



MBA (LOGISTICS AND SUPPLY CHAIN MANAGEMENT)

**Curriculum and Syllabus
Regulations 2021**

(Based on Choice Based Credit System (CBCS))

**Effective from the Academic year
2021-2022**

Department of MBA

School of Management Studies & Commerce

Vision and Mission of the Department

Vision

To be a Centre of Excellence in Management Studies and Commerce, imparting and developing Managerial leadership and entrepreneurial skills to students and provide managers for the global market

Mission

1. To Provide an accessible and inclusive learning environment for diverse group of students and other stakeholders to learn by synergizing education, research, innovation and outreach efforts.
2. To foster self-discipline, strong values, ethics and sense of duty among the students to make them good citizens, leaders, professionals, and entrepreneurs.
3. To create the future business leaders through innovative and analytical ability, decision making capability and integration of technology in education.
4. To provide exposure to global business standards by design thinking, rational judgement and competencies necessary to manage Global and multinational ventures.

Program Educational Objectives (PEOs)

PEO1: To provide exceptional quality education that prepares the students to meet global standards and competitive environment.

PEO2: To inculcate team spirit and develop leadership capabilities among students, empowering them to emerge as business leaders and contribute to organizational development.

PEO3: To impart ethical and moral values so as to inculcate the significance of Environmental, Social and Governance practices among students to create better citizens and society.

PEO4: To equip the students with technology proficiency, nurture entrepreneurial skills to think strategically by encouraging them to become professionals.

PEO5: To motivate students to participate in community development initiatives and participate Industry research projects.

Program Outcomes (POs)

PO 1: Apply knowledge of management theories and practices to solve business problems.

PO 2: Foster Analytical and critical thinking abilities for data-based decision making.

PO 3: Ability to develop Value based Leadership ability.

PO 4: Ability to understand, analyze and communicate global, economic, legal, and ethical aspects of Business

PO 5: Ability to lead themselves and others in the achievement of organizational goals, contributing effectively to a team environment.

PO 6: Create, select and apply appropriate modern tools & techniques for analyzing, interpreting and solving business complexities.

PO 7: Develop an aptitude for creativity, innovation and entrepreneurship.

PO 8: Adapt life-long learning and professional development to enrich knowledge and competencies

Program Specific Outcomes (PSOs)

PSO 1: Apply supply chain management principles to integrated supply chain activities to articulate and deliver customer-oriented quality outcomes within legal and ethical frameworks.

PSO 2: Develop operations to source and utilise appropriate technology to support the implementation of logistics strategies and manage logistics resources to improve supply chain operations.

PSO 3: Utilize state-of-the-art distribution practices to implement strategic and operational concepts and techniques that underpin distribution of goods and services for domestic and international markets.

List of Board of Studies (BOS) Members along with their designation/role

S.NO	NAME & ADDRESS	DESIGNATION
1.	Dr. P. R. Ramakrishnan Dean School of Management Studies & Commerce VISTAS	Chairperson
2.	Dr. R. Magesh Professor and Head Department of Management Studies Anna University	External Expert
3.	Ms. Sindhuja Santhosh Head, Customer Success Team Zoho Books, Zoho Corporation Chennai	Industry Expert
4.	Ms. Anitharaj Johnes George Senior Talent Acquisition Analyst SPI global Pondicherry	Alumni
5.	Dr. S. Preetha School of Management Studies, VISTAS	Professor
6.	Dr. S. Vasantha School of Management Studies, VISTAS	Professor
7.	Dr. G. Rajini School of Management Studies, VISTAS	Professor
8.	Dr. P. Shalini School of Management Studies, VISTAS	Professor
9.	Dr. P. G. Thirumagal School of Management Studies, VISTAS	Professor
10.	Dr. A. Mohammed Faisal School of Management Studies, VISTAS	Assistant Professor

**VELS INSTITUTE OF SCIENCE, TECHNOLOGY AND ADVANCED STUDIES
(VISTAS), CHENNAI**

CHOICE BASED CREDIT SYSTEM (CBCS)

MBA (LOGISTICS AND SUPPLY CHAIN MANAGEMENT) – REGULATIONS

2021

(Applicable to all the candidates admitted from the academic year 2021-22 onwards)

1. DURATION OF THE PROGRAMME

1.1. Two years (Four semesters)

1.2. Each academic year shall be divided into two semesters. The odd semesters shall consist of the period from July to November of each year and the even semesters from January to May of each year.

1.3 There shall be not less than 90 working days for each semester.

2. ELIGIBILITY FOR ADMISSION

2.1. The details of Eligibility for Admission

Passed Bachelor Degree of minimum 3 years duration.

Obtained at least 50% marks (45% marks in case of candidates belonging to reserved category) in the qualifying examination.

3. MEDIUM OF INSTRUCTION

The medium of instruction for all PG programme is English.

4. CREDIT REQUIRMENTS AND ELIGIBILITY FOR AWARD OF DEGREE

A Candidate shall be eligible for the award of Degree only if he/she has undergone the prescribed course of study in VISTAS for a period of not less than TWO academic years and passed the examinations of all the prescribed courses of FOUR Semesters earning a minimum of 102 credits as per the distribution given in the course structure.

5. COURSE

Each course / subject is to be designed under lectures / tutorials / laboratory or field work / seminar / practical training / Assignments / Term paper or Report writing etc., to meet effective teaching and learning needs.

6. COURSE OF STUDY AND CREDITS

The Course Components and Credit Distribution shall consist of:

The total number of subjects of study shall be 26 out of which 13 shall be compulsory subjects and of the remaining 10 will be Electives, MOOC, Internship after Second semester and Project Work in the Final Semester with a Viva-voce.

The FULL-TIME candidates shall take 8 subjects (7 Core Theory + 1 Practical) in the First semester, 8 subjects (3 Core Theory + 4 Elective Theory) along with Summer internship in the Second Semester, 9 subjects (2 Core Theory + 7 Elective Theory) in the Third Semester and 1 subject (Core Theory) and a Project Work in the Fourth Semester.

Internship: The students have to undergo an Internship for thirty days in between second and third semester. The maximum marks for Internship will be 100. The Internship will be evaluated through Viva voce Exam by the guide and an External expert.

Project: The students will do a Project work for Four months in the Fourth Semester. The Maximum marks for Project Work will be 300. The project Work will be evaluated through Viva voce Exam by the guide and an External expert. The components of Project Work will be 100 marks for Dissertation and 200 marks for Viva voce.

To offer Elective Subjects to the students, a Minimum enrolment in the Elective Subjects shall be TEN.

For each course, credit is assigned based on the following:

Contact hour per week		CREDITS
1 Lecture hour	-	1 Credit
1 Tutorial hour	-	1 Credit
2 Practical hours	-	1 Credit

(Laboratory / Seminar / Project Work / etc.)

7. REQUIREMENTS FOR PROCEEDING TO SUBSEQUENT SEMESTER

7.1. **Eligibility:** Students shall be eligible to go to subsequent semester only if they earn sufficient attendance as prescribed therefor by the Board of Management from time to time.

7.2. **Attendance:** All Students must earn 75% and above of attendance for appearing for the University Examination. (Theory/Practical)

7.3. Condonation of shortage of attendance: If a Student fails to earn the minimum attendance (Percentage stipulated), the HODs shall condone the shortage of attendance on medical grounds up to a maximum limit of 10% (i.e. between 65% and above and less than 75%) after paying the prescribed fee towards the condonation of shortage of attendance. The students with attendance of less than 65 and more than 50% shall be condoned by VC on the recommendation of HODs on genuine grounds, will be permitted to appear for the regular examination on payment of the prescribed condonation fee.

7.4. Detained students for want of attendance: Students who have earned less than 50% of attendance shall be permitted to proceed to the next semester and to complete the Program of study. Such Students shall have to repeat the semester, which they have missed by rejoining after completion of final semester of the course, by paying the fee for the break of study as prescribed by the University from time to time.

7.5. Transfer of Students and Credits: The strength of the credits system is that it permits inter Institutional transfer of students. By providing mobility, it enables individual students to develop their capabilities fully by permitting them to move from one Institution to another in accordance with their aptitude and abilities.

7.5.1. Transfer of Students is permitted from one Institution to another Institution for the same program with same nomenclature, provided, there is a vacancy in the respective program of Study in the Institution where the transfer is requested.

7.5.2. The marks obtained in the courses will be converted into appropriate grades as per the University norms.

7.5.3. The transfer students are not eligible for Ranking, Prizes and Medals.

7.5.4. Students who want to go to foreign Universities upto two semesters or Project Work with the prior approval of the Departmental / University Committee are allowed to transfer of their credits. Marks obtain in the courses will be converted into Grades as per the University norms and the students are eligible to get CGPA and Classification.

8. EXAMINATION AND EVALUATION

8.1. EXAMINATION:

i) There shall be examinations at the end of each semester, for odd semesters in the month of October / November, for even semesters in April / May. A candidate who does not

pass the examination in any course(s) shall be permitted to appear in such failed courses in the subsequent examinations to be held in October / November or April / May.

ii) A candidate should get registered for the first semester examination. If registration is not possible owing to shortage of attendance beyond condonation limit / regulations prescribed OR belated joining OR on medical grounds, the candidates are permitted to move to the next semester. Such candidates shall re-do the missed semester after completion of the programme.

iii) The results of all the examinations will be published through University Website. In the case of passed out candidates, their arrear results, will be published through University Website.

8.2 To Register for all subjects: Students shall be permitted to proceed from the First Semester up to Final Semester irrespective of their failure in any of the Semester Examination, except for the shortage of attendance programs. For this purpose, Students shall register for all the arrear subjects of earlier semesters along with the current (subsequent) Semester Subjects.

8.3. Marks for Continuous Internal Assessment (CIA) Examinations and End Semester Examinations (ESE)

8.3.1 There shall be no passing minimum for Continuous Internal Assessment (CIA) Examinations.

8.3.2 For End Semester examination, passing minimum shall be 50% (Fifty Percentage) of the maximum marks prescribed for the Course/Practical/Project and Viva-Voce.

8.3.3 In the aggregate (CIA and ESE) the passing minimum shall be of 50%.

8.3.4. He / She shall be declared to have passed the whole examination, if he/she passes in all the courses wherever prescribed in the curriculum by earning 102 CREDITS

9. Question Paper Pattern for End Semester Examination

Duration: 3 Hours Max. Marks: 100

Part A	: 8 out of 10 questions	(8 X 5 = 40)
Part B	: 4 out of 6 questions	(4 X 10 = 40)
Part C	: 1 Case Study or Problem is Compulsory	(1 X 20 = 20)

Total Marks for each subject 100 Marks

University Exam 60 Marks

Internal Assessment 40 Mark

10. SUPPLEMENTARY EXAMINATION: Supplementary Examinations are conducted for the students who appeared in the final semester examinations. Eligible criteria for appearing in the Supplementary Examinations are as follows:

10.1. Eligibility: A Student who is having a maximum of two arrear papers is eligible to appear for the Supplementary Examination.

10.2. Non-eligibility for those completed the program: Students who have completed their Program duration but having arrears are not eligible to appear for Supplementary Examinations.

11. RETOTALLING, REVALUATION AND PHOTOCOPY OF THE ANSWER SCRIPTS:

11.1. Re-totalling: All PG Students who appeared for their Semester Examinations are eligible for applying for re-totalling of their answer scripts.

11.2. Revaluation: All current batch Students who have appeared for their Semester Examinations are eligible for Revaluation of their answer scripts. Passed out candidates are not eligible for Revaluation.

11.3. Photocopy of the answer scripts: Students who have applied for revaluation can download their answer scripts from the University Website after fifteen days from the date of publication of the results.

12. The examination and evaluation for MOOCs will be as per the requirements of the regulatory bodies and will be specified at the beginning of the Semester and notified by the university NPTEL-SWAYAM Coordinator (SPOC).

13. CLASSIFICATION OF SUCCESSFUL STUDENTS

13.1. CORE SUBJECTS, PRACTICAL, ELECTIVES COURSES AND PROJECT: Successful Students passing the Examinations and securing the marks

a) CGPA 9.00 to 10.00 shall be declared to have passed the examination in **First class with Outstanding**.

b) CGPA 7.50 to 8.99 shall be declared to have passed the examination in **First class with distinction**.

c) CGPA 6.00 to 7.49 shall be declared to have passed the examination in **First Class**.

d) CGPA 5.00 to 5.99 in the aggregate shall be declared to have passed the examination in the **SECOND** Class.

e) CGPA 4.00 to 4.99 shall be declared to have passed the examination in the **THIRD** Class.

14. MARKS AND GRADES: The following table shows the marks, grade points, letter grades and classification to indicate the performance of the student:

14.1. Computation of Grade Point Average (GPA) in a Semester, Cumulative Grade Point Average (CGPA) and Classification

GPA for a Semester: = $\sum_i C_i G_i \div \sum_i C_i$ That is, GPA is the sum of the multiplication of grade points by the credits of the courses divided by the sum of the credits of the courses in a semester.

Where, C_i = Credits earned for course i in any semester,

G_i = Grade Points obtained for course i in any semester

n = Semester in which such courses were credited.

CGPA for the entire programme: = $\sum_n \sum_i C_{ni} G_{ni} \div \sum_n \sum_i C_{ni}$ That is, CGPA is the sum of the multiplication of grade points by the credits of the entire programme divided by the sum of the credits of the courses of the entire programme

Overall Performance - PG

Grade Conversion Table - PG			
Range of Marks	Grade Points	Letter Grade	Description
90 - 100	10	O	Outstanding
82 - 89	9	A+	Excellent
75 - 81	8	A	Very Good
67 - 74	7	B+	Good
60 - 66	6	B	Above Average
50 - 59	5	C	Average
40 - 49	4	D	Minimum for pass
0 - 39	0	RA	Reappear
		AAA	Absent
CGPA		GRADE	CLASS
4.00 - 4.99		D	Third Class

5.00 - 5.99	C	Second Class
6.00 - 6.69	B	First Class
6.70 - 7.49	B+	
7.50 - 8.19	A	First Class with Distinction*
8.20 - 8.99	A+	
9.00 - 10.00	O	First Class - Outstanding*

14.2. Letter Grade and Class CGPA

The students who have passed in the first appearance and within the prescribed semester of the PG Programme (Major and Elective courses only) are eligible.

15. RANKING

- Students who pass all the examinations prescribed for the Program in the **FIRST APPEARANCE ITSELF ALONE** are eligible for Ranking / Distinction.
- In the case of Students who pass all the examinations prescribed for the Program with a break in the First Appearance are only eligible for Classification.
- Students qualifying during the extended period shall not be eligible for RANKING.

16. MAXIMUM PERIOD FOR COMPLETION OF THE PROGRAMS TO QUALIFY FOR A DEGREE

16.1. A Student who for whatever reasons is not able to complete the programs within the normal period (N) or the Minimum duration prescribed for the programme, may be allowed two years period beyond the normal period to clear the backlog to be qualified for the degree. (Time Span = N + 2 years for the completion of programme)

16.2. In exceptional cases like major accidents and child birth an extension of one year considered beyond maximum span of time (Time Span= N + 2 + 1 years for the completion of programme).

17. REVISION OF REGULATIONS, CURRICULUM AND SYLLABI

The University may from time-to-time revise, amend or change the Regulations, Curriculum, Syllabus and Scheme of examinations through the Academic Council with the approval of the Board of Management.

Overall credit distribution / Course Components with credits

S.No	Semester	Total number of Subjects	Core / Elective / Lab / Internship / Project Work	Credit Distribution		Total Credits	Total Credits for the Semester
				Credits	No. of Subjects		
1	I	8	7 Core	4	7	28	29
			1 Practical (MOOC)	1	1	1	
2	II	8	3 Core Theory + 3 Elective Theory	4	6	24	33
			1 Elective Theory	3	1	3	
			1 Internship	6	1	6	
3	III	8	2 Core Theory	4	2	8	26
			6 Elective Theory	3	6	18	
4	IV	2	1 Core	4	1	4	14
			1 Project	10	1	10	
						Total	102

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SEMESTER I

Code	Course	Hour / Week			C	Maximum Marks		
		L	T	P		CA	SEE	Total
21CMBS11	Management Principles and Organizational Behaviour	4	0	0	4	40	60	100
21CMBS12	Business Statistics & Quantitative Techniques	4	0	0	4	40	60	100
21CMBS13	Managerial Economics	4	0	0	4	40	60	100
21CMBS14	Financial Reporting, Statements & Analysis	3	1	0	4	40	60	100
21CMBS15	Legal & Business Environment	4	0	0	4	40	60	100
21CMBS16	Business Communication & Soft Skills	4	0	0	4	40	60	100
21CMBS17	Computer Applications for Business	4	0	0	4	40	60	100
21PMBS11	Community Development Project / MOOC / Outbound Experiential Learning Programme	0	0	2	1	40	60	100
		27	1	2	29			

SEMESTER II

Code	Course	Hour / Week			C	Maximum Marks		
		L	T	P		CA	SEE	Total
21CMBS21	Human Resources Management	4	0	0	4	40	60	100
21CMBS22	Marketing Management	4	0	0	4	40	60	100
21CMBS23	Operations Management	4	0	0	4	40	60	100
21CMBS....	Elective I	4	0	0	4	40	60	100
21CMBS....	Elective II	4	0	0	4	40	60	100
21CMBS....	Elective III	4	0	0	4	40	60	100
21CMBS....	Elective IV	3	0	0	3	40	60	100
21IMBS21	Internship	0	0	0	6	40	60	100
		27	0	0	33			

SEMESTER III

Code	Course	Hour / Week			C	Maximum Marks		
		L	T	P		CA	SEE	Total
21CMBS31	Business Analytics	4	0	0	4	40	60	100
21CMBS32	Research Methodology	4	0	0	4	40	60	100
21EMBS....	Elective V	3	0	0	3	40	60	100
21EMBS....	Elective VI	3	0	0	3	40	60	100
21EMBS....	Elective VII	3	0	0	3	40	60	100
21EMBS....	Elective VIII	3	0	0	3	40	60	100
21EMBS....	Elective IX	3	0	0	3	40	60	100
21EMBS....	Elective X	3	0	0	3	40	60	100
		26	0	0	26			

SEMESTER IV

Code	Course	Hour / Week			C	Maximum Marks		
		L	T	P		CA	SEE	Total
21CMBS41	Universal Human Values	4	0	0	4	40	60	100
21RMBS41	Project	0	0	20	10	100	200	300
		4	0	20	14			

