COURSE STRUCTURE MBA (REGULAR) 2024-2025

(Effective for the students admitted into first year from the academic year 2024-2025)

MASTER OF BUSINESS ADMINISTRATION

I & II Semester

(Applicable for the Batch Admitted from 2024-25)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA

KAKINADA-533003, Andhra Pradesh (India)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

(Established by Govt. of A.P., ACT No.30 of 2008)

KAKINADA – 533 003 (A.P) INDIA

MBACOURSE STRUCTURE & SYLLABUS

(Applicable for batches admitted from 2024-25)

I Year I Semester

S.No	Course Code	Courses	M	L	T	P	C
1	C-101	Management and Organizational Behavior	100	4	0	0	4
2	C-102	Managerial Economics	100	4	0	0	4
3	C-103	Accounting for Management	100	4	0	0	4
4	C-104	Quantitative Analysis for Business Decisions	100	4	0	0	4
5	C-105	Entrepreneurship Development	100	4	0	0	4
6	C-106	Business Environment	100	4	0	0	4
7	OE-101	A. Information Technology for Business B. Rural Development C. Intellectual Property Rights& Patents D. MOOCs : SWAYAM/NPTEL- (Related to Management Courses other than listed courses in the syllabus)	100	3	0	0	3
8	SE-101	PACE-UP(Personality Assessment Centre, Enhancement and Upgradation Processes) Programme	50	0	0	4	2
9	SE-102	Tally Lab	50	0	0	4	2
10	VA-101	Entrepreneur Project -I Identifying the area of interest, interacting with successful business [2] and submission of ground report.	50	0	0	4	2
Total			**850**	**27**	**0**	**12**	**33**

The Entrepreneur Project **can be done either individually or forming a group(limited to maximum of 4 members)**

I Year II Semester

S.No	Course Code	Courses	M	L	T	P	C
1	C-201	Financial Management	100	4	0	0	4
2	C-202	Human Resource Management	100	4	0	0	4
3	C-203	Operations Management	100	4	0	0	4
4	C-204	Marketing Management	100	4	0	0	4
5	C-205	Research Methods for Business Decisions	100	4	0	0	4
	C-206	Business Analytics	100	4	0	0	4
6	OE-201	A. Cross Cultural management B. Project Management C. Lean Management D. Database Management System	100	3	0	0	3
7	SE-201	R-Programming Lab	50	0	0	4	2
8	SE-202	IT Lab (Spread sheets and SQL)	50	0	0	4	2
9	VA-201	Entrepreneur Project –II Study on different loan approaches of State and Central Govt. Prepare the Business Development plan.	50	0	0	4	2
		Total	**850**	**27**	**0**	**12**	**33**

I Year I Semester

L	T	P	C
4	0	0	4

MANAGEMENT AND ORGANIZATIONAL BEHAVIOR

Objective of the course:
Objective of the course is to give a basic perspective of Management.
This will form foundation to study other functional areas of management and to provide the students with the conceptual framework and the theories underlying Organizational Behaviour.

Unit – I

Definition, Nature, Functions and Importance of Management – Evolution of Management thought – Scientific management, administrative management, Haw throne experiments – systems approach - Levels of Management - Managerial Skills - Planning – Steps in Planning Process – importance and Limitations – Types of Plans - Characteristics of a sound Plan - Management by Objectives (MBO) - Techniques and Processes of Decision Making - Social Responsibilities of Business

Unit-II

Organizing – Principles of organizing – Organization Structure and Design – Types of power - Delegation of Authority and factors affecting delegation – Span of control – Decentralization – Line and staff structure conflicts - Coordination definition and principles - Emerging Trends in Corporate Structure – Formal and Informal Organization- Nature and importance of Controlling, process of Controlling, Requirements of effective control and controlling techniques.

Unit – III

Organizational behavior: Nature and scope – Linkages with other social sciences – Individual roles and organizational goals – perspectives of human behavior - Perception– perceptual process – Learning - Learning Process- Theories - Personality and Individual Differences - Determinants of Personality - Values, Attitudes and Beliefs - Creativity and Creative thinking.

Unit – IV

Motivation and Job Performance – Content and process Theories of Motivation - Leadership - Styles - Approaches – Challenges of leaders in globalized era – Groups – stages formation of groups – Group Dynamics - Collaborative Processes in Work Groups - Johari Window- Transactional Analysis.

Unit – V:

Organizational conflict-causes and consequences-conflict and Negotiation Team Building, Conflict Resolution in Groups and problem solving Techniques – Organizational change - change process - resistance to change - Creating an Ethical Organization.

Relevant cases have to be discussed in each unit and in examination case is compulsory from any unit.

References:

1. Harold Koontz, Heinz Weihrich, A.R.Aryasri, Principles of Management, TMH, 2010.

2. Dilip Kumar Battacharya, Principles of Management, Pearson, 2012.

3. Kumar, Rao, Chhaalill "Introduction to Management Science" Cengage Publications,New Delhi

4. V.S.P.Rao, Management Text and Cases, Excel, Second Edition, 2012.

5. K.Anbuvelan, Principles of Management, University Science Press, 2013.

6. K.Aswathappa " Organisational Behaviour-Text, Cases and Games", Himalaya Publishing House, New Delhi,2008.

7. Steven L Mc Shane, Mary Ann Von Glinow, Radha R Sharma: "Organisational Behaviour", TMH Education, New Delhi,2008

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I Year I Semester

L	T	P	C
4	0	0	4

MANAGERIAL ECONOMICS

Course Objective:

1: Objective of the course is to introduce basic concepts and techniques of Managerial Economics and comprehend student with vital decisions of business.

2: Assimilate and apply the laws of economics in the business.

3: Acquire the knowledge about the various types of market structure for strategizing and wise decision making.

4: Practice the pricing strategies in the business management policies.

5: Achieve the knowledge about macroeconomics to foresee the external forces to the effective decisions in organisation.

Learning Outcomes: Use supply and demand to explain various economic phenomena and principles.

1. Explain the economic meaning of price, elasticity, and production costs. Describe the cause and effect of changes in all of these variables.

2. Draw and analyse cost and revenue curves that maximize profit.

3. Discuss differences and critically analyse the pros and cons of different market structures, including competitive, monopolistic and oligopolistic markets.

4. Pricing strategies to achieve and applicability in the market conditions

5. Knowledge about macroeconomics conditions and learn to applicable in the present context.

UNIT-I:

Introduction to Managerial Economics: Nature and Scope- of managerial Economics: Incremental reasoning, Concept of Time Perspective, Discounting Principle, Opportunity Cost Principle, Equi -Marginal Concept-Theory of Firm-profit measurement-social responsibility of business.

UNIT-II:

Demand Analysis and Forecasting: Concepts of Demand, Supply, Determinants of Demand and Supply, Elasticities of Demand and Supply- Methods of demand forecasting for established and new products-.

UNIT-III:

Cost and Production Analysis: Cost: Concept and types, Cost-Output Relationships, Cost Estimation, Reduction and Control- Economies and Diseconomies of Scale- Law of Variable Proportions- Returns to Scale- Isoquants-Cobb-Douglas and CES Production functions.

UNIT-IV:

Theory of Pricing: Price determination under Perfect Competition, Monopoly, Oligopoly and Monopolistic Competitions- Methods of Pricing.Market structures: Perfect and Imperfect Market Structurer. Price discrimination-degrees of price discrimination.

UNIT-V:

Macro Economics and Business: Concept, Nature and Measurement of National Income- - Fiscal and Monetary Policies.Inflation and Deflation: Inflation - Meaning and Kinds, Types, Causes and measurement of inflation Measures to Control Inflation, Deflation- - Philips curve- Stagflation-Theory of Employment- Business cycles: Policies to counter Business Cycles.

Relevant cases have to be discussed in each unit and in examination case is compulsory from any unit.

References:

1. D.M.Mithani, Managerial Economics, Himalaya Publishing House
2. Hirschey-Managerial economics,12th ed-cengage
3. Gupta G.S., Managerial Economics, TMH, 1988.
4. P.L. Mehta, Managerial Economics, PHI, 2001.
5. K .KDawett, Modern Economic Theory, Sultan Chand & Sons.
6. D.N. Dwivedi, Managerial Economics, 7th Ed, Vikas Publishing.
7. H.Craig Peterson, W.CrisLewis,managerialeconomics ,Pearson, 2005.

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L	T	P	C
4	0	0	4

ACCOUNTING FOR MANAGEMENT

COURSE OBJECTIVES:
The objective of this course is to acquaint the students regarding various accounting concepts and its application in managerial decision making.

Unit – I:
Financial Accounting- concept, Importance and scope, accounting principles, accounting cycle, journal ledger, trial balance, Preparation of final accounts with adjustments.

Unit – II:
Analysis and interpretation of financial statements – meaning, importance and techniques, ratio analysis, Fund flow analysis, cash flow analysis (AS - 3).

Unit – III:
Cost accounting–meaning, importance, methods, techniques; classification of costs and cost sheet; Inventory valuation methods- LIFO, FIFO, HIFO and weighted average method

Unit – IV:
Management accounting – concept, need, importance and scope; budgetary control-meaning, need, objectives, essentials of budgeting, different types of budgets and their preparation.

Unit-V:
Standard costing and variance analysis (materials, labour)-Marginal costing and its application in managerial decision making

Relevant cases have to be discussed in each unit and in examination case is compulsory from any unit.

References:

1. MAHESWARI AND MAHESWARI" Financial Accounting", Vikas Publishing House, New Delhi, 2013.
2. Pandey, I.M. Management Accounting, Vikas Publishing House, New Delhi.
3. Horngen, Sundem & Stratton, Introduction to Management Accounting, Pearson Education, New Delhi.
4. Hansen & Mowen, Cost Management, Thomson Learning.
5. Mittal, S.N. Management Accounting and Financial management, Shree Mahavir Book Depot, New Delhi.
6. Jain S.P. and Narang K.L. Advanced Cost Accounting, Kalyani Publishers Ludhiana.
7. Khan M.Y. and Jain, P.K. Management Accounting, TMH, N. Delhi.

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I Year I Semester

L	T	P	C
4	0	0	4

QUANTITATIVE ANALYSIS FOR BUSINESS DECISIONS

Course Objectives:

1: To develop a deeper understanding of meaning and importance of quantitative technique and its applications in managerial decisions.

