



EXECUTIVE SYLLABUS

	SEMESTER – I		MARKS		
PAPER CODE	SUBJECTS	CREDITS	UE	IA	TOTAL
101	Management Concepts & Theories	3	70	30	100
102	Organizational Behaviour	3	70	30	100
103	Business Environment	3	70	30	100
104	Managerial Communication	3	70	30	100
105	Managerial Accounting	3	70	30	100
106	Managerial Economics	3	70	30	100
107	Statistics for Management	3	70	30	100
108	Information Technology in Management	3	70	30	100
109	Organizational Study	3	50	30	50
	TOTAL CREDITS AND MARKS	27	610	270	850

101-Management Concepts & Theories Credits: 3 (30 Hours)

Course description:

This course defines the need for management; the scientific theory in studying management; the importance of management; evaluation of management theory and management schools; also management evaluation and characteristics of poor management. Moreover, the course provides a critical analysis of the different aspects of this thought and how these aspects are linked to behavioral patterns prevailing in industrialized societies.

Course outcomes:

1. Get involved in the nature of management as an art and a science and gaining a professional experience from the revolution of management schools.
2. Follow the intellectual development of management theory through history
3. Being adapted to the main features of managerial position of the organization chart.

Management: (8 Hours)

Definitions, nature and scope of management, functions and process of management- evolution of management theory from Taylor, Fayol, Drucker to the present. Growth of professional management in India. Ethics in management. Impact of globalization to management – Impact of Technology.

Managerial Planning: (6 Hours)

Planning process, planning in uncertain environments, types of plans, strategic vs Operational plans, models of strategy formulation, linking strategy to structure.

3. Managerial Control: (8 Hours)

Relationship between planning and control -limitations of control, types of control systems and techniques – management by exception, budgetary control, functional and dysfunctional aspects of budgetary control, internal control systems, internal audit and management audit.

Essential Reading:

- Robbins, S. P., DeCenzo, D. A., & Coutler, M. (2016). Fundamentals of Management: Essential Concepts and Applications, 9/ e. New Delhi: Pearson

Recommended Reading

- Charles W L Hill. Steven L Mc Shane. (2017) Principles of Management. Mc Graw Hill. New Delhi
- Koontz, H., & Heinz, W. (2020). Essentials of Management. New Delhi: Tata McGraw Hill, 11th Edition
- Durai, P. (2015). Principles of Management. New Delhi: Pearson.
- Prasad, L. M. (2013). Principles and Practices of Management (8th Edn). Bangalore: Sultan Chand & Sons

OBJECTIVES:

- ❖ To learn the basic concepts of Organizational Behaviour and its applications in contemporary organizations.
- ❖ To appreciate the theories and models of organizations in the workplace.
- ❖ To creatively and innovatively engage in solving organizational challenges.

Course Outcomes

CO1: Students should be able to identify the processes used in developing communication and resolving conflicts. To explain group dynamics and demonstrate skills required for working in groups and team building

CO2: Students must be able to identify the various leadership styles and the role of leaders in a decision making process.

CO3: Students should be able to demonstrate how the organizational behaviour can integrate in understanding the motivation (why) behind behaviour of people in the organization and to be able to predict, understand and control human behaviour to achieve desired results.

1. Values and Attitudes

Importance of Values, Types of values, Rokeach Value Survey Values across cultures, Hofstede Framework Nature of attitudes, Three components of attitudes, Formation of Attitudes, Changing Attitudes, Job Satisfaction, Causes of Job Satisfaction, Measuring Job Satisfaction, Organizational Commitment (6 Hours)

2. Motivation

Importance of Motivation, Motivational Challenges, Motivation Theories, Maslow's Hierarchy of Needs, Theory X and Theory Y, Herzberg Theory, Achievement Motivation Theory, MBO, Goal Setting Theory, Employee Involvement Programs, Employee Recognition Programs, Quality of Work Life (8 Hours)

3. Personality

What is Personality, Determinants of Personality, Personality Traits, MBTI, Trait Theory, Psychoanalytic Theory, Social Learning Theory, Personality Structure, The Big Five Personality Traits, Personality Applications in Organization Behavior (6 Hours)

4. Leadership

Leadership: Meaning and importance, Leader v/s Manager, *Leadership* Qualities, Trait Approach to Leadership – Traits of a leader, Leaders born or made? Behavioral Approach, Ohio and Michigan studies, Blake & Mouton Managerial Grid; Situational Approach - Fiedler's Contingency model, Transactional, Transformational, Charismatic, Visionary, Servant Leadership. (6 Hours)

5. **Group Dynamics** What is Group Dynamics, Definition of Group, Group Equilibrium, Concept of Synergy, Differences between Groups and Teams, Types of Groups, Factors of Group Formation, Theories of Group Formation, Factors affecting Group Dynamics, Stages in Group Formation, Conflict Management, Ten Golden Rules of Conflict Resolution, Conflict Management Styles (4 Hours)

Text Books

1. Robbins, S.P., Organizational Behavior, 11th edition, Prentice Hall India
2. Aswathappa, K. Organizational Behavior, 8th edition, Himalaya Publishing

Reference Books

Luthans, F Organizational Behavior, McGraw-Hill India

Business Environment Credits: 3 (30 Hours)

Course Objective: To analyze the overall business environment and evaluate its various components in business decision making. And provides an analysis and examination of significant contemporary ethical issues and challenges existing throughout the professional business arena. Emphasis will be placed upon the manager's social and environmental responsibilities to a wide variety of stakeholders, including employees, customers and the public.

Course Outcomes: On completion of this course, learners will be able to:

1. Familiarize with the nature of business environment and its components.
2. The students will be able to demonstrate and develop conceptual framework of business environment and generate interest in international business.
3. Gain knowledge about the operation of different institutions in international business environment.

- 1. Business as a social system:** internal and external environment, stakeholder map of business, role of government in economic activity and its impact on business in India. Business Ethics and Corporate Social responsibility. Issues in corporate governance. (6 Hours)
- 2. Economic Structure of India:** Economic planning in India, transition from mixed economy to a market economy, outlines of Public and Private sectors. Characteristics of industrial, service and agricultural sectors. Regional and sectorial imbalances, Dualism, Trends in GDP (8 Hours)
- 3. Monetary and Fiscal System of India:** Overview of India's monetary policy, fiscal policy, role of RBI, the banking sector, Indian financial system, money market and capital markets, stock exchanges and stock market reforms in India. Industrial finance in India – role of development financial Institutions and commercial banks, NBFC's. Financing of exports and imports, EXIM and ECGC. Issues in taxation and government expenditure – FRBM Act, the problem of fiscal deficit. (6 Hours)
- 4. Indian Society, Culture and Politics:** Social problems of India, Impact of modernization on Indian society, demography, gender, environmental issues. (4Hours)
- 5. International Business Environment:** India as a player in the International market place – its position and prospects, the role of multi-national companies in India. FDI in India and MNC's in India, FDI & FII's in India. (6 Hours)

TEXT BOOKS:

1. Francis Cherunilam: Business Environment: Text and Cases, 17/e, Himalaya, 2007.
2. Manuel G. Velasquez, Business Ethics: Concepts and Cases, PHI, New Delhi, 2009.

REFERENCE BOOKS:

1. Justin Paul: Business Environment, 1e 2006, Tata MH.
2. Misra and Puri: Indian Economy, Himalaya, 2007.
3. Dutt and Sundaram, Indian Economy, S. Chand, New Delhi, 20

104:- Managerial Communication Credits 3 30 Hours

Course Objective: This course is designed to enable students to understand the nature and scope of communication and its implications in the real time business world. Expose to the receptive and productive skills of English language to attain proficiency. Familiarize the basic writing skills which lay a strong foundation for writing business documents.

Course Outcomes:

On completion of this course, learners will be able to:

1. Understand the scope of communication and learn its importance and implication strategies.
2. Recognize and learn the sub-skills of listening and speaking and be able to deliver effectively in the real time contexts.
3. Imbibe the mechanics of writing and construct effective paragraphs which befit in a longer composition.
4. Use different forms of written communication techniques to make effective internal and external business correspondence.
5. Produce different types of reports with appropriate format, organization and language

1. **Introduction:** Nature of managerial communication, the communication process. Effective communication and barriers to communication, communication skills; writing, reading, logic, analysis and listening (8 Hours)

2. **Communication for Problem Solving:** Problem solving–communication model for case analysis and reporting in detail. Group discussion, in-class or workshop exercises and assignments. (6 Hours)

3. **Writing Skills:** Exercises in drafting letters, memos, e-mail, proposals, resume writing, reports and executive summaries. The structure and process of creating business messages. (8 Hours)

4. **Oral Communication:** Exercises in speaking, discussing, listening and negotiating, body language and kinesics, business etiquettes. (4 Hours)

5. **Business Presentations:** Hands–on with excel and office power point. (4 Hours)

References:

- Better Business Communication – Denish Murphy • Written Executive Communication - Shurter
- Model Business Letters - Gartside.
- Business Communication – Lesikar – Pettit - Flatery.
- MLA's Handbook.
- Business Research Methods- Cooper and Schneider
- Business Research Methods - Zikmund

Course Objective: This course is an introduction to the use of accounting information by managers for decision making, performance evaluation and control. The goal is to provide students with a conceptual framework for identifying and resolving accounting issues faced by managers. We will have lectures on topics, followed by case discussions to illustrate and reinforce concepts.

Course Outcome

1. Learn the methodology and techniques for application of cost and managerial accounting and information in the formation of policies and in the planning and control of the operations of the organization
2. Define the needs of the various users of accounting data and demonstrate the ability to communicate such data along with knowledgeable recommendations.
3. Ability to prepare financial statements in accordance with Generally Accepted Accounting Principles

1 - Conceptual Accounting: (8 Hours)

Meaning - Accounting concepts and conventions –Financial Accounting V/s Management Accounting basic terminology, Fraud and ethical issues in Accounting, Accounting Concepts and Conventions and GAAP.

2 - Company Final Accounts in India & Reading the numbers: (6 Hours)

Requirements of Companies Act of 2013 with respect to preparation of Final Accounts of Companies - Annual Reports and its contents.

3 – Analysis and Interpretation of Financial Statement: (8 Hours)

Techniques of financial statement analysis: Horizontal analysis, Vertical analysis, Trend Analysis, Ratio Analysis and Preparation of Cash Flow Statement.

4- Cost accounting: (8 Hours)

Costs, Classification of costs based on elements, functions & behaviour. Preparation of Cost Sheet, Techniques for controlling and reducing cost -marginal cost, cost volume profit analysis.

References:

- Financial Accounting: A Managerial perspective –R.Narayanswamy • Introduction of Management Accounting- Horngren, Sundem, Stratton.
- Cost and Managerial Accounting - Duncan Williamson
- Cost accounting for Business Managers-Asish K Bhattacharayya
- Management and Cost Accounting- Colin Drury
- Management Accounting –Hensen Mowen
- Financial Analysis and Modelling – Chandan Sen Guptha

Course Description

This course applies economic principles to key management decisions within organizations. It provides guidance to increase value creation, and allows a better understanding of the external business environment in which organizations operate. Economics provides a fundamentally unique way of thinking about problems, issues and decisions that managers face in each of the functional areas of their organization. This unique way of thinking stresses the importance of incentives as determinants of human behavior and performance, and emphasizes the consideration of costs and benefits as an efficient method for reaching economic decisions.

