

PUNJAB TECHNICAL UNIVERSITY KAPURTHALA

Scheme and Syllabus of Masters in Business Administration (MBA)

Batch 2012 onwards

**By
Board of Studies Business Administration**

First Semester

Contact Hours: 36Hrs.

Course Code	Course Title	Load Allocation			Marks Distribution		Total Marks	Credits
		L	T	P	Internal	External		
MBA 101	Principles and Practices of Management	4	1	-	40	60	100	5
MBA 102	Organizational Behaviour	4	1	-	40	60	100	5
MBA 103	Accounting for Management	4	1	-	40	60	100	5
MBA 104	Quantitative Techniques	4	1	-	40	60	100	5
MBA 105	Managerial Economics	4	1	-	40	60	100	5
MBA 106 *	Business Communication	3	2	-	40	60	100	5
MBA 107 *	Information Technology for Management	3	2	-	40	60	100	5
MBA 108	Viva Voce	-	-	-	-	50	50	2
Total		28	7	-	280	470	750	37

Second Semester

Contact Hours: 34 Hrs

Course Code	Course Title	Load Allocation			Marks Distribution		Total Marks	Credits
		L	T	P	Internal	External		
MBA 201	Business Environment	4	1	-	40	60	100	5
MBA 202	Production and Operation Management	4	1	-	40	60	100	5
MBA 203	Human Resource Management	4	1	-	40	60	100	5
MBA 204	Marketing Management	4	1	-	40	60	100	5
MBA 205	Financial Management	4	1	-	40	60	100	5
MBA 206	Research Methodology	4	1	-	40	60	100	5
BTHU 101*	Human Values and Professional Ethics	3	-	-	40	60	100	3
MBA 207	Viva Voce	-	-	-	-	50	50	2
Total		27	6	-	280	470	750	35

Third Semester

Contact Hours: 32 Hrs.

Course Code	Course Title	Load Allocation			Marks Distribution		Total Marks	Credits
		L	T	P	Internal	External		
MBA 301	Management Information System	4	1	-	40	60	100	5
MBA 302	Corporate Legal Environment	4	1	-	40	60	100	5
MBA XXX***	Specialization I	4	1	-	40	60	100	5
MBA XXX***	Specialization II	4	1	-	40	60	100	5
MBA XXX***	Specialization -III	4	1	-	40	60	100	5
MBA XXX***	Specialization -IV	4	1	-	40	60	100	5
MBA 307**	Presentation on Training Reports	3	-	-	100	-	100	2
MBA 308	Viva Voce	-	-	-	-	50	50	2
Total		27	6	-	300	450	750	33

Fourth Semester

Contact Hours: 33 Hrs

Course Code	Course Title	Load Allocation			Marks Distribution		Total Marks	Credit
		L	T	P	Internal	External		
MBA 401	Strategic Management	4	1	-	40	60	100	5
MBA 402	Entrepreneurship and Managing Small Medium Business	4	1	-	40	60	100	5
MBA XXX***	Specialization I	4	1	-	40	60	100	5
MBA XXX***	Specialization II	4	1	-	40	60	100	5
MBA XXX***	Specialization III	4	1	-	40	60	100	5
MBA XXX***	Specialization IV	4	1	-	40	60	100	5
MBA 407	Research Project Report	-	-	-	-	100	100	2
MBA 408	Viva Voce	-	-	-	-	50	50	2
Total		24	6	-	240	510	750	34

XXX represents the subject code as per specialization

* The internal assessment of this course is based on the report to be prepared individually by the students. Such reports may be checked and signed by external examiner / University official at the time of subject viva voce examination.

** The experts from industry/ academia may be invited for evaluation.

Note: The viva voce examination of MBA 308 will be held on the basis of Sumer Training report and other subjects of 3rd semester. Such reports may be checked and signed by external examiner at the time of subject viva voce examination.

The student can opt for either **Super specialization** or **Dual combination**.

- **In Super specialization the student will study the following subjects**

Semester III; 04 subjects and Semester IV 04 subjects

- **In Dual specialization the student will study the following subjects**

Semester III; 2+2 and Semester IV 2+2

The student may opt for either super specialization or dual specialization.

The students opting for super specialization must study 04 subjects of the chosen specialization in Semester III and Semester IV. Thus student must opt for 08 subjects in all specialization either as super specialization or as a dual must study these subjects in the respective semester.

The student opting for dual specialization must study 02 subjects of each of these specializations in Semester III and Semester IV. Thus the student must study a total of 04 subjects of each specialization.

In Semester III two subjects each from 02 specializations. In semester IV two subjects each from 02 specializations.

***** Semester III (Specialization)**

Marketing (Compulsory)

MBA 901 (M) Consumer Behaviour

MBA 902 (M) Advertising Management

Marketing (Optional)

MBA 903 Product and Brand Management

MBA 904 Retail and Franchising

MBA 905 Rural and Industrial Marketing

Finance (Compulsory)

MBA 921 Security Analysis and Portfolio Management

MBA 922 Management of Financial Services

Finance (Optional)

MBA 923 Direct Tax Planning

MBA 924 Strategic Financial Management

MBA 925 Treasury and Credit risk Management

Operations (Compulsory)

MBA 941 Production Planning and Control

MBA 942 Quality Management

Operations (Optional)

MBA 943 Materials Management

MBA 944 Project Management

Human Resource Management (Compulsory)

MBA 961 Social Security & Labour Welfare

MBA 962 Training & Development

Human Resource Management (Optional)

MBA 963 Industrial/Organizational Psychology

MBA 964 Manpower planning

MBA 965 Conflict Management

Information Technology (Compulsory)

MBA 981 Programming in C

MBA 982 Relational Database Management System

Information Technology (Optional)

MBA 983 Software Engineering

MBA 984 Enterprise Resource Planning

MBA 985 Data Mining and Pattern Recognition

***** Semester IV (Specialization)**

Marketing (Compulsory)

MBA 906 (M) Service Marketing

MBA 907 (M) International Marketing

Marketing (Optional)

MBA 908 Sales and Distribution Management

MBA 909 Logistics Management

MBA 910 Customer Relationship Management

Finance (Compulsory)

MBA 926 International Finance

MBA 927 Banking and Insurance Operations

Finance (Optional)

MBA 928 Global and Capital Market

MBA 929 Banking and Insurance Operations

MBA 930 Financial Engineering

Operations (Compulsory)

MBA 945 Logistics Management

MBA 946 Applied Operation Research

Operations (Optional)

MBA 947 Technology Management

MBA 948 Manufacturing Policy and Implementation

Human Resource Management (Compulsory)

MBA 966 Organization Development

MBA967 International Resource Management

Human Resource Management (Optional)

MBA968 Industrial Relations and Labour Laws

MBA 969 Negotiation and Bargaining

MBA 970 Stress Management

Information Technology (Compulsory)

MBA 986 Programming in C++

MBA 987 E-commerce and Cyber Securities

Information Technology (Optional)

MBA 988 Software Engineering

MBA 989 Visual Programming

MBA 990 Introductions to Computer Networks

Instruction to Paper Setter

The question paper will consists of three parts:

Part A (20 marks): This section will have 6 questions covering the whole syllabus carrying 05 marks each. The student has to attempt any 04 questions.