TOTAL CREDITS: 102

LIST OF COURSES**CORE COURSES**

Semester	Code	Course	Hour / Week			Credits
			Lecture	Tutorial	Practical	
I	21CMBS11	Management Principles and Organizational Behaviour	4	0	0	4
I	21CMBS12	Business Statistics & Quantitative Techniques	4	0	0	4
I	21CMBS13	Managerial Economics	4	0	0	4
I	21CMBS14	Financial Reporting, Statements & Analysis	3	1	0	4
I	21CMBS15	Legal & Business Environment	4	0	0	4
I	21CMBS16	Business Communication & Soft Skills	4	0	0	4
I	21CMBS17	Computer Applications for Business	4	0	0	4
II	21CMBS21	Human Resources Management	4	0	0	4
II	21CMBS22	Marketing Management	4	0	0	4
II	21CMBS23	Operations Management	4	0	0	4
III	21CMBS31	Business Analytics	4	0	0	4
III	21CMBS32	Research Methodology	4	0	0	4
IV	21CMBS41	Universal Human Values	4	0	0	4

ELECTIVE COURSES

Semester	Code	Course	Hour / Week			Credits
			Lecture	Tutorial	Practical	
II	21EMBS	Elective I	4	0	0	4
II	21EMBS	Elective II	4	0	0	4
II	21EMBS	Elective III	4	0	0	4
II	21EMBS	Elective IV	3	0	0	3
III	21EMBS	Elective V	3	0	0	3
III	21EMBS	Elective VI	3	0	0	3
III	21EMBS	Elective VII	3	0	0	3
III	21EMBS	Elective VIII	3	0	0	3
III	21EMBS	Elective IX	3	0	0	3
III	21EMBS	Elective X	3	0	0	3

ELECTIVE COURSES – II SEMESTER

FUNCTIONAL AREA	CODE	COURSES
Supply Chain	21EMBS21	Supply Chain Information System
	21EMBS22	Supply Chain Concepts & Planning
	21EMBS25	Global SCM
	21EMBS26	Vendor Managed Inventory
	21EMBS27	SCM for Services Marketing
Logistics	21EMBS23	Logistics Concepts & Planning
	21EMBS24	Transportation & Distribution Management
	21EMBS28	Air Cargo Management
	21EMBS29	Multimodal Transportation Management
	21EMBS30	Inland Waterways Management

ELECTIVE COURSES – III SEMESTER

FUNCTIONAL AREA	CODE	COURSES
Logistics & Supply Chain	21EMBS31	International Logistics
	21EMBS32	Purchasing and Strategic Sourcing
	21EMBS33	Warehousing and Distribution Facilities Management
	21EMBS34	Contract Logistics and Closed Loop Supply chains
	21EMBS35	Logistics & Supply Chain Performance Management
	21EMBS36	Green Supply Chain Management
	21EMBS37	Supply Chain Analytics
	21EMBS38	Sourcing Management
Operations	21EMBS39	Lean Six Sigma
	21EMBS40	Project Management
	21EMBS41	Operations Research Applications
	21EMBS42	Total Quality Management
	21EMBS43	World Class Manufacturing
	21EMBS44	Behavioural Operations Management
	21EMBS45	Management of Manufacturing Systems
	21EMBS46	Operations Strategy
	21EMBS47	Services Operations Management
Entrepreneurship	21EMBS48	Environmental Studies
	21EMBS49	Indian Ethos and Business Ethics
	21EMBS50	Business Policy & Strategy
	21EMBS51	E-Business

PRACTICAL COURSES

Semester	Code	Course	Hour / Week			Credits
			Lecture	Tutorial	Practical	
I	21PMBS11	MOOC	0	0	2	1
II	21IMBS21	Internship	0	0	0	6
IV	21RMBS41	Project	0	0	20	10

SEMESTER I

COURSE OBJECTIVE:

- To describe the fundamentals of Management, significance, scope of management, levels of manager, functions of a manager and basics of organizational behavior.
- To discuss the development of management thought
- To examine and analyze the behavior of individuals and groups in organizations by understanding the concepts of learning, attitudes & perceptions.
- To understand about the organizational structure, its types, decentralization and delegation of the authority.

UNIT I INTRODUCTION TO MANAGEMENT 12

Introduction to Management and Organizational Behavior: Concept of Management, Applying Management theory in practice, Evolution of management thought, Management process and Functions – Managerial Roles – OB Model – Contributing disciplines of OB – MBO

UNIT II INDIVIDUAL PROCESS IN ORGANIZATIONS 12

Individual Processes in Organizations: Foundations for Individual Behavior – Learning - Attitudes and Job satisfaction – Personality and values – Perception - Motivation and Organizational performance. Contemporary theories of motivation.

UNIT III INTERPERSONAL PROCESS IN ORGANIZATIONS 12

Interpersonal process in Organizations: -Communication Process -Methods – Barriers -Grapevine. Transactional Analysis. Group Dynamics: Typology of Groups -Conflicts in groups - Leadership Models and Concepts – leadership theories – Decision making and negotiation - Power and Politics.

UNIT IV ORGANISATIONAL PROCESS 12

Organizational Process and Characteristics: Dimensions of Organization structure – Authority, Responsibility, and Accountability – Delegation – Centralization, Decentralization – Line and Staff Relationship.

UNIT V ORGANIZATIONAL DEVELOPMENT 12

Organizational Development: Resistance to Change - Organizational change - Organizational development – Stress management – Business ethics and corporate social Responsibility.

TOTAL: 60 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : Assess the fundamentals of organizational behavior and OB Model
- CO – 2 : Analyze the behavior of individuals and groups in organizations
- CO – 3 : Describe the concept of leadership, communication, power and conflict resolution
- CO – 4 : Demonstrate the dynamics of organizational change.
- CO – 5 : Identify the major issues in business ethics and corporate social responsibility.

TEXT BOOKS:

1. Harold Koontz & Heinz Weihrich, “Essentials of Management”, TMH, 10th Edition, 2007.

REFERENCE BOOKS:

1. Michael A. Hitt, J. Stewart Black, and Lyman W. Porter, Management, Pearson, 11th Edition, 2011.
2. Koontz & Weirich, Essentials of Management, Tata McGraw Hill Publishing Company, New Delhi. Stoner, Freeman & Gilbert, Management, PHI, 6th Edition.
3. Robbins.S.P. Fundamentals of Management, Pearson, 2003. Robbins.S. Organisational Behaviour, X edn., Prentice-Hall, India.

WEB SOURCES:

1. <https://us.sagepub.com/en-us/nam/principles-and-practices-of-management-and-organizational-behaviour/book251882#:~:text=Principles%20and%20Practices%20of%20Management%20and%20Organizational%20Behaviour%20provides%20a,performance%20in%20the%20global%20era.>
2. <https://courses.lumenlearning.com/wmopen-organizationalbehavior/chapter/management-theory-and-organizational-behavior/>
3. <https://online.nwmissouri.edu/articles/mba/why-managers-understand-organizational-behavior.aspx>

TEXT BOOKS:

1. Tulsian, P. C., Vishal Pandey, Quantitative Techniques – Theory and Problems, Pearson Publications, 2006.
2. Sankar P. Iyer, Operations Research, Tata McGraw-Hill Education, 2008

REFERENCE BOOKS:

1. Hamdy A. Taha, Operations Research-An introduction, Pearson Education, 8th Edition / Prentice Hall of India, 2007.
2. A. Ravindren, Don T. Phillips and James J. Solberg, Operations Research Principles and Practice, John Wiley and Sons, 2nd edition, 2000.

WEB SOURCES:

- 1.<https://www.wiley.com/enin/Quantitative+Methods%3A+An+Introduction+for+Business+Management-p-9780470496343>
- 2.<https://weatherhead.case.edu/academics/courses/EMBA438B>
- 3.<https://dl.acm.org/doi/book/10.5555/3074303>

COURSE OBJECTIVE:

- The study the concept of Managerial Economics by applying a series of basic economics principles.
- To gain knowledge on issues related to optimal pricing strategies, demand forecasting, and optimal financing, appropriate hiring decisions, and investment decisions, among others, can be successfully tackled with managerial economics tools.
- To analyse how to incorporate a global perspective to their managerial economics box of tools.

UNIT I INTRODUCTION 12

Introduction to Managerial Economics – Nature and scope of macroeconomics -Incremental principle – equimarginal principle – some decision rules – The risk and uncertainty theory – optimization techniques – Baumol’s sales maximization – least-cost combination.

UNIT II DEMAND DECISIONS 12

Demand Decisions – Demand analysis – elasticity of demand – demand forecasting – types & methods of demand forecasting – trend projection method – least square method of demand forecasting limitations & uses

UNIT III OUTPUT DECISIONS 12

Input-Output Decisions - Production function – Cost and managerial decision making – Cobb-Douglas production functions – Law of variable proportion – short run cost output – long run cost output – economies and dimensions of scale of production.

UNIT IV PRICE-OUTPUT DECISIONS 12

Price-Output Decisions - Market Environment of Price Output Decisions by the Firm and the Industry – Pricing under perfect competition – digopoly pricing strategies and tactics – pricing – pricing in life-cycle of a product -Profit-Maximization & Competitive Markets-Price-Searchers, Cartels, Oligopoly-Advanced Pricing and Auctions.

UNIT V ECONOMIC THEORY 12

The Firm in Theory and Practice - Economic Theory of the Firm – The Behavioral Theory of the Firm - Managerial Theories of the Firm – Profit concepts & analysis – Game Theory and Asymmetric Information.

TOTAL: 60 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : Define the basic elements of managerial economics aspects of the firm.
- CO – 2 : Discuss the demand analysis decisions methods as to forecasting.
- CO – 3 : Apply the managerial decision functions of the firm.
- CO – 4 : Examine and elaborate the basic theories related to business practices.
- CO – 5 : Appraise on the decision as to environment and given

TEXT BOOKS:

1. Dean Joel, Managerial Economics, PHI, New Delhi, 1976, First Edition
2. Douglas Evan J, Managerial Economics, Theory, Practice & Problems; PHF, New Delhi; 1983, First Edition

REFERENCE BOOKS:

- 1.K.K. Seo, Managerial Economics, Richard D. Irwin Inc. 1988
- 2.I.C. Dhingra, Essentials of Managerial Economics - Theory, Applications and Cases Sultan Chand, New Delhi, 2003

WEB SOURCES:

- 1.<https://www.cheggindia.com/career-guidance/managerial-economics-principals-types-and-scope/>
- 2.<https://theinvestorsbook.com/managerial-economics.html>
- 3.<https://www.analyticssteps.com/blogs/what-managerial-economics-definition-types-nature-principles-scope>

COURSE OBJECTIVE:

- To think in a new and more creative way when analyzing or forecasting financial information.
- To introduce new tools common to financial statement analysis and how to use them in practical applications.
- To understand how financial statement information can help solve business problems and increase the ability to read and understand financial statements and related information.

UNIT I INTRODUCTION 12

Introduction to Management Accounting-Need and Importance — Accounting concepts & conventions – Accounting Standards - Overview of IFRS and GAAP. Mechanics of Accounting: Double entry system of accounting, journalizing of transactions; ledger posting and trial balance, preparation of final accounts, Profit & Loss Account, Balance Sheet.

UNIT II ANALYSIS OF FINANCIAL STATEMENTS 12

Analysis of financial statement: Ratio Analysis- solvency ratios, profitability ratios, activity ratios, liquidity ratios, market capitalization ratios; Common Size Statement; Comparative Balance Sheet and Trend Analysis of manufacturing, service & banking organizations.

UNIT III FUNDS FLOW AND CASH FLOW ANALYSIS 12

Fund Flow Analysis: Meaning – uses – Preparation of Fund Flow Statement. Cash Flow Analysis (as per Accounting Standard 3): Meaning – uses – Preparation of Cash Flow Statement.

UNIT IV CAPITAL BUDGETING AND MARGINAL COSTING 12

Capital budgeting – meaning –steps – different types of investment decisions - Different methods – Payback, Net Present Value, Internal rate of return, Profitability index, Average rate of return – Capital rationing Marginal costing – Cost Volume Profit analysis – Break Even analysis – Applications of marginal costing

UNIT V BUDGETING AND FINANCIAL REPORTING

12

Budgeting – Different types of budgeting – Cash budget – Flexible budget. Financial reporting – Concepts – users, Objectives of financial reporting – Qualitative characteristics of information in financial reporting – basic problems of disclosure – Role of SEBI in IFRS – Statutory disclosures in IFRS – Corporate reporting practices in India- Challenges in financial reporting

TOTAL: 60 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : State the importance of common accounting standards
- CO – 2 : Estimate Budgeting and Financial Reporting
- CO – 3 : Prepare financial statements through ratio analysis.
- CO – 4 : Analyze financial reports of financial instruments, mutual funds,
- CO – 5 : Analyze cash flow and fund flow statement

TEXT BOOKS:

1. R.S.N.Pillai & Bagavathi – Management Accounting, Chand & Co. Ltd., New Delhi, 6TH edition 2002.
2. T.S.Reddy & Y.Hari Prasad Reddy – Financial and Management Accounting, Margham publications, 12TH edition 2004.

REFERENCE BOOKS:

- 1.M.Y.Khan & P.K.Jain – Management Accounting, Tata McGraw Hill publishing company Ltd., 10th edition 2004.
- 2.R.Narayanaswamy – Financial accounting – A Managerial Perspective, Prentice Hall India Ltd., New Delhi 5th edition, 2014.
- 3.Paresh Shah Basic Financial Accounting for Management, Oxford Publications, 3rd edition, 2007

WEB SOURCES:

- 1.<https://corporatefinanceinstitute.com/resources/knowledge/finance/analysis-of-financial-statements/>
- 2.<https://www.aafmindia.co.in/financial-statement-analysis-tools-limitation-uses-process>
- 3.<https://www.accountingtools.com/articles/2017/5/14/financial-statement-analysis>

COURSE OBJECTIVE:

- To create the knowledge of Legal perspective and its practices to improvise the business.
- To describe the nature and classes of contracts.
- To identify the elements needed to create a contract.
- To read, interpret the various act related to business, property and business.
- To identify the rights related to copyrights and patents.

UNIT I INTRODUCTION 12

Legal Aspect of Business: Introduction to Business Laws- Business Management and Jurisprudence; structure of the Indian Legal Systems: sources of Law; Manager and Legal System

UNIT II LEGAL ASPECTS 12

Fundamentals of contract laws-Formation of Contracts;- Principles of Contract Laws-Legality of Object Consideration; Performance of contract-Discharge of contract- breach of contract-Quasi contracts.

UNIT III CONTRACT MANAGEMENT 12

Contract Management-Special Contracts-Laws of Agency; Principal-Agent Problem-Bailment, Pledge, Guarantee and Indemnity-Sales of Goods- Principles of Sales of Goods.

UNIT IV TRANSFER OF OWNERSHIP& PROPERTY 12

Transfer of Ownership& Property-Performance of contract-Consumer Protection Laws-Law relating to Business Organizations-Partnership Trusts- Company form of organization.

UNIT V COPYRIGHTS & TRADEMARKS 12

Protecting the property of Business-Copyright, Trademark, secret, Geographical Indications- Alternate Dispute resolutions.

TOTAL: 60 HOURS**COURSE OUTCOMES:**

At the end of the course, the students will be able to:

- CO – 1 : Draft a simple employment contract
- CO – 2 : Arrange the basics elements of contracts and classifications of contract
- CO – 3 : Improve their awareness and knowledge about functioning of local business.
- CO – 4 : Improve their awareness and knowledge about functioning of global business.

CO – 5 : Gather knowledge on evolvement of business enterprises

TEXT BOOKS:

1. N.D.Kapoor, Elements of Mercantile Law, S.Chand& Sons, 2013
2. P.P.S.Gogna, Mercantile Law, S. Chand & Co. Ltd., India, Fourth Edition, 2008.
3. Dr. Vinod, K. Singhanian, Direct Taxes Planning and Management, 2008.
4. Richard Stim, Intellectual Property- Copy Rights, Trade Marks, and Patents, Cengage Learning, 2008.

REFERENCE BOOKS:

1. Balachandran V., Legal Aspects of Business, Tata McGraw Hill, 20
2. Daniel Albuquerque, Legal Aspect of Business, Oxford, 20
3. Ravinder Kumar– Legal Aspect of Business. – Cengage Learning, 2nd Edition-2011.

WEB SOURCES:

1. <https://www.airtract.com/article/the-legal-environment-of-business-%E2%80%93-a-complete-guide#:~:text=Legal%20environment%20of%20business%20is,the%20scope%20of%20the%20firm.>
2. <https://www.indiastudychannel.com/resources/.6169-What-Legal-Environment.aspx>
3. <https://www.lawteacher.net/free-law-essays/international-law/the-law-that-regulates-businesses-in-united-state-of-america-international-law-essay.php>

COURSE OBJECTIVE:

- To study the communication skills
- To apply it in practical business situations, written exercises & e-mails and letters: Re-writing and re-framing of sentences are being delivered.

UNIT I INTRODUCTION 12

Fundamentals of Communication, Business Communication, The Communication Model, Communicating in teams, Overcoming the Barriers to Communication. Non-verbal communication, Introducing the 7 Cs of business writing – Candid, Clarity, Complete, Concise, Concrete, Correct and Courteous, writing business messages, The Stages in writing, Pre writing, Writing and Post writing.

UNIT II REVISING AND CHECKING MESSAGES 12

Revising to improve the content and sentence structure, Avoiding redundant phrases and words, Proof-reading to correct grammar, spelling, punctuation, format, and mechanics, Evaluating whether the message achieves its purpose. The Process of Writing E Mails, breaking it Down – The PAIBO Technique, Structuring an E Mail – The 3 T's – Introduction, Body and Conclusion, Effective Subject lines, Salutation and Signing off. Business reports and Proposals, Format, visual aids and contents, Oral Business presentations

UNIT III ETIQUETTE AND INTERVIEW 12

Meaning, Body Language, Gesture, Postures, Expressions, Dress code, Etiquette etc... Public speaking and Speech composition Technical Speeches and non technical presentation Principles of effective speaking and Presentations. Interview, Exit interview, Appraisal etc.. Importance of Interview, Art of conducting and giving interview Types of Interviews like Placement interview Discipline interview, Appraisal interview, Exit interview etc...