Course outcomes

- **Apply the knowledge of the mechanics of supply and demand to explain working of markets**
- **Understand the choices made by a rational consumer. Describe how changes in demand and supply affect markets**
- **Define key characteristics and consequences of different forms of markets**

- 1. Managerial Economics:** Introduction, Basic concepts and their application in business decision-making. (4 Hours)
- 2. Theory of consumer behaviour:** Consumer preferences, indifference curves, budget constraint, utility maximization and the derivation of the consumer demand curve. Demand and Supply Analysis: determinants of supply and demand- nature of demand and supply curves, market equilibrium, price elasticity, demand forecasting and estimating methods (10 Hours)
- 3. Production and Cost Analysis:** production functions- cost functions, and profit functions, total, average and marginal costs, returns to factors and scale, short run v/s long run decisions, derivation of the supply curve. (6 Hours)
- 4. Market Analysis:** Market forms, perfect competition, monopoly, monopolistic, oligopoly. Output and price determination, Cartels and collusion, Game Theory (6 Hours)
- 5. National Income Accounting:** concepts of GDP, NI, per capita income, National income accounting in India. Business cycles and business forecasting (4 Hours)

References:

- Managerial Economics- Dominick Salvatore.
- Managerial Economics- Gupta and Mote
- Managerial Economics - Geetika, Piyali Ghosh & PurbaRoy Choudhury
- Economics- Samuelson & Nordhaus
- Managerial Economics by Peterson and Lewis
- Micro Economics – Dominick Salvatore

Objective: Understand the various statistical techniques and solve problems effectively in the statistics. Analyze the different types of skewness and know about the coefficient variations of skewness. Know the application of statistical measures of central tendency and also statistical measures of dispersion

Course outcome:

- Explain basic statistical concepts such as statistical collection, species characteristics, statistical series, tabular and graphical representation of data, measures of central tendency, dispersion and asymmetry, correlation and regression analysis, time series analysis.
 - Analyze data and information with the use of globally accepted basic tools/techniques and derive solutions for appropriate business problems.
 - Appraise the ethicality of the inferences drawn from the results of the statistical tools or techniques.
1. **Quantitative data interpretation in managerial decision making:** collection – classification – tabulation – frequency distribution – charts using excel, measures of central tendencies and dispersion – using visual explorations in MS excel. (8 Hours)
 2. **Correlation and regression:** Multiple correlation – basic probability concepts – conditional probability – Bayes theorem – use MS excel PH STAT2. (6 Hours)
 3. **Probability distributions:** Binominal Poisson and normal distributions using excel – estimation – point and interval – using Excel. (6 Hours)
 4. **Statistical Decision Theory:** Hypothesis testing for means and proportions and for difference of means and proportions – analysis of variance. (4 Hours)
 5. **Sampling:** Sampling techniques, random sampling, random numbers table, Monte Carlo simulation, Chi-square tests, time series forecasting, hands- on with MS excel. (6 Hours)

References:

- Statistics for Managers – using Microsoft excel – Levine, Stephan & others
- Statistics for Management – Richard Levin and Rubin[excel version]
- Statistics – Murray Spiegel, Schaum Series
- Probability and Statistics – Murray Speigel, Schaum Series
- Quantitative Business Analysis – Text & Cases – Samul Bodiley & others
- Business Statistics – Kazmier, Schaum Series
- Basic Business Statistics – Bereuram and Levine
- Quantitative Methods – Anderson, Sweeny & William

108: Information Technology in Management Credits: 3 (30 Hours)

Course Objective: Familiarize the basic concepts and its applications in managing business. Interpret how to use information technology to solve business problems. Describe the role of information technology and information systems in business.

Course Outcomes: On successful completion of this course, the learner will be able to understand the concept of data management and various IT enabled business applications. Make them aware of the impact of IT in business systems and how to integrate IT to run the business effectively.

- Comprehend the need & relevance of IT systems for supporting functions & decision making for all levels of management.
- Gain insight on enterprise applications & assess their role in operational excellence.
- Analyse the various types of technology solutions & their widespread usage across industry also to Develop leadership skillsets to manage projects & identify areas of change management in the organization.

1. Introduction to Information Technology (6 Hours)

- a. Information Technology and Information Systems
- b. Components of Information Technology Management
- c. Significance of Information Technology in Business
- d. Integration of Information Technology with People & Processes
- e. Role of Information Systems in Management
- f. Global Trends in Information Technology

2. Business Applications & IS Development (8 Hours)

- a. Management Functions: Marketing, Finance, HR, Operations
- b. Business Applications: Collaborative Systems, ERP, SCM, CRM, BI, Knowledge systems
- c. Systems Development Life Cycle
- d. Agile Project Management

3. Data Management & Reporting (6 Hours)

- a. Fact based Decision Making
- b. Role of Databases in IT
- c. Data Warehouses
- d. Big Data
- e. Reporting & Visualization

4. Digital Technologies in IT (4 Hours)

- a. Artificial Intelligence in Business
- b. Cloud Computing
- c. Internet of Things (IoT)
- d. Machine Learning
- e. Cyber security

5. Organizational Change Management in IT (6 Hours)

- a. Business Process Re- engineering (BPR)
- b. Organizational Capability & Change Strategy
- c. Structure, Systems and People
- d. Building Culture & Climate for Change
- e. Role of Leadership
- f. Managing Transformations

Prescribed Books:

- Using Information Technology (11th Edition) by Brian Williams and Stacey Sawyer. McGraw Hill Publication.
- Information Technology for Management (7th Edition) by Henry C.Lucas. McGraw Hill Publication

- Fundamentals of Information Technology (2nd Edition) by Alexis Leon and Mathews Leon. Vikas Publishing House **Other Reference Materials:**
- Data Strategy: How to Profit from a World of Big Data, Analytics and the Internet of Things by Bernard Marr. Published by Kogan Page • Enterprise Resource Planning by Alexis Leon. McGraw Hill Education
- Database System Concepts by Peter Rob and Carlos Coronel.
Course Technology Inc. Publishers

109: Organizational Study Credits: 3 (30 Hours)

Organizational Study is 50 marks compulsory subject of PGDM and all students of PGDM are required to give individual seminar. Faculty in-charge should ensure that each student attends and gives the seminar during the semester.

The faculty should first make students aware of the importance/ meaning of seminars and should also share criteria of evaluation before asking the students to present it.

Organizational Study Seminar will be judged on the following parameters:

- Relevance of the matter
- Presentation skills
- Individual initiative
- Research/ Analysis done for the topic
- Performance in question/Answer session
- Relevant Audience Questions
- Attendance in all sessions
- Uniform and Class Decorum Observed.

At the end of the seminar each student should submit a report (hard copy), mentioning the title name, date of seminar, faculty name.

1000 words write-up on the topic.

Bibliography/References/Research source mentioned at the end.

The record of every step of the whole process mentioned above should be maintained and shared with the academic team from time to time in order to evaluate the process.

	SEMESTER – II		MARKS		
PAPER #	SUBJECTS	CREDITS	UE	IA	TOTAL
1	Marketing Management	3	70	30	100
2	Human Resource Management	3	70	30	100
3	Corporate Finance	3	70	30	100
4	Quantitative Methods	3	70	30	100
5	Legal aspects of Business	3	70	30	100
6	Operations Management	3	70	30	100
7	Management Information Systems	3	70	30	100
8	Computer Application in Management	3	70	30	100
9	Seminar	3	50		50
	TOTAL CREDITS AND MARKS	27	610	240	850

201 Marketing Management 3 Credits (30 Hours)

Course Objective: To elevate students' awareness of an organization's resources required for Marketing in today's age of information. To develop marketing skills. To understand the requirements of a career in marketing.

Course Outcomes:

- Develop an ability to assess the impact of the environment on marketing function.
- To formulate marketing strategies that incorporate psychological and sociological factors which influence buying.
- Identifying marketing channels and the concept of product distribution, techniques of sales promotion.

Module –1: Value Management & Positioning Strategies: Key Marketing Concepts, Marketing Orientations, Relationship Marketing and Societal Focus; Creating Customer Value, Satisfaction and Loyalty: CPV, CDV, Customer Satisfaction, Cultivating Customer Relations & Maximizing CLV Identifying Market Segments and Targets, Differentiation strategies; Developing & Communicating the positioning strategy, POPs & PODs, PLC & respective marketing strategies (10 Hours)

Setting Product Strategy: Product Levels, Product Mix, New Product Management

- *Saturn: An Image Makeover*
- *ESPN: The Evolution of an Entertainment Brand*

Module –2: Gathering Market Insights: Micro and Macro Environment, Impact of the Environment on Marketing, Indian Economy and Consumption, Market structure, Conduct and Performance, MIS, Feedback and Control. Conducting Marketing Research and Forecasting Demand: Marketing Research, methods, types and evaluating the market and consumers, E-Research, Forecasting Technique (8 Hours)

- *Victoria's Secret Pink: Keeping the Brand Hip*

Module –3: Demystifying Market Behaviour: Analyzing Consumer Markets: Consumer Behavior, Theory of behavior, Psychological, Anthropological and Social Theories, Models and Purchase Decision Process. Analyzing business markets: Buying process & its participants, Buying stages, B2B Customer Relationships (6 Hours)

- *Build-A- Bear: Build- A-Memory*
- *Boeing: Selling a Dream(liner)*

Module –4: Managing The Marketing Mix: Designing and Managing Services: Nature, Strategies, Managing Service Brands & Service Quality. Designing and Managing Integrated Marketing Communications: Communications Mix, Communication Process, Models, Developing & Managing IMC. Designing and Managing Integrated Marketing Channels: Channel Management, Levels of Distribution, Channel Participants & their responsibilities. Developing Pricing Strategies and Programs: Pricing of Products and services, Pricing Theory, Economic influences of Pricing, Pricing objectives and determination of pricing for offered products, Pricing Strategy and Tactics. (6 Hours)

- *Whole Foods: A Whole-istic Strategy*
- *Burger King: Promoting a Food Fight*
- *Zara: The Technology Giant of the Fashion World*
- *Southwest Airlines: Staying Ahead in the Pricing Game*

Reference Books:

- Marketing Management: Philip Kotler & Kevin Lane Keller 15 e (Global edition); Pearson
- Marketing in the 21st Century: Joel R. Evans and Barry Berman L; Biztantra
- The Marketing Book: Michael J . Baker and Susan J. Hart; Elsevier / Butterworth-Heinemann
- Marketing Concepts and Cases: Michael J. Etzel, Bruce J . Walker, William J . Walker and Ajay Pandit; Tata McGraw Hill
- The Marketing White Book 2021: Business World

202: Human Resource Management 3Credits (30 Hours)

Course Objectives: Understanding the basic concept of HRM. Professionals will understand the role of HR in the organization. Professionals will learn people management skills.

