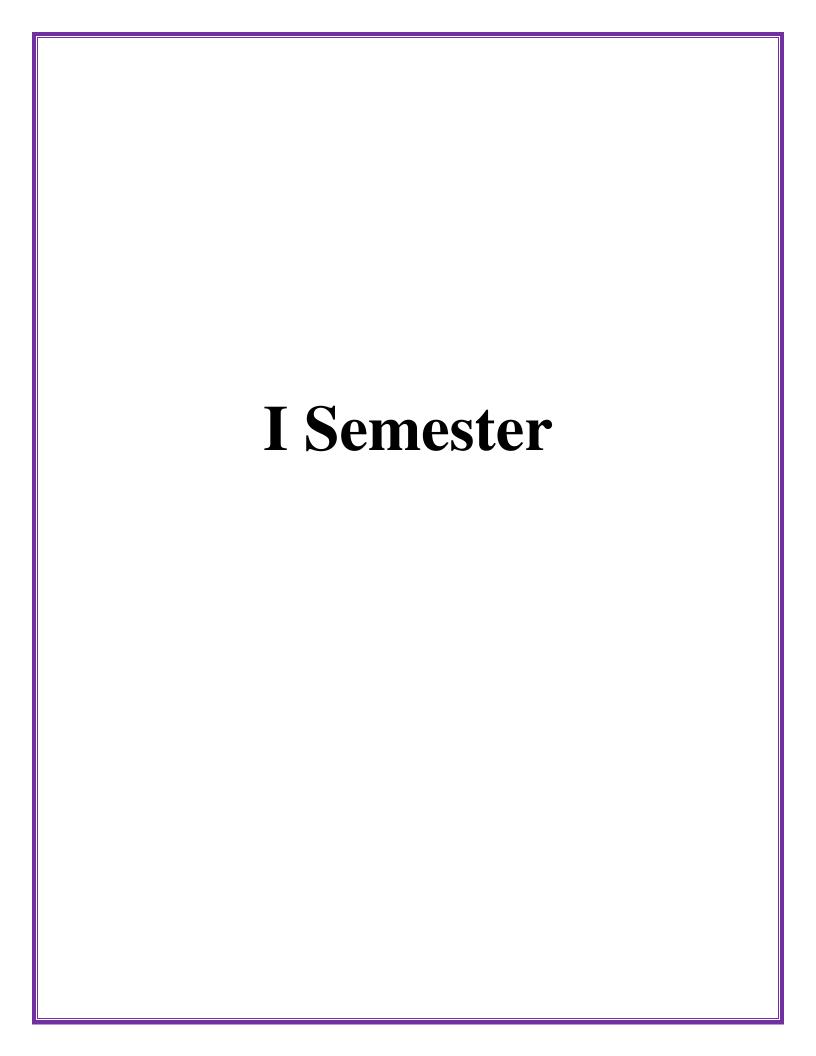# ALAGAPPA UNIVERSITY

(Accredited with A+ Grade by NAAC (CGPA : 3.64) in the Third Cycle)
DIRECTORATE OF COLLABORATIVE PROGRAMMES

MBA in Business Analytics

Regulations and Syllabus

[For those who join the Course in July 2016 and after]

I Semester

11-MANAGEMENT CONCEPTS AND PRACTICES

Objectives:

To enable the students to understand the principles of management thought and applying the same in practice.

Unit 1

Introduction to Management

- Introduction and Nature of Management
- Definition & Meaning-By P. F. Drucker, Koontz O" Donnel, S. George
- Management as an Art, Science and Profession
- Distinction between Administration and Management
- Importance & Functions of Management.

Unit 2

Evolution of Management

- Evolution of Management- Thought
- Pre Scientific Management era
- Scientific Management & Contribution of F. W. Taylor
- Process Management & contribution of Henri Fayol
- HR movement - Hawthorne experiments
- Contributions of Behavioral scientists- Abraham Maslow, Peter Drucker, Douglas Mc. Gregor

Unit 3

Planning and Decision Making

- Nature & Definition of Planning- Koontz o'Donnel, Hart, Alfred &Beaty
- Importance and limitations
- Planning process
- Types of Plans- on the basis of use, functions, time (meaning only)
- Meaning of Decision making
- Steps in decision making
- Types of decisions- Programmed-Non-programmed; Strategic-tactical, Individual-Group, Policy-Operation, Organizational-Personal

Unit 4

Organizing & Departmentation

- Meaning & Definition- Koontz O'Donnell & McFarland
- Organizing - Nature, Purpose & Principles
- Types of Organization (Formal & Informal)
- Types of Authority relationships- Line, Functional, Line& staff, Committees,
- Meaning and types of Departmentation
- Centralization and De-centralization (Meaning Only)

Unit 5

Elements of Directing, Co-ordination and Control

- Meaning & Importance of Directing
- Leadership: Meaning & Styles
- Motivation: importance & Theories (Maslow, Herzberg. Mcgregor)
- Communication- Meaning, Objectives & Types of communication
- Meaning, Principles and techniques of Co- ordination
- Meaning, Need & steps in Controlling

Reference Books:

1. Harold Koontz, Cyril O'Donnell, *Management: A Book of Readings*, Third Edition, McGraw-Hill, 1972.

2. Dr P. N. Reddy, Prof H R Appannaiah, P C Tripathi, *Essentials of Management*, Eleventh Edition, Himalaya, 2004.

1. L. M. Prasad, *Principles and Practice of Management*. 7th Edition, Sultan Chand & Sons, 2007.

2. R. Srinivasan and S. A. Chunawalla, *Management: Principles and Practice*, Second Edition, Himalaya, 1983.

3. P. C. Tripathi and P. N. Reddy, *Principles of Management*, Fourth Edition, Tata McGraw Hill, 2008.

12 - ACCOUNTING FOR BUSINESS ANALYSTS

Objectives:

Accountants play a key role in the formulation and implementation of business decisions, both strategic and tactical, through their uniquely analytical approach to the assessment of the financial implications of business plans.

Accounting for Management focuses on the crucial role which financial information plays in decisions made by management teams, and in the monitoring and planning of a business organisation's objectives. The course seeks to cover accounting studies to a more refined level, similar to professional qualification standard along with retaining theoretical analysis.

Unit 1

Conceptual Framework

Double-entry book-keeping system, journal, ledger, posting, debits, credits, trial balance, adjusting entries, final accounts for non-corporates (manufacturing trading, PandL, B/S), company final accounts, computerised accounting.

Unit 2

Financial Statement Analysis and Interpretation

Financial statement analysis and interpretation, ratio analysis, fund flow analysis. Cash flow analysis.

Unit 3

Budgets and Budgetary Control

Concepts of budget and its advantages, functional, master and cash budget, flexible and zero based budgeting, responsibility accounting, performance budgeting.

Unit 4

Marginal Costing and Profit Planning

Absorption costing and marginal costing, direct costing, contribution, profit planning, Cost-volume-profit Analysis (CVP analysis), Break-even Analysis, Break-even charts, advantages and

limitations of marginal costing, application of marginal costing technique, decisions involving alternative choices, determination of sales mix, make or buy decision, exploring new markets, discontinuance of a product line. Standard costing as a tool for control, variance analysis.

Unit 5

Depreciation Accounting and Inventory Valuation

Concept of depreciation, methods of depreciation, objectives of inventory valuation, methods of inventory valuation.

Reference books:
1. Khan, M. Y. and P. K. Jain (2013). *Management Accounting - Text, Problems and Cases.* New Delhi: McGraw Hill Education.

2. Maheshwari, S. K., S. N. Maheshwari and Sharad K. Maheshwari. (2012). *Accounting for Management*. New Delhi: Vikas Publishing House.

3. Gupta, Ambarish. (2012). *Financial Accounting for Management: An Analytical Perspective*. New Delhi: Pearson Education.

4. Banerjee, Ashok. (2009). *Financial Accounting: A Managerial Emphasis*. New Delhi: Excel Books.

5. Horngren, Charles T., George Foster and Srikant Datar. (2007). *Cost Accounting: A Managerial Emphasis*. New Delhi: Prentice Hall

6. Alexander, David and Anne Britton. (1996). *Financial Reporting*. Boston: International Thomson Business Press.

13 - SPREADSHEET MODELLING

Objectives:

This course will cover all aspects of creating spreadsheet, performing calculations, formatting, some very widely used formulas like SUMIF, LOOKUPS, and also getting Excel to make decisions using the „IF" function, "WHAT IF ANALYSIS" and conditional formatting. It will enable the students to create, build and customise graphs, develop advanced solutions on the worksheet and to assemble the proper Excel tools.

Students will gain an insight into data tables and using excel advanced look up features to automate worksheets and analysis tools to forecast figures based on a range of scenarios and use consolidation to bring together information.

The case study based training design is unique as it blends the features of the tool and usage scenarios.

Unit 1

Starting up with MS Excel

Basics Of MS Excel: The Ribbon, The levels of Command organization Excel Options, Customizing the Quick Access Tool Bar, The Excel Screen, Worksheets and Workbooks, Saving a workbook. Manipulating Rows And Columns: Inserting rows and columns within a worksheet, Modifying column widths using 'drag and drop', Automatically resizing the column width to fit contents.

Unit 2

Manipulating Worksheets

Switching between worksheets, Copying or moving worksheets between workbooks, Grouping Worksheets, Protecting Worksheets and Workbooks. Working With Data- Entering Data: Entering numbers and text into cells, Default text and number alignment, AutoFill. Selecting data, Copying, moving and deleting data, Formatting data: Built in and custom formats**,** Currency symbol, Date Percentages, Alignment of content in cell range, Cell orientation.

Unit 3
Implementing Mathematical, Trigonometry, Statistical Functions Using Referencing

Arithmetic Functions, Absolute/Relative Cell Referencing, Mixed References, Formula Auditing Tools, Formula Error Checking, Tracing Precedents/Dependents, Goto, Naming individual or range cells, Deleting and amending named ranges, Using named cells/ranges in formulae, Using SUMPRODUCT, SUMIF and SUMIFS, COUNTIF and COUNTIFS, AVERAGEIF and AVERAGEIFS Functions, Using FLOOR/ CEILING/ MROUND/ MOD/ QUOTIENT Functions.