UNIT IV MEETING AND LETTERS 12

Opening and closing of meeting, Brain storming, e-meeting etc.. Importance of Meeting Procedure of conducting Group Discussions Significance of Brain Storming in Business Decisions, Advantages/Disadvantages of E-Meeting Preparing Agenda and Minutes of the meeting. Inquires, Circulars, Quotations, Orders, Memo, Minutes, Notice etc... Types of Letters : Letter Writing – letters - Business letters. Application for a job / covering letter with bio-data. Attitude. Negotiation

skills Social Conversation - Values and ethics - Managing stress.

UNIT V SOFT SKILLS

12

Principles of group discussion - Purpose of group discussion - Preparation - Skills to be acquired — communication, leadership, problem-solving - Effective participation. Personality Enrichment - Positive attitude - SWOT Analysis - Self-confidence and motivation - Inter-personal skills - Projecting a positive social image Time Management - Goal setting and prioritisation - ABC Analysis—preparing a personal schedule - Short term and long term goals - Implementing goals - Task list organisation Leadership Skills - Setting objectives and taking initiatives - Persuading and negotiating - Team work - Maintaining morale - Inspiring others

TOTAL: 60 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : Recall the basics of communication and its process, elements and importance.
- CO – 2 : Evaluate the effectiveness of revising, checking and proof reading the messages.
- CO – 3 : Discuss the concept of Etiquette and significance of Interviews
- CO – 4 : Identify different types of letters to make effective internal and external correspondence
- CO – 5 : Evaluate the effectiveness of revising and checking the messages.

TEXT BOOKS:

1. Sanjay Kumar & Pushpalatha, Communication Skills, Oxford University Press, 2011.
2. Kaul & Asha, Effective Business Communication, PHI 2nd Edition, 2006.

REFERENCE BOOKS:

1. Lesikar R.V & Flatley M V, Basic Communication Skills for empowering the internet generation, Tata-McGraw Hill, 2009.
2. Sharma R C & Mohan K, Business Correspondence & Report Writing, TMH, 2009.

WEB SOURCES:

1. <https://www.softskillsusa.com/what-is-meaning-of-business-communication-skills.php>
2. https://www.atctraining.com/soft_skills_definition_of_communication.htm
3. <https://www.jobwise.co.uk/the-importance-of-soft-skills-in-business/>

COURSE OBJECTIVE:

- To introduce the essential concepts necessary to make effective use of the computer.
- To understand what a computer can do, how it works, and how it can be used to create documents using word processing and spreadsheet applications for personal and business use.

UNIT I INTRODUCTION 12

History of Computer – Definition – Types of Computers – Desktop Computer – Laptop – Functions of Computer – Application and Current Trends for business related problems

UNIT II HARDWARE & SOFTWARE 12

Hardware System – Types of Hardware: Input, storage and output devices – Internal and External Parts of Hardware – Software – System Software: Operating System (OS) such as Microsoft Windows and Macintosh – Application software – Internet

UNIT III MICROSOFT WORD 12

Microsoft Word – History, Version – Features of Word Such as File Creation, Formatting, Editing, Paragraph Formatting, Inserting Header and Footer and Page Number, Inserting Tables, Inserting Symbols, Print Review and Printing

UNIT IV MICROSOFT EXCEL 12

Microsoft Excel – History, Version – Features of Excel Such as File Creation, Formatting, Editing, Organizing the Worksheet, Formulas/Functions, Sorting, Filters, Creating Charts, Print Review and Printing

UNIT V MICROSOFT POWERPOINT 12

Microsoft PowerPoint – History, Version – Features of PowerPoint Such as File Creation, Slide Creation, Formatting, Editing, Adding Transitions and Animation, Print Review and Printing.

TOTAL: 60 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : Describe the fundamentals of computer.
- CO – 2 : Explain the basics of hardware and software.
- CO – 3 : Identify different components of hardware systems.

CO – 4 : Discuss about the word processing using Microsoft Word.

CO – 5 : Demonstrate working with Spreadsheets using Microsoft Excel.

TEXT BOOKS:

1. Turban Rainer and Potter – Introduction to Information Technology, John Wiley & Sons, 2005.
2. Richard D Gitlin, Jeremiah F Hayes, Stephen B Weinstein, Data Communications Principles, Springer, 1992

REFERENCE BOOKS:

1. William Stallings, Data and Computer Communications, Prentice Hall, 2007
2. Behrouz A. Forouzan, DeAnza College, Data Communications and Networking, McGraw-Hills, 2007
3. N.D.Birrell, M.A. Ould, A Practical Handbook for Software Development, Cambridge University Press, 1988
4. Sanjay Saxena, A first course in computers, Vikas Publishing House Pt. Ltd. 2000

WEB SOURCES:

1. <https://mc.c.iavalley.edu/academic/computer-science-information-technologies/computer-applications-business/>
2. https://www.oakton.edu/academics/academic_departments/computer_app_business/index.php
3. <https://visionarybusinessperson.com/computer-application-in-business/>

The objective of this course is to take the best teaching learning resources to all to create a levelled platform. To make use of the Indian massive online to the aspiring youth of India

- The students will select a MOOC course from the Swayam platform.
- They will spend 2 hours per week undergoing this practical MOOC course under the guidance of a faculty.
- Every course will have a minimum of 8 to a maximum of 12 assignments depending on the duration of the course.
- Assignments will be submitted as per the requirements of the course.
- The marks scored in the assignments will be taken for internal assessment marks.
- The students will appear for a final practical exam conducted by VISTAS.

COURSE OUTCOMES:

- CO – 1 : Understand the latest developments in the field of study
- CO – 2 : Explain the students with latest information about the field of study
- CO – 3 : Apply the skills in the business world
- CO – 4 : List the various skills gained through this course
- CO – 5 : Summarize the concepts for application

SEMESTER II

COURSE OBJECTIVE:

- To teach relevant, practical and applicable human resource management skills to equip the student with the foundation competencies for working as HR practitioners in business.
- To highlight the important challenges facing managers and employees in today's business climate.
- To introduce contemporary theory and practice in modern human resource management and the range of tools and methods available to address HR challenges and problems.

UNIT I HUMAN RESOURCE MANAGEMENT 12

Meaning, Scope & Objectives of HRM, Evolution of HRM, Difference between PM & HRM, HRM function's, HR Policy & procedures. Competitive challenges influencing HRM Qualities & qualification of HR Manager, Line & Staff Roles and Responsibilities of HR Manager/Departments, HR as a factor of Competitive Advantage

UNIT II HUMAN RESOURCE PROCESS 12

Human Resource Planning – Job Analysis and Design -Recruitment - Selection and placement process – Types of interviews, Placement, Orientation & Induction, Determining training needs analysis, Delivery Methodology, Evaluation, Capacity Building.

UNIT III MANAGING CAREERS 12

Career Planning & Development vs. Employee development. Career stages – Career Choices and Preferences, Mentoring and Coaching, Time Management. Employee Separations, Downsizing & Outplacement, HRIS, Fundamentals of Industrial Relations and Fundamentals of Labour Laws

UNIT IV PERFORMANCE MANAGEMENT 12

Purposes of Performance Management, Performance Appraisal Methods, limitations and problems, Punishment and Promotion, Job evaluation. Wage & Salary fixation, incentives, bonus, ESOPs. Insurance, Fringe Benefits.

UNIT V CONTEMPORARY ISSUES IN HRM 12

Talent Management, Competency Mapping, Industrial Relations – Health & Safety issues,

grievance handling, D Work Life Balance, Quality of Work Life, HRD in India, International HRM

TOTAL: 60 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : Discuss the History and evolution of HRM.
- CO – 2 : Explain the importance of HRM in the organizations
- CO – 3 : Assess the major HRM functions and processes of HRM planning
- CO – 4 : Identify strategic HR planning and the HRM process to the organization’s strategic.
- CO – 5 : Explain how training helps to improve the employee performance.

TEXT BOOKS:

1. Aswathappa.K, Human Resource Management, Text and Cases, Tata McGraw Hill, New Delhi. 2014
2. Gupta. S.C, Advanced Human Resource Management, Strategic Perspective, ANE Books Pvt. Ltd, New Delhi.2009.

REFERENCE BOOKS:

1. Angela Baron and Michael Armstrong, Human Capital Management (Achieving Added Value through People), Kogan Page Limited, United States. 2007
2. Anuradha Sharma and Aradhana Khandekar Strategic Human Resource Management. Response Books, New Delhi. 2006
3. Beer et al, Managing Human Assets, The Free Press: Maxwell Mac Millan Inc, New York. 1984

WEB SOURCES:

- 1.<https://open.lib.umn.edu/humanresourcemanagement/chapter/1-1-what-is-human-resources/>
- 2.<https://www.hrdconnect.com/2019/05/22/what-is-hr-management-in-an-organisation/>
- 3.<https://www.thebalancecareers.com/what-is-human-resource-management-1918143>

COURSE OBJECTIVE:

- To understand the basics of market, marketing, marketing environment and business environment and its domain knowledge.
- To understand the core concepts in marketing concepts, critical thinking, problem solving an analysis

UNIT I INTRODUCTION 12

Understanding the term Marketing-Importance of Marketing-Scope of Marketing-Core Concepts-Company Orientation toward marketplace-Marketing and Customer Value-Marketing Environment-Micro and Macro Environment.

UNIT II CONSUMER MARKETS 12

Consumer Markets: Model of Consumer Behavior, Seven Os Structure, Factors Affecting Consumer Behavior, Stages in the Adoption Process, Industrial Markets -Characteristics, Industrial Buyer Behavior, Service Marketing-Characteristics-Marketing Strategy.

UNIT III MARKET SEGMENTATION 12

Market Segmentation: Levels and Bases for Segmentation, Segmenting Consumer Markets, Business Markets, Market Targeting -Evaluating Market Segments -Product Positioning for competitive advantage, Positioning Strategies.

UNIT IV MARKETING PROGRAMME 12

Marketing Programme: Decisions Involved in Product, Branding, Packaging, Product Extension Strategies - Product Line and Product Mix Decisions, New Product Development, Product Life Cycle. Pricing Products, Strategies, Distribution -Channels, Channel Management Decisions, Promotion Mix - Advertising, Sales Promotion, Public Relations, Personal Selling, Promotion Decisions, Place.

UNIT V MARKETING RESEARCH 12

Marketing Research and Control: Marketing Research – Course Objectives: & Scope – Research designs – research procedure – data types & sources, sampling techniques, analysis & reporting. Demand Measurement and Sales Forecasting Methods, Estimating Current and Future Demand.

Annual Plan Control, Efficiency Control, Profitability Control and Strategic Control, Marketing Audit, Online Marketing. Ethics in marketing.

Case study: Marketing strategy Implementation; Market Segmentation / Targeting / Positioning; Product Levels, Pricing

TOTAL: 60 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : Relate the corporate function of marketing.
- CO – 2 : Outline the macro and micro environment in the company’s marketing function.
- CO – 3 : Differentiate the consumer and institutional buyer behaviour.
- CO – 4 : Compare and contrast goods and services.
- CO – 5 : Define the target segments for the products

TEXT BOOKS:

1. Philip Kotler and Kevin Lane Keller, Marketing Management, PHI 14th Edition, 2010. KS Chandrasekar, “Marketing management-Text and Cases”, Tata McGraw-Hill-Vijaynicole, First edition, 2010.
2. Lamb, Hair and McDaniel, Marketing, 8th Edition, Thomson Learning, 2005, Rajan Saxena, Marketing management, TMH, 2006.

REFERENCE BOOKS:

1. Keith Blois, Marketing, Oxford University Press, 2005.
2. Ramaswamy V.S. Namakumari S, Marketing Management - The Indian Context, Macmillan India Ltd, 2006.

WEB SOURCES:

1. <https://www.iedunote.com/marketing-management#:~:text=Marketing%20management%20is%20the%20process,satisfy%20individual%20and%20organizational%20goals>.
2. <https://www.economicdiscussion.net/marketing-management/what-is-marketing-management/31788>
3. <https://www.indeed.com/hire/c/info/marketing-management>

COURSE OBJECTIVE:

- To provide foundational knowledge associated with the operations management
- To describe the various techniques for implementation of operations management based on the forecasting, planning, quality and inventory

UNIT I INTRODUCTION 12

History and Definition – Production Vs. Operations – Manufacturing Vs. Service Operations – Functions – Production Systems – Types of Production Systems – Operations Strategy – Operations Management Vs. Operations Strategy

UNIT II LOCATION, LAYOUT AND FORECASTING 12

Plant Location – Factors influencing location – Plant Layout – Types of Layout – Forecasting – Forecasting technique: Qualitative and Quantitative – Delphi Method – Regression Analysis – Forecasting Error

UNIT III PLANNING 12

Capacity Planning – Aggregate Production Planning (APP) – Disaggregation: Master Production Scheduling (MPS) – Material Requirement Planning (MRP) – Production Planning and Control (PPC)

UNIT IV QUALITY 12

Evolution of Quality – Quality Definition and Contributions by W. Edwards Deming, Joseph M. Juran and Philip B. Crosby – Dimensions of Quality – Process Quality Vs. Product Quality – Seven Basic Quality Tools – Plan-Do-Check-Act (PDCA) Cycle

UNIT V INVENTORY MANAGEMENT 12

Inventory Management – Types of Inventory Models – Independent Demand Vs. Dependent Demand – Basic Economic Order Quantity (EOQ) Model – Analysis: ABC and VED – Push Vs. Pull system – Just-In-Time (JIT) Vs. Material Requirement Planning (MRP)

TOTAL: 60 HOURS**COURSE OUTCOMES:**

At the end of the course, the students will be able to:

- CO – 1 : Explain the fundamental concepts of operations and production.
- CO – 2 : Understand the types of production systems.
- CO – 3 : Explain the fundamental concepts of layout and location.
- CO – 4 : Predict the demand using the different forecasting techniques.
- CO – 5 : Explain the fundamental concepts of various planning.

TEXT BOOKS:

1. Ajay Garg. Production and Operations Management, Tata McGraw-Hill Education, 2017.
2. Stevenson J. William, Operations Management, 9th Edition, TMH, 2007.

REFERENCE BOOKS:

1. Roger Schroeder, Susan Goldstein, M. Johnny Rungtusanatham. Operations Management, McGraw-Hill Education, 2010.
2. Lee J. Krajewski and Larry P. Ritzman, 2007, Operations Management strategy and analysis, 9th Edition, Pearson Education / Prentice Hall of India, 2007.

WEB SOURCES:

1. <https://corporatefinanceinstitute.com/resources/knowledge/strategy/operations-management/>
2. <https://managementhelp.org/operationsmanagement/>
3. <https://hbr.org/topic/operations-management>

Supply chain visibility - Supply chain event management -Supply chain performance -Planning and design methodology - Problem definition and planning - Data collection and analysis - Recommendations and implementation -Decision support systems

TOTAL: 60 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : Assess the eSCM, benefits and communication networks.
- CO – 2 : Analyze the various e-commerce models.
- CO – 3 : Summarize the classification of enterprise information systems.
- CO – 4 : Analyze the framework for managing supply chain information.
- CO – 5 : Compare the various enterprise architectures.

TEXT BOOKS:

- 1. Donald Bowersox, DavidCloss,& Bixbycooper Supply chain Logistical Management
- 2. R.H. Ballou, and Samir Business Logistics Management,5th Edition 2014

REFERENCE BOOKS:

- 1. Strauss, Alexa & Frost E-Marketing, Routledge; 8th New edition edition 2018
- 2. Statistics for Managers Using MS Excel, 8th Edition Levine & David Pearson Education 2017
- 3. David B. Grant & Chee Yew Wong Sustainable Logistics and Supply Chain Management: Principles and Practices for Sustainable Operations and Management Kogan Page; 2 edition April 3, 2017

WEB SOURCES:

- 1. https://ebooks.lpude.in/management/mba/term_4/DMGT523_LOGISTICS_AND_SUPPLY_CHAIN_MANAGEMENT.pdf
- 2. <https://www.geektonight.com/supply-chain-management-pdf/>

COURSE OBJECTIVE:

- To describe the various streams of the supply chain
- To describe the drivers of the supply chain
- To describe the concepts employed in the supply chain
- To explain about the strategies employed in the supply chain

UNIT I CONCEPTS OF SUPPLY CHAIN 12

Service and manufacturing supply chain dynamics - Evolution of supply chain management - Multiple views and flows - Service supply chains -Manufacturing supply chains - Measures of supply chain performance - Bullwhip effect

UNIT II SUPPLY CHAIN PROCESSES AND STRATEGIES 12

Integrated supply chains design - Customer relationship process - Order fulfillment process - Supplier relationship process - Supply chain strategies - Strategic focus - Mass customization - Lean supply chains - Outsourcing and offshoring - Virtual supply chains.

UNIT III SUPPLY CHAIN PERFORMANCE DRIVERS 12

Drivers of supply chain performance - Logistics drivers (Location, inventory and transportation) - Cross functional drivers (Pricing, information and sourcing) – Forecasting introduction - Framework for a forecast system - Choosing right forecasting technique - Judgment methods (Composite Forecasts, Surveys, Delphi Method, Scenario Building, Technology Forecasting, Forecast by Analogy) - Causal methods (Regression Analysis -Linear & Non-Linear Regression, Econometrics) - Time series analysis (Autoregressive Moving Average (ARMA), Exponential Smoothing, Extrapolation, Linear Prediction, Trend Estimation, Growth Curve, Box-Jenkins Approach) – CPFR

UNIT IV SALES AND OPERATIONS PLANNING 12

Introduction to Sales and operations planning - Purpose of sales and operations plans - Decision context - Sales and operations planning as a process - Overview of decision support tools

UNIT V RESOURCE PLANNING AND SCHEDULING 12

Enterprise resource planning - Planning and control systems for manufacturers - Materials requirement planning - Drum – Buffer – Rope system – Scheduling - Scheduling service and

manufacturing processes - Scheduling customer demand - Scheduling employees - Operations scheduling.

TOTAL: 60 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : Classify logistics and supply chain management
- CO – 2 : Analyze supply chain dynamics and various issues of supply chain performance.
- CO – 3 : Develop the supply chain strategies.
- CO – 4 : Select the various drivers of supply chain performance.
- CO – 5 : Design about sales and operations planning process

TEXT BOOKS:

1. Sunil Chopra, Peter Meindl, Supply Chain Management: Strategy, Planning, and Operation, Pearson 6th Edition, 2016.
2. Janat Shah, Supply Chain Management, Pearson Education India, 2nd Edition 2016
3. Li tong group announces global framework agreement with VEON. 2018

REFERENCE BOOKS:

1. Paul Schönsleben, Integral Logistics Management: Planning and Control of Comprehensive Supply, ACRC Press Company, 2016.
2. David Frederick Ross, Distribution Planning and Control: Managing in the Era of Supply Chain last edition, Springer, 2015.

