

MBA BUSINESS ANALYTICS



MBA

BUSINESS ANALYTICS

Curriculum and Syllabus

(Based on Choice Based Credit System)

Effective from the Academic year

2018-2019

Department of M.B.A

School of Management Studies

VISTAS MBA Program Outcomes

The following outcomes have been identified by the School of Management and commerce, Faculty Council, as important for students to be able to perform at the conclusion of the MBA program. The MBA curriculum has been mapped to these outcomes, which are regularly assessed to identify levels of student achievement and areas of improvement. Students who are Graduates of the Master of Business Administration degree program will be able to:

1. Apply knowledge of management techniques in business environment
2. Evaluate the systems and processes used in an organization including the planning, decision-making, group dynamics, innovation, production, supply chain, operations, technologies, marketing and distribution management.
3. Design alternatives to solve business problems utilizing quantitative analysis, critical thinking and sound ethical decision making.
4. Use research based knowledge and methods including company analysis, primary and secondary data collection, analysis and interpretation of data to find solution to business problems
5. Demonstrate effectively on analysing, interpreting and solving problems in developing business projects using appropriate tools and techniques.
6. Apply economic models, accounting principles, statistical techniques, and financial theories, analysis, and reporting in business decision-making.
7. Organize tools and techniques from Various Functional areas(i.e Finance , Marketing, Human Resources, operations etc) to handle business problems.
8. Evaluate and combine ethical considerations in making business decisions
9. Communicate effectively in various forms by effective use of recent technology and logical reasoning for presentations, documentation, report writing ,manual preparation .
10. Adapt life-long learning and professional development to enrich knowledge and competencies
11. Perceive an aptitude for creativity, innovation and entrepreneurship.
12. Demonstrate a global outlook with ability to identify aspects of the global business operations.

MBA
BUSINESS ANALYTICS

Program Specific Outcomes

PSO – 1: Apply knowledge of management techniques in business environment.

PSO – 2: Design predictive and descriptive analysis on the basis of data.

PSO – 3: Evaluate the systems and processes used in an organization including the planning, decision-making, group dynamics, innovation, production, supply chain, operations, technologies, marketing and distribution management.

PSO – 4: Design alternatives to solve business problems utilizing quantitative analysis, critical thinking and sound ethical decision making.

PSO – 5: Use research based knowledge and methods including company analysis, primary and secondary data collection, analysis and interpretation of data to find solution to business problems.

PSO – 6: Organise and critically apply the concepts and methods of business analytics.

PSO – 7: Interpret data using latest data analytics tools to address organisational problem.

PSO – 8: Demonstrate a global outlook with ability to identify aspects of the global business operations.

PSO – 9: Interpret data using latest data analytics tools to address organisational problem.

PSO – 10: Summarise, process and transform data for obtaining meaningful conclusions.

PSO – 11: Communicate effectively in various forms by effective use of recent technology and logical reasoning for presentations, documentation, report writing, manual preparation.

PSO – 12: Adapt life-long learning and professional development to enrich knowledge and competencies.

VISTAS
SCHOOL OF MANAGEMENT STUDIES
BOARD OF STUDIES MEMBERS
MBA (GEN), MBA (LSM), MBA (LSCM) and MBA (BA)

Sl.No	Name & Address	Designation
1.	Dr.P.R. Ramakrishnan, Dean, School of Management Studies, VISTAS, Chennai-600117	Chairperson
2.	Dr.R.Thenmozhi, Professor and Head, Department of Management Studies, Madras University, Chennai	External Expert
3.	Mr.K.V.V.Giri President CCHA, M/S Vaishnavi freight logistics Pvt ltd.	External Expert
4.	Mrs.Sripriya, Operations Programme Manager, TCS	Alumni
5.	Dr.S.Vasantha , Professor, School of Management Studies, VISTAS,Chennai-600117	Internal Member
6.	Dr.S.Preetha, Associate Professor,School of Management Studies, VISTAS,Chennai-600117	Internal Member
7.	Dr.G.Rajini Associate Professor,School of Management Studies, VISTAS,Chennai-600117	Internal Member
8.	Dr.P.Shalini Associate Professor, School of Management Studies, VISTAS,Chennai-600117	Internal Member
9.	Dr.P.G.Thirumagal Assistant Professor, School of Management Studies, VISTAS,Chennai-600117	Internal Member
10.	Dr.Madhumita.G Assistant Professor, School of Management Studies, VISTAS,Chennai-600117	Internal Member

VISTAS
DEGREE OF MASTER OF BUSINESS ADMINISTRATION
MBA
BUSINESS ANALYTICS
CHOICE BASED CREDIT SYSTEM
REGULATIONS
w.e.f. 2018

1. ELIGIBILITY FOR THE AWARD OF DEGREE:

A candidate shall be eligible for the award of the Degree only if he/she has satisfactorily undergone the prescribed Course of Study in a College affiliated to this University for a period of not less than TWO academic years and, passed the examinations of all the FOUR Semesters.

2. DURATION OF THE COURSE:

The course for FULL-TIME students shall extend over a period of TWO academic years consisting of FOUR Semesters. Each academic year shall be divided into Two Semesters. The FIRST academic year shall comprise the First & Second Semesters, the SECOND academic year the Third & Fourth Semesters.

The ODD Semesters shall consist of the period from July to November of each year and the EVEN Semesters from January to April of each year.

The duration of each semester will be about 16 weeks. The subjects of study shall be in accordance with the syllabus prescribed from time to time which may be amended through a board of studies members.

CONDITIONS FOR ADMISSION:

Candidates shall be required to have passed any Bachelor's Degree of any University/Institute of college or of any other University or a qualification accepted by the Syndicate of this University as equivalent thereto, shall be eligible for admission to MBA Degree Course.

3.1. COURSE OF STUDY AND SCHEME OF EXAMINATIONS (FULL TIME)

The total number of subjects of study shall be 25 out of which 17 shall be compulsory subjects and of the remaining 8 will be Electives, Internship after Second semester and Project Work in the Final Semester with a Viva-voce.

The FULL-TIME candidates shall take 8 subjects (Theory) in the First semester, 8 subjects (Theory) in the Second Semester, 9 subjects (Theory) in the Third Semester and a Summer Internship and a Project Work.

3.2. ELECTIVE SUBJECTS:

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

PROJECT REPORT & VIVA VOCE:

The Project Report must be submitted through the Supervisor and the Head of the Department at the end of the final semester ie following the third semester Examination failing which the candidate will be treated as appearing on a second occasion and shall NOT BE ELIGIBLE for First Class and Ranking.

MBA – BUSINESS ANALYTICS

SEMESTER I

Code	Course	Hour / Week			Credits
		Lecture	Tutorial	Practical	
18CMBN11	Management Principles & Organisational Behaviour	4	0	0	4
18CMBN12	Business Statistics	3	1	0	4
18CMBN13	Managerial Economics	4	0	0	4
18CMBN14	Financial Reporting , Statements & Analysis	3	1	0	4
18CMBN15	Legal & Business Environment	4	0	0	4
18CMBN16	Business Communication	4	0	0	4
18PMBN11	Database Management System & SQL	0	0	2	1
18PMBN12	Emerging Areas of Business Analytics	0	0	2	1
18PMBN13	Mini Project	0	0	2	1

18PMBN14	Community Development Project / MOOC / Outbound Experiential Learning Programme	0	0	2	1
		22	2	8	28

SEMESTER II

Code	Course	Hour / Week			Credits
		Lecture	Tutorial	Practical	
18CMBN21	Operations Management	4	0	0	4
18CMBN22	Human Resources Management	4	0	0	4
18CMBN23	Research Methodology	4	0	0	4
18CMBN24	Marketing Management	4	0	0	4
18CMBN25	Quantitative Techniques	3	1	0	4
18CMBN26	Business Intelligence	4	0	0	4
18CMBN27	Data Cleaning, Normalisation & Data Mining	4	0	0	4
18PMBN21	Spreadsheet Modelling	0	0	2	1
18PMBN22	Foundation course in Business Analytics (Cognos Insight)*	0	0	2	1
18IMBN21	Internship	0	0	0	6
		27	1	4	36

SEMESTER III

Code	Course	Hour / Week			Credits
		Lecture	Tutorial	Practical	
18EMBN....	Elective I	3	0	0	3
18EMBN....	Elective II	3	0	0	3
18EMBN....	Elective III	3	0	0	3
18EMBN....	Elective IV	3	0	0	3
18EMBN....	Elective V	3	0	0	3
18EMBN....	Elective VI	3	0	0	3
18EMBN....	Elective VII	3	0	0	3
18EMBN....	Elective VIII	3	0	0	3
18PMBN31	Foundation Course on Predictive Analysis(IBM SPSS*)	0	0	2	1

18PMBN32	Foundation Course in Descriptive Analysis(IBM)*	0	0	2	1
18PMBN33	Foundation course in Big data and Hadoop	0	0	2	1
		24	0	6	27

SEMESTER IV

Code	Course	Hour / Week			Credits
		Lecture	Tutorial	Practical	
18PMBN41	Project Work	0	0	20	10
	Foundation Course in Big data Analytics (IBM Infosphere Big Insight)	0	0	2	1
		0	0	22	11

Total: 102

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 200marks for Viva voce.

ELECTIVE COURSES

FUNCTIONAL AREA	SUBJECT CODE	COURSES
Analytics	18EMBN01	Advanced Research Methods and Predictive Analysis
	18EMBN02	Business Optimization and Big Data Analytics
	18EMBN03	Data Science using R Programming
	18EMBN04	Supply Chain Analytics
	18EMBN05	HR Analytics
	18EMBN06	Marketing and Retail Analytics
	18EMBN07	Social and Web Analytics
	18EMBN08	Healthcare Analytics
	18EMBN09	Pricing Analytics for Revenue Management
	18EMBN10	Data Visualization for Managers
	18EMBN11	Stochastic Modeling

FUNCTIONAL AREA	SUBJECT CODE	COURSES
	18EMBN12	Simulation Modeling
	18EMBN13	Data Mining for Business decisions
	18EMBN14	Time Series Analysis
Management	18EMBN15	Operations Research Applications
	18EMBN16	Quality Toolkit for Managers
	18EMBN17	Economic Analysis and Decision Making
	18EMBN18	Business Forecasting
	18EMBN19	Business Strategy
	18EMBN20	E-Commerce and Digital Markets
	18EMBN21	E-Business
Management Information System	18EMBN22	SAP FICO
	18EMBN23	SAP SD
	18EMBN24	SAP MM
	18EMBN25	SAP HCM
	18EMBN26	Managing Software Projects
	18EMBN27	Digital Innovation and Transformation
	18EMBN28	Modeling Techniques and IT for Operations Management
	18EMBN29	Data Security
	18EMBN30	Cloud Computing
	18EMBN31	IT Consulting
Entrepreneurship	18EMBN32	Environmental Studies
	18EMBN33	Indian Ethos and Business Ethics
	18EMBN34	Ethical and Legal Aspects of Analytics
	18EMBN35	E-Governance & Cyber Law

4 REQUIREMENTS FOR PROCEEDING TO SUBSEQUENT SEMESTER:

- Candidates shall register their names for the First Semester Examination after the admission in PG Courses.
- Candidates shall be permitted to proceed from, the First Semester up to Final Semester irrespective of their failure in any of the Semester Examination subject to the condition that the candidates should register for all the arrears subjects of earlier semester along with current (subsequent) Semester subjects.
- Students appearing for the University examinations must have a minimum of 75% attendance, failing which will not be permitted to write the examinations.

- d. However, the University may condone the attendance shortage of 10% after collecting a condonation fee from the students who have secured 65 to 74% of attendance.
- e. The students who have secured less than 65% attendance are not eligible to write the respective semester examination. He / She has to rejoin and re-do the respective semester course in the next academic year by paying the prescribed tuition fee.
- f. Condonation for deficiency of attendance will not be granted as a matter of routine.

5. EXAMINATIONS:

There shall be four examinations, first semester examination will be held in Nov/Dec of the first year and the second semester examination at April/May of the first year. Similarly the third and fourth semester examinations will be held during Nov/Dec and April/May of the second year respectively. Max. no. of attempts is 8.

6. PASSING MINIMUM:

- i. A candidate who secures not less than 50 percent marks in the External Written Examination and the aggregate (i.e. Written Examination Marks and the Internal Assessment Marks put together) respectively of each paper shall be declared to have passed the examination in that subject.
- ii.
 - a. A candidate shall be declared to have passed Project Work and Viva-Voce respectively, if he/she secures a minimum 50 percent marks in the Project Work Evaluation and the Viva Voce respectively.
 - b. A candidate failing in any subject will be permitted to appear for the examinations again on a subsequent occasion without putting in any additional attendance.
 - c. A candidate who fails in either Project Work or Viva-Voce shall be permitted to redo the Project Work for evaluation and reappear for the Viva-Voce on a subsequent occasion, if so recommended by the Examiners.
- iii. A Candidate who successfully completes the course and passes the examinations of all the FOUR Semesters prescribed as per Scheme of Examinations earning prescribed CREDITS shall be declared to have qualified for the Degree, provided the whole course has been

completed within a maximum of 4 YEARS from the date of initially joining the course in the case of a FULL-TIME candidates.

7. CLASSIFICATION OF SUCCESSFUL CANDIDATES:

Successful candidates securing not less than 60 percent in the aggregate of the marks prescribed for the Course shall be declared to have qualified for the Degree in First Class, provided they have passed the Project Work and the Viva-Voce at the FIRST appearance and the Examination of all the other subjects within TWO YEARS after their admission in the case of FULL-TIME students.

Successful candidates securing not less than 75 percent in the aggregate of the marks prescribed for the Course shall be declared to have qualified for the Degree in First Class with Distinction provided they pass all the examinations prescribed for the course at the First Appearance / instance. All other successful candidates shall be declared to have passed reexamination in the Second Class.

8 GRADING SYSTEM

The following table gives the marks, grade points, letter grades and classification to indicate the performance of the candidate.

**Conversion of Marks to Grade Points and Letter Grade
(Performance in a Paper /Course)**

Marks	Grade Points	Grade	Description
90-100	10	O	OUTSTANDING
85-89	9	A+	EXCELLENT
80-84	8	A	VERY GOOD
75-79	7.5	B+	GOOD
70-74	7	B	ABOVE AVERAGE
60-69	6	C	AVERAGE
50-59	5	D	MINIMUM FOR PASS
00 - 49	0	RA	REAPPEAR
-		AAA	ABSENT

Calculation of GPA & CGPA

$$\text{GPA} = \sum (C \times GP) / \sum (C)$$

$$\text{CGPA} = \sum_{i=1}^n (C_i \times GP_i) / \sum_{i=1}^n (C_i)$$

n = Number of subjects

C = Credit for the academic courses successfully completed

GP = Grade point for the courses successfully completed

GPA = Grade point average for all the courses successfully completed in the current semester examination

CGPA = Cumulative grade point average

Overall Performance:

CGPA	Grade	Class
5.00 - 5.99	D	Second Class
6.00 - 6.99	C	First Class
7.00 - 7.49	B	
7.50 - 7.99	B+	First Class with Distinction
8.00 - 8.49	A	
8.50 - 8.99	A+	
9.00 - 10.0	O	First Class - Outstanding

*The candidates who have passed in the first appearance and within the prescribed semester of the PG Programme (Core, Elective, Non-major Electives and Extra-Disciplinary courses alone) are eligible.

9. RANKING:

Candidates who pass all the examinations prescribed for the Course In the FIRST APPEARANCE ITSELF ALONE are eligible for Ranking/Distinction provided in the case of Candidates who pass all the examinations prescribed for the Course with a break in the

First Appearance due to the reasons as furnished in the Regulations under REQUIREMENTS FOR PROCEEDING TO SUBSEQUENT SEMESTER are only eligible for Classification.