Unit 4

Graphs and Validation Techniques: Different kinds of Graphs, Column, Pie, Bar, Area, Scatter, Drop Down Lists, Error Alerts, Conditional Formatting.

Date, Text, Logical Functions: Date Functions: DAYS360, TODAY, NOW, NETWORKDAYS, WORKDAY, Logical Functions: IF, AND, OR and NESTED IF, TEXT Functions: MID, SEARCH, LEFT, RIGHT FUNCTIONS, TRIM, CLEAN, UPPER, LOWER, DOLLAR FUNCTIONS, SUBSITUTE.

Lookup Functions: Lookup Functions: BASIC VLOOKUP and HLOOKUP, IFERROR VLOOKUP, MULTIPLE COLUMN VLOOKUP, INDEX and MATCH Functions, OFFSET/ INDIRECT functions.

Unit 5

Data Analysis using Pivot Table, Filters and What If Analysis: Data Analysis using Pivot Tables: Using the Pivot Table Wizard, Changing the pivot table layout, Formatting, Grouping items, Inserting calculated fields, Pivot Table Options, Display and hide data in fields, Lay out reports directly on worksheet, Pivot Chart, Using Slicer in pivot Tables, Applying and Using AutoFilter, Creating a Custom AutoFilter, Sorting On More Than One Column, Using Advanced Filter, Using Formulas In Criteria.

Advance Tools: What If Analysis. Scenario Manager, Goal Seek, Solver.

Laboratory Session: 2 hours per week to work on computer assignments and other hands-on activities required to develop skill sets and tools kits necessary for employability.

Reference Books

1. Walkenbach, John. (2010). *Excel 2010 Bible*. New Delhi: Wiley India Pvt Ltd.

2. MacDonald, Mathew. (2010). *Excel 2010: The Missing Manual.* Sebastopol: O'reilly.

3. Ragsdale, Cliff. T. (2008). *Spreadsheet Modelling and Decision Analysis.* New York: Thomson south – western publications.

4. Monahan, George E. (2000).M*anagement Decision Making : Spread Sheet, Modelling, Analysis.* London*:* Cambridge University.

Objectives:

This course teaches the core quantitative principles. In particular, the course teaches how to perform quantitative analysis. The course also teaches the critical thinking principle.

The course teaches how to use data, combined with logic, to reach valid solutions to challenging problems. Also, the course teaches students how to think critically about ambiguous situations. Finally, the idea that underlies statistics is subtle and powerful. Hence, by teaching this idea, the course advances students" intellectual depth.

Unit 1

Descriptive Statistics

Introduction, summarizing Data, EDA, Cross tabulation, measures of location, measures of variability, measures of distribution shape, measures of association, applications with Minitab and Excel.

Unit 2

Probability Distributions: Introduction, Bayes" Theorem, Discrete Probability Distributions,

Continuous Probability Distributions, Binomial Distribution, Poisson Distribution, Approximation of Binominal Distribution to Normal Distribution.

Sampling Distributions: Sampling and Sampling Distributions, Central Limit Theorem, Concept of Standard Error, Confidence Intervals, Applications with Minitab and Excel.

Unit 3

Hypothesis Testing

Hypothesis Testing and Decision Making, Statistical Inferences about means and proportions and variances, Test of Goodness of Fit and Independence, Applications with Minitab and Excel.

Unit 4

Financial Mathematics

Time Value of Money, Simple and Compound Interest, Discounting and Compounding, Present Value and Future Value of single sum and annuity, Loan payments and Amortisation, Applications with Excel.

Unit 5

Correlation and Regression

Analyses of Relationship, Ordinary Least Square Regression, Standard error of estimate, Adjusted R square and goodness of fit.

Reference books:

1. Anderson, David R., Thomas A. Williams and Dennis J. Sweeney. (2012). *Statistics for Business and Economics*. New Delhi: South Western.

2. Levin, Richard I. and David S. Rubin (1994). *Statistics for Management*. New Delhi: Prentice Hall.

3. Waller, Derek. (2008). *Statistics for Business*. London: BH Publications.

4. Lee, Cheng. et al. (2013). *Statistics for Business and Financial Economics*. New York: Heidelberg Dordrecht.

15 - ECONOMIC ANALYSIS FOR BUSINESS DECISIONS

Objectives:

The course gives an understanding of consumer's economic activities. It describes the concept of utility function and the Relationship between consumers Income and spending. The course also helps in understanding the law of demand, law of supply. The course gives a basic understanding of production function, and the cost involved in decision making. The course also talks about the macroeconomic variables involved in business decision.

Unit 1

Basic Concepts of Economics

Economic problems, Flow of economic activities, understanding consumer's economic behaviour (Utility, Satisfaction, indifference behaviour), Relationship between consumers Income and spending, managerial economics- a way of thinking about business.

Unit 2

Managing Demand and Supply

Law of demand, Understanding the determinants of demand for basic goods, Household durables, Luxuries, Exceptions, Constructing Demand equation, Demand elasticity.

Law of Supply, supply determinants, supply equation, concept of Equilibrium.

Unit 3

Production Costs and Business Decision

Production function, production decisions under various time periods, scale of production and managerial decision.

Types of costs and its significance in decision making, Cost related decisions under various time periods.

Unit 4

Market Structure

Firm under competitive conditions as perfect and imperfect, market characteristics, price and output determination.

Unit 5

Macro Economics in Business Decision

Government and market, National Income computation, Business cycle, inflation, Macroeconomic Policies.

Reference books

1. Mcguigan, James R. (2010). *Managerial Economics: Applications, Strategy and Tactics*. Mason: Cengage Learning.

2. Dean, Joel. (2008). *Managerial Economics.* New Delhi: PHI Learning Pvt Ltd.

3. Spencer, Milton H. (1973). *Managerial Economics.* Toronto: Irwin.

4. Shim Jae K. (2008). *Economic Analysis for Business and Strategic Decisions*. Singapore: Global Professional Publishing.

16 - RESEARCH METHODOLOGY

Objectives:

This subject will make the students familiar with the concepts of Research Methods starting from the variable types, types of research, scale of measurement to actual application with SPSS. The subject will equip the students with the skills of running appropriate SPSS commands and with that of decoding SPSS output for hypothesis testing and for Correlation and Regression Analysis.

Unit 1

Introduction to SPSS: SPSS windows, Creation and saving of SPSS files, Variable view, Data view, Split and select command.

Unit 2

Research Types: Exploratory and Experimental Research, Qualitative and Quantitative Research, Selection of Scale, Comparative and Non Comparative Scaling Techniques, Likert Scale, Mathematically Derived Scales, Choosing a Scaling Technique, Randomness. Run test for randomness.

Questionnaire Design Process, Quality of a good questionnaire, type of interviewing method, individual question content, choosing question structure, choosing question wording, Closed and Open question, determining the order of question.

Unit 3

Descriptive Statistics: Univariate descriptive analysis: Types of scales, Nominal, Ordinal, Interval and Ratio Scales. Categorical and Continuous Data. Bar Charts, Pie Charts, Box Plots, Stem and Leaf Diagram, Histogram, Mean Plot. Normalcy tests: Shapiro-Wilk and Kolmogorov Smirnov Test of Normality.

Normality assessment through Histogram, Probability Plot, Q-Q Plot. Outlier"s assessment. SPSS application.

Unit 4

Hypothesis Testing I: Central Limit Theorem, Types I and Type II Error, Level of Significance and Confidence Interval. Null and Alternate Hypotheses, Parametric and Non-parametric tsets. One Sample T-test, Paired Sample T-test, Independent Sample T test. SPSS application.

Hypothesis Testing II: One way ANOVA, Chi-square test, Related Sample Wilcoxon Signed Rank Test, Mann-Whitney Test, Kruskal-Wallis and Friedman ANOVA test. SPSS application.

Unit 5

Correlation and Simple Linear Regression Analysis: Relationship through scatter plots, Coefficient of correlation, Assumptions of Linear Regression, Standard Error of estimate, Adjusted R Square, Goodness of fit, Residual Analysis. Durbin-Watson statistics and Multicollinearity.

Reference Books:

1.   Bajpai, N. (2009). Business Statistics. New Delhi: Pearson.

2.   Nargundkar, R. (2003). Marketing Research. New Delhi: Tata McGrawHill.

3.   Malhotra, N.(2008). Marketing Research. New Delhi: Pearson.

4.   Kothari, C. R. (2004). Research Methodology Methods and Techniques. New

        Delhi: New age International Publishers.

5.   Chaudhary, C. M. (1991). Research Methodology. Jaipur: RBSA Publishers.

17 - WRITTEN ANALYSIS AND COMMUNICATION

Objectives:

To teach students about the importance of business communications –verbal and non-verbal. To help them understand and practice the different methods of communication with clarity, crispness & effectiveness.