Course Outcomes:

- Importance of HR in the organization
- Functions and changing trends in HR
- Practical application of HR concepts to the present scenario

Module-1–Introduction to HRM: Introduction to Human Resource Management, Evolution of HRM, Importance, HRM functions, Forces changing HRM, Human Resource Planning - Meaning, Process, HRP Models*, Human Resource Forecasting methods, Challenges and relationship with other Human resource functions, Job analysis, Job Description, Job evaluation. (6 Hours)

Module 2 – Recruitment and Selection: Recruitment - meaning and process, Purpose of Recruitment, Types of Recruitment - Internal- Job posting, Virtual Job Fairs, Executive Search Firms, Recruitment advertising. Factors affecting Recruitment, Selection- meaning, selection procedure, Types of tests used in Selection, Consequences of selection decisions, Interview and Types of interviews. Metrics to recruitment and selection (8 Hours)

Module 3 – Talent Management: Training- meaning, need and importance of training, Distinction between training and development, methods of training – On the Job & Off the Job, process of training, recent developments in training, Succession Planning, Strategies for Accelerating Development for succession, Performance appraisal, meaning, importance, various performance appraisal methods*, Drawbacks of Performance Management System. Metrics to Talent management and performance Management. (8 Hours)

Module – 4 – Employee Rewards: Employee Rewards -meaning, concepts and definitions, Objectives of giving compensation to employees, Components of remuneration, types of employee benefits*, financial and non-financial benefits, factors affecting wage and salary, salary components, employee welfare, safety issues in organizations. Introduction to Basics of Industrial relations- Basics of Industrial Relations – meaning and importance, trade unions, workers participation in management, Collective Bargaining* (8 Hours)

Basic Texts:

- Dessler, G. and Varkhey, B. (2016) Human Resource Management, India: Pearson India,

Reference Texts:

- Sanghi, S. (2017) Human Resource Management, Vikas Publishing
- Baker, M. (2010) Cross Cultural Behavior, The Workbook
- Armstrong, M. (2014) Handbook of Human Resource Management New Delhi, India: Kogan Page.

Other Reading Material :

- Camen, M. Croucher, R & Leigh, S (2015) Human Resource Management – A Case Study Approach New Delhi, India: Jaico Publishing House.
- Pattanayak, B (2016) Human Resource Management New Delhi, India Printice Hall Learning.
- Sparkman,R (2010). Strategic Workforce Planning: **Developing Optimized Talent Strategies for Future Growth**

203: Corporate Finance 3 Credits (30 Hours)

Course Objectives: Utilize relevant tools for financial decision making. Proficiency and ability to interpret a business problem and devise innovative solutions for the same. Right attitude to learn and apply concepts of Financial Management.

Course Outcomes:

- Examine the theories and practices of contemporary corporate finance
- Appraise the tools and analytical techniques of long-term investment decision
- Estimate working capital management requirements and dividend decisions

1. Goal of the Firm: Profit maximization vs wealth maximization, Value creation, Agency problems, Social responsibility, Role of financial management, Time value of money, Valuation of securities – stocks and bonds. Concept of risk and returns of securities, using probability distribution to measure risk, risk and return in portfolio context (using excel). (8 Hours)

2. Capital Budgeting and Cost of Capital: Estimating cash flows – initial, intermediate and terminal Cash flows on incremental basis, Capital budgeting decision rules, Payback, ARR, DCF techniques – NPV, IRR, PI, using excel. Cost of debt, preferred stock, equity, computing WACC, The CAPM approach, Adjusting WACC for risk. (10 Hours)

3. Long Term Sources of Funds and Capital Structure: Long-term financing, Public issue of debt, Preferred stock and Common stock, Term loans. Traditional view vs MM hypothesis, Capital structure designing in practice – EBIT- EPS analysis, the pecking order theory (6 Hours)

4. Dividend Decisions and Working Capital Management: Dividend decisions, Relevance vs irrelevance of dividends. Cash management, Receivables management and Inventory management. Estimation of working capital requirements. (6 Hours)

References:

- Fundamentals of Financial Management – Van Horne and Wachowitz
- Financial Policy and Management – Van Horne, 12th edition.
- Financial Management – Prasanna Chandra
- Corporate Finance – Brigham and Erhardt
- Corporate Finance – Ross, Wetfield & Jaffer
- Financial Management – M.Y Khan & S.P Jain

204: Quantitative Methods**3 Credits (30 Hours)**

Course Objectives: Utilize relevant tools for Quantitative decision making. Proficiency and ability to interpret a business problem and devise innovative solutions for the same. Right attitude to learn and apply concepts of Financial Management.

Course Outcomes:

- Examine the theories and practices of contemporary methods
- Appraise the tools and analytical techniques of long-term investment decision
- Estimate working capital management requirements and dividend decisions

1. Model Building in OR: Introduction, Linear programming, Formulation, Graphical solutions – Simplex method – Artificial variable technique-Big-M method, Duality. (6 Hours)

2. Transportation Problem: Introduction, Mathematical formulation, Definitions, Optimal Solution- Northwest corner rule, Least cost or Matrix minima method, Vogel's Approximation method, Optimality Test- MODI Method. (10 Hours)

3. Assignment Problem: Definition, Mathematical formulation of an Assignment Problem, Hungarian Method Procedure, Unbalanced Assignment problem, maximization in Assignment problem, travelling salesman problem. (8 Hours)

4. Decision Theory and Decision Trees: Introduction, Decision Making environments – under uncertainty, Under risk (EMV, EOL, EVPI) (6 Hours)

References:

- Quantitative Techniques in Management – N.D. Vohra
- Operations Research – Wagner
- Operations Research – S Kalavathy
- Operations Research – S.D. Sharma
- Quantitative Methods- J K Sharma

205 - Legal aspects of Business 3Credits (30 Hours)

Course Objectives: To gain an understanding of the legal environment and judicial system in India. To be able to read, understand and modify Contracts to protect the Company's interests. To gain an awareness of the legal obligations in evolving Company strategies to protect it from legal obligations

Course Outcomes:

- To make the students aware of the legal framework and structure prevalent in the Indian Business Environment.
- To provide a sound understanding of the mercantile laws in the Indian context, which is necessary for Operation of Companies in India.
- To understand the legal obligations and rights and the means of enforcing the rights of Businesses

1. Module-1(8 Hours): Outlines: Law of Contracts, Types of Contracts, Breach of Contract and Remedies for Breach; Sale of Goods Act-Sale and Agreement to Sell, remedies of Seller and Buyer; Goods, Types of Goods. Foreign exchange management act.

Cases: Balfour Vs Balfour (Agreement Vs Contract) Cases on Sale of Goods Act

2. Module-2 (8 Hours): Outlines: Companies Act 2013, provisions relating to incorporation, management and administration; Directors- appointment duties & roles; Meetings, Share Capital, Winding –up of Companies, Issues relating to good corporate governance.

Cases: Chand Kocher issue (ICICI Bank) Rajat Gupta -Insider Trading

3. Module-3 (8 Hours) : Outlines: Intellectual Property Rights—Patents, Copyrights, Trademarks Act, and Geographic Indication, Competition Act, Information Technology Act

Cases : Rosogola Case(State of West Bengal Vs State of Orissa) GI Case, Cases on violation of IT Act

4. Module-4 (6 Hours): Outlines: Consumer Protection Act, FEMA, and SARFASI Act Cases : Cases on Consumer Act

Vijay Mallya, case on SARFASI Act

References:

- A Manual of Business Laws – S.N. Maheshwari and S.K. Maheshwari
- Business Law for Management – K.R. Bulchandani Business Environment: Texts and Cases – Francis Cherunilam • Business and Corporate Laws – S.S. Gulshan and G. K. Kapoor
- Bare Acts of respective legislations.

206 - Operations Management 3 Credits 30 Hours

Course Objectives: Basic concepts and framework of Operations Management. Manage a team of people in Operations Function in an Organization. Able to work as an important member of any Operations team.

Course Outcomes:

- Able to describe the evolution of Operations Management Practices
- Identify the need and application of latest tools and technology in Operations Management.
- Able to apply the world class manufacturing practices in their organizations

- 1. Introduction to Operations Management:** Importance of Operations, Functions of Operations, Relationship between Operations and Other Functions, Operations Performance Objectives, Systems Approach to OM, Decision making in Operations, Process Categorization, Differences between Manufacturing and Service Operations, Productivity, Productivity Measurement, Types of Productions Systems, MTS, MTO, ATO and ETO (8 Hours)
- 2. Plant Location and Plant Layout:** Facility Location, Steps in Location, Plant Location Methods, Factors Rating System, Centroid Method, Facility Layout, Objectives of a Good Layout, Principles of Layout, Types of Layout, Ideal Layout Factors, Line Balancing (8 Hours)
- 3. Product Design and Job Design:** Product Design, Product Development Process, DFMA, QFD, Job Design, Work Study. Work Measurement, Time Study, Standard Time Calculation, Work Sampling, Flow Process Charts (5 Hours)
- 4. Total Quality Management:** Definitions of Quality, Dimensions of Quality, Evolution of TQM, Kaizen, BPR, Benchmarking, SQC, Quality Circles, Six Sigma, QMS Principles, ISO Standards (6 Hours)
- 5. Materials Management:** Importance of Materials Management, MRP, MRP II, MPS, BOM, ERP, Inventory Management, Types of Inventory, Inventory Control Techniques, Inventory Models (5 Hours)

References:

1. Operations and Supply Chain Management Richard Chase, Ravi Shankar, Robert Jacobs, 15th edition McGraw Hill
2. Operations Management – Theory and Practice, B.Mahadevan, 3rd edition, Pearson
3. Production and Operations Management – K.Aswathappa and K.Shridhara Bhat , 2009, Himalaya publishing
4. Operations Management by Roberta Russell & Bernard Taylor, Prentice Hall India, 4th Edition
5. “Principles of Operations Management” by Heizer Jay& Render Barry, Prentice Hall.

208 Computer Applications in Management 3 Credits 30 Hours

Course Objectives: Familiarize the basic concepts and its applications in managing business. Interpret how to use various computer applications to solve business problems. Describe the role of computer applications in business.

