



## **Entrance Test Syllabus for Integrated Ph.D. (For MBA Students)**

### **1. Management And Organizational Behaviour:**

Evolution of management Thought-Classical, Behavioral and Management Science Approaches; The Hawthorne Studies; Systems and Contingency Approach for understanding organizations; Application of Management thought to the current scenario; Fundamental Concepts of Organizational Behavior; The role of OB in Management; Managerial Process, Functions; Managerial Skills and Roles in Organizations. Foundations of Individual Behavior-Personality-Meaning; Development of Personality; Personality Determinants; the “Big Five” Personality Traits; Emotional Intelligence. Perception;- Nature and importance; Factors influencing perception; Managing the Perception Process. Learning - Components of learning process; Theoretical process of learning- Classical Conditioning; Operant Conditioning; Cognitive and Social Learning Theory. Attitude: Nature and dimensions; Components and functions of attitude, Formation and attitude change. Motivation in organizations: Nature and importance; The motivational framework; The content theories of work motivation- Maslow’s Need Hierarchy Theory; The Dual Structure Theory of Motivation; Process theory of work motivation- Vroom’s Expectancy Theory; J. Stacy Adam’s Equity Theory.

### **2. Accounting for Managers:**

Financial Accounting - Concept, Importance and Scope. Generally accepted accounting principles, Preparation of Financial Statements with special reference to analysis of a Balance Sheet and Measurement of Business Income. Management Accounting – concept, need, importance and scope. Financial Statement Analysis- Concept, objectives and types. Ratio analysis- study of liquidity, solvency and profitability ratios. Funds Flow Analysis – uses and preparation of funds flow statement. Cash Flow Analysis – uses and preparation of cash flow statement. Cost Accounting - Records and Processes, Preparation of cost sheet. Marginal costing and absorption costing. Marginal costing equation, Managerial application of marginal costing. Break even analysis – Computation of breakeven point, margin of safety. Profit graphs. Responsibility Accounting – Concept and Objectives, Responsibility Centers. Standard costing – organization and establishing a standard costing system. Variance Analysis- Classification of variances, Material cost, Labor cost, Overhead cost and sales variances. Causes and Disposition of variances. Inflation Accounting – concept, impact of inflation on corporate financial statements. Techniques of inflation accounting – Replacement cost and Current purchasing power. Human Resource Accounting – Concept and Approaches.

### **3. Quantitative Methods:**

Mathematical basis of Managerial decisions - An overview; Nature and Scope of Quantitative methods in management; Scientific approach to Quantitative techniques; Functions and their managerial application (linear & quadratic functions); Concept of Derivative of functions and its managerial applications for finding maxima and minima (functions of single variable only); Game Theory: Zero sum games – Pure and mixed strategies (matrices reducible to  $2 \times 2$ ). Basic concepts of Probability, Applications of addition rule and multiplication rule of probability- simple situation problems; Numerical problems on Bayes’ theorem- the special case of multiplication rule; Elementary characteristics and simple situation applications of discrete and continuous probability distribution:- Binomial, Poisson and Normal probability Distribution only; Queuing theory: Elementary characteristics and simple situation applications. Linear Programming: Concept and formulation/ structuring of Linear programming problems; Graphical Method to Linear programming problems (Maximization and Minimization cases), Simplex method to linear programming problems, Involving Slack Variables only; Transportation problem: Initial basic feasible solution methods, Modified approximation method for finding optimal solutions to transportation problems; Introductory concepts in Assignment problems – Hungarian assignment method for optimal assignment. Introductory concepts in network analysis: Programme Evaluation and Review Technique (PERT) / Critical Path Method (CPM) and their managerial applications; Computations in PERT networks- finding earliest times, latest times and floats for events and activities; Probability considerations in PERT networks; Elementary PERT/ CPM – Cost Analysis, Time-cost tradeoff in network analysis; Decision theory: criteria for managerial decisions under uncertain and probabilistic kinds of decision making environments; Calculation of EMV and EVPI.