Part B (32 marks): This section will consist of 04 sub sections. Each section consists of 02 questions from the each unit of the syllabus. The student has to attempt one question each subsection. Each question carrying 08 marks.

Part C (08 marks): This section will consist of one case study of 8 marks

MBA101 Principles & Practices of Management

Objective: This course presents a thorough and systematic coverage of management theory and practice. The course aims at providing fundamental knowledge and exposure of the concepts, theories and practices in the field of management. It focuses on the basic roles, skills and functions of management, with special attention to managerial responsibility for effective and efficient achievement of goals.

Unit I

Introduction: Definition, nature, scope, importance, Functions of management and manager, Managerial roles and skills, Managerial ethics: need, importance, classification and ethical dilemma, Corporate social responsibility: concept, need, tools and strategies. **Evolution of management thought and Management thinkers.** Scientific Management, General administrative theories, Quantitative approach, Behavioral approach, Systems approach, Contingency approach.

Unit II

Planning: Importance, types of plans, and process of planning, business forecasting. Concept, importance, benefits, limitations and process of Managing by Objectives. **Strategic management** : Nature, importance, purpose, types, process and major kinds of strategies. **Decision-Making:** Importance, types, steps and approaches, Decision Making in various conditions, decision tree.

Unit III

Organizing: Concept, types, structure and process of organization, Bases of departmentation, Line & Staff concept; problems of use of staff & ways to avoid line-staff conflict. Authority & power :-concept, responsibility and accountability. **Delegation:** concept, importance, factors affecting delegation, Reasons for failure and ways to make delegation effective, Span of Management. **Decentralization vs centralization:** concept, reasons types and advantage vs disadvantages of decentralization. **Coordination:** Concept, importance, difficulties and techniques to ensure effective coordination.

Unit IV

Control: Concept, importance, characteristics, planning-control relationship, process of control –setting objectives, establishing standards, measuring performance, correcting deviations, types, process and techniques of control, **Comparative study:** Comparative study of main features of Japanese Management and Z-culture of American Companies, Chinese Style Management, **Modern management techniques:** an overview of various latest techniques: Business process Re engineering, business outsourcing, benchmarking, knowledge management, total quality management process, McKinsey's 7-S Approach, E-Business Management.

Note : Relevant Case Studies should be discussed in class.

Suggested Readings /Books:

- Heinz Weihrich, Cannice & Koontz, *Management (A Global Perspective)*, Tata McGraw Hill
- Griffin, *Management: Principle & Applications*, Cengage Learning
- Stephen Robbins & Coulter Mary, *Management*, Pearsons Education
- V S P Rao & V H Krishna, *Management*, Excel Books
- P.Subba Rao, *Principles of Management*, Himalaya Publishing
- Dubrin, *Management: Concepts & Cases*, Cengage Learning
- Daft, *Principles of Management*, Cengage Learning
- Ferrell, *Business: A Changing World*, Tata McGraw Hill
- Mukherjee, *Principles of Management and Organisational behaviour*, Tata McGraw Hill.

MBA102Organisational Behaviour

Objectives: The course aims to provide an understanding of basic concepts, theories and techniques in the field of human behaviour at the individual, group and organizational levels in the changing global scenario. The course must be taught using case study method.

Unit-I

Organizational Behavior: What managers do, Definition of OB, contributing disciplines to OB, challenges and opportunities for OB. **Foundations of Individual Behavior:** biographical characteristics, **Learning,** Theories of Learning, **Attitudes,** Attitude Change, **Values & Believes , Prejudices, Personality:** Determinants of Personality, **Perception,** Attribution Theory, Person's Perception.

Unit-II

Motivation: Definition & Process of Motivation, Early Theories of Motivation, Contemporary Theories of Motivation, Nature and process of Motivation, Application of Motivation Concept. **Job Satisfaction:** Nature & Significance of Job satisfaction,

Leadership: Theories of Leadership; Leadership Effectiveness Model; Leadership in Indian Culture; Nature & Significance of Leadership; Leadership traits & Skills; Behavioral Styles in Leadership. Transactional Analysis, Life Position, Johari Window Model.

Unit-III

Foundations of Group Behavior: Nature & Concept of Group Formation, Stages of Group Formation, Theories of Group Formation. **Teams** Difference between Group & Team. **Group Decision Making:** Meaning & Nature; Decision making in groups; Decision making process; Steps in Decision making; Decision Making Styles; Advantages & disadvantages of Decision Making; Techniques of Decision Making; Group Size & Decision Making; Consensus Decision Making in Groups. **Conflict Management:** Definition of Conflict, transitions in Conflict thought; Functional Vs Dysfunctional Conflict; Conflict Process; Individual & Group Level Conflict; Organization level Conflict; Conflict Management; Negotiations-Meaning & definition; Negotiations Process; Issues in Negotiations.

Unit-IV

Stress Management: Meaning and Concept of Stress, Stress in Organization, Management of Stress. **Power and Politics in Organization:** Nature & Concepts, Sources & Types of Power, Techniques of Politics. **Organizational Change & Development:** Meaning & Definition, Change Agents, Change Models, Resistance to Change. **Learning Organization:** Meaning & Definition, Creating a Learning Organization. **Organizational Culture:** Meaning & Concept, Cultural Differences & Business Ethics.

