: Factors, sub types of schizophrenia.
6. Orientation of 1) Narcotic Drugs and Psychotropic substance Act. 2) Mental Health Act :
Mental Hygiene Promotion of Mental – Health Prevention of Mental Illness.

7. Psychiatric social workers participation in Psychodramas -Concept of Patient as a person, social and Emotional component associated with various disorder and their effects on individual and family.
8. Concept of care and Rehabilitation. Socio-Psychological factors involved in disorder their treatment and rehabilitation.
9. Hospital Administration, Organizing Recreational activities. Public Health Programmes. Community Mental Health Programme.

**MP : CC 306: FIELD WORK REPORT AND VIVA-VOCE
FIELD WORK DIARY, RECORDING, MONTHLY ATTENDANCE SHEETS AND
SUMMARY OF SUPERVISORY CONFERENCES**

Every student is expected to maintain/prepare the following regularly or at appointed times:

- (a) A diary of activities and account of time spent for each activity. Points from supervisory conferences should also be noted down in the diary.
- (b) Detailed reports of activities (field work records)
- (c) Summary of Supervisory Conferences which has to be submitted to the Field Work coordinator at the end of every month (cyclostyled forms will be provided for this purpose) and
- (d) Monthly field work attendance sheets. Cyclostyled forms are available in the office for this purpose

At the end of every month, field work attendance sheets should be submitted to the field work supervisor so that the letter may forward it to the office, on the First Wednesday of the following month. Those who are under the direct supervision of agency social workers are required to submit the attendance sheets (after it has been duly signed by the supervisor) to the head of the department who is in charge of his/her placement (A Speciman copy is given to you)

The diary and recording should be submitted every week to the supervisor for review and discussion

Leave of Absence from Field Work

Absence from field work should be avoided as far as possible. For valid reasons, however, leave of absence is allowed for 2 days in a semester. If any student is absent for more than two days, all the days of absence (including the first two days) will have to be compensated in accordance with the instructions of the field work supervisor.

Mid-Year Evaluation and Final Evaluation

There will be a mid-year evaluation in early December for assessing the students field work performance during the I semester. The supervisor will write the report after a supervisory conference which will be specially geared to the discussion of work performance. There will be no grading for mid-year evaluation. The purpose of mid-year evaluation conference and report is that the student may get information and awareness of his/her strengths and weaknesses as regards as field work performance of the I semester and plan for better performance in the second semester.

At the end of the academic year, in March, every supervisor will submit to the Institute a written evaluation report on the students field work. Grades will be given by the field work supervisor in consultation with the field work coordinator.

Any student who does not come up to a certain minimum level of performance which is required for passing in field work, may be asked at the discretion of the faculty, either to leave the Institute or put in extra work to improve his/her field work performance.

FIELD WORK PRACTICUM: CONCURRENT FIELD WORK

The main object of concurrent field work is to provide opportunities for applying the knowledge learnt in the class room to real life situation (field reality) to understand and develop effective course of action (learning of intervention methods) according to needs of client system. And

evaluate the experiences while working with the individual, groups and communities. Fieldwork enables the student to integrate and reinforce the knowledge and information acquired in the classroom with actual practice, under competent **supervision** by the agency and faculty supervisors. Every student is expected to work for 15 hrs. per week at various organizations or community settings.

FIELD WORK EVALUATION CRITERIA: (Applicable for the all four Semesters)

1) Analytical Ability:

- a. To understand evolution of agency, philosophy, policy and administration programmes.
- b. To identify roles of other departments and personnel in implementation of agency policies & programmes (in secondary settings).
- c. To understand the dynamics of the agency – roles, decision-making process, conflict solving procedures.
- d. To begin to situate agency in context of larger social system.
- e. To understand Profile of client system and causative factors affecting its needs and problems.
- f. To understand social work intervention utilized by agency in response to needs of client system.
- g. To assess one's own tasks in relation to problem situation.

2) Problem Solving Skills:

- a. To assess the problem situation and outlines the plan of action.
- b. To utilize problem solving process beginning with fact finding to evaluation of social work process in relation to needs, problems and aspirations of the client system.
- c. To develop and utilize working relationships with agency, client system and other related system.
- d. To utilise different techniques of problem solving, interviewing, home visits, communication and programme media mobilization of human and material resources.
- e. To utilise problem solving strategies selectively with individuals groups and communities.
- f. To understand the importance work in different administrative procedures – filing – maintaining registers, fund raising staff meetings.
- g. To develop basic skills of management of services, planning, organizing, implementing and evaluation.
- h. To participate in liaison work with other organizations and systems in terms of obtaining sanctions for programmes, interpreting social work intervention and networking on common issues.
- i. To understand the significance of and participates in teamwork in one's discipline as well as in the interdisciplinary team.
- j. To learn to priorities tasks and organize workload.
- k. To understand the importance of recording as a tool for learning and administration.
- l. Learn to record facts selectively and logical-assessment of problem situation, students feelings, reflections and intervention modalities.

3) Personal development:

- a. Appreciation and utilization of principles of social work in respect of persons, social justice, equality, opportunities, acceptance of the client system and its potential.
- b. Work with commitment in the agency in terms of fulfillment of tasks, disciplined use of self (dress, behavior, regularity, self control, awareness of bias and cultural blocks).

- c. Developing positive identification with the profession, conviction of the necessity of social work intervention.

4) Use of field Instructions :

- Understanding the significance of field instruction as a tool for professional training.
- Accepts the roles of faculty advisor, field instructor and field contact and utilises their expertise in one's own training.
- Indicates a gradual movement from a dependence on the instructor to performing ones role and tasks more independently.
- Utilises individual and group conferences for professional growth by accepting both the positive and negative remarks of the instructor.
- Actively participates in the group conferences and appreciates the participation of others.
- Makes efforts to improve performance through self-learning by reading learning from one's experiences and those of others.
- Develops ability for self-evaluation on going and periodic.

Semester	III	Total Credit	3
Course Code	MP DSE 301A	Credit Pattern	L-35, T-5, P-5
Course Title	DEVELOPMENTAL PSYCHOLOGY		

Course Outcomes: Students will be able to	
1	Describe the concepts of developmental Psychology
2	Demonstrate the hazards while practicing in field
3	Apply relevant theories, concepts and models of behaviour
4	Demonstrate the appropriate milestones to the developmental period
5	Evaluate new trends in psychology
6	Formulate estimate and measure the personality using the techniques
7	Gain Skills on basic Human Understanding

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Developmental Psychology: Definition of Developmental Psychology, objectives of Developmental Psychology , Meaning, goal and attitude towards developmental changes, Significant facts about development. Life Span: Stages of life span, condition influencing longevity.	L= 7	
		T=1	P=1

2	The Prenatal and Infancy Period: Characteristics, beginning of life, Importance of conception, Time table of Prenatal development and hazards. Infancy: Characteristics, adjustment to Infancy, Conditions Influencing adjustment to Post –Natal Life, hazards of Infancy, effects of prematurity.	L=7	
		T=1	P=1
3	Babyhood and Childhood Period: Babyhood development tasks, hazards. Early Childhood: development tasks, hazards. Late Childhood: development tasks, hazards. Puberty and Adolescence: Puberty: effects of Puberty, hazards. Adolescence: Characteristics, physical changes, emotionality, social changes, interests, family relationships and hazards	L=7	
		T=1	P=1
4	. Adulthood: Characteristics, developmental tasks, Personal and Social adjustment, social mobility in early adulthood, vocational and marital adjustment, assessment, Success of adjustment to adulthood. Middle age: Personal and Social adjustment, vocational and family adjustment. Old Age: Personal, social, vocational and family adjustment.	L=7	
		T=1	P=1

Resources Learning		
1	Text Book	1. Hurlock E.B. : Child Development ,Tata MacGraw Hill Pub Ltd ,New York, 1984. 2. Hurlock E.B.: Development Psychology-A life span Approach, Tata MacGraw Hill Pub Ltd,New York, 1994. 3. Sharma R.N : Development Psychology, Surjeet Pub, Delhi, 1993. 4. Date Sushma : Child Development, Sheth Publication Pvt Ltd, 1996

2	Reference books	1. MichaleKerfoot et al : Problems of Childhood and Adolescence, McMillan, London, 1998. 2. Liebert RM: Development Psychology, Prentice Hall of India, New Delhi, 1979.
3	Websites	http://www.devpsy.org/ https://www.apa.org/pubs/journals/dev/ https://www.psychologytoday.com/intl/blog/fulfillment-any-age/201403/the-best-psychology-websites-you-probably-never-heard-about
4	Journals	1. Journal of Indian Association for Child and Adolescent Mental Health (JIACAM) 2. Indian Journal of Human Development (IJHD)
5	Supplementary Readings	1. Hurlock E.B.: Development Psychology, Tata MacGraw Hill Pub Ltd, 1978. 2. Chaube SP: Development Psychology, Neelkamal Pub, Ltd, 2007.
6	Practical Components	Student shall prepare the chart of various physical and psychological changes in different age groups.

COPO MAPPING

MSW-II	Developmental Psychology									sem 3	MPDSE301A
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3								3		
1.2	3	3				3	3		3	3	3
1.3	3	3			2	3	3		3	3	3
1.4	3	3				3	3		3	3	3
Total	3	3	3	3	2	3	3		3	3	3

Semester	III	Total Credit	3
Course Code	MP DSE 301B	Credit Pattern	L-35, T-5, P-5

Course Title	HOSPITAL MANAGEMENT

Course Outcomes: Students will be able to	
1	Describe the concepts of Management
2	Analyze the management process
3	Apply the management functions to take appropriate decisions for welfare
4	Formulate ideas and develop and participate in implementation of plans
5	Take a proactive and self-reflective role in working and to develop professional relationship
6	Evaluate new trends in management

Syllabus

Unit Number	Contents	No. Of Sessions	
1	Hospital Management: Meaning & concept, Growing s Unique features, Significance of Hospital Management, characteristics of modern hospitals as an organization, resource management, principles of management, Privatization in Health sector.	L= 7	
		T=1	P=1
2	Hospital Administration : Meaning and Concept of Hospital Management, Process and its Functions, Application of Hospital administration in Social Work (POSTCORB), Team work, Administration of patient related schemes – Medical Insurance (Cashless benefits, CGHS, ECHS, CSMA, TPA, ESI)	L=7	
		T=1	P=1
3	Behavioral concepts and theories—Cognitive process, perception process and its stages, creativity and problem solving, motivation process, different types of motives, selected theories of motivation, motivating medical and paramedical professionals, leadership, conflict management, team building, major components of OB, personality development. Legal and medical issues in hospitals. Social Work Intervention: Dealing with crisis situation, Methods of infection control, Development of staff – In service training, On job training, higher courses, specialized training, preventive steps for Hospital Management	L=7	
		T=1	P=1

4	Preventive steps for doctors/hospitals to avoid litigation – high risk, consent form, dying declaration, death certificate, post mortem report, recording, skills & techniques in completing medical & technical procedures in hospital. Legal aspects in Hospital Administration : General important legal knowledge pertaining to IPC, CRPC, Civil PC. Labour Laws applicable to hospitals. Management ethics, social objectives and responsibilities of management, corporate social responsibility.	L=7	
		T=1	P=1

Resources Learning		
1	Text Book	1. Hospital Management- K V Ramani 2. Hospitals, Facilities, Planning, and Management 3. Hospital Information Systems- S A Kelkar
2	Reference books	1. Shelly & Taylor - Health Psychology (7th Edition) 2. S. M. Jha – Himalaya - Hospital Management 3. V. Sujatha - Sociology of health medicine 4. D. K. Sharma, R. C. Goyal - Hospital Administration & Human Resource Management 5. Mor'a Stewart, Debra Rote - Communicating with medical patients 6. Michael Drafke - The Human Side of organization (10th Edition) 7. A System Approach – Elizabeth L Hollo way - Clinical Suspension 8. Angelo Kinicki, Robert Kreitner - Organizational Behaviour Concepts, Skills & Practice 9. David A Whetten, Kim S. Cameron - Developing Management Skills 10. Francis C. M. - Hospital Administration 11. William Grant - Hospital Management 12. Lynne Milward - Understanding Occupational & Organizational Psychology
3	Websites	http://superclinic.in http://www.ahaindia.org https://www.kemhospitalhmi.com https://www.amity.edu/aiha/

4	Journals	Journal of biomedical informatics Journal of medical ethics International journal of evidence based health care
5	Supplementary Readings	Organizational behavior, Hospital Administration, Health Care management,, Social Welfare Administration
6	Practical Components	1. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 2. Video cases and documentary films relating to the syllabus to be exhibited in the class

COPO MAPPING

MSW-II	Hospital Management									sem 3	MPDSE301B
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	3	3				2		3		
1.2	3	3	3	3	3	3	3	3	2	3	3
1.3	3	3	3	3	3	3	3	3	3	3	3
1.4	3	3	3	3	3	3	3	3		3	3
Total	3	3	3	3	3	3	3	3	3	3	3

Semester	III	Total Credit	1
Course Code	AEC 301A	Credit Pattern	L-15, T-0, P-0
Course Title	COMPUTER APPLICATIONS (THEORY)		

Course Outcomes:	
1	Describe the concepts and their application of statistics in social work
2	Ability to design, set up and conduct practical
3	Ability to use the techniques, skills, and modern Software tools for software development
4	Ability to design, develop and verify software systems to meet desired needs within realistic constraints ensuring quality, reliability, security in addition to satisfying economical, ethical, social and environmental constraints

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction: Definition, Characteristics of computers, Evolution of computers, computer generations, applications of computers, Use of computers in social work Basic Computer Organization: Input unit, Output unit, Storage Unit, Arithmetic Logic Unit, Control Unit, Central processing unit, system concept Different types of input-output devices and secondary storage devices	L= 5	
		T=0	P=0
2	Computer Software: Types of Software, Computer languages, Operating Systems, its functions, popular operating systems, Windows, its features.	L= 4	
		T= 0	P=0

	Application Software Packages: Word processing package, spread sheet package, presentation package Features of Ms Word, mail merge and features of Ms PowerPoint		
3	Excel: worksheets, workbook, calculations by formula, operator precedence, relative, absolute and mixed cell references.	L=2	
		T=0	P= 0
4	SPSS: Menu, Creating data file, Defining variables, sorting, splitting file, selecting cases, computing new variable, recoding variables.	L= 2	
		T=0	P= 0
5	Internet: Introduction, history, Basic Services, Electronic mail, File transfer protocol, World Wide Web, www Browsers, internet search engines, Uses of internet.	L= 2	
		T= 0	P= 0

Learning Resources		
1	Text Books	1. Sinha P K & Sinha P (2011) Computer Fundamentals, PBP Publications. 2. Saxena S (2003) A First Course in Computers, Noida, Vikas Publishing House Pvt. Ltd. 3. Pandya K, Bulsari S and Sinha S (2012) SPSS in simple steps, Delhi, Dreamtech Press 4. Leon A and Leon M.(2012) Internet for Everyone, Chennai, Leon Vikas.
2	Reference books	1. Schwartz S. (2012). Microsoft Office 2010, Noida, Pearson. 2. Cunningham J B and Aldrich J O (2012) Using SPSS: An Interactive Hands-On Approach, New Delhi, SAGE 3. Gupta S L and Gupta H (2011) SPSS 17.0 for Researchers, New Delhi, international book house Pvt. Ltd.