10. QUESTION PAPER PATTERN

Total Marks for each subject 100 Marks

University Exam 60 Marks

Internal Assessment 40 Marks

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)

MBA – BUSINESS ANALYTICS**SEMESTER I**

Code	Course	Hour / Week			Credits
		Lecture	Tutorial	Practical	
18CMBN11	Management Principles & Organisational Behaviour	4	0	0	4
18CMBN12	Business Statistics	3	1	0	4
18CMBN13	Managerial Economics	4	0	0	4
18CMBN14	Financial Reporting , Statements & Analysis	3	1	0	4
18CMBN15	Legal & Business Environment	4	0	0	4
18CMBN16	Business Communication	4	0	0	4
18PMBN11	Database Management System & SQL	0	0	2	1
18PMBN12	Emerging Areas of Business Analytics	0	0	2	1
18PMBN13	Mini Project	0	0	2	1
18PMBN14	Community Development Project / MOOC / Outbound Experiential Learning Programme	0	0	2	1
		22	2	8	28

SEMESTER II

Code	Course	Hour / Week			Credits
		Lecture	Tutorial	Practical	
18CMBN21	Operations Management	4	0	0	4
18CMBN22	Human Resources Management	4	0	0	4
18CMBN23	Research Methodology	4	0	0	4
18CMBN24	Marketing Management	4	0	0	4
18CMBN25	Quantitative Techniques	3	1	0	4
18CMBN26	Business Intelligence	4	0	0	4
18CMBN27	Data Cleaning, Normalisation & Data Mining	4	0	0	4
18PMBN21	Spreadsheet Modelling	0	0	2	1
18PMBN22	Foundation course in Business Analytics (Cognos Insight)*	0	0	2	1
18IMBN21	Internship	0	0	0	6
		27	1	4	36

SEMESTER III

Code	Course	Hour / Week			Credits
		Lecture	Tutorial	Practical	
18EMBN....	Elective I	3	0	0	3
18EMBN....	Elective II	3	0	0	3
18EMBN....	Elective III	3	0	0	3
18EMBN....	Elective IV	3	0	0	3
18EMBN....	Elective V	3	0	0	3
18EMBN....	Elective VI	3	0	0	3
18EMBN....	Elective VII	3	0	0	3
18EMBN....	Elective VIII	3	0	0	3
18PMBN31	Foundation Course on Predictive Analysis(IBM SPSS*)	0	0	2	1
18PMBN32	Foundation Course in Descriptive Analysis(IBM)*	0	0	2	1
18PMBN33	Foundation course in Big data and Hadoop	0	0	2	1
		24	0	6	27

SEMESTER IV

Code	Course	Hour / Week			Credits
		Lecture	Tutorial	Practical	
18PMBN41	Project Work	0	0	20	10
	Foundation Course in Big data Analytics (IBM Infosphere Big Insight)	0	0	2	1
		0	0	22	11

Total: 102

ELECTIVE COURSES

FUNCTIONAL AREA	SUBJECT CODE	COURSES
Analytics	18EMBN01	Advanced Research Methods and Predictive Analysis
	18EMBN02	Business Optimization and Big Data Analytics
	18EMBN03	Data Science using R Programming
	18EMBN04	Supply Chain Analytics
	18EMBN05	HR Analytics
	18EMBN06	Marketing and Retail Analytics
	18EMBN07	Social and Web Analytics
	18EMBN08	Healthcare Analytics
	18EMBN09	Pricing Analytics for Revenue Management
	18EMBN10	Data Visualization for Managers
	18EMBN11	Stochastic Modeling
	18EMBN12	Simulation Modeling
	18EMBN13	Data Mining for Business decisions
	18EMBN14	Time Series Analysis
Management	18EMBN15	Operations Research Applications
	18EMBN16	Quality Toolkit for Managers
	18EMBN17	Economic Analysis and Decision Making
	18EMBN18	Business Forecasting
	18EMBN19	Business Strategy
	18EMBN20	E-Commerce and Digital Markets
	18EMBN21	E-Business
Management Information System	18EMBN22	SAP FICO
	18EMBN23	SAP SD
	18EMBN24	SAP MM
	18EMBN25	SAP HCM
	18EMBN26	Managing Software Projects
	18EMBN27	Digital Innovation and Transformation
	18EMBN28	Modeling Techniques and IT for Operations Management
	18EMBN29	Data Security
	18EMBN30	Cloud Computing
	18EMBN31	IT Consulting
Entrepreneurship	18EMBN32	Environmental Studies
	18EMBN33	Indian Ethos and Business Ethics
	18EMBN34	Ethical and Legal Aspects of Analytics
	18EMBN35	E-Governance & Cyber Law

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.

COURSE OUTCOMES:

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

- CO – 1 : Discuss about the management and its historical development.
- CO – 2 : Assess the fundamentals of organizational behavior and OB Model.
- CO – 3 : Analyze the behavior of individuals and groups in organizations
- CO – 4 : Summarize the perceptions, learning, attitudes, and motivation in organizations
- CO – 5 : Analyze the teams and organizations, evaluating transaction analysis.
- CO – 6 : Compare and contrast power and influence of leadership
- CO – 7 : Assess the knowledge about the organization structure and its types
- CO – 8 : Describe about the line and staff authority.
- CO – 9 : Demonstrate the dynamics of organizational change.
- CO – 10 : Identify the major issues in business ethics and corporate social responsibility.

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

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.

COURSE OBJECTIVE:

- To impart knowledge of basic statistical tools & techniques with emphasis on their application in Business decision process and Management.
- To focus on more practical than theoretical.
- To do statistical analysis informs the judgment of the ultimate decision-maker—rather than replaces it—some key conceptual underpinnings of statistical analysis will be covered to insure the understandability of its proper usage.

COURSE OUTCOMES:

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

- CO – 1 : Facilitate Objective Solutions in Business Decision Making.
- CO – 2 : Enhance Knowledge in Probability Theory.
- CO – 3 : Describe Normality and its Distribution Concepts.
- CO – 4 : Stress The Need For Collection Of Data and its Dispersion Techniques.
- CO – 5 : Apply Time Series Analysis in Market Prediction Rates.
- CO – 6 : Draw Conclusions over the Hypothetical Situations.
- CO – 7 : Draw Conclusions over the Hypothetical Situations.
- CO – 8 : Measure the trend setting factors for projection of Sales and Demand Curves.
- CO – 9 : Extract the variance among the factors of study concerned.
- CO – 10 : Classify the distribution of Data Spread.

UNIT I	INTRODUCTION	12
---------------	---------------------	-----------

Introduction to Statistics - Collection of Data - Measures of Central Tendency & Dispersion in Frequency Distribution

UNIT II	PROBABILITY THEORY	12
----------------	---------------------------	-----------

Probability Theory – Addition, Multiplication & Baye's Theorem, Test for Normality.

UNIT III	CORRELATION	12
-----------------	--------------------	-----------

Correlation-Karl Pearson's and Rank Correlation, Regression (linear)

UNIT IV	HYPOTHESIS TESTING	12
----------------	---------------------------	-----------

Hypothesis Testing –Test for Single Mean& Two Mean– Chi-Square test, F test – ANOVA.

UNIT V	TESTS	12
---------------	--------------	-----------

Index Nos-Unweighted and Weighted-Test of Consistency, Time Series Analysis-Measurement of Secular Trend-Seasonal Variations

TOTAL: 60 HOURS

TEXT BOOKS:

1. R.S.N. Pillai, V. Bagavathi,” Statistics”, S.Chand Limited, 7th Ed,2008
2. N.D. Vohra, “Business Statistics”, Tata McGraw-Hill Education, 2nd Ed,2013
3. G. V. Shenoy, Uma K. Srivastava, S. C. Sharma,” Business Statistics”, New Age International,2nd Ed, 2005
4. Beri, ”Business Statistics” Tata McGraw Hill,2nd Ed,2009

REFERENCE BOOKS:

1. Keller. G,”Statistics for Management”, Cengage Learning, 1st Ed, 2009.
2. J. K Sharma, “Business Statistics”, Pearson, 2nd Ed, 2010.
3. Arora PN &others,” Complete Statistical Methods”, S. Chand, 3rd Ed, 2010

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.

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 : Study the life cycle of a product
- CO – 3 : Forecast demand for a product and decide on the demand decisions.
- CO – 4 : Know what to produce, where to, when to, how to, for whom to.
- CO – 5 : Frame policy for production to minimize the cost and maximum the profit.
- CO – 6 : Construct the cost function.
- CO – 7 : Reorganise the basics of market structures and their environment.
- CO – 8 : Decide on the input and output decisions.
- CO – 9 : Know the basic theories related to business practices.
- CO – 10 : Enable them to take a decision with given business situation

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

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

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.

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 : Outline the accounting process
- CO – 3 : Prepare financial statements through ratio analysis.
- CO – 4 : Analyze financial reports of financial instruments, mutual funds,
- CO – 5 : Prepare cash flow and fund flow statement
- CO – 6 : Analyze cash flow and fund flow statement
- CO – 7 : Calculate cost of capital – Debt, Equity, Preference Capital.
- CO – 8 : Identify various sources of Finance
- CO – 9 : Estimate work capital of an organization.
- CO – 10 : Estimate components of work capital.

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

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

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.

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
- CO – 6 : Enhance knowledge on bailment and pledge
- CO – 7 : Encourage learners to differentiate between guarantee and indemnity
- CO – 8 : Proper knowledge on copyrights and trademarks.
- CO – 9 : Gain wisdom on various business protection laws
- CO – 10 : Recognize the functioning of businesses, identifying potential business opportunities.

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

TEXT BOOKS:

2. N.D.Kapoor, Elements of Mercantile Law, S.Chand& Sons, 2013
3. P.P.S.Gogna, Mercantile Law, S. Chand & Co. Ltd., India, Fourth Edition, 2008.
4. Dr. Vinod, K. Singhania, Direct Taxes Planning and Management, 2008.
5. 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.

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.

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 : Communicate in an effective manner.
- CO – 3 : Shine as a better leader and guide the team with effective communication skills.
- CO – 4 : Application of oral and written communication.
- CO – 5 : Evaluate the effectiveness of revising and checking the messages.
- CO – 6 : Use of appropriate technology for business presentations and digital communication.
- CO – 7 : Write E-mails in a structured pattern
- CO – 8 : Well versed with the skills of writing an email - Introduction, Body and Conclusion.
- CO – 9 : Employ the art of report preparation and writing various types of letters.
- CO – 10 : Develop the skills of oral presentation.

UNIT I INTRODUCTION 12

Fundamentals of Communication, Business Communication, The Communication Model, Communicating in teams, Overcoming the Barriers to Communication. Just-A-Minute Presentation Workshop-Jam Feedback and overcoming Glossophobia-Presentation-1 (Planning & Preparing)

UNIT II OVERVIEW 12

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 III 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.

UNIT IV EMAIL WRITING 12

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. Presentation–3 (Delivery)-Graded Team Presentations-Group 1-Graded Team Presentations-Group 2-Reading, listening & Questioning.

UNIT V REPORTS AND PRESENTATIONS 12

Writing Business Communication basics-Writing Reports, Proposals Business reports and Proposals, Format, visual aids and contents, Oral Business presentations. Individual Presentations- Group 1-Graded Individual Presentations- Group 2-Presentation feedback, Bios and Resumes, Presentation-Visual Aids.

TOTAL: 60 HOURS

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 &Flatly 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.

SEMESTER II

COURSE OBJECTIVES

- This course introduces students to the concepts underlying effective operation and control of manufacturing and service businesses.
- Approaches to production control, inventory policy, facilities planning, methods improvement and technological assessment are studied.
- Understand major functions of POM include Managing purchases, Inventory control, Quality control, Storage, Logistics and Evaluations.

COURSE OUTCOMES

CO-1: Identify and articulate how operations management contributes to the achievement of an organization's strategic objectives.

CO-2: Differentiate manufacturing and service operations

CO-3: Critically evaluate the operations function in manufacturing and service production settings.

CO-4: Appraise and apply forecasting methods as the basis of management's planning and control activity.

CO-5: List and outline various production processes and identify the layout suitable for each production process

CO-6: Assess and formulate decision making strategies to address operating issues that have short, intermediate or long lead times.

CO-7: Evaluate approaches to problem solving and process improvement in production settings.

CO-8: Determine the economic order quantity which would lower the overall costs

UNIT I INTRODUCTION

12

Production & Operations Management – An Overview, History and Definition, Production Cycle. differences between services and goods; manufacturing and service operations, a system perspective, functions, challenges, recent trends; Operations Strategy – Strategic fit , trade-off, framework.

UNIT II FORECASTING, CAPACITY AND FACILITY DESIGN 12

Forecasting as a planning tool, Forecasting types and methods, Measurement of errors, Monitoring and Controlling forecasting models, Facility Location – Theories, Steps in Selection, Location Models. Types of Production Processes- Product process matrix- Process analysis -Layout Planning. Capacity planning – Long range, Types, Developing capacity alternatives.

UNIT III PRODUCTION PLANNING, LOGISTICS 12

Production Planning techniques, Routing Decisions, Line of Balance, Scheduling types & principles, Aggregate Production planning, Master production schedule. Logistics Management: Logistics as part of SCM, Logistics costs, different models, logistics sub-system, inbound and outbound logistics. Distribution and warehousing management.

UNIT-IV INVENTORY MANAGEMENT 12

Inventory Management – Objectives, Factors, Process, Deterministic demand model– EOQ- Continuous and Periodic review Inventory models Inventory control techniques- ABC, VED, EOQ, SED,FSN analysis.

UNIT V PROJECT AND QUALITY MANAGEMENT 12

Project Management – Scheduling Techniques, PERT, CPM; Basic concepts of quality, Juran's quality trilogy, Deming's 14 principles, PDCA cycle, Quality circles, Quality improvement and cost reduction- QC tools , ISO , Six Sigma, Total Productive Maintenance (TPM).

Total 60 hrs

TEXT BOOKS

1. Norman Gaither and Gregory Frazier, Operations Management, South Western Cengage Learning, 2002
2. Pannerselvam R, Production and Operations Management, Prentice Hall India, Second Edition, 2008.

REFERENCE BOOKS

1. Aswathappa.K and Shridhara Bhat K, Production and Operations Management, Himalaya

- Publishing House, Revised Second Edition, 2008.
2. Mahadevan B, Operations Management Theory and practice, Pearson Education, 2007.
 3. William J Stevenson, Operations Management, Tata McGraw Hill, 9th Edition, 2009.
 4. Russel and Taylor, Operations Management, Wiley, Fifth Edition, 2006.

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.

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.
- CO – 6 : Debate the concept of career development and various career stages
- CO – 7 : Compare the difference between coaching and mentoring
- CO – 8 : Analyze the emerging trends, opportunities and challenges in performance appraisal.
- CO – 9 : Apply the Concept of job application and how it is practically applied in the org.
- CO – 10 : Restate various recent techniques related to HRM.

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

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

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.

COURSE OUTCOMES:

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

- CO – 1 : Obtain knowledge on various kinds of research questions and research design
- CO – 2 : Describe qualitative, quantitative and mixed methods research
- CO – 3 : Design a good quantitative purpose statement and hypotheses
- CO – 4 : Describe the good practices in conducting a qualitative interview and observation.
- CO – 5 : Determine the sample size
- CO – 6 : Explain the various types of quantitative sampling techniques and conditions use.
- CO – 7 : Describe the various steps involved in coding qualitative data.
- CO – 8 : Apply the various statistical tools to test the hypothesis & drawing inferences
- CO – 9 : Obtain knowledge on writing different types of report
- CO – 10 : Develop independent thinking for critically analyzing research reports

UNIT I INTRODUCTION**12**

Introduction to Research – Business & Management Research – Research Characteristics – Research Approaches – Types of Research - Significance – Research process – characteristics of good research – Types of Research – Problems in research – identifying research Problem- Theoretical-Framework / 'Literature Survey- Exploratory Descriptive Studies – Cross Sectional & longitudinal studies.

UNIT II RESEARCH DESIGN AND MEASUREMENT**12**

Research design – Definition – types of research design – Exploratory, Descriptive, Causal, and Formulation of hypothesis – different types of experimental design-. Scaling techniques meaning, types of scales–Hypothesis testing Statistical significance, statistical test procedure.