2: Statistical tools like measures of central tendency & measures of variations and apply these tools to real life situations.

3: Students have more knowledge about the decision making concept, process of decision making and different environments like risk, uncertainty and certainty.

4: To have knowledge about Sampling and Sampling Distributions-Estimation-Point and Interval Estimates, Concepts of Testing Hypothesis.

5: Students would able to understand the concept of ANOVA, Chi-square Test of Independence and Goodness of fitness.

Course Outcomes:

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

1 Basic importance and applications of quantitative techniques.
2 Study the various measures and applicability of probabilityrelated to thestatistics.
3 Justify the several decisions in decision theory.
4 Use and understand the different sampling distribution techniques.
5 Test the hypothesis for choosing best conclusion and inference.

UNIT-I:

Quantitative Techniques: Introduction - Meaning and Definition – Classification of QT -QT and other disciplines – Application of QT in business ~~9~~ Limitations.

UNIT -II:

Measure of Central Tendency and Dispersions- Arithmetic Mean; Geometric Mean; Harmonic Mean; Median:Mode, Standard Deviation. Simple correlation- Karl Pearson's Coefficient of correlation, Rank correlation. Simple Regression Analysis – Concept of Probability-Probability Rules-Joint and Marginal probability-Baye's Theorem-Probability Distributions - Binominal, Poisson, Normal & Exponential Probability Distributions.

UNIT- III:

Introduction of Decision Theory: Steps involved in decision making, different environments in which decisions are made, Criteria for decision making, Decision making under uncertainty, Decision making under conditions of Risk-Utility as a decision criterion, Decision trees, Graphic displays of the decision-making process, Decision making with an active opponent.

UNIT- IV:

Concept of Estimation and Sampling: Inferential Analysis-Point Estimates and Interval Estimates of Averages and Proportions of small and large samples. Sampling –Meaning, Steps in Sampling Process-Sample Size- Probability and non- probability sampling techniques, Errors in sampling.Tests of significance- Types- Hypothesis- Types- Hypothesis testing and Confidence Intervals. Parametric Tests for means, Proportions, Variance and Paired Observations.

UNIT- V:

Analysis of Variance (ANOVA): One-way and Two Way ANOVA, Non Parametric tests- Chi–Square- Test of Independence, Test of Goodness of Fit.

Relevant cases have to be in each unit and in examination case is compulsory for every unit.

References:

1 N.D. Vohra “Quantitative Techniques in Management”, Tata-McGraw Hill PrivateLimited, New Delhi, 2011.
2 Gupta S.P “Statistical Methods’’, S. Chand and Sons, New Delhi.
3 Anand Sharma “Quantitative Techniques for Business decision Making HimalayaPublishers, New Delhi, 2012.
4 D.P. Apte “Operation Research and Quantitative Techniques”, Excel Publications, NewDelhi, 2013.
5 Hamdy, A. Taha “Operation Research. An Introduction”, Prentice-Hall of India, NewDelhi, 2003.
6 Anderson “Quantitative Methods for Business”, Cengage Learning, New Delhi, 2013.

I Year I Semester

L	T	P	C
4	0	0	4

ENTREPRENEURSHIP DEVELOPMENT

UNIT -I

Introduction: Definition of Entrepreneur, Entrepreneurial motivation and barriers; Internal and external factorsEconomic Barriers to Entrepreneurship –Non-Economic Barriers to Entrepreneurship- Theories of entrepreneurship; Classification of Entrepreneurship- Entrepreneurship in Developing Economy – Entrepreneurial Values and Attitudes

UNIT- II

Problems & Support: Incubation and Take-off, Problems encountered Structural, Financial and Managerial Problems, Types of Uncertainty. -Institutional support for new ventures: Supporting organizations; Incentives and facilities; Financial Institutions and Small-scale Industries, Govt. Policies for SSIs. -Role of SIDBI in Project Management.

UNIT -III

Types of Entrepreneurs: Family and non-family entrepreneurs - Role of Professionals, Professionalism vs. family entrepreneurs–-Sick industries, Reasons for Sickness, Remedies for Sickness, Role of BIFR in revival, Bank Syndications.

Unit -IV

Project Analysis: Meaning and Definition of Project, Types & Characteristics – Project Phases – Project Life Cycle – Project Family Tree – Feasibility Analysis and Project Report.

Unit -V

Development of Enterprise: Concept and development of Enterprise - Procedure of starting Enterprise – Vital Decision to make during start up: Project Report Preparation, Choice of Enterprise, and Market Assessment of Enterprise.

References:

1) Couger, C-Creativity and Innovation (IPP, 1999)
2) Nina Jacob, -Creativity in Organisations (Wheeler, 1998)
3) Jonne&Ceserani-Innovation&Creativity(Crest) 2001.
4) BridgeSetal-Understanding Enterprise: Entrepreneurship and Small Business (Palgrave,2003)
5) Holt-Entrepreneurship: New Venture Creation (Prentice-Hall) 1998.
6) Singh P&Bhanderkar A-Winning the Corporate Olympiad:TheRenaissancearadigm(Vikas)
7) Dollinger M J-Entrepreneurship (Prentice-Hall, 1999).
8) Tushman, M.L. & Lawrence, P.R. (1997)-Managing Strategic Innovation & Change Oxford.
9) Jones T. (2003)-Innovating at the Edge: How Organizations Evolve and Embed Innovation Capability.Butterwork Heinemann, U. K.
10) Amidon, D. M.(1997)-Innovation Strategy for the Knowledge Economy:TheKanawakening. Butterwork-Heinemann, New Delhi, India.

I Year I Semester

L	T	P	C
4	0	0	4

BUSINESS ENVIRONMENT

OBJECTIVES:

The objective of this paper is to make the students more clear about the importance of business organisation wants to achieve, to earn profit for its growth and development, to provide quality goods to its customers, to protect the environment, etc.

UNIT – I: Introduction: The Concept of Business Environment - its Nature and Significance -Components of Business Environment - Impact of environment on business and strategic decisions.

UNIT – II: Social and Cultural Environment: Introduction - Social environment - Cultural environment - Impact of Foreign Culture on Business - Types of Social Organization - Social Responsibilities of Business.

UNIT – III: Economic Environment: Introduction - Economic environment of Business - Economic systems - Macroeconomic parameters and their impact of business - Economic policies - Five Year Plans in India.

UNIT – IV: Political and Legal Environment: Introduction -Political environment - Relationship between Government and Business in India - Role of Government in Business - Constitutional provisions regarding regulation of business in India. Legal Environment - Implementations of Business - Corporate Governance.
Relevant cases have to be discussed in each unit and in examination

UNIT – V: Technological and Natural Environment: Features of Technological Environment -Factors and Impact of Technological Environment - Technological Environment in India - Elements of Natural Environment - Environmental Pollution.case is compulsory from any unit.

References:

1. Shaikh Saleem: "Business Environment", Pearsons, New Delhi,
2. Veena Keshav Pailwar: "Economic Environment of Business", PHI Learning, New Delhi, 2012
3. Rosy Joshi, Sangam Kapoor: "Business Environment", Kalyani Publishers, New Delhi, 2011.
4. Aswathappa K: "Essentials of Business Environment", Himalaya Publishing House, New Delhi, 2011.
5. Vivek Mittal: "Business Environment Text and Cases", Excel Books New Delhi, 2011.

6. Sundaram and Black: "International Business Environment Text and Cases", PHI Private Limited, New Delhi.
7. Avid W Conklin: "Cases in Environment of Business", Sage Publication India Private Ltd, New Delhi. 8. Raj Kumar: "International Business Environment", Excel Publication, New Delhi, 2012.

9. Palle Krishna Rao: "WTO-Text and Cases", Excel Publication, New Delhi.

10. Government of India, Latest Economic Survey Report.

I Year I Semester

L	T	P	C
3	0	0	3

INFORMATION TECHNOLOGY FOR BUSINESS

Course Objectives:

- To understand business processes and information technology in business.
- To manage and understand IT in business organizations.
- To build and develop technology trends.
- To understand the challenges on using Technology for business
- To learn ethical issues in information technology

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

1: Clear understanding of Information Technology in business scenarios.
2: Importance of Technology in business processes.
3: Significance of intelligent systems in business.
4: Usage of various digital platforms across the business.
5: exploring e-commerce and ERP scenario.

UNIT-I

Business and Information Technology - Business in the Information Age, Information system, CBIS, Trends in IT Evolution and types of Information Systems, Managing IT in organization.

UNIT-II

Information Technology Infrastructure - Computer Hardware, Software, Managing and Organization of Data and Information - Telecommunication and Networks. The Internet and Intranet (I.O.T).

UNIT-III

Information Technology for Competitive advantage - Inter Organizational Information Systems, Global Information Systems, Electronic Data Interchange (EDI) and Electronic Funds Transfer (EFT). Enterprise Resource Planning, Data Knowledge, and Decision Support.

UNIT-IV

Intelligent Systems in Business - Artificial intelligence and Intelligent Systems - Expert Systems, Intelligent Agents, Virtual Reality, Ethical and global issues of Intelligent systems.

UNIT-V

Electronic Commerce - Foundation, Business to Consumer Applications, Business to Business Applications, Consumer Market Research and other Support, Legal and Ethical issues in E-commerce Strategy, Information Systems, Strategic Advantage, Porter's Competitive Forces model on IT, Business Process Re-engineering, Virtual Corporations, E-Learning, CBI, Information Systems Development Life Cycle (SDLC), Building Internet and Intranet Applications.

Text Books:

1. Turban Rainer and Potter: Introduction to Information Technology, John & Wiley Sons.
2. James O'Brien: Introduction to Information Systems, McGraw Hill Book Company.

I Year I Semester

L	T	P	C
3	0	0	3

RURAL DEVELOPMENT

Course Objectives:

1. To facilitate the students to understand the basic nature of rural society in India
2. To appraise students about the Rural Local Administration
3. To provide insights on rural demography and rural economy in India
4. To provide insights on various processes and challenges of agriculture in India
5. To make students aware of the rural market structure in India

Outcomes of the course:

1. Describe the key aspects of rural society in India
2. Describe the rural local administration
3. Analyse the dynamics of local rural population and local rural economy
4. Explain the processes and challenges of agriculture in India
5. Summarise the components and implications of land tenure systems and land reforms in India**.**

Unit-I

Rural Development: Concept, Importance, Nature and scope, Characteristics of rural economy, human capital of development- Distinction between development and growth, Indicators of rural development, problems & issues in rural development.