Suggested Readings/ Books:

- Robbins, *Organization Behaviour*, Pearson Education
- Luthans, *Organization Behaviour*, Tata McGraw Hill
- Newstrom, *Organizational Behaviour: Human Behaviour at work*, Tata McGraw Hill
- Kalliath, *Organization Behaviour*, The McGraw –Hill
- Griffin& Moorhead, *Introduction to Organisational Behaviour*, Cengage Learning
- Hersey, *Management of Organizational Behaviour*, Prentice Hall India
- Parikh, Gupta, *Organisational Behaviour*, Tata McGraw Hill
- Aswathappa, *Organization Behaviour*, Himalaya Publications
- Locum, *Fundamentals of Organisational Behaviour*, Cengage Learning.
- Saiyadain, M.S. : *Organization Behaviour*, Tata McGraw Hill

MBA-103 Accounting for Management

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

to build potential to use appropriate accounting tools and techniques of financial accounting and management accounting for preparing and analyzing financial statements.

Unit –I

Accounting as an information system, concepts, convention and principles of Accounting, Role of accountant in an organization. Branches of accounting: Financial, Cost and Management Accounting and their inter-relationships, Introduction of Accounting Standards. Exposure to format of schedule IV of Public Limited, Banking and Insurance Companies.

Unit- II

Financial Analysis-Concepts and objectives, Tools of Financial Analysis: trend analysis, common size statements, comparative statements, Introduction to ratio analysis, fund flow and cash flow statements (with additional information).

Unit- III

Cost Accounting-Meaning, Scope and Classification of costs, Absorption costing, Marginal costing. Introduction to Break Even Analysis, Use of Cost-data in managerial Decision-making with special reference to pricing and make or buy decisions. Introduction to Standard Costing including Variance Analysis – materials and labour variances. Cost Control Techniques-Preparation of budgets and their control, Zero base budgeting.

Unit- IV

Introduction to recent developments in cost management: Introduction to concept of Price Level Accounting, Human Resource Accounting, Transfer Pricing. Target Costing, Kaizen costing , Activity based costing, Life Cycle Costing. Introduction to Tally Software Package in Accounting – Creating Companies, journal entries and ledger accounts.

Note : Relevant Case Studies should be discussed in class.

Suggested Readings/ Books

- Garrison, *Managerial Accounting*, Tata McGraw
- Maheshwari, *Financial Accounting*, Vikas Publishing
- Khan and Jain, *Management Accounting*, Tata McGraw
- Ramchandran, *Financial Accounting for Management*, Tata McGraw
- Jawahar Lal, *Accounting For Management*, Himalaya Publishing
- J.Madegowda, *Accounting For Managers*, Himalaya Publishing
- Sankar, Narayana, Ramanathan, *Financial Accounting for Managers*, Cengage Learning

MBA-104 Quantitative Techniques

Objective: The objective of this paper is to acquaint the students with various statistical tools and techniques used to business decision making. . The course aims at providing fundamental knowledge and exposure to the students to use various statistical methods in order to understand, analyze and interpret data for decision making.

Unit-I

Introduction to statistics: meaning, scope, importance and limitations, applications of inferential statistics in managerial decision-making. **Analysis of data:** source of data, collection, classification, tabulation, depiction of data. **Measures of Central tendency:** Arithmetic, weighted, geometric mean, median and mode. **Measures of Dispersion:** Range, Quartile deviation, Mean deviation, Standard deviation Coefficient of variation, Skewness and Kurtosis.

Unit-II

Sampling and Sampling Distribution: Concept and definitions, census and sampling, probability samples and non-probability samples, relationship between sample size and errors, simple numerical only. **Hypothesis Testing:** Sampling theory; Formulation of Hypotheses; Application of Z-test, t-test, F-test and Chi-Square test, techniques of association of attributes & testing. Test of significance for small sample

Unit-III

Correlation Analysis: Significance, types, Methods of correlation analysis: Scatter diagrams, Graphic method, Karl Pearson's correlation co-efficient, Rank correlation coefficient, Properties of Correlation. **Regression analysis:** meaning, application of regression analysis, difference between correlation & regression analysis, regression equations, standard error and Regression coefficients. **Index Number:** Definition, and methods of construction, tests of consistency, base shifting, splicing and deflation, problems in construction and importance of index number.

Unit-IV

Time Series Analysis: Meaning, Components and various methods of time series analysis
Trend analysis: Least Square method - Linear and Non- Linear equations, Applications in

business decision-making. **Theory of Probability:** Definition, basic concepts, events and experiments, random variables, expected value, types of probability, classical approach, relative frequency and subjective approach to probability, theorems of probability, addition, Multiplication and Bays Theorem and its application. **Theoretical Distributions:** Difference between frequency and probability distributions, Binomial, Poisson and normal distribution

Note: Relevant Case Studies should be discussed in class.

Suggested Readings/ Books:

- Levins, Krehbiel, *Business Statistics*, Pearson Berenson
- Gupta & Gupta, *An Introduction to Statistical Methods*, Vikas Publications
- Levin & Rubin, *Statistics for Management*, Prentice Hall
- S P Gupta, *Statistical Methods*, Sultan Chand
- Beri, *Business Statistics*, Tata Mc Graw Hill
- Croucher, *Statistics: Making Business Decisions*, Tata McGraw Hill
- C.R. Reddy, *Quantitative Techniques for Management Decisions*, Himalaya Publishing
- Anderson Statistics for Business & Economics, Cengage Learning

MBA 105 Managerial Economics

Objective: This course is intended to make students understand various social, political, legal and economic and other factors that influence business in India so as to enable them appreciate associated opportunities, risks and challenges and their relevance for managerial decisions.

Unit-I

Managerial Economics: Meaning, Nature, Scope & Relationship with other disciplines, Role of managerial economics in decision Making, Opportunity Cost Principle, Production Possibility Curve, Incremental Concept. **Marginal Analysis:** Law of diminishing marginal utility, Law of equi-marginal utility, **Indifference Curve Analysis:** Meaning Assumptions Properties, Consumer Equilibrium, Uses.

Unit-II

Demand Analysis and Theory of Production: Law of Demand: Meaning, Determinants, Exceptions, Bandwagon and Snob effects, Demand function, Application of demand analysis in managerial decision making. **Elasticity of Demand:** Meaning, Types & Degree of elasticity of demand, Methods of measuring price elasticity of demand, Factors determining the elasticity of demand, **Demand Forecasting:** Importance, Scope, Techniques of forecasting. **Theory of Production:** Production function, Short run and Long run production,

Analysis, Isoquants, Optimal combination of inputs, Application in managerial decision making.