Course Outcomes:

- Comprehend the need & relevance of computer applications for supporting functions & decision making for all levels of management.
- Gain insight on enterprise applications & assess their role in operational excellence.
- Analyze the various types of technology solutions & their widespread usage across industry. Also to develop awareness of computer networking. Understand office software's and business process modelling

Module 1:

Introduction to Computer System: Brief history of a Computer System, Interfacing with a Computer, Introduction to Languages, Compiler, Interpreter and Assembler, Data storage and Storage Devices, Operating Systems, Functions and Classification. (10 Hours)

Module 2:

Introduction to Computer Networking Fundamentals: Overview and Types, Open System Interconnection (OSI) Model, Layered Architecture, Network topologies, Internet, Intranets and Extranets, Internet Network Design, Security and Management. (8 Hours)

Module 3:

Application Technologies: M-Commerce, Mobile Wallets, Payment Gateway, Business Intelligence, ERP Systems, Introduction to E-commerce, E-Commerce Portals, Major Threats to E-commerce. (6 Hours)

Module 4:

Introduction to Office Software: Basics of MS-Excel in Business Management for Presentations, Analysis and Report Generation. Business Process Modelling: BPMN, ERD and DFD. (6 Hours)

Reference Books:

1. Management Information Systems by James O'Brien, 10th edition, McGraw Hill.
2. MIS a Conceptual Framework by Davis and Olson.
3. Business Intelligence: Practices, Technologies, and Management by Rajiv Sabherwal, Irma Becerra-Fernandez.
4. Analysis and Design of Information Systems by James Senn

	SEMESTER – III		MARKS		
PAPER #	SUBJECTS	CREDITS	UE	IA	TOTAL
1	Business Research Methods	3	30	70	100
2	Project Management	3	30	70	100
3	Fundamentals of Business Analytics	3	30	70	100
4	Specialization Paper - 1	3	30	70	100
5	Specialization Paper - 2	3	30	70	100
6	Specialization Paper - 3	3	30	70	100
7	Specialization Paper - 4	3	30	70	100
8	Project	3	50	100	150
	TOTAL CREDITS AND MARKS	24	260	590	850

Core Papers	
Code	SUBJECT NAME
301	BUSINESS RESEARCH METHODS
302	PROJECT MANAGEMENT
303	FUNDAMENTALS OF BUSINESS ANALYTICS
Financial Management Specialization	
Code	SUBJECT NAME
FM304	INVESTMENT ANALYSIS AND PORTFOLIO MANAGEMENT
FM305	ACQUISITIONS & MERGERS AND CORPORATE RESTRUCTURING
FM306	NEW AGE BANKING & FINTECH
FM307	DERIVATIVES

Marketing Specialization	
Code	SUBJECT NAME
MKT304	GLOBAL CONSUMER BUYING BEHAVIOUR & NEURO MARKETING
MKT305	SERVICE MARKETING
MKT306	B 2 B MARKETING
MKT307	DIGITAL AND SOCIAL MEDIA MARKETING

H R M Specialization	
Code	SUBJECT NAME
HRM304	MANPOWER PLANNING, RECRUITMENT AND SELECTION
HRM305	PERFORMANCE MANAGEMENT SYSTEM
HRM306	EMPLOYEE RELATIONS
HRM307	INTERNATIONAL HUMAN RESOURCE MANAGEMENT

OPERATIONS MANAGEMENT	
Code	SUBJECT NAME
OPM304	SUPPLY CHAIN MANAGEMENT
OPM305	WORLD CLASS MANUFACTURING
OPM306	LEAN OPERATIONS MANAGEMENT
OPM307	PURCHASING AND MATERIALS MANAGEMENT
BUSINESS ANALYTICS	
Code	SUBJECT NAME
BA304	INTRODUCTION TO R AND BASIC ANALYTICS USING R
BA 305	DATA VISUALIZING AND REPORTING
BA 306	PREDICTIVE ANALYSIS
BA 307	STRUCTURED QUERY LANGUAGE

Course Objectives:

- To introduce the importance of Research Methodology.
- To introduce the basic concepts of Research Methodology.
- To familiarize students with research process, conducting of research and research design.
- To familiarize the students with preparing the report and evaluation of research report.

Course Outcomes:

- Better understanding of importance of Research Methodology.
- Better understanding of concepts of Quantitative Techniques of research
- Preparing the students to application of research techniques.
- Better decision making by using research techniques.

Course Content

Module 1 (6 Hours)

Introduction to Business Research: Research and research methodology-Language of Research Meaning-types of business research-criteria of good research approaches to business research scientific and non-(un)-scientific-difference between research methods and methodology significance of business research-Literature Review. Business Research Process and Proposal: Meaning and components-steps involved in preparing business research plan/proposal.

Module 2 (8 Hours)

Research Design: Research problems – designing the study – steps in research design process – types of research design. Sources and collection of data - Secondary data – sources – advantages and limitations – methods of collection of data, Primary data – sources – advantages – questionnaire design scales of measurement used in research.

Module 3 (6 Hours)

Sampling Methods: Types – probability and non-probability samples – types of sample design – random, stratified, area, systematic – non probability –convenience, judgment, and quota – advantages sampling, snowball sampling – limitations – determination of sample size and estimating proportions –application of sampling.

Module 4 (4 Hours)

Statistical Tools and Testing

Data Analysis using SPSS: Data editing, coding and cross tabulation and descriptive data analysis, testing of hypothesis using z & t test (two samples). Multivariate Analysis: Chi-square test, one-way ANOVA, discriminant analysis - factor analysis – conjoint analysis - multi dimensional scaling.

Module 5 (6 Hours)

Report Writing: Methods of report writing – oral, written, advantages and disadvantages of oral and written reports – components of written research report– presentation of reports – audio-video presentation.

Recommended Book:

- Cooper, Schindler and Sharma, Business Research Methods, Mcgraw Hill Education, 11th Edition, 2012.
- Naresh Malhotra and Satyabhushan Dash, Marketing Research, Pearson Education, 7th Edition, 2016.

Reference books: Zikmund, Babin, Carr, Adhikari and Griffin, Business Research Methods, Cengage, 8th Edition, 2016.

- Deepak Chawla and Neena Sondhi, Research Methodology, Concepts and Cases, Vikas, 2nd Edition, 2016. C R Kothari, Research Methodology, New Age International, 3rd Edition, 2014.

Project Management (Code 302) (3 credits) 30 Hours

Course Description: The course covers key components of project management including project integration, project scope management, project time and cost management, quality management, human resource considerations, communications, risk management, and procurement management

Course outcome

On successful completion of this course, students will be able to design

Students will be able to recognize the need for managing different types of projects in an organization. Students will be able to discuss the various tools, process and methodologies which can be used at the different stages of a project lifecycle.

Students will be able to apply the appropriate tools, process and methodologies for the distinct stages at a project lifecycle.

Students will be able to distinguish between work breakdown structure and process breakdown structure and will be able to create WBS and responsibility matrix

Students will be able to apply the tools learnt to assess project uncertainties and manage the risk. Students will be able to evaluate the importance of performance measurement during pre-audit and post audit.

MODULE 1: Introduction to Project management (8 HOURS)

Definitions, Concepts & key terms, Progressive elaboration, Project vs Operations, Program Management, Project Portfolio Management, Project Feasibility, Functional, Technical, Economic, Commercial and Financial feasibilities, Ten Sub-Systems of Project Management, Evolution of integrated project management system, Project Integrated Management Process, Project Lifecycle, Project lifecycle phases. (6 Hours)

MODULE 2: Project Scope Management and Cost Management (6 HOURS)

Defining project scope, Project scope planning, Scope definition at Project Initiation, Characteristics of good scope document, Scope constituents, Statement of Work, Project Cost Management, Creating work break down structure (WBS), Purpose of WBS, Factors in development of WBS, WBS through MS Project (6 Hours)

MODULE 3: Project Time Management and Risk Management (10 HOURS)

Network models, PERT & CPM, Activity dependencies, Leads and Lags, Estimating activity durations, Objectives, Advantages and Disadvantages of CPM, Differences between PERT and CPM, Project Risk Management, Techniques for risk analysis, Sources and perspectives of risk, Project specific risk, Competitive risk, Industry specific risk, market risk, Firm risk, Business risk, Financial risk (8 Hours)

MODULE 4: Project Review and Team Management: (6 HOURS)

Project review and monitoring, Types of Project reviews, Tools for monitoring a project, Earned value analysis, Abandonment analysis, Performance analysis, Project Team Management, Stages in Project Team Management, Managing virtual project teams, Project Quality Planning, Quality assurance, Quality audit (4 Hours)

Note: Case Study would be dealt according to Chapters

References:

1. Project Management –Jeffrey K. Pinto – Pearson.
2. Project Management – Rory Burke –Wiley Publication
3. Project Management – C S Parthasarathy – I.K. International Publishing
4. Project Management -- Clifford Gray & Larson
5. www.pmi.org

303: FUNDAMENTALS OF BUSINESS ANALYTICS (3 Credits) 30 Hours

Course Objectives:

This course aims to impart the foundational concepts and skills essential for a future manager to understand and manage data, use data for decision making and present the outputs creatively using data visualization techniques. The course further aims to build an understanding of machine learning and the way it is used by organizations.

Course Learning Outcomes: On having completed this course student should be able to:

- Explain the basic concepts of Business Analytics.
- Summarize the implications of data driven business decisions.
- Explain the concepts of Machine Learning.
- Analyse data visually using tools.
- Examine data using simulations through MS-Excel.

MODULE 1: Introduction to Business Analytics Hours: 5

Definition, Types - Descriptive, Predictive and Prescriptive Analytics, Ethics in data management, Business Analytics for decision making

MODULE 2: Introduction to Machine Learning Hours: 6

Machine Learning - Definition, Machine Learning workflow, Models – CRISP DM & SEMMA, Types - supervised, unsupervised and reinforcement learning, managerial applications of Machine Learning

MODULE 3: Applications of Analytics Hours: 4

Applications of Analytics in various functional areas – Finance, Marketing, Human Resources and Operations

MODULE 4: Fundamentals of Business Intelligence and Data Visualization Hours: 8

Business Intelligence – Concept and architecture, Role and significance in Business, Fundamentals of visualization, Introduction to visualization tool (Tableau), data ingestion, working with visualization tool, dash boarding, story telling

MODULE 5: Business Modelling using MS-Excel Hours: 7

M functions, formulae, filters and conditional formatting. Pivot tables, Modelling using multiple linear regression, Introduction to Monte Carlo simulation

Text Books and Reference Books:

1. Ramesh Sharda, Dursun Delen and Efraim Turban (2015). *Business Intelligence and Analytics: Systems for Decision Support*. 10th edition. Pearson
2. U Dinesh Kumar. (2017). *Business Analytics: The Science of Data: Driven Decision Making*, Wiley Publications
3. Wayne Winston (2017). *Microsoft Excel 2016 Data Analysis and Business Modelling*, 5th Edition
Essential Reading / Recommended Reading
 1. <http://www.techonthenet.com/excel/formulas/date.php>
 2. <http://www.techonthenet.com/excel/formulas/text.php>
 3. <http://www.howtogeek.com/howto/13336/working-with-pivottables-in-excel/>
 4. <http://www.youtube.com/watch?v=NGy4faFlop0>
 5. <https://data-flair.training/blogs/business-intelligence-and-data-warehousing/>
 6. <https://www.guru99.com/etl-extract-load-process.html>

INVESTMENT ANALYSIS & PORTFOLIO MANAGEMENT (Code FM304) (Credits: 3) 30 Hours

Learning Objectives:

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

- Demonstrate knowledge of the dynamics of investment and underlying tools & techniques of investment decision making and
- Know about Japanese candlestick theory and analyze stock on the fundamental and technical analysis
- Construction of portfolio on the clients requirement assessing of risk & return and evaluation
- Understand commodity market and products in the market, role and functions of COMEX and approaches of famous investors.