UNIT III SAMPLING AND DATA COLLECTION**12**

Sampling Techniques – Probability and Non–probability sampling methods- Data Collection – Types of data –Primary and Secondary data – Methods of primary data collection –Observation, Interview, Questionnaire and Schedule – Construction of questionnaire – pilot study – case study

UNIT IV DATA PREPARATION AND ANALYSIS 12

Data Preparation – editing – Coding –Data entry-Test of significance – Assumptions about Parametric and nonparametric tests. Parametric tests -Introduction ANOVA- Application of Statistical software for data analysis.

UNIT V REPORT DESIGN AND WRITING 12

Introduction - Research Report - Research Proposal – Different types – Contents of report – Important Parts – Title, Table of Contents – Synopsis, bibliography - Introductory Section – Research Design - Result Section – Recommendation & Implementation Section

TOTAL: 60 HOURS

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 .

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 and analysis

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 moulding the company 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
- CO – 6 : Employ the positioning strategies used by the companies for their products.
- CO – 7 : Label the importance of products, branding and new product development.
- CO – 8 : Classify the importance of integrated marketing communications.
- CO – 9 : Dramatise the importance of marketing research in decision making.
- CO – 10 : Choose plan for the future demand based on prediction.

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

TEXT BOOKS:

1. Philip Kotler and Kevin Lane Keller, Marketing Management, PHI 14th Edition, 20 2. 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.

COURSE OBJECTIVE:

- To acquaint the student with the applications of Statistics and 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.

COURSE OUTCOMES:

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

- CO – 1 : Formulation a Linear programming problem.
- CO – 2 : Solve the formulation of Linear programming.
- CO – 3 : Evaluate the initial solution for Transportation Model.
- CO – 4 : Evaluate the solution for Assignment Problem.
- CO – 5 : Minimize the waiting hours of simultaneous projects undertaken.
- CO – 6 : Explain the different network models.
- CO – 7 : Evaluate the solution for game theory.
- CO – 8 : Solve the game theory using dominance.
- CO – 9 : Evaluate the Queuing System.
- CO – 10 : Explain the Simulation models.

UNIT I LINEAR PROGRAMMING 12

Operations Research – Linear programming (LP) – Formulation – Graphical Solutions – Simplex Method – Duality Concepts – Sensitivity Analysis – Using Excel solver to solve LP Problems

UNIT II TRANSPORTATION AND ASSIGNMENT 12

Transportation Model – Initial Solution: North West Corner Rule, Least Cost Method, Vogel's Approximation method – Assignment Problem.

UNIT III NETWORK MODELS 12

Network Models – Shortest Path Problem: PERT & CPM – Maximum Flow Problem – Minimum Spanning Tree

UNIT IV GAME THEORY 12

Game Theory – Game – Zero-sum games and Non-zero sum games – Pure & Mixed Strategy – Maximin–Minimax Principle – Dominance Property.

UNIT V QUEUING & SIMULATION**12**

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

TOTAL: 60 HOURS**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.

COURSE OBJECTIVE:

- To introduce the Business Intelligence methods that support the decision process in business operations.
- To analyze data to improve business performance through Business Intelligence methods.

COURSE OUTCOMES:

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

- CO – 1 : Understand the Business Intelligence.
- CO – 2 : Understand the Data, Information and Knowledge.
- CO – 3 : Explain the fundamental concepts of Business Intelligence Architectures.
- CO – 4 : Understand the Business Intelligence tools.
- CO – 5 : Explain the fundamental concepts of Business Analytics (BA) Model.
- CO – 6 : Identify the different Scenarios of Strategy and Business Analytics.
- CO – 7 : Understand the Extraction, Transformation, and Loading (ETL) Concepts.
- CO – 8 : Explain the Architecture in a Data Warehouse.
- CO – 9 : Identify the different types of Data Mining tools.
- CO – 10 : Understand the Business Intelligence or Analytics at Analytical level.

UNIT I INTRODUCTION 12

Business Intelligence: Definition and Concept – Process Flow of Business Intelligence – Data, Information and Knowledge – Business Intelligence and Related Technologies Such as Data Warehousing and Data Mining – Business Intelligence Capabilities

UNIT II BUSINESS INTELLIGENCE 12

Business Intelligence Architectures: The major components – Cycle of Business Intelligence Analysis – Development of Business Intelligence System: Phases – Business Intelligence Tools – Business Intelligence Applications

UNIT III BUSINESS INTELLIGENCE & ANALYTICS STRATEGY 12

Business Analytics Vs. Business Intelligence – Business Intelligence & Analytics Strategy – Business Analytics (BA) Model – Business Analytics at the strategic level – Strategy and Business Analytics: Four Scenarios

UNIT IV DATA WAREHOUSING 12

Business Intelligence or Analytics at Data Warehouse Level – Descriptive Analytics: Data Warehouse – Extract, Transform and Load (ETL) processes – The types of data warehouse – Architecture and Processes in a Data Warehouse

UNIT V DATA MINING

12

Business Intelligence or Analytics at Analytical level – Analyst's Role in Business Analytics Model – Statistics Vs. Data Mining – Predictive Analytics: Data Mining – Data Mining Tasks (Descriptive, Predictive) – Learning methods (Unsupervised, Supervised) – Data Mining Algorithm or Techniques or Tools

TOTAL: 60 HOURS

TEXT BOOKS:

1. Rajiv Sabherwal, Irma Becerra-Fernandez, Business Intelligence: Practices, Technologies, and Management, John Wiley & Sons, 2011
2. Carlo Vercellis, Business Intelligence: Data Mining and Optimization for Decision Making, John Wiley & Sons Ltd., 2009.

REFERENCE BOOKS:

1. Gert H.N. Laursen, Jesper Thorlund, Business Analytics for Managers: Taking Business Intelligence beyond reporting, Wiley and SAS Business Series, 2010.
2. Ramesh Sharda, Dursun Delen, Efraim Turban, Business Intelligence and Analytics – Systems for Decision Support, Pearson, 10th Edition, 2014.

COURSE OBJECTIVE:

- To understand and interpret a business objective, and translate the business objective to data mining objectives.
- To apply the data cleaning and normalization for data set in achieving business objectives.
- To apply the appropriate data mining techniques to match a business objective.

COURSE OUTCOMES:

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

- CO – 1 : Understand the Knowledge Discovery from Data (KDD).
CO – 2 : Understand the Data mining tasks.
CO – 3 : Explain the fundamental concepts of Data Cleaning.
CO – 4 : Understand the Discrepancy detection tools.
CO – 5 : Explain the fundamental concepts of Data Quality.
CO – 6 : Understand the Data Quality Continuum.
CO – 7 : Understand the Extraction, Transformation, and Loading (ETL) Concepts.
CO – 8 : Explain the fundamental concepts of Data normalization.
CO – 9 : Identify the different types of Data Mining tools.
CO – 10 : Predict the output using the Regression Methods.

UNIT I INTRODUCTION 12

Knowledge Discovery from Data (KDD) or Data mining – Data mining as a step in the process of knowledge discovery – Architecture of a typical data mining system – Data repositories such as Database Management System (DBMS), Data Warehouses, Transactional Databases – Data Mining Functionalities: Patterns – Data mining tasks – Classification of Data Mining Systems

UNIT II DATA CLEANING 12

Data Cleaning – Missing Values: methods – Noisy Data: data smoothing techniques such as Binning, Regression and Clustering – Data Cleaning as a Process: discrepancy detection and data transformations – Discrepancy detection tools such as Data scrubbing Data auditing – Data transformations tools such as Data migration and ETL (extraction/transformation/loading)

UNIT III DATA QUALITY 12

Data Quality: Meaning and Definition – End to-End Data Quality: The Data Quality Continuum – Data Quality Process – Measuring Data Quality: Components and Their Measurement – Data monitoring – Total Data Quality Management

UNIT IV DATA WAREHOUSE & NORMALIZATION 12

Data integration such as a data warehouse – Extract/ Transform / Load (ETL) – OLTP and OLAP – From Data Warehousing to Data Mining; Data transformations, such as normalization – Methods for data normalization such as min-max normalization, z-score normalization and normalization by decimal scaling

UNIT V TOOLS & APPLICATIONS 12

Data Mining tools: Classification and Prediction Method – Classification by Decision Tree, Neural networks, Association rules – Prediction by Regression – Clustering Analysis; Applications in various sectors

TOTAL: 60 HOURS

TEXT BOOKS:

1. Jaiwei Ham and Micheline Kamber, Data Mining Concepts and techniques, Kauffmann Publishers, 2006
2. Tamraparni Dasu and Theodore Johnson, Exploratory Data Mining and Data Cleaning John Wiley & Sons, Inc., Hoboken, New Jersey, 2003.

REFERENCE BOOKS:

1. Jiawei Han and Micheline Kamber, Data Mining: Concepts and Techniques. Morgan Kaufmann Publishers, 2006.

SEMESTER III

ELECTIVE COURSES – ANALYTICS

18EMBN01

ADVANCED RESEARCH METHODS AND PREDICTIVE ANALYSIS

3 0 0 3

COURSE OBJECTIVE:

- To engage in a range of learning activities, with an emphasis on problem-based learning focusing on the application of data analysis techniques for addressing the research questions at the heart of their own research projects.
- To describe the data analysis using the advanced statistical techniques.

COURSE OUTCOMES:

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

- CO – 1 : Understand appropriate and relevant fundamental of research.
- CO – 2 : Demonstrate a capacity to employ a variety of research design.
- CO – 3 : Understand the Types of sampling
- CO – 4 : Determine the sample size.
- CO – 5 : Demonstrate the multivariate methods.
- CO – 6 : Analyze, and interpret the data using the multivariate.
- CO – 7 : Demonstrate the regression methods.
- CO – 8 : Predict the demand using the linear regression methods.
- CO – 9 : Describe the essential features of Logistic Regression.
- CO – 10 : Describe the essential features of Multinomial Regression.

UNIT I CONCEPTUAL FOUNDATIONS OF RESEARCH

9

Meaning of research and scope of research methodology, Identification of problem area, Formulation of research questions, Typology of Research Designs. Overview of quantitative research, Logic of Inquiry, Construction of theories, Conceptual framework in quantitative research. Introduction to Academic Writing, Structure of Academic Writing.

UNIT II SAMPLING DESIGN AND TOOLS

9

Sampling: Process and Types sampling; probability and non probability sampling, Validity: Internal and external validity, Threats to Validity: Threats to internal validity and external validity, balancing internal and external validity. Reliability: Factors influencing reliability.

UNIT III MULTIVARIATE DESIGNS AND ANALYSIS 9

Introduction to Multivariate methods and analysis, Discriminant Analysis Multiple, logistic and hierarchical regression Factor analysis, structural equation modelling (SEM), Meta analysis, Mediation Analysis, Canonical Analysis. Advantages of multivariate strategies

UNIT IV PREDICTIVE ANALYSIS – I 9

Simple linear regression: Coefficient of determination, Significance tests, Residual analysis, Confidence and Prediction intervals Multiple linear regression: Coefficient of multiple coefficient of determination, Interpretation of regression coefficients, Categorical variables, heteroscedasticity, Multi-collinearity, outliers, Auto regression and Transformation of variables

UNIT V PREDICTIVE ANALYSIS – II 9

Logistic and Multinomial Regression: Logistic function, Estimation of probability using logistic regression, Deviance, Wald Test, Hosmer Lemshow Test Forecasting: Moving average, Exponential smoothing, Trend, Cyclical and seasonality components, ARIMA (autoregressive integrated moving average). Application of predictive analytics in retail, direct marketing, health care, financial services, insurance, supply chain, etc.

TOTAL: 45 HOURS

TEXT BOOKS:

1. Donald R. Cooper, Pamela S. Schindler and J K Sharma, Business Research methods, 11th Edition, Tata McGraw Hill, New Delhi, 2012.
2. Alan Bryman and Emma Bell, Business Research methods, 3rd Edition, Oxford University Press, New Delhi, 2011.

REFERENCE BOOKS:

1. Uma Sekaran and Roger Bougie, Research methods for Business, 5th Edition, Wiley India, New Delhi, 2012.
2. William G Zikmund, Barry J Babin, Jon C.Carr, Atanu Adhikari, Mitch Griffin, Business Research methods, A South Asian Perspective, 8th Edition, Cengage Learning, New Delhi, 2012.

COURSE OBJECTIVE:

- To provide foundational knowledge associated with the domain of business optimization and analytics
- To familiarize the students with all concepts including optimization techniques, simulation and big data analytics

COURSE OUTCOMES:

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

- CO – 1 : Explain the different optimization problems.
- CO – 2 : Understand the Optimization for Analytics.
- CO – 3 : Evaluate the initial solution for Transportation Model.
- CO – 4 : Explain the solution for Operations Research Techniques for Analytics.
- CO – 5 : Explain the Simulation models.
- CO – 6 : Understand the Simulation for Analytics.
- CO – 7 : Understand the Dimensions of Big Data.
- CO – 8 : Explain the Big Data Analytics.
- CO – 9 : Identify the appropriate types of Analytics.
- CO – 10 : Explain the Application of Excel in Analytics.

UNIT I BUSINESS OPTIMISATION 9

Introduction – Optimization – Classification of optimization problems – General optimization algorithm – Optimization for Analytics – Business applications

UNIT II OPTIMISATION TECHNIQUES 9

Introduction – Operations Research Techniques for Analytics – Mathematical Model – Linear programming – Transportation Problems – Sensitivity Analysis: What-If Analysis – Software

UNIT III SIMULATION MODELLING 9

Introduction to simulation – Type: Discrete and Continuous simulation – Simulation models – Steps in Simulation study – Simulation for Analytics – Software

UNIT IV BIG DATA ANALYTICS – I 9

Introduction – Big Data Definition – Dimension of Big Data – Big Data Characteristics: Data Structure – Techniques of Big Data – Big Data Analytics – Applications of Big Data Analytics

UNIT V BIG DATA ANALYTICS – II

9

Types of Analytics: Descriptive – Prescriptive – Predictive – Tools — Software for Analytics – Application of Excel, R, SPSS and SAS in Analytics – Hadoop

TOTAL: 45 HOURS

TEXT BOOKS:

1. Taha Hamdy. Operation Research -An Introduction, Prentice-Hall, 9th edition, 2012.
2. Gordon, G., Systems Simulation, Prentice Hall, 2002.
3. EMC Education Services, Data Science and Big Data Analytics: Discovering, Analyzing, Visualizing and Presenting Data, John Wiley & Sons, 2015.

REFERENCE BOOKS:

1. G.V.Shenoy,U.K.Srivastava,S.C.Sharma, Operations Research for Management, New Age International,Revised 2nd Ed, 2005.
2. Banks, J., Carson, J. S. and Nelson, B. L. , Discrete Event System Simulation, 4th edition, Pearson Education Asia, 2006.
3. James R. Evans., Business Analytics – Methods, Models and Decisions, Pearson Publications, 1st Edition, 2012.
4. Frank J. Ohlhorst, Big Data Analytics: Turning Big Data into Big Money, John Wiley & Sons, 2012

COURSE OBJECTIVE:

- To give an introduction to the software R and how to write elementary programs
- To demonstrate how statistical models are implemented and applied.
- To import, manage and structure data files.
- To write simple program scripts for data analysis produce illustrative data plots and carry out statistical tests.

COURSE OUTCOMES:

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

- CO – 1 : Recognise and make appropriate use of different types of data structures.
- CO – 2 : Use R to create sophisticated figures and graphs.
- CO – 3 : Identify and implement appropriate control structures.
- CO – 4 : Design and write functions in R and implement simple iterative algorithms.
- CO – 5 : Apply structured thinking to unstructured problems.
- CO – 6 : Categorize and understand various data types.
- CO – 7 : Convert imprecise business relevant problem statements to analytics
- CO – 8 : Learn the importance of visualization in the data analytics solution process
- CO – 9 : Apply R in real world situations.
- CO – 10 : Distinguishes between SAS and R programming.