Unit 1

Basics of Communication

Definitions of Communication, Human Communication, Communication Situation, Elements of Communication, The Communication Process, Business Communication, Importance of Business Communication, Communication Channels

Unit 2

Barriers to Effective Communication

Barriers to Effective Communication: Physical, Physiological and Psychological Barriers, Overcoming Communication Barriers, Hearing v/s Listening, How to Shift from "Hearing" to "Listening"?, A Listener or Not?, Characteristics of Good and Poor Listeners, Causes of Poor Listening, Listening as a Business Tool, Listening for Fact v/s Listening for Overall Comprehension, Kinds of Listening, Approaches to Listening, Barriers to Effective Listening

Unit 3

Written Communication for Business Scenarios

Business Correspondence, Types of Letters, Concept of Business Correspondence, Importance of Business Correspondence, Qualities of a Business Letter, Parts of a Business Letter, 7 Cs of Business Correspondence, Business Correspondence- The Myth, Business correspondence through emails

Unit 4

Letters, Reports and Memos for Different Situations

Pleasant Letters and Unpleasant Letters, Understanding the Audience, Factors that Help in Understanding the Audience, Organizing the Message, Writing Pleasant Letters, Writing Unpleasant Letters, Persuasive Letters, Understanding the Product, Customer and Purpose, Organizing the Message, Different Types of Persuasive Letters, Memos, Reports, Elements of a Report, Writing a Report, Using Graphics to Manage Data, Types of Visual Aids, Selection of Visual Aids
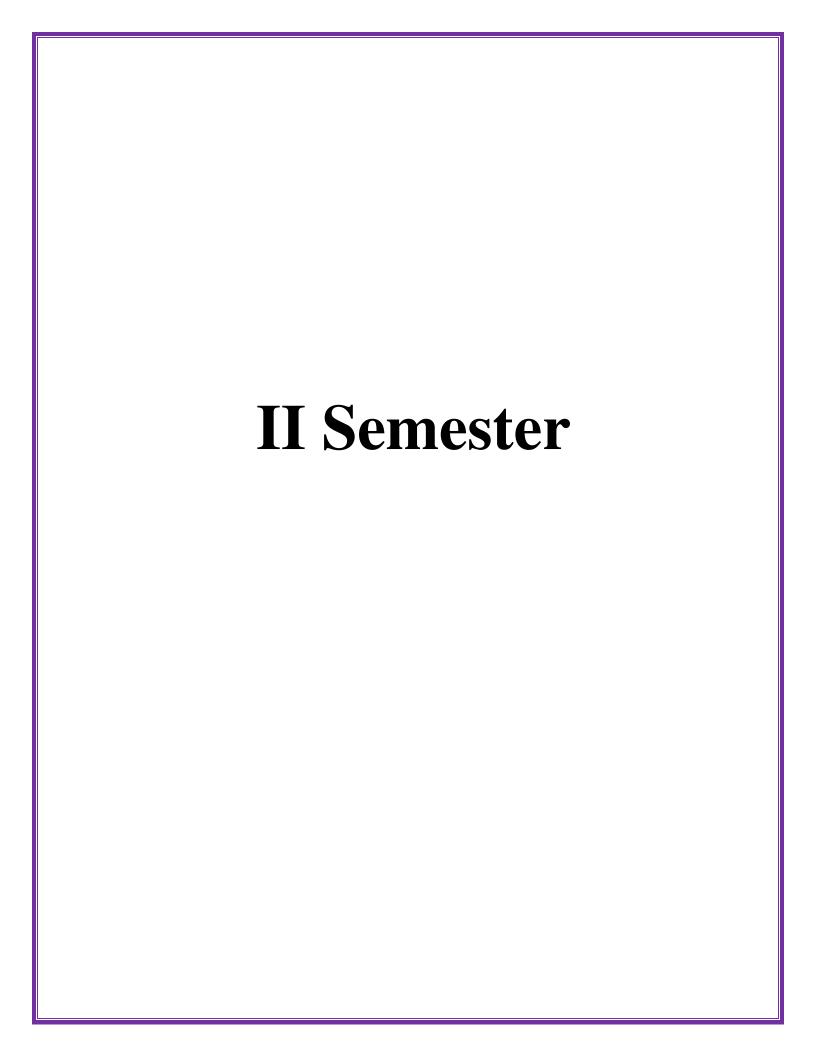
Unit 5

Oral Communication and Non-Verbal Communication

Effective Oral Communication, Interviewing, Negotiation, Communication in Groups, Non-verbal Communication, Characteristics of Nonverbal Communication, Conventional and Nonconventional Nonverbal Communication, Dress, Interaction of Verbal and Nonverbal Communication

Reference Books:

1.   Business Communication. ICMR Publications
2.   Gibson, J W and Hodgetts R M. Business Communication. Harper and Row, 1990.
3.   Bovee C L and Thill J V. Business Communication Today. McGraw Hill, 2008
4.   Ron Hoff. A Fearless Guide to Making Great Presentations. Andrews and McMeel, 1998

II Semester

21 - MARKETING MANAGEMENT

Objectives:

- To teach the basics of marketing at the strategic & execution levels. Also to introduce the basic framework of branding.

- To teach the students about the all-pervasive nature of markets and their transformation across decades; to expose the rational, sensory & emotional triggers in consumer buying & selling. To introduce the basics of marketing communications and the principles of branding.

Unit 1

An Overview of Marketing Management

Introduction to Marketing Management, Marketing Management – An Overview, Introduction, What is Marketing?, Understanding the Marketplace and Consumer Needs, Designing a Customer Driven Marketing Strategy, Construct an Integrated Marketing Program, Building Customer Relationships, Capturing Value from Customers, The Changing Landscape of Marketing, Consumer Behaviour and Business Buyer Behaviour, Consumer Behaviour: Definition, Factors Affecting Consumer Behaviour, Harley-Davidson Consumers: A Case Study, The Buyer Decision Process, Business Buying Process, Factors affecting Business Buying Decisions, Business Buyer Behaviour.

Unit 2

Market Segmentation and Market Research

Marketing Strategy, Market Segmentation and Product Positioning, Market Segmentation, Market Targeting, Target Market Strategies, Product Positioning and Differentiation, Choosing a Differentiation and Positioning Strategy, Changing the Product Positioning, Consumer Needs, Wants, and Consumer Insights, Benefits Sought By Consumers, The Impact of Emotional Benefits, Examples of Consumer Insights, Consumer Insight, Possible Sources of Insights, Using Insights – An Example, Finding and Developing an Insight – A Case Study, The Role of an Insight in Product Development and Marketing, Market Research, Definition, Market Research and Marketing Research, Types of Market Research, Market Research: Examples, The

Marketing Research Process, International Marketing Research, Market Research for Small Businesses.

Unit 3

Products, Services and Pricing Decisions

Product and Price, Products and Services, Products, Services, and Experiences, Levels of Product and Services, Product and Service Classifications, Consumer Products, Industrial Products, Product and Service Decisions, Product and Service Attributes, Branding, Packaging, Labelling, Product Support Services; Product Line Decisions, Product Mix Decisions; Services Marketing--The Nature and Characteristics of a Service, Branding Strategy, Building Strong Brands, Brand Equity, Building Strong Brands, Brand Positioning, Brand Name Selection, Brand Sponsorship, New Product Development and Product Life Cycle (PLC), New-Product Development Strategy, Product Life-Cycle Strategies, Introduction Stage, Growth Stage, Maturity Stage, Decline Stage, Pricing, Factors to Consider When Setting Prices, Customer Perceptions of Value, Company and Product Costs, Other Internal and External Considerations Affecting Price Decisions, Public Policy and Pricing, Anti-Competitive Agreements, Abuse of Dominance, Unfair Trade Practices.

Unit 4

Marketing Communications for the Domestic and Global Markets

Promotion and Place Mix, Marketing Communications, Verbal Identity of a Brand, Visual Identity of a Brand, Integrated Marketing Communications (IMC), Designing an Effective Message, Setting the Total Promotion Budget, Promotion Mix Strategies – Push and Pull Strategy, The Nature of Each Promotion Tool, Evaluation of Advertising Effectiveness, Public Relations, Advertising and Public Relations, Personal Selling and Sales Promotion, Personal Selling, Managing the Sales Force, Sales Forecasting, Steps in Personal Selling, Add-On Sales Ideas, Advantages and Disadvantages of Personal Selling, Cultural Barriers in Marketing Communication.

Unit 5

Marketing Channels and Global Trends

The Distribution Channel, Type of Marketing Channel, Channel Motivation, Importance of Channel of Distribution, Multiple Channels Distribution, Retail, Levels of Service, Corporate Retailing, The New Retail Environment, Direct Marketing, Benefits of Direct Marketing, Direct Marketing Channels, Public and Ethical Issues in Direct Marketing, The Moving Goal Post, The Moving Goalpost, Consumer Purchase Decision Making Process, Factors Affecting the Consumer Behaviour, Emerging Consumer Trends in the global business front and Corresponding Competition Strategies.

Reference Books

1. Kotler, Keller, Koshy & Jha. *Marketing Management: A South Asian Perspective*, 13th Edition, Pearson Education, 2012.

2. Rosalind Masterson &David Pickton. *Marketing: An Introduction,* 2nd Edition, Sage Publications, 2010.

3. Tapan Panda, *Marketing Management: Text and Cases Indian Context*, 2nd Edition, Excel Books India, 2009.

4. Ramaswamy V. S. & Namakumari S, *Marketing Management Global Perspective Indian Context*, 4th Edition, Macmillan India Limited, 2010.

5. William J. Etzel Stanton (Michael J. Walker, Bruc Ce J.), Michael J. Etzel, Bruce J. Walker, *Fundamentals of Marketing*, 9th Edition, Mcgraw-Hill Publishing Company, 1991.

6. Arun Kumar & Dr. Meenakshi N, *Marketing Management*, 2nd Edition, Vikas Publishing House, 2011.

22 - HUMAN RESOURCE MANAGEMENT

Objectives:

- To teach the students about people as essential resources in any organisation and how best to motivate them for optimum performance.

- To help the students understand the crucial role of people in any business; to explore different aspects of building this vital capability across the entire spectrum.

Unit 1

Human Resource Management – Scope and Functions

Perspectives in Human Resource Management, Human Resource Management – An Introduction, People – The Competitive Advantage, Role of HRM, HRM Functions, Organization of HR Department, HRM Policies and Principles, HR Skills, HRM Models, Evolution of HRM in India and e-HRM, HRM Models, HRM in India and Its Evolution, e-HRM, Globalization and Contemporary Challenges in HRM, HRM in Mergers and Acquisitions, Globalization and HRM, Contemporary Challenges in HRM, HRM in High Performing Organizations, New Organizational Forms, Changing Demographics of Workforce, Changed Employee Expectations, HR Professional as a Change Agent.