Unit – II

Rural Management: Nature, Scope and challenges in marketing operations, human and financial resources in rural areas. Entrepreneurship opportunities in rural areas, Agricultural production, productivity and backwardness, Social and Economic structure of rural India and its economic development.

Unit – III

Rural Community Development: M.D.G -Concept of community, Function of Community,PURA model, Community profile: Process and tools. Community development: Characteristics, Principles andscope, Panchayat Raj and community development in India.; Zilla Parishad - structure, powers,function, working and problems in Rural Administration.

Unit – IV

Sustainable Development: Biodiversity and its conservation, Environmental pollution, air, water and soil pollution., Rainwater harvesting Watershed management. Social security schemes in India-DDP-CRSP-NHRDP-DWACRA-DRDA-Health care programmes.

Unit-V

Concept and Scope of Rural Market, Characteristics of rural markets, Environmental factors: Micro and Macro marketing environment, Marketing planning process, Introduction to services marketing. Fundamentals of Rural Demography and Economics: Rural population –process of development-GATT-WTO-SEZ-CSR-NAIS.

Reference:

1.Satya Sundram, I. "Rural Development" Himalaya Publishing House, New Delhi.

2.K. Venkatareddy-Aricultural and rural Development-Himalaya publishing house

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I Year I Semester

L	T	P	C
3	0	0	3

INTELLECTUAL PROPERTY RIGHTS& PATENTS

Course Objective:

1. The main objective of the IPR is to make the students aware of their rights for the protection of their invention done in their project work.

2. To get registration in our country and foreign countries of their invention, designs and thesis or theory written by the students during their project work and for this they must have knowledge of patents, copy right, trademarks, designs and information Technology Act.

3. Further the teacher will have to demonstrate with products and ask the student to identify the different types of IPR's.

Course outcomes:

- The students once they complete their academic projects, they get awareness of acquiring the patent
- They also learn to have copyright for their innovative works.
- They also get the knowledge of plagiarism in their innovations which can be questioned legally.

Unit-I

INTRODUCTION TO IPR: Meaning of property, Origin, Nature, Meaning of Intellectual Property Rights –Kinds of Intellectual property rights—Copy Right, Patent, Trademark, Trade Secret and trade dress, Design, Layout Design, Geographical Indication, Plant Varieties and Traditional Knowledge.

Unit-II

PATENT RIGHTS AND COPY RIGHTS— Origin, Meaning[18] of Patent, Types, Inventions which are not patentable, Registration Procedure, Rights and Duties of Patentee, Assignment and license, Restoration of lapsed Patents, Surrender and Revocation of Patents, Infringement, Remedies & Penalties. COPY RIGHT—Origin, Definition &Types of Copy Right, Registration procedure, Assignment & license, Terms of Copy Right, Piracy, Infringement, Remedies, Copy rights with special reference to software.

Unit-III

TRADEMARKS— Origin, Meaning & Nature of Trademarks, Types, Registration of Trade Marks, Infringement & Remedies, Offences relating to Trade Marks, Passing Off, Penalties.

Unit-IV

DESIGN- Meaning, Definition, Object, Registration of Design, Cancellation of Registration, International convention on design, functions of Design. Semiconductor Integrated circuits and layout design Act-2000.

Unit-V

BASIC TENENTS OF INFORMATION TECHNOLOGY ACT-2000 – IT Act - Introduction E-Commerce and legal provisions E- Governance and legal provisions Digital signature and Electronic Signature. Cybercrimes

TEXTBOOKS:

1. Intellectual Property Rights and the Law, Gogia Law Agency, by Dr. G.B. Reddy

2. Law relating to Intellectual Property, Universal Law Publishing Co, by Dr.B.L.Wadehra

3. IPR by P. Narayanan

4. Law of Intellectual Property, Asian Law House, Dr.S.R. Myneni

I Year I Semester

L	T	P	C
3	0	0	3

MOOCs : SWAYAM/NPTEL- Related to Management Courses other than listed courses in the syllabus

NOTE: Students opting for SWAYAM should register for 12 weeks course and need to produce the Pass certificate with minimum 40% (Percentage) for receiving the Academic Credits. The actual percentage mentioned on the certificate will be transferred to the marks memo.

I Year I Semester

L	T	P	C
0	0	4	2

PACE UP

(Personality Assessment Centre, Enhancement and Upgradation Processes)

Course Objectives:

Business Etiquettes and Professionalism has been designed to meet the following objectives:

a) To learn the principles of business etiquettes and professional behaviour

b) To understand the etiquettes for making business correspondence effective

c) To be able to present yourself confidently at various business situations

d) Develop awareness of dining and multicultural etiquettes

Learning Outcome:

After completion of course students will be able to:

a) Demonstrate an understanding of professionalism in terms of workplace behaviours and workplace relationships.

b) Adopt attitudes and behaviours consistent with standard workplace expectations.

c) Presenting oneself with finesse and making others comfortable in a business setting.

d) Developing basic life skills or etiquettes in order to succeed in corporate culture.

Unit: I

Business Etiquettes- An Overview: Significance of Business Etiquettes in 21st Century Professional Advantage; Need and Importance of Professionalism

Workplace Etiquette: Etiquette for Personal Contact- Personal Appearance, Gestures, Postures, Facial Expressions, Eye-contact, Space distancing

E-Mail Etiquette: Significance of Netiquette, E-mail: Way of professional communication,

Basic Email Etiquettes: Proper Grammar, Spelling, Punctuation, Styling and Formatting, Body of Email, Response, Privacy

Unit – II

Telephone Etiquettes: Telephone Communication Techniques -Placing Telephone calls, Answering Calls, Transferring Calls, Putting Calls on Hold, Taking Messages, Handling Rude Callers, Tactful Responses, Leaving Professional Messages; Developing Cell Phone Etiquettes; Voicemail Etiquette; Telephonic Courtesies

Dining Etiquette: Basics of Dining Etiquettes; Basic essentials of dining table etiquettes - Napkin Etiquette, Seating arrangements, laying the table, how to use Cutlery, Posture &Behaviour, Do's and Don'ts; International Dining Etiquettes.

Multi-Cultural Challenges: Cultural Differences and their Effects on Business Etiquette

Unit – III

Communication Skills: Understanding Human Communication, Constitutive Processes of Communication, Language as a tool of communication, Barriers to Effective communication, Strategies to Overcome the Barriers.

Emotional intelligence: Importance, concept, theory and measurements.

Stress Management: Strategies for preventing and relieving stress.

Time management: Meaning; Techniques and styles.

Unit – IV

Interview Skills: Interview Skills: in-depth perspectives, Interviewer and Interviewee, Before, During and After the Interview, Tips for Success.

Meeting Etiquette: Managing a Meeting-Meeting agenda, Minute taking; Duties of the chairperson and secretary; Effective Meeting Strategies - Preparing for the meeting, Conducting the meeting, Evaluating the meeting

Presentation Etiquettes: Importance of Preparation and Practice; Effective Delivery Techniques, Audience Analysis, Handling Stage Fright.

Unit- V

Teamwork and Leadership Skills: Concept of Teams; Building effective teams; Concept of Leadership and honing Leadership skills.

Personality: Meaning & Definition, Determinants of Personality, Personality Traits, Personality and Organisational Behaviour

Motivation: Nature & Importance, Herzberg's Two Factor theory, Maslow's Need Hierarchy theory, Alderfer's ERG theory

Decision-Making and Problem-Solving Skills: Meaning, Types and Models, Group and Ethical Decision-Making, Problems and Dilemmas in application of these skills.

Conflict Management: Conflict - Definition, Nature, Types and Causes; Methods of Conflict Resolution.

Human Resource Management: Introduction to HRM, Selection, Orientation, Training& Development, Performance Appraisal, Incentives

Case Study Analysis

Suggested Readings:

• Barbara Pachter, Marjorie Brody. Complete Business Etiquette Handbook. Prentice Hall, 2015.

• Dhanavel, S.P. English and Soft Skills. Hyderabad: Orient BlackSwan, 2021.
• Koneru, Aruna. Professional Communication. Delhi: McGraw, 2008.
• Mahanand, Anand. English for Academic and Professional Skills. Delhi: McGraw, 2013. Print.
• Nancy Mitchell. Etiquette Rules: A Field Guide to Modern Manners. Wellfleet Press, 2015.
• Rani, D Sudha, TVS Reddy, D Ravi, and AS Jyotsna. A Workbook on English Grammar and Composition. Delhi: McGraw, 2016.
• Raghu Palat, Indian Business Etiquette, Jaico Books, 2015.
• Rizvi, M. Ashraf. Effective Technical Communication. Delhi: McGraw, 2018.
• Pease, Allan and Barbara Pease. The Definitive Book of Body Language. New Delhi: Manjul Publishing House, 2005.
• Tengse, Ajay R. Soft Skills: A Textbook for undergraduates, Orient BlackSwan, 2015

I Year I Semester

L	T	P	C
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TALLY LAB

Objective:
To Understand the students' basics of the Computers Knowledge with Financial Software Knowledge

Unit- I
FUNDAMENTALS OF TALLY.ERP: tally origin - Company features -Configuration - Getting functions with Tally.ERP9 - Creation / setting up of Company - Chart of Groups - Groups -Multiple Groups - Ledgers -Multiple Ledgers

Unit -II
INVENTORY MASTERS IN TALLY.ERP9 - Stock Groups - Multiple Stock Groups - Stock Categories - Multiple Stock Categories - Units of Measure- Stock Items- vouchers entries - Types of Vouchers - Chart of Vouchers - Accounting Vouchers - Inventory Vouchers - Invoicing

Unit -III
ADVANCE ACCOUNTING & INVENTORY TALLY.ERP9 - Bill-wise details - Cost centers and Cost Categories - Multiple currencies - Interest calculations - Budget and controls - Scenario management - Bank Reconciliation - Order Processing - Recorder Levels - Batch-wise details - Bill of Materials - Price Lists - Zero-Valued Entries - Additional cost details - POS