3	Websites	https://www.javatpoint.com/computer-fundamentals-tutorial https://www.tutorialspoint.com/computer_fundamentals/ http://vikaspedia.in/education/Digital%20Literacy/it-literacy-courses-in-associating-with-msup/computer-fundamentals
4	Journals	PC World E Week (Available in EBSCO)
5	Supplementary Reading	Parker-Oliver, D., &Demiris, G. (2006). Social Work Informatics: A New Specialty. Social Work, 51(2), 127-134. (Available in JSTOR under NLIST-Inflibnet)

COPO MAPPING

MSW-II	Computer Application(Theory)									sem 3	AEC301
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11

1.1	3								3		
1.2	3	2	3	3	2	3	3	2	3		3
1.3	3	3	3	3	2	3	3	2	3	3	3
1.4	3	3	3	3	2	3	3	2	3	3	3
Total	3	3	3	3	2	3	3	2	3	3	3

Semester	III	Total Credit	2
Course Code	AEC 301B	Credit Pattern	L-0, T-0, P-60
Course Title	COMPUTER APPLICATIONS (PRACTICAL)		

Course Outcomes: Students will be able to	
1	Make use Office Automation Tools like word processors, spreadsheets and presentation tools.
2	Utilize multimedia authoring tools to design small applications using sound, audio, and video/animation.
3	Handle Computer Networks, modems and routers, and efficiently use Internet
4	Develop and implement a simple project based on case studies.
5	Apply statistical data analysis through Excel
6	Analyze statistical data through SPSS

Syllabus:

Requirement: 2 Sessions of 2Hrs on each of the following		
No	Software	Concepts/ topics to be covered in the exercise
1	Ms Word	Editing, formatting, text box, tables, clip art
2	Ms Word	Mail merge
3	Ms Power Point	Creation of presentations, slide layouts, Animation effects Inserting charts, tables, clip art, smartart graphics
4	Ms Excel	Use of formula, formatting options, relative cell reference
5	Ms Excel	Use of functions, bar & pie diagrams
6	Ms Excel	Statistical data analysis in Excel, absolute cell reference, mixed cell reference
7	Ms Excel	Sorting, filtering, Categorical data Analysis, t test
8	Ms Excel	Correlation, regression, scatter diagram
9	Ms Excel	Pivot tables, Ch- Square test
10	SPSS	Entering data on SPSS and generating descriptive statistics, graphs
11	SPSS	Computation of new variables and categorical data analysis
12	SPSS	Data editing and verification of normality
13	SPSS	Correlation and regression Analysis
14	SPSS	t tests
15	SPSS	Chi Square test

Learning Resources		
1	Text Books	1. Saxena S (2003) A First Course in Computers, Noida, Vikas Publishing House Pvt. Ltd. 2. Pandya K, Bulsari S and Sinha S (2012) SPSS in simple steps, Delhi, Dreamtech Press
2	Reference books	1. Frye C (2012) Microsoft Excel 2010 Step by Step, Delhi, PHI Learning Pvt. Ltd. 2. Schwartz S. (2012). Microsoft Office 2010, Noida, Pearson. 3. Cunningham J B and Aldrich J O (2012) Using SPSS: An Interactive Hands-On Approach, New Delhi, SAGE
3	Websites	https://www.javatpoint.com/computer-fundamentals-tutorial https://www.tutorialspoint.com/computer_fundamentals/ http://vikaspedia.in/education/Digital%20Literacy/it-literacy-courses-in-associating-with-msup/computer-fundamentals
4	Journals	PC World E Week (Available in EBSCO)
5	Supplementary Reading	Parker-Oliver, D., &Demiris, G. (2006). Social Work Informatics: A New Specialty. Social Work, 51(2), 127-134. (Available in JSTOR under NLIST-Inflibnet)
6	Practical Components	Students will be given Computer practical work on various topics.

MSW-II	Computer Application (Practicals)									sem 3	AEC301B
CO/PO	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3								3		

1.2	3	2	3	3	2	3	3	2	3		3
1.3	3	3	3	3	2	3	3	2	3	3	3
1.4	3	3	3	3	2	3	3	2	3	3	3
Total	3	3	3	3	2	3	3	2	3	3	3

COPO MAPPING

MSW-GROUP A

SEMESTER-IV

Semester	IV	Total Credit	3
Course Code	HR CC 401	Credit Pattern	L-35 T-5 P-5
Course Title	LABOUR WELFARE - II		

Course Outcomes: Students will be able to

1	Recognize and State the concept of labor welfare
2	Interpret and illustrate the changing scenarios of the labor approaches
3	Summaries the importance of occupational health and industrial hazards
4	Relate and interpret the occupational disease and its safety management
5	Experiment and outline the relation to work culture and productivity
6	Identify the suitable labor legislation and the working labor welfare
7	Extrapolate the use of legislations in the context of Labor Welfare

Syllabus

Unit Number	Contents	No. of Sessions	
1	Working conditions and hazards: Working conditions and hazards in factories, Mines, docks and Plantation.	L= 7	
		T=1	P=1
2	Social Security : Concept, Definition, objectives, social assistance, social insurance, Public Service. Historical development. ILO social security. Indian social security system. Financing of social security schemes, social security and the National Economy.	L= 7	
		T=1	P=1
3	Workers' Education Scheme : Objectives of worker's education scheme, Venue and technique, workers' education in India. Three level of training programme. Syllabi of Workers' Education Scheme. Special programmes for unorganized sector workers. Pattern of Workers' Education Scheme. Role of employer and trade unions for workers' education scheme. Evaluation of the scheme and recent trends.	L= 7	
		T=1	P=1
4	Welfare Officer : Labour Welfare and Welfare officer in Indian industry. Evolution and development of the institution of welfare officer. Tata Institute of Social Science, Mumbai, Delhi School of Social Work and more. Appointment of welfare officer. Role and responsibilities and qualifications of welfare officer, duties, functions and his position in the management. The Maharashtra Welfare Officer Rules, 1966. Agencies for Labour Welfare: Welfare work by central, State,	L= 7	
		T=1	P=1

	local govt. and Management and Trade Unions. Social obligation of industry. Industrial Social Work: Social Work Practice. Use of social work methods. The skills of social work. Personnel social worker and counseling services		

Resources Learning		
1	Text Book	1. Ratna Sen ,”Industrial Relations, “ Trinity Press, Chennai,2014. 2. P.Subba Rao, “Personnel and Human Resource Management”, Himalaya Publishing House, New Delhi,2013. 3. K. Aswathappa, “Organizational Behaviour”, Himalaya Publishing House, New Delhi,
2	Reference books	1. C.B. Mamoria, Satish Mamoria, S.V.Gankar, ”Dynamics of Industrial Relations”, Himalaya Publishing House, New Delhi, 2012 2. A.M. Sarma, “Aspects of Labour Welfare and Social Security”, 12th Edition, Himalaya Publishing House, New Delhi, 2018. 3. S.D.Punekar, S.B. Deodhar, Mrs. Saraswathi Sankarn, “Labour Welfare, Trade Unionism and Industrial Relations, Revised Edition, 2007. 4. B.D.Rawat, “Labour welfarism in India, Problems & Prospects,” RBSA Publishers SMS Highway, Jayapur, 1988. 5. Meenakshi Gupta, “ Labour Welfare and Social Security in Unorganized Sectors”, Deep & Deep Publications Pvt. Ltd., New Delhi, 2007. 6. M. Velusamy, “Labour Welfare-Legislation & Social Security”, Dominant Publishers & Distributers Pvt. Ltd., New Delhi, 2014.
3	Websites	www.labourlawagency.com www.irhrjournal.com
4	Journals	1. The Indian Journal of Industrial Relations. 2. Aps Labour Digest
5	Supplementary Reading	1. R.S.Kulkarni, “ Management of Labour(Practice & Procedures)” ,Kulkarni Publications Pune, 2002. 2. T.N Bhagoliwala,” Economics of Labour & Industrial Relations”, Sahitya Bhawan, Agra. 3. M. Velusamy, “ Labour Welfare –Legislation & Social Security”, Dominant Publishers & Distributors Pvt. Ltd, New Delhi, 2014.
6	Practical Components	1. Survey to be conduct for knowing the statutory and non-statutory welfare facilities provided by the employer. 2. Case studies on each of the aspects mentioned in the syllabus need

		to be discussed.
		3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

COPO MAPPING

MSW-II	Labour Welfare-II									sem 4	HR CC401
	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3		3								
1.2	3	3	3					1		2	3
1.3	3	3		3		3	3		3		3
1.4	3	3		3	2	2					
Total	3	3	3	3		3			3	2	3

Semester	IV	Total Credit	3
Course Code	HRCC 402	Credit Pattern	L-35, T-5, P-5
Course Title	LABOUR LEGISLATIONS – II		

Course Outcomes: Students will be able to	
1	Elaborate the concept of Industrial Relations.
2	Illustrate the role of trade union in the industrial setup.
3	Outline the important causes & impact of industrial disputes.
4	summarize the important provisions of Employers compensation Act 1923, & Payment of Bonus Act 1965
5	Summarize the important provisions of Social Security Legislations, in reference to Maternity Benefit Act 1961, Employees Provident Fund Act 1952, and Payment of Gratuity Act 1972.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Labour administration -Machinery for enforcement of various labour laws	L= 7	
		T= 1	P= 1
2	Labour Legislation on Social Security 1.The Employees' Compensation Act,1923 2.The Employees' State Insurance Act,1923	L= 7	
		T= 1	P= 1
3	Labour Legislation on Social Security 3. The Payment of Gratuity Act, 1972	L=7	

	4. The Maternity Benefit Act, 1961 Labour legislation on Social Security 5.The Payment of Bonus Act,1965 6.The EPF and MP Act,1952	T=1	P=1
4	Labour legislation on Social Security & wages 7.The Employees Pension Schemes 1995 8.The Payment of Wages Act,1936 9.The Minimum Wages Act,1948	L= 7	
		T= 1	P= 1

Learning Resources		
1	Text Books	1. Hand book of Industrial law:N.D.Kapoor,Sultan Chand and sons,New Delhi 2. Labour and industrial laws: P.K.Padhi, PHI Learning Private Limited,New Delhi 3. Industrial Relations and Labour Laws:S.C Srivastva ,Vikas publishers New Delhi 4. Labour Laws in brief:A.K.Sinha ,Excel Books publisher,New Delhi
2	Reference books	1. Labour legisartion : Sudeshna Singh and Praveen Kumar.Publisher-Vayu Education of India, 2. New DelhiIndustrial relations,Trade Unions and Labour legislation:P.R.N.Sinha Publisher Pearson Education ,New Delhi 3. Labour legislation: P Saravanel,Publisher-Eswar Press NewDelhi
3	Websites	www.comply4hrs.com https://labour.gov.in www.clrindia.com
4	Journals	Indian Journal of Industrial Relations Indian labour journal Labour digest

5	Supplementary Reading	Industrial Jurisprudence and labour legislation:A.M.Sarma, Himalaya Publishing House,Newdelhi
6	Practical Component	Field work in Industrial setting

COPO MAPPING

MSW-II	Labour Legislations-II									sem 4	HR CC402
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3										
1.2	3	3	2		3	3			3	3	3
1.3	3	3			3	3			3	3	3
1.4	3	3	2		3	3			3	3	3
Total	3	3	2			3			3	3	3

Semester	IV	Total Credit	3
Course Code	HRCC 403	Credit Pattern	L-35, T5 P5
Course Title	ORGANISATIONAL BEHAVIOUR		

Course Outcomes: Students will be able to

1	Identify as a professional social worker and conduct oneself accordingly
2	Apply social work ethical principles to guide professional practice
3	Compare and contrast theories of organizational behavior.
4	Analyze management issues as related to organizational behavior
5	Evaluate ethical issues as related to organizational behavior.
6	Examine challenges of effective organizational communication.
7	Examine the differences and similarities between leadership, power, and management
8	Assess the impact of culture on organizational behavior.

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Fundamentals of Organisational Behaviour: Concept and definition of OB, Historical Development of OB. Models of OB. Organisational Behaviour System, Social systems and organizational culture Understanding a Social System, Social Culture, Role, Status.	L= 7	
		T=1	P=1
2	Individual Dimensions of O B: Individual differences and work behavior, Perception, Attitude, Motivation, stress management and Emotional Intelligence.	L=7	
		T=1	P=1
3	Social Dimensions of OB: work Group and Group Dynamics in organization. – Interpersonal relations and Team building, conflicts and Negotiation Structural Dimensions of OB: Job Design and Organisational Design. Organisational Development and Change management.	L=7	
		T=1	P=1

4	Organisational process :, Communication , The importance of communication, The communication process, Power and Politics. Leadership :Meaning – Importance– Theories of LeadershipOrganizational culture. ,Influencing culture change. Quality of Work Life, work - Life Balance	L=7	
		T=1	P=1

Learning Resources		
1	Text Book	1. Davis K and Newstorm W I.Human Behaviour at Work, Tata McGraw- Hill publishing co.2002 2. Fred Luthans, Organisational Behaviour, Tata McGraw- Hill Book Co.2005 3. Robbins P S, Organisational Behaviour,Prentice Hall International,Inc 2009.
2	Reference books	Subba Rao,Management and Organisational Behaviour,Texts and cases,Himalaya publishing House,Mumbai,2005. Ashwathappa,K.Organisational Behaviour,Text,cases and Games, Himalaya publishing House,New Delhi,2008. Greenberg, J. (2004). Managing behavior in organizations, 4th ed. Upper Saddle River, NJ: Prentice Hall. ISBN#: 0-13-144746-7
3	Websites	http://obweb.org/ http://wps.pearsoned.co.uk/ema_uk_he_rollinson_orgbehav_4/
4	Journals	https://www.wiley.com/en-us/Journal+of+Organizational+Behavior-p-9780JNRL01270 https://onlinelibrary.wiley.com/journal/10991379
5	Supplementary Readings	Uma Sekheran, Organisational Behaviour,Text and cases,Tata McGraw- Hill publishing co.1992.
6	Practical Components	Case studies and Role play

COPO MAPPING

MSW-II	Organisational Behaviour									sem 4	HR CC403
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3						3	3	3	1	-
1.2	3	3	3	3	2	3	3	3	3	2	3
1.3	3	3	3	3	3	3	3	2	3	3	3
1.4	3	3	2	3	3	3	3	2	3	3	3
Total	3	3	3	3	3	3	3	3	3	3	3

Semester	IV	Total Credit	3
Course Code	HRCC 404	Credit Pattern	L-35, T-5, P-5
Course Title	INDUSTRIAL RELATIONS		

Course Outcomes: The students will able to	
1	Describe the various concepts of industrial relations
2	Demonstrate the functions of industrial relations in the context of development
3	Analyze the IR process to take appropriate decisions
4	Evaluate new trends in industrial relations

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Concept, Theory and Systems of Industrial Relations. Industrial Relations in India. Objectives, genesis and growth of industrial relations. Aspects of industrial relations. Historical perspective.	L= 7	
		T=1	P=1
2	Shop floor supervision and its problems. Standing Orders: Model and Certified Standing Orders. Objectives of Standing Orders. Employee Grievance- definition, nature and causes of grievance. Grievance handling procedure. Code of discipline in industry. Domestic Inquiry: Oral warning, warning in writing, show-cause, charge sheet, appointment of enquiry officer and his qualification, duties, role and functions	L=7	
		T=1	P=1
3	Industrial Conflict, genesis of Industrial conflicts: Definition and essentials of a dispute: Classification of industrial disputes. Preventive measures of industrial disputes. Tripartite and Bipartite bodies, Settlement Machineries: Mediation, Conciliation, Arbitration, Adjudication.	L=7	
		T=1	P=1
4	Collective Bargaining: Definition, functions and characteristics of collective bargaining, Forms of collective bargaining. Importance of collective bargaining, process of collective bargaining, tactics used in collective bargaining, recharging and implementing agreement.	L=7	
		T=1	P=1

	The State Policy and Industrial Relations Policy, State Inventor, Relevant articles (under Indian Constitution), Recommendations of National Commission on Labour and Industrial Relations Policy. Industrial Democracy and peace. Workers’ participation in Management, works committee and joint management council-Forms of Workers’ participation in Management.		