Unit 2

Recruitment Process

HR Planning, Recruitment and Selection, HR Planning, Importance of HRP, Factors Affecting HRP, HR Planning Process, HRP and the Government, Requisites for Successful HRP, Barriers to HRP, Job Analysis, Job Analysis and Competitive Advantage, Process of Job Analysis, Purposes of Job Analysis, Job Analysis and Total Quality Management (TQM), Job Analysis and Strategic HRM, Potential Problems with Job Analysis, Recruitment and Selection, Purpose and Importance of Recruitment, Factors Governing Recruitment, Recruitment Process, Philosophies of Recruiting, Alternatives to Recruitment, Selection as a Source of Competitive Advantage, Organization for Selection, Selection Process, Barriers to Effective Selection.

Unit 3

Training and Development

Training and Development, Induction and Orientation, Purpose of Orientation, Orientation Programme, Requisites of an Effective Program, Placement – After Orientation, Evaluation of an Orientation Programme, Possible Errors in Orientation, Methods of Training, Nature of Training and Development, Inputs in Training and Development, Training Inputs across Employees, Training and Development as a Source of Competitive Advantage, The Training Process, Barriers to Effective Training, Management Development and Career Development, Management Development Programmes (MDPs), On-the-Job MDPs, Off-the-Job MDPs, Career Development, Career Development Initiatives, Career Development Roles, Performance Management, Performance Appraisal – An Overview, Objectives of Performance Appraisal, Performance Appraisal and Competitive Advantage, Appraisal Process, Problems of Traditional Appraisal and Rating, Potential Appraisals, Legal Factors and Job Evaluation, Potential Appraisals, Legal Issues Associated with Performance Appraisal, Job Evaluation, Pitfalls of Job Evaluation, Alternatives to Job Evaluation.

Unit 4

Employee Compensation and Benefits

Compensation Planning, Wages, Salary, and Perquisites, Remuneration Components in an Organization, Theories of Remuneration, Reinforcement and Expectancy Theories, Equity Theory, Agency Theory, Why an Ideal Remuneration System is Important?, Factors Influencing Employee Remuneration, External Factors, Internal Factors, Remuneration Plans and Business Strategy, Devising a Remuneration Plan, Challenges of Remuneration, Concept of Wages, Remuneration Special Groups, Incentives and Bonus, Importance of Incentives, Disadvantages of Incentives, Prerequisites of an Effective Incentive System, Scope of Incentive Schemes, Types of Incentive Schemes, Incomes Varying in Proportion to Output, Earnings Varying Proportionately Less than Output, Earnings Varying Proportionately More than Output , Earnings Differing at Different Levels of Output , Group Incentive Schemes, Incentives Schemes for Indirect Workers, Incentive Schemes in Indian Industries, Installing an Incentive Scheme Fringe Benefits, Why Employee Benefits and Services?, Types of Employee Benefits and Services, Principles of Fringes, Significant Benefits and Services, Administration of Benefits and Services, The Future of Fringe Benefits, HR laws in the global.

Unit 5

Managing Human Resources in International Business

The Internationalization of Business, How Inter-country differences affect HRM, Improving International Assignments through Selection, Training and Maintaining International Employees, International Labour Relations, Safety Abroad, major considerations in formulating a compensation plan for overseas employees, Repatriation: Problems and Solutions, Handling cultural differences.

Reference Books

1. Seema Sanghi, *Human Resource Management*, 1st Edition, Macmillan India Limited, 2012.
2. Cynthia D. Fisher, Lyle F. Schoenfeldt, James B. Shaw, *Human Resource Management*, Dreamtech Press, 2008.
3. Biswajeet Pattanayak, *Human Resource Management*, 3rd Edition, PHI Learning Pvt. Ltd., 2005.
4. Snell, Bohlander, & Vohra, *Human Resource Management: A South Asian Perspective*, Cengage Learning, 1st Edition, 2010.
5. Lawrence Kleiman, *Human Resource Management: Managerial Tool for Competitive Advantage*, 5th Edition, Cengage Learning, 1999.
6. RS Dwivedi, *A Textbook of Human Resource Management,* 1st Edition, Vikas Publishing House, 2009.

23 - FINANCIAL MANAGEMENT

Objectives:

At the end of this subject, student will:

- Familiarise with fundamental concepts of Financial Management like Objectives of Financial Management, Time Value of Money, Cost of Capital, Valuations and Capital Budgeting, Capital Structures and Dividend Policies. All these concepts will be explained with the help of case studies and live data.

Unit 1

Introduction to Financial Management

- Definition, meaning and role of Financial Management, Goals of Business finance, Profit Maximization vs. Wealth Maximization, Profit Maximization – Approvals and Objections, Wealth Maximization, Growth Maximization, Agency problems.

- Time Value of Money: Time line, Cash Flow Sign Convention, Calculation of Annuities, Inflation Adjusted Interest Rates, Present Value, Net Present Value, Excel Application.

Unit 2

Cost of Capital

- Cost of Debt: Irredeemable and Redeemable Debenture, Preference Shares, Common Stock; Cost of Equity: Dividend Yield Method, Dividend Yield Plus Growth Rate Method, Earning Yield Method, Realised Yield Method. Calculating Weighted Average Cost Of Capital: the adjusted-beta CAPM, APM, the Bond Yield plus Risk Premium Approach.

- Cost of Retaining Earnings, Weighted Average Cost of Capital– Meaning, Limitations and Considerations in Calculating WACC, Adjusting WACC for Risk.

- Sources of Long Term Finance, Capital Asset Pricing Model or CAPM.

Unit 3

Valuations & Capital Budgeting

- Valuation of Securities - Stocks and Bonds: Concept of Value, Features of a Bond, Bonds Values and Yields, The Expectation Theory, Valuation of Preference Shares, Valuation of Ordinary Shares.

- Meaning, Nature, Significance and Procedure of Capital Budgeting, Investment Evaluation Criteria, Discounted Cash Flow Criteria (NPV, IRR, PI), Non-discounted Cash Flow Criteria (PB, discounted PB, ARR).

Unit 4

Capital Structure Theories & Dividend Decisions

- Capital Structure: Meaning, Designing and Factors influencing Capital Structure and Optimal Capital Structure.

- Leverages: Financial Leverage, Operating Leverage, Combined Leverage, Approaches of Financial Management.

- Capital Structure theories: Net Income Approach, Net Operating Income Approach, Modigliani Millar Approach, Modern Approach to Corporate Finance in an Improvement on the Traditional Approach, Pecking Order Theory.

- Dividend Decisions, Relevance V/s Irrelevance of Dividends (Relevant Theory: Walter"s Model, Gordon"s Model; Irrelevant Theory: MM"s Approach, Traditional Approach).

Unit 5

Working Capital Management and Finance

- Cash Management: Motives for Holding Cash, Objectives and Facts of Cash Management.

- Receivables Management: Study of Credit Policy.

- Inventory Management: Definition and Nature of Inventories, Reasons for Holding Inventories, Inventory Management Techniques: HML Analysis, VED Analysis, SDE Analysis, EOQ Analysis.

- Working Capital Finance: Concept, Meaning, Definition, Importance, types and Determinants, Operating Cycle Concept, Working Capital Finance: Factors influencing WCM Estimation, Problems on estimation.

Reference Books

1. Khan & Jain. *Financial Management*, 7th edition. TMH, 2014.

2. I M Pandey. *Financial Management*, 10th edition. Vikas Publications, 2013.

3. Van Horne and Wachowitz. *Fundamentals of Financial Management* 13th ed. Phi Learning, 2009.

4. James C. Van Horne, Sanjay Dhamija. *Financial Management and Policy*, 12th Edition. Pearson Education, 2011.

5. Prasanna Chandra. *Financial Management,* 5th edition. Tata McGraw Hill, 2010.

6. Brigham and Erhardt. *Corporate Finance* (with Thomson One - Business School Edition), 5th edition, South Western Educational Publishing, 2013.

7. Ross, Wetfield & Jaffer. *Corporate Finance,* 8th edition, McGraw-Hill/Irwin, 2008.

24 - PROJECT MANAGEMENT AND BUDGETING

Objectives:

- To teach the students the basics of project planning, budgeting, execution & course-correction.

- To explain to the students the importance of flawless execution which requires intense & detailed planning & resourcing; also the principles of project management

Unit 1

Introduction to Project Management

Introduction and Fundamentals of Project Management, Introducing Project Management, Project – What is it and its Characteristics, Project Management - Definitions, Terms, The

Project Management Process, Defining the Scope, Understanding the Project Manager"s Role,

Project Management as a Critical Career Skill, History of Project Management and the Project Environment, A Brief History of Project Management.

Unit 2

Project Environment

The Project Environment, Project Lifecycle, Project Managers are Leaders, Organization Structure - The Basic Model, Modifications to the Basic Model, The Organizational Culture and Change, Organization as a System, Surviving the Organizational Structure, Project Stakeholders, Stakeholders – Who are they? Roles of the Stakeholders, How the Project Manager should lead the stakeholders. Public Private Partnership (PPP).

Unit 3

Project Planning

Initiation and Planning, Initiation, Project Kick-off and Communication, The kick-off meeting, the Project Charter creation, Assigning roles to the team, developing responsibility matrix, Developing the Communication Plan, Project Scope and Priorities, Defining the Scope, Vision Document, Statement of Work, Establishing Project Priorities, The Documents that need to be created, Project Scope and its Management - Work Breakdown Structure and Verification of the

Scope, Work Breakdown Structure: Definition, Understanding and Creation. Verifying the Project Scope and Protecting the Scope from Change, Planning, The Project Planning Process, The Planning Stage: Introduction to Planning, The Process and the Activities, Creating a Schedule and Time Management Plan, Creating a Resource Plan, Creating a Financial Plan, Creating a Quality Plan, Creating a Risk Plan, Creating a Acceptance Plan, Creating a Communication Plan, Creating a Procurement Plan, Phase Review. Build Operate and Transfer (BOT), BOLT, BOO.