WEB SOURCES:

1. <https://backup.pondiuni.edu.in/sites/default/files/Logistics%20Supply%20Chain%20Mgt200813.pdf>

TEXT BOOKS:

1. Pierre David, International Logistics: The Management of International Trade Operations Paperback – Import, 1 Dec 2013.
2. John Mangan, Chandra Lalwani, “Global Logistics and Supply Chain Management”, Tim Butcher John Wiley & Sons, 2nd Edition, 2011.

REFERENCE BOOKS:

1. David Simchi, Levi, Philip Kaminsky, Ravi Shankar, “Designing & Managing the Supply Chain”, Tata McGraw Hill, 14th Edition, 2010.
2. Ross.D.F, “Competing through Supply Chain Management”, Chapman & Hall, 6th Edition, 2009.
3. Woods.D,A. Barone,P.Murphy, D.Wardlow, “International logistics”, Chapman & Hall, 1998.

WEB SOURCES:

1. <https://www.msuniv.ac.in/Download/Pdf/2f057a4541d5465>
2. <https://aims.education/supply-chain-management-notes/>

IT and customer value- Information Technology for SCM-Goals of IT for SCM-Standardization-IT infrastructure-SCM system components-Integrating IT for SCM-decision Support Systems for SCM

International Issues in Supply Chain Management-Introduction global SCM-Risks and advantages of international supply chains-Issues in international supply chain management-Regional differences in Logistics

TOTAL: 45 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : Survey and analyse cooperation between different parts of an organisation
- CO – 2 : Evaluate the efficiency of Vendor Managed Inventory.
- CO – 3 : Describe operational procurement processes and be able to explain procurement
- CO – 4 : Demonstrate how inventory control fits into the logistics organization.
- CO – 5 : Incorporate the concepts of supply chain integration in real time business

TEXT BOOKS:

1. S Jaya Krishna, Business transformation outsourcing: An Introduction Paperback, ICFAI press 2017
2. Dominika Spsychalska, Vendor Managed Inventory: Exploring objectives, benefits and shortcomings of the business concept, Lap Lambert Academic Publishing, 2010

REFERENCE BOOKS:

1. SilaÇetinkaya& Chung-Yee Lee, Stock Replenishment and Shipment Scheduling for Vendor-Managed Inventory Systems, Management Science, 2008
2. Tempelmeier, Inventory Management in Supply Networks—Problems, Models, Solutions, Norderstedt, 2nd edition 2011.

WEB SOURCES:

1. <https://www.diva-portal.org/smash/get/diva2:998528/FULLTEXT01.pdf>
2. <https://www.thebalancesmb.com/vendor-managed-inventory-vmi-2221270>
3. https://www.tutorialspoint.com/supply_chain_management/supply_chain_management_tutorial.pdf

COURSE OBJECTIVE:

- To relate the strategy in supply chain management for a seamless integration of the distribution channels.
- To explain how technology can ease the cost and efficiency of the SCM of services.
- To realize the importance of distribution in the services marketing.

UNIT I SERVICES MARKETING AND SCM 9

Services Marketing, Channels & Supply Chain Management: The Difference Between Services and Goods-Services Marketing: The Difference Between Services and Goods- How Non-Profit Marketing Differs from For-Profit Marketing

UNIT II MARKETING CHANNEL 9

Definition and Function in the Marketplace- Channel Intermediaries: Definition and Function in Business Channel Intermediaries: Definition and Function in Business- physical distribution strategy, logistical and facilitating functions.

UNIT III CHANNEL CONFLICT 9

Horizontal & Vertical Conflict- pricing, distribution and logistical operations. The channel members: goal- comprehensive channel partnership-Eliminate conflict-drive product efficiently consumers.

UNIT IV SCM TECHNOLOGY 9

Technology, Measurement, Relationship & Material Integration-Distribution cost-efficient integration of the distribution chain

UNIT V LATEST TRENDS 9

Latest trends in SCM for services marketing, Contemporary Techniques for Services Marketing

TOTAL: 45 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : Differentiate the difference between goods and services.
- CO – 2 : Explain the logistical and facilitating functions of the intermediaries.
- CO – 3 : Eliminate the vertical and horizontal conflicts in channel.
- CO – 4 : Create a cost effective integration of channel partners.

CO – 5 : Make use of the contemporary techniques in service marketing.

TEXT BOOKS:

1. Robert Monczka, Robert Handfield, Larry Giunipero, James Patterson, Purchasing and Supply Chain Management, McGraw Hill, 6th edition 2015
2. Alan Harrison and Remko Van Hoek, Logistics Management and Strategy: Competing through the Supply Chain, McGraw Hill, 5th 2015
3. David Simchi-Levi, Philip Kaminsky, Designing and Managing the Supply Chain, EdithSimchi-Levi, 2002.

REFERENCE BOOKS:

1. Sunil Chopra and Peter Meindl, Supply Chain Management: Strategy, Planning, and Operation, McGraw Hill, 7th edition 2018.
2. Martin Christopher Logistics and supply chain management 5th edition 2016.
3. F. Robert Jacobs, William Berry, D. Clay Whybark, Manufacturing Planning and Control for Supply Chain Management, ThomasVollmann, 6th edition 2010.
4. Arjan J. Van Weele, Purchasing and Supply Chain Management: Analysis, Strategy, Planning and Practice, Nichole, 6th edition 2012
5. Shoshanah Cohen and Joseph Roussel, Strategic Supply Chain Management: The Five Core Disciplines for Top Performance, 2nd edition 2013

WEB SOURCES:

1. https://ebooks.lpude.in/management/mba/term_4/DMGT510_SERVICES_MARKETING.pdf
2. <https://examupdates.in/logistic-and-supply-chain-management-book/>
3. <https://backup.pondiuni.edu.in/sites/default/files/service-mgt-260214.pdf>
4. <https://www.msuniv.ac.in/Download/Pdf/2f057a4541d5465>

ELECTIVE COURSES – LOGISTICS

21EMBS23

LOGISTICS CONCEPTS AND PLANNING

4 0 0 4

COURSE OBJECTIVE:

- To get clear view about the concepts employed in the different logistical background a
- To explain the process related the logistical industry
- To explain the different drivers of logistics.

UNIT I INTRODUCTION LOGISTICS 12

Introduction – Scope of logistics in business, Logistics and Supply Chain Management, Core and support activities of logistics; Logistical integration hierarchy; Integrated Logistics; Operating objectives; Barriers internal integration; Logistical performance cycles; Supply chain relationships – Channel participants, Channel structure, Basic functions, Risk, power and leadership.

UNIT II LOGISTICS SYSTEM DESIGN 12

Logistics reengineering, Logistical environmental assessment, Time based logistics, Anticipatory and Response based strategies, Alternative strategies, Logistical operational arrangements, Time based control techniques; Integration theory – Location structure, Transportation economies, Inventory economies, Formulating logistics strategy.

UNIT III LOGISTICS STRATEGY AND PLANNING 12

Logistics planning triangle, Network appraisal; Guidelines for strategy formulation – total cost concept, Setting customer service level, Setting number of warehouses in logistics system, Setting safety stock levels, Differential distribution, Postponement, Consolidation, Selecting proper channel strategy.

UNIT IV INVENTORY AND PURCHASING 12

Review – Inventory and purchasing decisions; Multi facility location problems – Exact method, Heuristic methods, other methods; Logistics planning and design – Feasibility analysis, Project planning, Assumptions and data collection, Analysis, Development of recommendation, Implementation.

UNIT V LOCATION DECISIONS 12

Planning and design techniques – Logistics adhoc analysis, Location analysis, Inventory analysis, Transportation analysis

TOTAL: 60 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : Predict the scope of logistics and supply chain management
- CO – 2 : Identifying core and support activities in logistics.
- CO – 3 : Representing the various issues in logistics integration.
- CO – 4 : Testing the logistics channel participants and supply chain relationships.
- CO – 5 : Constructing the logistics re-engineering.

TEXT BOOKS:

1. Pierre A. David International Logistics: the Management of International Trade Operations 5th Edition 2017.
2. R.H.Ballou, Business Logistics Management, Prentice-Hall, 2004

REFERENCE BOOKS:

1. Richard Lloyd Successful Integrated Planning for the Supply Chain: Key Organizational and Human Dynamics Kogan Page; 1 edition March 2018
2. John J. Coyle, Edward J. Bardi and C. John Langley Jr., The Management of Business Logistics - A supply chain Perspective, Thomson Business Information, 10th edition 2016.
3. Vinod V. Sople, Logistics Management, Pearson Education, 2nd edition 2009

WEB SOURCES:

1. <https://www.studynama.com/community/threads/international-logistics-management-pdf-ebook-lecture-notes-download-for-mba.466/>
2. http://sjput.in/pdf/ibiv_ilm.pdf
3. <https://iimm.org/wp-content/uploads/2019/12/Logistics-and-Warehousing-Management.pdf>

TEXT BOOKS:

1. David Lowe, Lowe's Transport Manager's and Operator's Handbook 2019
2. Janat Shah, Supply Chain Management, Pearson Education India, 2nd edition 2016
3. Raghuram and N. Rangaraj, Logistics and Supply chain Management - Leveraging Mathematical and Analytical Models: Cases and Concepts, New Delhi: Macmillan, 2000.

REFERENCE BOOKS:

1. Sunil Chopra, Peter Meindl, Supply Chain Management: Strategy, Planning, and Operation, Pearson, 6th edition 2014.
2. Michael B Stroh, Practical Guide to Transportation and Logistics, Logistics Network, 2006.
3. Alan Rushton, John Oxley, Handbook of Logistics & Distribution Management, Kogan Page Publishers, 2006.

WEB SOURCES:

1. https://base-logistique-services.com/storage/app/media/Chopra_Meindl_SCM.pdf
2. <https://examupdates.in/mba-international-logistics-management/>
3. <https://examupdates.in/sales-and-distribution-management-notes/>
4. <https://bookpdf.co.in/international-logistics-management-pdf/>

COURSE OBJECTIVE:

- To provide the participants with a good knowledge of airfreight operations, services and management that can support them in various business functions and roles such as operations, customer service, account management and sales.
- To create awareness about the Air Cargo management.
- To provide general information or a framework on the setup of air cargo processes, for business.

UNIT I AIR PORTS AND SHIPMENT 9

Ground Handling Agencies - Air Craft - Advantage of Air shipment - Economics of Air Shipment - Sensitive Cargo by Air shipment - Do's and Don'ts in Air Cargo Business

UNIT II AIR CARGO 9

Air Cargo Console - Freight of Air Cargo - Volume based Calculation of Freight - Weight based Calculation of Freight - Import Documentation - Export Documentation

UNIT III AIRWAY BILLS 9

Airway Bills - FIATA - IATA - History of IATA - Mission of IATA - Price setting by IATA - Licensing of Agencies - Sub Leasing of Agencies - freight carriers by scheduled freight tonne kilometers flown

UNIT IV CARGO VILLAGE 9

History of Dubai Cargo Village - Location of DCV - Equipment and Handling at DCV - Operations - Advantage of Sea Air Cargo - Why Sea Air Cargo is Cheaper - Why Air freight from Dubai is Cheaper?

UNIT V DG CARGO 9

DG Cargo by Air - Classification and labelling - Types of Labels according Cargo - Samples of Labels - Packing and Transportation of DG Goods by Air

TOTAL: 45 HOURS**COURSE OUTCOMES:**

At the end of the course, the students will be able to:

- CO – 1 : Learn about the airports and aircrafts.
 CO – 2 : Representing the role of a custodian in air cargo.

CO – 3 : Know about the various IATA and ICAO airport and airline codes.

CO – 4 : Judging the roles of GSSA and the GHA.

CO – 5 : Learn about the various aspects air cargo transport.

TEXT BOOKS:

1. Yoon Seok Chang, Air Cargo Management, CRC Press, 2015.
2. Michael Sales Air Cargo Management: Air Freight and the Global Supply Chain Dec 2016
3. Ruwantissa Abeyratne Competition and Investment in Air Transport Springer Nature; 1st ed. 2016 edition
4. Xie Chun Xun Zhu, Air Cargo Management Introduction - Aviation Logistics, Management Series (Chinese Edition), Southeast University Press, 2006.

REFERENCE BOOKS:

1. Paul, Air cargo distributions: a management analysis of its economic and marketing benefits, Jackson and William Brackenridge (Gower Press), 1988.
2. Peter S. Smith, Air freight: operations, marketing and economics, Chu (Boston: Kluwer Academic Publishers), 2004.
3. John Walter wood, Airports; some elements of designs and future development, Chu (Boston: Kluwer Academic Publishers), 1981.

WEB SOURCES:

1. https://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/S001827/P001830/M029358/ET/15244866958.8Q1.pdf
2. https://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/S001827/P001830/M029358/ET/15244866958.8Q1.pdf
3. <https://www.routledge.com/Air-Cargo-Management-Air-Freight-and-the-Global-Supply-Chain/Sales/p/book/9781138659544>
4. <http://sim.edu.in/wp-content/uploads/2017/10/Logistics-management-air-and-sea-1.pdf>

- CO – 3 : Using the freight costing and pricing.
- CO – 4 : Monitoring the air transport and IATA.
- CO – 5 : Constructing the various aspects air cargo transport.

TEXT BOOKS:

1. K. V. Hariharan, Containerisation, Multimodal Transport & Infrastructure Development In India, Shroff Publishers and Distributors Pvt. Ltd, 6th Edition, 2014
2. Hariharan K. V., A Textbook on Container & Multimodal Transport Management, Shroff Publishers and Distributors Pvt. Ltd, 1st edition, 2002.
3. K. V. Hariharan, Text Book On Container & Multimodal Transport Management, Pearson Education, 2002.

REFERENCE BOOKS:

1. Jotin Khisty C and Kent Lall B, Transportation Engineering: An Introduction, Prentice Hall International, 3rd edition 2002.
2. Hutchinson B.G, Principles of Urban Transport Systems Planning, McGraw-Hill Book Company (latest edition), 2013.

WEB SOURCES:

1. https://www.vtpi.org/multimodal_planning.pdf
2. <https://www.nctr.usf.edu/wp-content/uploads/2015/08/77954.pdf>
3. <https://www.scribd.com/document/339980016/TRANSPORTATION-SYSTEMS-AND-LOGISTICS-MANAGEMENT-pdf>
4. <https://ocw.mit.edu/courses/engineering-systems-division/esd-260j-logistics-systems-fall-2006/lecture-notes/lect21.pdf>

COURSE OBJECTIVE:

- To discuss about the inland transportation and the logistic avenues in inland transportation management at sea.
- To explain in safety aspects in the inland transportation management, Cost benefit analysis on using inland waterways & latest trends
- To explain about the use of technology to support inland waterways for transportation.

UNIT I MODES OF TRANSPORTS 9

Sea trade-Role of ocean transport-various modes of transports and its merits and demerits-Introduction inland waterways in India-development of coastal shipping-nature and scope –inland waterways - Importance in India- waterways for logistics and supply chain management-vessel safely on the Inland Waterways.

UNIT II BRIDGE AND TUNNEL 9

Bridges & Tunnels-Bridge operations and Use of tunnels -The Rules of the Road-By-laws and local traffic regulations -National regulations

UNIT III SAFETY 9

Boat safety-Use of fire extinguishers-Watertight integrity -Fire hazards, particularly gas and petrol-Refloating after grounding - Personal Safety-Risks involved in the water, including cold shock-Avoidance of personal injury, including crush injuries and threats in water and precaution strategies.

UNIT IV RISK 9

Special risks children-Checks be undertaken periodically -Undertake checks be carried out before and whilst running-Common boating terms --Loading and weight distribution-Inter-action and canal effect

UNIT V ENVIRONMENT 9

Care Of The Environment-Avoiding damage banks, boats, flora and fauna-Pollution avoidance-Consideration for water users –Cost benefit analysis on using inland waterways-latest trends and use of technology support inland waterways for transportation.

TOTAL: 45 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : Identify the mode of transportation.
- CO – 2 : Describe the implementation of inland waterways in India
- CO – 3 : Identify the special risks that are involved in safety
- CO – 4 : Analyze the loading and weight distribution.
- CO – 5 : Evaluate the Cost benefit analysis using inland waterways.

TEXT BOOKS:

1. Charles W. Howe, Joseph, Inland Waterway Transportation: Studies in Public and Private Management, 2016.
2. Derek Lundy, The way of a ship Penguin Random House UK, 2004.

REFERENCE BOOKS:

1. Walter Havighurst, Voices on the river,, Castle Books, 2009
2. Robin Knox and Johnston ,The Conway History of Seafaring in the Twentieth Century, Potomac Books Inc.,2000
3. Richard Woodman, The history of the ship , Richard Woodman, Lyons Pr,1998

WEB SOURCES:

1. https://www.unescap.org/sites/default/d8files/pub_1836_fulltext.pdf
2. <https://www.interreg-central.eu/Content.Node/D.T3.1.5-Assessment-of-inland-waterways-system.pdf>
3. <https://www.routledge.com/Inland-Waterway-Transportation-Studies-in-Public-and-Private-Management/Howe-Carroll-Hurter-Jr-Leininger-Ramsey-Schwartz-Silberberg-Steinberg/p/book/9781138955264>
4. <https://ncert.nic.in/textbook/pdf/legy210.pdf>
5. <https://www.gmpplus.org/media/fulpmnkq/ts-3-3-short-sea-shipping-and-inland-waterways.pdf>

COURSE OBJECTIVE:

The internship module aims to provide the student with:

- A practice-oriented and ‘hands-on’ working experience in the real world or industry, and to enhance the student’s learning experience.
- An opportunity to develop a right work attitude, self-confidence, interpersonal skills and ability to work as a team in a real organisational setting.
- An opportunity to further develop and enhance operational, customer service and other life-long knowledge and skills in a real world work environment.
- Pre-employment training opportunities and an opportunity for the company or organisation to assess the performance of the student and to offer the student an employment opportunity after his/her graduation, if it deems fit.

COURSE OUTCOMES:

At the end of the course, a student will be able to

CO – 1: Understanding the application of knowledge and skill sets acquired from the course and workplace in the assigned job function/s.

CO – 2: Applying real life challenges in the workplace by analyzing work environment and conditions, and selecting appropriate skill sets acquired from the course.

CO – 3: Create critical thinking and problem-solving skills by analyzing underlying issue/s to challenges.