Resources Learning		
1	Text Book	1. Ratna Sen ,”Industrial Relations, “ Trinity Press, Chennai,2014. 2. P.Subba Rao, “Personnel and Human Resource Management”, Himalaya Publishing House, New Delhi,2013. 3. K. Aswathappa, “Organizational Behaviour”, Himalaya Publishing House, New Delhi,
2	Reference books	1. C.B. Mamoria, Satish Mamoria, S.V.Gankar, ”Dynamics of Industrial Relations”, Himalaya Publishing House, New Delhi, 2012 2. A.M. Sarma, “Aspects of Labour Welfare and Social Security”, 12th Edition, Himalaya Publishing House, New Delhi, 2018. 3. S.D.Punekar, S.B. Deodhar, Mrs. Saraswathi Sankarn, “Labour Welfare, Trade Unionism and Industrial Relations, Revised Edition, 2007. 4. B.D.Rawat, “Labour welfarism in India, Problems & Prospects,” RBSA Publishers SMS Highway, Jayapur, 1988. 5. Meenakshi Gupta, “ Labour Welfare and Social Security in Unorganized Sectors”, Deep & Deep Publications Pvt. Ltd., New Delhi, 2007. 6. M. Velusamy, “Labour Welfare-Legislation & Social Security”, Dominant Publishers & Distributers Pvt. Ltd., New Delhi, 2014.
3	Websites	www.labourlawagency.com www.irhrjournal.com
4	Journals	1. The Indian Journal of Industrial Relations. 2. Aps Labour Digest
5	Supplementary Readings	1. R.S.Kulkarni, “ Management of Labour(Practice & Procedures)”,Kulkarni Publications Pune, 2002. 2. T.N Bhagoliwala,” Economics of Labour & Industrial Relations”, Sahitya Bhawan, Agra.

		3. M. Velusamy, “Labour Welfare –Legislation & Social Security”, Dominant Publishers & Distributors Pvt. Ltd, New Delhi, 2014.
6	Practical Components	Survey to be conduct for knowing the statutory and non-statutory welfare facilities provided by the employer.

COPO MAPPING

MSW-II	Industrial Relation									sem 4	HR CC404
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3										
1.2	3	3		3	3	2	3		3	3	3
1.3	3	3	3	2	3	3	3	3	3	3	3
1.4	3	3	3	2	3	3	3	3	3	3	3
Total	3	3	3	2	3	2	3	3	3	3	3

HR CC 405 STUDY TOUR AND CONCURRENT FIELD WORK

STUDY TOUR IN THE MONTH OF FEBRUARY (COMPULSORY)

LABOUR WELFARE

Working conditions & hazards

1. Labour Welfare Officer – Qualification, Service conditions, status and role.
2. Social security – ESI Scheme, Provident Fund and its working, Gratuity Terms and Conditions for payment, maternity benefit, workmen's Compensation, Pension etc.
3. Workers Education scheme: Objectives, Training Programme, etc.
4. Housing Facilities – Types, allotment, Rent (HRA) and other conveniences.
5. Transport Facilities, Traveling allowance.
6. Recreation and educational facilities, scholarships and other benefits.
7. Agencies for Labours Welfare – Management, Union and State, its role.
8. Industrial Social Work. (Identifying chronic problems among workers, if any and mobilizing resources to address the workers problem)

INDUSTRIAL RELATIONS AND TRADE UNIONS

1. Trade Unions in the establishment; its growth and development. Rights and privileges of registered trade unions, duties and liabilities. Present, membership, finance, affiliation and constitution. Role in industrial relations. Relationship with employer.
2. Industrial conflict – preventive measures.
3. Study of various codes and Bipartite and Tripartite Bodies, Grievance Committee, Works Committee, shop council, joint council etc.
4. Collective Bargaining and industrial co-operation: contents and coverage. Process of negotiations.
5. Workers participation in Management – Aims and objectives. Forms and level of participation. Joint Management Council.
6. Role of Trade Unions in labour welfare, job security, productivity and participation in management

HUMAN RESOURCES DEVELOPMENT

1. HRD functions in the organization.
2. Human Resource Planning, Planning System, Process and Accounting.
3. Performance Appraisal System. Methods of Performance appraisal. Performance appraisal and merit rating.
4. Training and Development – Training System – Development of Human Resources.
5. Career Planning – Human Resource Development and Career Planning.
6. Study of Work environment. Motivation in organization. Motivation Techniques.
7. Communication : Process of Communication, Purpose, Media and Bargain.
8. Organizational development and strategy.

LABOUR LEGISLATION

(Study of practical aspects like filing, returns, submitting reports to authorities under the various legislations)

1. The Workman's Compensation Act, 1923.
2. The Employees State Insurance Act, 1948.

3. The Payment of Gratuity Act, 1972.
4. The Maternity Benefit Act, 1965.
5. The Payment of Bonus Act, 1965.
6. The Employees' Provident Fund Act, 1952
7. The Employees' Pension Scheme 1995.
8. The Payment of Wages Act 1936.
9. The Minimum Wages Act 1948.
10. Preparation of Case Studies from Labour Law Journals etc.

INDUSTRIAL SOCIAL WORK

1. Handling of the Problem Cases related to -
 - a) Housing
 - b) Absenteeism
 - c) Wages and Leave
 - d) Work load and work performance
 - e) Retirement
 - f) Adjustments to Job working conditions, Safety and Health.
 - g) Indebtedness.
 - h) In-discipline and Insubordination and relationship with co-workers and supervisors.
2. Participation in Workers Education Scheme and in arranging Welfare Programmes for the workers.
3. Visiting Housing Colonies and studying the problems of the residents and promoting community organization amongst them conducting awareness programmes, counseling to workers and their families, arranging get together for employees and their families.

PRACTICAL WORK

- 1) The students shall be assigned the work on the following under or in co-operation with the Officers concerned.
- 2) Receiving and handling complaints and Grievances.
- 3) Reporting on the Committee Functions.
- 4) Working on Annual and other types of Returns.
- 5) Working on Reports to be sent by the Factory.
- 6) Drafting Circulars, Notices, Letters, Memos, etc.
- 7) Working on P.F., Co-operative Society, Canteen Administration, Works Committee, Recreation and other Committees.
- 8) Submitting Report on working conditions in factory on the following points:
 - b) Employment, Recruitment etc.
 - c) Holidays with Pay.
 - d) Working Conditions.
 - e) Accidents and Occupational Diseases.
 - f) Wages and other Allowances.
 - g) Housing.
 - h) Industrial Relations.
 - i) Employee counseling and use of Methods of Social Work.
- 9) Report on Labour Turnover, Absenteeism, Tardiness, Loitering etc.
- 10) Report on cases of adjustment referred to by Factory Doctor, L.W.O.L.O., P.M., Departmental Head, etc.

11) Any other assignment given by the Agency supervisor.

TOOLS FOR FIELD WORK PROCESS :

1. Observation and actual participation in work situations.
2. Interviews with the employee on the shop floor.
3. Study of files, Reports, Manuals, Journals and Records pertaining to HRM.
4. Participation in Joint Committee Meetings and Work Committee.
5. Discussion with Labour and Welfare Officers and other Personnel.
6. Preparation of Statistics, Charts, Graphs, etc. regarding various Personnel data, such as Recruitment, Labour Turnover, Absenteeism, Accidents, etc. and if possible conducting of small scale research on these topics.
7. Recording experience in fieldwork journal and reporting experience in field work conferences.

HR CC 406: FIELD WORK REPORT AND VIVA-VOCE FIELD WORK DIARY, RECORDING, MONTHLY ATTENDANCE SHEETS AND SUMMARY OF SUPERVISORY CONFERENCES

Every student is expected to maintain/prepare the following regularly or at appointed times:

- (a) A diary of activities and account of time spent for each activity. Points from supervisory conferences should also be noted down in the diary.
- (b) Detailed reports of activities (field work records)
- (c) Summary of Supervisory Conferences which has to be submitted to the Field Work coordinator at the end of every month (cyclostyled forms will be provided for this purpose) and
- (d) Monthly field work attendance sheets. Cyclostyled forms are available in the office for this purpose

At the end of every month, field work attendance sheets should be submitted to the field work supervisor so that the letter may forward it to the office, on the First Wednesday of the following month. Those who are under the direct supervision of agency social workers are required to submit the attendance sheets (after it has been duly signed by the supervisor) to the head of the department who is in charge of his/her placement (A Speciman copy is given to you)

The diary and recording should be submitted every week to the supervisor for review and discussion

Leave of Absence from Field Work

Absence from field work should be avoided as far as possible. For valid reasons, however, leave of absence is allowed for 2 days in a semester. If any student is absent for more than two days, all the days of absence (including the first two days) will have to be compensated in accordance with the instructions of the field work supervisor.

Mid-Year Evaluation and Final Evaluation

There will be a mid-year evaluation in early December for assessing the students field work performance during the I semester. The supervisor will write the report after a supervisory conference which will be specially geared to the discussion of work performance. There will be no grading for mid-year evaluation. The purpose of mid-year evaluation conference and report is that the student may get information and awareness of his/her strengths and weaknesses as regards as field work performance of the I semester and plan for better performance in the second semester.

At the end of the academic year, in March, every supervisor will submit to the Institute a written evaluation report on the students field work. Grades will be given by the field work supervisor in consultation with the field work coordinator.

Any student who does not come up to a certain minimum level of performance which is required for passing in field work, may be asked at the discretion of the faculty, either to leave the Institute or put in extra work to improve his/her field work performance.

FIELD WORK PRACTICUM: CONCURRENT FIELD WORK

The main object of concurrent field work is to provide opportunities for applying the knowledge learnt in the class room to real life situation (field reality) to understand and develop effective course of action (learning of intervention methods) according to needs of client system. And

evaluate the experiences while working with the individual, groups and communities. Fieldwork enables the student to integrate and reinforce the knowledge and information acquired in the classroom with actual practice, under competent **supervision** by the agency and faculty supervisors. Every student is expected to work for 15 hrs. per week at various organizations or community settings.

FIELD WORK EVALUATION CRITERIA: (Applicable for the all four Semesters)

1) Analytical Ability:

- a. To understand evolution of agency, philosophy, policy and administration programmes.
- b. To identify roles of other departments and personnel in implementation of agency policies & programmes (in secondary settings).
- c. To understand the dynamics of the agency – roles, decision-making process, conflict solving procedures.
- d. To begin to situate agency in context of larger social system.
- e. To understand Profile of client system and causative factors affecting its needs and problems.
- f. To understand social work intervention utilized by agency in response to needs of client system.
- g. To assess one's own tasks in relation to problem situation.

2) Problem Solving Skills:

- a. To assess the problem situation and outlines the plan of action.
- b. To utilize problem solving process beginning with fact finding to evaluation of social work process in relation to needs, problems and aspirations of the client system.
- c. To develop and utilize working relationships with agency, client system and other related system.
- d. To utilise different techniques of problem solving, interviewing, home visits, communication and programme media mobilization of human and material resources.
- e. To utilise problem solving strategies selectively with individuals groups and communities.
- f. To understand the importance work in different administrative procedures – filing – maintaining registers, fund raising staff meetings.
- g. To develop basic skills of management of services, planning, organizing, implementing and evaluation.
- h. To participate in liaison work with other organizations and systems in terms of obtaining sanctions for programmes, interpreting social work intervention and networking on common issues.
- i. To understand the significance of and participates in teamwork in one's discipline as well as in the interdisciplinary team.
- j. To learn to priorities tasks and organize workload.
- k. To understand the importance of recording as a tool for learning and administration.
- l. Learn to record facts selectively and logical-assessment of problem situation, students feelings, reflections and intervention modalities.

3) Personal development:

- a. Appreciation and utilization of principles of social work in respect of persons, social justice, equality, opportunities, acceptance of the client system and its potential.
- b. Work with commitment in the agency in terms of fulfillment of tasks, disciplined use of self (dress, behavior, regularity, self control, awareness of bias and cultural blocks).

- c. Developing positive identification with the profession, conviction of the necessity of social work intervention.

4) Use of field Instructions :

- h. Understanding the significance of field instruction as a tool for professional training.
- a. Accepts the roles of faculty advisor, field instructor and field contact and utilises their expertise in one's own training.
- b. Indicates a gradual movement from a dependence on the instructor to performing ones role and tasks more independently.
- c. Utilises individual and group conferences for professional growth by accepting both the positive and negative remarks of the instructor.
- d. Actively participates in the group conferences and appreciates the participation of others.
- e. Makes efforts to improve performance through self-learning by reading learning from one's experiences and those of others.
- f. Develops ability for self-evaluation on going and periodic.

HR DSE 401A: Research Project

Students who opt for research project are required to start their research work at the beginning of third semester under the guidance of allotted faculty member. The selection of agency/industry for data collection needs to be done with consultation of organization and faculty supervisor. The research proposals shall be prepared as per format given below

1. Topic, Problem – Introduction and Review of literature
2. Objectives of the study
3. Tentative Research Methodology
4. References

The final research report shall have following chapter scheme

Title of the study

I Introduction

II. Review of literature

III. Research Methodology

IV. Data Interpretation

v. Summary, suggestion and conclusion

Appendix – Interview schedule, Photos, Graphs, and bibliography etc.

The final research report shall be submitted to organization/industry and respective guide (one hard copy, one soft copy to HOD). Last date for submission is on or before 15th March.

MSW-II	Research Project									sem 4	HR DSE401A
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3		3			3	3	3	3	3	3
1.2	3	3	3	3	3	3	3	3	3	3	3
1.3	3	3	3	3	3	3	3	3	3	3	3
1.4	3	3	3	3	3	3	3	3	3	3	3
Total	3	3	3	3	3	3	3	3	3	3	3

Semester	IV	Total Credit	3
Course Code	HRDSE 401B	Credit Pattern	L-35, T-5, P-5
Course Title	CORPORATE SOCIAL RESPONSIBILITY		

Course Outcomes: Students will be able to

1	Describe the concept and the scope and complexity of corporate social responsibility (CSR)
2	Analyze the connections between corporate strategy and CSR and the impact on foundational organizational principles such as mission and vision.
3	Demonstrate a multi-stakeholder perspective in viewing CSR issues.
4	Analyze the complex issues confronting organizational leaders as they develop their CSR programs.
5	Evaluate the level of commitment to CSR of various organizations and explain how it can be a source of competitive advantage.
6	Analyze the impact of CSR implementation on corporate culture, particularly as it relates to social issues.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to CSR: Meaning & Definition of CSR, History & evolution of CSR. International framework for corporate social Responsibility, Millennium Development goals, Sustainable development goals, Relationship between CSR and MDGs. United Nations (UN) Global Compact 2011. UN guiding principles on business and human rights.– Globalization and CSR.	L= 7	
		T= 1	P= 1
2	CSR through triple bottom line and Sustainable Business; Triple Bottom Line Approach of CSR: Economic, Social and Environmental. Stake holders and Social Preferences: Customer, Employees, Communities, Investors. Carroll's model.	L= 7	
		T= 1	P= 1
3	Indian perspectives and approaches: Models of CSR in India,. Initiatives in India. Corporate Governance and CSR , CSR Policy and guidelines , Legal frame work, rules and regulations, Company Act 2013 - relevant provisions of CSR. Role of Government and NGO in CSR. Business Benefits of CSR.	L=7	
		T=1	P=1
4	Designing a CSR policy – Factors influencing CSR policy – Managing	L= 7	

	CSR in an organization – Role of HR Professionals in CSR – Global Recognitions of CSR- ISO 14000 - SA 8000 - AA 1000 - Codes formulated by UN Global Compact – UNDP, Global Reporting Initiative. Implementing CSR – CSR in the marketplace – CSR in the workplace – CSR in the community – CSR in the ecological environment – CSR in India: Legal provisions and specifications on CSR . Current trends and opportunities in CSR.	T= 1	P= 1

Learning Resources			
1	Text Books	1. Benn & Bolton, (2011). Key concepts in corporate social responsibility. Australia: Sage Publications Ltd. 2. Bradshaw, T. and D. Vogel. (1981). Corporations and their critics: Issues and answers to the problems of corporate social responsibility. New York: McGraw Hill Book Company 3. Brummer, J.J. (1991). Corporate Responsibility and Legitimacy: An interdisciplinary analysis. Westport, CT: Greenwood Press. 4. Cannon, T. (1992). Corporate responsibility (1st ed.) London: Pitman Publishing. 5. Crane, A. et al., (2008). The Oxford handbook of corporate social responsibility. New York: Oxford University Press Inc.	
2	Reference books	1. Lourdes Poobala Rayen- Corporate Social responsibility. 2. Ellington. J. (1998). Cannibals with forks: The triple bottom line of 21st century business. New Society Publishers 3. Baxi C.V and Ajit P, Corporate Social Responsibility, Concept & Cases: “The Indian Experience, Excel Books. 4. Reddy S and Stefan S (2004). Corporate Social Responsibility: Sustainable Supply Chains. Hyderabad: ICFAI University Press. 5. Werther, W. B. & Chandler, D. (2011). Strategic corporate social responsibility. Thousand Oaks, CA: Sage	
3	Websites	www.forbes.com www.referenceforbusiness.com www.justmeans.com www.corporatesocialresponsibility.org	
4	Journals	International Journal of Corporate Social Responsibility Home https://jcsr.springeropen.com Sustainability Accounting, Management and Policy Journal, Emerald, 2010- -World Review of Entrepreneurship, Management and Sustainable Development, Inderscience Publishers, 2005-	
5	Supplementary Reading	1. http://www.diegdi.de/CMSHomepage/openwebcms3.nsf/%28ynDK_contentByKey%29/ENTR-7BMDUB/\$FILE/Studies%2026.pdf	

		2. Modi P.K., Corporate Social Capital Liability. Arise Publishers & Distributors. First editions - 2009 3. Sharma, J.P., Corporate Governance, Business Ethics & CSR, Ane Books Pvt Ltd, New Delhi.
6	Practical Component	Visit to industries to study and record various CSR activities and discuss the same with students and teachers to know the merits and demerits of CSR.