Module 1 Overview of Investments: (8 Hours)

- Meaning of investment and securities, investment attributes, concepts and types of risk and return, investment alternatives, Overview of Indian and world equity markets. Equity derivatives - Futures and Options, Valuation of Futures - Cost of carry model and Calculation of Options premiums - Binomial model, Black Scholes Option Pricing Model, Option Greeks (6 Hours)

Module 2 Analysis of Stocks: (6 Hours)

- Fundamental analysis: growth and value shares, estimation of intrinsic values and nonfinancials, Technical analysis of stocks, Dow Theory, charting techniques, SMA, WMA, EMA, ROC, RSI, MACD analysis, Japanese Candlesticks. (6 Hours)

Module 3 Portfolio Theory & Management: (8 Hours)

- Capital Market Theory-Portfolio theory, risk and return of portfolio, Markowitz mean-variance model and Efficiency Frontier, CAPM, CML, SML, Characteristic Line, Alpha and beta, APT, EMH, stock market anomalies, unruly factors, stock market indices- Indian and world markets, Construction of portfolios, execution, and revision and performance evaluation, Treynor, Sharpe and Jensen measures, Fama model, strategic asset allocation. (8 Hours)

Module 4 Commodity derivative Trading: (8 Hours)

- Overview of Commodity markets – India and global, CBOT, CME, LME, MCX, NCDEX, NMCE, Regulatory framework - FMC, Forward Contracts (Regulation) Act, 1952, commodity indices, brief account of commodities traded, pricing and trading, commodity derivatives and commodities futures trading in India, Fundamental analysis of commodities, Technical analysis of commodities

Text books:

1. PrasannaChandra,: Investment Analysis and Portfolio Management ,Tata McGraw Hill Education,4th edition, 2012
2. ZviBodie, Alex Kane, Alan J Marcus, PitabasMohanty. Investments, Tata McGraw - Hill Education,8th edition, 2009

Reference Books:

1. Fischer D, Security Analysis & Portfolio Management,6th edition, 1995, Prentice-hall Of India Pvt Ltd
2. Gordon J. Alexander, Jeffery V Bailey, William F. Sharpe. Fundamentals Of Investments, Phi Learning,3rd edition, 2009

Learning Objectives:

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

- Understanding the corporate restructure plans ,forms ,corporate governance and regulation in India
- Know about importance of diversification and merger process strategy formulation.
- Appreciating the need and the challenges of inorganic growth and the Regulatory framework • Valuation, process and closure of M&A deals and to cope up the post-merger challenges

Module 1 8 Hours**Corporate Restructuring**

- Overview of Corporate Restructuring, Forms of corporate restructuring, Sell-offs, Spinoffs, Split offs, Split ups, Divestitures, Equity Carve outs corporate control, merger trends - past and present, forces driving M&A, effects on concentration, Restructuring In Bankruptcy, Corporate Governance
- Restructuring and Financial Engineering, Joint Ventures And Strategic Alliances, ESOPs & MLPs (Master Limited Partnerships), going private, leveraged buy-outs, international mergers & restructuring, Regulatory environment, CCI (Competition Commission of India), antitrust and public policies, insider trading

Module 2 8 Hours**Diversification and Mergers**

- Merger types, economic rationale, framework, managerial synergy, firm and industry characteristics in horizontal & related mergers, financial synergy, quantifying synergies, and pure conglomerate mergers, role of industry life cycle, Cross border M&A
- The Merger Process Strategy formulation, approaches: Boston group, Porter approach, adaptive process, evaluation of the alternative approaches, formulating a competitive strategy, diversification strategy, Due diligence etc.

Module 3 6 Hours**Theories of Mergers**

- Efficiency theories, Differential Efficiency, Inefficient Management, Pure Diversification, Strategic Realignment to Changing Environments, Undervaluation, Information and Signaling, Agency Problems, Managerialism, Hubris Hypothesis, FCFH: Free cash flow hypothesis, evidence, market power, Tax considerations, taxation in India around M&A, tax planning options, sources of tax benefits, post-merger challenges

Module 4 6 Hours**Divestitures**

- Sell-Offs and Divestitures – background materials on divestitures, financial effects of divestitures, porter methodology, effects on shareholder values, motives for divestiture

Module 5 8Hours**Valuation of Mergers &Acquisition**

- Swap ratio, Methods of payment & Leverage, Major Challenges to Success of Mergers, extensive discussions of M&A case studies, Share repurchase, takeover defenses, poison pill, golden parachutes, Bear Hug, front end loading in tender offers.

Text books:

1. Ramanujam S, Mergers Et Al: Issues, Implications and Case Law in Corporate Restructuring PB 3rd Edition (2012 edition), Lexis Nexis-New Delhi
2. J. Fred Weston, K Wang S. Chung, Susan E. Hoag, 'Mergers, Restructuring and Corporate Control', PHI, recent edition.

Reference Books:

1. Weston, "Takeovers, Restructuring and Corporate Governance" 2nd Edition (2011 edition), DORLING KINDERSLEY (RS)
2. Patrick A. Gaughan, "Mergers, Acquisitions, And Corporate Restructurings", 5Th Edition (Paperback) (2011 edition), Wiley India Pvt Ltd **Note:**

Real world case studies should be discussed extensively throughout the course delivery

NEW AGE BANKING AND FINTECH (Code FM306) (3 CREDITS) 30 Hours

After successful completion of course student will be able to:

- Understand the various key concepts, business models and technologies of the FinTech, which are emerging areas in the Financial Services industry.
- Explore new opportunities based on cutting-edge FinTech concepts and practices
- Understand and evaluate the impact of FinTech on financial sectors such as banking, insurance, asset and wealth management and financial infrastructure etc.
- Learn how FinTech can transform business models, improve customer experience, generate insights and drive product-service innovation.

Module 1: Introduction:

What is Fintech? , Introduction and Transformation; Evolution – Infrastructure, Banks, start-ups and Emerging Markets; Emerging Economics; Too-Small-To-Care to Too-Big-to-Fail; Collaboration between FIs and start-ups. (4 Hours)

Module 2: Payments, Crypto-currencies & Block chain:

Overview – Individual Payments; RTGS; Introduction & Overview of Alternative Finance; Breakthrough technologies:

Crypto currencies & Block chain – Introduction, overview, evolution and the future;

Legal and Regulatory Implications of Crypto currencies. (8 Hours)

Module 3: Digital and Alternative Finance: (8 Hours)

Brief overview and History of financial innovation; Digitization of Financial Services; AI – Catalyst in transforming the future of Fin Tech; Over view of Crowd funding; P2P and Marketplace lending;

Introduction and Overview of Initial Coin Offering (ICO)

Module 4: Fintech Regulation and Reg Tech : (4 Hours)

Overview of Fintech Regulation; Overview and Evolution of Reg Tech; Reg Tech Ecosystem – FIs', Startup's; Regulators ; Use of AI in fraud detection; Redesigning better financial infrastructure

Module 5: Data and Fintech: Brief overview of Data regulation: (6 Hours)

Data in Financial Services; Application of Data Analytics in Finance; European Big Bang – PSD2/ MIFID2 / PSD2; Regulatory transformations in Client demographics – KYC (1.0) to KYD (2.0) **References**

DERIVATIVES (Code FM307) (3 credits) 30 Hours

Course Description

This course is offered to the Finance students of the MBA programme. This course provides comprehensive knowledge about the functioning of the Derivatives Markets using a practical approach. It also aims to ignite sufficient interest in students for them to consider this area for their career growth.

Learning Outcome

- Understand the working of Derivatives instruments, including Forwards, Futures, Options and Swaps
- Analyse the effectiveness of different hedging strategies using Forward, Futures and Options contracts.
- Evaluate the effectiveness of different trading strategies using Call and Put Options, and Swaps.
- Determine the prices of Call and Put Options using Binomial and Black-Scholes-Merton models.
- Examine the research work that has been undertaken in the field of Derivatives

Module 1: **Derivatives - An Introduction (3 Hours)**

Introduction, Risk management, Derivatives, Derivatives Products, Classification of Derivatives, Participants in Derivative Markets, Evolution of Derivatives, Functions of Derivatives Markets, Misuse and Criticism of Derivatives

Module 2: **Forwards and Futures (8 Hours)**

Forward Contract, Settlement of Forward Contract, Futures Contract, Specifications of Futures Contract, Open Interest, Difference between Forward and Futures Contract, Pricing a Forward and Futures Contract.

Commodity Futures, Benefits of Commodity Futures, Pricing Commodities Futures, Hedging with Commodities Futures, Perfect and Imperfect Hedge, Basis & Basis Risk, Optimal Hedge Ratio. Stock and Index Futures, Futures Contract on Indices and Individual Stocks, Features and Specifications of Stock and Index Futures, Pricing Stock and Index Futures, Application of Index Futures, Hedging through Index Futures.

Interest Rate Forwards and Futures, Forward Rate Agreement (FRA), Hedging with FRA, Speculation with FRA, Arbitrage with FRA, Eurodollar Futures

Module 3: **Swaps and Options (6 Hours)**

Interest Rate and Currency Swap, Features of Swap, Need for Swap Intermediary, Applications of

Swaps, Rationale for Swaps - Comparative Advantage, Types of Interest Rate Swaps

Options, Call Options, Put Options, Moneyness of Options, Types of Options, Understanding Options Quotations, Trading and Settlement of Options, Margins in Options, Differences between Options and Futures/ Forwards.

Module 4: **Options pricing (10 Hours)**

Intrinsic Value and Time Value, Arbitrage based Relationship of Option Pricing, Put Call Parity. Binomial Option Pricing Model, Applying Binomial Model, Factors Affecting Options Price, Black Scholes (BS) Options Pricing Model, Assumptions of BS Model, Interpreting the BS Model, Measuring Historical Volatility, Implied Volatility.

Hedging with Stock Options, Hedging with Index Options, Straddle, Strangle, Straps and Strips, Bull Spread, Bear Spread, Butterfly Spread, Factors Affecting the Spread

Module 5: **Credit Derivatives (3 Hours)**

Credit Derivatives, Types of Risk, Assessing Credit Risk - The Probability of Default, Credit Default Swaps.

Text Books and Reference Books:

1. Hull, J. C., & Basu, S. (2020). *Options, Futures and Other Derivatives*. Noida: Pearson India Education Services Pvt Ltd.
2. Das, & Sundaram. (2015). *Derivatives: Principles and Practice*. Delhi: McGrawHill Education (India) Private Limited.

Essential Reading / Recommended Reading

1. McDonald, R. *Derivative Markets*. Boston: Addison-Wesley.
2. Analysis of Derivatives for CFA Program, Don M Chance, AIMR.
3. *Futures and Options*, Vohra and Bagri, Tata McGraw Hill.
4. *Derivatives Demystified*, Andrew M. Chisholm, John Wiley and Sons.
5. *Derivatives Markets, Valuation, and Risk Management*, Robert E. Whaley, John Wiley and Sons

MARKETING SPECIALIZATION

GLOBAL CONSUMER BUYING BEHAVIOUR & NEURO MARKETING (CODE MKT 304)

(3 CREDITS) 30 Hours

Course Description: This paper will help students understand the behaviour of global consumers before and after purchase. The paper helps students gain valuable conceptual knowledge of how the concepts of motivation, perception, personality and other behavioural studies influence the consumer in making purchase decisions. It also gives an insight to the students about the decision-making process and the growing significance of the consumer behaviour study in various other areas of marketing

Learning Outcome

- Understand consumer insights with specific reference to marketing strategy
- Apply consumer behaviour knowledge to new areas within marketing.
- Analyse and deal critically with various sources of consumer information and use them to structure and formulate successful strategies.
- Analyse existing theories, methods and interpretations in the consumer behaviour field and work independently on practical and theoretical problems.
- Evaluating the application of neuromarketing tools in predicting the consumer behaviour for effective marketing outcome

Module 1: Introduction to Consumer Behaviour (6 Hours)

Consumer Behaviour and Marketing Action - An overview - Consumer involvement - Decision-making processes - Purchase Behaviour and Marketing Implications - Consumer Behaviour Models

Module 2: Environmental influences on Consumer Behaviour (6 Hours)

Cultural influences - Social class - Reference groups and family influences - Opinion leadership and the diffusion of innovations - Marketing implications of the above influences.