#### **4. Managerial Economics:**

Concept and Techniques – Nature, scope and Role of Managerial Economics, Nature of Business Decision making, Marginal Analysis, Optimization. Theory of Demand – Demand function, income effect, substitutions effect Elasticity of Demands – Types and measurement. Demand Forecasting; Elements of Demand Forecasting, Concept of cost and cost curves. Production and Cost – The production function; production with one variable and two variable inputs, Economics of Scale; Estimating the production, Economic function; Theory of firm – Profit maximization Sales maximization, organizational slack, ownership and control Market Structure – competition. Monopolistic Competition, Oligopoly, Non-price competition. Macro Economics Aggregates and concepts – GNP and GDP – Aggregate consumption, Gross Domestic Savings, Gross Domestic Capital formation WPI, CPI and inflation; Concept and Determinants of National income.

#### **5. Computer Applications in Management:**

Introduction to computers, Block Diagram of Computer, Advantages and Disadvantages of computers Evolution (Generations) and classification of computers (super, mainframe, Mini, Micro etc), Common I/O devices and their characteristics. Primary and secondary memory: RAM and ROM, Hard Disk, Magnetic Tape and Optical devices. Computer software: Classification and Types. Generations of computer Languages Operating System: Functions, types-Multiprogramming, Multiprocessing, Timesharing, Real time, Online and Batch Systems. Booting process, Windows Basics: The Desktop, My Computer, Working with files and Folders. Windows Explorer, Windows Help and Support centre. Searching in Windows and System utilities. Start Menu, Accessories like Notepad, Paint and WordPad.

#### **6. Human Resource Management**

Human Resource Management. - Nature, Philosophy, significance and core values of HRM, Evolution of HRM; Challenges facing HRM and impact of technology on HRM practices. Role of HR managers. The qualities of good HR managers and determining personal effectiveness & sense of efficacy. who am I exercise. Human Resource Planning-Concept and process. Job Analysis, methods and purpose of job analysis- job description, job specification and job evaluation. Recruitment Search-process, sources and methods of recruitment. Selection Process. Placement, induction, internal mobility and separations. Performance Appraisal System(PAS)-Concept, objectives and uses of PAS. PAS Methods and sources. Appraisal errors. Discipline and grievance handling Mechanism. Industrial relations, Causes for good and poor industrial relations. Manpower Training and Development – Concept, objectives and significance. Determination of training needs. Methods for operatives training and management development programmes. Stages of Training programmes. Evaluation of effectiveness of training Programmes.

#### **7. Marketing Management:**

Nature, Significance and scope of Marketing; Company Orientations towards the market place; Marketing concepts, Trends and Tasks; Strategic Marketing planning; Scanning the Marketing Environment; Marketing Research; Creating customer value, Satisfaction, and loyalty. Consumer Behavior; Factors influencing consumer Behavior and Buying decision process; Segmenting consumer and business Markets; Market Targeting; Building Strong Brands-Dealing with competition, Creating Brand Equity; Crafting Branding positions; Product Management; Product life cycle, New product and Decisions; Product packaging and labeling. Pricing objectives and approaches; Factors affecting pricing decisions; Pricing Strategies; Price Changes; Marketing channels and value Networks; Role of Marketing channels; Channel design and channel Management Decisions; Factors affecting distributors decisions; Channel conflict and its Management. Growth in Retailing Industry and Strategic decisions in Retail business. Marketing communications, Developing effective communications, Advertising, Sales promotion, public Relations; Personal Selling and Direct Marketing; Internal Marketing; Socially Responsible Marketing.

#### **8. Managerial Finance:**

*Introduction to Finance:* concept, principles that form the basics in financial management, scope, goal of the firm; *Time value of money-* future value and present value computation, comparing P.V. with F.V; Cost of Capital-concept, significance, determining cost of specific sources of capital, computation of the weighted average cost of capital. *Capital Investment Decision:* concept and types of capital expenditures, capital budgeting process, Estimation of Cash Flows for investment analysis, Capital budgeting decision criteria:-pay-



back period and post pay-back method, present value method and net present value method, internal rate of return: *Capitalization and Capital Structure*-Meaning, theories of capitalization, over and under capitalization; concept of capital structure, factors affecting capital structure, relevance of capital structure –net income approach and traditional approach , Irrelevance of capital structure-net operating income approach and MM hypothesis, EBIT EPS analysis, Indifference point computation; *Leverage*: Financial, Operating Leverage and total leverage, Analysis and impact of leverage. *Dividend Decision*: Purpose of dividend decision, objectives of dividend policy, different dividend policies, forms of dividends, Dividend relevance theories: Walters Model, Gordon's Model; Dividend relevance theories- M.M.Hypothesis; Bonus Shares and Stock Split.