COPO MAPPING

MSW-II	Corporate Social Responsibility									sem 4	HR DSE401B
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3										3
1.2		3		3			2	3	3	3	3
1.3					3	3		3	3		3
1.4		3	3	3		3	3	3	3	3	
Total	3	3	3	3	3	3	3	3	3	3	3

Semester	IV	Total Credit	3
Course Code	HR DSE 401C	Credit Pattern	L-35, T-5, P-5
Course Title	WOMEN AND SOCIETY		

Course Outcomes: Students will be able to	
1	Understand the way women centric ideas, values, and themes inform and impact culture and society, both now and in the past.
2	Comprehend the impact of gender on individuals' historical and contemporary agency, and how the ability to express agency has shaped people's lives in various geographical settings.
3	analyze, interpret, and understand the complex interrelationships between the real situation and feministic concepts and importance of Women Health and Legal Rights
4	understand of women's historical and contemporary agency and how these have shaped women's lives in various geographic settings

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Womenhood : Concept of Womenhood, Importance of women studies, Approaches to study of Women: Psycho analytical, Functional, Feminist, Problems of Women in the field of education, health, family and society.	L= 7	
		T=1	P=1
2	Gender and Equity: Status of Women in different community Tribal, Rural and Urban related to Gender equality, Educational, Economical, Social and Religious, Social Reform movements in upliftment of women in India	L=7	
		T=1	P=1
3	Women and Work: Problems of Women in the field of Organized, Unorganized and Household sectors; Legal Measures related to work and wages: Minimum Wages ct 1948, Equal Remuneration Act 1060, Factories Act 1948, Anti Sexual harassment Act 2013 Violence on Women: Definition, Concept Types of Violence; Legal measures relating to violence Dowry Prohibition Act 1961,	L=7	
		T=1	P=1

	Immoral traffic Prevention Act 1986, Domestic Violence Act 2005, Medical Termination of Pregnancy and Prenatal diagnostic technique (PNDT) Act 1994		
4	Legislations: As preventive measure for women 1) Constitutional Measures 2) Salient Features of legal Protection Application of Social work techniques, Role of Social Worker in women Empowerment and development, Role of Government and NGOs in Women Welfare, National Commission for Women, Schemes for Women development.	L=7	
		T=1	P=1
		T=1	P=1

Resources Learning		
1	Text Book	1. Anjana Mantra-Sinha : Women in changing Society. Ashish Publishing House, New Delhi. 2. Bela Rani Sharma : Marriage family, Violence and Divorce, Mangaldeep Publication, Jaipur. 3. Nomita Aggrawal : Women in Law in India,, Women Studies and development Centre, University of Delhi. 4. Premlata Pujari and Vijaykumar Kaushik : Women power in India, Kanishka Publishers, Delhi
2	Reference books	1. S.K. Pandit : Women in Society, Rajat Publication, Delhi. 2. Sayapalan N. Women Studies, Atlantic Publishers, New Delhi.
3	Websites	http://www.unwomen.org/en https://now.org/issues/ http://ncw.nic.in/
4	Journals	https://journals.sagepub.com/home/ijg https://www.tandfonline.com/toc/rajw20/current https://journals.tdl.org/jrwg/

5	Supplementary Readings	1. Ram Ahuja : Violence against Women, Rawat Publication, Jaipur. 2. S.K. Ghosh : Indian Women through ages, Ashish Publishing House, Delhi
6	Practical Components	1. Presentation of articles on women issues. 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

COPO MAPPING

MSW-II	Women and society									sem 4	HR DSE401C
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1		3	2			3					
1.2						3					
1.3	3		2								
1.4				3					2		
Total	3	3	2	3		3			2	3	2

Semester	IV	Total Credit	3
Course Code	AEC 401	Credit Pattern	L=35, T=5, P=5
Course Title	SOFT SKILL DEVELOPMENT		

Course Outcomes: Students will be able to	
1	Describe the concept, the significance and essence of a wide range of soft skills.
2	Apply soft skills in a wide range of routine social and professional settings.
3	Employ soft skills to improve interpersonal relationships
4	Apply soft skills to enhance employability and ensure workplace and career success.

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Soft skills: Meaning , Soft Skills Vs Hard Skills Critical thinking, creative thinking, empathy, Interpersonal relationship, communication, coping with stress, coping with emotions, problem solving and decision making	L= 7	
		T=1	P=1
2	Situation Analysis: Planning, Problem analysis, Stakeholder analysis, Objective analysis, strategy analysis, Logical Framework Analysis, Activity planning- Yearly and its breakups and Preparation of communication Project plan	L=7	
		T=1	P=1
3	Social Skills: Personality Development, Emotional Intelligence, Etiquettes and Mannerism Interpersonal Skills and Therapeutic Skills Self Development: Meaning, Need; Understanding perception; Self awareness and Sensitivity Development. Job preparations: Resume Writing, Group discussion, Interview and Negotiation	L=7	
		T=1	P=1
4	Training Methods: Meaning, Working with Individuals and families; Intake Interviews, Meeting, Guidelines for Training and use of Stimulation Games, Groups: group Discussion, Role play, Socialization and Communities	L=7	
		T=1	P=1

Learning Resources		
1	Text Book	1. Datar et al. (2010) Skill Training For Social Worker(A Manual); Sage publication Pvt Ltd. New Delhi 2. Hariharan S., Sundararajan N & Shanmugapriya SP (2010). Soft skills, communication skills, employability skills, corporate skills. MJ Publishers, Chennai 3. Gelder, M. (2000). New Oxford textbook of psychiatry. Oxford: Oxford University Press. Kaplan, H.L., Freedman A.M. & Saddock B.J. (1980), Comprehensive Textbook of Psychiatry, Volume 1, 2 & 3, 4. Sharma & Shriram (2017) Project Planning Analysis and Management, 1st publications Galaxy Books, Jaipur
2	Reference books	1. Rivett, Mark (2003), "Family Therapy In Focus", Sage Publication New Delhi 2. Munter, M. (2006). "Guide to managerial communication: Effective business writing and speaking" (7th ed.). 3. Penrose, J., & Rasberry, R. (2004). "Business communication for Managers": An advanced approach (5th ed.). 4. Mosam Sinha (2016), Communication For Management" Yking Book, Jaipur
3	Websites	www.skillsyouneed.com www.skillsoft.com
4	Journals	1. International journal of business and research
5	Supplementary Readings	1. Gajendra Singh Chauhan & Sangeeta Sharma (2016): "Soft Skills (an integrated Approach to Maximise Personality)", Chaudhary Press, Delhi 2. Rae, Leslie (2005). Skills of Interviewing

6	Practical Components	1. Soft skill development programs and work shops in skill laboratory, through training, workshops etc 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

MSW-II	Soft Skills Development					sem 4	AEC401

co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	3	2			3					
1.2		3		3		3			3		3
1.3	3	3	2	3					3	3	3
1.4		3		3					2	3	3
Total	3	3	2	3		3			3	3	3

COPO MAPPING

MSW-GROUP B

SEMESTER-IV

Semester	IV	Total Credit	3
Course Code	CD CC 401	Credit Pattern	L=35, T=5, P=5
Course Title	SOCIAL LEGISLATION		

Course Outcomes: Students will be able to	
1	Understand Indian Constitution, legislation, sectorial policies and human rights particularly for women, children, and aged and marginalized groups.
2	Create Scope of social legislation for social control, social change, and social justice
3	Apply social work skills, knowledge, values, principles and ethics to identify and defend human rights violations.
4	Explain legal and Constitutional safeguards clearly in person and through e-content/social media to make people aware about their rights.

Syllabus:

Unit Number	Contents	No. Of Sessions	
1	Definition and scope of social legislation in India – social disorganisation and social legislation. Role of social worker in legal aid – law and morals	L= 7	
		T=1	P=1
2	Indian constitution: History and preambles of constitution – fundamental rights and duties, Directive principles of state policies	L=7	
		T=1	P=1
3	Main provisions of Indian Penal Code 1860 The Right to Information Act 2005 The Pre-Conception and Pre-Natal Diagnostic Techniques (prohibition of sex selection) Act 2003 The Anti Ragging Act 2009	L=7	
		T=1	P=1
4	The Special Marriage Act 1954 The Scheduled Cast and Scheduled Tribes (prevention of atrocities) Act 1989 The Domestic Violence Act 2005 Juvenile Justice (protection and care) Act 2015	L=7	
		T=1	P=1

Learning Resources		
1	Text Book	1. Gangarde K.D., Social Legislation In India (Vol. I & II) 2. Gurjeet Singh, The Law of Consumer Protection In Justice within reach 3. Kappor N.D., (2000), Legislation, Sultan Chand & Sons, New Delhi 4. Kisana Lala, Legislative Process In India Deep & Deep Publication, New Delhi
2	Reference books	1. Manooja D.C., Adoption & Practice, Deep & Deep Publication, New Delhi 2. Naval T.R., (2001) Law of Prevention of Atrocities on the Scheduled castes and tribes, Concept Publishing Company, New Delhi 3. Paras Diwan, The Human Rights & Law, Deep & Deep Publication, New Delhi
3	Websites	Home : Ministry of Social Justice and Empowerment ... socialjustice.nic.in Home Ministry of Law & Justice GoI lawmin.gov.in
4	Journals	<u>Journal of Social Welfare and Family Law</u> https://www.tandfonline.com › loi › rjsf20 <u>Social Legislation - University of Chicago Press Journals</u> https://www.journals.uchicago.edu › doi › abs

5	Supplementary Readings	1. Tacker & C., Underdeveloped Societies (Vol. I), Mumba 2. Zhabwala N., I.P. C. 1860, Cr. P.C. Indian Evidence Act, 1860.
6	Practical Components	Students will be asked to visit law enforcing machineries to understand law implementation procedure.

COPO MAPPING

MSW-II		Social legislation								sem 4	CDCC401
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3		3	3	3	3	3				
1.2	3	3	2	2		3	3	3	3	3	3
1.3	3	3	2	2	2	3	3	3	3	3	3
1.4	3	3	2	2		3	3	3	3	3	3
Total	3	3	2	2	2	3	3	3	3	3	3

Semester	IV	Total Credit	3
Course Code	CD CC 402	Credit Pattern	L=35, T=5, P=5
Course Title	URBAN COMMUNITY DEVELOPMENT & MUNICIPAL ADMINISTRATION		

Course Outcomes: Students will be able to	
1	Describe the concept of the urban community & challenges in the Urban Development Sector
2	Integrating the optimization techniques for global best practices
3	Enhance critical thinking by making them participate in social activities and imbibe human values among them.
4	Encourage the students to participate in research at different levels through projects, interviews, surveys and field visits
5	Develop insight towards gender, religion, and class equality

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Urban community development, concept, objectives, principles and strategies, Review of urban community Development project in voluntary & government sector.	L= 7	
		T=1	P=1
2	Social implication of urban development, growth of slums, slum-city relationship, unorganized sector of urban economy.	L=7	
		T=1	P=1
3	Urbanisation and urban poverty, the urban community development the approach & recent trend. Role of banks, industries & voluntary organizations in urban community Development.	L=7	
		T=1	P=1
4	Training for urban community development personnel. Urban basic services: Process and Prospects. Introduction to local self government, their functions, finances, personnel and problems Urban development by local governments.	L=7	
		T=1	P=1

Resources Learning		
1	Text Book	1. Bose Ashish, Studies in India's urbanization, 1901-71, Tata McGraw Hill New York, 1978. 2. Clinard M.B., Slums & community development, Experiments in self help Free Press NY, 1966. 3. Jacob Z.T., Urban Community Development Rawat Pub. New Delhi, 1993. Long Norman, Introduction to the sociology of Rural Development Tavistock London, 1984.
2	Reference books	1. Shabbir C.G., Rural Development in Asia Case studies on programme implementation. Sterling Pub. New Delhi, 1985. 2. Verma R.M.(Ed.), Perspectives on Social Welfare S. Chand & Co. Ltd. New Delhi, 1984. 3. Dr. B.S.Gunjal, Community organisaiton and social Action(Methods of social work), IBH Prakashan. 4. Margaret Ledwith, Community development : A critical Approach, Rawat Publication, 2006
3	Websites	<u>Home Ministry of Rural Development GoI</u> <u>https://rural.nic.in</u> <u>Department of Rural Development Ministry of Rural ...</u> <u>https://rural.nic.in › departments › department-rural-development</u> Important websites : Ministry of Urban Development <u>mohua.gov.in › link › important-websites</u> <u>Department of Urban Development & Municipal Affairs</u> <u>www.wburbanservices.gov.in</u> <u>नगरविकासविभाग - Government of Maharashtra</u> <u>https://urban.maharashtra.gov.in</u>

4	Journals	Journal of Urban Planning and Development ASCE Library https://ascelibrary.org/journal/jupddm International Journal of Urban Sustainable Development: Vol https://www.tandfonline.com/toc/tjue20/current Journal of Urban Design - Taylor & Francis Online https://www.tandfonline.com/loi/cjud20
5	Supplementary Readings	1. Ev. L.K. Thakur, Social work and community development, Jnanada Prakashan, 2014. 2. K.C. Shrivramkrishnan, Biplab Dasgupta, M.N. Buch, Urbanisation in India : Basic services and peoples participation, Ashokkumar Mittal publication, 1993.
6	Practical Components	Special field assignments to understand the working of GO's and NGO's towards community development.