CO – 4: Understanding the ability to harness resources by analyzing challenges and considering opportunities.

CO – 5: Understanding appreciation and respect for diverse groups of professionals by engaging harmoniously with different company stakeholders.

SEMESTER III

COURSE OBJECTIVE:

- To provide foundational knowledge associated with the domain of business analytics.
- To familiarize the students with all concepts including Business Intelligence, Regression, Optimization Techniques and Simulation

UNIT I BUSINESS ANALYTICS 12

Introduction – Evolution – Types of Analytics – Modeling and Models – Decision Making – Tools – Framework – Applications

UNIT II DESCRIPTIVE ANALYTICS 12

Introduction – Data, Information and Knowledge – Business Intelligence – Data Warehouse – Dashboard – Reporting – Data Visualization – Descriptive Statistics

UNIT III PREDICTIVE ANALYTICS 12

Introduction – Regression – Time Series Analysis and Forecasting – Statistics Vs Data Mining – Data Mining – Data Mining Tasks (Descriptive, Predictive) – Learning methods (Unsupervised, Supervised) – Simulation

UNIT IV PRESCRIPTIVE ANALYTICS 12

Introduction – Optimization – Classification of optimization problems – Operations Research Techniques for Analytics – Mathematical Model – Linear programming – Transportation Problems

UNIT V SOFTWARE 12

Software such as Excel, R, Python, SPSS, Tableau and SAS – Applications of Analytics Such as Descriptive, Predictive and Prescriptive using spread modelling such as Excel

TOTAL: 60 HOURS**COURSE OUTCOMES:**

At the end of the course, the students will be able to:

- CO – 1 : Explain the different types of Analytics.
- CO – 2 : Understand the decision-making models for Analytics.
- CO – 3 : Understand the Business Intelligence.
- CO – 4 : Explain the tools of Descriptive Analytics.
- CO – 5 : Explain the regression models.

TEXT BOOKS:

1. S. Christian Albright and Wayne L. Winston, Business Analytics: Data Analysis and Decision Making, Cengage Learning Publication, 5th Edition, 2011
2. James R. Evans., Business Analytics – Methods, Models and Decisions, Pearson Publications, 1st Edition, 2012.
3. Ramesh Sharda, Dursun Delen, Efraim Turban, Business Intelligence and Analytics – Systems for Decision Support, Pearson, 10th Edition, 2014.

REFERENCE BOOKS:

1. Carlo Vercellis, Business Intelligence: Data Mining and Optimization for Decision Making, John Wiley & Sons Ltd., 2009.
2. Taha Hamdy. Operation Research -An Introduction, Prentice-Hall, 9th edition, 2012.
3. Banks, J., Carson, J. S. and Nelson, B. L. , Discrete Event System Simulation, 4th edition, Pearson Education Asia, 2006.

WEB SOURCES:

1. <https://www.slideshare.net/Jigneshkariya/business-analytics-143047001>
2. <https://slideplayer.com/slide/5684284/>

COURSE OBJECTIVE:

- To develop a research orientation among the students and acquaint them with fundamentals of research methods.
- To have a knowledge about research and how research is conducted.
- To understand the data collection methods the sampling methods and the data analysis method.
- To create awareness about the importance of research in all fields.

UNIT I INTRODUCTION 12

Introduction to Research – Meaning of research-Research applications in social and business sciences – Characteristics of good research study — Types of Research – Research process– Defining the Research problem – Problem identification process – Research Questions – Literature Survey – Formulating the research hypothesis – Writing a research proposal

UNIT II RESEARCH DESIGN AND MEASUREMENT 12

Research design – Definition – types of research design – Descriptive Research Designs: Exploratory – Cross-sectional studies and Longitudinal studies; Experimental Designs – Data Collection – Types of data –Primary and Secondary data – Methods of primary data collection – Online Interviews and Focus Groups – Observation – Interview – Case study Questionnaire and Schedule – Construction of questionnaire – pilot study

UNIT III SAMPLING AND DATA COLLECTION 12

Sampling concepts- Sample vs Census – Non Sampling error-Sampling Techniques – Probability and Non-probability sampling methods- Determination of Sample size- Types of Measurement Scales; Attitude; Classification of Scales: Single item vs Multiple Item scale, Comparative vs Non-Comparative scales, Measurement Error, Criteria for Good Measurement.

UNIT IV DATA PROCESSING AND ANALYSIS THROUGH SPSS 12

Data Processing Operations– editing – Coding –Data entry – Classification and Tabulation of Data – Univariate and Bivariate Analysis of Data: Descriptive vs Inferential Analysis – Chi-square Analysis – Analysis of Variance – t test – Procedure for testing hypothesis

UNIT V REPORT DESIGN AND WRITING 12

Introduction - Research Report - Different types – Criteria of Good Research -Structure of the

research report – Title, Table of Contents – Synopsis, bibliography - Introductory Section – Research Design – Result Section – Recommendation & Implementation Section- - Bibliography – Citation rules Research ethics – Research databases –research metrics – Publication ethics – Use of plagiarism software – Turnitin – urkund and open source software tools

TOTAL: 60 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : Demonstrate how research to be conducted in a systematic way
- CO – 2 : Develop hypothesis and understand procedure for experimenting hypothesis
- CO – 3 : Construct a questionnaire, interpret the results with the help of various statistical tools
- CO – 4 : Analysis the data using the SPSS software
- CO – 5 : Discuss the Researchers Ethical code and plagiarism software tools

TEXT BOOKS:

1. Kothari, C.R., Research Methodology”, Methods and Techniques, New Age International, 6th Edition, 2010.

REFERENCE BOOKS:

1. Panneerselvam, R., “Research Methodology”, Prentice-Hall of India, New Delhi, 7th Edition, 2004.
2. Donald R. Cooper, Pamela S. Schindler and J K Sharma, Business Research methods,11th Edition, Tata McGraw Hill, New Delhi, 20 .

WEB SOURCES:

1. <https://nptel.ac.in/courses/121106007>
2. <https://nptel.ac.in/courses/110107080>
3. https://www.sagepub.com/sites/default/files/upm-binaries/36330_Chapter2.pdf
4. <https://www.youtube.com/watch?v=LKH1Kp7TQA4>

ELECTIVE COURSES – LOGISTICS & SUPPLY CHAIN

21EMBS31

INTERNATIONAL LOGISTICS

3 0 0 3

COURSE OBJECTIVE:

- To explain the movement of cargo from vendor to end user across the globe
- To increase the value in product.
- To add value that includes improved quality and product accessibility across the world at optimal cost

UNIT I TRANSPORTATION

9

Meaning and Significance of International Transportation- Role of transportation in integrated logistics process, Basic principles of international transportation, Parties involved in international transportation, Significance of Transportation, Modes of International Transportation- Criteria for Selection of different modes of transportation, Multi Modal Transportation. Freight costing and pricing- Classification of Costs associated with Transportation process, Cost Strategies, Factors affecting, Transportation rate

UNIT II OCEAN MODE OF TRANSPORTATION

9

Features, Types and Terminology- Features, Advantages and Disadvantages of using sea mode, Classification of ships, Shipping Methods, S wage in Ship, Major Sea-routes around the world, Important Terminology, Freight, Parties and Perils Associated with Sea Mode- Parties involved in sea mode of transportation- Ocean Freight- Types of Sea Freight, Calculation of Freight; Maritime Risks, Marine Insurance.

UNIT III AIR AND FREIGHT TRANSPORTATION

9

Features, Types and Terminology- Significant Features, Advantages and Constraints of Air transportation, Types of Carriers, Air Cargo Chain Operators, Legal Aspect of Carriage of Goods by Air; Freight Structure and \ organizational set up- ULD Concept, Air Cargo Tariff Structure- Air Freight Classification, Air Freight Calculation, Factors Affecting Air Freight Rates, Air Freight Consolidation, Role of IATA and TIACA in Air Cargo Industry.

UNIT IV LAND MODE

9

Transportation by Rail and Road, Meaning of Land mode of transportation, International Road Transportation, International Road Network, Advantages and Constraints of International Road

Transport, International Rail Transportation, Advantages and Constraints of International Rail Transport; Pipeline as a Mode of Transportation and Concept of Multi-modalism, Concept of Containerization.

UNIT V EXIM PROCEDURE AND DOCUMENTATION 9

Export procedure in India, Import Procedure in India, Transport Documents, Mate Receipt, Bill of Lading – features and types, Air-way Bill, Lorry Receipt; INCOTERMS 2013; Packaging and Labeling for Exports- What is packaging? Functions of Packaging, Labeling the export packages, Packaging for different modes of transportation, Rail Receipt.

TOTAL: 45 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : Clarifying the various basic issues in international transportation.
- CO – 2 : Carrying out the multimodal and intermodal transportation.
- CO – 3 : Coordinating the freight costing and pricing.
- CO – 4 : Monitoring about risks and insurance in ocean transportation.
- CO – 5 : Designing about air mode of transportation.

TEXT BOOKS:

- 1. Ewan Roy, what is global supply chain management? by Trade Ready, ,2017
- 2. Altekar, supply chain management,and concepts PHI 2013.

REFERENCE BOOKS:

- 1. R.B. Handfield and E.L. Nochols, Jr. Introduction Supply Chain Management. Prentice Hall, 2nd edition (November 30, 2014)
- 2. Sunil Chopra and Peter Meindel. Supply Chain Management: Strategy, Planning, and Operation, Prentice Hall of India, 6th Edition 2013.

WEB SOURCES:

- 1. <https://examupdates.in/international-marketing-logistics-notes/>
- 2. https://www.researchgate.net/publication/296705994_International_Logistics
- 3. https://collegetutor.net/notes/Introduction_to_International_Logistics_pdf_notes

COURSE OBJECTIVE:

- To explore the fundamental concepts of Global Procurement Management.
- To gain knowledge in Strategic Sourcing.

UNIT I PURCHASING OPERATIONS AND STRUCTURE 9

The purchasing and supply process - Introduction to purchasing and SCM - Strategic supply management roles and responsibilities - Improving the procure to pay process - Approval, contract and purchase order preparation - Types of purchases - Purchasing policy and procedures -Policy overview - Purchasing policies - Purchasing procedures.

UNIT II SUPPLY MANAGEMENT INTEGRATION AND STRATEGIC SOURCING 9

Internal integration - External integration - The critical role of cross functional scouring teams - Integrating supply management, engineering, and suppliers to develop new products and services – purchasing/supply management organizational structure - Purchasing position within the organizational structure - Supply management and commodity strategy development - Aligning supply management and enterprise objectives - Category strategy management - Types of supply management strategies - E-reverse auctions - Evolving sourcing strategies - Supplier evaluation and selection - Supplier evaluation and selection process - Key supplier evaluation criteria - Developing a supplier evaluation and selection survey - Reducing supplier evaluation and selection cycle time.

UNIT III TOOLS AND TECHNIQUES FOR PURCHASING ANALYSIS 9

Project management - Learning – curve analysis - Value analysis / value engineering - Quantity discount analysis - Process mapping - Supplier quality management Supplier management and development - Supplier performance measurement - Rationalization and optimization: Creating a manageable supply base - Supplier development: A strategy for improvement - Overcoming the barriers to supplier development - Managing supply base risk - Managing sustainability in the supply base.

UNIT IV STRATEGIC COST MANAGEMENT 9

A structured approach to cost reduction - Price analysis - Cost analysis techniques - Total cost of ownership - Collaborative approaches to cost management

UNIT V NEGOTIATION AND CONTRACTING

9

Negotiation - The negotiation framework in supply management - Negotiation planning - Power in negotiation - Concessions, negotiation tactics, win-win negotiation - Internal negotiation - Impact of electronic media on negotiations - Contract management - Elements of contract - How to negotiate and write contract - Types of contract - Long-term contracts in alliances and partnerships - Nontraditional contracting - Settling contractual disputes.

TOTAL: 45 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : Summarize the Purchasing policies.
- CO – 2 : Understand the Methods of Supplier evaluation and selection.
- CO – 3 : Identify the types of Process mapping tools.
- CO – 4 : Discuss about Price analysis.
- CO – 5 : Judging the Contract management.

TEXT BOOKS:

1. Parasram, “In Cotermis Exports Coartind and Pricing with Practical Guide to in Co-Terms, 1s Edition, Jain Book, 6th Edition, 2010.
2. M I Mahaian, “Impart Do It Yourself”, Jain Book, 7th Edition, 2007.

REFERENCE BOOKS:

1. John Wiley, “Global Operations & Logistics:Text & Cases-Dornier”, Pearson Education, 2nc Edition 2013.
2. David Simchi-Levi, “Designing & Managing Supply Chain-Concepts, Strategies”, Tata McGraw- Hill, 8th Edition, 2000.

WEB SOURCE:

1. <https://publications.lib.chalmers.se/records/fulltext/90488.pdf>
2. <http://www.mim.ac.mw/books/Purchasing%20And%20Supply%20Chain%20Managemement%204th%20edition.pdf>
3. <http://www.ddegjust.ac.in/2017/Uploads/11/POM-325.pdf>
4. https://www.researchgate.net/publication/327320611_Purchasing_and_Supply_Management

COURSE OBJECTIVE:

- To help the students in explaining the significance of Warehousing.
- To provide timely customer service,
- To keep track of items so they can be found readily & correctly
- To minimize the total physical effort and minimize the cost of moving goods.

UNIT I INTRODUCTION WAREHOUSING 9

Introduction – Warehousing – Warehousing Decisions – Warehouse Operations – WMS –Types of Warehouses – Warehouse Layout – Functions - Equipment and components – Centralized & Decentralized – Warehouse operations and Storage Systems – Warehousing Cost Analysis

UNIT II INVENTORY MANAGEMENT 9

Concepts – Role in Supply Chain – Role in Competitive Strategy – Independent Demand Systems – Dependent Demand Systems – Functions – Types – Cost – Need for Inventory – Just in Time- Inventory Control – ABC Inventory Control – Bull Whip Effect

UNIT III MANAGING WAREHOUSE EFFICIENCY 9

Order picking – Picking methods-pick path – Measuring Warehouse Efficiency – Warehouse Workforce design and development – cross docking

UNIT IV UNITIZATION, SHIPPING AND PACKAGING 9

Container optimization-Container loading and void fill-Weigh checking-Automated loading-Dock management-packaging-types-cost- and labelling functions and design

UNIT V DISTRIBUTION FACILITIES MANAGEMENT 9

Material Handling Systems–Types of Material Handling Equipment – Modern Warehousing – ASRS & their Operations – Bar Coding-Technology & Applications in Logistics Industry – RFID Technology & Applications – Types of Conveyors – Refrigerated Warehouses

TOTAL: 45 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : Summarize the basics of warehousing.
CO – 2 : Justify the various types of warehouses.

CO – 3 : Compare the various costs involved in a warehouse.

CO – 4 : Constructing the inventory management in the supply chain.

CO – 5 : Design the use of warehouse management systems manage warehouse operations.

TEXT BOOKS:

1. Frazelle, World Class Warehousing & Material Handling, Tata McGraw-Hill, 2nd edition 2015.
2. Vinod.V.Sople, Logistics Management, Pearson Education, 3rd edition 2012.
3. Arnold, Introduction Materials Management, Pearson Education, 7th edition 2011.

REFERENCE BOOKS:

1. Frazelle, World Class Warehousing & Material Handling, Tata McGraw-Hill, 2nd edition 2015.
2. Satish K. Kapoor and PurvaKansal, Basics of Distribution Management - A Logistical Approach, Prentice Hall, 1st Edition 2004
3. Satish K. Kapoor and PurvaKansalMarketing, Logistics - A Supply Chain Approach , Pearson Education, 2003

WEB SOURCE:

1. <https://www.veeqo.com/wp-content/uploads/2018/04/Warehouse-Management-PDF.pdf>
2. https://www.academia.edu/13356349/Handbook_of_Logistics_and_Distribution_Management
3. <https://www.humanitarianlibrary.org/sites/default/files/2019/05/LOG-WarehousingandInventoryManagement-130519-0911-13124.pdf>
4. http://supplychainhandbook.jsi.com/wp-content/uploads/2017/01/JSI_Supply_Chain_Manager's_Handbook_Chpt.8_Final.pdf

COURSE OBJECTIVE:

- To prepare students successfully implement a contract logistics and closed supply chain in Retail, FMCG and Automobile sectors.
- To explain the concept and principle of contract logistics and closed supply chain

UNIT I CONTRACT LOGISTICS 9

Third party logistics industry overview - A framework for strategic alliances - Evolution of contract logistics - Types of third party logistics providers – Auto, FMCG and Retail-Third party services and integration

UNIT II CLOSED LOOP SUPPLY CHAINS AND LOGISTICS 9

Introduction closed loop supply chains and logistics – Logistics and closed loop supply chain service - Overview of return logistics and closed loop supply chain models – Introduction product returns - Product Vs Parts returns - Strategic issues in closed loop supply chains

UNIT III BUSINESS AND MARKET 9

Overview - Introduction life cycle management - Trends and opportunities – Au Warranty management, return process and benchmarks - Market overview - Reasons for using reverse logistics - General characteristics - Consumer goods Depot repair and value added services - Operating dynamics - Competitive evaluation - Secondary markets and final disposal.

UNIT IV EMERGING TRENDS 9

Emerging trends in Retail, FMCG and Au sectors- Systems and technology - For consumer goods operations, High tech logistics system - Impact and value of advanced logistics -

UNIT V MANAGING PROCESSES 9

Managing processes - Step by step process - Use of third party service providers - Additional factors – Contemporary issues – Make in India and its impact on Countries GDP and Economic Growth

TOTAL: 45 HOURS**COURSE OUTCOMES:**

At the end of the course, the students will be able to:

CO – 1 : Identify basics of contract logistics.

- CO – 2 : Recall about the third party logistics providers.
- CO – 3 : Respond about closed loop supply chains.
- CO – 4 : Determine the business and markets for closed loop supply chains.
- CO – 5 : Generate the emerging trends in closed loop supply chains.

TEXT BOOKS:

1. Janat Shah, Supply Chain Management: Text and Cases, 2nd Edition 2016 .
2. Janat Shah, Supply Chain Management: Text and Cases, 2nd Edition 2017.
3. John Manners-Bell, Logistics and Supply Chains in Emerging Markets, Kogan Page, 2017.