Unit 4

Project Execution

Executing the Project, Project Work – Execution, Introduction to the process of execution, Directing the project work, Assuring Quality, Completing Procurements, Building a High Performance Project Team, Project Team is developed, not acquired – The Project Team Dynamics, Framework for Building a Team. Managing Project Team - How to Manage it? Motivation and Leadership, Collaborative Problem Solving, Knowing the Stakes and Managing them, Stakeholder Management – Managing the Expectations, Information Distribution.

Unit 5

Scheduling the Project in a Global Business Environment

Monitoring and Closing the Project in a global business environment, Monitoring and Controlling the Project Work, Monitoring and Controlling the Project Work, Monitoring and Controlling Project Work – The Process: Integrating Change Control and Administering Procurements, Monitoring and Controlling the Scope, Schedule and Cost , Monitoring and Controlling Scope, Schedule and Cost – Overview, Controlling Scope, Controlling Schedule and Controlling Cost, Closing the Project – An Overview, Verifying the Scope of the Project Deliverables, Project Closure – The Tasks, Closing the Procurements and Providing the Finishing Touch, Managing a project across geographical borders
Case studies.

Reference Books

1. Robert L Kimmons, James H Loweree. *Project Management: A Reference For Professionals: Cost Engineering*, CRC Press, 2000.

2. *A Guide to the Project Management Body of Knowledge* (PMBOK® Guide), Fifth Edition, Project Management Institute, 2013.

3. Sanford I. Heisler. *The Wiley Project Engineer's Desk Reference: Project Engineering, Operations, And Management*, Wiley-interscience, 1994.

4. James P Lewis. *Fundamentals of Project Management*, Heritage Publishers, 2003

5. Harvard Business Press, *Managing Projects Large and Small: The Fundamental Skills to Deliver on budget and on Time,* 2003.

6. Kimberley Wiefling. *Scrappy Project Management: The 12 Predictable and Avoidable Pitfalls Every Project Faces*, Scrappy About, 2003.

7. Quentin W. Fleming, Joel M. Koppelman. *Earned Value: Project Management*, Project Management Institute, 2005.

8. Kevin R. Callahan, Gary S. Stetz, Lynne M. Brooks. *Project Management Accounting: Budgeting, Tracking, And Reporting Costs And Profitability*, John Wiley & Sons, 2007.

25 - FUNDAMENTALS OF DIGITAL MARKETING

Objectives:

Media is evolving and brand communication must keep pace. This will cover the innovations in this area. Given the power of media to influence beliefs, knowledge and attitudes, for brands and businesses, this is a vital link; it will also explore the latest trends in media & content; user generated content and its impact on media monetisation and the entire media business model.

Unit 1

Introduction to Digital Branding

Benefits of Digital Display, Target Audience, Challenges of Digital Display, Campaign Objectives, Business Value, Campaign Budget, Running Effective Ads, Creative Formats, Ad Formats, Targeting, Ad Features, Tracking your Campaign, Ad Display Frequency, Optimizing the Campaign, Campaign Planning, Laws & Guidelines

Unit 2

Content Marketing

What is Content Marketing?, Identifying Prospects, Writing Messages and Creating Content, Getting the Message into the Media, Content Essentials, Content Strategy, Idea Creation, Content Creation, Social Media Promotion, Traffic Generation, Content Auditing,

Unit 3

Consumer Generated Content

Definition and Insights on Consumer Generated Content, Do-It-Yourself (DIY) Advertising, Product Development, and Opportunities for Co-creation, and Four Building Blocks of Co-creation.

Unit 4

Gamification

Gamification and the Fun Theory, Gamification and Major Brands, Five Elements of Gamification in a Branding Strategy, advergaming, Gamevertising, Principles of Gamification.

Unit 5

The Future of Media

Scenario Planning, Interpreting Scenario, Dynamic Content Creation, Strategic Framework of the Future of Media, the Consumer/Creator Archetype, Revenue and Ad Aggregation, Distribution: Channels, Devices, and Mobility, Globalization and Localization, Intellectual Property and Media; Shifting Advertising Channels - Growth in Digital Advertising, Social Networks, Blogging Platforms, Drivers of Value, The Forces Shaping Media--Increasing Media Consumption, Fragmentation, Participation, Personalization, New Revenue Models, Generational Change, Increasing Bandwidth; Future of Media Lifecycle Cases.

Reference Books:

1. Marion McGovern, Dennis Russell& Dennis Russell, (2001) A New Brand Of Expertise: How Independent Consultants, Free Agents, And Interim Managers Are Transforming The World Of Work –Butterworth Heinemann Special Priced Titles.

2. Bren Monteiro, MarketingManual:FocusOnBrandedContent,WithOtherMarketingAspects-6DegreesBooks.

3. Killer Web Content: (2006) Make The Sale, Deliver The Service, Build The Brand – Gerry McGovern,1/e, A & C Black.

4. Get Content Get Customers: Turn Prospects into Buyers with Content Marketing McGraw-Hill.

5. Joe Pulizzi, (2006) Guerrilla Advertising: Unconventional Brand Communication - Gavin Lucas and Michael Dorrian, Laurence King Publishers,2006

26 - FUNDAMENTALS OF BUSINESS ANALYTICS

Objectives:

The course familiarizes the students with all concepts of business intelligence including what problems the technology of Data Warehouse (DW) /Business Intelligence (BI) /Advanced Analytics (AA) solve for businesses and when an organisation is ready for DW/BI/AA.

Unit 1

IT and Business Analytics

Business View of Information Technology Applications, Business Enterprise Organization, Its Functions, and Core Business Processes, Baldrige Business Excellence Framework (Optional Reading) , Key Purpose of Using IT in Business, The Connected World: Characteristics of Internet-ready IT Applications, Enterprise Applications (ERP/CRM, etc.) and Bespoke IT Applications, Information Users and Their Requirements.

Unit 2

Digital Data, OLTP and OLAP

Types of Digital Data, Getting to Know Structured Data, Getting to Know Unstructured Data, Getting to Know Semi-Structured Data, Difference Between Semi-Structured and Structured Data. Introduction to OLTP and OLAP, OLTP (On-Line Transaction Processing), OLAP (On-Line Analytical Processing), Different OLAP Architectures, OLTP and OLAP, Data Models for OLTP and OLAP, Role of OLAP Tools in the BI Architecture, Should OLAP be Performed Directly on Operational Databases?, A Peek into the OLAP Operations on Multidimensional Data, Leveraging ERP Data Using Analytics.

Unit 3

Business Intelligence

Getting Started with Business Intelligence, Using Analytical Information for Decision Support, Information Sources Before Dawn of BI?, Business Intelligence (BI) Defined, Evolution of BI and Role of DSS, EIS, MIS, and Digital Dashboards, Need for BI at Virtually all Levels, BI for Past, Present, and Future, The BI Value Chain, Introduction to Business Analytics.BI Definitions and Concepts, BI Component Framework, Who is BI for?, BI Users, Business Intelligence Applications, BI roles and Responsibilities, popular BI tools.

Unit 4

Data Integration and Modeling

Basics of Data Integration, Need for Data Warehouse, Definition of Data Warehouse, What is a Data Man?, What is Then an ODS?, Ralph Kimball's Approach vs. Who Inmon's Approach, Goals of a Data Warehouse, What Constitutes a Data Warehouse?, What is Data Integration?, Data Integration Technologies, Data Quality, Data Profiling. Multidimensional Data Modeling, Types of Data Model, Data Modeling Techniques, Fact Table, Dimension Table, Typical Dimensional Models, Dimensional Modeling Life Cycle.

Unit 5

Performance Management and Enterprise Reporting

Understanding Measures and Performance Measurement System Terminology, Navigating a Business Enterprise, Role of Metrics, and Metrics Supply Chain "Fact based Decision Making" and KPIS , KPI Usage in Companies, Where Do Business Metrics and KPIS Come From, Connecting the Dots: Measures to Business Decisions. Basics of Enterprise Reporting, Reporting Perspectives Common to All Levels of Enterprise, Report Standardization and Presentation Practices, Enterprise Reporting Characteristics in OLAP World, Balanced Scorecard, Dashboards, How Do You Create Dashboards?, Scorecards vs. Dashboards, The Buzz Behind Analysis.

Reference books

1. Prasad, R. N., and Acharya, Seema. (2011). *Fundamentals of Business Analytics*, 1st Edition. New Delhi: Wiley India.

2. Shmueli, Galit, Patel, Nitin R. and Bruce, Peter C. (2011). *Data Mining for Business Intelligence*. New Delhi: Wiley-India.

3. Kimball, Ralph and Ross, Margy. (2011). *Practical Tools for Data Warehousing and Business Intelligence*, 2nd Edition. New Delhi: Wiley-India.

4. Biere, Mike. (2003*). Business Intelligence for the Enterprise*, First Edition. IBM Press.

Objectives:

Understanding Consumer Behaviour- Meaning and Concept of Consumer and Customer, Consumer Learning, Different Models in Consumer Behaviour, Consumer Decision making process-Concept of Consumer Decision; Levels of Consumer Decision Making; Consumer Decision Making Model, Changing Indian Consumer Behaviour-Drivers of Change; Changing Consumer Trends; Rural Consumer Behaviour; New Consumption Patterns, Organizational Buying Behaviour

Unit 1

Overview of Consumer Behaviour

Understanding Consumer Behaviour- Meaning and Concept of Consumer and Customer, Consumer Learning, Different Models in Consumer Behaviour, Consumer Decision making process-Concept of Consumer Decision; Levels of Consumer Decision Making; Consumer Decision Making Model, Changing Indian Consumer Behaviour-Drivers of Change; Changing Consumer Trends; Rural Consumer Behaviour; New Consumption Patterns, Organizational Buying Behaviour.