### **9. Productions and Operations Management:**

Production and Operations Management- an overview; Nature and scope of Production/ Operations Management; Historical perspective of Operations Management; Operations as a System:- Continuous and Intermittent production system, flow, batch and job type of production; Operations strategy and elements of operations strategy; Facility location: Factors affecting plant location, Brown and Gibson Model of plant location. Manufacturing systems and layouts: Product, Process and cellular layouts, layout planning and Analysis; Production Process Planning and Design: factors affecting process design; Concept of Line Balancing; Production Planning and Control – An overview; types of Production Planning and Control; Aggregate planning:- Concept, strategies and costs. Master Production Scheduling (MPS): objectives and procedure for developing master production schedule; Materials Management: An overview; Basic concepts of Material Handling; Material Planning and Inventory Control; Inventory Control: Costs and objectives; Inventory control techniques; ABC Analysis: Just in Time (JIT); Materials Requirement Planning (MRP); Economic Order Quantity Model (E.O.Q with deterministic Demand) and practical problems on EOQ.

### **10. Research Methodology:**

Research Methodology - Epistemology Nature and Scope, Scientific Research, Building Blocks, Concepts, Construct, Parsimony, variables, attributes, validity concept, theory building in research, Research Process, Marketing research, value and cost of information – Bayesian Decision Theory, Ethical issues in Marketing Research. Research Design – types – Exploratory, Descriptive and Casual, Experimental Design-Concept and types, Experimentation –Validity Measurement and Scaling – Comparative and Non-Comparative Thurston's V-Scale Model, OS good's Semitic differential scale, Likert scale, Q-sort scale. Data Source- Primary, Secondary Questionnaire – Concept, design and types , Sampling Techniques- probability and non-probability, sample size, Sampling Errors. Hypothesis Formulation & Testing - Parametric tests- one sample and two sample tests for means and properties of large samples Z –Test, T-Tests, ANOVA one way and two way. Chi-Square test for independence of attributes and goodness of fit. Kolmogrov – Smirnow test and goodness of fit, Correlation and regression Analysis concept and application-Application of SPSS package.

### **11. Strategic Management:**

Nature, Scope, Significance and process of Strategic Management; Business Strategy; Different forms of strategy; strategy and tactics; Competitive advantages as focal point of strategy; strategic Intent; Dimensions of Strategic Decisions; Corporate level and business level Strategists and their role in Strategic Management. External Environmental Analysis; the general environment and the competitive environment; processes for analyzing the external environment; Internal environmental analysis, Resource- Based view of the firm; developing the company profile-value chain framework; Methods for assessing internal strengths and weakness; SWOT Analysis. Corporate level Strategies, Expansion Strategies; Retrenchment Strategies; Generic Business level Strategies; Strategic analysis and choice; BCG Matrix; GE-Nine Cell Matrix; Grand Strategy Selection Matrix; Model of Grand Strategy Clusters. Strategy Implementation-7S Frame work for understanding implementation issues; Organizational Learning; Structures for Strategies, Organizational Leadership, Corporate culture. Strategic Evaluation and Control.

### **12. Business Ethics and Corporate Governance:**

Nature and Significance of Business Ethics; Ethical Dilemmas, Personal Ethics, Morality, Religion, Etiquette, Law, Economics, Management, Professional Code; Moral and Non-moral Standards; Ethical Relativism; Moral Development and Moral Reasoning; Ethical Decision Making Model; Globalization and Business ethics- Eastern Values and western Business systems, Business Ethical Principles – Role and Types of Ethical Theories- Teleological, Deontological and Virtue; Egoism, Utilitarianism-classical, act and rule; Free