Unit – IV
TAXES IN TALLY.ERP9 - TDS - TDS Reports - TDS Online Payment - TDS Returns filing - TDS Certificate issuing - 26AS Reconciliation - TCS - TCS Reports - GST - GST Returns ¬ EPF - ESIC - Professional Tax

Unit V 24
GENERATING REPORTS IN TALLY.ERP9 - Financial Statements - Trading Account - Profit & Loss Account - Balance Sheet - Accounts Books and Reports - Inventory Books and Reports - Exception Reports - Statutory Reports - Payroll Reports - Trail balance - Day Book ¬ -List of Accounts - Stock Summary - Outstanding Statement

Reference Books:

1. TallyPrime Book (2023) by Sanjay SatpathySWAYAM EDUCATION MandalBagicha, Hemkapada, Sunhat, Balasore,Odisha-756003 (INDIA)
2. Tally power of simplicity (2011) by ArunaPrakashanHindvi Computer, Latur
3. Financial Accounting and Analysis - Discovery Publishing House Pvt. Ltd., New Delhi
4. Management and Cost accounting - - Discovery Publishing House Pvt. Ltd., New Delhi

I Year I Semester

L	T	P	C
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ENTREPRENEUR PROJECT -1

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I Year II Semester

FINANCIAL MANAGEMENT

UNIT -I

Financial Management: Concept - Nature and Scope - Evolution of financial Management - The new role in the contemporary scenario – Goals and objectives of financial Management - Firm's mission and objectives - Profit Maximization Vs. Wealth maximization – Maximization Vs Satisfying - Major decisions of financial manager.

UNIT -II

Financing Decision: Sources of finance - Concept and financial effects of leverage – EBIT – EPS analysis. Cost of Capital: Weighted Average Cost of Capital– Theories of Capital Structure.

UNIT-III

Investment Decision: Concept and Techniques of Time Value of Money – Nature and Significance of Investment Decision – Estimation of Cash flows – Capital Budgeting Process – Techniques of Investment Appraisal – Discounting and Non Discounting Methods.

UNIT-IV

Dividend Decision: Meaning and Significance – Major forms of dividends – Theories of Dividends – Determinants of Dividend – Dividends Policy and Dividend valuation – Bonus Shares –Stock Splits – Dividend policies of Indian Corporate.

UNIT-V

Liquidity Decision: Meaning - Classification and Significance of Working Capital – Components of Working Capital – Factors determining the Working Capital – Estimating Working Capital requirement – Cash Management Models – Accounts Receivables –Credit Policies – Inventory Management.

Relevant cases have to be discussed in each unit and in examination case is compulsory from any unit.

References:

1. I.M. Pandey: "**Financial Management",** Vikas Publishers, New Delhi, 2013.
2. Khan and Jain: Financial Management, Tata McGraw Hill, New Delhi,
3. Prasanna Chandra: "**Financial Management Theory and Practice**", Tata McGrawHill 2011.
4. P.Vijaya Kumar, M.Madana Mohan, G. Syamala Rao: "**Financial Management",** Himalaya Publishing House, New Delhi, 2013.
5. Brigham,E.F: "**Financial Management Theory and Practice**", Cengae Learning, New Delhi, 2013
6. RM Srivastava, Financial Management, Himalaya Publishing house, 4th edition.

I Year II Semester

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HUMAN RESOURCE MANAGEMENT

Course Objectives:

1: To acquaint students with a broad perspective on themes and issues of Human Resource Management.
2:To familiarize the student with Investment perspectives of HRM.
3:To familiarize students with the concepts of career development, counseling and gain knowledge about current compensation trends.
4: To gain knowledge about Wage determinants and welfare measures.
5: To familiarize the students with industrial relations concepts , disputes and grievance mechanism , safety in the work places.

Course Outcomes:

At the end of the Course, Student will be able to:

1 **:** Cite evolution and emerging trends of HRM.
2 **:** Critically analyze Investment and HRD concepts.
3 **:** List different appraisal and Compensation system.
4 **:** Evaluate incentive payment system and welfare measures given to employees.
5 **:** Interpret industrial relations in organization.

UNIT -I

HRM: Concept, Nature, Scope- and Functions – evolution of HRM- Principles - Ethical Aspects of HRM- HR policies, Strategies to increase firm performance - Role and position of HR department – Strategic HR in changing environment – Emerging trends in HRM.

UNIT -II

Investment perspectives of HRM: HR Planning – Demand and Supply forecasting – Job Analysis-Job Design-Job Evaluation. Recruitment and Selection- Sources of recruitment – e-recruitment. Steps in Selection Procedures- Tests and Interview Techniques - Induction- Training and Development – Need and Importance-Methods and of Training. Concept of HRD.

UNIT -III

Performance Appraisal: Importance – Methods – Traditional and Modern methods – Latest trends in performance appraisal - Career Development and Counseling- Compensation - Concepts and Principles- Influencing Factors- Current Trends in

Compensation- Methods of Payments in detail - Incentives rewards compensation mechanisms.

UNIT -IV

Wage and Salary Administration: Concept- Wage Structure- Wage and Salary Policies- Legal Frame Work- Determinants of Payment of Wages- Wage Differentials - Incentive Payment Systems. Welfare management: Nature and concepts – statutory and non-statutory welfare measures.

UNIT-V

Managing Industrial Relations: Nature- Importance -Trade Unions - Employee Participation Schemes-Collective Bargaining – Grievances and disputes resolution mechanisms – Managing employee safety and health. Relevant cases have to be discussed in each unit and in examination case is compulsory from any unit.

References:

1. K Aswathappa: "Human Resource and Personnel Management", Tata McGraw Hill, New Delhi, 2013.
2. N. Sambasiva Rao and Dr. Nirmal Kumar: "Human Resource Management and Industrial Relations", Himalaya Publishing House, Mumbai.
3. Mathis, Jackson, Tripathy: "Human Resource Management: A south-Asin Perspective", Cengage Learning, New Delhi, 2013.
4. Subba Rao P: "Personnel and Human Resource Management-Text and Cases", Himalaya Publications, Mumbai, 2013.
5. Madhurima Lall, Sakina Qasim Zasidi: "Human Resource Management", Excel Books, New Delhi,2010.

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I Year II Semester

OPERATIONS MANAGEMENT

Objectives:
This Course is designed to make student understand the strategic significance of Operation management, to acquaint them with application of discipline to deal with real life business problem.

UNIT I:
Introduction to Operation Management: Nature & Scope of Operation/ Production Management, Relationship with other functional areas, Recent trend in Operation Management, Manufacturing & Theory of Constraint, Types of Production System, Just in Time (JIT) & lean system.

UNIT II:
Product Design & Process Selection: Stages in Product Design process, Value Analysis, Facility location & Layout: Types, Characteristics, Advantages and Disadvantages, Work measurement, Job design.

UNIT III:
Forecasting & Capacity Planning: Methods of Forecasting, Overview of Operation Planning, Aggregate Production Planning, Production strategies, Capacity Requirement Planning, MRP, Scheduling, Supply Chain Management, Purchase Management, Inventory Management.

Unit- IV:
Productivity: Factors, Affecting Productivity – Job Design – Process Flow Charts – Methods Study – Work Measurement – Engineering and Behavioral Approaches.

UNIT V:
Quality Management: Quality- Definition, Dimension, Cost of Quality, Quality Circles- Continuous improvement (Kaizen), ISO (9000&14000 Series), Statistical Quality Control: Variable & Attribute, Process Control, Control Charts -Acceptance Sampling Operating Characteristic Curve (AQL , LTPD, Alpha & Beta risk), Total Quality Management (TQM).

Relevant cases have to be discussed in each unit and in examination case is compulsory from any unit.

References:

1. Krajewski & Ritzman (2004). Operation Management -Strategy and Analysis. Prentice Hall of India.
2. Panner Selvem, Production and Operation Management, Prentice Hall of India.
3. Chunnawals, Production & Operation Management Himalaya, Mumbai
4. Charry, S.N (2005). Production and Operation Management- Concepts, Methods Strategy. John Willy & Sons Asia Pvt Limited.
5. K Aswathappa & Sridhar Bhatt, Production & Operations Management, Himalaya, Mumbai.

I Year II Semester

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MARKETING MANAGEMENT

Objectives:

The Course is designed for the students to understand the Marketing concepts and to identify, enrich and fulfill the needs of customers and markets.

UNIT -I

Introduction to Marketing: Needs - Wants – Demands - Products - Exchange - Transactions - Concept of Market and Marketing and Marketing Mix - Production Concept- Product Concept - Sales and Marketing Concept - Societal Marketing Concept - Green Marketing concept - Indian Marketing Environment.

UNIT -II

Market Segmentation, Targeting and Positioning: Identification of Market Segments - Consumer and Institutional/corporate Clientele - Segmenting Consumer Markets - Segmentation Basis – Evaluation and Selection of Target Markets – Positioning significance - Developing and Communicating a Positioning Strategy.

UNIT -III

Product and Pricing Aspects: Product – Product Mix - Product Life cycle -Obsolescence- Pricing- Objectives of Pricing - Methods of Pricing - Selecting the Final price - Adopting price - Initiating the price cuts - Imitating price Increases-Responding to Competitor's price changes.

UNIT -IV

Marketing Communication: Communication Process – Communication Mix – Integrated Marketing Communication - Managing Advertising Sales Promotion - Public relations and Direct Marketing - Sales force – Determining the Sales Force Size - Sales force Compensation.

UNIT V

Distribution, Marketing Organization and Control: Channels of Distribution-Intensive, Selective and Exclusive Distribution- Organizing the Marketing Department - Marketing Implementation - Control of Marketing Performance - Annual Plan Control - Profitability Control - Efficiency Control - Strategic Control.

Relevant cases have to be discussed in each unit and in examination case is compulsory from any unit.