COPO MAPPING

MSW-II	Urban and Rural Community Development & Municipal Administration									sem 4	CDCC402
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3		3	3			3		3		
1.2		3			3	3				3	3
1.3	3	3				3		3	3	3	
1.4		3	3	3		3	3			3	3
Total	3	3	3	3	3	3	3	3	3	3	3

Semester	IV	Total Credit	3
Course Code	CDCC 403	Credit Pattern	L-35, T-5, P-5
Course Title	SOCIAL INCLUSION & EXCLUSION OF WEAKER SECTION		

Course Outcomes: Students will be able to	
1	describe the various concepts of social inclusion and exclusion of weaker section
2	Apply the Social Inclusion methods in social contexts.
3	Develop the values: Social Justice, non-violence, human dignity, etc.
4	Evaluate the new trends in social inclusion

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Meaning criteria and classification scheduled castes, scheduled Tribes. Other backward classes. Agricultural labor and unorganized Labors & social Inclusion.	L= 7	
		T= 1	P= 1

2	Social Inequality in India. Nature of social exclusion, consequences of social Inequality, Culture of rural urban and tribal community, social exclusion and Inclusion of, sex, ethnic, linguistic, cast and communal in different state.	L= 7	
		T= 1	P= 1
3	Situation on scheduled cast scheduled tribes and other backwards class in India Nature of wider society. Ways of Integration, problems of integration constitutional provisions and safeguards, Laws to abolish untouchability and caste disabilities. Planning and strategy for the development of scheduled caste and scheduled tribes need of reservation, Reservation policy of seats in the legislature, service and educational Institution, critical review of Government and Non-Government agencies.	L=7	
		T=1	P=1
4	Welfare scheme for scheduled cast scheduled Tribes and backward class, social and economic status, problems confronted by weaker section. Government policy and welfare programmes during five year plan. Role of NGOs for development of weaker section. Role & Functions of Social worker in the area of S. C. S. T. O.B.C V.J.N.T. and other weaker Sections in the area of welfare & Development.	L= 7	
		T= 1	P= 1

Learning Resources		
1	Text Books	1. Sing S. K.- Indian Institute of Advanced study 2. Agarwal S. N.- India's Population 3. Ghurye G. S.-The scheduled Tribes. 4. Nadeem Hasnain, Tribal India, Palaka Prakashan Delhi. 5. K. L. Sharma, Cast & Class in India, Rawat Publication Delhi 6. J. H. Hanttan, Cast in India, Oxford university press 7. K. Vijay Kumar, Empowerment of Weaker section, Serials Publication
2	Reference books	1. Government of India, Annual Report of the SC/ST commissioner. 2. Krishnan Ohandra Ramotra, Development process & scheduled cast, Rawat publication Delhi 3. V. K. Singh, Social problems of Untouchable Castes, D.P.S. Publishing 4. Seema pasrich, Cast based reservation in India, Deep & deep

		Publication 5. Sangeet Kumar, Changing Role of the cast system, Rawat publication
3	Websites	https://sk.sagepub.com www.researchgate.net www.deakin.edu.au www.palgrave.com
4	Journals	Journal of Poverty and Social Justice: Ingenta Connect ... https://www.ingentaconnect.com › content › tpp › jpsj Impact of Religion-Based Caste System on the Dynamics of ... https://journals.sagepub.com › doi › full
5	Supplementary Reading	1. Seval Kumar, Right of unorganized worker, Discovery publication PVT. L.T.D. 2. G.S. Ghurey, The scheduled tribe, Popular Publication 3. Naik T.K., Development of Weaker section, Association of school of social work social work education & development of weaker section
6	Practical Component	1. Visit to various communities to understand the current situation relating to caste system.

COPO MAPPING

MSW-II	Social Inclusion and Exclusion of Weaker Section									sem 4	CDCC403
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11

1.1	3								3		
1.2	3	3	3	2		3			3		
1.3	3	3			3	3			3	3	3
1.4	3	3	3		3	3	3		3	3	3
Total	3	3	3	3	3	3			3		3

Semester	IV	Total Credit	3
Course Code	CDCC404	Credit Pattern	L-35, T-5, P-5
Course Title	RURAL ECONOMY		

Course Outcomes: Students will be able to

1	describe the basic concepts of rural economy in the context of social work
2	Apply the theories, models and approaches of rural economy in social context
3	Evaluate factors and components of Rural Economy.
4	Evaluate new trends in Growth and Development.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Rural economics: Concept and Nature. Characteristics and conditions of Rural Economy in India. Comparison between concept of Economic Growth and Economic Development, Ragnar Nurkse Theory, W. A Lewis Theory, W. W. Rostow's Stages of economic development	L= 7	
		T= 1	P= 1
2	Agriculture-Industry interaction in India, Agriculture in India-Features, Role and Importance. Factors affecting productivity, Government measures, Land reforms. Rural Industrialisation, Small and Cottage Industries in Rural India-Role, Progress and Problems.	L= 7	
		T= 1	P= 1
3	Rural Finance and Marketing sources, Problem of rural indebtedness, Role of financial institutions and non-institutional agencies, Rural Marketing: Traditional Marketing-Regulated and Co-operative marketing. Rural Entrepreneurship: Meaning, Characteristics, Objectives of Rural Entrepreneurship, Types of Rural Entrepreneurship, Problems, Government and non-government institutions, Case studies of successful Rural Entrepreneurship in India.	L= 7	
		T= 1	P= 1
4	Rural Labour and Employment: Distinction between Agriculture and Rural labour, Characteristics of Rural Labour, Nature and Extent of Rural unemployment, Govt. measures to remove unemployment. Poverty, Inequality and Planning Process: The concept of poverty, Studies of Poverty in India, International comparisons of Poverty and Inequality of Income, Five year plans and removal of poverty, Economic reforms and poverty alleviation	L= 7	
		T= 1	P= 1

Learning Resources

1	Text Books	1. Choudhury S.K., Rural Economy, Sumit Entreprises, New Delhi, 2009 2. Jain, Gopal Lal, Rural Economy and Society towards Development, Managaldeep Publications, Jaipur, 2000 3. Kapila Uma(2015): Indian Economy since independence, Academic Foundation, New Delhi
2	Reference books	1. Datt R and Sundaram K P M(2014): Indian Economy, S. Chand and Co., New Delhi 2. Agarwal A N(2012): Indian Economy: Problems of Development and Planning, New Age International Publishers(P) Ltd. New Delhi 3. Misra S K and Puri V K(2010) Indian Economy, Himalaya Publishing House, New DelMittal, A.C., Rural Economy, Vista International Publishing House, Delhi, 2006 4. Parmar G.A., Rural Economics, Shree Niwas Publications, Delhi, 2013 5. Jain, Gopal Lal, Rural Economy and Society towards Development, Managaldeep Publications, Jaipur, 2000 6. Verma, Niraj Kumar, Rural Economy of India: Globalisation, High Growth Trajectory, Strategy for Inclusive and Holistic Development, Deep and Deep Publications Pvt., Ltd., New Delhi, 2012
3	Websites	www.nird.org.in www.rural.nic.in www.msme.gov.in www.niti.gov.in
4	Journals	Indian Journal Of Finance Indian Journal of Finance and Economic Management The quarterly Journal Of Finance :Finance India Journal of Financial Economics
5	Supplementary Reading	Socio- Economic Caste Census, Government of India India Development Reports, IGIDR, Mumbai Economic Survey, Government of India World Development Reports
6	Practical Component	1. To visit a near village Locality and identify the problems of Farmers and Rural Labour and learn factors affecting on the productivity. 2. To Visit Any Rural Enterprise(Micro,Small , Medium) and to Measure Economic Viability of the unit.

COPO MAPPING

MSW-II	Rural Economy									sem 4	CDCC404
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	3				3		3			3
1.2	3	3				3			3	3	
1.3	3	3	2	2	2	3		3	3		3
1.4	3	3	2			3	3		3	3	3
Total	3	3	2	3	2	3	3	3	3	3	3

CDCC 405 STUDY TOUR AND CONCURRENT FIELD WORK STUDY TOUR IN THE MONTH OF FEBRUARY , (COMPULSORY)

I. Orientation / Acquaintance Phase :

About the Agency:

Organization (G.O/NGO): History, aim and objectives, Functions, Staffing, Financial resources, salary, leaves, registers maintained, benefits of employees, insurance scheme.

Village/Slums/Urban : A brief observation : demographic, social, cultural, religious, political and economic aspects of community.

II. Study Phase (Detailed Background)

Organisation :-

Programmes and Services, Budget allocation to different programmes, Actual explain; target reached number of beneficiaries, (Secondary data for the last 5 years may be collected to evaluate the agency's work).

Rural Agency

Geographic	:	Size of village, growth
Demographic	:	Population : Child, Women, Youth, aged, SC & ST, disabled, Labour etc.
Social	:	Religion, Caste, Family, Languages communal harmony.
Cultural	:	Customs, traditions, taboos, practices
Educational	:	Literacy : Male & Female, SC & ST, Functioning of Balawadis, Anganwadis Schools, Adult Education.
Health	:	Primary health centre, primary health unit, Clinics.
Economic	:	Agriculture : Dry Land, irrigated land Major crops, occupations, marketing, land reforms.
Banking self-	:	Nationalized Bank, Co-operative societies, credit societies, help groups, Home / Cottage / Village / Small Scale Industries, Unorganized Sector.
Ecological	:	Geographical structure (plain, hill etc) natural resources (Solor, air, water, minerals) pollution (air, water, sound atmosphere).
Housing	:	Housing Pattern (Kutchra, or pucca) overcrowded, congested.
Political	:	Panchayat Raj System, Panchayat Raj Act.

URBAN AGENCY

Geographic	:	Urban Size
Demographic	:	Population : Child, women, youth, aged disabled, labour, SC & ST, Infant Mortality Rate.
Social	:	Religion, Caste, language, Family, harmony, slums.
Cultural	:	Customs, traditions, practices, celebrations.
Education	:	Literacy : Male & Female, SC & ST, Functioning of Balawadies, Anganwadies, Schools, Colleges and Adult education centers.
Health	:	PHC, PHU, Clinics, nursing homes, etc.
Economic	:	Occupation / Division of labour
- Marketing		

Ecological

- Banking sector – NABARD National Banks
 - Co-operative Societies
 - Small Scale and large scale industries
 - Business / organized sector
- :
- Geographical Structure
(Plain, hill, desert area)
 - Natural resources
 - Forestry
 - Pollution (air, water, sound and atmosphere)

Housing	:	Housing pattern (Kutcha, semi pucca,) Overcrowded Congested
Political	:	Municipal Administrations Zilla Panchayat Laws for Environmental Protection
Beuracracic and welfare of	:	District Administrations Govt. agencies working for development people.
NGO _s	:	Non-Govt. organizations functioning in the area.

III. PROBLEM PHASE

(Student needs to study about problem)

Rural problems: Rural fieldwork

- Poverty
- Illiteracy
- Ignorance (Lack of awareness)
- Communal and Caste tension
- Migration
- Deforestation
- Pollution
- Pollution growth
- Destitute, orphan, disabled
- (mentally, physically, visually and hearing).
- Child labour / bonded labour
- Unequal wage to women
- Atrocity on women
- Exploitation of SC & ST
- Problems of weaker section
- Marital disharmony
- Suicide
- Dowry deaths
- Alcoholism
- Aged
- Diseases

URBAN PROBLEMS : Urban field work

- Poverty
- Illiteracy
- Unemployment
- Communal and caste tension
- Migration
- Industrialization & Urbanization
- Pollution
- Deforestation
- Population growth

- Prostitution
- Crime
- Child labour / street children
- Addiction (alcohol & drug)
- Beggary
- Marital disharmony
- Slum
- SC & ST backward and weaker sections
- Suicide
- Dowry deaths
- Atrocity on women
- Aged
- Diseases

Note : Students placed in G.O. and N.G.O. will have to identify beneficiaries or Problems.

IV. RESOURCE PHASE :

Organization (G.O. / NGO)

- Development and welfare programmes of the Agency
- Subsidiary offices
- Know Social Legislations

RURAL :

- Rural development programmes:
- IRDP, ICDS, TRYSEM, PMRY, JRY
- Programmes of different govt. agencies
(Adult Education, Women and Child Welfare, SC & ST welfare, Youth welfare, Slum Labour Welfare, health etc.)
- Five year plans
- NGOs working in the Area
- Know Social Legislations

URBAN :

- Urban development programmes :
Swarna Jayanti Shahari Rojgar Yojana, ICDS, PMRY, TRYSEM, JRY
- Municipal administration
- Programmes of different government agencies
(Adult Education, Women and Child Welfare, Youth Welfare, Slum development, SC & ST Welfare, Labour Welfare, health etc.)
- Five year plans

SOCIAL LEGISLATIONS :

- SC & ST (Prevention of atrocities) Act, 1989
- Dowry Prohibition Act, 1962
- The equal remuneration Act, 1976
- The Medical Termination of Pregnancy Act, 1971
- The Juvenile Justice Act, 1986
- The Child Marriage Restraint, Act, 1929

- The Child Labour (Prohibition & Regulation) Act, 1986
- The Hindu Marriage Act, 1955
- The Adoption and Maintenance Act, 1956
- The Minority and Guardianship Act, 1956
- The Beggary prohibition Act, 1962
- Laws Relating to Leprosy patients
- Public Trust and Charity Commissions
- The consumer protection Act, 1986

NOTE – A student placed in government, non-governmental organizations, rural or urban agency need to have introductory knowledge of the above legislations.

V. RESOURCE – PROBLEM INTERACTION PHASE

- Identification of problem(s) and need(s) of beneficiaries
- Prioritizing the problems and needs
- Identification of resources
- Govt. agencies
- Non-govt. Organizations
- Community
- Mobilization of resources

VI. INTERVENTION PHASE

- Helping the beneficiaries
- Referred services: Juvenile home, state home, hostel, correctional institution, short-stay house, de-addiction centre, general hospital psychiatric centre, family counselling centre, Remand home, artificial limb centre, foster care adoption.
- Economic support: Loan facility – sponsorship
- Counseling and guidance
- Conducting Lectures on social issues
- Organizing recreational activities
- Creating awareness / mobilization of
 - Public opinion on any current issue
 - Restoring communal harmony
 - Independent living skills
 - Environmental Education
 - Legal awareness

VII. TERMINATION PHASE

- Supervising
- Monitoring
- Appraising and
- Evaluating the work undertaken.

METHODOLOGICAL ADVICES FOR FIELD – WORKER

- Conduct case studies on any problem –
- Solving issue, family, problem etc.
- Report – writing of aid provided to the beneficiaries.
- Evaluation study can be taken up
- Play enabler, guide, liaison, helper and catalyst roles, wherever necessary.

- Rapport building with community and beneficiary of needy is the corner stone of social work.
 - Keep intact communication with needy.
 - Adopt and apply different methods of social work.
 - Try to bridge resource – need interaction
- (Cash, kind, knowledge, and emotional and social support are the resources to be assessed by a social worker).

CD : CC 406: FIELD WORK REPORT AND VIVA-VOCE

FIELD WORK DIARY, RECORDING, MONTHLY ATTENDANCE SHEETS AND SUMMARY OF SUPERVISORY CONFERENCES

Every student is expected to maintain/prepare the following regularly or at appointed times:

- a. A diary of activities and account of time spent for each activity. Points from supervisory conferences should also be noted down in the diary.
- b. Detailed reports of activities (field work records)
- c. Summary of Supervisory Conferences which has to be submitted to the Field Work coordinator at the end of every month (cyclostyled forms will be provided for this purpose) and
- d. Monthly field work attendance sheets. Cyclostyled forms are available in the office for this purpose

At the end of every month, field work attendance sheets should be submitted to the field work supervisor so that the letter may forward it to the office, on the First Wednesday of the following month. Those who are under the direct supervision of agency social workers are required to submit the attendance sheets (after it has been duly signed by the supervisor) to the head of the department who is in charge of his/her placement (A Speciman copy is given to you)

The diary and recording should be submitted every week to the supervisor for review and discussion

Leave of Absence from Field Work

Absence from field work should be avoided as far as possible. For valid reasons, however, leave of absence is allowed for 2 days in a semester. If any student is absent for more than two days, all the days of absence (including the first two days) will have to be compensated in accordance with the instructions of the field work supervisor.

Mid-Year Evaluation and Final Evaluation

There will be a mid-year evaluation in early December for assessing the students field work performance during the I semester. The supervisor will write the report after a supervisory conference which will be specially geared to the discussion of work performance. There will be no grading for mid-year evaluation. The purpose of mid-year evaluation conference and report is that the student may get information and awareness of his/her strengths and weaknesses as regards as field work performance of the I semester and plan for better performance in the second semester.

At the end of the academic year, in March, every supervisor will submit to the Institute a written evaluation report on the students field work. Grades will be given by the field work supervisor in consultation with the field work coordinator.

Any student who does not come up to a certain minimum level of performance which is required for passing in field work, may be asked at the discretion of the faculty, either to leave the Institute or put in extra work to improve his/her field work performance.