Market and Utilitarianism; Kant's Ethics, Rights and Duties, Justice and Fairness-Distributive, Egalitarian, Capitalistic, Socialistic, Libertarian, Retributive and Compensatory Justice; Ethics of care; Virtue Ethics; Ethical Dimensions of Marketing, Human Resource, Production and Financial Decisions; Environmental Protection; Corporate Social Responsibility- Nature of Corporations; Corporation as Morally Responsible Agent; Nature and significance of Corporate Social Responsibility, Social Responsiveness and Social Performance; Corporate Philanthropy; Corporate Citizenship; Social Responsibility Model; Free Market Theory and Profit Maximization; Shareholders Theory, Stakeholders Theory, Social Contracts Theory; Corporate Governance: Nature and Significance; Property Rights and Social Institution Theory, Agency Theory; Corporate Governance Model; Corporate Governance Failure; Corporate Scam; Whistle Blowing; Indian Corporate Governance; Role of Board of Directors, Auditors, and Shareholders; Accounting and Regulatory frame work, committees in India and abroad, Corporate Ethics Programme; Social Audit; Corporate Performance-Balanced Score Card, Triple Bottom Line.

**Note: All students shall have to opt for any of the two following specialization groups in addition to above courses**

### **Group A: Marketing**

#### **1. Marketing of Services**

Concept of services, importance, Goods versus Services marketing, Service Marketing Mix; Emergence & Reasons for growth of service sector in India, Characteristics of services, Classifications of services, Environment of Services Marketing, Service Quality Gap Model, Gronross Model of service quality; Challenges to Service Marketing. Services Design and Development; Service Blueprinting; Service Process; Physical Evidence and Servicescape; Pricing of services; Services Distribution Management; Managing the Integrated Services Communication Mix; Managing Service Personnel; Employee and Customer Role in Service Delivery. Importance of positioning in Services Marketing – Steps in developing a positioning strategy – Positioning Maps – Relationship Marketing: Creating and maintaining valued relationship with Customers; Service recovery –role of Internal Marketing in service delivery. Building marketing strategy for hospitality, tourism, travel, medical, information technology, educational, financial and entertainment services.

#### **2. International Marketing:**

International Marketing: Meaning, Nature and Importance; International Marketing Orientation: E.P.R.G. – Approach: An overview of the International Marketing Management Process; International Marketing Environment., International Market Segmentation and Positioning; Screening and Selection of Markets; International Market Entry Strategies: Exporting, licensing, Contract Manufacturing, Joint Venture & Setting-up of Wholly Owned Subsidiaries Aboard, Strategic Alliances. International Product and Pricing Strategies: Product Designing: Product Standardization Vs. Adaptation; Managing Product Line, International Trade Product Life Cycle, New Product Development; Pricing for International Markets: Factors Affecting International Price Determination: Managing International Distribution and Promotion: Distribution Channel Strategy –International Distribution Channels, their Roles and Functions; Selection and Management of Overseas Agents; International Distribution Logistics; Planning for Trade Fairs and Exhibitions; International Promotion Mix – Advertising and other Modes of Communication. Understanding Global Consumer.

#### **3. Strategic Marketing:**

New Paradigms in Marketing; Corporate strategy vs. Strategic Marketing; Nature, scope and tasks of Strategic Marketing; Strategic Marketing vs. Strategic Marketing; Overview of Strategic Process; Strategic Intent-Vision, Mission. Nature and components of marketing environmental, Assessing internal environment; SWOT analysis; PEST analysis, Porter's Five Force Model; Customer analysis; Competitor analysis- levels of competition, competitive advantage; competitive intelligence; competitive strategies; Resources-based view of competitive advantage, Creating and sustaining competitive advantage; Value Chain Analysis; Resources audit and utilization. Nature and Scope of Marketing Strategy; Strategic market planning; Strategic position and action; New Generic Strategies; Marketing Strategies for leaders, challengers, and followers; Competitive strategies for domestic players; Strategies for global players. Models of Strategic Choice; Factors governing



selection of strategy; Controlling Marketing Strategies; Methods of Performance Evaluation; Basic Control Tools, Balanced Score Card, Internal Marketing-nature and scope, Internal Marketing Mix, Difference between Internal Marketing and External Marketing, Key success factor of Internal Marketing .