UNIT I INTRODUCTION TO THE R LANGUAGE 9

SAS versus R - R, S, and S-plus - Obtaining and managing R - Objects - types of objects, classes, creating and accessing objects - Arithmetic and matrix operations - Introduction to functions

UNIT II WORKING WITH R 9

Reading and writing data - R libraries - Functions and R programming - the if statement - looping: for, repeat, while - writing functions -function arguments and options

UNIT III GRAPHICS 9

Basic plotting - Manipulating the plotting window - Advanced plotting using lattice library - Saving plots

UNIT IV STANDARD STATISTICAL MODELS IN R 9

Model formulae and model options - Output and extraction from fitted models - Models considered:
Linear regression: `lm()` , Logistic regression: `glm()` , Linear mixed models: `lme()`

UNIT V ADVANCED R

9

Data management (importing, subsetting, merging, new variables, missing data etc.) Plotting – Loops and functions – Migration SAS to R – Plotting and Graphics in R – Writing R functions, optimizing R code– Bioconductor, analysis of gene expression and genomics data. More on linear models – Multivariate analysis, Cluster analysis, dimension reduction methods (PCA).

TOTAL: 45 HOURS

TEXT BOOKS:

1. Peter Dalgaard. Introductory Statistics with R (Paperback) 1st Edition Springer-Verlag New York, Inc. ISBN 0-387-95475-9
2. W. N. Venables and B. D. Ripley. 2002. Modern Applied Statistics with S. 4th Edition. Springer. ISBN 0-387-95457-0

REFERENCE BOOKS:

1. Andreas Krause, Melvin Olson. 2005. The Basics of S-PLUS. 4th edition. Springer-Verlag, New York. ISBN 0-387-26109-5
2. Jose Pinheiro, Douglas Bates. 2000. Mixed-effects models in S and S-PLUS Springer-Verlag, Berlin. ISBN 0-387-98957-9
3. An Introduction to R. Online manual at the R website at <http://cran.r-project.org/manuals.html>

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 describe the various techniques for analytics based on the Multi Attribute Decision Making (MADM) and risk
- To provide the applications of analytics in supply chain

COURSE OUTCOMES:

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

- CO – 1 : Explain the fundamental concepts of Optimization.
- CO – 2 : Understand on the Operations Research Techniques for Analytics.
- CO – 3 : Understand on the implementation of analytics in location and layout.
- CO – 4 : Analyze the inventory using aggregate production model.
- CO – 5 : Identify the different quality models.
- CO – 6 : Illustrate the quality problems for analytics.
- CO – 7 : Explain the different dimensions using Analytic Hierarchy Process.
- CO – 8 : Explain the different dimensions for Aggregate Production Planning (APP)
- CO – 9 : Identify the type of analytics for Simulation in supply chain.
- CO – 10 : Design the type of analytics for Simulation in supply chain.

UNIT I INTRODUCTION 9

Introduction – Overview on Supply Chain, Analytics and Supply Chain Analytics – Dashboards with relevant KPIs for Supply Chain – Optimization – Classification of optimization problems – Optimization for Analytics – Operations Research Techniques for Analytics

UNIT II LOCATION AND LAYOUT 9

Plant/Warehousing Decisions – Location Methods – Location Models – Network Models – Layout Methods – Line Balancing: KPIs (Cycle time, Idle time) – Inventory Management

UNIT III TOTAL QUALITY MANAGEMENT 9

Introduction – Statistical Quality Control (SQC) – Statistical Process Control (SPC) – Pareto Analysis – Histogram – Scatter Diagram – Control Charts – Process Capability Analysis: KPIs (C_p and C_{pk})

UNIT IV PLANNING & MULTI ATTRIBUTE DECISION MAKING 9

Capacity Planning – Measurement of Capacity: KPIs (Efficiency and Utilization) – Aggregate Production Planning (APP): Model, Techniques – Multi Attribute Decision Making (MADM) – Analytic Hierarchy Process

UNIT V SIMULATION & DOE 9

Introduction to simulation – Type: Discrete and Continuous simulation – Simulation models – Steps in Simulation study – Simulation for Analytics – Experimental Designs (Taguchi, RSD, Mixture Design)

TOTAL: 45 HOURS

TEXT BOOKS:

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

REFERENCE BOOKS:

3. Gerad Feigin, Supply Chain planning and analytics – The right product in the right place at the right time, Business Expert Press, 2011
4. Peter Bolstorff, Robert G. Rosenbaum, Supply Chain Excellence: A Handbook for Dramatic Improvement Using the SCOR Model, AMACOM Div American Mgmt Assn, 2007
5. 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

COURSE OBJECTIVE:

- To understand the concepts, tools and techniques of HR Analytics that could be applied to make human applied as resource management evidence based.
- To understand HR reports & to understand the decisions technologies.
- Recognize the fundamental strategic priorities of the business and learn how to provide enhanced decision support leveraging analytics.
- Develop a structured approach to apply judgment, and generate insight from data for enhanced decision making.

COURSE OUTCOMES:

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

- CO – 1 : Analyse appropriate internal and external human resource metrics.
- CO – 2 : Recommend regarding the appropriate HRIS to meet organization's human resource.
- CO – 3 : Employ appropriate software to record, maintain and retrieve.
- CO – 4 : Apply quantitative and qualitative analysis to understand trends and indicators.
- CO – 5 : Manage information technology to enhance the efficiency and effectiveness.
- CO – 6 : Measure the outcomes driven by data profiling.
- CO – 7 : Identify metrics that influence attrition, and modelling the data for lowering attrition.
- CO – 8 : Identify the impact of L&D in enhancing employee performance.
- CO – 9 : Identify the ranking employees for their career progression roadmap.
- CO – 10 : Identify the data requirement and analysis.

UNIT I INTRODUCTION TO HR ANALYTICS**9**

HR analytics in Perspective: Basics of HR Analytics: Concept and Evolution of HR Analytics- Defining HR Analytics. Use of workforce to improve decision making. Analytics and Prediction. Introduction to HR Metrics and predictive analytics. Importance of HR Analytics. Data Analytics techniques using software packages. Future of Human Resource Analytics. HR Metrics and HR Analytics; Intuition versus analytical thinking.

UNIT II HR METRICS**9**

UNIT III HR COSTS 9

UNIT IV PREDICTIVE MODELLING 9

UNIT V **HR DATA** **9**

TOTAL: 45 HOURS

1. Jac Fitz-Enz , The New HR Analytics: Predicting the Economic Value of Your Company's Human Capital Investments, Amazon.
2. Gene Pease, Boyce Byerly and Jac Fitz-enz, Human Capital Analytics: How to Harness the Potential of Your Organization's Greatest Asset, John Wiley & Sons

1. The New HR Analytics: Predicting the Economic Value of Your Companys Human Capital Investments: Predicting the Economic Value of Your Company's Human Capital Investments Hardcover – Import, 1 Jun 2010, Jacfitz-Enz

COURSE OBJECTIVE:

- To create an understanding of the use of analytics in Marketing and Retail Management.
- To use the predictive analysis in decision making.

COURSE OUTCOMES:

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

- CO – 1 : To understand the market place and the changing consumer needs.
- CO – 2 : To identify various methods followed build CRM practices.
- CO – 3 : To recognize the various segments for a product.
- CO – 4 : To identify the various positioning strategies followed by the companies.
- CO – 5 : To compare and contrast products and services.
- CO – 6 : To contrast the characteristics of industrial and consumer goods.
- CO – 7 : To apply the predictive analysis in the marketplace.
- CO – 8 : To identify the various techniques for predictive analysis
- CO – 9 : To apply predictive modelling in retailing sector.
- CO – 10 : To understand the need for digital evolution in marketing and retail sector specifically.

UNIT I INTRODUCTION TO MARKETING 9

Understanding the marketplace and consumer needs, Designing a Customer Driven Marketing Strategy, Building Customer Relationships, Consumer Behaviour and Business Buyer Behaviour

UNIT II MARKETING STRATEGY 9

Market Segmentation and Product Positioning, Market Segmentation, Market Targeting, Target Market Strategies, Product Positioning and Differentiation, Choosing a Differentiation and Positioning Strategy.

UNIT III PRODUCT AND SERVICE 9

Products and services, product and service classifications, consumer products, industrial products, product and service decisions, product and service attributes, product support services, services marketing – the nature and characteristics of a service

UNIT IV RETAIL ANALYTICS – I 9

Customer Analytics Overview; Quantifying Customer Value.UsingStata for Basic Customer Analysis.Predicting Response with RFM Analysis, Statistics Review, Predicting Response with

Logistic Regression, Predicting Response with Neural Networks. Predicting Response with Decision Trees.

UNIT V RETAIL ANALYTICS – II

9

The digital evolution of retail marketing, Digital natives, Constant connectivity Social interaction, Predictive modelling, Keeping track, Data availability, Efficiency optimization.

TOTAL: 45 HOURS

TEXT BOOKS:

1. Kotler, P., Keller, K. L., Koshy, A., Jha, M. Marketing Management: A South Asian Perspective. New Delhi: Pearson Education, 14th edn., 2013
2. Rajan, S. Marketing Management. India: New Delhi: Tata McGraw-Hill Education. 4th edn, 2005

REFERENCE BOOKS:

1. Karunakaran, K.. Marketing Management. New Delhi: Himalaya Publishing House. 3rd edition, 2013
2. Kumar, A., Meenakshi. Marketing Management. New Delhi: Vikas Publishing House Pvt Ltd., 2nd edition, 2013
3. Ramaswamy, V. S., Namakumari, S. Marketing Management Global Perspective, Indian Context. New Delhi: Macmillan India Limited. 3rd edition, 2009

COURSE OBJECTIVE:

- To understand how big data principles implemented in Social media & Web
- To understand the data processing for Social media & Web analytics
- To describe the different metrics for Social media & Web analytics
- To understand the application for Social media & Web analytics

COURSE OUTCOMES:

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

- CO – 1 : Recognize on the fundamental concepts of Social media.
- CO – 2 : Recognize on the fundamental concepts of Web.
- CO – 3 : Understand the implementation framework of web analytics.
- CO – 4 : Explain the experimental methods in web data analytics.
- CO – 5 : Recognize the types of data for Social media & Web analytics.
- CO – 6 : Design the experiments for Social media & Web analytics.
- CO – 7 : Identify the different metrics for Social media & Web analytics.
- CO – 8 : Select the appropriate metrics for Social media & Web analytics.
- CO – 9 : Investigate the various tools for Social media analytics.
- CO – 10 : Estimate the data using the Web analytical tools.

UNIT I SOCIAL MEDIA**9**

Introduction, History of Social media- Basics of Social Media and Business Models- Basics of Web Search Engines and Digital Advertising. Web & social media (websites, web apps , mobile apps & social media) .

UNIT II WEB ANALYTICS**9**

Web analytics- Web analytics 2.0 framework (clickstream, multiple outcomes analysis, experimentation and testing, voice of customer, competitive intelligence, Insights) - Experimental methods in web data analytics - Air France Internet Marketing Case Study - Econometric modeling of search engine ads

UNIT III DATA STRUCTURE**9**

Data (Structured data, unstructured data, metadata, Big Data and Linked Data) -Lab testing and experiment design (selecting participants, within-subjects or between subjects study,

counterbalancing, independent and dependent variable; A/B testing, multivariate testing, controlled experiments)

UNIT IV WEB METRICS 9

Web metrics and web analytics - PULSE metrics (Page views, Uptime, Latency, Seven-day active users) on business and technical issues; -HEART metrics (Happiness, Engagement, Adoption, Retention, and Task success) on user behaviour issues; -On-site web analytics, off-site web analytics, the goal-signal-metric process

UNIT V SOCIAL MEDIA ANALYTICS 9

Social media analytics - Social media analytics (what and why) - Social media KPIs (reach and engagement) - Performing social media analytics (business goal, KPIs, data gathering, analysis, measure and feedback) 6. Data analysis language and tools Cases and examples - User experience measurement cases - Web analytics cases 8. Group work and hands on practice - Usability study planning and testing; and data analysis using software tools (Google Analytics, Google Sites, R and Deducer)

TOTAL: 45 HOURS

TEXT BOOKS:

1. AvinashKaushik, Web Analytics 2.0: The Art of Online Accountability and Science of Customer Centricity, John Wiley & Sons; Pap/Cdr edition (27 Oct 2009)
2. Tom Tullis, Bill Albert, Measuring the User Experience: Collecting, Analyzing, and Presenting Usability Metrics, Morgan Kaufmann; 1 edition (28 April 2008) .

REFERENCE BOOKS:

1. Jim Sterne, *Social Media Metrics: How to Measure and Optimize Your Marketing Investment*, John Wiley & Sons (16 April 2010)
2. Brian Clifton, *Advanced Web Metrics with Google Analytics*, John Wiley & Sons; 3rd Edition edition (30 Mar 2012)

COURSE OBJECTIVE:

- To understand how big data principles implemented in healthcare
- To understand the data processing for healthcare analytics
- To describe the management principles for implementation of analytics in the healthcare industry
- To understand the statistical principles for healthcare industry

COURSE OUTCOMES:

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

- CO – 1 : Gain knowledge on the concepts of health care management.
- CO – 2 : Understand the implementation of analytics for health care.
- CO – 3 : Understand the types of data analytics.
- CO – 4 : Understand the data structures for healthcare.
- CO – 5 : Gain knowledge on the concepts of Health Care Management.
- CO – 6 : Understand the Training & Education in health care industry.
- CO – 7 : Understand the Attitude among Hospital Service Providers.
- CO – 8 : Understand the Motivation among Hospital Service Providers.
- CO – 9 : Gain knowledge on the statistical concepts for healthcare data scientists.
- CO – 10 : Estimate the data using the various statistical tools.

UNIT I INTRODUCTION**9**

Introduction – Health Care Management – Evolution of Health Care Systems in India & Abroad - – Evolution of Present Health Care Services in India - Business value of data to a healthcare organization- -Data governance and what it means to a healthcare organization-Importance of fostering a data-driven culture in a healthcare organization - skill sets should a data analytics team must have.

UNIT II HEALTH DATA PROCESSING**9**

The Data Life Cycle- Healthcare data sources and data structures- Types of data analytics techniques and their strengths and weaknesses - Measuring quality and safety of caring and Developing Key Performance Indicators.

UNIT III HEALTH CARE MANAGEMENT**9**

Introduction to Health Care Management- Importance-Features-Success in Team Work in Health care management– In-service Training & Education in health care industry- recent trends in health care industry.

UNIT IV ATTITUDE AND MOTIVATION 9

Development of Attitude & Motivation among Hospital Service Providers – Awareness of Health Insurance – Role of Hospital Administrator.

UNIT V	HEALTH DATA SUMMARY AND TECHNIQUES	9
---------------	---	----------

Statistics – the basics all healthcare data scientists should know-Data summary techniques (for measurement and categorical data)-Visualization techniques (for measurement and categorical data)-Interactive visualization techniques-Common misuses of data visualization- Techniques for Statistical Inference – the 95% Confidence Interval- General principles involving test of statistical significance – Null Hypothesis, p-value and interpreting test outcomes.

TOTAL: 45 HOURS

TEXT BOOKS:

1. S.L. Goel, Healthcare Management and Administration, Deep & Deep Publications Pvt. Ltd. New Delhi, 7th edition, 2007.
2. 2. Srinivasan, A.V. (ed.), Managing a Modern Hospital, Chapter 12, Response Books, New Delhi, 6th edition, 2000.

REFERENCE BOOKS:

1. Sharon B. Buchbinder , Nancy H. Shanks, Introduction To Health Care Management , Malloy Incorporation, 2nd edition, 2012.

COURSE OBJECTIVE:

- To provides an introduction about both the theory and the practice of revenue management and pricing.
- To discuss both these practice and theory elements.