Unit 2

Factors Influencing Consumer Buying Decision

Influence of Culture on Consumer Behaviour-Concept of Culture; The measurement of Culture; Indian Core Values; Cultural aspects of emerging markets, Values, Lifestyles, and Psychographics- Impact of Values, Lifestyles and Psychographics on buying behaviour; Demographics, Lifestyles and Psychographics; Values and Value Systems, Group Influence on Consumption- Role of reference groups; Effect of reference groups on consumer decision making; Celebrity endorsements.

Unit 3

Customer Loyalty Comprehension

Meaning and definition of customer loyalty, Significance of Customer Loyalty, Customer Loyalty Ladder, Loyalty Principles, Benefits of Customer Loyalty, Customer Loyalty and its relationship with customer satisfaction, Customer retention and Brand Loyalty, Factors affecting

customer loyalty formation, Rai Srivastava model of customer loyalty formation, Drivers of Customer Loyalty.

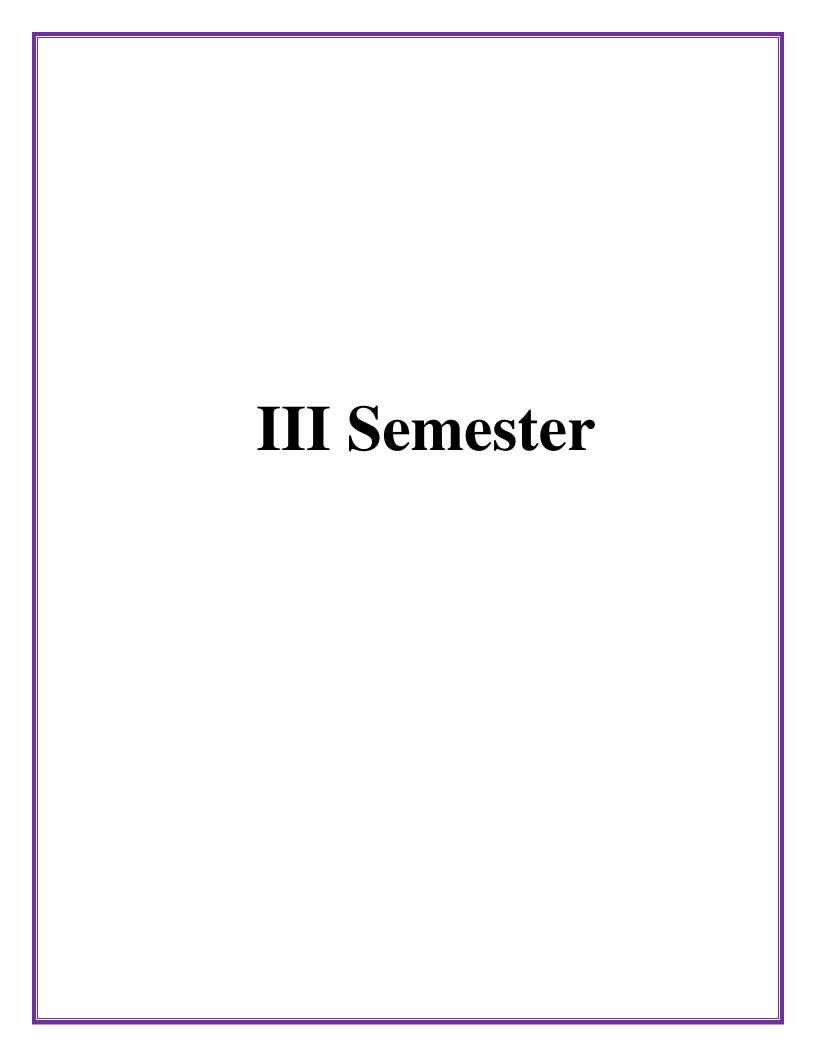## Unit 4

Customer Loyalty Outcomes

Characteristic Features of Behavioural Loyalty, Attitudinal Loyalty and Cognitive Loyalty, Role of Customer Loyalty outcomes in business decisions, Significance of Customer Loyalty for Marketers, Relationship Influencers of Customer Loyalty including factors mediating customer loyalty relationship with other relationship influencers, Customer Affinity, Customer Engagement.

Unit 5

Customer Loyalty Measurement and Application

Measuring Customer Loyalty, Customer Loyalty measurement models and scales, Influence of Service Quality on Customer Loyalty, Customer Loyalty in Retail Industry, Customer Loyalty in Banking and Insurance Industry, Customer Loyalty Application in Aviation Industry.

Reference Books

1. Hawkins, Best, Coney: Consumer Behaviour Building Marketing Strategy, Tata McGraw Hill.
2. H.Peer Mohammed: Customer Relationship Management, Vikas.
3. Panwar, J.S. Beyond Consumer Marketing, Sage Response Books, New Delhi.
4. Mukesh Chaturvedi and Abhinav Chaturvedi: Customer Relationship Management An Indian Perspective. Excel Books.
5. Deon – Buyer Behaviour, Oxford University Press.

III Semester

31 - DBMS AND DATA WAREHOUSING

Unit 1

Introduction to Database Management Systems

Introduction to databases, the relational model, database design, normalization process, parallel and distributed databases, object oriented databases: concept, web technology and DBMS, transaction management.

Unit 2

Introduction to Data Warehousing

Data warehousing concepts, Databases versus Data Warehousing, Business need for data warehousing, architecture of Data Warehouse, building a Data Warehouse, properties of data in Data Warehouse, importance of Meta Data, Data Marts, critical success factors of Data Warehouse, trends in Data Warehousing.

Unit 3

Data Preparation for Data Warehousing

Mapping Data Warehouse with Business, dimensional modeling, Data Extraction, Transformation and Loading Tools (ETL), importance of data quality in Data Warehousing.

Unit 4

Data Warehouse and Analysis

Categorizing users of Data Warehouse and their business requirement, reporting and query tools, On-Line Analytical Processing (OLAP) in Data Warehouse, role of Data Warehousing on web applications, introduction to Data Mining, Data Visualization.

Unit 5

Data Warehouse Implementation and Maintenance

Introduction to Business Intelligence Applications, expanding Data Warehouse/ Business Intelligence System, deployment, growth and maintenance of Data Warehouse.

Reference books

1. Ponniah, Paulraj. (2010). *Data Warehousing: Fundamentals for IT Professionals* (English). (2nd ed). Wiley.

2. Chopra, Rajiv. (2010). *Database Management System A Practical Approach For DBMS.* (1st ed). S.Chand Publishing.

3. Mundy, Joy. et al. (2008). *The Data Warehouse Lifecycle Toolkit*. Indianapolis: Wiley publishing Inc.

4. Ponniah, Paulraj. (2011). *Data Warehousing: Fundamentals for IT Professionals*. New Delhi: Wiley India Pvt Ltd.

5. Prabhu, C. S. R. (2008). *Data Warehousing: Concepts, Techniques, Products and Applications*. New Delhi: PHI Publications.

6. Inmon, W. H. (2005). *Buidling the Data Warehouse*. London: Wiley Publications.

32 - MULTIVARIATE DATA ANALYSIS - I

Objectives:

The Course seeks to cover the multivariate analysis in statistical terms and the various types of multivariate techniques so that students can understand their applications and apply these techniques to the data. The course also covers factor analysis and multiple regression analysis and how these techniques are useful in decision making.

Unit 1

Overview of Multivariate Statistics

What is Multivariate Analysis?, Multivariate Analysis in statistical terms, some basic concepts of Multivariate Analysis, a classification of Multivariate Techniques, types of Multivariate Techniques, Canonical Correlation, Guidelines for Multivariate Analyses and interpretation, a structured approach to Multivariate model building.

Unit 2

Data Cleaning and Multivariate Techniques

Graphical examination of the Data, missing data, outliers, testing the assumptions of Multivariate Analysis, incorporating Nonmetric data with dummy variables, a managerial overview of the results.

Unit 3

Factor Analysis

What is factor analysis, a hypothetical example of Factor Analysis, Factor Analysis decision process, an illustrative example, a managerial overview.

Unit 4

Multiple Regression

What is Multiple regression analysis?, an example of simple and multiple regression analysis, a decision process for multiple regression analysis, Regression: Mediation & Moderation, a managerial overview.

Unit 5

Multiple Discriminant Analysis and Logistic Regression

What are Discriminant Analysis and Logistic Regression?, analogy ith regression and MANOVA, hypothetical example of Discriminant Analysis, the decision process for Discriminant Analysis, logistic regression: regression with a Binary dependent variable, Dichotomous Dependent Variables, an illustrative example of logistic regression, a managerial overview.

<u>**Laboratory Session:**</u> 2 hours per week to work on computer assignments and other hands-on activities required to develop skill sets and tools kits necessary for employability.

Reference books

1. Hair, J. F. et al. (2006). *Multivariate Data Analysis*. (6th ed.). NJ: Prentice Hall.

2. Aiken, L. S., & West, S. G. (1991). *Multiple Regression: Testing and Interpreting Interactions*. Newbury Park, CA: Sage.

3. Menard, S. (2002). *Applied Logistic Regression Analysis*. Thousand Oaks, CA: Sage.

4. Tabachnick, B. and Fidell, L (2007). *Using Multivariate Statistics*, 5th edition. New York: Allyn & Bacon.

5. Cohen, J., & Cohen, P. (1983). *Applied Multiple Regression/Correlation Analysis for the Behavioural Sciences*, 2nd edition. Hillsdale, N.J.: Erlbaum.

6. Stevens, J. (1992). *Applied Multivariate Statistics for the Social Sciences*, 2nd edition. Hillsdale, N.J.: L. Erlbaum Associates.

33 - TIME SERIES ECONOMETRICS

Objectives:

The Course seeks to cover the various time series components: Irregular, Seasonal & Cyclic Variations & Trend of Time Series, and the different models of time series which can be used for analysis .The course also involves understanding the current literature in applied time series econometrics and survey of some of the current research topics in time series econometrics.