REFERENCE BOOKS:

1. Coyle, John Joseph. (2017). Supply chain management: a logistics perspective. 10th ed. Australia: Cengage Learning. HD 38.5 C69 2017
2. Abbey, J. D., & Guide Jr, V. D. R. (2017). Closed-loop supply chains: a strategic overview Sustainable Supply Chains (pp. 375-393): Springer

WEB SOURCE:

1. <https://www.researchgate.net/publication/325199491> **A review of reverse logistics and closed loop supply chain management studies published in IJPR a bibliometric and content analysis**
2. https://www.ripublication.com/irph/ijert_spl/ijertv6n4spl_07.pdf

COURSE OBJECTIVE:

- To understand the performances of each individual driver are monitored.
- To understand the reason for the performance, drop at every stage of the supply chain is monitored and briefed.

UNIT I STRATEGIES, PLANNING AND PERFORMANCE 9

Principles and strategies of Logistics and supply chain management, Logistics and supply chain operations planning, Approaches to develop metrics

UNIT II LOGISTICS MEASUREMENTS SYSTEMS 9

Logistical and supply chain measurement, Measurements in integration context

UNIT III LOGISTICS CONTROL SYSTEMS 9

Logistics / supply chain control, Characteristics of an ideal measurement system

UNIT IV UNDERSTANDING PERFORMANCE FRAMEWORKS 9

Mapping for supply chain management, Lean thinking and supply chain management

UNIT V SUPPLY CHAIN PERFORMANCE MEASUREMENT 9

Measurement of supply chain performance.

TOTAL: 45 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : Evaluate performance of logistics.
- CO – 2 : Reproduce knowledge on measurement of logistics
- CO – 3 : Design the various measurement systems.
- CO – 4 : Evaluate the performance of supply chain management.
- CO – 5 : Measure performance of supply chain management

TEXT BOOKS:

1. Bowersox & Closs, Logistical Management, McGraw-Hill Companies, 2017.
2. Martin Christopher, Logistics & Supply chain management, 2016.

REFERENCE BOOKS:

1. Sunil Chopra and Peter Meindl, Supply Chain management - Strategy, Planning and

Operation, Pearson Education 2018.

2. Mohanty, Essentials of Supply Chain Management, Jaico 2018. Publishing House, 2018

WEB SOURCE:

1. **[http://www.ascdegreecollege.ac.in/wp-content/uploads/2020/12/Logistics and Supply Chain Management.pdf](http://www.ascdegreecollege.ac.in/wp-content/uploads/2020/12/Logistics%20and%20Supply%20Chain%20Management.pdf)**
2. **[http://cbseacademic.nic.in/web_material/Curriculum/Vocational/2017/Logistics %20operations%20and%20supply%20chain%20management XII.pdf](http://cbseacademic.nic.in/web_material/Curriculum/Vocational/2017/Logistics%20operations%20and%20supply%20chain%20management_XII.pdf)**

COURSE OBJECTIVE:

- To provide foundational knowledge associated with the green supply chain.
- To teach the implication of today's most pressing environmental issues
- To describe how the various green supply chain practices can actually save money, increases efficiency and reduce delivery time.

UNIT I INTRODUCTION 9

Introduction – Traditional Supply Chain and Green Supply Chain – Environmental Concern and Supply Chain – Closed-loop Supply Chain – Corporate Environmental Management – Green Supply Chain (GSCM): Definition, Basic Concepts – GSCM Practices

UNIT II ECO-DESIGN 9

Design for the Environment (DFE) or Eco-Design – Eco-Design and Supplier Relationships – Definitions of Eco-Design – Tools of Product Eco-Design – Involving suppliers in product eco-design: Drivers, Challenges and Successful factors

UNIT III GREEN PURCHASING 9

Green Procurement and Purchasing – Definitions of green purchasing – Drivers of green purchasing – Green purchasing strategies – Green purchasing performance measurement –Green Supplier Development and Collaboration.

UNIT IV GREEN MANUFACTURING 9

Green Manufacturing or Production: Evolution, Definitions – 4Re's: recycling, remanufacturing, reuse and reduction – Closed-loop Manufacturing – ISO 14000 systems – Life Cycle Analysis (LCA) – Lean Manufacturing for Green Manufacturing or Production.

UNIT V GREEN LOGISTICS AND TRANSPORTATION 9

Green Logistics and Transportation – Definitions of Green Logistics – Critical drivers of Green Logistics – Green transportation and logistics practices – Environmental impacts of transportation and logistics – Closing the Loop: Reverse Logistics

TOTAL: 45 HOURS**COURSE OUTCOMES:**

At the end of the course, the students will be able to:

CO – 1 : Understand the Closed-loop Supply Chain.

CO – 2 : Understand the various tools of Product Eco-Design.

CO – 3 : Identify the Green Supplier Development.

CO – 4 : Illustrate the 4Re's.

CO – 5 : Illustrate the Closing the Loop: Reverse Logistics.

TEXT BOOKS:

1. Joseph Sarkis, Yijie Dou. Green Supply Chain Management: A Concise Introduction, Routledge, 2017.
2. Charisios Achillas, Dionysis D. Bochtis, Dimitrios Aidonis, Dimitris Folinas. Green Supply Chain Management, Routledge, 2018.

REFERENCE BOOKS:

1. Hsiao-Fan Wang, Surendra M. Gupta. Green Supply Chain Management: Product Life Cycle Approach, McGraw Hill publishing, 2011
2. Stuart Emmett, Vivek Sood. Green Supply Chains: An Action Manifesto by Stuart Emmett, Wiley publications, 2010

WEB SOURCE:

1. <https://www.intechopen.com/books/green-practices-and-strategies-in-supply-chain-management/introductory-chapter-introduction-of-green-supply-chain-management>
2. http://eprints.lincoln.ac.uk/id/eprint/34555/1/9781315628691_preview.pdf
3. <https://www.accessengineeringlibrary.com/content/book/9780071622837>

COURSE OBJECTIVE:

- To provide foundational knowledge associated with the supply chain analytics
- To describe the various tools and techniques for implementation of analytics based on the supply chain drivers such as location, logistics and inventory
- To provide the applications of analytics in supply chain

UNIT I INTRODUCTION 9

Introduction – Supply Chain – Supply Chain Operations Reference (SCOR) Model – Decisions and Performance Measures in Supply Chain – Overview on Supply Chain, Analytics and Supply Chain Analytics – KPIs for Supply Chain Analytics

UNIT II DESCRIPTIVE ANALYTICS 9

Introduction – Descriptive Analytics in Supply Chain – Business Intelligence in Supply Chain – Descriptive Analytics Techniques: Dashboard, Reporting, Data Visualization

UNIT III PREDICTIVE ANALYTICS 9

Introduction – Predictive Analytics in Supply Chain: Demand, Pricing and Risk – Predictive Analytics Techniques: Regression, Time Series Analysis, Simulation

UNIT IV PRESCRIPTIVE ANALYTICS – I 9

Introduction – Prescriptive Analytics in Supply Chain – Optimization – Classification of optimization problems – Optimization for Analytics – Operations Research Techniques for Analytics

UNIT V PRESCRIPTIVE ANALYTICS – II 9

Supply Planning: Aggregate Production Planning (APP) and Pricing – Plant/Warehousing Decisions: Location Models – Logistics Decisions: Network Models – Inventory Models – Sourcing Decisions: Analytic Hierarchy Process

TOTAL: 45 HOURS**COURSE OUTCOMES:**

At the end of the course, the students will be able to:

- CO – 1 : Understand the SCOR Model for Analytics.
 CO – 2 : Identify the different type of analytics in supply chain.
 CO – 3 : Illustrate the predictive models for analytics.

CO – 4 : Describe the different prescriptive models in supply chain

CO – 5 : Design the analytics using Simulation for supply chain.

TEXT BOOKS:

1. James R. Evans., Business Analytics – Methods, Models and Decisions, Pearson Publications, 1st Edition, 2012.
2. G.V.Shenoy,U.K.Srivastava,S.C.Sharma, Operations Research for Management, New Age International,Revised 2nd Ed, 2005.

REFERENCE BOOKS:

1. Gerad Feigin, Supply Chain planning and analytics – The right product in the right place at the right time, Business Expert Press, 2011
2. Peter Bolstorff, Robert G. Rosenbaum, Supply Chain Excellence: A Handbook for Dramatic Improvement Using the SCOR Model, AMACOM Div American Mgmt Assn, 2007
3. Robert Penn Burrows, Lora Cecere, Gregory P. Hackett, The Market-Driven Supply Chain: A Revolutionary Model for Sales and Operations Planning in the New On-Demand Economy, AMACOM Div American Mgmt Assn, 2011

WEB SOURCE:

1. <https://scg-lm.s3.amazonaws.com/pdfs/opentext-wp-dummies-guide-to-sca-100318.pdf>
2. <https://www.perlego.com/book/2011683/supply-chain-analytics-using-data-to-optimise-supply-chain-processes-pdf>
3. <https://www.routledge.com/Supply-Chain-Analytics-Using-Data-to-Optimise-Supply-Chain-Processes/Robertson/p/book/9780367540067>
4. https://www.researchgate.net/publication/340169982_Big_Data_Analytics_and_Its_Applications_in_Supply_Chain_Management

COURSE OBJECTIVE:

- To explain the strategic role of sourcing management in creating and enhancing a firm's competitive advantages
- To understand the sourcing activities, supplier management
- To learn about the global sourcing management.
- To learn about the latest trends in sourcing.

UNIT I INTRODUCTION 9

Sourcing – Sourcing management: Concept, Functions, Application – Supplier Evaluation and Selection (Concepts): Supplier Rating – Rating criteria – Factors

UNIT II GLOBAL SOURCING 9

Introduction to Global Sourcing – Trends in Global Sourcing – Global Sourcing – Negotiation – Performance Measurement and Evaluation (Concepts and Metalcraft Case)

UNIT III SUPPLY CHAIN 9

Supply Chain: The Role of Sourcing – Components – Key Process – Outsource: Various Mechanism – Third-party logistics (3PL): Service

UNIT IV ANALYTICAL TOOLS 9

Analytical Tools in Sourcing (Total Cost of Ownership (Wire Harness case), Pricing Analyses (Plastic Shield case)) – Analytical Tools in Sourcing (Foreign Exchange Currency Management, Learning Curve, Quantity Discount Models) – Integrative Pacific Systems Case (Supplier Scorecard, Sourcing Risk, Supplier Financial Analysis)

UNIT V RISKS & TRENDS 9

Sourcing Risk Management (Concepts) – Electronic Sourcing – Sustainability and Sourcing (Green Sourcing; Walmart-China Case)

TOTAL: 45 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : List out the fundamental Sourcing concepts.
- CO – 2 : Summarize the various Performance Measurement and Evaluation.
- CO – 3 : Provide the Components of Sourcing.
- CO – 4 : Use of Analytical Tools in Sourcing.

CO – 5 : Generate the new trends.

TEXT BOOKS:

1. Sunil Chopra and Peter Meindi, Supply Chain Management – Strategy Planning and Operation, Pearson Education, Third Indian Reprint, 2004.
2. Monczka et al., Purchasing and Supply Chain Management, Thomson Learning, Second edition, Second Reprint, 2002.

REFERENCE BOOKS:

1. Lee J. Krajewski and Larry P. Ritzman, 2007, Operations Management strategy and analysis, 9th Edition, Pearson Education / Prentice Hall of India, 2007.
2. Altekar Rahul V, Supply Chain Management – Concept and cases, Prentice Hall India, 2005.
3. Olivier Bruel, Strategic Sourcing Management: Structural and Operational Decision-making Kogan Page; 1 edition, 2016.

WEB SOURCE:

1. <https://youngprocurement.com/wp-content/uploads/2015/06/Strategic-Purchasing-A-Global-Perspective-E-Book.pdf>
2. <https://collegeteachers.com/ebooks/procurement-and-supply-chain-management-9th-edition-pdf/>
3. <https://collegeteachers.com/ebooks/sourcing-and-supply-chain-management-5th-edition-pdf/>

ELECTIVE COURSES – OPERATIONS

21EMBS39

LEAN SIX SIGMA

3 0 0 3

COURSE OBJECTIVE:

- To introduce the fundamental Lean manufacturing and Six Sigma principles.
- To explain the tools and technique for the implementation of Lean manufacturing and Six Sigma.
- To explain the synergy of Lean manufacturing and Six Sigma.

UNIT I LEAN MANUFACTURING: PRINCIPLE AND TOOLS 9

Evolution of Just-In-Time and Lean Manufacturing – Principle – Seven wastes – Just-In-Time (JIT) – One-Piece or Continuous Flow – Kanban or Pull System – Basic tools such as 5S and Kaizen

UNIT II TECHNIQUE: VALUE STREAM MAPPING 9

Value Stream Mapping (VSM) – Material and Information Flow – VSM symbols – Identification of Product or Product Family – Current-State Mapping – Future-State Mapping by key questions – Plan and Implementation.

UNIT III SIX SIGMA 9

Evolution – TQM vs. Six Sigma – What is Six Sigma – Defects Per Million Opportunities (DPMO) – Process Sigma Level – Critical to Quality (CTQ) – Six Sigma methodologies Such as DMAIC, DFSS – Six Sigma Belts.

UNIT IV DMAIC: TOOLS AND TECHNIQUES 9

SIPOC Diagram – Voice of the Customer (VoC) – CTQ Tree – Project Charter – Seven Quality tools – Seven Management Tools – Measurement System Analysis – Failure Mode and Effects Analysis (FMEA) – Process Capability Analysis – Statistical Tools – Design of Experiments (DoE).

UNIT V LEAN SIX SIGMA 9

The Synergy of Six Sigma and Lean – Lean Six Sigma – Principle – Lean tools in DMAIC – Implementation of Lean Six Sigma.

TOTAL: 45 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : Recognize the principle and wastages of lean.
- CO – 2 : Design the current and future state mapping of Value Stream Mapping (VSM)
- CO – 3 : Record knowledge of the concepts of TQM and Six Sigma.
- CO – 4 : Determine the DMAIC based on the implementation of tools and techniques.
- CO – 5 : Record knowledge on the lean six sigma for successful implementation.

TEXT BOOKS:

1. Feld, W. M., Lean Manufacturing tools, Techniques and How to Use Them, St. Lucie Press, Florida, 2000.
2. Michael L. George, et al., The Lean Six Sigma Pocket tool book: A Quick REFERENCES Guide Nearly 100 tools for Improving Process Quality, Speed, and Complexity, McGraw-Hill, 2005.

REFERENCE BOOKS:

1. Rother, M. and Shook, J., Learning see: Value stream mapping create value and eliminate muda, The lean enterprises institute Brookline, Massachusetts, USA, 1999.
2. Liker, J., The yota Way: 14 Management Principles from the World's Greatest Manufacturer, McGraw-Hill Education, 2004.
3. Pyzdek, T. and Keller, P. A., The Six Sigma Handbook, Fourth Edition, McGraw-Hill Professional, 2014.

WEB SOURCE:

1. <https://www.sixsigmacouncil.org/six-sigma-training-material/>
2. <https://www.sixsigmacouncil.org/wp-content/uploads/2018/08/Six-Sigma-A-Complete-Step-by-Step-Guide.pdf>
3. <https://www.slideshare.net/goleansixsigma/lean-six-sigma-basics>
4. <https://slideplayer.com/slide/5261903/>

COURSE OBJECTIVE:

- To explain the Project Management based on the Project Management Body of Knowledge (PMBOK®)
- To explain the tools and techniques for identification, planning and analysis of Project.

UNIT I INTRODUCTION 9

Project Vs. Operations – Project: Definition – Project Management Body of Knowledge (PMBOK®) – Project Vs. Portfolio – Project Life Cycle – Project Management Process or Process Groups – Project Knowledge Areas – Mapping of the Project Management Processes to the Project Management Process Groups and the Knowledge Areas – Project Management Software.

UNIT II INTEGRATION & SCOPE MANAGEMENT 9

Project Integration Management – Process of Project Integration Management – Project Charter – Project Management Plan; Project Scope Management – Process of Project Scope Management – Scope Management Plan – Project Scope Statement – Work Breakdown Structure (WBS)

UNIT III SCHEDULE MANAGEMENT 9

Project Schedule Management – Process of Project Schedule Management – Schedule Management Plan – Precedence Diagramming Method (PDM) – Critical Path Method (CPM) – Program Evaluation and Review Technique (PERT) – Gantt Chart

UNIT IV COST MANAGEMENT 9

Project Cost Management – Process of Project Cost Management – Cost Management Plan – Earned Value Analysis (EVA) or Earned Value Management (EVM)

UNIT V QUALITY MANAGEMENT 9

Project Quality Management – Process of Project Quality Management: Quality Planning, Quality Management and Quality Control – Quality Management Plan – Basic Quality Tools

TOTAL: 45 HOURS**COURSE OUTCOMES:**

At the end of the course, the students will be able to:

- CO – 1 : Identify the project parameters based on the Project Management Process.
- CO – 2 : Construct the project charter.
- CO – 3 : Formulate the Work Breakdown Structure (WBS).

CO – 4 : Identify the Network technique for Project Management.

CO – 5 : Evaluate the cost control using Earned Value Analysis (EVA).

TEXT BOOKS:

1. Project Management Institute. Guide to the Project Management Body of Knowledge (PMBOK® Guide), Sixth Edition, 2017.
2. Cynthia Snyder Stackpole. A Project Manager's Book of Tools and Techniques – A Companion to the PMBOK® Guide, Wiley Publications, 6th edition, 2018.

REFERENCE BOOKS:

1. James W. Marion. Project Management: A Common-Sense Guide to the Pmbok Program, Part Two-Plan and Execution, MOMENTUM Press, 2018.
2. George T. Edwards. Project Management Fundamentals: A practical overview of the PMBOK, Blue Crystal Press, 2012.
3. Cynthia Snyder Stackpole. A User's Manual to the PMBOK Guide, Wiley Publications, 5th edition, 2013.

WEB SOURCE:

1. <https://projektkvalitet.dk/wp-content/uploads/the-practical-guide-to-project-management.pdf>
2. <https://blog.ganttpro.com/en/7-free-project-management-books-for-your-christmas-holidays/>
3. http://www.opentextbooks.org.hk/system/files/export/15/15694/pdf/Project_Management_15694.pdf
4. <https://www.projectsart.co.uk/ebooks.php>

COURSE OBJECTIVE:

- To acquaint the student with the applications of Operations Research to business and industry
- To help them to grasp the significance of analytical techniques in decision making.
- To test on the application of Operations Research to business related problems.