Module 3: Consumer buying behaviour (4 Hours)

Marketing implications - Consumer perceptions – Learning and attitudes - Motivation and personality – Psychographics - Values and Lifestyles

Module 4: The Global Consumer Behaviour and Online buying behaviour (6 Hours)

Consumer buying habits and perceptions of emerging non-store choices - Research and applications of consumer responses to direct marketing approaches - Issues of privacy and ethics.

Module 5: Neuromarketing and Applications (8 Hours)

Introduction to Neuromarketing, Techniques for registering human brain activity: PET, MEG, fMRI, EEG and biometric measures, Eye-tracker, electro dermal response and electroencephalography and their advantages and disadvantages for different tools in consumer research. Neural networks influence on shaping persuasion and human decision-making. Human neuroscience to predict consumer behavior. Ethics of neuromarketing. Aberrant consumer behaviour.

Text Books and Reference Books:

Schiffman, L. G., & Kanuk, L. L.(2003). Consumer behavior (10th ed.). Prentice-Hall Publications & Pearson Education Publications

Bennet and Kassarian, CONSUMER BEHAVIOUR, Prentice Hall of India, New Delhi

Michael R. Solomon, Consumer Behaviour, PHI Learning Private Limited, New Delhi, 2011

Essential Reading / Recommended Reading

Ramanuj Majumdar, CONSUMER BEHAVIOUR, Prentice Hall of India, New Delhi, 2011

Loudon and Della Bitta, CONSUMER BEHAVIOUR: CONCEPTS AND APPLICATIONS, Tata McGraw Hill. New Delhi, 2007

Berkman & Gilson, CONSUMER BEHAVIOUR: CONCEPTS AND STRATEGIES, Kent Publishing Company.

Efraim Turban, Jae Lce, David King, & I-I. Michael Chung: Electronic Commerce: Managerial Perspective, Pearson Education Inc., 2000.

Assael, H. (2001). Consumer behaviour & marketing action (6th ed.). Thomson Learning Publications.

Engel, J. F., Blackwell, R. D., & Miniard, P. W. (2001). Consumer behaviour. Thomson Learning Publications.

Solomon, M.R. (1998). Consumer behaviour- buying, having & being (4th ed.). Prentice-Hall Publications.

Hawkins, D. I., & Best, R. J. I. (2002). Consumer behaviour. Implications for marketing strategy (8th ed.). Loudon, L. D.

Della Bitta, J. A. (2002). Consumer behaviour- concepts and applications (4th ed.). Tata McGraw Hill Publications

Course Objectives

To acquaint the students with concepts and techniques in the management of services marketing and help they learn the issues in managing unconventional challenges in service marketing.

Course Outcomes

Explain the unique challenges of services marketing, including the elements of product, price, place, promotion, processes, physical evidence, and people.

Describe how customer relationship marketing (CRM), including retention strategies, creates an environment that achieves excellence in customer service.

Design service quality measurements to build customer loyalty and evaluate the effectiveness and efficiency of customer service offerings.

Explain service blueprinting, the integration of new technologies, and other key issues facing today's customer service providers and service managers.

Discuss the influences of the multicultural marketplace, business ethics, and socially responsible marketing on services marketing.

Conduct a services audit plan for a service firm.

Integrate course concepts into individual performance to become better customer service representatives in the service environment.

Course Content

Module-1 Introduction: (6 HOURS)

Difference between product and services marketing; Characteristics of services; Classification of services; Paradigms in services marketing. Service marketing system: Service quality; Understanding customer expectations and zone of tolerance; Segmentation and zone of tolerance; Targeting and positioning of service. Role of Services in Economy.

Module Services marketing mix: (8 HOURS)

Augmented marketing mix; Developing the service product/intangible product; Service product planning; Service pricing strategy; Services promotions; Services distributions. Physical evidence: Role of communication in service marketing; People and internal communication; Process of operations and delivery of services; Role of technology in services marketing.

Module-3 Service Quality: (6 HOURS) Quality Issues and Quality Models (Gaps model, SERVQUAL); Demand-supply Management. Services failure, service recovery, Customer retention, Customer Relationship management, designing of service strategy.

Module-4 Marketing of Services in Practice (6 HOURS)

Tourism Services Marketing, Marketing of Transportation & Logistics Management, Marketing of Financial Services, Marketing of Communication Services, Media & Advertising Service Marketing, Marketing of Healthcare Services, Marketing of Consultancy Services, Marketing of Retail Services. Marketing of Educational Services, Marketing of Public Services.

Module -5 Services in global perspective (4 HOURS)

International marketing of services; recent trends; Principal driving force in global marketing of services; Key decisions in global marketing; Services strategy and organizing for global marketing. **Recommended Book**

Lovelock- *Services Marketing: People, Technology and Strategy* (Pearson Education, 5th edition).

Zeithaml, V. A and Bitner, M. J. - *Services Marketing* (Tata McGraw-Hill). S. L. Gupta *Marketing of Services* (Sultan Chand).

Reference Books:

Baron S and Harris K- *Services Marketing: Text and Cases* (Palgrave, 2003) Rama Mohana Rao *Services Marketing* (Pearson Education).

GovindApte- *Services Marketing* (Oxford Univ. Press). P.Srinivasan- *Services Marketing*. PHI.

B2B MARKETING (CODE MKT 306) (3 CREDITS)

(3 CREDITS) 30 Hours

Course Objectives:

The course introduces the student to the basic concepts of B2B marketing – how it evolved as a distinct field of industrial marketing

The course provides a framework for understanding the influence of supply chain in B2B marketing

It gives a picture of real world of markets of organizational /institutional consumers, how it influences the purchase patterns in B2B in the digital age.

To introduce the student to the theory, concepts and business application of B2B marketing Course Outcomes:

1. Apply knowledge of management theories and practices to solve business problems with specific reference to marketing strategy used in B2B sector.
2. Foster Analytical and critical thinking abilities for data based decision making.
3. Discover, analyze and communicate global, economic, legal and ethical aspects of business.
4. Apply existing theories, methods and interpretations and work independently on practical and theoretical problems.
5. Lead themselves and others in the achievement of organizational goals, contributing effectively to a team environment.

Module -1 Introduction to new generation Business-to-Business Marketing: (Hours: 3)

Leading organizations in B2B marketing in India and global markets -Business and Consumer marketing-A contrast, the value chain, Trends and changes in Business marketing

Module -2 Perspectives on the Organizational Buy: (Hours: 7)

Classifying customers, Organizations and Markets, Types of organizational customers and their unique characteristics of Commercial enterprises, Government and Institutional Markets. Organizational buying and buying behavior: The nature of buying, organizational buying process- A process flow model.

Module -3 Customer relationship management strategies for business markets: (Hours: 4)

Developing emotive connects in B2B marketing, Buyer seller connector, New generation value added partnerships roles in B2B Marketing, Managing buyer seller relationships, Gaining a customer relationship advantages

Module -4 Segmenting the Business Market and Demand Analysis: (Hours: 8)

Segmenting, Targeting and Positioning. Value based segmentation. A model for segmenting the organizational Market. Organizational demand analysis, determining market and sales potential, Sales forecasting methods

Module -5 Technology Innovation and Marketing Mix: (Hours: 8)

Managing Innovation and New product development process. Pricing in Business-to-Business Marketing. Pricing basis, managing price as part of Marketing Strategy, Managing pricing tactics, pricing implementation-case of negotiated pricing.

Direct & Indirect channels, Distributors & manufacturers rep, Channel objectives & Design, Selection & Motivation of channel members. B2B Advertising, Trade shows, Personal selling, Key account management. Managing service for Business Markets, Ethics as strategy in B2B selling **Text Books and Reference Books:**

Hutt, Michael,D., Speh, Thomas, W.(2013). *Business marketing management*. Cengage Learning.

Essential Reading / Recommended Reading

1. Reeder, R.R., Brierty, E. G., Betty.H. (2013).*Industrial marketing, analysis, planning and control*. PHI publication.
2. Anderson.(2013). *Business market management*. Pearson Publications.

DIGITAL AND SOCIAL MEDIA MARKETING (CODE MKT 307) (3 CREDITS) 30 Hours

Course Objective:

Digital Marketing has been designed to help the students to understand how to plan, implement and manage a comprehensive digital marketing strategy. It will teach them how to engage with customers online and use the internet as a marketing channel. Equally important is the fact that they will learn how to drive measurable results through various channels of digital marketing including social media and others.

Course Contents:

Module -1 A Framework for Digital Marketing: (Hours: 4)

Digital Marketing Landscape & P-O-E-M framework, Commercial beginnings of the Web- Web 2.0, The Future Web 3.0, different digital technology marketing platforms, Internet Business models & marketing in a connected world, Internet as a marketing platform, critical success factors for internet marketing, benefits and barriers to Internet marketing.

Module -2 Digital Marketing Environment & Digital Marketing Mix: (Hours: 6)

Market opportunity analysis in the new economy, Global digital Marketing issues, Consumer Behavior Online, Privacy within Digital Contexts, Product development: influence of interactivity and individualization, Pricing on the internet – the economics of pricing & various pricing strategies, Internet as a distribution channel and disintermediation, Online Partnerships: Introduction to Affiliate marketing, On-line promotion: direct marketing, viral marketing, organizing campaigns in digital ecosystem.

Module -3 Emerging Trends in Digital Marketing–I: (Hours: 9)

Search Engine Optimization- Keyword Research, How Google Works ,Search Engine Factors ,On Page & Off Page Optimization , Meta Tags, Images, Content, Video, Links and How to Get Them , Pay per Click- How to Create a PPC Campaign ,Implementing PPC Budget, Targeting Your Advertising , Measuring & Managing Your Campaigns, Digital Display Advertising-Creating and implementing banner campaign.

Module -4 Emerging Trends in Digital Marketing–II: (Hours: 6)

Social Media Marketing- Increasing Website Traffic Using Facebook, Twitter, Twitter marketing, Video, etc., Building Brand Awareness Using Social Media, Best Practice Examples & Case Studies , Mobile Marketing- Various Forms of Mobile marketing, Geo-Targeting Your Campaign for Smart Phones.

Module -5 Digital Analytics (Hours: 5)

Introduction to Digital analytics, Google Analytics, Free versus Paid, Account setup and navigation, Defining audience overview, Behavior, Acquisition source, Sales Funnel in digital world, Important Metrics in social Media analytics

Recommended Book:

The Art of Digital Marketing, Dodson, Wiley India (2017)

Social Media Marketing, Barker & Barker, Cengage Publication (2017)

Reference Books

MoutusyMaity (2017) Internet Marketing, Oxford University Press Bayne, M. (1997) Internet Marketing Plan. New York: John Wiley & Sons.