Unit 1
Forecasting Time Series

Time Series Components: Irregular, Seasonal & Cyclic Variations & Trend of Time Series;

Forecasting through Averaging and Exponential Smoothing; Holt"s model. Forecasting evaluation through MAD (Mean Absolute Deviation) & MSE (Mean Square Error).

Unit 2
Financial Returns and Volatility Patterns

Introduction to financial time series: basic returns data characteristics, asymmetry and fat tails, historical volatility, volatility estimator used by RISKMETRICS model, high frequency volatility.

Unit 3
Univariate Time Series Modelling and Forecasting

Autocorrelation, stationarity, identification of ARMA models, seasonality, tests of random walk (weak market efficiency), spurious regression, unit root tests, ARIMA models, parameter (in)stability.

Unit 4

Multivariate Time Series Models, Modelling Long Run Relationships in Finance

Granger causality, Cointegration, VARs: estimation and testing, impulse response and variance decomposition, error-correction models: estimation and testing, relationship between international stock indices.

Unit 5

Time Series Volatility ARCH/GARCH Models with Extensions

ARCH, GARCH, asymmetric GARCH and other extensions, options implied volatility versus GARCH, value at risk (VaR), downside risk (expected shortfall ES), credit risk.

Reference books

1. Hamilton, J. D. (1994). Time Series Analysis. Princeton University Press.
2. Enders, W. (2010). *Applied Econometric Time Series*. Hoboken, NJ: John Wiley & Sons.
3. Zivot, Eric and Jiahui (Jeffery). (2002). Modeling Financial Time Series with S-PLUS. Wang: Springer-Verlag.
4. Brooks, Chris. (2008). *Introductory Econometrics for Finance*. Cambridge University Press.

34 - DATA MINING FOR BUSINESS ANALYTICS

Objectives:

The course familiarizes the students with popular classification techniques, such as decision trees, support vector machines and nearest-neighbor approaches. The course also includes the most important association analysis techniques, the complete data mining process and the various methods of data mining. Data mining software tools will be introduced to students as part of their curriculum.

Unit 1

Introduction to Data Mining

Data Mining for Business Intelligence, Data Mining Goes to Hollywood!, Data Mining Concepts and Definitions, Definitions, Characteristics, and Benefits, How Data Mining Works, Data Mining Applications.

Unit 2

Data Mining Process

Data Mining Process, Step 1: Business Understanding , Step 2: Data Understanding, Step 3: Data Preparation, Step 4: Modeling Building, Step 5: Testing and Evaluation, Step 6: Deployment, Other Data Mining Standardized Processes and Methodologies.

Unit 3

Data Mining Methods

Data Mining Methods, Classification, Estimating the True Accuracy of Classification Models, Cluster Analysis for Data Mining.

Unit 4

Artificial Neural Networks

Association Rule Mining, Artificial Neural Networks for Data Mining, Elements of ANN, Applications of ANN.

Unit 5

Data Mining Software Tools

Data Mining Software Tools, Data Mining Myths and Blunders.

Reference books

1. Turban, Sharda Efraim; Ramesh, Dursun Delen and King, David. (2011). *Business Intelligence: A Managerial Approach*, 2nd Edition. Publisher: Prentice Hall.

2. Han, Jiawei and Kamber, Micheline. (2012). *Data Mining: Concepts and Techniques*, 3rd edition. Morgan Kaufman Publishers.

3. Tang, P.N., Steinback, M. and Kumar, V. (2006). *Introduction to Data Mining*. Addison Wesley.

4. Myatt, Glenn and Johnson, Wayne. (2009). *Making Sense of Data II*. John Wiley& Sons.

5. Rajaraman, Anand. (2011). *Mining of Massive Datasets*. New York: Cambridge University Press.

35 - INTERNSHIP AND REPORT

- The students have to undergo summer internship at the end of 2nd semester. It will either be a project work or Industry Internship for a period of 4 weeks.
- The students have to submit the Internship Report within the first week of the commencement of III semester.
- No end semester theory exam for this ; Only Viva Voce.

36 - BUSINESS LAW AND ETHICS

Objectives:

To learn the legal framework and regulations that surround business operations both in India and globally and to also understand the importance of ethics in business to achieve long-term business goals.

Unit 1

Legalities of Business

Law of Contract: Scope of the contract law, Indian Contract Act, Elements of contract, Offer and acceptance, Lawful consideration, Capacity to contract, Free Consent, Lawful object, Discharge of contract: Free and genuine consent, Contract of Indemnity and Guarantee: Contract of Agency, Sale of Goods Act, 1930 Transfer of Title, Performance of the contract, Remedies for breach of contract.

Unit 2

Other Important Business Laws

Law relating to negotiable instruments: Negotiable Instrument act , 1881, The consumer protection Act, 1986, Consumer problems and Legal Remedies, Banking services, Medical services, Law on patents, Law on trademarks, Law of Designs.

Unit 3

Business Ethics and Values

Nature of Business Ethics and Values, Significance and types of values, Ethics and Religion, Culture and Ethics, Social culture and Individual Ethics, Factors Influencing Business Ethics, Ethics as strategy, Ethics of Great Philosophers – Albert. Z. Carr, Aristotle, Niccolo Machiavelli, Karl Marx, Suntzu: The art of war of Sun Tzu, Might-equals-right approach of Karl Marx.

Unit 4

Ethical Decision Making

Ethical Decision Making, Difficulties in Ethical Decision Making, Power and Politics in organizations: Bases and sources of power, Coalitions, Managing Ethics: Ethics codes – Comparison of codes of Ethics, Codes of Conduct, codes of Practice, Ethics Programs,

Kohlberg‟s Study and Business Ethics, Laws of Enforcing Ethical Conduct: Laws and Ethics,
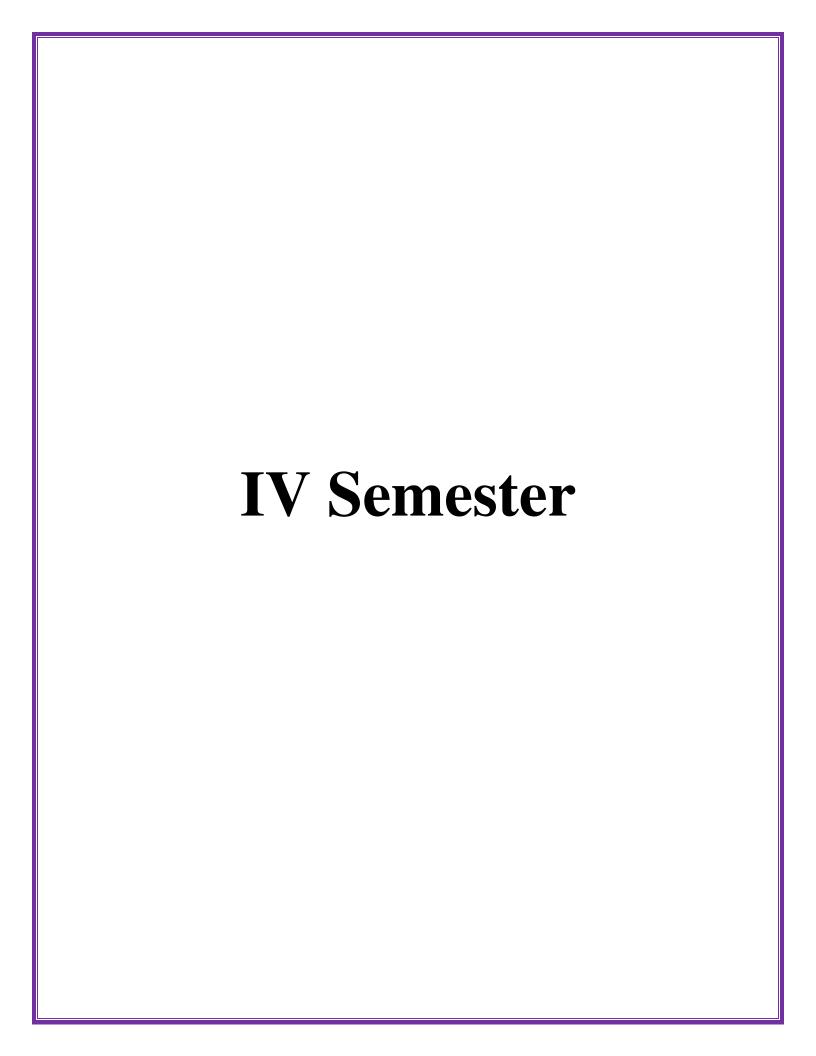
Justice –Theory of Natural Law, Law as a guide to Moral Choice, Role of the Government of India in Enforcing Ethical Behaviour.

Unit 5

Business Law and Ethics for Global Business

Ethics in HRM, Human Resources Laws in various countries, privacy Issues Ethics in Marketing Ethics in Finance Accounting and Investment Decision : Disclosure Norms, Insider Trading Norms, Disclosure in Financial Statements, Ethics in Production and Operations Management, Business laws for global businesses, Case studies.

Reference Books:

1. Johnson, Larry & Phillips, Bob. (2003). *Absolute Honesty: Building a Corporate Culture That Values Straight Talk and Rewards Integrity*. AMACOM.

2. Zak, Paul J. and Jensen, Michael C. (2008). *Moral Markets: The Critical Role of Values in the Economy*. Princeton University Press.

3. Freidman, Daniel. (2008). *Morals and Markets: An Evolutionary Account of the Modern World.* Palgrave Macmillan.

4. Gintis, Herbert et al. (2006). *Moral Sentiments and Material Interests: The Foundations of Cooperation in Economic Life (Economic Learning and Social Evolution).* MIT Press.