FIELD WORK PRACTICUM: CONCURRENT FIELD WORK

The main object of concurrent field work is to provide opportunities for applying the knowledge learnt in the class room to real life situation (field reality) to understand and develop effective course of action (learning of intervention methods) according to needs of client system. And

evaluate the experiences while working with the individual, groups and communities. Fieldwork enables the student to integrate and reinforce the knowledge and information acquired in the classroom with actual practice, under competent **supervision** by the agency and faculty supervisors. Every student is expected to work for 15 hrs. per week at various organizations or community settings.

FIELD WORK EVALUATION CRITERIA: (Applicable for the all four Semesters)

1) Analytical Ability:

- a. To understand evolution of agency, philosophy, policy and administration programmes.
- b. To identify roles of other departments and personnel in implementation of agency policies & programmes (in secondary settings).
- c. To understand the dynamics of the agency – roles, decision-making process, conflict solving procedures.
- d. To begin to situate agency in context of larger social system.
- e. To understand Profile of client system and causative factors affecting its needs and problems.
- f. To understand social work intervention utilized by agency in response to needs of client system.
- g. To assess one's own tasks in relation to problem situation.

2) Problem Solving Skills:

- a. To assess the problem situation and outlines the plan of action.
- b. To utilize problem solving process beginning with fact finding to evaluation of social work process in relation to needs, problems and aspirations of the client system.
- c. To develop and utilize working relationships with agency, client system and other related system.
- d. To utilise different techniques of problem solving, interviewing, home visits, communication and programme media mobilization of human and material resources.
- e. To utilise problem solving strategies selectively with individuals groups and communities.
- f. To understand the importance work in different administrative procedures – filing – maintaining registers, fund raising staff meetings.
- g. To develop basic skills of management of services, planning, organizing, implementing and evaluation.
- h. To participate in liaison work with other organizations and systems in terms of obtaining sanctions for programmes, interpreting social work intervention and networking on common issues.
- i. To understand the significance of and participates in teamwork in one's discipline as well as in the interdisciplinary team.
- j. To learn to priorities tasks and organize workload.
- k. To understand the importance of recording as a tool for learning and administration.
- l. Learn to record facts selectively and logical-assessment of problem situation, students feelings, reflections and intervention modalities.

3) Personal development:

- a. Appreciation and utilization of principles of social work in respect of persons, social justice, equality, opportunities, acceptance of the client system and its potential.

- b. Work with commitment in the agency in terms of fulfillment of tasks, disciplined use of self (dress, behavior, regularity, self control, awareness of bias and cultural blocks).
- c. Developing positive identification with the profession, conviction of the necessity of social work intervention.

4) Use of field Instructions :

- a. Understanding the significance of field instruction as a tool for professional training.
- b. Accepts the roles of faculty advisor, field instructor and field contact and utilises their expertise in one's own training.
- c. Indicates a gradual movement from a dependence on the instructor to performing ones role and tasks more independently.
- d. Utilises individual and group conferences for professional growth by accepting both the positive and negative remarks of the instructor.
- e. Actively participates in the group conferences and appreciates the participation of others.
- f. Makes efforts to improve performance through self-learning by reading learning from one's experiences and those of others.
- g. Develops ability for self-evaluation on going and periodic.

CD DSE 401A: RESEARCH PROJECT

Students who opt for research project are required to start their research work at the beginning of third semester under the guidance of allotted faculty member. The selection of agency/industry for data collection needs to be done with consultation of organization and faculty supervisor. The research proposals shall be prepared as per format given below

1. Topic, Problem – Introduction and Review of literature
2. Objectives of the study
3. Tentative Research Methodology
4. References

The final research report shall have following chapter scheme

Title of the study

I Introduction

II. Review of literature

III. Research Methodology

IV. Data Interpretation

v. Summary, suggestion and conclusion

Appendix – Interview schedule, Photos, Graphs, and bibliography etc.

The final research report shall be submitted to organization/industry and respective guide (one hard copy, one soft copy to HOD). Last date for submission is on or before 15th March.

MSW-II	Research Project									sem 4	CD DSE401A
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3		3			3	3	3	3	3	3
1.2	3	3	3	3	3	3	3	3	3	3	3
1.3	3	3	3	3	3	3	3	3	3	3	3
1.4	3	3	3	3	3	3	3	3	3	3	3
Total	3	3	3	3	3	3	3	3	3	3	3

Semester	IV	Total Credit	3
Course Code	CD DSE 401B	Credit Pattern	L-35, T-5, P-5
Course Title	CORPORATE SOCIAL RESPONSIBILITY		

Course Outcomes: Students will be able to

1	Describe the concept and the scope and complexity of corporate social responsibility (CSR).
2	Analyze the connections between corporate strategy and CSR and the impact on foundational organizational principles such as mission and vision.
3	Demonstrate a multi-stakeholder perspective in viewing CSR issues.
4	Analyze the complex issues confronting organizational leaders as they develop their CSR programs.
5	Evaluate the level of commitment to CSR of various organizations and explain how it can be a source of competitive advantage.
6	Analyze the impact of CSR implementation on corporate culture, particularly as it relates to social issues.

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Introduction to CSR: Meaning & Definition of CSR, History & evolution of CSR. International framework for corporate social Responsibility, Millennium Development goals, Sustainable development goals, Relationship between CSR and MDGs. United Nations (UN) Global Compact 2011. UN guiding principles on business and human rights.- Globalization and CSR.	L= 7	
		T= 1	P= 1
2	CSR through triple bottom line and Sustainable Business; Triple Bottom Line Approach of CSR: Economic, Social and Environmental. Stake holders and Social Preferences: Customer, Employees, Communities, Investors. Carroll's model. Indian perspectives and approaches: Models of CSR in India,. Initiatives in India. Corporate Governance and CSR , CSR Policy and guidelines , Legal frame work, rules and regulations, Company Act 2013 - relevant provisions of CSR. Role of Government and NGO in CSR. Business Benefits of CSR.	L= 7	
		T= 1	P= 1
3	Designing a CSR policy – Factors influencing CSR policy – Managing CSR in an organization – Role of HR Professionals in CSR – Global Recognitions of CSR- ISO 14000 - SA 8000 - AA 1000 - Codes formulated by UN Global Compact – UNDP, Global Reporting	L=7	
		T=1	P=1

	Initiative.		
4	Implementing CSR – CSR in the marketplace – CSR in the workplace – CSR in the community – CSR in the ecological environment – CSR in India: Legal provisions and specifications on CSR . Current trends and opportunities in CSR.	L= 7	
		T= 1	P= 1

Learning Resources			
1	Text Books	1. Benn & Bolton, (2011). Key concepts in corporate social responsibility. Australia: Sage Publications Ltd. 2. Bradshaw, T. and D. Vogel. (1981). Corporations and their critics: Issues and answers to the problems of corporate social responsibility. New York: McGraw Hill Book Company 3. Brummer, J.J. (1991). Corporate Responsibility and Legitimacy: An interdisciplinary analysis. Westport, CT: Greenwood Press. 4. Cannon, T. (1992). Corporate responsibility (1st ed.) London: Pitman Publishing. 5. Crane, A. et al., (2008). The Oxford handbook of corporate social responsibility. New York: Oxford University Press Inc.	
2	Reference books	1. Lourdes Poobala Rayen- Corporate Social responsibility. 2. Ellington. J. (1998). Cannibals with forks: The triple bottom line of 21st century business. New Society Publishers 3. Baxi C.V and Ajit P, Corporate Social Responsibility, Concept & Cases: “The Indian Experience, Excel Books. 4. Reddy S and Stefan S (2004). Corporate Social Responsibility: Sustainable Supply Chains. Hyderabad: ICFAI University Press. 5. Werther, W. B. & Chandler, D. (2011). Strategic corporate social responsibility. Thousand Oaks, CA: Sage	
3	Websites	www.forbes.com www.referenceforbusiness.com www.justmeans.com www.corporatesocialresponsibility.org	
4	Journals	International Journal of Corporate Social Responsibility Home https://jcsr.springeropen.com Sustainability Accounting, Management and Policy Journal, Emerald, 2010- -World Review of Entrepreneurship, Management and Sustainable Development, Inderscience Publishers, 2005-	
5	Supplementary Reading	1. http://www.diegdi.de/CMSHomepage/openwebcms3.nsf/%28ynDK_contentByKey%29/ENTR-7BMDUB/\$FILE/Studies%2026.pdf 2. Modi P.K., Corporate Social Capital Liability. Arise Publishers & Distributors. First editions - 2009	

		3. Sharma, J.P., Corporate Governance, Business Ethics & CSR, Ane Books Pvt Ltd, New Delhi.
6	Practical Component	Visit to industries to study and record various CSR activities and discuss the same with students and teachers to know the merits and demerits of CSR.

COPO MAPPING

MSW-II	Corporate Social Responsibility									sem 4	CD DSE401B
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3										3
1.2		3		3			2	3	3	3	3
1.3					3	3		3	3		3
1.4		3	3	3		3	3	3	3	3	
Total	3	3	3	3	3	3	3	3	3	3	3

Semester	IV	Total Credit	3
Course Code	CD DSE 401C	Credit Pattern	L-35, T-5, P-5
Course Title	WOMEN AND SOCIETY		

Course Outcomes: Students will be able to	
1	Understand the way women centric ideas, values, and themes inform and impact culture and society, both now and in the past.
2	Comprehend the impact of gender on individuals' historical and contemporary agency, and how the ability to express agency has shaped people's lives in various geographical settings.
3	analyze, interpret, and understand the complex interrelationships between the real situation and feministic concepts and importance of Women Health and Legal Rights
4	understand of women's historical and contemporary agency and how these have shaped women's lives in various geographic settings

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Womenhood : Concept of Womenhood, Importance of women studies, Approaches to study of Women: Psycho analytical, Functional, Feminist, Problems of Women in the field of education, health, family and society.	L= 7	
		T=1	P=1
2	Gender and Equity: Status of Women in different community Tribal, Rural and Urban related to Gender equality, Educational, Economical, Social and Religious, Social Reform movements in upliftment of women in India	L=7	
		T=1	P=1
3	Women and Work: Problems of Women in the field of Organized, Unorganized and Household sectors; Legal Measures related to work and wages: Minimum Wages ct 1948, Equal Remuneration Act 1060, Factories Act 1948, Anti Sexual harassment Act 2013 Violence on Women: Definition, Concept Types of Violence; Legal measures relating to violence Dowry Prohibition Act 1961,	L=7	
		T=1	P=1

	Immoral traffic Prevention Act 1986, Domestic Violence Act 2005, Medical Termination of Pregnancy and Prenatal diagnostic technique (PNDT) Act 1994		
4	Legislations: As preventive measure for women 3) Constitutional Measures 4) Salient Features of legal Protection Application of Social work techniques, Role of Social Worker in women Empowerment and development, Role of Government and NGOs in Women Welfare, National Commission for Women, Schemes for Women development.	L=7	
		T=1	P=1
		T=1	P=1

Resources Learning		
1	Text Book	1. Anjana Mantra-Sinha : Women in changing Society. Ashish Publishing House, New Delhi. 2. Bela Rani Sharma : Marriage family, Violence and Divorce, Mangaldeep Publication, Jaipur. 3. Nomita Aggrawal : Women in Law in India,, Women Studies and development Centre, University of Delhi. 4. Premlata Pujari and Vijaykumar Kaushik : Women power in India, Kanishka Publishers, Delhi
2	Reference books	1. S.K. Pandit : Women in Society, Rajat Publication, Delhi. 2. Sayapalan N. Women Studies, Atlantic Publishers, New Delhi.
3	Websites	http://www.unwomen.org/en https://now.org/issues/ http://ncw.nic.in/
4	Journals	https://journals.sagepub.com/home/ijg https://www.tandfonline.com/toc/rajw20/current https://journals.tdl.org/jrwg/
5	Supplementary Readings	1. Ram Ahuja : Violence against Women, Rawat Publication, Jaipur. 2. S.K. Ghosh : Indian Women through ages, Ashish Publishing House, Delhi

6	Practical Components	1. Presentation of articles on women issues. 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

COPO MAPPING

MSW-II	Women and society									sem 4	CD DSE401C
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1		3	2			3					
1.2						3					
1.3	3		2								
1.4				3					2		
Total	3	3	2	3		3			2	3	2

Semester	IV	Total Credit	3
Course Code	AEC 401	Credit Pattern	L=35, T=5, P=5
Course Title	SOFT SKILL DEVELOPMENT		

Course Outcomes: Students will be able to	
1	Describe the concept, the significance and essence of a wide range of soft skills.
2	Apply soft skills in a wide range of routine social and professional settings.
3	Employ soft skills to improve interpersonal relationships
4	Apply soft skills to enhance employability and ensure workplace and career success.

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Soft skills: Meaning , Soft Skills Vs Hard Skills Critical thinking, creative thinking, empathy, Interpersonal relationship, communication, coping with stress, coping with emotions, problem solving and decision making	L= 7	
		T=1	P=1
2	Situation Analysis: Planning, Problem analysis, Stakeholder analysis, Objective analysis, strategy analysis, Logical Framework Analysis, Activity planning- Yearly and its breakups and Preparation of communication Project plan	L=7	
		T=1	P=1
3	Social Skills: Personality Development, Emotional Intelligence, Etiquettes and Mannerism Interpersonal Skills and Therapeutic Skills Self Development: Meaning, Need; Understanding perception; Self awareness and Sensitivity Development. Job preparations: Resume Writing, Group discussion, Interview and Negotiation	L=7	
		T=1	P=1
4	Training Methods: Meaning, Working with Individuals and families; Intake Interviews, Meeting, Guidelines for Training and use of Stimulation Games, Groups: group Discussion, Role play, Socialization and Communities	L=7	
		T=1	P=1

Learning Resources		
1	Text Book	1. Datar et al. (2010) Skill Training For Social Worker(A Manual); Sage publication Pvt Ltd. New Delhi 2. Hariharan S., Sundararajan N & Shanmugapriya SP (2010). Soft skills, communication skills, employability skills, corporate skills. MJ Publishers, Chennai 3. Gelder, M. (2000). New Oxford textbook of psychiatry. Oxford: Oxford University Press. Kaplan, H.L., Freedman A.M. & Saddock B.J. (1980), Comprehensive Textbook of Psychiatry, Volume 1, 2 & 3, 4. Sharma & Shriram (2017) Project Planning Analysis and Management , Ist publications Galaxy Books , Jaipur
2	Reference books	1. Rivett, Mark (2003), “Family Therapy In Focus”, Sage Publication New Delhi 2. Munter, M. (2006). “Guide to managerial communication: Effective business writing and speaking” (7th ed.). 3. Penrose, J., & Rasberry, R. (2004). “Business communication for Managers”: An advanced approach (5th ed.). 4. Mosam Sinha (2016), Communication For Management” Yking Book, Jaipur
3	Websites	www.skillsyouneed.com www.skillsoft.com
4	Journals	1. International journal of business and research
5	Supplementary Readings	1. Gajendra Singh Chauhan & Sangeeta Sharma (2016): “Soft Skills (an integrated Approach to Maximise Personality)”, Chaudhary Press , Delhi 2. Rae, Leslie (2005). Skills of Interviewing

6	Practical Components	1. Soft skill development programs and work shops in skill laboratory, through training, workshops etc 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

COPO MAPPING

MSW-II	Soft Skills Development									sem 4	AEC401
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3	3	2			3		2			
1.2		3		3	3	3			3		3
1.3	3	3	2	3	3		3	2	3	3	3
1.4		3		3	3		3		2	3	3
Total	3	3	2	3	3	3			3	3	3

MSW-GROUP E

SEMESTER-IV

Semester	IV	Total Credit	3
Course Code	MP CC 401	Credit Pattern	L-35, T-5, P-5
Course Title	THERAPEUTIC INTERVENTIONS		

Course Objectives	
1	Describe the various concepts of therapeutic interventions
2	Identify the major theories of psychotherapies in clinical practice
3	Analyze factors and features common to all methods of psychotherapy, and identify features unique to each of the major theoretical orientations.
4	Critically evaluate each theory based on the relevant scientific evidence.
5	Apply major therapies used in practice.
6	Aecognize ethical dilemmas and their importance.