UNIT I DYNAMIC PROGRAMMING 9

Dynamic programming – Type – Forward and Backward Recursion – Application: Shortest-Route Problem, Knapsack Model, Work-Force size problem

UNIT II SCHEDULING SYSTEMS 9

Flow shop: Johnson 's Method – Two Machines, Three Machines, More than three Machines
Graphical Method – Only Two Jobs – Job shop

UNIT III PROJECT SCHEDULING 9

PERT & CPM – Project scheduling by PERT/CPM – Cost considerations in PERT/CPM

UNIT IV QUEUING & SIMULATION 9

Queuing System – Four elements – Kendall's Notation – Queuing models – Birth and Death Model – Simulation – Type: Discrete and Continuous simulation – Simulation models

UNIT V ADVANCED 9

Branch and bound method – Vehicle Routing Problems – Quadratic Programming – Staff transfer problem – Two-stage supply chain distribution problem

TOTAL: 45 HOURS**COURSE OUTCOMES:**

At the end of the course, the students will be able to:

- CO – 1 : Analyze the applications of Dynamic programming.
 CO – 2 : Evaluate Job shop in Two Machines.
 CO – 3 : Analyze the applications of Project scheduling by PERT and CPM.
 CO – 4 : Evaluate the Queuing System and Simulation models.
 CO – 5 : Design the Branch and bound method and Vehicle Routing Problems.

TEXT BOOKS:

1. Hamdy A. Taha, Operation Research, Pearson Prentice Hall, 2003.

2. Singh & Kumar, Operation Research, UDH Publisher, 2013.

REFERENCE BOOKS:

1. S.R. Yadav, A.K. Malik, Operations Research, Oxford University Press; First edition, 2014.
2. G.V.Shenoy,U.K.Srivastava, S.C.Sharma, Operations Research for Management, New Age International,Revised 2nd Ed, 2005.

WEB SOURCE:

1. <https://www.springer.com/gp/book/9783540401384>
2. <https://www.kopykitab.com/Operations-Research-Theory-And-Applications-6e-by-J-K-Sharma>
3. <https://sites.google.com/site/dg6y5fju6y5h/p-d-f-operations-research-applications-and-algorithms-ebook-epub-kindle-by-wayne-l-winsto>
4. https://www.researchgate.net/publication/317606351_Operations_research_httpbookbooncomenoperations-research-ebook

COURSE OBJECTIVE:

- To explain the Quality concept, principles, and its various tools.
- To explain the statistical process control for the implementation of quality management.

UNIT I INTRODUCTION 9

Evolution of Quality – Quality Definition and Contributions by Deming, Juran, Crosby, Feiganbaum, Ishikawa and Taguchi – Dimensions of quality – Cost of Quality – ISO 9000

UNIT II STATISTICAL PROCESS CONTROL 9

Introduction – Pareto Analysis – Cause and Effect Diagram – Checklist or Checksheet – Process Flow Chart – Histogram – Scatter Diagram – Chance and Assignable Causes – Control Charts for Variables – Process Capability Analysis such as C_p and C_{pk} – Control Charts for Attributes.

UNIT III MANAGEMENT TOOLS 9

Introduction – Affinity Diagram [KJ method] – Interrelationship Diagram – Tree Diagram
Prioritization Matrix – Matrix Diagram – Process Decision Program Chart – Activity Network Diagram

UNIT IV TOOLS AND TECHNIQUES 9

Plan-Do-Check-Act (PDCA) Cycle – Quality Circles – Benchmarking – Quality Function Deployment (QFD) – Failure Mode and Effect Analysis (FMEA) – Taguchi Method

UNIT V SIX SIGMA 9

Evolution – TQM vs. Six Sigma – What is Six Sigma – Six Sigma methodologies Such as DMAIC, DFSS – Six Sigma Belts.

TOTAL: 45 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : Define the quality based on the quality gurus.
- CO – 2 : Analyze the implementation of quality management.
- CO – 3 : Calculate the Process Capability.
- CO – 4 : Record knowledge on the various techniques of quality management.
- CO – 5 : Assemble the implementation of SPC tools using Six Sigma methodologies.

TEXT BOOKS:

1. Besterfield, et al., Total Quality Management, Pearson Education Asia, 3rd Edition, 2006.
2. Suganthi, L. and Samuel, A., Total Quality Management, Prentice Hall (India) Pvt. Ltd., 2006.

REFERENCE BOOKS:

1. Evans, J.R. and Lindsay, W. M., The Management and Control of Quality, 6th Edition, South-Western (Thomson Learning), 2005.
2. Oakland, J.S., TQM – Text with Cases, Butterworth – Heinemann Ltd., Oxford, 3rd Edition, 2006.

WEB SOURCE:

1. <https://easyengineering.net/total-quality-management-books-collections/>
2. https://www.researchgate.net/publication/344826139_A_TEXTBOOK_ON_TOTAL_QUALITY_MANAGEMENT
3. <https://book.akij.net/eBooks/2018/January/5a6db3abccd78/Total%20Quality%20Management%20and%20Operational%20Excellence.pdf>
4. <https://link.springer.com/content/pdf/bfm%3A978-1-4615-5281-9%2F1.pdf>

COURSE OBJECTIVE:

- To explain for satisfaction of the customer who wants. Every commercial organization is to focus on making profit.
- To explain the world class manufacturing strategy within these enterprises because they make their products themselves.x

UNIT I INTRODUCTION 9

World Class Manufacturing Environment, Imperatives for success, System approach and change in mindset, Strategic decisions in Manufacturing Management, Choice of technology, Capacity and layouts, Automation in Materials handling system

UNIT II JIT 9

Principles advocated in Just-in-Time System, JIT Manufacturing System, JIT Pull System, Use of Kanban System, JIT Purchase, Source development, Supply chain Management.

UNIT III TQM 9

Total Quality Management Philosophy, TQM Principles, TQM Tools, Quality through design, Quality Management System and ISO 9000, QS 9000.

UNIT IV TPM 9

Total productive Maintenance (TPM), Concept of reliability, reliability improvement, Concept of maintainability and Maintainability improvement.

UNIT V FMS AND GT 9

Concept of Flexible Manufacturing System (FMS) – Group Technology (GT) – Cellular Manufacturing Systems.

TOTAL: 45 HOURS**COURSE OUTCOMES:**

At the end of the course, the students will be able to:

- CO – 1 : Describe on the concepts of World Class Manufacturing.
- CO – 2 : Clarify the JIT and Kanban system.
- CO – 3 : Describe on the concepts of quality definition based on the TQM and ISO system.
- CO – 4 : Analyze the failure for maintenance using reliability.
- CO – 5 : Evaluate the layout based on cellular manufacturing.

TEXT BOOKS:

1. Larry Rubrich, Implementing World Class Manufacturing - Third Edition: The Complete Guide Including Policy Deployment and Developing a Lean Culture. Perfect Paperback – November 16, 2015.
2. Richard J. Schonberger, World Class Manufacturing, Free Press Publication, 2008.

REFERENCE BOOKS:

1. Richard J. Schonberger, World Class Manufacturing: The Next Decade: Building Power, Strength, and Value, Free Press Publication, 2013.
2. R.P.Mohanty & S.G.Deshmukh, Advanced operations management, Pearson education (Singapore) P.Ltd

WEB SOURCE:

1. <https://www.studynama.com/community/threads/world-class-manufacturing-pdf-lecture-notes-ebook-download-for-mba-students.394/>
2. https://www.researchgate.net/publication/298627777_World-class_manufacturing_The_next_decade
3. <https://pdf-2516.firebaseio.com/world-class-manufacturing-just-in-time-with-total-quality-control-the-lessons-learned-to-date-institute-workbook-by-richard-j-schonberg.pdf>
4. <https://www.bly.com/newsite/Pages/PDFs/manufacturing-world-class.pdf>

COURSE OBJECTIVE:

- To understand the Behavioural concepts in Operations Management
- To learn about the Behavioural concepts in production and service context.

UNIT I INTRODUCTION 9

Behavioural Operations Management – Definition – The study of Behavioural Operations – History and the Contemporary Knowledge Base – Virtuous Cycles of Experimental Learning

UNIT II PRODUCTION AND SERVICE CONTEXTS – I 9

Synch and Swim: Managing and Mismanaging Process Constraints and Variability – Process and Perception: Kristen's Cookie Company from a Behavioral Point of View

UNIT III PRODUCTION AND SERVICE CONTEXTS – II 9

The Wait or Buy Game: How to Game the System That's Designed to Game You Back – Sharing the Load: Group Behavior and Insights into Simulating Real-World Dynamics

UNIT IV SUPPLY CHAINS 9

Sharing the Risk: Understanding Risk – Sharing Contracts from the Supplier's Perspective – Supply Chain Negotiator: A Game of Gains, Losses, and Equity

UNIT V INTEGRATIVE/ENABLING TECHNOLOGY 9

Dynamic Pricing in Revenue Management – Intertemporal choices in Project based organisations – Impulsiveness and Emotions – Behaviour Assessment Test on Conflict Management – Kicking the mean Habit – A chain of hands

TOTAL: 45 HOURS**COURSE OUTCOMES:**

At the end of the course, the students will be able to:

- CO – 1 : Matching the fundamental production in Behavioural concepts.
- CO – 2 : Carrying out the Process Constraints and Variability
- CO – 3 : Discriminating the Process and Perception.
- CO – 4 : Monitoring the implementation of Supply Chain.
- CO – 5 : Evaluate the Dynamic Pricing and Impulsiveness of emotions.

TEXT BOOKS:

1. Elliot Bendoly, Wout van Wezel, and Daniel G. Bachrach, The Handbook of Behavioral

Operations Management, Oxford University Press, 2015.

REFERENCE BOOKS:

1. Christoph H. Loch, Yaozhong Wu, Behavioral Operations Management, Now Publishers Inc, 2007.

WEB SOURCE:

1. https://www.researchgate.net/publication/267270770_Handbook_of_Behavioral_Operations_Management_wwwombehaviorcom
2. https://www.researchgate.net/publication/336158837_Behavioral_Operations_Management_A_Review_of_the_Field
3. <https://www.springer.com/gp/book/9781447148777>

COURSE OBJECTIVE:

- To explain for satisfaction of the customer who wants. Every commercial organization is to focus on making profit.
- To explain the world class manufacturing strategy within these enterprises because they make their products themselves.

UNIT I INTRODUCTION 9

Management of Manufacturing Systems: An Overview – Manufacturing Systems: Type – Challenges – Evolution of Manufacturing Systems – Nine laws in Manufacturing – Various methodologies

UNIT II CELLULAR MANUFACTURING SYSTEMS 9

Principle – Group Technology (GT) – Cellular Manufacturing Systems – Layout – Cell Design: formation, operator allocation, sequencing and scheduling – Part Classification and Coding – Production flow analysis

UNIT III JUST-IN-TIME 9

Evolution of Just-In-Time – Principle – Seven wastes – Just-In-Time (JIT) – Kanban or Pull System – CONWIP – Tools and Techniques

UNIT IV SYNCHRONOUS MANUFACTURING 9

Synchronous Manufacturing or Theory of Constraints – Principle – Definition of Goal by Goldratt – Role of a constraint – Types of resources: bottlenecks and capacity constrained resource – Drum Buffer Rope System

UNIT V FLEXIBLE MANUFACTURING SYSTEMS (FMS) 9

Concept of Flexible Manufacturing System (MS) – Flexibility – Types: Single machine cell, Flexible manufacturing cell, Flexible manufacturing system – Components – Applications – Benefits – Implementation issues

TOTAL: 45 HOURS**COURSE OUTCOMES:**

At the end of the course, the students will be able to:

- CO – 1 : Translating the types of Manufacturing system.
 CO – 2 : Identify the Various methodologies

CO – 3 : Focusing the Group Technology (GT).

CO – 4 : Selecting the Flexible Manufacturing System (FMS).

CO – 5 : Describe the Flexibility.

TEXT BOOKS:

1. Mikell P. Groover, Automation, Production Systems and Computer-Integrated Manufacturing, Pearson Education; Fourth edition, 2016.
2. Richard J. Schonberger, World Class Manufacturing, Free Press Publication, 2008.
3. Feld, W. M., Lean Manufacturing Tools, Techniques and How Use Them, St. Lucie Press, Florida, 2000.

REFERENCE BOOKS:

1. Richard J. Schonberger, World Class Manufacturing: The Next Decade: Building Power, Strength, and Value, Free Press Publication, 2013.
2. R.P.Mohanty & S.G.Deshmukh, Advanced operations management, Pearson education (Singapore) P.Ltd

WEB SOURCE:

1. http://www.mescenter.ru/images/abook_file/ManufacturingSystems.pdf
2. <https://www.springer.com/gp/book/9781475722130>

COURSE OBJECTIVE:

- To provide foundational knowledge associated with the operations strategy
- To describe the various Performance Objectives for implementation of operations strategy
- To describe the decision areas for strategy

UNIT I INTRODUCTION 9

Introduction – Strategy: Definition, Levels – Operations and Strategy – Operations Management Vs. Operations Strategy – Four perspectives on Operations Strategy – Decision areas: Structural and Infrastructural – The Process of Operations Strategy

UNIT II PERFORMANCE OBJECTIVES 9

Introduction – Quality: Hard, Soft – Speed: Time – Dependability: Time – Flexibility: Type – Internal and external benefits – The Operations Strategy Matrix – Performance Objectives and Competitive Factors – Product/Service Life Cycle on Performance Objectives

UNIT III NEW APPROACHES 9

Total Quality Management (TQM): Fit into Operations Strategy – Lean Manufacturing: Fit into Operations Strategy – Business Process Reengineering (BPR): Fit into Operations Strategy – Six Sigma: Fit into Operations Strategy.

UNIT IV DECISION AREAS – I 9

Capacity Strategy: Levels of capacity decision, Factors influencing the overall level of capacity, Location of capacity – Purchasing and Supply Strategy: Supply Networks, Do (Make) or Buy? the vertical integration decision.

UNIT V DECISION AREAS – II 9

Process Technology Strategy: Classification, Three dimensions of process technology – Improvement Strategy: Breakthrough Improvement and Continuous Improvement, The Importance – Performance Matrix

TOTAL: 45 HOURS**COURSE OUTCOMES:**

At the end of the course, the students will be able to:

- CO – 1 : Parsing the concepts of strategy.
 CO – 2 : Understand the process of operations strategy.

CO – 3 : Using the Product/Service Life Cycle on Performance Objectives.

CO – 4 : coordinating the Total Quality Management (TQM) fit into Operations Strategy.

CO – 5 : Constructing the decision areas of PSS, PT and Improvement Strategy.

TEXT BOOKS:

1. Nigel Slack, Michael Lewis, Mohita Gangwar Sharma. Operations Strategy, Pearson Education Limited, England, 5th edition, 2018.

REFERENCE BOOKS:

1. David Walters. Operations Strategy, Palgrave Macmillan Publisher, 2015.
2. JA Van Mieghem and Gad Allon. Operations Strategy: Practices and Principles, Dynamic Ideas LLC 2nd edition, 2015.

WEB SOURCES:

1. <http://www.mim.ac.mw/books/Operations%20Strategy%203rd%20edition.pdf>
2. <https://bookboon.com/en/operations-strategy-ebook>
3. https://my.uopeople.edu/pluginfile.php/57436/mod_book/chapter/121631/BUS5116.James.Ops.Strat.pdf
4. <https://www.yumpu.com/en/document/view/64315404/download-pdf-operations-strategy-5th-edition-full-audiobook>

COURSE OBJECTIVE:

- To provide foundational knowledge associated with the services operations management
- To describe the various elements of services operations management
- To describe the various decision areas such as design quality, demand and capacity for services

UNIT I INTRODUCTION 9

Introduction – Goods Vs. Services – Definition of Services – Nature and characteristics of services – Classification of services – Services in Manufacturing Sector – The service-process matrix – Service Strategy – Competitive Service Strategies – Strategic Service Vision

UNIT II SERVICE DESIGN 9

Introduction – New service design and development – Design elements – Service system design and delivery process: Classification of Service Processes, Process Structure – Technology in Services – Product/Service Life Cycle on Performance Objectives

UNIT III SERVICE QUALITY 9

Defining Service Quality – Measuring Service Quality: SERVQUAL – Quality Service by Design – Service process control – Quality philosophy and performance excellence – Total Quality Management (TQM) tools: Seven Quality Control (QC) tools

UNIT IV SERVICE FACILITY 9

Service Facility Design – Service facility layout: Types, Process Analysis – Facility Location: Decision, Classification, Techniques

UNIT V MANAGING DEMAND AND CAPACITY 9

Forecasting Demand – Forecasting methods: Subjective or qualitative, Quantitative – Service Capacity: Factors, Elements Strategies – Service Inventory Management

TOTAL: 45 HOURS**COURSE OUTCOMES:**

At the end of the course, the students will be able to:

CO – 1 : Understand the Classification of services.

CO – 2 : Predict the Design elements of services.

CO – 3 : Carryout the Total Quality Management (TQM) fit into service management.

CO – 4 : Integrate the Techniques of Facility Location.

CO – 5 : Designing the Techniques of Forecasting Demand and SIM.

TEXT BOOKS:

1. B. Fitzsimmons, James A., and Mona J. Fitzsimmons, Service Management: Operations, Strategy, and Information Technology, 6th Ed., Irwin/McGraw-Hill, 2008.

REFERENCE BOOKS:

1. C. Haksever, Render B., Russel S. R. and Murdick R. G., Service Management and Operations, 2nd Ed., Prentice Hall, 2007.
2. Robert Johnston, Graham Clark. Service Operations Management: Improving Service Delivery, Prentice Hall, 2012.

WEB SOURCE:

1. <https://www.freebookcentre.net/business-books-download/Services-Operations-Management.html>
2. https://www.researchgate.net/publication/229667633_Service_Operations_and_Management
3. https://www.researchgate.net/publication/336320235_LATEST_BOOK_2020_Service_Operations_Management_A_Strategic_Perspective
4. https://www.academia.edu/33788698/MANAGING_SERVICE_OPERATIONS_D_E_S_I_G_N_A_N_D_I_M_P_L_E_M_E_N_T_A_T_I_O_N

ELECTIVE COURSES – ENTREPRENEURSHIP

21EMBS48

ENVIRONMENTAL STUDIES

3 0 0 3

COURSE OBJECTIVE:

- To enable the students, acquire knowledge of Environmental studies and their use, structure and function of an ecosystem, threats, bio-diversity, solid waste management, population explosion, disaster management, value management.

UNIT I MULTIDISCIPLINARY NATURE 9

Definition, scope and importance, Need for public awareness. Natural Resources: Renewable and non-renewable resources: Natural resources and associated problems. Role of an individual in conservation of natural resources, equitable use of resources for sustainable lifestyles.