Charlesworth, Alen. (2014). Digital Marketing: A Practical Approach.

Chaffey, Dave, Chadwick, Fiona, Ellis. (2012). Digital Marketing: Strategy, Implementation and Practice, 5/E, Pearson.

Michael Miller (2012), The Ultimate web Marketing, Pearson

HRM SPECIALIZATION

MANPOWER PLANNING, RECRUITMENT AND SELECTION (CODE HRM 304) (3 CREDITS) 30 Hours

Module-1 Basics of Manpower Planning (6 HOURS)

Introduction to HRP System – The Emerging Context - Process and Functions of Human Resource Planning - Methods and Techniques: Demand Management - Methods and Techniques: Supply Management - Contemporary Trends in Managing Demand and Supply – HRP at Global Context.

Module -2 Strategic HRP- (4 HOURS)

Strategic Planning and HR Planning - HRP and Corporate Objectives – Process of Strategic HR Planning

Module-3 Approaches to Analysis and Competency Mapping (6 HOURS)

Job Analysis – Changing Nature of Roles - Job Evaluation: Concepts and Methods – Competency Approaches to Job Analysis – Procedures and Steps, Methods of Data Collection for Mapping - Developing Competency Models from raw data.

Module-4 Recruitment-Need for Effective Recruitment (6 HOURS)

Internal and External Sources of Candidates – Recruiting a More Diverse Workforce – Developing and Using Application Forms - Online recruitment; employee referrals; recruitment process – Outsourcing and Head Hunting – Global Implications.

Module-5 Selection and Interview (8 HOURS)

Assessing the Candidate – Science of Selection and Psychometric Assessment, Other Selection Techniques - Selection Process - Errors in Selection - Employer Branding; Planning the Interview - Interviewing Skills – Challenges in the Interview – Targeted interviewing – Interviewing Process – Global Implications.

References:

1. Phillips, J.M. and Gully, S.M. (2009). Strategic Staffing: Pearson Prentice Hall.
2. Fisher, C.D; Schoenfeldt, L.F; Shaw, J.B (1997) Human Resource Management. All India Publishers and Distributors.
3. Strategic Human Resources – Framework for general managers by James N Baron and David Kreps: Wiley Student Editions

PERFORMANCE MANAGEMENT SYSTEM (CODE HRM 305) (3 CREDITS) 30 Hours

Course Objectives

- To enlighten the students with the conceptual knowledge and strategies of Performance Management systems
- To enable the students in identifying, evaluating and developing the performance dimensions in organizations.
- To understand the role of performance management in the accomplishment of organizational goal and objectives.
- To have an insight into the sequential pattern of performance management process and PRC.

Course Outcomes:

- Will be able to understand the nature and importance of PMS.
- Will be able to identify the key stages of PMS cycle.
- Gain insights into the key parameters on which performance can be evaluated.
- Will be able to design an organization's PM process in alignment with organizational goals and objectives.

Course Content Module– 1: Introduction: (8 HOURS)

Definition and Dimensions of Performance Management, process, performance management and rewards

Module – 2: Performance Analysis: (6 HOURS)

Objectives, Factors Influencing Performance Analysis; Methods of performance Appraisal Systems.

Module – 3: Performance Review: (6 HOURS)

Counselling (PRC); Objectives; Process; Conditions for Effective

Module – 4: Determinants of Performance: (10 Hours)

Factors Influencing Determinants of Performance, Performance Dimensions, Approaches to Measuring Performance (Behaviour Approach, Results Approach, Trait Approach); Comparative Systems & Absolute Systems of performance measurement.

Performance Evaluation and Employee Development: Appraisal Forms, Characteristics of Appraisal Forms, Determining Overall Rating, Appraisal Period and Meetings; Providing Performance Information (Supervisors, Peers, Subordinates, Self, Customers); Rater Motivation

Model; Rater training and prevention of rating distortion; Personal Developmental Plans; 360-Degree Feedback Systems – advantages and risks

Preferred book:

- **TV Rao, Performance Management and Appraisal Systems, Sage Response Books. Suggested / Reference Books:**
- **G.K.Suri: Performance Measurement and Management, Excel Publications.**
- **Michael Armstrong, Employee Reward, Universities Press (India) Ltd.**
- **D.K.Srivastava: Strategies for Performance Management, Excel Publications.**
- **R.K. Sahu: Performance Management System, Excel Publications.**

EMPLOYEE RELATIONS (CODE HRM 306) (3 CREDITS) 30 Hours

Course Objective:

- To make the students understand and identify the importance of Employee relations and its legislation including collective representation, union organization, collective bargaining and negotiation.
- To demonstrate approaches to disciplinary actions when industrial disputes takes place.
- To explore and understand the significance of integration of interest, managing careers and quality of work life for better employee relations.

Course Outcomes:

- Understand and identify the importance of Employee relations and its legislation including collective representation, union organization, collective bargaining and negotiation.
- In a position to demonstrate approaches to disciplinary actions when industrial disputes takes place.
- Explore and understand the significance of integration of interest, managing careers and quality of work life for better employee relations.

Course Content

Module 1 Industrial Relations: (6 Hours)

Meaning & Objectives, Importance, Approaches to Industrial Relations – Unitary, Pluralistic, Marxist. Roles of Three Actors to Industrial Relations – State, Employer & Employees, Causes for Poor IR, Developing Sound IR – Ethical Concerns to IR – Idea of Trusteeship – Principles and Features, Code of Conduct.

Module 2 Trade Union: (6 Hours)

Meaning, Why do workers Join Unions, Types of Trade Unions, Theories of Trade Unions, Trade

Union Movement in India, Problems of Trade Unions, Functions of Unions, Measures to Strengthen Trade Unions, Trade Unions Act – Registration of Trade Unions, Need for Recognition and Rights to Recognition of Trade Unions, Central Trade Unions in India.

Module 3 Industrial Disputes: (6 Hours)

Definition, Causes of Industrial Disputes, Types of Industrial Disputes, Prevention of Industrial Disputes, Settlement of Industrial Disputes, and Industrial Dispute Act – Conditions to strike, Lockouts, Lay-off and Retrenchment and Law Relating to Standing Orders.

Module 4 Collective Bargaining: (6 Hours)

Definition, Importance, prerequisites of Collective Bargaining – Union Bargaining Process – Types of Bargaining - Collective Bargaining in India – Grievance and Disciplinary Procedure – Meaning, Needs and Procedures.

Module 5 Integration of Interest, Managing Careers and Quality of Work Life: (6 Hours)

Career Planning, Factors Affecting Career Choices, Career Stages, Career Anchors, Need for Career Planning, Managing Promotions, Transfers and Demotions, Individual and organization Problems in Integration – Quality of Work Life and Quality Circles.

Reference Books:

1. B.D. Singh, Industrial Relations, Excel Publications
2. Mamoria&Mamoria, Dynamics of Industrial Relations in India, HPH.

INTERNATIONAL HRM (CODE HRM 307) (3 CREDITS) 30 Hours

Course Objectives

- To be able to assess the extent to which multinational companies can have companywide HRM strategies, policies and practices
- To capture the changing landscape of IHRM with linking with Global business strategies.

Course Outcomes:

By the end of this course, a student would learn a preview of the major challenges that MNC's face and to be familiar, through a real life case study, with some of the HRM issues faced by staff in a foreign subsidiary of a major multinational company

Course Content

Module 1 International HRM (6 Hours)

Domestic HRM v/s IHRM - Managing International activities - Human Resource Planning -

International recruitment and selection - Training and development of expatriates – M & A – Integration of acquired employees in newer cultures, Global Mobility and HR-International postings

Module 2 Repatriation (6 Hours)

Expatriation and repatriation - Selection methodology of expatriation - Process of repatriation, job related adjustments, organizational development - International compensation: components, objectives and methods of compensation - Taxation decisions - Changing trends in International employment.

Module 3: Managing HR in Virtual Organization: (6 Hours)

Meaning and types of virtual organizations - Difference between traditional and virtual organizations - Features of virtual organization - Managing HR in virtual organizations - Challenges of International performance management - Career Management & International HRM.

Module 4: IHRM Strategies and Developments: (6 Hours)

Managing diversity - Linking corporate and HRM strategy - Total quality in HRM - Scope of TQM -

Comparison of Traditional and TQHRM approaches - Barriers to TQHRM - HR project planning - Importance of computerized information system - Conflict management - Human rights movement and IHRM, Experiences of Japan and China.

References:

- **Tony Edwards, Chrisrees: International Human Resource Management, Pearson, latest edition.**
- **Dowling : International Human Resource Management,**
- **IndraniMutsuddi: Managing Human Resources in the Global Context, New and international publishers, latest edition**
- **P.Subbarao : International Human Resource Management,HPH,latest edition**

OPERATIONS MANAGEMENT

SUPPLY CHAIN MANAGEMENT (CODE OPM 304) (3 CREDITS) 30 Hours

Course objective: Gain skills and knowledge in all aspects and issues of logistics in a sustainable supply chain. These include purchasing and procurement of materials, inventory flow and control, storage and material handling in warehousing, economics of mode of transport, and distribution and shipment.

Course outcome:

- Understand the basics of Supply Chain Management
- Apply the various techniques of Supply Chain to improve the responsiveness and efficiency of Supply Chain
- Understand the various factors which influence the supply chain
- Understanding the business to design the Supply Chain.
- Be familiar with various IT tools used in Supply Chain

Course Content

Module -1 Concept of Supply Chain Management (6 Hours)

Emergence, Components, Objectives and Importance of SCM – Generic types of Supply Chains – Major Drivers of Supply Chain - Strategic Decisions - Value Chain – Functions and Contributions – Supply Chain Effectiveness and Indian Infrastructure – Framework for Supply Chain Solution.

Module -2 Designing the Supply Chain Distribution Network (6 Hours)

Models in Supply Chain - Designing the Distribution Network – Factors influencing distribution – Various Distribution Network Designs - Selection of Distribution Network Design - Distribution networks in practice – Network design in the supply chain – Factors affecting the network design decisions - Distribution through DC - Milk-Run - Cross-Docking.

Module -3 Coordination in SCM (4 Hours)

Lack of Supply Chain Coordination and the Bullwhip effect – Obstacle to coordination – managerial levers – building partnerships and trust – continuous replenishment and vendor managed inventories – collaborative planning, forecasting and replenishment - SCM performance Metrics.

Module - 4 Role of Logistics in SCM (8 Hours)

Introduction to Logistics- Productivity in Logistics Management – Inbound logistics - Supplier selection - Contracts - Procurement- Outbound logistics- Distribution Channels - Outsourcing and 3PL & 4PL service providers - Warehousing - WH Operations - Material Handling - WMS - Transportation - Modes - Transportation Decisions - Performance Measurement.

Module - 5 ICT enabled Supply Chain (6 Hours)

Role and Benefits of ICT in SCM – Role of ERP in functional integration - IT enabled Supply Chain - EBusiness in Supply Chain, E-Business Framework, B2B E-Business and B2C E-Business – RFID and Barcoding.