References

1. Phillip Kotler: "**Marketing Management** ", Pearson Publishers, New Delhi, 2013.
2. Rajan Saxena: "**Marketing Management**", Tata McGraw Hill, New Delhi, 2012.
3. V S Ramaswamy & S Namakumari, Marketing Management Global Perspective Indian Context 4th Edition, Mac Millan Publishers 2009.
4. Tapan K Panda: **"Marketing Management**", Excel Books, New Delhi, 201**2**
5. Paul Baines, Chris Fill, Kelly Page Adapted by Sinha K: "**Marketing**", Oxford University Press, Chennai, 2013

I Year II Semester

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RESEARCH METHODS FOR BUSINESS DECISIONS

Course Objective:

To develop understanding of the basic framework of research process.Developing the students in Research orientation and to acquaint them with fundamental of research methods

To identify various sources of information for literature review and data collection

To understand the data analysis and presentation

To understand various statistical tools and their applicability in research.

To enable them to write a research report and thesis.

Course Outcomes:

1 Understand advanced design, methodologies and analysis in business research methods, including key terms, classifications and systematic applications to the research data and design of a research project

2 Apply knowledge in collecting data from various sources.

3Demonstrate knowledge in data analysis and interpretation.

4 Applying appropriate statistical techniques in the analysis of data

5 Demonstrate the abilities in preparing research reports.

UNIT- I

Introduction: Nature and Importance of Research, the role of Business Research, aims of social research, Types of Research- Pure research vs. Applied research, Qualitative research vs. Quantitative research, Exploratory research, Descriptive research and Experimental research, ethical issues in business Research-Defining Research Problem, Steps in Research process.

UNIT- II

Data Base: Discussion on primary data and secondary data, tools and techniques of collecting data. Methods of collecting data. Sampling design and sampling procedures. Random vs. Non-random sampling techniques, determination of sample size and an appropriate sampling design. Designing of Questionnaire –Measurement and Scaling – Nominal Scale – Ordinal Scale – Interval Scale – Ratio Scale – Guttmann Scale – Likert Scale – Schematic Differential Scale.

UNIT- III

Survey Research and data analysis: Selection of an appropriate survey research design, the nature of field work and Field work management. Media used to communicate with Respondents, Personal Interviews, Telephone interviews, Self-administered Questionnaires-

Editing – Coding – Classification of Data – Tables and Graphic Presentation –Preparation and Presentation of Research Report.

UNIT- IV

Statistical Inference: Formulation of Hypothesis –Tests of Hypothesis - Introduction to Null hypothesis vs. alternative hypothesis, parametric vs. non-parametric tests, procedure for testing of hypothesis, tests of significance for small samples, application, t-test, Chi Square test.

UNIT- V

Multivariate Analysis: Nature of multivariate analysis, classifying multivariate techniques, analysis of dependence, analysis of interdependence. Bi-Variate analysis-tests of differences-t test for comparing two means and z-test for comparing two proportions and ANOVA for complex experimental designs.

Relevant cases have to be discussed in each unit and in examination case is compulsory from any unit.

References

1. C.R. Kothari: Research Methodology, methods and Techniques New Age International Publisher.
2. Navdeep and Guptha : "**Statistical Techniques & Research Methodology**", Kalyani Publishers
3. Willam G.Zikmund, Adhkari: "***Business Research Methods***", Cengage Learning, New Delhi, 2013.
4. A.N. Sadhu, Amarjit singh, Research methodology in social sciences, 7th Edition Himalaya Publications.
5. A Bhujanga rao , Research methodology, Excel Books, 2008.

I Year II Semester

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BUSINESS ANALYTICS

Course Objectives:

- To understand the importance, difference and practices of analytics in business.
  - Understand business communication through data-driven information,
  - Apply knowledge and explain natural processes by relating them to a certain distribution of data
- To understand the data visualization tools, application and statistical methods.
- To learn the measure of variability in decision making
  - Evaluate and compare descriptive and predictive analytics with use case scenarios.

Unit- I

Introduction to Data Analytics: Introduction to Data analytics - Role of Data in Organization, Data lifecycle. (Data source, data changes, processes, usage) -Various Data Types - Significance of Analytics- Role of Data Analyst - Difference between Data analytics and Business Analytics – real-world data analytics examples.

Unit -II

Tools & Techniques: Typical Data Analysis Process - Data analytics techniques: Regression analysis, Factor analysis, Cohort analysis, Cluster analysis-Time-series analysis. Data analytics tools -Microsoft Excel, Tableau, SAS, RapidMiner, Power BI.

Unit -III Concepts of data cleaning - Data Visualization: Over view of Data visualization – Data Visualization tools, Statistical methods for summarizing data – How to create pivotal tables using excel - Exploring data using pivot table –Cross Tabulation _ Creating Charts: -1. Scatter charts, 2. Line charts, 3. Bar charts and column, 4. Pie Charts and 3-D charts, 4. Bubble charts, - Effective use of Dashboards, Power BI and Tableau.

Unit -IV Descriptive Analytics: Concept of Descriptive Analytics –Measures of central Tendency –Measuring and calculation of Arithmetic Mean, Mode, Median - Calculation of application of Weighted Arithmetic Mean, Geometric and Harmonic mean using MS Excel-Measures of Variability-Range, Variance, Standard Deviation, Coefficient of Variation using MS Excel

Unit -V Predictive Analytics: Karl Pearson Correlation Techniques - Spearman's Rank correlation -Simple and Multiple regression -Regression by the method of least squares – Building good regression models – Regression with categorical independent variables.

References:

1. R for Data Science: Import, Tidy, Transform, Visualize, and Model Data,Hadley Wickham & Garrett Grolemund.O'REILLY.
2. Mohiuddin Ahmed, Al-Sakib Khan Pathan, Data Analytics: Concepts, Techniques, and Applications, Taylor & Francis Group, 2020
3. James Evans, Business Analytics, 2e, Pearson, 2017.

4. Camm, Cochran, Fry, Ohlmann, Anderson, Sweeney, Williams Essential of Business Analytics, Cengage Learning, 2020.
5. Thomas Eri, Wajid Khattack & Paul Buhler: Big Data Fundamentals, Concepts, drVers and Techniques by Prentice Hall of India, New Delhi, 2015.
6. Akil Maheswari, Big Data, Upskill ahead by Tata McGraw Hill, New Delhi, 2016.

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
(Established by Govt. of A.P., ACT No.30 of 2008)
KAKINADA – 533 003 (A.P) INDIA
MBACOURSE STRUCTURE & SYLLABUS
(Applicable for batches admitted from 2024-25)

I Year II Semester

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CROSS CULTURAL MANAGEMENT

Objective:
The objective of this course is to enhance the ability of class members to interact effectively with people from cultures other than their own, specifically in the context of international business. The course is aimed at significantly improving the ability of practicing managers to be effective global managers.

Unit – I
Introduction – Concept of Culture for a Business Context; Brief wrap up of organizational culture & its dimensions; Cultural Background of business stakeholders [managers, employees, shareholders, suppliers, customers and others] – An Analytical framework.

Unit – II
Culture and Global Management – Global Business Scenario and Role of Culture. Framework for Analysis; Elements & Processes of Communication across Cultures; Communication Strategy for/ of an Indian MNC and Foreign MNC & High-Performance Winning Teams and Cultures; Culture Implications for Team Building.

Unit – III
Cross Culture – Negotiation & Decision Making – Process of Negotiation and Needed Skills & Knowledge Base – Overview with two illustrations from multicultural contexts [India – Europe/ India – US settings, for instance]; International and Global Business Operations-Strategy Formulation & Implementation; Aligning Strategy, Structure & Culture in an organizational Context.

Unit – IV
Global Human Resources Management – Staffing and Training for Global Operations – Expatriate – Developing a Global Management Cadre. Motivating and Leading; Developing the values and behaviours necessary to build high-performance organization personnel [individuals and teams included] – Retention strategies.

Unit – V

Corporate Culture – The Nature of Organizational Cultures Diagnosing the as is Condition; Designing the Strategy for a Culture Change Building; Successful Implementation of Culture Change Phase; Measurement of ongoing Improvement.

Relevant cases have to be discussed in each unit and in examination case is compulsory from any unit.

References:1. Cashby Franklin, Revitalize your corporate culture: PHI, Delhi

2. Deresky Helen, International Management: Managing Across Borders and Cultures, PHI, Delhi

3. Esenn Drlarry, Rchildress John, The Secret of a Winning Culture: PHI, Delhi

I Year II Semester

L	T	P	C
3	0	0	3

PROJECT MANAGEMENT

Objective:

The objective of this course is to enable the students to gain basic knowledge about the concept of project, project management, project life-cycle, project appraisal; to acquaint the students about various issues of project management.

1. To know the concept and element of the project
2. To understand various stages in project life cycles.
3. The objective of this course is to enable the students to gain basic knowledge about the concept of project.
4. Project management, project life-cycle, project appraisal.
5. Acquaint the students about various issues of project management.

Outcomes:

1. Best practice for increase profit and cost advantage
2,Enhance ability to planed implement and control the projects.
3.It's a technical toll for managing project completion
4.To provide investment strategies the project proposals.
5,Strength and relevant behavioural and leadership capabilities

Unit -I:

Basics of Project Management –Concept– Project environment – Types of Projects – Project life cycle – Project proposals – Monitoring project progress – Project appraisal and Project selection – Causes of delay in Project commissioning– Remedies to avoid overruns. Identification of Investment opportunities – Sources of new project ideas, preliminary screening of projects – Components for project feasibility studies.

Unit- II:

Market feasibility -Market survey – Categories of Market[38] survey – steps involved in conducting market survey – Demand forecasting techniques, sales projections., business environment for project management.

Unit- III:

Technical and Legal feasibility: Production technology, materials and inputs, plant capacity, site selection, plant layout, Managerial Feasibility Project organization and responsibilities. Legalities – Basic legal provisions. Development of Programme Evaluation & Review Technique (PERT) –Construction of PERT (Project duration and valuation, slack and critical activities, critical path interpretation) – Critical Path Method (CPM)

Unit -IV:

Financial feasibility – Capital Expenditure – Criteria and Investment strategies – Capital Investment Appraisal Techniques (Non DCF and DCF) – Risk analysis – Cost and financial feasibility – Cost of project and means of financing — Estimation of cash flows – Estimation of Capital costs and operating costs; Revenue estimation – Income – Determinants – Forecasting income –Operational feasibility - Breakeven point – Economics of working.

Unit- V:

Project Implementation and Review: Forms of project organization – project planning – project control – human aspects of project management – prerequisites for successful project implementation – project review – performance evaluation – abandonment analysis.