Unit-III

Theory of Cost and Market Structure: Cost Analysis: Cost Concepts and Determinants of cost, **Traditional and Modern Theory of Cost:** Long run and Short run, Economy of scale, Revenue Curve, **Market Structure:** Price Output Decision under Perfect Competition, Monopoly, Monopolistic and Oligopoly Competition, Application in Managerial Decision Making. **Behaviour of Firms and Game Theory:** Nash Equilibrium, Prisoner's Dilemma.

Unit-IV

Macro Economics: Concept of National Income: Conceptual Framework, Measure of National Income, Methods of Measurements, Phillips Curve, Okun's Law and Kuznets Curve, Classical Keynesian Theory, Investment Multiplier, Balanced Budget and Foreign Trade Multiplier, **Business Cycle:** Concepts, Causes, Measures to control through Fiscal and Monetary Policy, **Inflation:** Meaning, Types, Theories – Demand and Cost Push Inflation, Causes, Effects and Cures of Inflation Through Price, Demand and Income Policies

Note: Relevant Case Studies will be discussed in class.

Suggested Readings/ Books:

- K.K .Dewett, *Modern Economic Theory*, S. Chand Publication
- D.M.Mithani, *Managerial Economics Theory and Applications*, Himalaya Publication
- Peterson and Lewis, *Managerial Economic*, Prentice Hall of India
- Gupta, *Managerial Economics*, TataMcGraw Hills
- Geetika, *Managerial Economics*, Tata McGraw Hills
- D.N.Dwivedi, *Managerial Economic*, Vikas Publications
- Froeb, *Managerial Economics*, Cengage Learning

MBA106 Business Communication

Objective: This course is designed to give students a comprehensive view of communication, its scope and importance in business, the role of communication in establishing a favourable image of the organization. The aim is to develop students' ability to communicate correctly and effectively on matters having relevance to day-to-day business operations. This course will make student conversant with fundamentals of communication, help them honing oral, written and non-verbal communication skills and to transform their communication abilities.

Theoretical Framework

Unit- I

Introduction to Communication: Meaning, Process, Importance of Communication in Business, Types of Information, Formal and Informal Communication, Internal and External Communication, Communication Channels, Choosing the Means of Communication, Audience Analysis, Ethical Considerations for Business Communication, Media of Communication, Barriers of Communication, Approaches to Effective Communication, Essentials of Effective Business Communication (7Cs model)

Unit –II

Strategies to Improve Individuals Reading and Listening Skills- Developing Reading Skills: Identify The Purpose of Reading, Factors Effecting Reading, learning how to think and read, developing effective reading habits, reading tactics and strategies: training eye and training mind (SQ3R), Recognizing a broad range of thought patterns in reading selections, reading and interpreting visuals, making inferences, recognizing facts and opinions. **Developing Listening Skills:** importance, purpose of listening, art of listening, factors affecting listening, components of effective listening, process of listening, principles and barriers to listening, activities to improve listening.

Unit- III

Types of Communication: Oral Communication: Advantages and Disadvantages, Conversation as Communication, Art of Public Speaking, Telephonic Conversations and Voice Mails, Group Communication through Committees, Preparing and Holding Meetings, other formal communication with public at large, seminar, symposia and conferences, Overcoming Stage fright, Ambiguity Avoidance. **Written Communication:** Advantages and Disadvantages, Covering letter, Need, Functions and Kinds, Layout of Letter Writing, **Types of Letter Writing:** Persuasive Letters, Request Letters, Sales Letters, Complaints and Adjustments; **Departmental Communication:** Meaning, Need and Types: Interview Letters, Promotion Letters, Resignation Letters, Newsletters, Circulars, Agenda, Notice, Office Memorandums, Office Orders, **Press Release Report Writing:** Structure, Types, Formats, Drafting of Various Types of Report. **Nonverbal** – Features, Understanding of Body Language, Posture, Gestures. **Influences on Communication:** Social influences, Culture and Communication, Few Guidelines for Better Multicultural Communication, Business Etiquettes and Communication.

Practical Framework

Unit- IV

Developing Effective Public Relations: Drafting Speech, Press Release, Brochures, Handouts, Leaflets, e-newsletters. **Group Discussion-** Nature, Uses and Importance, Guidelines for GD **Presentations:** How to make effective Presentations, Four P's of Presentation, Structuring, Rehearsing, and Delivery Methods. **Resume Writing:** Planning, Organising Contents, Layout, Guidelines for Good Resume. **Interviews:** Preparation Techniques, Frequently Asked Questions about How to face an interview board, Proper body posture, Projecting a positive image, Steps to succeed in interviews, Practice Mock Interview in classrooms,. **The Case Method of learning:** Dimensions of a case, Case Discussion, Usefulness of the case method, Training of Managers, Use the Case Method. **Report writing:** Structure, Types, Formats, Preparations and Presentation.

Important Note: Final Examination paper shall comprise of both theoretical framework and practical framework. All the students have to prepare file / report on various practical tasks undertaken during the semester in the class. At time of viva voce the student has to carry the report

Suggested Readings / Books:

- Lesikar, Petit & Flatley, *Lesikar's Basic Business Communication*, Tata McGraw Hill
- Raman Meenakshi Prakash Singh, *Business Communication*, Oxford University Press.
- Rizvi Ashraf, *Effective Technical Communication*, Tata McGraw Hill
- Krizan, Buddy, Merrier, *Effective Business Communication*, Cengage Learning
- Poe & Fruchling, *Basic Communication*, AITBS
- Diwan & Aggarwal, *Business Communication*, Excel
- Baugh, Frayer & Thomas, *How to write first class Business Correspondence*, Viva Books
- Taylor, *English Conversion Practice*, Tata McGrawHill
- Devaraj, *Executive Communication*, Tata McGraw Hill
- Ober, *Effective Bossiness Communication*, Cengage Learning.

MBA 107 Information Technology for Management

Objective: The primary objective of this course is to familiarize the student with basic concepts of information technology and their applications to business processes. Through this course it is intended to familiarize the students with the computer hardware and software applications for data/file management.

Unit –I

Computer Fundamentals: Block Structure of a Computer, Characteristics of Computers, Generations of Computers, Classification of Computers, Computer Memory and Mass

Storage Devices, Input-Output Devices. **Number System:** Bit, Byte, Binary, Decimal, Hexadecimal, and Octal Systems, Conversion from One System to the other.