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Psychotherapy: definition, elements, differences and similarities with counseling and psychotherapy, Social values and psychotherapy, effectiveness of psychotherapy.	L= 7	
		T=1	P=1

2	Theories of psychotherapy: psychoanalysis theory, Adler's theory, Transactional analysis theory, Heniz Hartman's theory Behavior theory: history of behavior therapy: Classical conditioning, operant conditioning , social learning approach. Behavior therapy; goals and assessment. Treatment approach systematic desensitization, Vivo exposure, Aversion therapy, Imaginal flooding therapy, Modeling technique and Assertiveness therapy	L=7	
		T=1	P=1
3	Cognitive behavioral therapy, Rational Emotive Behavioral therapy, Stress- inoculation therapy . Humanistic Experimental therapies: Client-centered therapy, Existential therapy, Gestalt therapy, therapy for interpersonal relationship: Marital therapy, Family system therapy.	L=7	
		T=1	P=1
4	Therapeutic Intervention at various setups: Children problems with reference to Child Guidance Clinic and Children's Home, Women problems with unmarried mothers, Sex workers and Rape victims, Family Counseling centers, De-addiction centers, Half Way Home, Rehabilitation centers.	L=7	
		T=1	P=1

Resources Learning		
1	Text Book	1. Baron : Introduction to Psychology 2. Carson, R.C.Butcher, Mineka 2006 : Abormal Psychology and Modern life, Pearson Education, Delhi 3. Kalpan H.I.& Sadoch J.,1991: Synopsis of Psychiatry, Williams & Willikius, USA 4. Richard Stens: The practice of behavior and cognitive psycho therapy, Cambridge University Press Cambridge, 1995 5. Theories of Psychotherapy and Counselling, Wordsworth Books/Cole, AustraliaPsychology, Company Pacific grove, California. 6. Shraf, Richard S. (1999): Theories of Psychotherapy and counseling: concepts and cases, Australia, Cole Thomson Learning 7. Tantom Digby (2002): Psychotherapy and Counselling in practice, A Narative Framework, Cambridge University Press 8. Wilkinson, Kate (2008) : Psychotherapy Training and Practice, A

		Journey into the shadow of side, London, Karnae Books Ltd.
2	Reference books	1. Theories of Psychotherapy and Counselling, Wordsworth 2. Scott, Jan (1995) : Cognitive therapy in Clinical Practice, London: Routledge 3. Jena, SPK (2008): Behavior therapy technique, sage publications, New Delhi.
3	Websites	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3146194/ http://www.napsindia.org/ http://innerspacetherapy.in/
4	Journals	http://www.indianjournals.com/ijor.aspx?target=ijor:ijcp&type=home https://link.springer.com/article/10.1007/s10879-016-9348-1 https://www.longdom.org/psychology-psychotherapy.html
5	Supplementary Readings	1. Scott, Jan (1995) : Cognitive therapy in Clinical Practice, London: Routledge 2. Jena, SPK (2008): Behavior therapy technique, sage publications, New Delhi.
6	Practical Components	1. Learner have to present therapy model on various psychological disorder. 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

COPO MAPPING

MSW-II	THERAPEUTIC INTERVENTIONS			sem 4	MPCC401

co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1		3	2			3					
1.2						3					
1.3	3		2								
1.4				3					2		
Total	3	3	2	3		3			2	3	2

Semester	IV	Total Credit	3
Course Code	MP CC 402	Credit Pattern	L-35, T-5, P-5
Course Title	PSYCHOPATHOLOGY AND MENTAL HEALTH – II		

Course Outcomes: Students will be able to	
1	Describe the key features of the major mental disorders, including primary presenting features,

	co-morbidity, prevalence and incidence data, course and outcome.
2	explain the dominant psychological models explaining the aetiology and maintenance of the major mental disorders
3	Critically evaluate the empirical status of the dominant psychological models explaining the aetiology and maintenance of the major mental disorders.
4	Apply a bio psychosocial framework for understanding the onset and course of major mental disorders.

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Historical perspectives in abnormal behavior - psychodynamic behavior, Humanistic - Existential and Socio-cultural, Neuroscience perspectives, concept of Diagnostic relationship and models of relationships.	L= 7	
		T=1	P=1
2	Life-stress and coping ! Stress and Mental health problems, especially among children, adolescents, women, workers, elderly, coping with stress and crisis, use of internal and external resources in coping.	L=7	
		T=1	P=1
3	Organic mental disorders - Dementia and Epilepsy, Human sexuality, sexual dysfunction and gender identity disorders, sleep disorders, Geriatric psychiatry. Biologically based Therapies :Electro convulsive therapies (ECT), Psychosurgery, Microanalysis, Drug Therapy, insulin coma therapy and Drug therapy for children	L=7	
		T=1	P=1
4	Child Psychiatry : Disorders of psychological development, behavioural and emotional disorders of childhood and adolescence. Its types causes and management. Pervasive developmental disorders - Mental Retardation and Autism, its types, causes and treatment modalities. Concepts of psychiatric emergencies, suicide and crisis.	L=7	
		T=1	P=1

Resources Learning

1	Text Book	1. Essentials of Psychiatry 2. Hand book of Psychiatry 3. Clinical Psychiatry 4. ICD-10 and DSM-IV/V
2	Reference books	1. Richardson R. Bootzin, Abnormal Psychology – Current perceptsives, Random House, New York 2. Dr. Arun Rukadikar & Dr. Mary P. Rukadikar, Mental Disorders and you – An illustrated and easy guide to mental disorders for the mentally ill & their families 3. Patricia Casey & Brendan Kelly, clinical psychopathology 4. WHO Geneva, The ICD – 10 classification of Mental and Behavioural disorders – clinical descriptions & diagnostic guidelines 5. Bhatia M.S. (1992), Essentials of psychiatry, CBS Publication, Delhi 6. H.J. Kaplan, Sadock, (1990), Synopsis of psychiatry, Williams & Wilkins, London 7. Michael Gelder, Dennis Gath, Oxford text book of psychiatry, Oxford University Press 8. Robert C.C. et. Al. Abnormal psychology & modern life – Harper Collings psy., New York 9. Carson R.C., Butcher J.N. & Mineka S, Abnormal Psychology & Modern life, Longman, New York 10. Inside the mind of Toyata – Satoshi Hino – Management principles of enduring growth 11. Frank J Landy & Jeffrey M. Conte work in the 21st century. An introduction to industrial & organization and Psychology second edition. Blackwell Publications 12. A Wiley Brand, Dr. Peter J Hills, Dr. Michael Pake - Cognitive Psychology for Dummies 13. James N. Butehor, Susav Mineka, Joy M. Hootey - Abnormal Psychology (15th Edition) 14. Leshe A Willer, Robrt C Lovler, Sandren A MeIntire - Psychology Testing - A practical approach (4th Edition) 15. M Tamilarsan – Rawat Publication - Medical Sociology 16. Edited by Abraham - Social work in mental health – Areas of practice, Challenges & way forward 17. KringJohnson, DavisonNeale - Abnormal Psychology – (11th Edition) 18. Anil Pathak - Field Work training in Social Work 19. Martine Herbal - Clinical Child & Adolescent Psychology (3rd Edition)

		20. Philip Fellin - Mental Health & Mental Illness Policies Programmes & Services 21. William Korham (4 th Edition) - Sociology of Mental Disorders
3	Websites	www.nimh.nih.gov www.nami.org https://www.verywellmind.com/an-overview-of-psychopathology
4	Journals	1. Journal of mental health and psychiatry 2. Indian journal of psychiatric social work
5	Supplementary Readings	Abnormal Psychology(james coleman), Clinical Psychology, Abnormal Psychology and maladaptive behavior General Psychology
6	Practical Components	1. Field work, training soft skills , training etc 2. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 3. Video cases and documentary films relating to the syllabus to be exhibited in the class.

COPO MAPPING

MSW- II	PSYCHOPATHOLOGY AND MENTAL HEALTH – II									sem 4	MPCC402
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1		3	2			3					
1.2						3					
1.3	3		2								
1.4				3					2		
Total	3	3	2	3		3			2	3	2

Semester	IV	Total Credit	3
Course Code	MP CC 403	Credit Pattern	L-35, T-5, P-5
Course Title	COMMUNITY PSYCHIATRY		

Course Outcomes: Students will be able to	
1	Describe the complexity and dilemmas of diverse perspectives in the field of mental health and distress
2	Develop insight on the importance of service users/‘survivors’ experiences and perspectives
3	Assess how mental health issues can affect everyone
4	Explain the range of potential risks faced by service users/‘survivors’ in their everyday lives.

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Community psychiatry; Definition, concept, nature and scope. Historical development of community psychiatry, Principles, features and programs in community mental health. Prevention of mental illness. Health policy and programme; millennium development goals, peoples charter on health, health status of India, health vision 2020, health indicators	L= 7	
		T=1	P=1
2	Disaster Management- Global warming and MPSW intervention, Community health problems resulting from disaster epidemics. Man made disasters- Nuclear, industrial, terrorism attack. National and international health organization. Disaster of Mental Health Management, PTSD, Mental Health Education, Civil Society and mental health, Mental health programmes in india.	L=7	
		T=1	P=1
3	National Mental Health Act 1987, National Mental Health Programme of India, MTP Act 1971 and MTP rules and regulation 2003, ESI Act, NDPS Act. The Pre conception and Pre Natal Diagnostic Technique Act 1994. The Transplantation of Human Organ Act 1994. Concepts of - Forensic Psychiatry, forensic medicine, Psychological well being, Social well-being, Positive Psychology and Emotional intelligence. Life skills for social work practice, Fundamentals of Forensic Psychiatry, Criminal and civil responsibility of the insane. Role of forensic medicine in	L=7	
		T=1	P=1

	community welfare, Duties of doctors and social workers towards the society and state.		
4	Psychiatric social work intervention in; Child Abuse, Psycho social care for marital and family life, Parenting, counseling services for suicide prevention and psychiatric emergencies, school mental health, family mental health, youth mental health. Community based rehabilitation for Neurological and mental disorders. Role of family and community in the treatment of mentally ill, preparing the family and community for return of the patient and follow up.	L=7	
		T=1	P=1

Resources Learning		
1	Text Book	1. Crisis Resolution and Home Treatment in mental Health—Soniya Johnson 2. Improving Mental Health, The global challenge- Willey Blackwell
2	Reference books	1. Karen M Allen, William J Spitzer - Socialwork practice in health care – Advanced approaches & emerging trends 2. Jamet Walkar & Karen Crawford - Social work & human development 3. G. R. Snyder, Shane L Lopez. - Positive Psychology – The Scientific & practical Explanations of human strengths 4. William Cockerham - Medical Sociology (6th Edition) 5. Edited by Geeffrey Nelsen & Isae prilletenskay - Community Psychology 6. Robert Constable, Daniel B. Lee - Social Work with families – Content & Process 7. Community Health Approach to the assessment of infants & their parents – The CARE Programme. 8. Edited by Howard M. Rebeach & John C Bruha - Handbook of clinical sociology 9. Walter H Green, Bruce G. Simons – Morton- Introduction to health Education 10. George R, Palmor & Theresa Ho - Health EconomCritical & Global Analysis 11. V. V. Kulkarni - Dimensions of Community Work 12. Eric Lager MD , Israel Zwerling - Psychology in the community – A Psychoanalytically based guide to the treatment of the Adult 13. Richard A Kurtz, H Paul Chalafant - Sociology of Medicine & Illness – (2nd Edition)

		14. Sara Cartis & Ann Taket - Health & Societies – Changing perspectives 15. Mckenrie, James. - Introduction to Committee health 16. Dr. Pradeep Kumar Regal Publications - Medical negligence & consumer law
3	Websites	http://nimhans.ac.in/sakalawara-community-mental-health-center/ https://sites.google.com/view/aacp123/home . https://www.mhinnovation.net/organisations/sangath http://www.indjsp.org/article.asp?issn=0971-9962;year=2018;volume=34;issue=4;spage=281;epage=284;aulast=Murthy
4	Journals	Journal of Rural and Community Psychiatry Publons https://publons.com › journal › journal-of-rural-and-community-psychiatry Community Psychiatry The British Journal of Psychiatry ... https://www.cambridge.org › core › the-british-journal-of-psychiatry › article
5	Supplementary Readings	Introduction to social work, community mental health in india, preventive and social medicine(park and park)
6	Practical Components	Assess community mental health issues by visiting government hospitals, public health departments, etc.

COPO MAPPING

MSW-II	COMMUNITY PSYCHIATRY									sem 4	MPCC403
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1		3	2			3					
1.2						3					
1.3	3		2		3						
1.4				3		3			2		
Total	3	3	2	3		3			2	3	2

Semester	IV	Total Credit	3
Course Code	MP CC 404	Credit Pattern	L-35, T-5, P-5
Course Title	SOCIAL PSYCHOLOGY		

Course Outcomes: Students will be able to	
1	Describe the fundamental theories of social psychology
2	Develop skills in critically evaluating social psychological experiments
3	Analyse real-world problems using social psychological theories
4	Develop an insight of the emerging areas of social psychology

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Social Psychology: Concept, Definitions, Values And Historical Development. Theories In Social Psychology Scope And Application Of Social Psychology In Legal System, Psychology In Work Setting And Consumer Behavior.	L= 7	
		T=1	P=1
2	Self And Personality :Self Concept, Stages Of Growth Of Self ,Self Presentation ,Influence Of Language Internalization , Self Perception, Ego-Involvement And Self Esteem And Self As Social Representation.	L=7	
		T=1	P=1
3	Social Behavior And Social Control; Meaning , Concept, Nature And Effect On Society. Prosocial Behaviour: Concept, Causes Of Pro-Social Behavior, Learning To Act Pro Socially, Psychological States That Leads To Pro Social Behavior, Situational Factors Affecting Prosocial Behavior,. Equity And Reactance Theory. Threat To Self Esteem Model. The Latane And Darley Model (Helping In Emergency Situations). Long Term Relationship: Evaluating Relationship, How Relationship Develop. Social Exchange Theory Intimate Relationship, Marriage And Cohabitation, Relationship Decline And Termination	L=7	
		T=1	P=1
4	Social Psychology Of Health: The Concept And Application Of	L=7	

	Social Psychology To Medicine, (Changes In Medical Problems In Recent Years, Behavioural Medicine And Health Psychology), Preventing Self -Destructive Behaviours, Compliance And Adherence To Medical Recommendations And Behavior Factors As Cause To Disease	T=1	P=1

Resources Learning		
1	Text Book	1. Lindegren, H.C.& Byrne, D. – Psychology: An Introduction to Behavioural Sciences, New York: John Wiley & Sons Inc. 2. Seema Pasricha: Social Psychology, Deep & Deep Publication Pvt. Ltd. New Delhi,2007. 3. Girishbala Mohanty : “ Social Psychology” –Kalyani Publishers, New Delhi,2005.
2	Reference books	1. Mathur S.S : “Social Psychology” – Vinod Pustak, Mandir,Agra-2 2. Brighamm Jon C.: “Social Psychology” –Harper Collins Publishers, New York,1991. Robert A. Baron, Donn burne : Social Psychology, Prentice Hall, New Delhi,1995
3	Websites	<u>Social Psychology Network</u> <u>https://www.socialpsychology.org</u> <u>Social Psychology Simply Psychology</u> <u>https://www.simplypsychology.org</u> › <u>social-psychology</u>
4	Journals	<u>The Journal of Social Psychology:</u> <u>https://www.tandfonline.com</u> › <u>toc</u> › <u>vsoc20</u> › <u>current</u> <u>Social Psychology - Hogrefe Publishing Corp</u> <u>https://us.hogrefe.com</u> › <u>products</u> › <u>journals</u> › <u>social-psychology</u>
5	Supplementary Readings	1. Suprithy Paliwal : “Social Psychology” – RBSA Publishers, Jaipur,2002. 2. Kuppuswamy B. : “ An Introduction to Social Psychology” –Media Promoters & Publishers Pvt. Ltd. Mumbai, 2004.