Relevant cases have to be discussed in each unit and in examination case is compulsory from any unit.

References:

1. Prasanna Chandra, "Projects, Planning, Analysis, Selection, Financing, Implementation and Review", Tata McGraw Hill Company Pvt. Ltd., New Delhi 1998.
2. Gido: Effective Project Management, 2e, Thomson, 2007.
3. Singh M.K, "Project Evaluation and Management".
4. Vasanth Desai, Project Management, 4th edition, Himalaya Publications 2018.
5. Clifford F. Gray, Erik W. Larson, "Project Management, the Managerial Emphasis", McGraw Hill, 2000.

I Year II Semester

L	T	P	C
3	0	0	3

LEAN MANAGEMENT

Objective:

To understand issues and challenges in implementing and development in lean manufacturing techniques from TPS and its contribution for improving organizational performance.

Unit- I

Introduction: Mass production system, Craft Production, Origin of Lean production system , Why Lean production , Lean revolution in Toyota , Systems and systems thinking , Basic image of lean production , Customer focus , Waste Management.

UNIT- II

Just in Time: Why JIT, Basic Principles of JIT, JIT system, Kanban, Six Kanban rules, Expanded role of conveyance, Production levelling, Three types of Pull systems, Value stream mapping. JIDOKA, Development of Jidoka concept, Why Jidoka, Poka, Yoke systems, Inspection systems and zone control – Types and use of Poka-Yoke systems, Implementation of Jidoka

UNIT -III

Kaizen: Six – Sigma philosophy and Methodologies,QFD, FMEA Robust Design concepts; SPC, QC circles standardized work in lean system, Standards in the lean system, 5S system.

UNIT -IV

Total Productive Maintenance: Why Standardized work, Elements of standardized work, Charts to define standardized work, Kaizen and Standardized Work Common layouts.

UNIT- V

Hoshin Planning & Lean Culture: Involvement, Activities supporting involvement, Quality circle activity, Kaizen training, Key factors of PKT success, Hoshin Planning System, Four Phases of Hoshin Planning, Why Lean culture – How lean culture feels.

References

1. Jeffrey Liker, The Toyota Way: Fourteen Management Principles from the World's Greatest Manufacturer, McGraw Hill, 2004.
2. Debashish Sarkar, Lessons in Lean Management,
3. Dale H., Besterfield , Carol, Besterfield, etal, Total Quality Management (TQM) 5e by Pearson 2018.

I Year II Semester

L	T	P	C
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DATA BASE MANAGEMENT SYSTEM

Objective:

The course is to present an introduction to database management systems, with an emphasis on how to organize, maintain and retrieve - efficiently, and effectively - information from a DBMS.

UNIT- I

Introduction to Database Systems: Data - Database Applications - Evolution of Database - Need for Database Management – Data models - Database Architecture - Key Issues and Challenges in Database Systems.

UNIT- II

ER and Relational Models: ER Models – ER to Relational Mapping –Object Relational Mapping - Relational Model Constraints - Keys - Dependencies - Relational Algebra - Normalization - First, Second, Third & Fourth Normal Forms - BCNF – Join Dependencies.

UNIT- III

Data Definition and Querying: Basic DDL - Introduction to SQL - Data Constraints - Advanced SQL - Views - Triggers - Database Security – Embedded & Dynamic SQL.

UNIT- IV

Transactions and Concurrency: Introduction to Transactions - Transaction Systems - ACID Properties - System & Media Recovery - Need for Concurrency - Locking Protocols – SQL for Concurrency – Log Based Recovery - Two Phase Commit Protocol - Recovery with SQL- Deadlocks & Managing Deadlocks.

UNIT- V

Advanced Topics in Databases: Indexing & Hashing Techniques - Query Processing & Optimization - Sorting & Joins – Database Tuning - Introduction to Special Topics - Spatial & Temporal Databases – Data Mining and Warehousing.

Relevant cases have to be discussed in each unit and in examination case is compulsory from any unit.

REFERENCES:

1. Abraham Silberschatz, Henry F. Korth, S. Sudharshan, ―Database System Concepts‖, Sixth Edition, Tata McGraw Hill, 2010.
2. Ramez Elmasri, Shamkant B. Navathe, ―Fundamentals of Database Systems‖, Sixth Edition, Pearson/Addison - Wesley, 2010.
3. C.J. Date, A. Kannan and S. Swamynathan, ―An Introduction to Database Systems‖, Pearson Education, Eighth Edition, 2006.
4. Raghu Ramakrishnan, ―Database Management Systems‖, Fourth Edition, McGraw Hill, 2015.

I Year II Semester

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R-PROGRAMMING LAB

OBJECTIVE:

After taking the course, students will be able to

- Use R for statistical programming, computation, graphics, and modeling,
- Write functions and use R in an efficient way,
- Fit some basic types of statistical models
- Use R in their own research,
- Be able to expand their knowledge of R on their own.

OUTCOMES:

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

• List motivation for learning a programming language
• Access online resources for R and import new function packages into the R workspace
• Import, review, manipulate and summarize data-sets in R
• Explore data-sets to create testable hypotheses and identify appropriate statistical tests
• Perform appropriate statistical tests using R Create and edit visualizations with

SYLLABUS:

UNIT-I:

All the theory content here below shall be executed with examples.

Introduction, how to run R, R Sessions and Functions, Basic Math, Variables, Data Types, Vectors, Conclusion, Advanced Data Structures, Data Frames, Lists, Matrices, Arrays, Classes.

UNIT-II:

All the theory content here below shall be executed with examples.

R Programming Structures, Control Statements, Loops, - Looping Over Non vector Sets, - If-Else, Arithmetic and Boolean Operators and values, Default Values for Argument, Return Values, Deciding Whether to explicitly call return- Returning Complex Objects, Functions are Objective, No Pointers in R, Recursion, A Quicksort Implementation-Extended Extended Example: A Binary Search Tree.

UNIT-III:

All the theory content here below shall be executed with examples.

Doing Math and Simulation in R, Math Function, Extended Example Calculating Probability-Cumulative Sums and Products-Minima and Maxima- Calculus, Functions Fir Statistical Distribution, Sorting, Linear Algebra Operation on Vectors and Matrices, Extended Example:

Vector cross Product- Extended Example: Finding Stationary Distribution of Markov Chains, Set Operation, Input /output, Accessing the Keyboard and Monitor, Reading and writer Files,

UNIT-IV:

All the theory content here below shall be executed with examples.

Graphics, Creating Graphs, The Workhorse of R Base Graphics, the plot () Function – Customizing Graphs, Saving Graphs to Files.

UNIT-V:

All the theory content here below shall be executed with examples.

Probability Distributions, Normal Distribution- Binomial Distribution- Poisson Distributions Other Distribution, Basic Statistics, Correlation and Covariance, T-Tests, -ANOVA.

REFERENCE BOOKS:

1) The Art of R Programming, Norman Matloff, Cengage Learning
2) R for Everyone, Lander, Pearson
3) R Cookbook, PaulTeetor, Oreilly
4) R Programming By Dr.T. Murali Mohan, S.Chand Publications.
5) Garrett Grolemund, Hands on Programming with R, Oreilly

I Year II Semester

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IT LAB (SPREAD SHEETS AND SQL)

UNIT- I

Introduction to Information Technology, Classification of Software - Basics of MS Word and Basics of MS PowerPoint.

UNIT –II

The MS Excel interface, Formatting Cells, Data Entry- Inserting, Deleting, Selecting, Copying, Cutting, and Pasting. Methods of applying Formulas. Basic calculations.

UNIT- III

Conditional Formatting, Cell References & addressing, Conditional functions, IF functions, - Look up functions, Sorting & Filtering Data.

UNIT- IV

Demonstrating Statistical Functions and Financial functions in excel,
Different types of Charts preparation and representation.

UNIT- V

Introduction to SQL – SQL commands, Data types, Creating Tables. SQL constraints.
Functional queries.

Reference:

1) Excel: Quick Start Guide from Beginner to Expert (Excel, Microsoft Office)- by William Fischer
2) Peeking into computer science- Excel Lab Manual- Jalal Kawash
3) SQL Tutorial (w3schools.com)

I Year II Semester

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ENTREPRENEUR PROJECT

BIG DATA ANALYTICS

III SEMESTER

S. No	Course Code	SUBJECT TITLE
1	EBDA-301	SOCIAL & WEB ANALYTICS
2	EBDA-302	HR ANALYTICS
3	EBDA-303	OPERATIONS AND SUPPLY CHAIN ANALYTICS
4	EBDA-304	MARKETING ANALYTICS – I
5	EBDA-305	RETAIL ANALYTICS – I

IV SEMESTER

S. No	Course Code	SUBJECT TITLE
1	EBDA-401	BUSINESS INTELLIGENCE
2	EBDA-402	MACHINE LEARNING
3	EBDA403	DESIGN AND ANALYSIS OF ALGORITHMS
4	EBDA-404	SOFTWARE PROJECT MANAGEMENT
5	EBDA-405	DATA VISUALIZATION

SOCIAL & WEB ANALYTICS (EBDA-301)

Course Objective: Familiarize the learners with the concept of social media analytics and understand its significance. • Familiarize the learners with the tools of social media analytics. • Enable the learners to develop skills required for analyzing the effectiveness of social media for business purposes

UNIT-I:
Introduction to Social Media Analytics – Importance, Social Media Audience, Analytics Audience Insights, Social Media Audit & Setting Benchmarks, Making Actionable Recommendations, Brand Lift and Conversion Studies, Identifying Opinions through Sentiment Analysis and Topic Modeling

UNIT–II:
Emerging Analytics: Social Analytics – Data challenge, twitter revolution, analyzing offline customer experiences, analyzing mobile customer experiences, Quantifying the impact of Twitter, Hidden web analytics traps – accuracy or precision, Dealing with data quality, Challenges in Online data mining and Predictive Analytics

UNIT–III:
Introduction to Web Analytics: Concept of web analytics, Importance and benefits of Web Analytics, Web Metrics – Visits and Visitors, Time on page and Time on site, Bounce Rate, Exit Rate, Conversion rate, Engagement, Attributes of metrics,

UNIT–IV:
Clickstream Analysis and KPI's: Understanding the web metrics of a web site, Producing web analytics report, Foundational Analytical strategies – Segmentation, Focus on Customer Behavior, Different Clickstream Analysis, Web analytics challenges

UNIT–V:
Leveraging Qualitative Data, Testing and Experimentation: Lab Usability Studies, Usability Alternatives, Surveys, Web-enabled emerging user research options, Testing – A/B Testing, Multivariate Testing, Actionable Testing ideas, Controlled Experiments, Competitive Intelligent Analysis – CI data sources, types and secrets, web traffic analysis, search and keyword analysis

Reference Books:

1. Clifton B., Advanced Web Metrics with Google Analytics, Wiley Publishing, Inc.2nd ed. 2. Kaushik A., Web Analytics
2. The Art of Online Accountability and Science of Customer Centricity, Wiley Publishing, Inc. 1st ed.
3. Sterne J., Web Metrics: Proven methods for measuring web site success, John Wiley and Sons

HR ANALYTICS (EBDA-302)

Course Objective: Observe HR issues from an operational and a highly strategic perspective. It will enable you to comprehensively understand the fundamental principles of modern business models and facilitate the creation and implementation of future-ready HR strategies that are in sync with recruitment practices ideal for the future workforce.