COURSE OUTCOMES:

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

- CO – 1 : Apply strategic and tactic roles of pricing in relevant business contexts
- CO – 2 : Discuss models for real-world pricing decision making processes
- CO – 3 : Provide business insights using data and analytics
- CO – 4 : Demonstrate how to implement pricing solutions
- CO – 5 : Employ how to measure financial performance of pricing
- CO – 6 : Illustrate successful business requires adequate revenues.
- CO – 7 : Understand consumer behavior and how these affect the business potential.
- CO – 8 : Dramatize capacity bottlenecks and make adjustments to the business accordingly
- CO – 9 : Utilize E-commerce to support sales and marketing
- CO – 10 : Recognize the strategic impact of revenues to the business, organize resources

UNIT I INTRODUCTION**9**

Introduction: Examples and simulations - The Revenue Management Process - Classification and introduction to the models, course plan The Theories of Pricing: Brief review of microeconomic and marketing theories on consumer behavior and pricing - Product design, bundling and demand segmentation - Dynamic pricing policies

UNIT II PRICING POLICIES**9**

Pricing Policies in Action: Markdown policies and liquidations - Pricing with supply constraints - Customized pricing and e-commerce An Operational Model of Revenue Management: Stochastic Inventory Management and the Newsvendor Model - Single resource Revenue Management, expected marginal value to control sales – Overbooking

UNIT III NETWORK REVENUE MANAGEMENT**9**

Network Revenue Management: Network revenue management, control mechanisms - Linear Programming approach to Revenue Management - Applying network Revenue Management to

different industries. Implementing a Revenue Management System: Solving Revenue Management Problems - Computational methods in Revenue Management - Performance Measurement

UNIT IV DEMAND FORECASTING AND DATA ANALYSIS 9

Demand Forecasting and Data Analysis: Data, sources, systems, automation - Time-series forecasting and perfect demand segmentation models - Estimation techniques - Unconstraining for unobservable no-purchases--concept and the EM technique Competitive Factors: Imperfect segmentation model: Discrete choice models - Customer management and strategic purchasing behavior - RM Process management (organizational issues)

UNIT V INDUSTRY APPLICATIONS 9

Industry Applications: Various case studies related to capacity management in airlines, hotels, car rentals, cruises. Industry implementations and practices New Directions in Revenue Management: Business Analytics - Applications in new industries: Event sales, casinos, Display advertising - Bundling and Revenue Management

TOTAL: 45 HOURS

TEXT BOOKS:

1. Robert L. Phillips., “Pricing and Revenue Optimization”, Publisher: Stanford University Press, 2005.
2. David Hirshleifer, Amihai Glazer Jack Hirshleifer., Price Theory and Applications: Decisions, Markets, & Information; Cambridge University Press, 7th Ed, 2016

REFERENCE BOOKS:

1. K. Talluri and G. Van Ryzin., “The Theory and Practice of Revenue Management” , Kluwer Academic Publishers, 2004

COURSE OBJECTIVE:

- To Design data visualizations that incorporate best practices to explain findings clearly and honestly.
- To Develop communications strategically with audiences in mind
- To Present data verbally with increased comfort and clarity.

COURSE OUTCOMES:

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

- CO – 1 : Design effective data visualizations in order to provide new insights into a research.
- CO – 2 : Understand how Cultures of Practice influence the way data.
- CO – 3 : Handle data and data visualizations to understand of ethical considerations.
- CO – 4 : Properly document and organize data and visualizations.
- CO – 5 : Construct effective data visuals to solve workplace problems.
- CO – 6 : Critically evaluate visualizations and suggest improvements.
- CO – 7 : Identify purposes and uses of data visualization for the organization.
- CO – 8 : Analyse effective design practices for data visualization.
- CO – 9 : Understand how data visualization can enhance management with data.
- CO – 10 : Rapidly prototype visualizations for business storytelling

UNIT I INTRODUCTION 9

Introduction to data visualizations – The importance of context Exploratory vs. explanatory – analysis – Illustrate: Who, What & How – Storyboarding.

UNIT II BASIC PRINCIPLES OF VISUALIZATION 9

Visually encoding data – Choosing graphic Forms – A Grain of Salt – Organizing the Display – Exploring Data with Simple Charts – Visualizing Distributions – Seeing Relationships – Mapping Data.

UNIT III ELIMINATING THE CLUTTER 9

Clutter – Gestalt principles of visual perception – Lack of visual order – Non-strategic use of contrast – Decluttering: Step-by-step.

UNIT IV COGNITION 9

The EYE and the Visual brain – Visualizing for the mind – Images in the Head – Creating Information Graphics – Interactive Graphics.

UNIT V VISUAL ANALYTICS, STORY TELLING & BIG DATA 9

Story telling principles: Gricean Maxims – Barbara Minto’s pyramid principle – Seven steps of storytelling – Scenario for combining data, model and stories – Five golden rules for statistical story tellers.

TOTAL: 45 HOURS

TEXT BOOKS:

1. Kieran Healy, Data Visualization: A Practical Introduction, PUP, New Jersey, 2019, First Edition.
2. Alberto Cairo. The Truthful Art: Data, Charts, and Maps for Communication. New Riders, 1 edition
3. Cole NussbaumerKnafl, Story Telling with Data: A Data visualization Guide for Business Professionals, Wiley, New Jersey;2015, First Edition

REFERENCE BOOKS:

1. Scott Berinato, Good Charts: the HBR Guide to Making Smarter, more persuasive Data Visualization, HBR. 2016
2. Edward R. Tufte. The Visual Display of Quantitative Information. Graphics Press, 2 ed.

COURSE OBJECTIVE:

- To learn the basic concepts for modeling the stochastic process. To study the various aspects of stochastic systems modeling and conducting experiments with those models.
- To understand the appropriate and relevant, fundamental and applied mathematical knowledge, methodologies and modern computational tools.
- To understand the study of systems evolve randomly over time and to understand the behavior of these systems, especially in long run.

COURSE OUTCOMES:

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

- CO – 1 : Understand the basic probability axioms and rules.
- CO – 2 : Derive the probability density function of transformation of random variables.
- CO – 3 : Understand the discrete time Markov chains.
- CO – 4 : Understand how to calculate probabilities of absorption.
- CO – 5 : Demonstrate the specific applications to Poisson processes.
- CO – 6 : Understand the concept of random processes and determine covariance.
- CO – 7 : Devise solutions with probability models for continuous time Markov chains.
- CO – 8 : Define probability models, concept and properties of Markov processes.
- CO – 9 : Understand the processes involves renewable theory
- CO – 10 : Understand the limit theorem and processes involve in renewal reward.

UNIT I PROBABILITY THEORY 9

Introduction – Probability space – Independence and dependence – Conditional Probability and Bayes formula – Random variables – Expectation, variance and covariance.

UNIT II DISCRETE-TIME MARKOV CHAIN 9

Classification of states: transient and recurrent – Chapman-Kolmogorov equations – Transient and Steady-state distributions – Time reversibility.

UNIT III POISSON PROCESS 9

Poisson process: definition and properties – The M/G/1 busy period – Nonhomogeneous Poisson process – The M_t/G/∞ queue – Compound Poisson process.

UNIT IV CONTINUOUS-TIME MARKOV CHAIN 9

Kolmogorov differential equations – Birth-and-death processes – Steady-state probability – Computation of transient distributions.

UNIT V RENEWAL THEORY

9

Renewal functions and renewal equations – Limit theorems – Renewal reward processes – Regenerative process.

TOTAL: 45 HOURS

TEXT BOOKS:

1. Mark A. Pinsky and Samuel Karlin An Introduction to Stochastic Modeling, Fourth Edition
4th Edition, Academic Press,2010.

REFERENCE BOOKS:

1. Samuel Karlin and Howard M. Taylor, An Introduction to Stochastic Modeling, Third Edition
3rd Edition, Academic Press, 1998.
2. Paul Gerhard Hoel, Sidney C. Port, Charles J. Stone, Introduction to Stochastic Processes,
Waveland Pr Inc,1986.

COURSE OBJECTIVE:

- To study and develop the concepts, techniques, tools for modeling and simulation models.
- To study the various aspects of discrete and stochastic systems modeling and conducting the experiments with the simulation models.
- To understand the concept in modeling and simulation

COURSE OUTCOMES:

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

- CO – 1 : Define basic concepts in modeling and simulation.
- CO – 2 : Understand the basic probability axioms.
- CO – 3 : Generate and test random number variates and apply them to develop simulation models.
- CO – 4 : Classify models and understand the methodology of model building.
- CO – 5 : Understand the different methods of random number generation.
- CO – 6 : Understand the principle and techniques for generating random numbers.
- CO – 7 : Construct a model for a given set of data and motivate its validity
- CO – 8 : Analyze output data produced by a model and test validity of the model.
- CO – 9 : Classify various simulation models and give practical examples for each category.
- CO – 10 : Verify and validate the simulation models

UNIT I INTRODUCTION 9

Introduction to simulation – Discrete and Continuous simulation – Simulation models – Types of Models – Steps in Simulation study.

UNIT II RANDOM NUMBERS 9

Properties of Random Numbers – Generation of Random number – Testing for Random numbers – Techniques for generating Random Numbers – Random Variate Generation.

UNIT III ANALYSIS: INPUT AND OUPUT MODELING 9

Input modeling – Data collection – Identifying the distribution with data – Parameter estimation – Goodness of fit tests – Output analysis for a Single model.

UNIT IV ANALYSIS: VERIFICATION AND VALIDATION 9

Model Building – Verification of Simulation Models – Validation of Simulation Models.

UNIT V LANGUAGES AND APPLICATIONS 9

Simulation Languages and Simulators – Simulation of Queuing system – Simulation of Inventory system –Simulation of Manufacturing.

TOTAL: 45 HOURS

TEXT BOOKS:

1. Banks, J., Carson, J. S. and Nelson, B. L. , Discrete Event System Simulation, 4th edition, Pearson Education Asia, 2006.

REFERENCE BOOKS:

1. Averill, M. L. and David, W. K., Simulation Modeling and Analysis, 3rd Edition, McGraw Hill, 2000.
2. David W. K., Sadowski, R. P. and Sasowski, D. A., Simulation with ARENA, McGraw Hill, 2002.
3. Gordon, G., Systems Simulation, Prentice Hall, 2002.

COURSE OBJECTIVE:

- The objective of this subject is to develop a basic understanding of Data Mining and Warehousing concepts.
- To understand the basic steps in these processes and to understand the need and the benefits of these concepts in the information based business operations.

COURSE OUTCOMES:

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

- CO – 1 : Realize Data Mining (DM) principles and techniques.
- CO – 2 : Acquaint DM techniques through proactive analysis and predictive modelling.
- CO – 3 : Analyse large sets of data to gain useful business understanding.
- CO – 4 : Aware to produce a quantitative analysis report/memo to make decisions.
- CO – 5 : Describe and demonstrating basic data mining algorithms, methods, and tools
- CO – 6 : Identify business applications of data mining
- CO – 7 : Develop overview areas – web mining, text mining, and ethical aspects of data mining.
- CO – 8 : Comprehend the data mining concepts in different industries.
- CO – 9 : Introduce DM as a cutting edge business
- CO – 10 : Identify new trends and behaviours in DM

UNIT I INTRODUCTION TO DATA MINING 9

Kind of data, DM Functionalities, Classification of DM Systems, Issues in DM. What is Data warehousing (DW)? Multidimensional data model: Data cubes, Stars, snowflakes and fact constellations Defining schemas, concept hierarchies, CLAP

UNIT II DATA WAREHOUSE ARCHITECTURE 9

Architecture of data warehousing, Steps for design and construction, Three-tier Data, Warehouse architecture, Types of OLAP servers: ROLAP versus MOLAP versus H CLAP

UNIT III IMPLEMENTATION 9

Data Warehouse Implementation: Efficient computation of Data cubes Indexing CLAP Data and efficient processing of CLAP queries Back-end tools and utilities

UNIT IV DATA PROCESSING 9

Data Preprocessing Why to preprocess data? Data cleaning: Missing Values, Noisy Data, Data Integration and transformation Data Reduction: Data cube aggregation, Dimensionality reduction. Data Compression, Numerosity Reduction Discretization and Concept Hierarchy Generation

UNIT V DATA WAREHOUSING AND DATA MINING 9

Data Mining Primitives, Languages and System Architectures: Task relevant data. Kind of Knowledge to be mined, DM Query languages: Syntax, Designing GUI. Architectures of DM Systems concept of Cluster Analysis. Application and trends in Data mining Data Mining for Financial data analysis, Data Mining for retail industry, Data mining for telecommunication industry

TOTAL: 45 HOURS

TEXT BOOKS:

1. David J. Hand, Heikki Mannila, and Padhraic Smyth, Principles of Data Mining, Massachusetts Institute of Technology, 2001

REFERENCE BOOKS:

1. J. Han, M. Kamber, Morgan, Data Mining Concepts and Techniques, Kaufmann Publishers, 2001.
2. M. Kantardzic, Data mining: Concepts, Models, Methods and Algorithms, John Wiley & Sons Inc., 2003.
3. Margaret H Dunham, Data Mining: Introductory and Advanced Topics, Pearson India, 2008
4. H. Witten, E. Frank, Data mining: Practical machine learning tools and techniques, 2nd ed., Morgan Kaufmann Publishers, 2005.
5. R. J. Roiger, M. W. Geatz, Data mining: A tutorial-based primer. Pearson Education, 2003.

COURSE OBJECTIVE:

- To provide students with an overview and in depth knowledge of quantitative techniques used for forecasting and their application.
- To understand the techniques that range from simple ones like moving averages and smoothing techniques to more sophisticated ones like regression models, ARIMA (and related) models, VAR and VECM models, Causality testing and ARCH and GARCH models to test volatility.

COURSE OUTCOMES:

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

- CO – 1 : Utilize the time series method to predict the future of sales in a concern.
- CO – 2 : Record the cyclical variations of the market and its trend.
- CO – 3 : Assess the degree of regression among the variables.
- CO – 4 : Record and predict the seasonal variations of a product and its derivatives.
- CO – 5 : Estimate the variance and regression in complex web of factors.
- CO – 6 : Suppress the large variations in predicting the trend.
- CO – 7 : Undermine the smoothing of rough variations along a seasonal curve.
- CO – 8 : Characterize the factors of causality in time series analysis.
- CO – 9 : Construct a chain of time factors during which operations of management excels.
- CO – 10 : Record the random variations associated in constructive model of business.

UNIT I INTRODUCTION TO TIME SERIES ANALYSIS 9

Utility of the Time Series, Components of Time Series - Long term trend or secular trend - Seasonal variations - Cyclic variations - Random variations, Methods of Measuring Trend - Free hand or graphic method - Semi-average method - Method of moving averages - Method of least squares.

UNIT II MODELS AND FORECAST FOR TIME SERIES DATA 9

Additive model - multiplicative model, Editing of Time Series, Measurement of Seasonal Variation - Seasonal average method - Seasonal variation through moving averages - Chain or link relative method - Ratio to trend method, Forecasting Methods Using Time Series - Mean forecast - Naive forecast - Linear trend forecast - Non-linear trend forecast - Forecasting with exponential smoothing.

UNIT III VECTOR AUTO REGRESSION MODEL(VAR) 9

Estimation and Identification, - Variance decomposition and Impulse response functions, - Causality applying Granger Causality Tests and VAR model, -Forecasting using a VAR model.

UNIT IV STOCHASTIC PROCESS 9

Stochastic process and its main characteristics Stochastic process. Time series as a discrete stochastic process. Stationarity. Main characteristics of stochastic processes (means, autocovariation and autocorrelation functions). Stationary stochastic processes. Stationarity as the main characteristic of stochastic component of time series.

UNIT V LINEAR TIME SERIES 9

Moving Average Models, Autoregressive Models, Mixed Autoregressive and Moving Average Models, Homogeneous Non-Stationary Processes: ARIMA Models, Box-Jenkins Methodology, Specification of ARIMA Models, SARIMA, and ARMAX Models

TOTAL: 45 HOURS

TEXT BOOKS:

1. Wayne A. Woodward, Henry L. Gray, Alan C Elliott, Applied Time Series Analyses, October 26, 2011 by CRC Press.
2. K.Krishnamoorthy, Handbook of Statistical Distributions with Applications, Second Edition, November 6, 2015.

REFERENCE BOOKS:

1. Jonathan D. Cryer, Kung-Sik Chan, Time Series Analysis: With Applications in R (Springer Texts in Statistics), second edition, November 17, 2010.
2. Sally Lesik, Applied Statistical Inference with MINITAB®, December 21, 2009

ELECTIVE COURSES – MANAGEMENT

18EMBN15

OPERATIONS RESEARCH APPLICATIONS

3 0 0 3

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.