6	Practical Components	1. Case studies on each of the aspects mentioned in the syllabus need to be discussed. 2. Video cases and documentary films relating to the syllabus to be exhibited in the class.

COPO MAPPING

MSW-II	SOCIAL PSYCHOLOGY									sem 4	MPCC404
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1		3	2			3					
1.2						3					
1.3	3		2								
1.4				3					2		
Total	3	3	2	3		3			2	3	2

MP CC 405: STUDY TOUR AND CONCURRENT FIELD WORK
STUDY TOUR IN THE MONTH OF FEBRUARY, (COMPULSORY)

GENERAL:

- a) Historical Development of the Organization / Institute
- b) Nature of organization / services.
- c) Working Hours.
- d) Organization Structure (Staff Pattern)
- e) Records and Registers Maintained.
- f) Leaves / Salary / Benefits for Employees.

MEDICAL SOCIAL WORK :

- 1. Concept of Health. Concept of disease. Pathogenesis period. Environmental factor disease due to multiple factors.
- 2. Level of Prevention. Health promotion. Specific protection early diagnosis treatment. Disability limitation. Rehabilitation. Mass health examination.
- 3. Alcoholism and drug dependency – Community Health.
- 4. Concept of a patient as a person. Social and Emotional component associated with various physical disorders and their socio-economic implication with regard to tuberculosis. Cancer, veneers, diseases, Leprosy and other effect on individual and family.
- 5. Concept of case and rehabilitation, social psychological factors involved in disease their treatment and rehabilitation.
- 6. Orientation of Registration like ESI Act and HTP Act 1971.
- 7. Hospital Administration. Health Centers, Clinics, Public Health programme, Mobile Medical units. The Role of Social Worker in all the above agencies.
- 8. Role of social worker in the hospital set-up (Admission Procedure, Discharge. Follow up, home visits, case history taking etc.)
- 9. Organizing Recreational activities. Public Health Programmes.
- 10. Role of Social Worker with Aids Victims. Child Guidance Clinic.

PSYCHIATRIC SOCIAL WORK:

- 1. Concept of disease. DSM classification / ICD classification of disease and limitation of DSM and ICD classification of Mental disorder.
- 2. Role of social worker in the study and treatment of psychiatric disorders, procedure for admission, into case history taking procedure and discharge from mental hospital. Follow-ups. Home visits.
- 3. Signs and Symptoms of Mental Disorders:
Disorders of perception. Thinking emotion, memory,??? Attention and concentration Interviewing. Clinical Examination and Record Keeping. Pattern of Abnormal (maladaptive) behavior stress and adjustment disorders anxiety based disorders.
- 4. Mood Disorders: Normal Depression mild to moderate. Mon. Disorders moderate to severe Disorder – suicide.
- 5. Schizophrenia: Factors, sub types of schizophrenia.
- 6. Orientation of 1) Narcotic Drugs and Psychotropic substance Act. 2) Mental Health Act : Mental Hygiene Promotion of Mental – Health Prevention of Mental Illness.

7. Psychiatric social workers participation in Psychodramas -Concept of Patient as a person, social and Emotional component associated with various disorder and their effects on individual and family.
8. Concept of care and Rehabilitation. Socio-Psychological factors involved in disorder their treatment and rehabilitation.
9. Hospital Administration, Organizing Recreational activities. Public Health Programmes. Community Mental Health Programme.

MP CC 406: FIELD WORK REPORT AND VIVA-VOCE

FIELD WORK DIARY, RECORDING, MONTHLY ATTENDANCE SHEETS AND SUMMARY OF SUPERVISORY CONFERENCES

Every student is expected to maintain/prepare the following regularly or at appointed times:

- a. A diary of activities and account of time spent for each activity. Points from supervisory conferences should also be noted down in the diary.
 - b. Detailed reports of activities (field work records)
 - c. Summary of Supervisory Conferences which has to be submitted to the Field Work coordinator at the end of every month (cyclostyled forms will be provided for this purpose) and
 - d. Monthly field work attendance sheets. Cyclostyled forms are available in the office for this purpose
- At the end of every month, field work attendance sheets should be submitted to the field work supervisor so that the letter may forward it to the office, on the First Wednesday of the following month. Those who are under the direct supervision of agency social workers are required to submit the attendance sheets (after it has been duly signed by the supervisor) to the head of the department who is in charge of his/her placement (A Speciman copy is given to you)

The diary and recording should be submitted every week to the supervisor for review and discussion

Leave of Absence from Field Work

Absence from field work should be avoided as far as possible. For valid reasons, however, leave of absence is allowed for 2 days in a semester. If any student is absent for more than two days, all the days of absence (including the first two days) will have to be compensated in accordance with the instructions of the field work supervisor.

Mid-Year Evaluation and Final Evaluation

There will be a mid-year evaluation in early December for assessing the students field work performance during the I semester. The supervisor will write the report after a supervisory conference which will be specially geared to the discussion of work performance. There will be no grading for mid-year evaluation. The purpose of mid-year evaluation conference and report is that the student may get information and awareness of his/her strengths and weaknesses as regards as field work performance of the I semester and plan for better performance in the second semester.

At the end of the academic year, in March, every supervisor will submit to the Institute a written evaluation report on the students field work. Grades will be given by the field work supervisor in consultation with the field work coordinator.

Any student who does not come up to a certain minimum level of performance which is required for passing in field work, may be asked at the discretion of the faculty, either to leave the Institute or put in extra work to improve his/her field work performance.

FIELD WORK PRACTICUM: CONCURRENT FIELD WORK

The main object of concurrent field work is to provide opportunities for applying the knowledge learnt in the class room to real life situation (field reality) to understand and develop effective course of action (learning of intervention methods) according to needs of client system. And evaluate the experiences while working with the individual, groups and communities. Fieldwork enables the student to integrate and reinforce the knowledge and information acquired in the classroom with actual practice, under competent **supervision** by the agency and faculty supervisors. Every student is expected to work for 15 hrs. per week at various organizations or community settings.

FIELD WORK EVALUATION CRITERIA: (Applicable for the all four Semesters)

1) Analytical Ability:

- a. To understand evolution of agency, philosophy, policy and administration programmes.
- b. To identify roles of other departments and personnel in implementation of agency policies & programmes (in secondary settings).

- c. To understand the dynamics of the agency – roles, decision-making process, conflict solving procedures.
- d. To begin to situate agency in context of larger social system.
- e. To understand Profile of client system and causative factors affecting its needs and problems.
- f. To understand social work intervention utilized by agency in response to needs of client system.
- g. To assess one's own tasks in relation to problem situation.

2) Problem Solving Skills:

- a. To assess the problem situation and outlines the plan of action.
- b. To utilize problem solving process beginning with fact finding to evaluation of social work process in relation to needs, problems and aspirations of the client system.
- c. To develop and utilize working relationships with agency, client system and other related system.
- d. To utilise different techniques of problem solving, interviewing, home visits, communication and programme media mobilization of human and material resources.
- e. To utilise problem solving strategies selectively with individuals groups and communities.
- f. To understand the importance work in different administrative procedures – filing – maintaining registers, fund raising staff meetings.
- g. To develop basic skills of management of services, planning, organizing, implementing and evaluation.
- h. To participate in liaison work with other organizations and systems in terms of obtaining sanctions for programmes, interpreting social work intervention and networking on common issues.
- i. To understand the significance of and participates in teamwork in one's discipline as well as in the interdisciplinary team.
- j. To learn to priorities tasks and organize workload.
- k. To understand the importance of recording as a tool for learning and administration.
- l. Learn to record facts selectively and logical-assessment of problem situation, students feelings, reflections and intervention modalities.

3) Personal development:

- d. Appreciation and utilization of principles of social work in respect of persons, social justice, equality, opportunities, acceptance of the client system and its potential.
- e. Work with commitment in the agency in terms of fulfillment of tasks, disciplined use of self (dress, behavior, regularity, self control, awareness of bias and cultural blocks).
- f. Developing positive identification with the profession, conviction of the necessity of social work intervention.

4) Use of field Instructions :

- a. Understanding the significance of field instruction as a tool for professional training.
- b. Accepts the roles of faculty advisor, field instructor and field contact and utilises their expertise in one's own training.
- c. Indicates a gradual movement from a dependence on the instructor to performing ones role and tasks more independently.
- d. Utilises individual and group conferences for professional growth by accepting both the positive and negative remarks of the instructor.
- e. Actively participates in the group conferences and appreciates the participation of others.
- f. Makes efforts to improve performance through self-learning by reading learning from one's experiences and those of others.
- g. Develops ability for self-evaluation on going and periodic.

MP DSE 401A: RESEARCH PROJECT

Students who opt for research project are required to start their research work at the beginning of third semester under the guidance of allotted faculty member. The selection of agency/industry for data collection needs to be done with consultation of organization and faculty supervisor. The research proposals shall be prepared as per format given below

1. Topic, Problem – Introduction and Review of literature
2. Objectives of the study
3. Tentative Research Methodology
4. References

The final research report shall have following chapter scheme

Title of the study

- I. Introduction
- II. Review of literature
- III. Research Methodology
- IV. Data Interpretation
- V. Summary, suggestion and conclusion

Appendix – Interview schedule, Photos, Graphs, and bibliography etc.

The final research report shall be submitted to organization/industry and respective guide (one hard copy, one soft copy to HOD). Last date for submission is on or before 15th March.

MSW-II	Research Project									sem 4	MPDSE401A
co/po	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11
1.1	3		3			3	3	3	3	3	3
1.2	3	3	3	3	3	3	3	3	3	3	3
1.3	3	3	3	3	3	3	3	3	3	3	3
1.4	3	3	3	3	3	3	3	3	3	3	3
Total	3	3	3	3	3	3	3	3	3	3	3

Semester	IV	Total Credit	3
Course Code	MP DSE 401B	Credit Pattern	L-35, T- 5, P-5
Course Title	COMMUNITY HEALTH		

Course Outcomes: Students will be able to	
1	Describe the various concepts of Community Health
2	Identify the the psycho-social needs of Patients in hospital set ups
3	Apply the knowledge and Skill of Social work in preventing, promoting and treatment of the Diseases
4	Analyze the models of health intervention and rehabilitation

Syllabus:

Unit Number	Contents	Number of Sessions	
1	Health: Concept Of Health, Definition Of Health, Positive Health, Health A Relative Concept Ecology Of Health, Medicine As An Art And Science, Health And Welfare.	L= 7	
		T= 1	P= 1
2	Health Care Of The Community: Concept of Community Health Care, Community Diagnosis, Health Status and Health Problems and Models of Health Care System and Three Tier Health Care System. Health Development: , Health Development, Right To Health, Responsibility For Health, Health Dimension and Determinants of Health , and Indicators of Health.	L= 7	
		T= 1	P= 1
3	Mental Health: Mental Health Meaning, Causes Of Mental Ill Health, Preventive Aspects Of Mental Illness and Mental Health Services.	L=7	
		T=1	P=1
4	Levels Of Prevention: Primary, Secondary, And Tertiary Prevention. Health Promotion, Specific Protection, Mass Health Examination Early Diagnosis And Treatment, Disability Limitation and Rehabilitation	L= 7	
		T= 1	P= 1

Learning Resources		
1	Text Books	1. John J. Hulon : Principles of Public Health Administration 2. Park J.E. & Park K. Text Book of Preventive & Social medicine M.B. Bhanot Pub. Jabalapur, 1990 3. SunderlalAdarsh, Pankaj 'Text Book of Community Medicine (Preventive & social medicine) 4. M.C. Gupta & B.K. Mahajan : Textbook of preventiveand social Medicine. 5. A.M Chalkley :A Text book For The Health Worker (ANM) Volume II
2	Reference books	1. Dr B. S. Nagaraj : Community Medicine without Tears: Mysore printing and publishing house ,Mysore 2. Medical Social Work by KEM Hospital &Sheth G.S. Medical College Mannul 3. S.R.Mehta(1992) : Society and Health A Sociological Perspective Vikas Publishing House New Delhi. 4. MalavikaKapur : Mental Health In Indian Schools.
3	Websites	au.ask.com/Public health journalslist/Search no more www.teoma.co.uk/Free public healthjournals/Search no more www.answersite.com/Public healthjournals www.teoma.co.uk
4	Journals	Public health journals , Destinations: Bombai, New Delhi,
5	Supplementary Reading	1. Sunital Roy : A Hand Book of Preventive & Social medicine 2. MalavikaKapur : Mental Health In Indian Schools.
6	Practical Component	Orientation and concurrent Fieldwork Training in Hospital Training

Semester	IV	Total Credit	3
Course Code	MP DSE 401C	Credit Pattern	L-35, T-5, P-5
Course Title	WOMEN AND SOCIETY		

Course Outcomes: Students will be able to

1	Understand the way women centric ideas, values, and themes inform and impact culture and society, both now and in the past.
2	Comprehend the impact of gender on individuals' historical and contemporary agency, and how the ability to express agency has shaped people's lives in various geographical settings.
3	analyze, interpret, and understand the complex interrelationships between the real situation and feministic concepts and importance of Women Health and Legal Rights
4	understand of women's historical and contemporary agency and how these have shaped women's lives in various geographic settings

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Womenhood : Concept of Womenhood, Importance of women studies, Approaches to study of Women: Psycho analytical, Functional, Feminist, Problems of Women in the field of education, health, family and society.	L= 7	
		T=1	P=1
2	Gender and Equity: Status of Women in different community Tribal, Rural and Urban related to Gender equality, Educational, Economical, Social and Religious, Social Reform movements in upliftment of women in India	L=7	
		T=1	P=1
3	Women and Work: Problems of Women in the field of Organized, Unorganized and Household sectors; Legal Measures related to work and wages: Minimum Wages Act 1948, Equal Remuneration Act 1960, Factories Act 1948, Anti Sexual harassment Act 2013, Violence on Women: Definition, Concept Types of Violence; Legal measures relating to violence Dowry Prohibition Act 1961, Immoral traffic Prevention Act 1986, Domestic Violence Act 2005, Medical Termination of Pregnancy and Prenatal diagnostic technique (PNDT) Act 1994	L=7	
		T=1	P=1
4	Legislations: As preventive measure for women 5) Constitutional Measures 6) Salient Features of legal Protection Application of Social work techniques, Role of Social Worker in	L=7	
		T=1	P=1
		T=1	P=1

	women Empowerment and development, Role of Government and NGOs in Women Welfare, National Commission for Women, Schemes for Women development.		

Semester	IV	Total Credit	3
Course Code	AEC 401	Credit Pattern	L-35, T-5, P-5
Course Title	SOFT SKILL DEVELOPMENT		

Course Outcomes: Students will be able to	
1	Describe the concept, the significance and essence of a wide range of soft skills.
2	Apply soft skills in a wide range of routine social and professional settings.
3	Employ soft skills to improve interpersonal relationships
4	Apply soft skills to enhance employability and ensure workplace and career success.

Syllabus:

Unit Number	Contents	No. of Sessions	
1	Soft skills: Meaning , Soft Skills Vs Hard Skills Critical thinking, creative thinking, empathy, Interpersonal relationship, communication, coping with stress, coping with emotions, problem solving and decision making	L= 7	
		T=1	P=1
2	Situation Analysis: Planning, Problem analysis, Stakeholder analysis, Objective analysis, strategy analysis, Logical Framework Analysis, Activity planning- Yearly and its breakups and Preparation of communication Project plan	L=7	
		T=1	P=1
3	Social Skills: Personality Development, Emotional Intelligence, Etiquettes and Mannerism Interpersonal Skills and Therapeutic Skills, Self Development: Meaning, Need; Understanding perception; Self awareness and Sensitivity Development. Job preparations: Resume Writing, Group discussion, Interview and Negotiation	L=7	
		T=1	P=1
4	Training Methods: Meaning, Working with Individuals and families; Intake Interviews, Meeting, Guidelines for Training and use of Stimulation Games, Groups: group Discussion, Role play, Socialization and Communities	L=7	
		T=1	P=1