UNIT-I:
Meaning of Analytics: Classification; Importance HCMs; Role and Perspective of HCMs.

UNIT-II:
The HCM Model: The Employee Value Proposition; Compensation, Attracting, Motivating and retaining employees now and in the future.

UNIT-III:
The new face of work force planning; The workforce planning; segmentation of skills, The business playbook; the contents and process of creating a playbook.

UNIT-IV:
Quality employee engagement: Employee Engagement Definition and Measurement; Engagement Drivers; Disorder and Disengagement; Behavior Based Signs of Departure, Event based Signs of Departure, Data based Signs of Departure;

UNIT-V:
Meaning of Metrics: The our Human Capital Performance Metrics; The Second Generation and Third Generation Metrics Connecting the Metrics; Predictive Analytics for Human Capital Management.

References

1. Moore, McCabe, Duckworth, and Alwan. The Practice of Business Statistics: Using Data for Decisions, Second Edition, New York: W.H.Freeman, 2008.
2. Predictive analytics for Human Resources, Jac Fitz- enz, John R. Mattox, II, Wiley, 2014.
3. Human Capital Analytics: Gene Pease Boyce Byerly, Jac Fitz-enz, Wiley,2013.
4. The HR Scorecard: Linking People, Strategy, and Performance, by Brian E. Becker, Mark A. Huselid, Mark A Huselid, David Ulrich, 2001.
5. HR Analytics: The What, Why and How, by Tracey Smith The New HR Analytics: Predicting the Economic Value of Your Company's Human By Jac FITZ-ENZ, 2010.

OPERATIONS AND SUPPLY CHAIN ANALYTICS (EBDA-303)

Courses Objectives: In present time of intense global competition, customers are demanding more and more variety, with better quality and service at lowest cost. This means that in order to be successful, firms need to develop supply chain strategies and logistical capabilities that serve the needs of their customers whilst maximizing overall profitability. All supply chains, in order to function properly, must focus on the huge opportunity that exists in their analytics.

Unit 1:
Descriptive Analysis using R: Computing an overall summary of a variable and an entire data frame, summary() function, sapply() function, stat.desc() function, Case of missing values, Descriptive statistics by groups, Simple frequency distribution: one categorical variable, Two-way contingency table: Two categorical variables, Multiway tables: More than two categorical variables.

Unit 2:
Basic Concept in R: Data Structure, Import of Data. Graphic Concept in R: Graphic System, Graphic Parameter Settings, Margin Settings for Figures and Graphics, Multiple Charts, More Complex Assembly and Layout, Font Embedding, Output with cairo_pdf, Unicode in figures, Colour settings, R packages and functions related to visualization.

Unit 3:
Visualization of Categorical Data in R: Bar Chart Simple, Bar Chart with Multiple Response Questions, Column Chart with two-line labeling, Column chart with 45o labeling, Profile Plot, Dot Chart for 3 variables, Pie Chart and Radial Diagram, Chart Tables.

Unit 4:
Distributions: Histogram overlay, Box Plots for group, Pyramids with multiple colors, Pyramid: emphasis on the outer and inner area, Pyramid with added line, Aggregated Pyramids, Simple Lorenz curve.

Unit 5:
Shot Time Series, Areas underneath and between time series, presentation of daily, weekly and monthly values, Exceptions and Special cases in Time series, Scatter Plot for Four Quadrants differentiated by colors, Scatter Plot for Outliers Highlighted, Scatter Plot for Areas Highlighted, Exceptions and Special cases in Scatter Plot

Reference Books:

1. Data Visualization with R 100 Examples by Thomas Rahlf, Springer 2. Using R for Introductory Statistics, By John Verzani, CRC Press
2. Davis,Pecar – Business Statistics using Excel, Oxford
3. Ken Black – Business Statistics, 5th ed., Wiley India
4. Chandrasekaran & Umaparvathi-Statistics for Managers, 1st edition, PHI Learning
5. Big Data Visualization, James D. Miller, Packt Publishing Ltd.

MARKETING ANALYTICS (EBDA-304)

Course objective: this COURSE you will develop in- **Demand - marketing** and analytics that will help you enhance and optimise your organisation's business strategies and benefit from one of the most sought-after professions today

UNIT-I:

Introduction to Metrics: Share of Hearts Minds and Markets Market Share, Relative Market share, Market concentration, Brand Development Index, Category Development Index, Penetration, Share of requirements, Heavy Usage Index, Awareness Attitudes and usage, Customer satisfaction ,Willingness to recommend Net promoter, Willingness to search.

UNIT-II:

Product and Portfolio Management: Trial, Repeat ,Penetration and volume projections, Growth Percentage and CGR, Cannibalization Rate and Fair share draw rate, Brand equity Metrics, Conjoint utilities and consumer preference, Segmentation and conjoint utilities, Conjoint utilities and volume projections.

UNIT-III:

Margins and Profits: Margins ,Selling Price and Channel Margins Average Price per unit and price per statistical unit, Variable costs and fixed costs, Marketing spending-Total, fixed and variable, Breakeven analysis and contribution analysis ,Target Volume.

UNIT-IV:

Advertising Media and web metrics: Advertising Impressions, gross rating, points and opportunities to see, Cost per thousand impressions, Reach net reach and frequency, hare of voice, Impressions page views and hits, Rich Media Display time, Rich Media Interaction rate, Click through rates, Cost per impressions, Cost per click and cost of acquisition, Visits, Visitors and abandonment bounce rate, Friends ,followers and supporters, downloads.

UNIT-V:

Promotion: Baseline sales , Incremental sales, and promotional lift, Redemption rates for coupons/rebates, Percent sales on deal Percent time on deal and average deal depth, Pass through and price waterfall.

Reference Books

1. Stephan Sorger, –—MarkStrategicng ModelsAnalyticsand Metri 2013.
2. Mark Jeffery, —Data Driven Marketing:should The know‖, Wiley, 2013.
3. Paul W. Farris, Neil T. Bendle, Phillip E. The Definitive Guide to Measuring Marketin

RETAIL ANALYTICS 1 (EBDA-305)

Objective: a retail merchant has many day to day, and long term challenges that must be managed at the same time. As IT technologies have matured, tremendous investments have been made solving both the tactical and strategic business operations problems. For the retailer recently considering the retail analytics landscape, it appears quite fragmented and difficult for to determine where to start and which solutions they should consider

Unit-1
Retail Analytics Survey This report details the market survey and recommendation for choosing a retail analytics solution with a landscape analysis and four examples of budget and benefit analysis. Research was conducted using in person interviews, internet research from the retail leader point of view using internet search engines, and a synthesis of findings within the team discussions.

Unit-2
Analysis Framework Thirty five companies were investigated for analytics capabilities useful to retail businesses and their offerings categorized according to where they contributed in the retail business model-The Tickto model has 5 categories strategy and planning, store operations, marketing, supply chain, and merchandising

Unit -3
spend level The original project scoping proposed three target spend levels for analysis $10K, $100K, and $1M. In the course of this investigation it was discovered that there were some companies that were positioning "free". Typically, this was an entry path to paid services so a Freemium category was added.- The Lokad pricing model is quite interesting in that they claim all features are included in every plan

Unit-4
Merchandising. Merchandise financial planning. Plan and manage sales, margin and inventory turns across all categories and channels. Merchandise inseason management. Set datadriven financial performance goals and match inventory to inseason demand.- Pricing Regular price optimization. Set the best price for every item you sell based on multiple factors – the competition, your goals, business rules, ad placement, etc. – at a customer, market or store level. React quickly – and correctly – to changes in the market

Unit -5
SAS At the very high end, companies such as SAS and SAP are offering solutions that cover all aspects of business (in this case retail business), not just analytics. This leads to a more integrated analytics offering that can provide a richer capability for the end customer. In return, due to complexity of the offering and wide range of capabilities, companies who are in this budget range will need more specialized workforce, such as data scientists, sophisticated IT and security infrastructure, a development team, and business analysts.

Reference Books:

1. Supply chain management by Sunil Chopra, and Peter Meindl, Pearson
2. Jeremy F. Shapiro. Modeling the Supply Chain. Duxbury Thomson Learning
3. D. Simchi-Levi, P. Kaminsky, E. Simchi-Levi, and Ravi Shankar, Designing and Managing the Supply Chain concepts, Strategies and Case studies, Third Edition, Tata McGraw Hill, New Delhi, 2008.
4. Rahul Saxena • Anand Srinivasan, Business Analytic

BUSINESS INTELLIGENCE (EBDA-401)

Course objective; this COURSE you will develop in- **BUSINESS INTELLIGENCE** and analytics that will help you enhance and optimise your organisation's business strategies and benefit from one of the most sought-after professions today.

UNIT-I:
Introduction to Business Analytics and Data warehouse: Concept of Business Analytics and Business Intelligence Systems, concept of data warehouse, characteristics of data warehouse, data warehouse architecture, data pre processing, tools for extraction, clean up and transformation

UNIT-II:
Online Analytical Processing: Concepts of OLTP and OLAP, multidimensional analysis - MOLAP, ROLAP, Data Warehouse development - Data Cubes, Fact tables, Dimension Tables, Dimension Schema, Star Schema and Snow flake Schema.