COURSE OUTCOMES:

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

- CO – 1 : Evaluate Dynamic programming.
- CO – 2 : Analyze the applications of Dynamic programming.
- CO – 3 : Evaluate Flow shop in Two Machines.
- CO – 4 : Evaluate Job shop in Two Machines.
- CO – 5 : Analyze the applications of Project scheduling by PERT
- CO – 6 : Analyze the applications of Project scheduling by CPM.
- CO – 7 : Evaluate the Queuing System.
- CO – 8 : Explain the Simulation models.
- CO – 9 : Explain the Branch and bound method.
- CO – 10 : Explain the Vehicle Routing 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**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.

COURSE OBJECTIVE:

- To explain the Quality concept, principles and its various tools.
- To explain the statistical process control for the implementation of quality management.
- To create an awareness about the ISO certification process and its need for the industries.

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 : Record knowledge of the standards of ISO.
- CO – 4 : Explain the ISO system based on the implementation.
- CO – 5 : Explain the implementation of SPC tools.
- CO – 6 : Calculate the Process Capability.
- CO – 7 : Record knowledge on the various techniques of quality management.
- CO – 8 : Explain the implementation of PDCA cycle based on the problem solving method.
- CO – 9 : Explain the Six Sigma methodologies based on the implementation and tools.
- CO – 10 : Explain the implementation of SPC tools using Six Sigma methodologies.

UNIT I INTRODUCTION 9

Evolution of Quality – Quality Definition and Contributions by Deming, Juran, Crosby, Feiganbaum, Ishikawa and Taguchi – Definition of quality management – Quality management Framework – Barriers or Obstacles for implementation of quality management – Cost of Quality

UNIT II QUALITY MANAGEMENT SYSTEMS 9

Introduction – Benefits of ISO Registration – ISO 9000 series of Standards – ISO 9001 Requirements – Implementation – Documentation – Writing the Documents – Quality Auditing

UNIT III STATISTICAL PROCESS CONTROL 9

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

UNIT IV TOOLS AND TECHNIQUES 9

Plan-Do-Check-Act (PDCA) Cycle – Quality Circles – Seven Management tools – 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

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.

COURSE OBJECTIVE:

- To familiarize managerial economics concepts and applications

COURSE OUTCOMES:

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

- CO – 1 : Outline the basic elements of managerial economics aspects of firm and SSI
- CO – 2 : Describe the role of manager, so as to manage or organize FOP
- CO – 3 : Forecast demand for a product
- CO – 4 : Name what to produce, where to, when to, how to, for whom to
- CO – 5 : Frame policy for production to minimize the cost and maximum the profit
- CO – 6 : Construct the cost function
- CO – 7 : Classify the basics of market structures and their environment
- CO – 8 : Prepare capital budget
- CO – 9 : Discuss the basic theories related to business practices
- CO – 10 : Enable them to take a decision with given business situation.

UNIT I INTRODUCTION 9

Introduction to Managerial Economics; The roles of the firm and the House hold, Decision Making in the Household, Consumer Choice, Theory of Demand; its Determination, Estimation and Forecasting

UNIT II MARKET STRUCTURES 9

Decision Making in the Firm , Production, Cost, Supply : its Determination and Derivation, Equilibrium in Different Market Structures

UNIT III COMPETITIVE MARKETS AND THEORY 9

Competitive markets- Equilibrium in the short run and long-run, Monopoly equilibrium and pricing practices of firms with market power, Oligopoly: Strategic interactions and its game theoretic analysis

UNIT IV MARKET ANALYSIS AND EXTERNALITIES 9

Analysis of the Markets for Factor Inputs, The Economics of Information, The problem of Adverse Selection z Moral Hazard problem, Market Failure z Externalities, Public Goods

UNIT V TRADE AND DEVELOPMENT 9

Finance for Development, Trade and Development, State and the Market, Privatisation and Regulation, Institutions and Growth

TOTAL: 45 HOURS

TEXT BOOKS:

1. Gupta G.S., Yogesh, Maheswari, Managerial Economics, Phi Learning, Newdelhi, 2005
2. Moyer & Harris Managerial Economics, Tata Mcgraw-Hill, New Delhi

REFERENCE BOOKS:

1. Anagerial Economics, Cengage Learning, Newdelhi, 2005
2. Geetika, Ghosh&Choudhury, Managerial Economics, Tata Mcgrawhill, Newdelhi, 2011

COURSE OBJECTIVE:

- To understand the various concepts of the forecasting in the application of business
- To understand the various techniques of the forecasting
- To explain about the techniques employed in the operations planning

COURSE OUTCOMES:

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

- CO – 1 : To explain about the techniques employed in the operations planning
- CO – 2 : Identify the types of Forecasts.
- CO – 3 : Understand the different types of Data Patterns.
- CO – 4 : Understand about Data Pattern and Appropriate Transformations
- CO – 5 : Identify the difference between qualitative and quantitative forecasting method.
- CO – 6 : Analyze the demand using the regression method.
- CO – 7 : Analyze the demand using the Exponential Smoothing method.
- CO – 8 : Explain the Time series analysis.
- CO – 9 : Explain the Accuracy of forecast errors.
- CO – 10 : Understand the different measures of forecast errors.

UNIT I FORECASTING 9

Introduction – Objectives – Features of good forecasting – Nature and uses of forecasts – Forecasting and Decision Making – Types of Forecasts – The Art and Science of Forecasting – Process of Forecasting – Application of forecasting in Business

UNIT II DATA 9

Introduction – Data Patterns: horizontal, trend, seasonal, and cyclical – Data for Forecasting: Data Warehouse and Cleaning – Data Transformations: Data Pattern and Appropriate Transformations – Patterns in Time Series Data

UNIT III TECHNIQUE – I 9

Forecasting Techniques: Qualitative and Quantitative – Technique Selection – Delphi Method – Regression Analysis – Simple Regression: Linear Model – Assumptions of the Regression Model – Least Square Method – Multiple Regression – Curvilinear Regression

UNIT IV TECHNIQUE – II 9

Smoothing Techniques: naive, averaging and smoothing – Averaging Models: Simple Average and Moving Average – Exponential Smoothing Models; Time series analysis – Trend Analysis – Linear Trend and Nonlinear Trend

UNIT V FORECAST ERROR

9

Introduction – Accuracy – Measure – Cumulative sum of Forecast Errors (CFE) – Mean Absolute Deviation (MAD) – Mean Absolute Percent Error (MAPE) – Mean Squared Error (MSE) – Cost of Prediction Errors – Control of Forecasts: Control Charts

TOTAL: 45 HOURS

TEXT BOOKS:

1. A. Reza Hoshmand, Business Forecasting – A Practical Approach, Second Edition, Routledge, Taylor & Francis, New York, 2010
2. Jae K Shim, Strategic Business Forecasting, Global Professional Publishing, 2009.

REFERENCE BOOKS:

1. Douglas C. Montgomery, Cheryl L. Jennings, Murat Kulahci, Introduction to Time Series Analysis and Forecasting, John Wiley & Sons, 2015
2. Michael Gilliland, Len Tashman, Udo Sglavo, Business Forecasting: Practical Problems and Solutions, John Wiley & Sons, 2016

COURSE OBJECTIVE:

- To label the various perspectives and concepts in the field of Strategic Management.
- To achieve conceptual clarity about business strategy.
- To develop skills for applying these concepts and the solution of business problems.

COURSE OUTCOMES:

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

- CO – 1 : Analyze the main structural features of an industry.
- CO – 2 : Recognize the different stages of industry evolution.
- CO – 3 : Appraise the resources and capabilities of the firm to competitive advantage.
- CO – 4 : Demonstrate understanding of the concept of competitive advantage.
- CO – 5 : Distinguish the two primary types of competitive advantage: cost and differentiation
- CO – 6 : Analyze dynamics in competitive rivalry including competitive action
- CO – 7 : Formulate strategies for exploiting international business opportunities
- CO – 8 : Explain how to formulate strategies that leverage a firm's core competencies.
- CO – 9 : Demonstrate the ability to think critically in relation to a particular problem
- CO – 10 : Recognize strategic decisions that present ethical challenges and make appropriate

UNIT I INTRODUCTION TO STRATEGIC MANAGEMENT 9

The Importance of Strategic Management - Schools of thought in Strategic Management - Strategy Content, Process and Roles -The Fit Concept and the Configurational Perspective in Strategic Management - Dimensions and Levels of Strategy

UNIT II COMPETITIVE STRATEGY 9

Five Forces that Shape Strategy - Generic Strategies - Generic Strategies and the Value Chain- Mission and business definition - Environmental Scanning- Analyzing industry and competition - internal appraisal - concepts, techniques and cases.

UNIT III CORPORATE STRATEGY 9

The Motive for Diversification - Related and Unrelated Diversification - Business Portfolio Analysis Strategy formulation- Types of strategies - Integration, intensive, diversification, and defensive strategies - strategic analysis -comparative cost analysis, operating and financial analysis.

UNIT IV STRATEGY IMPLEMENTATION 9

Structure, Systems and People - The 7S Framework Strategy Choice-criteria and process - Routes for executing strategy. Strategy implementation - Role of organizational structure, Culture and Leadership, Strategy and Social Responsibility.

UNIT V RECENT ADVANCES 9

Core Competence as the Root of Competitive Advantage - Business Processes and Capabilities-based Approach to Strategy. Strategy review, evaluation and control- Auditing - Using computers to evaluate strategies; strategy for entrepreneurial ventures and small business. Strategy for non-profit organizations.

TOTAL: 45 HOURS

TEXT BOOKS:

1. Henry and Quinn, J.B. The Strategy Process, Prentice-Hall, Harlow, 1988..
2. Ghemawat, Pankaj (Spring 2002). "Competition and Business Strategy in Historical Perspective".
3. Hill, Charles W.L., Gareth R. Jones, Strategic Management Theory: An Integrated Approach, Cengage Learning, 10th edition 2012

REFERENCE BOOKS:

1. Lamb, Robert, Boyden Competitive strategic management, Englewood Cliffs, NJ: Prentice-Hall, 1984
2. Drucker, Peter The Practice of Management, Harper and Row, New York, 1954.

COURSE OBJECTIVE:

- To understand e-commerce, types of e-commerce, retail e-commerce-commerce industry frame work, electronic payment systems, electronic fund transfer, web branding strategies, mobile commerce strategies for business over web, web hosting.
- To train in regulatory aspects and implications of e-commerce in the region, as well as its technological, political, security and economic components.

COURSE OUTCOMES:

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

- CO – 1 : Demonstrate an understanding of the foundations and importance of E-commerce
- CO – 2 : Demonstrate an understanding of retailing in E-commerce.
- CO – 3 : By sing and determining the effectiveness of market research.
- CO – 4 : Analyze the impact of E-commerce on business models and strategy.
- CO – 5 : Describe Internet trading relationships including Business to Consumer.
- CO – 6 : Describe the infrastructure for E-commerce.
- CO – 7 : Describe the key features of Internet, Intranets and Extranets.
- CO – 8 : Discuss legal issues and privacy in E-Commerce.
- CO – 9 : Assess electronic payment systems.
- CO – 10 : Recognize and discuss global E-commerce issues.

UNIT I INTRODUCTION 9

Traditional commerce and E commerce – Internet and WWW – role of WWW – value chains – strategic business and Industry value chains – role of E commerce.

UNIT II INFRASTRUCTURE FOR E COMMERCE 9

Packet switched networks – TCP/IP protocol script – Internet utility programmes – SGML, HTML and XML – web client and servers – Web client/server architecture – intranet and extranets.

UNIT III WEB BASED TOOLS FOR E COMMERCE 9

Web server – performance evaluation - web server software feature sets – web server -software and tools – web protocol – search engines – intelligent agents –EC software – web hosting – cost analysis.

UNIT IV SECURITY 9

Computer security classification – copy right and Intellectual property – electronic -commerce threats – protecting client computers – electronic payment systems – electronic cash – strategies for marketing – sales and promotion – cryptography – authentication.

UNIT V INTELLIGENT AGENTS 9

Definition and capabilities – limitation of agents – security – web based marketing – search engines and Directory registration – online advertisements – Portables and info mechanics – website design issues.

TOTAL: 45 HOURS

TEXT BOOKS:

1. Gary P Schneider “Electronic commerce”, Thomson learning & James T Peny Cambridge USA, 5th edition 2001.
2. Manlyn Greenstein and Miklos “Electronic commerce” McGraw-Hill, 7th edition 2002.

REFERENCE BOOKS:

1. EfraimTurvanJ.Lee, David Kug and Chung, “Electronic commerce” Pearson Education Asia, 7th edition, 2001.
2. Brenda Kienew E commerce Business Prentice Hall, 5th edition, 2001

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.

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 : Recognize the fundamental principles of e-Business and e-Commerce.
- CO – 3 : Distinguish the role of Management in the context of e-Business and e-Commerce
- CO – 4 : Explain the added value, risks and barriers in the adoption of e-Business.
- CO – 5 : Examine applications of e-Commerce in relation to the applied strategic.
- CO – 6 : Employ tools and services of the internet in the development of a virtual e-commerce.
- CO – 7 : Describe the various characteristics of electronic payment systems.
- CO – 8 : Explain the security protocols and the issues in internet security.
- CO – 9 : Discuss various legal and ethical issues specific to E-Business.
- CO – 10 : Explain the privacy issues specific to e-business.

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

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

ELECTIVE COURSES – MANAGEMENT INFORMATION SYSTEM

18EMBN22

SAP FICO

3 0 0 3

COURSE OBJECTIVE:

- To improve the financial processes in your company thereby increasing value-addition with Latest software tools for managing financial activities in the organizations.
- To track and monitor data of different cost and profit centers situated across the globe from one single platform about methods and techniques for smooth financial accounting and controlling functions.
- To apply the Module that provides integrated functionality for the management and reporting of cost and revenue information used for internal business decision making and integrated, on-line, real-time functionality for processing, recording and maintaining the financial accounting transactions of the business for external reporting purposes.

COURSE OUTCOMES:

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

- CO – 1 : Learn SAP – FI CO enterprise structure
- CO – 2 : Understand the Financial Accounting and Global settings
- CO – 3 : Know the General ledger accounting
- CO – 4 : Understand asset accounting, cash journal, and closing of operations
- CO – 5 : Manage a better business process towards better finance accounting.
- CO – 6 : Understand the SAP FICO module towards finance accounting and reporting.
- CO – 7 : Integrate different modules of ERP for bringing financial automation.
- CO – 8 : Integrate FICO module with other ERP modules including, FI-MM, FI-SD, FI-HR
- CO – 9 : Understand the module of ERP and both FI & CO
- CO – 10 : Gain knowledge on aspects such as Financial Statements for external reporting

UNIT I FICO

9

Introduction to ERP and SAP -Concept of FICO-Creation of Enterprise Structure-Chart of Accounts in SAP-General Account-Posting to GL-Creating Financial Statement-Journal Entry posting-Opening and closing posting periods. Define Field status variant-Documents type and Number Ranges.

UNIT II CUSTOMER 9

Introduction to Accounts Receivable-Customer Master Data-Change Customer Master Data-Change Customer Documents>Create Customer account group-Post sales invoice-Sales returns-Post Incoming Payment- Incoming Payment- Residual Method: Incoming & Outgoing Partial Payments Posting in SAP- Partial Method: Incoming & Outgoing Partial Payments Posting in SAP.

UNIT III ACCOUNTS PAYABLE 9

Introduction to Accounts Payable- Create a Vendor Account Group- Create Vendor Master Data in SAP- post a Purchase Invoice- Purchases Returns – Credit Memo- Automatic Payment Run- Important Reports in SAP FI- Foreign Currency Revaluation- Important Tables in FI Module- Dunning. Integration of other modules

UNIT IV COST CENTER 9

Create Cost Center- internal Order- Settlement Of Internal Orders To Cost Centers- SAP Profit Center-Create, Group, Posting & Planning- Profit Center Standard Hierarchy- Assignment of Cost Centers To Profit Center- Important Tables in CO Module- Comparison Between Cost Center, Profit Center and Internal Order

UNIT V TAX AND ASSET ACCOUNTING 9

Concept of Integration of other modules-Advantages. Usage of SAP FI CO. Concept of Tax accounting and Asset accounting. Concept of cost center and profit center accounting.