Unit –II

Computer Software: application and system software, programming languages and their classification, assemblers, compilers and interpreters, process of software development, operating systems: functions of operating systems. **Computer Network & Communication:** Network types, network topologies, network communication devices, physical communication media, network protocol (TCP/ IP), internet and its applications: E-mail, TELNET, FTP, World Wide Web, internet chatting.

Unit –III

Personal Productivity Software: Word Processing: Editing Features, Formatting Features, Saving, Printing, Table Handling, Page Settings, Spell-Checking, Macros, Mail-Merge, and Equation Editors. **Spreadsheet :** Workbook, Worksheets, Data Types, Operators, Cell Formats, Freeze Panes, Editing Features, Formatting Features, Creating Formulas, using Formulas, Cell References, Replication, Sorting, Filtering, Functions, Charts and Graphs. **Presentation Graphics Software:** Templates, Views, Formatting Slide, Slides with Graphs, Animation, Using Special Features, Presenting Slide Shows.

Unit –IV

Database Management System: Traditional File Concepts and Environment, Database Management Systems Concepts. **MS Access: Creating Tables,** Adding and Deleting Records, **Querying:** Creating, Saving and Editing; Joining Tables in Queries **Forms:** Creating and using forms, **Reports:** Creating and Printing Reports.

Note: Relevant Case Studies should be discussed in class.

Important Note: Final Examination paper shall comprise of both theoretical framework and practical framework. All the students have to prepare file / report on various practical tasks undertaken during the semester in the class. At time of viva voce the student has to carry the report.

Suggested Readings / Books:

- ITL Education Solutions, Introduction to Information Technology, Pearson Education.
- Turban, Rainer and Potter, Introduction to information technology, John Wiley and Sons.
- Roger Jennings, Microsoft Access 2010, Pearson Education

- Forouzan, Basics of Computer Science, Cengage Learning
 - Joseph Brady & Ellen F Monk, Problem Solving Cases in Microsoft, Excel Thomson Learning
 - A. K. Saini & Pradeep Kumar, Computer Applications in Management, Anmol Publications
 - Deepak Bharihoke, Fundamentals of Information Technology, Excel Books.
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Second Semester

MBA 201 Business Environment

Objectives: To provide students with an understanding of basic economic principles of production & exchange-essential tools in making business decisions in today's global economy. The objective is to make the student understanding how the economy works, covering microeconomic description of business applications, including pricing for profit maximization, price elasticity, market structures and modeling of business in varying economic climates.

Unit –I

Introduction: definition, components and overview of Business Environment, Complexity and Diversity of Business Environment in the 21st century, Concept of Business Cycle, Need to scan the business environment and techniques of scanning the business environment.

Political Environment: Three political institutions: Legislature, Executive and Judiciary. Brief note on Fundamental rights and Directive Principles of state policy, Rationale and extent of state intervention.

Unit –II

Economic Environment: Concept and Salient features of various economic system, New Industrial policy and industrial licensing, New economic policies, Aspects of economic reforms and its effects on business, Emerging Economies. Effect of recession on Business and remedies for that, Economic Planning in India: Objectives, Strategies and Evaluation of current five year plan. Monetary and Fiscal Policy. **Legal Environment:** Company Regulatory Legislations in India, FEMA, Latest. EXIM policy. Competition Law, Consumer Protection Act 1986, Right to Information Act 2005

Unit –III

Public Sector in India: Concepts, Philosophy and Objectives, Performance, Problems and Constraints. Disinvestment and Privatisation, Joint sector and Cooperative sector in India.

Social Environment: Corporate Social Responsibility, Consumer Movement, Business Ethics, Cross-Cultural Business Environment, Ecological Environment Protection: Green Management, Global Warming, Carbon Foot Printing, The Environment Protection Act 1986.

Unit –IV

Technological Environment: Impact of Technology on Business, Technological Policy, Intellectual Property Rights, Import of Technology, Appropriate Technology, Problems in Technology Transfer. **International Environment:** Emergence of Globalisation. Control of Foreign Direct Investment, Benefits and Problems from MNCs. WTO, its role and functions, Implications for India. Trading Blocks, Foreign Trade: SEZ (Special Economic Zones), EPZ (Export processing zone), EOU (*Export Oriented Units*), Dumping and Anti-Dumping measures.

Note: Student must consult Economic Times, Financial Express and Economic Survey of current years.

Relevant Case Studies should be discussed in class.

Suggested Readings / Books:

- Dr Francis Cherunilam, Business Environment Text & Cases, Himalaya Publishing
- S.K. Mishra, and V.K Puri, Economic Environment of Business, Himalaya Publishing
- Paul Justice, Business Environment- Text and Cases, TATA McGraw Hill.
- Aswathappa, Essential of Business Environment, Himalaya Publishing
- Aggarwal & Diwan, Business Environment, ExcelBooks
- Sengupta, Government & Business Vikas Publishing House
- Economic Survey, Government of India (Latest)

MBA 202 Productions & Operations Management

Objective: It is a subject where a student learns various steps of product design, development, production, plant location, storage, production planning and control. The students are motivated to apply concepts and principles of management to become more effective professional

Unit- I

Operations management: concept, functions. transformation process model: inputs, process and outputs; classification of operations; responsibilities of operations manager, contribution of henryford, deming, crossby, taguchi. **Facility Location** – importance, factors in location analysis, location analysis techniques. **Product Design and development** – product design and its characteristics, product development process (technical), product development techniques. **Process selection-** project, job, batch, mass and process types of production systems. operations management in corporate profitability and competitiveness

Unit- II

Facility Layout – Objectives, Advantages, Basic Types of Layouts, Problems in facility layout. **Production Planning & Control (PPC):** –Concepts, Objectives, and Functions, work study – **Productivity:** Method study; Work measurement. **Capacity Planning** – Concepts, Factors affecting Capacity Planning, Capacity Planning Decisions.

Unit- III

Quality Management: Introduction, Meaning, Quality Characteristics of Goods and Services, Juran's Quality Trilogy, Deming's 14 principles, Tools and Techniques for Quality Improvement, Statistical Process Control Chart, Quality Assurance, Total Quality Management (TQM) Model Concept of Six Sigma and its Application. **Acceptance Sampling** – Meaning, Objectives, Single Sample, Double Sample and Multiple Sample Plans with stated risk, Control charts for variables – Averages and Ranges, Control Charts for Defectives – Fraction Defective and Numbers Defective.