UNIT II ECOSYSTEMS 9

Concept of an ecosystem, Structure and function of an ecosystem, Producers, consumers and decomposers, Energy flow in the ecosystem, Ecological succession, Food chains, food webs and ecological pyramids

UNIT III BIODIVERSITY AND ITS CONSERVATION 9

Introduction – Definition: genetic, species and ecosystem diversity, Biogeographically classification of India, Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values, Biodiversity at global, National and local levels. Hot-spots of biodiversity. Threats biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts. Endangered and endemic species of India. Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity

UNIT IV ENVIRONMENTAL POLLUTION 9

Definition, Cause, effects and control measures of several pollutions, Solid waste Management: Causes, effects and control measures of urban and industrial wastes. Role of an individual in prevention of pollution. Pollution case studies. Disaster management: floods, earthquake, cyclone and landslides

UNIT V HUMAN POPULATION AND THE ENVIRONMENT 9

Population growth, variation among nations. Population explosion – Family Welfare Programme. Environment and human health, Human Rights. Value Education. HIV/AIDS. Women and Child

Welfare. Role of Information Technology in Environment and human health. Case Studies

TOTAL: 45 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : Analyze the renewable and non-renewable sources.
- CO – 2 : Evaluate strategies, technologies, and methods for sustainable of environmental systems.
- CO – 3 : Demonstrate an awareness, knowledge, and appreciation of ecological processes.
- CO – 4 : Determine a general explaining of the disaster management.
- CO – 5 : Analyze the role of Information Technology in Environment.

TEXT BOOKS:

1. Mahua Basu and Xavier Savarimuthu SJ, Fundamentals of Environmental Studies, 8 Nov 2017
2. Gowri Suresh, Tata McGraw- A Textbook of Environmental Studies-Hill Education,2012

REFERENCE BOOKS:

1. Joni Adamson , William A. Gleason , David N. Pellow, Keywords for Environmental Studies Paperback – February 26, 2016.
2. Gowri Suresh, Environmental Studies and Ethics-K. International, 2010.
3. Chary, Environmental Studies, Macmillan, 2008.

WEB SOURCES:

1. <https://www.ugc.ac.in/oldpdf/modelcurriculum/env.pdf>
2. <https://www.hzu.edu.in/bed/E%20V%20S.pdf>
3. <https://www.smartworld.com/notes/environmental-studies-pdf-notes-es-pdf-notes/>
4. <https://btechgeeks.com/environmental-studies-notes/>

COURSE OBJECTIVE:

- To create a mindset of value system among the students.
- To understand the concept of transformation from existing state to higher state.
- To understand the enterprise skills such as experience intuition and wisdom.
- To identify the strategies to tackle the problem when it comes to directing human resources

UNIT I INTRODUCTION 9

Business Ethics: Introduction, Business Ethics and Management, Business Ethics and Moral Obligations; Corporate Social Responsibility; Corporate Governance; Report of the Kumar Mangalam Birla Committee on Corporate Governance; Role of Media in Ensuring Corporate Governance; Environmental Concerns and Corporations.

UNIT II ETHOS & VALUES IN MODERN MANAGEMENT 9

Ethical Issues related with Advertisement and Marketing; Secular versus Spiritual Values in Management, Work Ethics, Stress at Workplace

UNIT III PROCESS OF ETHICAL DECISION-MAKING 9

Approaches: Consequentialist theories, Deontological theories, and Virtue ethics approach ñ Process of ethical decision-making in business ñ Individual differences and ethical judgement - Cognitive barriers to a good ethical judgement and Whistle Blowing.

UNIT IV ETHICS MANAGEMENT 9

Role of organizational culture in ethics ñ Structure of ethics management: Ethics Committee, Ethics Officers, and the CEO ñ Communicating ethics: Communication Principles, Channels, Training program

mes, and evaluation ñ Ethical Audit ñ Corporate Governance and ethical responsibility ñ Transparency International and other ethical bodies

UNIT V HOLISTIC MANAGEMENT SYSTEM 9

A Holistic Management System; Management in Indian Perspective; Basic principles of Indian Ethos for Management Mental entity, enriching sentiment, perception, mind and will power by life balancing techniques, Social entity, building quality communication with others by the techniques of professional and working development and social integrity.

TOTAL: 45 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : Analyze the ‘Qualitative sincerity’ which is considered as the guiding motto.
- CO – 2 : Understand the individual development as the most relevant work-philosophy.
- CO – 3 : Compare and contrast power and influence of leadership.
- CO – 4 : Demonstrate the dynamics of organizational change.
- CO – 5 : Identify the major issues in business ethics and corporate social responsibility.

TEXT BOOKS:

1. S.A. Sherlekar, Ethics in Management, Himalaya Publishing House, 2009.
2. William B. Werther and David B. Chandler, Strategic corporate social responsibility, Sage Publications Inc., 2011
3. Robert A.G. Monks and Nell Minnow, Corporate governance, John Wiley and Sons, 2011

REFERENCE BOOKS:

1. W.H. Shaw, Business Ethics, Cen gage Learning, 2007.
2. Beeslory, Michel and Evens, Corporate Social Responsibility, Taylor and Francis, 1978.
3. Philip Kotler and Nancy Lee, Corporate social responsibility: doing the most good for company and your cause, Wiley, 2005.
4. Subhabrata Bobby Banerjee, Corporate social responsibility: the good, the bad and the ugly, Edward Elgar Publishing, 2007.

WEB SOURCES:

1. <https://documents.in/document/indian-ethos-and-business-ethics.html>
2. <https://www.scribd.com/document/272451856/Indian-Ethos-and-Business-Ethics>
3. https://gurukpo.com/Content/MBA/Business_Ethics_and_Ethos.pdf
4. <https://ddceutkal.ac.in/Syllabus/BECG-MBA.pdf>

COURSE OBJECTIVE:

- To explain the conceptual framework for business policy and strategic, find the objectives and goals, its vision, Mission and purpose.

UNIT I STRATEGY AND POLICY 9

Introduction, Fundamentals of Strategy, Conceptual Evolution of Strategy, Scope and Importance of Strategies, Purpose of Business, Objectives and goals - Difference between Goals and Objectives of Business – Strategic Intent through Vision and Mission, Policy Statements –Introduction to Business policy – Importance of Business policy.

UNIT II COMPETITIVE ADVANTAGE 9

External Environment - Porter's Five Forces Model-Strategic Groups Competitive Changes during Industry Evolution- Globalisation and Industry Structure - National Context and Competitive advantage Resources- Capabilities and competencies–core competencies - Resources and Capabilities durability of competitive Advantage - Generic Building Blocks of Competitive Advantage- Distinctive - Avoiding failures and sustaining competitive advantage

UNIT III STRATEGIES 9

The generic strategic alternatives – Stability, Expansion, Retrenchment and Combination strategies - Business level strategy- Strategy in the Global Environment-Corporate Strategy - Vertical Integration-Diversification and Strategic Alliances- Building and Restructuring the corporation- Strategic analysis and choice - Environmental Threat and Opportunity Profile (EP) - Organizational Capability Profile - Strategic Advantage Profile - Corporate Portfolio Analysis - SWOT Analysis - GAP Analysis - Mc Kinsey's 7s Framework - GE 9 Cell Model - Distinctive competitiveness - Selection of matrix - Balance Score Card-case study.

UNIT IV STRATEGY IMPLEMENTATION & EVALUATION 9

The implementation process, Resource allocation, Designing Organizational structure-Designing Strategic Control Systems- Matching structure and control strategy-Implementing Strategic change-Politics-Power and Conflict-Techniques of strategic evaluation & control-case study.

UNIT V BUSINESS POLICY AND DECISION MAKING 9

Factors Considered Before Framing Business Policies-Steps Involved in Framing Business Policies- Policy Cycle and its Stages- Implementation of Policy Change - Role of Policies in

Strategic Management.

TOTAL: 45 HOURS

COURSE OUTCOMES:

At the end of the course, the students will be able to:

- CO – 1 : Analyze the main structural features of an industry and develop strategies.
- CO – 2 : Demonstrate explaining of the concept of competitive advantage and its sources.
- CO – 3 : Analyze dynamics in competitive rivalry, including competitive action.
- CO – 4 : Demonstrate the ability to think critically in relation to a particular problem.
- CO – 5 : Recognize strategic decisions that present ethical challenges.

TEXT BOOKS:

1. G.U. Satya Sekhar, Business policy and Strategic Management, I K Publishing House, 2009.
2. Tony Morden, Principles of strategic management, Ash gate publishing, 2007.
3. Kim warren, Strategic management dynamics, John wiley & sons, 2008.

REFERENCE BOOKS:

1. Thomas L. Wheelen, J.David Hunger and KrishRangarajan, Strategic Management and Business policy, Pearson Education., 2006.
2. Charles W.L.Hill& Gareth R.Jones, Strategic Management Theory, An Integrated approach, Biztantra, Wiley India, 2007.
3. AzharKazmi, Strategic Management & Business Policy, Tata McGraw Hill, Third Edition, 2008.

WEB SOURCES:

1. https://www.academia.edu/5535061/BUSINESS_POLICY_AND_STRATEGIC_MANAGEMENT
2. https://www.academia.edu/38756123/Business_Policy_and_Strategic_Management
3. https://www.researchgate.net/publication/236694166_BUSINESS_POLICY_AND_CORPORATE_STRATEGY

COURSE OBJECTIVE:

- To recognize the impact of Information and Communication technologies, especially of the Internet in business operations in the role of Management with the context of e-Business and e-Commerce.

UNIT I INTRODUCTION TO E-BUSINESS 9

Overview of E-Business; Fundamentals, E-Business framework; E-Business application; Major requirements in E-Business; Emerging trends and technologies in E-Business; From E-Commerce to E-Business.

UNIT II TECHNOLOGY INFRASTRUCTURE 9

Internet and World Wide Web, internet protocols - FTP, intranet and extranet, information publishing technology- basics of web server hardware and software.

UNIT III BUSINESS APPLICATIONS 9

Consumer oriented e-business – e-tailing and models - Marketing on web – advertising, e-mail marketing, affiliated programs - e-CRM; online services, Business oriented e-business, e-governance, EDI on the internet.

UNIT IV E-BUSINESS PAYMENTS AND SECURITY 9

E-payments - Characteristics of payment of systems, protocols, e-cash, e-cheque and Micro payment systems- internet security – cryptography – security protocols – network security.

UNIT V LEGAL AND PRIVACY ISSUES 9

Legal, Ethics and privacy issues – Protection needs and methodology – consumer protection, cyber laws, contracts and warranties, Taxation and encryption policies.

TOTAL: 45 HOURS**COURSE OUTCOMES:**

At the end of the course, the students will be able to:

- CO – 1 : Recognize the impact of Information and Communication technologies
- CO – 2 : Distinguish the role of Management in the context of e-Business and e-Commerce
- CO – 3 : Employ tools and services of the internet in the development of a virtual e-commerce.
- CO – 4 : Describe the various characteristics of electronic payment systems.
- CO – 5 : Discuss various legal and ethical issues specific to E-Business.

TEXT BOOKS:

1. Harvey M.Deitel, Paul J.Deitel, Kate Steinbuhler, e-business and e-commerce for managers, Pearson, 2011
2. ParagKulkarni, SunitaJahirabadkao, PradeepChande, e business, Oxford University Press, 2012.
3. Hentry Chan &el , E-Commerce – fundamentals and Applications, Wiley India Pvt Ltd, 2007.

REFERENCE BOOKS:

1. Gary P. Schneider, Electronic commerce, Thomson course technology, Fourth annual edition, 2007
2. Bharat Bhasker, Electronic Commerce – Frame work technologies and Applications, 3rd Edition. Tata McGrawHill Publications, 2009
3. KamleshK.Bajaj and Debjani Nag, Ecommerce- the cutting edge of Business, Tata McGrawHill Publications, 7th reprint, 2009

WEB SOURCES:

1. <https://irp-cdn.multiscreensite.com/1c74f035/files/uploaded/introduction-to-e-commerce.pdf>
2. <https://examupdates.in/e-commerce-book/>
3. https://ebooks.lpude.in/computer_application/msc_it/term_3/DCAP306_DCAP511_E-COMMERCE_AND_E-BUSINESS.pdf
4. <http://kolegijfama.eu/material/Biblioteka%20Elektronike/Introduction%20to%20e-Business%20Management%20and%20Strategy.pdf>
5. http://www.vssut.ac.in/lecture_notes/lecture1428551057.pdf

SEMESTER IV

COURSE OBJECTIVES:

- To help students distinguish between values and skills, and understand the need, basic guidelines, content and process of value education.
- To help students initiate a process of dialog within themselves to know what they ‘really want to be’ in their life and profession
- To help students understand the meaning of happiness and prosperity for a human being.
- To facilitate the students to understand harmony at all the levels of human living, and live accordingly.
- To facilitate the students in applying the understanding of harmony in existence in their profession and lead an ethical life

UNIT I

Understanding the need, basic guidelines, content and process for Value Education, Self-Exploration–what is it? - its content and process; ‘Natural Acceptance’ and Experiential Validation- as the mechanism for self-exploration, Continuous Happiness and Prosperity- A look at basic Human Aspirations, Right understanding, Relationship and Physical Facilities- the basic requirements for fulfilment of aspirations of every human being with their correct priority, Understanding Happiness and Prosperity correctly- A critical appraisal of the current scenario, Method to fulfil the above human aspirations: understanding and living in harmony at various levels.

UNIT II

Understanding human being as a co-existence of the sentient ‘I’ and the material ‘Body’, Understanding the needs of Self (‘I’) and ‘Body’ - Sukh and Suvidha, Understanding the Body as an instrument of ‘I’ (I being the doer, seer and enjoyer), Understanding the characteristics and activities of ‘I’ and harmony in ‘I’, Understanding the harmony of I with the Body: Sanyam and Swasthya; correct appraisal of Physical needs, meaning of Prosperity in detail, Programs to ensure Sanyam and Swasthya.

UNIT III

Understanding harmony in the Family- the basic unit of human interaction , Understanding values in human-human relationship; meaning of Nyaya and program for its fulfilment to ensure Ubhay-tripti; Trust (Vishwas) and Respect (Samman) as the foundational values of relationship,

Understanding the meaning of Vishwas; Difference between intention and competence, Understanding the meaning of Samman, Difference between respect and differentiation; the other salient values in relationship, Understanding the harmony in the society (society being an extension of family): Samadhan, Samridhi, Abhay, Sah-astitva as comprehensive Human Goals, Visualizing a universal harmonious order in society Undivided Society (AkhandSamaj), Universal Order (SarvabhaumVyawastha) - from family to world family!.

UNIT IV

Understanding the harmony in the Nature, Interconnectedness and mutual fulfilment among the four orders of nature- recyclability and self-regulation in nature, Understanding Existence as Co-existence (Sah-astitva) of mutually interacting units in all-pervasive space, Holistic perception of harmony at all levels of existence.

UNIT V

Implications of the above Holistic Understanding of Harmony on Professional Ethics Natural acceptance of human values, Definitiveness of Ethical Human Conduct, Basis for Humanistic Education, Humanistic Constitution and Humanistic Universal Order. Competence in Professional Ethics:

COURSE OUTCOME:

CO – 1: Understand the significance of value inputs in a classroom, distinguish between values and skills, understand the need, basic guidelines, content and process of value education, explore the meaning of happiness and prosperity and do a correct appraisal of the current scenario in the society

CO – 2: Differentiate between the Self and the Body, understand the meaning of Harmony in the Self the Coexistence of Self and Body.

CO – 3: Evaluate the value of harmonious relationship based on trust, respect and other naturally acceptable feelings in human-human relationships and explore their role in ensuring a harmonious society

CO – 4: Reflect the harmony in nature and existence, and work out their mutually fulfilling participation in nature.

CO – 5: Distinguish between ethical and unethical practices, and start working out the strategy to actualize a harmonious environment wherever they work.

TEXT BOOKS:

1. R R Gaur, R Sangal, G P Bagaria, 2009, A Foundation Course in Human Values and Professional Ethics.
2. Ivan Illich, 1974, Energy & Equity, The Trinity Press, Worcester, and Harper Collins, USA.
3. E.F. Schumacher, 1973, Small is Beautiful: a study of economics as if people mattered, Blond & Briggs, Britain.

REFERENCE BOOKS:

1. Sussan George, 1976, How the Other Half Dies, Penguin Press. Reprinted 1986, 1991.
2. Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, William W. Behrens III, 1972, Limits to Growth-Club of Rome's report, Universe Books.
3. A Nagraj, 1998, Jeevan Vidya Ek Parichay, Divya Path Sansthan, Amarkantak.
4. P L Dhar, RR Gaur, 1990, Science and Humanism, Common wealth Publishers.
5. A N Tripathy, 2003, Human Values, New Age International Publishers.
6. Subhas Palekar, 2000, How to practice Natural Farming, Pracheen (Vaidik) KrishiTantra Shodh, Amravati.
7. E G Seebauer & Robert L. Berry, 2000, Fundamentals of Ethics for Scientists & Engineers, Oxford University Press.
8. M Govindrajran, S Natrajan & V.S. Senthil Kumar, Engineering Ethics (including Human Values), Eastern Economy Edition, Prentice Hall of India Ltd.
9. B P Banerjee, 2005, Foundations of Ethics and Management, Excel Books.
10. B L Bajpai, 2004, Indian Ethos and Modern Management, New Royal Book Co., Lucknow. Reprinted 2008.

WEB SOURCES:

1. <https://lecturenotes.in/notes/27764-note-for-human-values-and-professional-ethics-2-hvpe-2-by-indrajeet-verma>

WEBSITES:

1. <https://nptel.ac.in/courses/109/104/109104068/>

PROJECT OBJECTIVES

- Its aim is to demonstrate the skills and knowledge that students have acquired in their studies
- The Aim of the final year project is to develop student's knowledge for solving societal problem.
- It enables students to develop problem solving, analysis, synthesis and evaluation skills.

PROJECT OUTCOMES:

At the end of the project, the students will be able to:

- CO – 1 : Create and develop deep understanding of the interaction.
- CO – 2 : Analyze and solve problems on an executive level and demonstrating critical.
- CO – 3 : Design the general (core) management skills in the chosen area of specialization.
- CO – 4 : Design strategies to solve business problems and pursue opportunities.
- CO – 5 : Interpret a variety of ways to engage in experiential learning.