5. Kapoor. (2006). *Elements of Mercantile Law*. Sultn.

6. Majumdar, A. K. & Kapoor, G. K. (2010). *Company Law*. Taxmann Publications Pvt. Ltd.

7. Majumdar, A. K.. (2007). *Company Law and Practice*. Taxmann.

8. Nambyar, P. K. (2006). *Principles of Indian Law of Contract*. Bibliolife.

9. Bajaj, Amit. (2006). *Law of Negotiable Instruments*. Macmillan Publishers India.

IV Semester

41 - MULTIVARIATE DATA ANALYSIS – II

Objectives:

The Course seeks to cover the concepts of Cluster Analysis, using cluster analysis as a multivariate technique, the necessity of conceptual support in Cluster Analysis. The course also focuses on Multidimensional Scaling and MANOVA analysis and how these tools are useful for decision making process.

Unit 1

Cluster Analysis

What is Cluster Analysis, Cluster Analysis as a multivariate technique, conceptual development with Cluster Analysis, necessity of conceptual support in Cluster Analysis, how does Cluster Analysis work? Objective versus subjective considerations, Cluster Analysis decision process, objective of Cluster Analysis, research design in Cluster Analysis, assumptions in Cluster Analysis, deriving clusters and assessing overall fit, interpretation of the clusters, validation and profiling of the clusters, an illustrative example.

Unit 2

Multidimensional Scaling and Correspondence Analysis

What is Multidimensional Scaling? MDS works, comparing MDS to other interdependence techniques, a decision framework for perceptual mapping Overview of Multidimensional Scaling, Correspondence Analysis, illustrations of MDS and Correspondence Analysis.

Unit 3

MANOVA

MANOVA: Extending Univariate Methods for Assessing Group Differences, a hypothetical illustration of MANOVA, a decision process for MANOVA, illustration of MANOVA analysis, example 1: difference between two independent groups, example 2: difference between K independent groups, example 3: a factorial design for MANOVA with two independent variables, a managerial overview of the results.

Unit 4

Structural Equation Modeling Part I

What is Structural Equation Modeling?, SEM and other multivariate techniques, the role of theory in structural equation modelling, history of SEM, a sample example of SEM, developing a modelling strategy, six stages in structural equation modelling, what is confirmatory factor analysis, SEM stages for testing measurement theory validation with CFA, advanced topics in CFA, advanced CFA illustration.

Unit 5

Structural Equation Modeling Part II

What is structural model, a sample example of structural model, an overview of theory testing with SEM, stages in testing structural theory, SEM illustration.

Reference books

1. Hair, J. F. et al. (2006). *Multivariate Data Analysis*, 6th edition. NJ: Prentice Hall. Aiken, L. S., & West, S. G. (1991). *Multiple Regression: Testing and Interpreting Interactions*. Newbury Park, CA: Sage.

2. Menard, S. (2002). *Applied Logistic Regression Analysis*. Thousand Oaks, CA: Sage.

3. Tabachnick, B. and Fidell, L (2007). *Using Multivariate Statistics*, 5th edition. New York: Allyn & Bacon.

4. Cohen, J., & Cohen, P. (1983). *Applied Multiple Regression/Correlation Analysis for the Behavioural Sciences*, 2nd edition. Hillsdale, N.J.: Erlbaum.

42 - PREDICTIVE MODELLING USING SAS

Objectives:

The Course seeks to cover the concepts of SAS Enterprise Miner project . The course involves modifying data for better analysis results, building and understanding predictive models such as decision trees and regression models, comparing and explaining complex models, generation of score code and using other modelling tools such as rule induction, gradient boosting and support vector machines.

Unit 1

Introduction

Introduction to SAS Enterprise Miner, Accessing and Assaying Prepared Data: Creating a SAS Enterprise Miner project, library and diagram, Defining a data source, Exploring a data source.

Unit 2

Introduction to Predictive Modeling with Decision Trees

Cultivating decision trees, Optimizing the complexity of decision trees, Understanding additional diagnostic tools.

Unit 3

Introduction to Predictive Modeling with Neural Networks and Other Modeling Tools

Introduction to neural network models, Input selection, Stopped training, Other modeling tools.

Unit 4

Model Assessment

Model fit statistics, Statistical graphics, Adjusting for separate sampling, Profit matrices, Model Implementation: Internally scored dataset, Score code Units.

Introduction to Pattern Discovery: Cluster analysis, Market basket analysis .

Unit 5

Special Topics
Ensemble models, Variable selection, Categorical input consolidation, Surrogate models.

Reference books

1. Sarma, Kattamuri S. (2013). *Predictive Modeling with SAS Enterprise Miner: Practical Solutions for Business Applications*, (2nd Ed.). Prentice Hall.

2. Haykin, Simon O. (2008). Neural Networks & Learning Machines, (3rd ed.)

43 - ANALYTICS WITH R

Objectives:

The Course seeks to cover the concepts of Inferential Statistics, regression analysis which has sub divisions like Simple and Multiple Linear Regression, Logistic Regression and Generalised Linear Models, Recursive Partitioning, Survival Analysis, Meta-Analysis and how each of these can be analyzed using R.

Unit 1
Introduction to R

- An Introduction to R: What is R?, Installing R, Help and Documentation, Data Objects in R, Data Import and Export, Basic Data Manipulation, Computing with Data, Organising an Analysis.

- Data Analysis Using Graphical Displays: Introduction, Initial Data Analysis, Analysis Using R.

Unit 2
Inferential Statistics

- Simple Inference: Introduction, Statistical Tests, Analysis Using R.
- Conditional Inference: Introduction, Conditional Test Procedures, Analysis Using R.
- Analysis of Variance: Introduction, Analysis of Variance, Analysis Using R.

Unit 3
Regression and Recursive Partitioning

- Simple and Multiple Linear Regression: Introduction, Simple Linear Regression, Multiple Linear Regression, Analysis Using R.

- Logistic Regression and Generalised Linear Models: Introduction, Logistic Regression and Generalised Linear Models, Analysis Using R.

- Density Estimation: Introduction, Density Estimation, Analysis Using R.

- Recursive Partitioning: Introduction, Recursive Partitioning, Analysis Using R.

- Smoothers and Generalised Additive Models: Introduction, Smoothers and Generalised Additive Models, Analysis Using R.

Unit 4

Survival Analysis

- Introduction, Survival Analysis, Analysis Using R.

- Analysing Longitudinal Data: Introduction, Analysing Longitudinal Data, Linear Mixed Effects Models, Analysis Using R, Prediction of Random Effects, The Problem of Dropouts.

- Analysing Longitudinal Data II: Introduction, Methods for Non-normal Distributions, Analysis Using R: GEE, Analysis Using R: Random Effects.

- Simultaneous Inference and Multiple Comparisons: Introduction, Simultaneous Inference and Multiple Comparisons, Analysis Using R.

Unit 5

Meta-Analysis

- Introduction, Systematic Reviews and Meta-Analysis, Statistics of Meta-Analysis, Analysis Using R, Meta-Regression, Publication Bias.

- Principal Component Analysis: Introduction, Principal Component Analysis, Analysis Using R.

- Multidimensional Scaling: Introduction, Multidimensional Scaling, Analysis Using R.

- Cluster Analysis: Introduction, Cluster Analysis, Analysis Using R.

(The public domain software R will be used extensively throughout the course. This software can be freely downloaded from http://www.r-project.org/.)

Reference books

1. Dalgaard, Peter. (2008). *Introductory Statistics with R,* 2nd edition. California: Springer.
2. Chambers, M. John. (2008). *Software for Data Analysis: Programming with R (Statistics and Computing)*. California: Springer.
3. Hothorn, Torsten and Everitt, Brian S. (2005). *A Handbook of Statistical Analyses Using R*, Second Edition. Chapman and Hall.

Objectives:

The Course seeks to cover the concepts of big data, the various techniques and tools available to analyze the big data, creation of statistical models, the distinguishing factors between Hadoop and BigData. The course also focuses on Hadoop Distributed File System, its architecture and data flow.

Unit 1

Introduction

Big Data Overview, Definition with Real Time Examples, How BigData is generated with Real Time Generation, Use of BigData, Future of BigData!, the challenges for processing big data, technologies supporting big data,

Unit 2

Hadoop

Why Hadoop?, What is Hadoop?, Hadoop vs RDBMS, Hadoop vs BigData, Brief history of Hadoop, Problems with traditional large-scale systems, Requirements for a new approach, Anatomy of a Hadoop cluster

Unit 3

Hadoop Distributed File System (HDFS)

Concepts & Architecture, Data Flow (File Read , File Write), Fault Tolerance, Shell Commands, Java Base API, Data Flow Archives, Coherency, Data Integrity, Role of Secondary Name Node

Unit 4

MapReduce

Theory, Data Flow (Map – Shuffle - Reduce), MapRed vs MapReduce APIs, Programming [Mapper, Reducer, Combiner, Partitioner]

Unit 5

HIVE, PIG and HBase

Architecture, Installation, Configuration, Hive vs RDBMS, Tables, DDL & DML, Partitioning & Bucketing, Hive Web Interface, Why Pig, Use case of Pig, Pig Components

Data Model, Pig Latin

RDBMS Vs NoSQL, HBase Introduction, HBase Components Scanner, Filter Hbase POC, Introduction to MongoDB.

Reference books

1. Tan, Pang-Ning, Steinbach, Michael and Kumar, Vipin. (2005). *Introduction to Data Mining*. Addison-Wesley.

2. Lin, Jimmy and Dyer, Chris. (2010). *Data-Intensive Text Processing with MapReduce.* Morgan & Claypool Publishers.

3. Rajaraman, Anand and Ullman, Jeff. (2008). *Mining of Massive Datasets*. New York: Cambridge Press.

4. Han, Jiawei and Kamber, Micheline. (2000). *Data Mining: Concepts and Techniques*. The Morgan Kaufmann Series in Data Management Systems, Jim Gray, Series Editor Morgan Kaufmann Publishers.

45 - PROJECT WORK AND VIVA VOCE

The end of the course project is meant to give the students a comprehensive exposure to the real business world---in terms of the professional challenges as well as the personal aspects of etiquette, language, team work and overall effectiveness as operating managers.

It will also give the students an opportunity to compare the theoretical principles learnt during the first 3 semesters vis-a-vis the real world of business.

****