Unit- IV

JIT and Lean Production System: JIT Approach, Implementation requirements, Services, Kanban System. **Inventory Management:** Concepts, Classification, Objectives, Factors Affecting Inventory Control Policy, Inventory Costs, Basic EOQ Model, Re-order level, ABC analysis. Logistics and Franchising. **Purchasing Management** – Objectives, Functions, Methods, **Procedure, and Value Analysis:** Concepts, Stock Control Systems, Virtual Factory Concept and Production Worksheets.

Note : Relevant Case Studies should be discussed in class.

Suggested Readings / Books:

- Mahadevan B, Operations Management: Theory And Practice, 2nd Edition, Pearson Education
- Krajewski & Ritzman, Operations Management, 5th Pearson Education
- Buffa & Sarin, Modern Production/Operations Management, 8th John Wiley
- Chary, Production and Operations Management, Tata McGraw-Hill
- Johnston R et al – Cases in Operations Management, Pitman
- McGregor D – Operations Management, McGraw-Hill
- Nair Production & Operations 1st Tata McGraw Management
- Adam and Eben, Production & Operations, 5th ed Prentice Hall.

MBA-203 Human Resource Management

Objectives: The objective of the paper is to make student aware of the various functions and importance of the HR department in any organization. It is basically concerned with managing the human resources, whereby the underlying objective is to attract retain and

motivate the human resources in any organization, which is the most challenging and daunting look for any organization today.

Unit-I

Human Resources Management: Meaning, Scope, Objective, Functions, Roles and Importance. interaction with other functional areas. HRM &HRD a comparative analysis. Human Resource Management practices in India. **Human Resource Planning:** Meaning & Concept, Process and importance , Methods of Human Resources Planning, Importance of HRIS. **Job Analysis, Job Description, Job Specification & Job Evaluation** – Meaning, Concepts and Methods.

Unit-II

Recruitment & Selection: Meaning & Concept, Process & Methods Recruitment & Selections. Induction & Placement Process. **Training & Development:** Meaning & Concept of Training & Development, Methods of Training & Development, Difference Between Training & Development, Aligning Training to Business Needs, Future of Training & development. Career Planning & Coaching & Mentoring.

Unit-III

Performance Appraisal: Meaning & Concept of Performance Appraisal, Methods & Process Of Performance Appraisal, Issues in Performance Appraisal and Potential Appraisal. **Compensation Management-** Wage & Salary Administration: Meaning & Concept of Wage & Salary Administration, Elements & Methods of Wage & Salary, Incentive Plans & Fringe Benefits. **Internal Mobility:** Promotion, Transfer, Demotion, Separation. **Quality of work life (QWL):** Meaning, Concept, Development and Various Approaches of QWL, Techniques for improving QWL. Health, Safety & Employee Welfare, Social Security, Job Stress, Counselling and Monitoring, Job Satisfaction and Morale. Competency Mapping

Unit IV

Industrial Relations: Meaning & Concept of Industrial Relations. **Collective Bargaining -** Meaning, Scope and Objectives; Collective Bargaining – Issues and Strategies; Negotiations Skills and Strategies; **Participative Management;** **Employee Grievances** and their Resolution – Model for Grievance Resolution Procedure. **Quality Circles:** Concept,

Structure. Role of Management, Quality Circle in India, HR Audit, Contemporary Issues in HRM.

Note: Relevant Case Studies should be discussed in class.

Suggested Readings/ Books:

- V.S.P.Rao, Human Resource Management, Excel Books
 - C.B. Memoria, Personal Management, Himalaya Publications
 - Edwin B.Flippo, Personal Management,Tata Mc Graw Hill
 - K. Aswathappa, Human Resource Management, Tata McGrawHill
 - Bohlander, Snell &Vohra, Human Resource Management, Cengage Learning
 - Dale Yoder, Personal Management & Industrial Relations, Tata McGraw Hill
 - C.B. Gupta, Human Resource Management, Sultan Chand and Sons
 - R.S. Dwivedi, HRD in India Companies, Himalaya publications
 - Gary Dessler, Human Resource Management, McMillan
 - Gomez-Mejia, Managing Human Resources,Pearson Education .
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MBA 204Marketing Management

Objectives: The course aims at making students understand concepts, philosophies, processes and techniques of managing the marketing operations of a firm in turbulent business environment. This course will provide better understanding of the complexities associated with marketing functions, strategies and provides students with the opportunity to apply the key concepts to practical business situations.

Unit –I

Understanding Marketing and Consumers: Definition, Importance, Scope, Various Marketing Concepts, Marketing Mix, Marketing vs Selling, Effect Of Liberalization and Globalization, Creating Customer Value. **Analyzing Marketing Environment-** Micro, Macro Corporate Strategic Planning: defining role marketing strategies, Marketing planning process. **Marketing Information System:** Concept and Components. Understanding Consumer Behaviour, Factors Influencing Consumer Buying Behaviour, Business Buying Process, Understanding Business Buyer Behaviour.

Unit –II

Creating and Managing Product: Market Segmentation & Targeting. Differentiation & Positioning, Competitors Analysis. Product Decisions: Product Mix, Packaging And Labelling Decisions, Branding & Brand Equity, Services Marketing, New Product Development, Consumer Adoption Process, Product Life Cycle and Strategies. **Pricing**

Decisions: Objectives, Factors Affecting Pricing Decisions, Pricing Methods, Price Changes, Pricing Strategies.

Unit –III

Delivering and Promoting Product: Supply Chain Decisions: Nature, Types, Channel Design and Channel Management Decisions, Retailing, Wholesaling, Managing Logistics and Supply Chain. **Promotion Decisions:** Communication Process, Promotion Mix, Advertising, Sales Promotion, Public Relations, Direct Selling and Online Marketing. **Personal Selling:** Personal Selling Process, Managing the Sales Force, Designing Quota & Territories, Evaluating Performance.

Unit –IV

Emerging Trends in Marketing: Green Marketing, Event Marketing, Network Marketing, Direct Marketing, Social Marketing, Buzz Marketing/ Viral Marketing, Consumerism, Customer Relationship Management (CRM), Customer Satisfaction, Loyalty, Retention, Global Marketing, Rural Marketing, E-Commerce: Marketing In The Digital Age.

Note : Relevant Case Studies should be discussed in class.