#### **4. Sales and Distribution Management:**

Nature and Scope of Sales Management; Objectives and functions of Sales management; Nature of Selling; Overview of Selling Process and Selling Theories; Prospecting for customers; Designing and delivering of sales presentation; Modes of sales presentation, Recruiting and selecting Sales Personnel – Methods and administering selection procedures; Developing Sales Training Programs, Executing and Evaluating sales training programs. Motivating Sales Personnel, Overview of basic motivational theories; Compensating sales personnel, Designing and Administering various Compensation Plans; Controlling Sales personnel and managing sales evaluation programmes, Comparing standards with actual performances of sales personnel; Objective and Types of Quotas, Quota setting procedure, Administering the quota system; Designing Sales Territories and Allocating Sales efforts to sales territories. An Overview of Marketing Channels; Structure, Functions and Relationships of channels of Distribution; Channel Planning and organizational Patterns in Marketing Channels - Traditional vs. Vertical Marketing system; Marketing Channel Design Process; Channel Management Decisions. Wholesaling; Types of Wholesales; Wholesales Marketing Decisions; Retailing: Types of Retailers, Retailer Marketing Decision. Market Logistics: Logistics objectives, Market logistics decisions for distribution channel.

### **Group B: Finance**

#### **1. Security Analysis & Portfolio Management:**

Introduction: Properties of financial assets, Meaning and Concept of investment, characteristics and objectives of investments, role of security market in economy, various securities and their characteristics, mechanics of security trading: Security Market Indices- computation through market value method, price weighted method and equal weighted method, sensitive index of equity prices; Various types of security markets and their functions. Efficient Capital Markets Theory-Need for efficient capital markets, efficient market hypothesis – weak form, semi strong and strong form; capital asset pricing model; stock market volatility; Risk and Return-historical and expected rates of return, mean and measurement of risk of expected and historical return, common measures of risk and return; *Market Efficiency and Behavioral Finance*- explanation of biases and Fusion Investing Theory; review of the efficient market paradigm and analyses of the behavioral challenge staged against it. *Fundamental Security Analysis*: Economic analysis – purpose, sources of information and techniques; *Industry Analysis* – objectives, sources of information, and techniques; *Company Analysis*-objectives, company analysis through financial ratio analysis. *Portfolio Theory and Management*-concept, objectives, principles, portfolio return, portfolio risk, covariance, correlation and variance, determination of portfolio beta and alpha, optimum portfolio, two asset portfolio, Markowitz portfolio theory, finding the efficient frontier and investors' utility, Sharpe's Index Model of Optimization.

#### **2. Working Capital Management**

Working Capital – Concepts. Components of Working Capital. Objectives of Working Capital. Determinants of Working Capital. Estimating Working Capital needs. Operating Environment of Working Capital. Approaches to Working Capital Investment – Walters approach and Trade off approach. Financing of Working Capital. Management of cash and marketable securities – Objectives and Decisions. Motives for holding cash. Managing cash flows – problems and issues. Cash forecasting – preparation of cash budget. Investment in marketable securities. Optimization models for short term investments - Baumol model, Miller-Orr model and Stone model. Management of Inventory. Components of inventory. Objectives of inventory control. Costs in inventory system. Techniques of inventory management – determination of order point, Analysis of quality discounts and safety level. Selective inventory control techniques – ABC analysis, VED analysis, FSN analysis. Emerging trends in inventory management. Receivables and Payables Management—Concept.

#### **3. Project Appraisal , Finance and Management:**

Capital Investment - Importance and Difficulties; Project classification and dimensions. Stages of Project Feasibility Analysis – Identification, Pre-selection, Analysis, Evaluation and Decision. Generation and



Screening of Project Idea; Corporate Appraisal; Profit Potential of Industries – Porter Model. Market Demand and Situational Analysis; Forecast future market demand. Market Risk. Technical Analysis – Preliminary information requirements, Steps of the technical analysis. Social Cost Benefit Analysis. Environmental Appraisal of Projects. Network Techniques for Project Management; Project Review and Administrative Aspects. Financial Appraisal of Projects. Project costing and financing. Estimating Total Project Cost. Working Capital Requirements. Financing the projects - long term and short term. Financial Projections- Profitability Estimates, Cash flow Estimates, Projected Balance sheets. Analyzing Financial Projections- Techniques – Ratio Analysis, Break Even analysis, Average rate of return, Payback period, Net present value and Internal rate of return. Risk Analysis for Projects. Sensitivity analysis. Project Implementation. Time and cost overruns.