UNIT-III:
Introduction to Data Mining: Concept, KDD process, benefits of data mining, steps in data mining, data mining for business problems.

UNIT-IV:
Data Mining Tasks: Market Basket Analysis, predictive models, cluster analysis, text mining, web mining, selecting and using the right technique.

UNIT-V:
Big Data: Concept of big data, significance, business applications of big data, introduction to Apache Hadoop, business performance management - performance measurement, metrics, KPIs and business activity monitoring(BAM).

Reference Books:

1. Digital Image Processing – by Rafael.C.Gonzalez & Richard E.Woods, 3rd edition, Pearson Education, 2008
2. Fundamentals of Digital Image Processing – by A.K. Jain, PHI
3. Digital Image Processing – William K, Part I - John Wiley edition.
4. Digital Image Processing using MATLAB – by Rafael.C.Gonzalez, Richard E.Woods, & Steven 6. L.Eddins, Pearson Education, 2006

MACHINE LEARNING (EBDA-402)

OBJECIVE : • To introduce students to the basic concepts and techniques of Machine Learning. • To have a thorough understanding of the Supervised and Unsupervised learning techniques • To study the various probability based learning techniques • To understand graphical models of machine learning algorithms

UNIT I INTRODUCTION - Learning – Types of Machine Learning – Supervised Learning – The Brain and the Neuron – Design a Learning System – Perspectives and Issues in Machine Learning – Concept Learning Task – Concept Learning as Search – Finding a Maximally Specific Hypothesis – Version Spaces and the Candidate Elimination Algorithm – Linear Discriminants – Perceptron – Linear Separability – Linear Regression.

UNIT II LINEAR MODELS - Multi-layer Perceptron – Going Forwards – Going Backwards: Back Propagation Error – Multi-layer Perceptron in Practice – Examples of using the MLP – Overview – Deriving Back-Propagation – Radial Basis Functions and Splines – Concepts – RBF Network – Curse of Dimensionality – Interpolations and Basis Functions – Support Vector Machines

UNIT III TREE AND PROBABILISTIC MODELS - Learning with Trees – Decision Trees – Constructing Decision Trees – Classification and Regression Trees – Ensemble Learning – Boosting – Bagging – Different ways to Combine Classifiers – Probability and Learning – Data into Probabilities – Basic Statistics – Gaussian Mixture Models – Nearest Neighbor Methods – Unsupervised Learning – K means Algorithms – Vector Quantization – Self Organizing Feature Map

UNIT IV DIMENSIONALITY REDUCTION AND EVOLUTIONARY MODELS - Dimensionality Reduction – Linear Discriminant Analysis – Principal Component Analysis – Factor Analysis – Independent Component Analysis – Locally Linear Embedding – Isomap – Least Squares Optimization – Evolutionary Learning – Genetic algorithms – Genetic Offspring: - Genetic Operators – Using Genetic Algorithms – Reinforcement Learning – Overview – Getting Lost Example – Markov Decision Process

UNIT V GRAPHICAL MODELS - Markov Chain Monte Carlo Methods – Sampling – Proposal Distribution – Markov Chain Monte Carlo – Graphical Models – Bayesian Networks – Markov Random Fields – Hidden Markov Models – Tracking Methods

REFERENCES:

1. Stephen Marsland, ―Machine Learning – An Algorithmic Perspective‖, Second Edition, Chapman and Hall/CRC Machine Learning and Pattern Recognition Series, 2014.
2. Tom M Mitchell, ―Machine Learning‖, First Edition, McGraw Hill Education, 2013.
3. Peter Flach, ―Machine Learning: The Art and Science of Algorithms that Make Sense of Data‖, First Edition, Cambridge University Press, 2012.
4. Jason Bell, ―Machine learning – Hands on for Developers and Technical Professionals‖, First Edition, Wiley, 2014
5. Ethem Alpaydin, ―Introduction to Machine Learning 3e (Adaptive Computation and Machine Learning Series)‖, Third Edition, MIT Press, 2014

DESIGN AND ANALYSIS OF ALGORITHMS (EBDA-403)

OBJECTIVES: • To study the various ways of analyzing algorithms • To understand the need for asymptotic notations • To understand the various algorithm design techniques • To understand string matching algorithms • To learn about NP class of problems and their variations

UNIT I ANALYSING ALGORITHMS The Role of Algorithms in Computing - Growth of Functions – Recurrences - The Substitution Method - The Recurrence Tree Method - The Master Method - Probabilistic Analysis and Randomized Algorithms – Amortized Analysis – Aggregate Analysis – Accounting Method

UNIT II- DIVIDE AND CONQUER & GREEDY DESIGN STRATEGIES 9 Analysis of Quick Sort, Merge Sort – Quick Sort Randomized Version – Sorting in Linear Time - Lower Bounds for Sorting - Selection in Expected Linear Time - Selection in Worst case Linear Time – Greedy Algorithms - Elements of Greedy Strategy - Huffman Code, Dijkstra‘s Shortest Path Algorithm.

UNIT III DYNAMIC PROGRAMMING AND OTHER DESIGN STRATEGIES Dynamic Programming – Matrix Chain Multiplication - Elements of Dynamic programming – Longest Common Sequences – Warshall‘s and Floyds Algorithm – Transitive Closure - All Pairs Shortest Path Algorithm – Analysis – Backtracking – Graph Coloring Problem - Branch and Bound Strategy - Knapsack Problem.

UNIT IV FLOW NETWORKS AND STRING MATCHING Flow Networks – Ford Fulkerson Method - String Matching - Naive String Matching Algorithm – Knuth Morris Pratt Algorithm - Analysis.

UNIT V NP PROBLEMS NP-Completeness – Polynomial Time Verification – Theory of Reducibility - Circuit Satisfiability – NP - Completeness Proofs – NP Complete Problems: Vertex Cover, Hamiltonian Cycle and Traveling Salesman Problems – Approximation Algorithms – Approximation Algorithms to Vertex - Cover and Traveling Salesman Problems

REFERENCES:

1. Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, Cliford Stein, ―Introduction to Algorithms‖, Third Edition, Prentice Hall, 2010.
2. Ellis Horowitz, Sartaj Sahni and Sanguthevar Rajasekaran, ―Fundamentals of Computer Algorithms‖, Second Edition, Universities Press, 2008.
3. Kenneth A. Berman and Jerome L. Paul, ―Algorithms‖, Cengage Learning India, 2010
4. Alfred V Aho, John E Hopcroft and Jeffrey D Ullman, ―The Design and Analysis of Computer Algorithms‖, First Edition, Pearson Education, 2006.

SOFTWARE PROJECT MANAGEMENT (EBDA-404)

Course Objective: Understand the process groups and nine knowledge areas of the Understand approaches for managing and optimizing the software development process o Understand efficient techniques for managing each phase of the systems development lifecycle o Use and application of tools to facilitate the software project management process (e.g. Microsoft Project)

UNIT-I:
Introduction to Software Project Management: Software project features, problems with software projects, need for software project management, evaluation of different projects - technical evaluation, cost-benefit analysis and evaluation techniques, risk evaluation, project selection, project planning - an overview of stepwise project planning.

UNIT-II:
Managing Human Resources: Role of project manager, building a project team, dealing with issues, project development models - Waterfall model, V- process, Spiral Model and Agile Development Model, software prototyping, incremental models, object oriented model, selecting the appropriate model.

UNIT-III:
Software Effort Estimation: Software effort estimation technique, function point analysis, COCOMO model, activity planning, project scheduling, network planning model, creating activity network, identifying critical activities, identifying critical path.

UNIT-IV:
Risk Management: Risk identification, risk assessment, risk planning, risk management, resource allocation - identifying resources requirements, scheduling resources.

UNIT-V:
Project Monitoring and Control: Evaluate progress of project, cost monitoring, project control, software quality assessment, significance of software quality, software quality metrics, quality management, software testing - introduction to testing tools.

References:

1. A Practitioner's Guide to Test Case Design by LEE Copland, Artech House Publishers, Boston - London.
2. Software Testing – A Craft's man Approach, Paul C. Jorgensen, A CRC Press LLC.
3. Software Quality Theory and Management by Alan C. Gillies, Chapman & Hall.
4. Software Quality by Galrry S. Marliss , Thomson.
5. Metrics and Models in Software Quality Engineering by Stephen H. Kan , Pearson Education.
6. Handbook of Software Quality Assurance by G. Gordon Sculmeyer, Artech House Publishers, Boston –London

DATA VISUALIZATION (EBDA-405)

Course Objective: Business has simply become more **digital**, more **global** and more **sustainable**. An international and forward-looking mindset, as well as the ability to lead people effectively through change and technological innovation are highly sought-after leadership traits.

UNIT–I: Introduction to Visualization: Concept and importance of data visualization, Choosing appropriate visual encodings – ordering of items, number of distinct values, structure of visualization, Positioning - Placement and Proximity, Graphs and Layouts, Colors, Size, Text and Typography, Shape, Lines

UNIT–II: Charts in Tableau: Introduction to Tableau, Connecting to Data Source: Text Files, Excel, Access, other databases, merging multiple data sources, Univariate Charts, Bivariate Charts, Multivariate Charts and Maps

UNIT–III: User defined fields and Customization: Using predefined fields, calculating percentages, applying if-then logic, applying logical functions, showing totals and percentages, discretizing data, manipulating text, aggregate data, Customization in Tableau

UNIT–IV: Data Visualization with Power BI: Introduction to Power BI, Primary tools of Power BI, Reports in BI, Charts in BI, Slicers, Map Visualizations

UNIT–V: Dashboards and Customization with Power BI: Dashboard Vs reports, Creating a dashboard, Dashboard Tiles, Pinning Tiles, Custom Visualization

Reference Books:

1. Software design, David Budgen, second edition, Pearson education, 2003.
2. Software Engineering: A practitioner's Approach, Roger S Pressman, seventh edition Mc-Graw Hill International Edition, 2009.
3. Software Engineering, Ian Sommerville, seventh edition, Pearson education,2004.
4. Software Project Management, Bob Hughes & Mike Cotterell, fourth edition,Tata Mc-Graw Hill,2006
5. The art of Project management, Scott Berkun, O'Reilly, 2005.