Suggested Readings/ Books

- Kotler & Koshy, *Marketing Management*, Pearsons Education
- Ramaswamy & Namakumari, *Marketing Management*,McMillan
- Etzel, Walker, Stanton, and Pandit, *Marketing Management*, Tata McGrawHill,
- Kurtz & Boone, *Principles of Marketing*, Cengage Learning
- Kotler & Armstrong, *Principles of Marketing*, Prentice Hall
- Biplab S. Bose, *Marketing Management*, Himalaya Publications
- Subhash c. Jain, *Marketing Management*, Cengage Learning
- Rajan Saxena,, *Marketing Management*, Tata McGraw Hill.

MBA 205 Financial Management

Objectives: To provide an understanding of the function, the roles, the goals and the processes of corporate financial management, covering the sourcing of finances and their issues in investment and operations. Problem-solving methodology will be used to illustrate the theories and tools in financial decision making.

Unit –I

Introduction to Financial Management: Objectives - Functions and Scope - Evolution - Interface of Financial Management with Other Functional Areas - Environment of Corporate Finance. **Sources of Long-Term Finance:** Equity Capital and Preference Capital -

Debenture Capital - Term Loans and Deferred Credit, Leasing and Hire-Purchase - New Instruments. **Raising Long-term Finance:** Venture Capital, Initial Public Offering, Public Issue by listed companies, Rights Issue, Preferential allotment, Private placement, Term Loans **Valuation of Securities:** Concept Of Valuation - Bond Valuation - Equity Valuation: Dividend Capitalization Approach and Ratio Approach -Valuation of Warrants and Convertibles.

Unit –II

Introduction to Risk and Return: Risk and Return Concepts - Risk in a Portfolio Context - Relationship Between Risk and Return -CAPM and Dividend Capitalization Model. **Time Value of Money:** Introduction - Types of Cash flows - Future Value of a Single Cash Flow, Multiple Flows and Annuity - Present Value of A Single Cash Flow, Multiple Flows and Annuity, Growing Annuity, Perpetuity and Growing Perpetuity. **Basics of Capital Expenditure Decisions:** The Process of Capital Budgeting - Basic Principles in Estimating Cost and Benefits of Investments -Appraisal Criteria: Discounted and Non-Discounted Methods (Pay-Back Period -Average rate of return - Net Present Value -Benefit Cost Ratio - Internal Rate of Return) **Analysis of Project Cash Flows:** Cash Flow Estimation - Identifying the Relevant Cash Flows - Cash Flow Analysis - Replacement, Cash Flow Estimation Bias - Evaluating Projects with Unequal Life - Adjusting Cash Flow for Inflation.,Capital Rationing.

Unit –III

Leverage: Measuring and analyzing the implications of Leverage - Operating Leverage, Financial Leverage and Total Leverage. **Capital Structure Policy:** Business & Financial Risk - A Total Risk Perspective - Business & Financial Risk - A Market Risk Perspective - Determinants of Capital Structure Decision -Approach to Estimating the Target Capital Structure - Variations in Capital Structures, EBIT / EPS Analysis and ROI / ROE Analysis. **Capital Structure Theories:** Net Income Approach - Net Operating Income Approach - Traditional Approach - Modigliani-Miller Model (MM), Miller Model - Criticisms of MM and Miller Models - Financial Distress & Agency Cost - Asymmetric Information Theory. **Dividend Policy:** Traditional Position - Walter Model - Gordon Model - Miller-Modigliani Position - and Rational Expectations Model

Unit –IV

Estimation of Working Capital Needs: Objectives of Working Capital (Conservative vs Aggressive Policies), Static vs Dynamic View of Working Capital - Factors Affecting the Composition of Working Capital Independence among Components of Working Capital - Operating Cycle Approach to Working Capital and Cash Management. **Inventory Management:** Nature of Inventory and its Role in Working Capital - Purpose of Inventories - Types and Costs of Inventory -Inventory Management Techniques - Pricing of Investments **Receivables Management:** Purpose of Receivables - Cost of Maintaining Receivables - Credit Policy Variables (Credit Standard, Credit Period, Cash Discount, Collection Program), Credit Evaluation - and Monitoring Receivables. **Financing Current Assets:** Behavior of Current Assets and Pattern of Financing -Accruals - Trade Credit - Provisions - Short-Term Bank Finance - Public Deposits, Commercial Paper - Factoring

Note: Relevant Case Studies should be discussed in class.

Suggested Readings/ Books :

- I.M. Pandey, *Financial Management*, Vikas publishers
- Khan & Jain, *Financial Management*, Tata McGraw Hill
- Prasanna Chandra, *Financial Management (Theory & Practice)*, Tata McGraw Hill
- Brigham, *Financial Management : Text & Cases*, Cengage Learning
- Brealy & Myres, *Principles of Corporate Finance*, Tata McGraw Hill
- John J., *Financial Decision Making: Concept, Problem & Cases*, Prentice Hall
- G.S. Reddy, *Financial Management: Principles and Practice*, Himalaya Publishing .

MBA206 Research Methodology

Objectives: The course aims at equipping students with an understanding of the research process, tools and techniques in order to facilitate managerial decision making.

Theoretical Framework

Unit –I

An Introduction To Research: Meaning, Definition, Objectives, And Process; Research Problem: Selection Of Problem, Understanding Problem, Necessity Of Defined Problem; Review Of Literature In Research. **Research Design:** Meaning, Types – Descriptive, Diagnostic, Exploratory, And Experimental.

Unit –II

Sources Of Data: Primary And Secondary; Data Collection Methods; Questionnaire Designing: Construction, Types And Developing A Good Questionnaire. **Sampling Design**

and Techniques, Scaling Techniques, Meaning, Types, Data Processing Operations, Editing, Coding, Classification, Tabulation. Research Proposal/Synopsis Writing.

Practical Framework

Unit –III

Statistical Software - Use of SPSS / Systat and Excel: Windows Process, Basic Structure of Data File, Using Data Editor, Working With Multiple Data Sources, Graphs and Charts, Sorting And Selecting Data, Descriptive Statistics: Central Tendency and Dispersion, Correlation: Linear, Partial and Multiple, Simple and Multiple Regression, Discriminant Analysis, Conjoint Analysis, Time Series and Business Forecasting. Applications Of Index Numbers; Sampling Distribution; Tests Of Significance: Z- Test, T- Test, Chi-Square Test, F -Test, And ANOVA; Use Of SPSS For T-Test, Chi-Square Test And ANOVA.

Unit –IV

Multi Dimensional Scaling, Factor Analysis, Cluster Analysis, Interpretation of Data, Report Preparation and Presentation. Each Student has to prepare Mini Research Project on Topic / Area of their Choice and Make Presentation. The report should consist of application of tests and techniques mentioned in above units.