#### **4. Financial Risk Management:**

*Risk Management*:-Concept and objectives; Types of financial risks- credit risk, market risk, default risk, foreign exchange risk, purchasing power risk, liquidity risk, interest rate risk; Main banking business lines and risk associated with each: the banking book, the trading book and off balance sheet exposure; Scientific risk management process. *Risk Measurement*: - based on sensitivity, based on volatility and based on down side potential; *Credit risk management* –concept, components, need and process of credit risk management; Approaches for capital charge for credit risks; *Interest Rate Risk Management*: objectives, essentials of interest rate risk, sources, effects and measurement of interest rate risk, strategies for controlling interest rate risk. *Operational Risk Management*:- Concept of operational risk; Operational risk categorization-cause based, effect based and event based ; Operational risk management process; Guiding principles; Approaches for attribution of capital charge for operation risks- Basic Indicator Approach, Standardized Approach and Advanced Measurement Approach. Risk Based *Capital Standards*: concept, application of capital adequacy standards to Indian banks, computation of capital adequacy of banks.

### **Group B: Human Resources Management**

#### **1. Human Resources Development: Strategies and Systems**

Human Resource Development.– Concept, Goals and Challenges of HRD. Human Resource Development climate and elements of HRD climate. Contributing factors of HRD climate practices in India. Measurement of HRD Climate. Human Resource Development for line managers-Concept, issues and Significance;, HRD matrix, the role of line managers in HRD. The responsibilities of line management for HRD system. Motivational aspects of HRD and role efficacy. Human Resource Development for workers-concept, Issues and significance; rationale and objectives of HRD for workers. HRD mechanism for workers. HRD strategies. HRD mechanisms and subsystems used in public, private and banking organizations in India. HRD mechanisms for organizations. Performance appraisal and Potential Appraisal mechanisms for managers development-concept and issues. Potential appraisal linkages for the development of human resource. Requirements of potential appraisal system.

#### **2. Management of Training and Development:**

Education, Training, Development. Principles of Training, objectives, Training, Budgets and Management Responsibilities, Structure of Training Organizations, Training Process Model. Responsibilities and Challenges to Training Managers. Principles of learning, theories of learning and learning organizations. Learning Motivation and Performance, Self Efficacy and Motivation, Training Policy. Identification of Training Needs, planning for Training Programme, training aids, preparation of trainees. Training methods, Training Need Analysis, Framework for Conducting Training Need Analysis, Evaluation of Training Programme, Rationale for Evaluation, Resistance to Training Evaluation, Evaluation Design Issues.

#### **3. Management of Industrial Relations:**

Industrial Relations - Nature, Concept and evolution of industrial relations; Disputes, causes of industrial disputes & settlement of disputes. International labor organization (ILO): Scope , objectives and membership. Trade unions; Principles of trade unions. Classification and types of trade unions. Problems of trade unions. Collective Bargaining; Nature , scope & objectives of Collective Bargaining. Types and process of collective bargaining., Strike, Types of strikes. Welfare Measures; Statutory and Voluntary welfare



measures. Industrial Health and safety- Accidents; Causes, Prevention, safety Provisions. Occupational Hazards, Diseases, Statutory provisions.

#### **4. Organizational Change and Development:**

Organizational Effectiveness; Critical issues of organizational effectiveness; Various approaches to measuring effectiveness; Value creation process by organization; Organizational Change-Change Process; Types and forms of organizational change; Forces for change, Resistance to change, Relationship among organizational change, design and effectiveness. Organizational Culture-Meaning and Characteristics; Culture Versus Climate; Creating the Organization Culture; Strong and Weak Cultures, Cross-cultural dynamics; Power and Politics- Concept; Bases of Power; Power, Authority and Influence; Political implications of power. Conflict and Negotiation- Concept; Process of Conflict; Conflict levels; Reactions to conflict; Management of Conflict; Resolution Strategies; PRAM Model. Leadership- Concept; leadership skills, Styles and Theories of Leadership-trait Theory; Situation Theory, Path Goal Leadership; Transactional and Transformational Leadership.