TOTAL: 45 HOURS

TEXT BOOKS:

1. Andrew Okungbowa, SAP ERP FICO: Configuration and Use Management, Apress, 2011
2. Narayanan, SAP FI Financial Accounting, 2009

REFERENCE BOOKS:

1. BhushanJairamdasMamtani, SAP FICO - Black Book, dreamtech press, 2011.
2. Lakshmanan, Hariharan Subrahmanyam., Amazon Link: <https://www.amazon.com/Practical-ABAP-Technical-Functional-Perspective/dp/0692429492>

COURSE OBJECTIVE:

- To maintain the key master data in Sales and Distribution, and name and define the required business structures.
- To work with the various documents in Sales and Distribution Describe the points of contact from Sales and Distribution to the materials management, production (for example, make-to-order) and financial accounting areas
- To perform analyses for Sales and Distribution processes
- To integrate sales in the Sales and Distribution process chain Configure Customizing so that it represents your specific sales requirements
- To describe the position of distribution within the supply chain.

COURSE OUTCOMES:

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

- CO – 1 : Learn about the main business processes in sales processing
- CO – 2 : Execute the most important functions in the pre sales phase to incoming payment.
- CO – 3 : Creation of org structures in Sales area and its corresponding units
- CO – 4 : Gain an extensive overview of the sales and distribution areas.
- CO – 5 : Obtain a more detailed insight into sales and distribution functions.
- CO – 6 : Build up the knowledge needed to implement these functions and be able to use them
- CO – 7 : Acquire knowledge of how to adapt the system using Customizing settings.
- CO – 8 : Hands on material determination and product selection and material Listing.
- CO – 9 : Hands on free goods process.
- CO – 10 : Creation and exploring them to complete the process in agreements.

UNIT I SD MODULE 9

Overview of SD Module, Organizational Structure, Sales Organization Setup, Creating Sales Organization, Creating Distribution Channel, Creating Division

UNIT II SALES ORGANIZATION 9

Assigning of Organizational Units, Assigning Sales Organization with Company code, Assigning Distribution Channel to Sales Organization, Assigning Division to Sales Organization

UNIT III MASTER DATA 9

Creating Master Data, Introduction to Master data, Preparing the system for Master Data Creation -
Creating Common Distribution Channel - Creating Common Division, Customer Master Data –
Introduction, Creating Customer Master

UNIT IV SALES ORDER CREATION 9

Sales Order Creation, Definition and Prerequisites, Preparing the system Combining Organization Units, Assigning Sales Document to Sales Area, Sales Order Creation.

UNIT V **HEADER DETAILS** **9**

Viewing Header Details, Viewing Item Details, Viewing Schedule Lines

TOTAL: 45 HOURS

TEXT BOOKS:

1. Krishna Rungta, SAP SD for beginners, 2018
2. Glynn Williams, Implementing SAP ERP Sales & Distribution, McGraw Hill Education, 2005

REFERENCE BOOKS:

1. Ashok Faujdar, BinniKumariChoudhary, SAP Sales and Distribution Certification Guide, McGraw Hill Education, 2009
2. K. A. Samad, SAP SD for Beginners Vol.1, Shroff; First edition, 2005

COURSE OBJECTIVE:

- To learn everything working with SAP Purchasing and Material Master, which is an integral part of Warehouse Management.
- To gain a complete understanding of SAP MM and also has acquired the ability to apply these skills and knowledge in a practical manner on inventory, production planning, and warehouse management.

COURSE OUTCOMES:

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

- CO – 1 : Understand about ERP Packages, Functions and Objectives of materials management
- CO – 2 : Understand how to create, release and send the request for quotation (RFQ).
- CO – 3 : Understand the Plant, Storage Location, Purchase Organization, Purchasing group.
- CO – 4 : Creation of Master Data and Source determination and list.
- CO – 5 : Know about document types for purchasing documents.
- CO – 6 : Know the release procedure for purchasing documents.
- CO – 7 : Understand Pricing Procedure, External Service Management, Inventory Management
- CO – 8 : Understand Physical Inventory, Special Stocks and Special Procurement Types.
- CO – 9 : Understand complete knowledge of Warehouse and Stock Management
- CO – 10 : Integration Concepts- integration of MM with SD.

UNIT I MM MODULE 9

SAP Overview in MM module, Basics of Procurement Process, Master Data, Create, Change and Copy Material master data, Introduction to purchasing and purchase requisition, Create and Change, Create a purchase requisition, Convert Purchase requisition to purchase order.

UNIT II PURCHASE ORDER 9

Create a RFQ- Create quotations- compare price for different Quotations- compare price for different Quotations-select or reject a Quotation-Create a Source List- Create and change Purchase Order.

UNIT III INVOICE VERIFICATION 9

Post Goods receipt- perform Invoice Verification- Service Purchase Order- Release procedures for purchasing documents- Overview of Pricing Procedure- Define condition types.

UNIT IV INVENTORY MANAGEMENT 9

Overview of Inventory Management- create Goods Receipt- Cancel Goods Receipt- Reservation of Inventory- Transfer Posting of Goods- Overview of Physical Inventory- Special stock and Special procurement

UNIT V MM ORGANIZATIONAL LEVELS 9

Classification and related areas in MM, Classification, Document Release (Approval) Procedure, Batch Management ASAP, ASAP Overview, Implementation Roadmap Cross-Functional Customizing, Global Settings, MM Organizational Levels: Business Scenario, Master Data in Materials Management, Purchasing, Pricing, Inventory Management

TOTAL: 45 HOURS

TEXT BOOKS:

1. MukeshShukla, SAP Materials Management, McGraw Hill Education, 2012, 2nd Edition.

REFERENCE BOOKS:

1. Rajesh Vyas, Sap Mm: Complete Reference to Implementation / Customization, Createspace, 2010
2. Martin Murray, SAP MM: Functionality and Technical Configuration, SAP Press; 2nd Revised edition edition, 2008

COURSE OBJECTIVE:

- To understand the business processes of SAP HCM
- To understand and maintain employee data for an enterprise
- To implement info types for supporting transaction processing in SAP
- To implement authorizations and key elements of configuring authentications in HCM module
- To support and manage SAP HCM implementation procedure

COURSE OUTCOMES:

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

- CO – 1 : Learn SAP HR sub-modules and its benefits and three tier.
- CO – 2 : Understand system navigation and implementation road map.
- CO – 3 : Understand Organizational management and structure, relationships and infotypes
- CO – 4 : Create HR master data, Personnel structure assignment and HR infotypes.
- CO – 5 : Understand the different types of HR info type groups.
- CO – 6 : Learn about customizing user procedures.
- CO – 7 : Learn about employee sub group, Pay scale type.
- CO – 8 : Learn about recruitment infotypes, Training and Event Management.
- CO – 9 : Learn about maintaining employee data for business event.
- CO – 10 : Learn about transferring of applicant data to Personnel Administration.

UNIT I SAP HR OVERVIEW**9**

SAP HR –Introduction- Organization Management, Organizational Object Types, Number Ranges, Number Ranges SAP HR –Maintaining Relationships, Object Types and Essential Relationships, Relationship Maintenance. SAP HR –Time Constraints- Maintaining Personnel Actions- SAP HR – Maintaining Infotypes- Components of Infotypes- Maintaining Info Subtypes.

UNIT II PERSONNEL ADMINISTRATION**9**

SAP HR –Personnel Administration- Organization Structure- Enterprise Structure- Personnel Structure- Hiring an Employee. SAP HR –HR Master Data- HR Master Data Structure- Processing HR Master Data- Selecting HR Master Data. SAP HR –Infotypes- Creating an Infotype- Display an Infotype- Delete an Infotype. SAP HR –Personnel Actions- Building Enterprise Structure- Editing

UNIT III TIME MANAGEMENT 9

UNIT IV BENEFITS 9

UNIT V PAYROLL 9

TOTAL: 45 HOURS

1. Agarwal P.K, Sap Hr India Payroll: Technical Reference and Learning Guide, Prentice Hall India Learning Private Limited (2009)
2. KARTHIK S, Sap Hcm- A Complete Tutorial : Deploy And Implement The Diverse Functionalities Of Sap, Packt Enterprise, 2014

COURSE OBJECTIVE:

- To discuss the various aspects of project management.
- To understand the tasks in software project management.
- To describe the project titles in the course.
- To describe the requirements of a project plan.

COURSE OUTCOMES:

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

- CO – 1 : Acquire knowledge of the issues and challenges faced in the Software project.
- CO – 2 : Demonstrate the basic concepts and issues of software project management.
- CO – 3 : Plan effectively the software projects.
- CO – 4 : Plan and manage projects at each stage of the software development life cycle.
- CO – 5 : Create project plans that address real-world management challenges.
- CO – 6 : Expertise in PERT and CPM methods.
- CO – 7 : Illustrate the Risk analysis and Quality management using different techniques.
- CO – 8 : Depict the successful software projects that support organization's strategic goals.
- CO – 9 : Acquire wide knowledge on various method to enhance Software Quality.
- CO – 10 : Distinguish the various strategies to manage risks.

UNIT I INTRODUCTION**9**

Introduction to Software Project Management - Software Projects Vs. Other Projects — Contract Management and Technical Project Management — Activities under technical project management — Plans, Methods and Methodology — Stakeholders — Business Case

UNIT II SOFTWARE PROJECT PLANNING**9**

Project Planning, Evaluation and Program Management - Steps in Project Planning and Project Evaluation - Strategic Assessment - Technical Assessment - Cost Benefit Analysis - Cash Flow Forecasting - Process Models - Prototyping - Dynamic Systems Development — Extreme Programming — Managing Iterative Processes

UNIT III ANALYSIS**9**

Software Effort Estimation — Estimation Techniques — Expert Judgment - Analogy — Function Point Analysis — Object Points — Procedural Codes - COCOMO Model Activity Planning - Project

Schedules — Sequencing and Scheduling - Network Planning — Using PERT and CPM for activity planning — Forward Pass — Backward Pass - Activity-on-arrow networks Managing

UNIT IV QUALITY CONTROL IN SOFTWARE PROJECTS 9

Contracts — Types of contracts — Stages in contract placement - Contract Management and Acceptance Software Quality Management — Defining Software Quality — Requisite ISO Standards - Product Vs. Process Quality — Enhancing Software Quality — Quality Planning

UNIT V RISK MANAGEMENT 9

Risk Management in Software Projects - Nature and Types of risk — Managing risks — Risk Analysis. Planning and Control — Strategies for risk reduction — PERT as a tool of Risk Management Resource Monitoring and Control-Creating Control Framework - Reporting for Control — Visualizing Progress — Cost Monitoring — Change Control Using Project Management Software — Introduction to either of Microsoft Project 2010, Prince2 and Primavera and learning to use any one of these products

TOTAL: 45 HOURS

TEXT BOOKS:

1. Pankaj Jalote, Software Project Management in Practice, Pearson Publications, 2002
2. Hughes, Cotterel, Rajib Mall, Software Project Management, 5U1 Edition, Tata McGraw Hill, 2010
3. Ali Behforooz and Frederick J. Hudson, Software Engineering Fundamentals, Oxford publications, 1996

REFERENCE BOOKS:

1. Roger Pressman. S., Software Engineering, A Practitioner's Approach, Tata McGraw Hill, New Delhi. 2005
2. Pfleeger, 'Software Engineering', Prentice Hall, III Edition, 2009
3. Carlo Ghezzi, Mehdi Jazayari, Dino Mandrioli, 'Fundamentals of Software Engineering, Prentice Hall of India, 2003

COURSE OBJECTIVE:

- To identify how Digital Transformation impacts corporate strategies
- To classify different forms of Digital Disruption
- To choose appropriate concepts and theories for developing business models
- To gauge the role information technology and the World Wide Web play in transforming business models and recognize its social and ethical implications

COURSE OUTCOMES:

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

- CO – 1 : Understand the Digital Technology Trends.
- CO – 2 : Explain the Data Governance and IT Architecture.
- CO – 3 : Identify the appropriate technology.
- CO – 4 : Explain the Mobile Commerce Technology.
- CO – 5 : Understand the Data Visualization and Geographic Information Systems.
- CO – 6 : Illustrate Geographic Information Systems.
- CO – 7 : Explain the Digital Transformation.
- CO – 8 : Analyze the business model.
- CO – 9 : Explain the Digital Business Models.
- CO – 10 : Understand the Mass Mobile Customization.

UNIT I DIGITAL TECHNOLOGY**9**

Digital Technology Trends Transforming: Doing Business in Digital Times - Data Governance and IT Architecture Support Long-Term Performance - Data Management, Big Data Analytics & Records Management - Networks for Efficient Operations and Sustainability – Cyber Security and Risk Management

UNIT II SOCIAL TECHNOLOGY**9**

Winning, Engaging, and Retaining Consumers with Technology: Attracting Buyers with Search, Semantic, and Recommendation Technology - Social Networking, Engagement and Social Metrics - Retail, E-commerce and Mobile Commerce Technology

UNIT III PERFORMANCE**9**

Optimizing Performance with Enterprise Systems and Analytics: Effective and Efficient Business Functions - Strategic Technology and Enterprise Systems - Data Visualization and Geographic Information Systems

UNIT IV DIGITAL TRANSFORMATION 9

Digital Transformation: ICT and its influence on Strategy, Digital Transformation, Analyzing your business model, Re-engineering your business model

UNIT V BUSINESS MODELS 9

Digital Business Models – Mass Mobile Customization - Leveraging Crowd-sourced data and its privacy implications.

TOTAL: 45 HOURS

TEXT BOOKS:

1. Turban, E., Volonino, L. and Wood, G. (2015). Information Technology for Management: Digital Strategies for Insight, Action, and Sustainable Performance (10th edn.) Hoboken, NJ: Wiley & Sons
2. Oliver Gassmann, Karolin Frankenberger, and Michaela Csik: The Business Model Navigator. Pearson, 2014
3. Anandhi Bharadwaj, Omar A. El S, Paul A. Pavlou, and N. Venkatraman: Digital Business Strategy: Towards a next Generation of Insights, MIS Quarterly 37(2), June 2013.

REFERENCE BOOKS:

1. Clayton M. Christensen, Thomas Bartman, Derek van Bever: The Hard Truth About Business Model Innovation. MIT Sloan, Fall 2016.
2. Leandro DalleMule and Thomas H. Davenport: What's your data strategy. HBR, May-June 2017.
3. Thierry Mennesson: The Coming Consumer Data Wars. MIT Sloan, August 2017.
4. Timothy Morey, Theodore "Theo" Forbath, and Allison Schoop: Customer Data/ Designing for Transparency and Trust. HBR, May 2015

COURSE OBJECTIVE:

- To sketch business requirements and technical requirements, regarding software systems that implement many functions required by modern organizations.
- To control process executions, business processes can be performed faster, more reliably and more economically.
- To understand Process technology can also be used to model processes that are executed within software systems.

COURSE OUTCOMES:

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

- CO – 1 : Develop and choose business models that support a company's strategic objectives
- CO – 2 : Differentiate the interdependence between financial and operational metrics.
- CO – 3 : Employ a decision tree can also be used to help build automated predictive models.
- CO – 4 : Analyze the decision tree can also be created by building association rules.
- CO – 5 : Acquire an idea about the computational procedure of Dynamic Programming
- CO – 6 : Demonstrate the basic concepts of dynamic programming.
- CO – 7 : Demonstrate the practice of Information Technology (IT) in business operations.
- CO – 8 : Employ the methods and tools to design, implement, test, document.
- CO – 9 : Relate methods and tools for analyzing complex real world problems.
- CO – 10 : Analyze complex real world problems and devise efficient software based solutions.