Note: Relevant Case Studies should be discussed in class.

Suggested Readings/ Books

- D R. Cooper, & P.S, Schindler, Business Research Methods, Tata McGraw Hill
- N. Malhotra, and S., Dash, Marketing Research : An Applied Orientation, Pearson Education
- C.R, Kothari, Research Methodology: Methods & Techniques, New Age International Publishers
- Hioton, Brownlow McMurray, Cozens, SPSS Explained, Tata McGraw Hill
- Willian G. Zikmund, Business Research Methods, Thomson South-Western Learning
- Darren George & Paul Mallery, SPSS for Windows Step by Step, Pearson Education
- Churchill & Israel, Marketing Research, Cengage Learning
- Rajendra Nargundka Marketing Research : Text & Cases, Tata McGraw Hill
- Srivastava and Rego, Business Research Methodology, Tata McGraw Hill
- Zikmund, Essentials of Marketing Research, Cengage Learning.

HVPE 101 Human Values & Professional Ethics

Objective/s and Expected outcome:

To help the students to discriminate between valuable and superficial in the life. To help develop the critical ability to distinguish between essence and form, or between what is of value and what is superficial, in life - this ability is to be developed not for a narrow area or field of study, but for everyday situations in life, covering the widest possible canvas. To help students develop sensitivity and awareness; leading to commitment and courage to act on their own belief. It is not sufficient to develop the discrimination ability, it is important to act

on such discrimination in a given situation. Knowingly or unknowingly, our education system has focused on the skill aspects (learning and doing) - it concentrates on providing to its students the skills to do things. In other words, it concentrates on providing “How to do” things. The aspects of understanding “What to do” or “Why something should be done” is assumed. No significant cogent material on understanding is included as a part of the curriculum. A result of this is the production of graduates who tend to join into a blind race for wealth, position and jobs. Often it leads to misuse of the skills; and confusion and wealth that breeds chaos in family, problems in society, and imbalance in nature. This course is an effort to fulfill our responsibility to provide our students this significant input about understanding. This course encourages students to discover what they consider valuable. Accordingly, they should be able to discriminate between valuable and the superficial in real situations in their life. It has been experimented at IIITH, IITK and UPTU on a large scale with significant results.

PART A

1. Course Introduction - Need, Basic Guidelines, Content and Process for Value Education

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

(6 Hrs.)

2. Understanding Harmony in the Human Being - Harmony in Myself!

- Understanding human being as a co-existence of the sentient ‘I’ and the material ‘Body’
- Understanding the needs of Self (‘I’) and ‘Body’ - *Sukh* and *Suvidha*
- Understanding the Body as an instrument of ‘I’ (I being the doer, seer and enjoyer)

- Understanding the characteristics and activities of 'I' and harmony in 'I'
- Understanding the harmony of I with the Body: *Sanyam* and *Swasthya*; correct appraisal of Physical needs, meaning of Prosperity in detail
- Programs to ensure *Sanyam* and *Swasthya*

(6 Hrs.)

3. Understanding Harmony in the Family and Society- Harmony in Human-Human Relationship

- Understanding harmony in the Family- the basic unit of human interaction.
- Understanding values in human-human relationship; meaning of *Nyaya* and program for its fulfillment to ensure *Ubhay-tripti*; Trust (*Vishwas*) and Respect (*Samman*) as the foundational values of relationship.
- Understanding the meaning of *Vishwas*; Difference between intention and competence
- Understanding the meaning of *Samman*, Difference between respect and differentiation; the other salient values in relationship
- Understanding the harmony in the society (society being an extension of family): *Samadhan*, *Samridhi*, *Abhay*, *Sah-astitva* as comprehensive Human Goals
- Visualizing a universal harmonious order in society- Undivided Society (*Akhand Samaj*), Universal Order (*Sarvabhaum Vyawastha*) - from family to world family!

(6 Hrs.)

PART B

4. Understanding Harmony in the Nature and Existence - Whole existence as Co-existence

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

(4 Hrs.)

5. Implications of the above Holistic Understanding of Harmony on Professional Ethics

- Natural acceptance of human values

- Definitiveness of Ethical Human Conduct
 - Basis for Humanistic Education, Humanistic Constitution and Humanistic Universal Order
 - Competence in professional ethics:
 - Ability to utilize the professional competence for augmenting universal human order
 - Ability to identify the scope and characteristics of people-friendly and eco-friendly production systems
 - Ability to identify and develop appropriate technologies and management patterns for above production systems.
 - Case studies of typical holistic technologies, management models and production systems
 - Strategy for transition from the present state to Universal Human Order:
 - At the level of individual: as socially and ecologically responsible engineers, technologists and managers
 - At the level of society: as mutually enriching institutions and organizations
- (6 Hrs.)**

Recommended Books:

1. R R Gaur, R Sangal, G P Bagaria, 2009, *A Foundation Course in Value Education*.

Suggested Readings / Books:

1. Ivan Illich, 1974, *Energy & Equity*, The Trinity Press, Worcester, and HarperCollins, USA
2. E.F. Schumacher, 1973, *Small is Beautiful: a study of economics as if people mattered*, Blond & Briggs, Britain.
3. A Nagraj, 1998, *Jeevan Vidya ek Parichay*, Divya Path Sansthan, Amarkantak.
4. Susan George, 1976, *How the Other Half Dies*, Penguin Press. Reprinted 1986, 1991
5. PL Dhar, RR Gaur, 1990, *Science and Humanism*, Commonwealth Publishers.
6. A.N. Tripathy, 2003, *Human Values*, New Age International Publishers
7. Subhas Palekar, 2000, *How to practice Natural Farming*, Pracheen(Vaidik) Krishi Tantra Shodh, Amravati.
8. Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, William W. Behrens III, 1972, *Limits to Growth – Club of Rome's report*, Universe Books.
9. E G Seebauer & Robert L. Berry, 2000, *Fundamentals of Ethics for Scientists & Engineers*, Oxford University Press
10. M Govindrajran, S Natrajan & V.S. Senthil Kumar, *Engineering Ethics (including Human Values)*, Eastern Economy Edition, Prentice Hall of India Ltd
11. B P Banerjee, 2005, *Foundations of Ethics and Management*, Excel Books.
12. B L Bajpai, 2004, *Indian Ethos and Modern Management*, New Royal Book Co., Lucknow. Reprinted 2008.