### **Group B: Information Technology**

#### **1. Knowledge Management:**

Concepts of Data, Information, Knowledge, Experience, Commonsense and Intelligence. KM Myths – KM Life Cycle – Types of Knowledge – Expert Knowledge – Human Thinking and Learning. Challenges in Building KM Systems – Conventional Vs KM System Life Cycle (KMSLS). Knowledge Creation and Knowledge Architecture – Nonaka's Model of Knowledge. Creation and Transformation, Knowledge Architecture. Knowledge Capture- Tools and techniques of capture of Tacit Knowledge, Delphi Method, Balack boarding, Repository Grid. Knowledge Codification – How to codify knowledge, Tools and Procedures – Knowledge Maps, Decision Tables, Decision Trees, Frames, Production Rules, System Testing and Deployment. Transfer Methods – Role of the Internet in Knowledge Transfer Knowledge Transfer in E-world - Intranets, Extranets, Groupware and Groupware applications. Business Intelligence – Decision Making Architecture – Data Management – Knowledge portal technologies.

#### **2. Data Warehousing and Data Mining**

Data Warehouse Concepts: Definitions, Characteristics, Purpose, Data Warehouse Architecture, Data Warehouse Implementation, And Data pre-processing: Data cleaning, Data integration and Transformation, Warehouse Schema Design and Metadata, Future Trends. OLAP Concepts: Definitions, characteristics and its types, OLAP applications in Business, Future Trends. Data Mining Concepts: Definitions, Process and Applications in business and future trends. Difference between Data mining and OLAP. Classification: Data Mining through Decision Trees, decision tree rules, issues in data mining through decision trees, strengths and weakness of decision trees. Association Rules: process of association rule mining, problem of large data sets, strengths and weakness of association rules

#### **3. E-Business:**

**Introduction to E-Commerce-** Definition, Evolution, WWW Web Servers, Clients, Email, Search Engines, Chat, Music, Video. **Internet Marketing Technologies** – Databases, Data warehouse And Data mining. **E-Commerce Business Models** – Key elements of Business Models, Business to consumer (B2C) Business model, Business-to-Business (B2B) Business model, Consumer to Consumer Business model. **Building E-Commerce-** System Development life Cycle, Choosing Software and hardware. E-commerce Site Tools. **E-Commerce Security** – Security threats, technology solutions to threats and protection. Policies, procedures and Laws. **E-Commerce Payment Systems:** Cash, Checking transfer, Credit card, stored value and accumulating Balance. **Credit Card E-Commerce Transactions:** Working, Credit Card Enablers, Limitations of Online payment systems. **Digital Payment Systems :** Digital Wallets, Digital Cash, Smart Cards as stored value systems. **B2B Payment Systems :** Electronic Billing presentment and payment. **Ethical, Social and Political Issues in E-Commerce:** Responsibility, Accountability and Liability. **Privacy and Information Rights:** Privacy and Legal Protections, Private industry self-regulation, Privacy Advocacy groups. **Intellectual Property Rights:** Types, Copyright and Patent. **Net Marketplaces** – Characteristics of Net Marketplaces, Types of Net Marketplace, E-Distributors, E-Procurement, Exchanges.



#### 4. Advanced Data Base Management Systems:

**Basic concepts:** Entity, Attributes, Keys, Relationship, Association, Database, DBMS, Data Independence, Three Level Architecture. **Data Base Components** - Classification of DBMS Users, DBMS Facilities, Structure of DBMS, Advantages and Disadvantages of DBMS. **Relational Databases** - Codd's Rules, Integrity Rules, Database Anomalies. **Relational Algebra** - Union, Difference, Intersection, Cartesian Product, Projection, Selection, Join, Division. **SQL**-Data Definition (Create/Drop a Table, View, Index), Data Manipulation (Select, Update, Delete, Insert), forms and Reports in MS-Access. **Relational Data Base Design** - Full/Partial Functional Dependency, Partial Dependency, Transitive Dependency. **Normalization** - Unnormalized Relations, First, Second, Third, BCNF, Fourth Normal Lossless Join and Dependency Preserving Decomposition.

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