UNIT I INTRODUCTION TO BUSINESS MODELING**9**

Modeling – meaning and process, Certainty and uncertainty in models, importance of understanding data before modeling, modeling with spreadsheet in simple decision situations. LINEAR PROGRAMMING: Application of LPP in operations management, Formulation of LPP, simplex method, duality, Sensitivity Analysis. Trans-shipment problems- Concept of Goal programming, Goal programming model formulation (Numerical Expected)

UNIT II DECISION TREES**9**

COURSE OBJECTIVE:

- To provide foundational knowledge associated with the Information Security.
- To provide the knowledge based on the security investigation.
- To describe the risk analysis for security.
- To describe the logical design for security
- To provide the applications of physical design for security

COURSE OUTCOMES:

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

- CO – 1 : Recognize on the fundamental concepts of information security.
- CO – 2 : Provide the knowledge based on the security investigation.
- CO – 3 : Understand the business needs for security investigation.
- CO – 4 : Identify the Issues such as Legal, Ethical and Professional
- CO – 5 : Identify the risk for security.
- CO – 6 : Assess the risk for security.
- CO – 7 : Understand the different standards and practices for logical design.
- CO – 8 : Understand the design of security architecture.
- CO – 9 : Identify the security technology for physical design.
- CO – 10 : Access the control devices for physical design.

UNIT I INTRODUCTION 9

History, What is Information Security?, Critical Characteristics of Information, NSTISSC Security Model, Components of an Information System, Securing the Components, Balancing Security and Access, The SDLC, The Security SDLC

UNIT II SECURITY INVESTIGATION 9

Need for Security, Business Needs, Threats, Attacks, Legal, Ethical and Professional Issues

UNIT III SECURITY ANALYSIS 9

Risk Management: Identifying and Assessing Risk, Assessing and Controlling Risk

UNIT IV LOGICAL DESIGN 9

Blueprint for Security, Information Security Policy, Standards and Practices, ISO17799/BS 7799, NIST Models, VISA International Security Model, Design of Security Architecture, Planning for Continuity

UNIT V PHYSICAL DESIGN

9

Security Technology, IDS, Scanning and Analysis Tools, Cryptography, Access Control Devices, Physical Security, Security and Personnel

TOTAL: 45 HOURS

TEXT BOOKS:

1. Michael E Whitman and Herbert J Mattord, "Principles of Information Security", Vikas Publishing House, New Delhi, 2003

REFERENCE BOOKS:

1. Micki Krause, Harold F. Tipton, "Handbook of Information Security Management", Vol 1-3 CRC Press LLC, 2004.
2. Stuart McClure, Joel Scrambray, George Kurtz, "Hacking Exposed", Tata McGraw- Hill, 2003
3. Matt Bishop, "Computer Security Art and Science", Pearson/PHI, 2002

COURSE OBJECTIVE:

- To provide foundational knowledge associated with the Cloud Computing.
- To provide the knowledge based on the development of Cloud Service.
- To describe the applications of Cloud Computing.
- To describe the applications of Collaborating using Cloud Service.
- To describe the applications of Collaborating using online.

COURSE OUTCOMES:

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

- CO – 1 : Recognize on the fundamental concepts of Cloud Computing.
- CO – 2 : Understand the Cloud Architecture and Storage.
- CO – 3 : Recognize on the fundamental concepts of Cloud Services.
- CO – 4 : Identify the development of Cloud Service.
- CO – 5 : Identify the applications of Cloud Computing.
- CO – 6 : Compare the applications of Cloud Computing.
- CO – 7 : Identify the applications of Collaborating using Cloud Service.
- CO – 8 : Compare the applications of Collaborating using Cloud Service.
- CO – 9 : Identify the tools of the applications of Collaborating using online.
- CO – 10 : Understand the applications of Collaborating using online.

UNIT I UNDERSTANDING CLOUD COMPUTING 9

Cloud Computing – History of Cloud Computing – Cloud Architecture – Cloud Storage – Why Cloud Computing Matters – Advantages of Cloud Computing – Disadvantages of Cloud Computing – Companies in the Cloud Today – Cloud Services

UNIT II DEVELOPING CLOUD SERVICES 9

Web-Based Application – Pros and Cons of Cloud Service Development – Types of Cloud Service Development – Software as a Service – Platform as a Service – Web Services – On-Demand Computing – Discovering Cloud Services Development Services and Tools – Amazon Ec2 – Google App Engine – IBM Clouds

UNIT III CLOUD COMPUTING FOR EVERYONE 9

Centralizing Email Communications – Collaborating on Schedules – Collaborating on To-Do Lists – Collaborating Contact Lists – Cloud Computing for the Community – Collaborating on Group Projects and Events – Cloud Computing for the Corporation

UNIT IV USING CLOUD SERVICES 9

Collaborating on Calendars, Schedules and Task Management – Exploring Online Scheduling Applications – Exploring Online Planning and Task Management – Collaborating on Event Management – Collaborating on Contact Management – Collaborating on Project Management – Collaborating on Word Processing - Collaborating on Databases – Storing and Sharing Files

UNIT V OTHER WAYS TO COLLABORATE ONLINE 9

Collaborating via Web-Based Communication Tools – Evaluating Web Mail Services – Evaluating Web Conference Tools – Collaborating via Social Networks and Groupware – Collaborating via Blogs and Wikis

TOTAL: 45 HOURS

TEXT BOOKS:

1. Michael Miller, Cloud Computing: Web-Based Applications That Change the Way You Work and Collaborate Online,Que Publishing, August 2008.

REFERENCE BOOKS:

1. Haley Beard, Cloud Computing Best Practices for Managing and Measuring Processes for On-demand Computing, Applications and Data Centers in the Cloud with SLAs, Emereo Pty Limited, July 2008.

COURSE OBJECTIVE:

- To initially overview the consulting profession with a subsequent emphasis on organization consulting issues.
- To enable the students on developing proficiencies in a range of skills required to practice consulting.
- To provide you with an overview the ‘world’ of general management IT consulting and to help you develop a basic understanding of that world and the skills and knowledge to be successful in it.

COURSE OUTCOMES:

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

- CO – 1 : Develop a basic understanding of the need and demand for IT
- CO – 2 : Explore some of the ethical and legal issues associated with IT consulting.
- CO – 3 : Develop an understanding of how consultants explore the projects.
- CO – 4 : Develop knowledge of the economics of management consulting.
- CO – 5 : Develop knowledge of how to develop work plans, identify scope issues.
- CO – 6 : Learn how to apply some of the key concepts and consulting tools.
- CO – 7 : Learn how to develop consulting deliverables and outcomes.
- CO – 8 : Improve ability to present analyses of issues and organizational problems.
- CO – 9 : Learn how to write and present consulting proposals and marketing to clients.
- CO – 10 : Gain exposure to a variety of processes and interventions involved in IT consulting arena

UNIT I THE PRODUCT AND THE PROCESS 9

An overview of system engineering - analysis concepts and principles - analysis modeling - design concepts and principles - design methods - design for real time systems.

UNIT II SOFTWARE LIFE CYCLE MODELS 9

Software requirement - software design - configuration management.

UNIT III SOFTWARE METRICS 9

Software process and project metrics - technical metrics for software. Project planning and management: Project management concepts - project scheduling and tracking - software project planning.

UNIT IV RISK MANAGEMENT, QUALITY ASSURANCE 9

Quality verification and valuation - testing.

UNIT V OBJECT ORIENTED CONCEPTS 9

Formal Methods - Software reengineering and software tools.

TOTAL: 45 HOURS

TEXT BOOKS:

1. Roger S.Pressman: Software Engineering – A Practitioner’s Approach – Tata Mc Graw Hill – IV edition.
2. Kieron Conway, Software Project Management: From concept to deployment, Wiley Dreamtech Press

REFERENCE BOOKS:

1. Sommerville, Ian: Software Engineering, Addison Wesley
2. S.A.Kelkar, Software Project Management, PHI
3. Carlo Ghezzi, Mehdi Jazayeri, Dino Mandrioli – Fundamentals of Software Engineering – PHI

ELECTIVE COURSES – ENTREPRENEURSHIP

18EMBN32

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.

COURSE OUTCOMES:

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

- CO – 1 : Explain the natural environment and its relationships with human activities.
- CO – 2 : Analyze the renewable and non-renewable sources.
- CO – 3 : Evaluate strategies, technologies, and methods for sustainable of environmental systems.
- CO – 4 : Describe and analyze human impacts on the environment and conservation.
- CO – 5 : Demonstrate an awareness, knowledge, and appreciation of ecological processes.
- CO – 6 : Recall core concepts and methods from ecological and physical sciences.
- CO – 7 : Explain the effects of pollution and its prevention.
- CO – 8 : Determine a general explaining of the disaster management.
- CO – 9 : Explain the human rights, human health and current environmental challenges.
- CO – 10 : Analyze the role of Information Technology in Environment.

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

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.

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

COURSE OUTCOMES:

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

- CO – 1 : Discuss about the need for holistic and ethical approach to management.
- CO – 2 : Analyze the ‘Qualitative sincerity’ which is considered as the guiding motto.
- CO – 3 : Analyze the moral obligations of individuals and groups in organizations.
- CO – 4 : Understand the individual development as the most relevant work-philosophy.
- CO – 5 : Analyze the teams and organizations, evaluating ethical approach.
- CO – 6 : Compare and contrast power and influence of leadership.
- CO – 7 : Assess the knowledge about the organization structure and its types.
- CO – 8 : Describe about the line and staff authority.
- CO – 9 : Demonstrate the dynamics of organizational change.
- CO – 10 : Identify the major issues in business ethics and corporate social responsibility.

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 programmes, 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

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.

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 contracts, and cases.
- To identify personal property and bailment.

COURSE OUTCOMES:

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

- CO – 1 : Create the knowledge of ethics legal perspective and its practices.
- CO – 2 : Understand basics elements of contracts, classifications of contract.
- CO – 3 : Figure out the differentiate Sale and agreement to sell -conditions and warranties
- CO – 4 : Comprehend of companies act which will helpful for the budding managers
- CO – 5 : Know about the different type of negotiable instrument in practice
- CO – 6 : Understand the ethical procedure to be followed in decision making and project.
- CO – 7 : Analyses the magnitude of morale and ethics towards business.
- CO – 8 : Understand conflict management in legal perspective and judicial system.
- CO – 9 : Realize the current legislative framework covering employment relations.
- CO – 10 : Know where to begin if you are presented with an employment law grievance

UNIT I LAW OF CONTRACTS**9**

Definition of Contract and Agreement – Classification of Contracts, Essential elements of a valid Contract – Offer -Acceptance -Consideration –Capacity to Contract -Free consent – Legality of Object -Performance of Contract -Remedies for breach of Contract - Quasi Contracts.

UNIT II SALE OF GOODS ACT**9**

Distinction between Sale and agreement to sell -Conditions and Warranties. Negotiable Instruments Act – Definition and Characteristics of a Negotiable Instrument – Definitions, Essential elements and distinctions between Promissory Note, Bill of Exchange, and Cheques - Types of crossing.

UNIT III COMPANIES ACT**9**

Definition of company – Characteristics -Classification of Companies-Formation of Company - Memorandum and Articles of Association – Prospectus - Share holders meetings -Board meetings -

Law relating to meetings and proceedings-Qualifications, Appointment, Powers, and legal position of Directors -Board -M.D and Chairman - Their powers.

UNIT IV INTRODUCTION 9

Why human beings are ethical, why they are not? Moral development in humans, theories, concepts . Definitions, theories of ethics and ethics projects. A Decision Making Model: Ethics as Making decisions and choices. Decision – making frameworks

UNIT V CONFLICTS AND ETHICAL DILEMMAS 9

moral& ethical dilemmas. Ethics and Business: A sense of business ethics. Ethics and International Business: Ethics Issues beyond borders

TOTAL: 45 HOURS

TEXT BOOKS:

1. N.D. Kapoor, 1999, 'Elements of Mercantile Law' , Sultan Chand & Co.
2. AkhileshwarPathak, 2007, Legal Aspects of Business, 3rd Edition, Tata McGraw Hill.
3. V.K. Agarwal, 1988, 'Consumer Protection in India ' , Deep and Deep Publications.
4. K.R. Bulchandani, 2006, Business Law for Management, Himalaya Publishing House

REFERENCE BOOKS:

1. Dr. Avtar Singh, 1999, 'Companies Act', Eastern Book Company.
2. PPS Gogna, 2006, A Text Book of Company Law, S. Chand.
3. V. Ramakrishna Raju, 2005, Business Laws and Economic Legislations, Himalaya Publishing House.
4. S.N. Maheswari and S. K. Maheswari, 2006, Business Laws, Himalaya Publishing House.

COURSE OBJECTIVE:

- To introduce the cyber world and cyber law in general
- To explain about the various facets of cyber crimes
- To enhance the understanding of problems arising out of online transactions and provoke them to find solutions
- To clarify the Intellectual Property issues in the cyber space and the growth and development of the law in this regard.
- To educate about the regulation of cyber space at national and international level.

COURSE OUTCOMES:

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

- CO – 1 : Facilitate understand & critical understanding about Cybercrimes.
- CO – 2 : Explore of the legal and policy developments in various countries for cyber space
- CO – 3 : Provide in-depth knowledge of Information Technology Act, 2000
- CO – 4 : Describe e-Governance, Electronic Contracts, e-Banking & Secure electronic records
- CO – 5 : Share knowledge of the regulation of cyber space at national and international level
- CO – 6 : Illustrate different type of cyber-crimes avail in the present scenario
- CO – 7 : Acquaint with the e governance framework in our country.
- CO – 8 : Know of cyber law and use of computer, web technologies in the secured way
- CO – 9 : Acquaint the students with various dispute resolution available.
- CO – 10 : Know where to begin if you are presented with an employment law grievance

UNIT I INTRODUCTION 9

Introduction, Computers and its Impact in Society, Overview of Computer and Web Technology, Need for Cyber Law, Cyber Jurisprudence at International and Indian Level

UNIT II E-GOVERNANCE 9

Introduction to e-governance, techniques, e-governance in India, Challenges faced, Indian theory of Public administration

UNIT III CYBER LAW 9

Cyber Law - International Perspectives, UN & International Telecommunication Union (ITU) Initiatives, Council of Europe - Budapest Convention on Cybercrime, Asia-Pacific Economic

Cooperation (APEC), Organization for Economic Co-operation and Development (OECD), World Bank, Commonwealth of Nations

UNIT IV CYBER CRIME 9

Cyber Crimes & Legal Framework, Cyber Crimes against Individuals, Institution and State, Hacking, Digital Forgery, Cyber Stalking/Harassment, Cyber Pornography, Identity Theft & Fraud, Cyber terrorism, Cyber Defamation, Different offences under IT Act, 2000

UNIT V DISPUTE AND INTERNATIONAL ISSUES 9

Dispute Resolution in Cyberspace - Concept of Jurisdiction - Indian Context of Jurisdiction and IT Act, 2000. - International Law and Jurisdictional Issues in Cyberspace. - Dispute Resolutions

TOTAL: 45 HOURS

TEXT BOOKS:

1. S. R. Bhansali, Information Technology Act, 2000, University Book House Pvt. Ltd., Jaipur (2009)
2. Vasu Deva, Cyber Crimes and Law Enforcement, Commonwealth Publishers, New Delhi, (2010).

REFERENCE BOOKS:

1. SudhirNaib, The Information Technology Act, 2005: A Handbook, OUP, New York, (2011)
2. Verma S, K, Mittal Raman, Legal Dimensions of Cyber Space, Indian Law Institute, New Delhi, (2014)

SEMESTER IV

18PMBN41**PROJECT WORK****PROJECT OUTCOMES:**

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

- CO – 1 : Relate in-depth understanding of the business/management environment
- CO – 2 : Create and develop deep understanding of the interaction.
- CO – 3 : Analyze and solve problems on an executive level and demonstrating critical.
- CO – 4 : Design the general (core) management skills in the chosen area of specialisation.
- CO – 5 : Match in-depth knowledge of the management issues characteristic of the area.
- CO – 6 : Manage business problem in new and unfamiliar circumstances.
- CO – 7 : Design strategies to solve business problems and pursue opportunities.
- CO – 8 : Relate the ability to communicate formulated strategies in a clear and concise manner.
- CO – 9 : Conclude the knowledge and skills acquired in the classroom to a professional context.
- CO – 10 : Interpret a variety of ways to engage in experiential learning.