Reference Books:

Mohanty, R.P and Deshmukh, S.G, 2005,. Supply Chain Management Theory and practices, Biztantra.

Sunil Chopra & Meindl Peter, 2003, Supply Chain Management strategy, planning and operation, 3rd Edition, Pearson Education / PHI.

Altekar, V. Rahul, 2005, Supply Chain Management, PHI.

Joel D. Wisner, G. Keong Leong and Keah-Choon Tan, 2005, Principles of Supply Chain Management A balanced Approach, Thomson.

Ronaqlid H. Ballou, 2004, Business Logistics/ Supply Chain Management, Pearson education, 5th Edition.

Coyle, J.J., Bardi E.J. & John Langley.C, 2006, The Management of Business Logistics- A supply Chain Perspective Thomson, 7th Edition.

B.S.Sahay, 2004, Supply Chain Management for Global Competitiveness, Macmillan India Ltd, 2nd Edition.

Metzer, 2005, "Supply Chain Management", Response.

LEAN OPERATIONS MANAGEMENT (CODE OPM 305) (3 CREDITS) 30 Hours

Course objective

To prepare the students to achieve excellence in their work area through the application of contemporary lean tools and techniques which facilitate the organizations to attain greater efficiency and effectiveness through optimal use of resources. To develop students as ambassadors of lean philosophy in whichever endeavour they pursue.

Outcomes: On having completed this course student should be able to:

- Describe the evolution of Operations Thoughts & Practices
- Identify the need and apply Toyota Production System in Manufacturing
- Describe and apply Value Stream Mapping technique
- Describe the House of Toyota/House of Lean
- Describe and apply 5S as well as Visual Management
- Describe Kaizen and apply DMAIC technique

Module - 1 Overview of Classical Manufacturing Systems: (3 Hours)

Overview of Classical Manufacturing Systems: Overview of Manufacturing System and its evolution through Craft Production System. Scientific Management - Division of Labour & Standardisation of Fredrick W. Taylor and Time and motion study of Frank & Lillian Gilbreth. Mass Production System pioneered by Henry Ford. Advantages and Disadvantages of Classical Production System in terms of productivity and efficiency. Introduction to Modern Production System.

Module - 2 Toyota Production System (TPS): (3 Hours)

History of Toyota Production System; 4Ps of Toyota Toyota's - 14 Management Principles. Toyota Way - Respect for People and Continuous Improvement. Introduction to Lean Management - James Womack.

Module - 3 Lean - Concept of Waste and Value: (6 Hours)

Concepts of waste and value in operations, 3 Ms - Muda, Mura & Muri 8 Forms of waste - TIMWOOD Waste Walk & Gemba, Genchi Gembutsu.

Module - 4 Lean Management Principles: (6 Hours)

Definition of Value Definition of Value added time, Process Time, Cycle Time, Throughput Time, Takt time, Inventory buffers, Little's Law. Establishing Value Stream and Value Stream Map. Definition of Flow through Value Stream. Establishing Pull. Pursue Perfection House of Lean / House of Toyota definition. Foundation of House of Lean: Stability and Standardized Work. 1st. Pillars of House of Lean: JIT 2nd. Pillar of House of Lean: Jidoka Employee Involvement and engagement as part of Lean Management. Customer Focus - Highest Quality, shortest lead time and lowest cost.

Module - 5: 5S & Visual Management: (6 Hours)

What is 5 S? Importance of 5 S in the context of Lean implementation Details steps of 5S implementation: Sort, Set-up, Shine, Standardize and Sustain Work Cell / Cell Design or Cellular Layout Cell Design Principles: 9 Steps for Work Cell Design What is Visual Management? Visual Display and Visual Control tools Benefits of 5 S and Visual Management

Module - 6: Continuous Improvement through Kaizen Event (6 Hours)

What is Kaizen or Continuous Improvement? What is a Kaizen Event? Different stages of a Kaizen Event -DMAIC process for Kaizen Event Benefits of a Kaizen Event. Step by step approach to conduct a KAIZEN Event

Text Books and Reference Books:

Jeffrey Liker. (2017). *Toyota Way - 14 Management Principles*. First Edition. McGraw Hill Education
Essential Reading / Recommended Reading

1. James P Womack and Daniel T Jones. (2003). *Lean Thinking*. Simon & Schuster.
2. Yasuhiro Monden. (2011). *Toyota Production System - An integrated approach to Just-in-time*. 4 edition. Productivity Press.

James Womack, Daniel T Jones and Daniel Roos. (2007). *The machine that changed the world*. Simon & Schuster

WORLD CLASS MANUFACTURING (CODE OPM 306) (3 CREDITS) 30 Hours

Course objective

- To understand the problems and opportunities faced by the operations manager in manufacturing and service organizations.
- To develop an ability to apply PPC concepts in a various areas like marketing, accounting, finance, engineering, personnel management, logistics, etc.
- To integrate operations concepts with other functional areas of business
- To understand the PPC function in both manufacturing and service organizations.
- To examine several classic Operations Management planning topics including production planning and inventory control.
- To learn several important contemporary topics relevant to business managers of all functional disciplines, including quality management, lean concepts, and sustainability.

Learning outcomes:

Upon completion of this course the student will be able to:

1. Recognize the objectives, functions, applications of PPC and forecasting techniques.
2. Explain different Inventory control techniques.
3. Solve routing and scheduling problems
4. Summarize various aggregate production planning techniques.

Module 1: Overview and History of WCM (6HOURS)

WCM Organization, History, WCM Philosophy, Building Blocks for World Class Manufacturing, Changing Scenario in Manufacturing, Framework for continuous improvement, Imperatives for increased productivity, Measurement parameters for WCM.

Module 2: Manufacturing Strategy in WCM (8HOURS)

Corporate, Business, Manufacturing strategies, Toyota's manufacturing strategy, New Product development, New Product review system, Product Design, Modern approaches to Product Design and Development, Process Design and process capability.

Module 3: Waste Elimination (8HOURS)

7 Wastes, Five S, Flexible workforce, Equipment maintenance, TPM, SPC, Poka Yoke, TQC, Set-up time reduction, JIT, Kanban, Three Ms, Toyota Production System – Principle, Features and Techniques, Views of Experts.

Module 4: Lean Six Sigma and Modern Techniques (8HOURS)

Lean Manufacturing, Six Sigma, Tools for Lean Six Sigma, Theory of Constraints, Synchronous Manufacturing, BPR, Knowledge Management, Games Theory, Flexible Manufacturing System, WCM in Indian Companies.

References:

1. B S Sahay (Author), K B C Saxena (Author), Ashish Kumar (Author) – World Class Manufacturing – A Strategic perspective – Jan 2018 – Lakshmi Publications Pvt Ltd.
2. World Class Manufacturing including lean, six sigma, Kanban and checklist – by Phil Robinson - Kindle Edition
3. Richard J. Schonberger - World Class Manufacturing: The Next Decade: Building Power, Strength, and Value – May 2013 – Free Press
4. K Shridhara Bhat – World Class Manufacturing

Objectives:

The course introduces the students to the various aspects of Materials Management. The study of Materials Management has become very significant because of the fact that the cost of materials, both direct and indirect, forms between 70% to 80% of the production cost for most products. It covers aspects like functions of purchasing, inventory management, warehousing management and cost reduction techniques. It also goes into details of the materials strategy adopted by organizations to optimize the costs and effectively contribute to the goals of the organization.

Outcomes

- Recognize how the changes in the business environment affect Materials Management functions in an organization.
- Appraise suppliers and select suitable suppliers to match the requirements of Quality, Delivery and Price.
- Examine the inventory status and initiate actions to optimize inventory levels in an organization.
- Formulate strategies and frame policies in the Materials Management function in an organization.

Module 1: Introduction (6 Hours)

Meaning and Scope, Objectives and Significance of Materials Management, Importance of Materials Management- Purchasing, Global Sourcing- Public procurement- Important factors in sourcing- Strategic Sourcing - Make or Buy Decisions

Module 2: Purchasing Management: (6 Hours)

Objectives and Functions of Purchasing Department, Negotiations in Purchasing, Vendor Selection, Vendor Rating, Vendors Development and Vendors' Relationship, **ABC Analysis:** Meaning, Advantages, Objective, Purpose and Limitations, Simple Numerical of ABC Analysis. JIT, JIC & DOI

Module 3: Inventory Management: (8 Hours)

Different Costs of Inventory, Optimal Order Quantity, EOQ, and Procedure for Setting up an Efficient Inventory Control System, V.E.D. Analysis, S.D.E. Classification, F.S.N. Analysis, X.Y.Z. Analysis, Logistics Management and Its Link with Inventory Control and other Areas.

Module 4: Codification and Standardization (6 Hours)

Basis of Codification, Characteristics of Good Coding System, Types of Coding, Standardization and its Benefits, MRP1, MRP2, ERP.

Module 5 Performance Evaluation: (4 Hours)

Performance Evaluation of Purchase department, Performance Evaluation of Stores department, Value Analysis, Variety Reduction, Total Cost of Ownership, Cost Control and Cost Reduction

References:

1. Arnold, T., Chapman, S. and Clive M. Lloyd, (2009), *Materials Management*, 6th Ed, Pearson Education, NewDelhi
2. Gopalakrishnan P, (2001), *Purchasing and Materials Management*, 12th reprint, Tata McGraw Hill
3. Chapman S, Arnold T, Gatewood A, and Llyod C (2018), *Materials Management*, 8th Ed, Pearson
4. Dobler D, Lee L, and David B, (1990), *Purchasing and Materials Management*, 5th Ed, McGraw Hill
5. Kaushal H (2003), *Case Studies in Materials Management*, Macmillan
6. Chopra S., Meindl P., and Kalra V.D, (2010), *Supply Chain Management* – 4th Ed. - Pearson Education
7. Dutta, A.K. (2000), *Materials Management, Second Edition*, Prentice Hall India,

BUSINESS ANALYTICS

Business Analytics is the study of data through statistical and operations analysis. It is the formation of predictive models, application of optimization techniques and interpreting the outcomes and communicating them to the customers, business partners and decision makers. Huge amount of data is generated every minute in different fields like Banking, Retail, Healthcare, Telecom, Automobile and various other sectors. Companies use Business Analytics to gain insight which enables them to automate and optimize their business processes.

This course is designed to strengthen the knowledge in tools and techniques required to analyze data leading to decision making.

BA 304: Introduction to R and Basic Analytics using R

Credits: 3 30 Hours

Course Introduction and Objectives - R programming language is an open source scripting language used for data statistical analysis. It is free to download software and has many add-on packages that can be downloaded to enhance the functionality of the language. This course is designed to learn the R language so that it can be used to carry out data analysis.

The objectives of this course are, enabling students to:

1. Understand the basics of need of Statistics
2. Acquire the knowledge of using various methods of analysis
3. Understand the process of applying analytical tools in problem solving
4. Learn various types of decision making tools, their application and interpretation
5. Acquire the knowledge of using R to solve the problems.

Course Content

Module 1 – Overview of Language R, R Studio, data types, variables, assigning values, data types of variables, Operators – Arithmetic, Relational, Logical, Assignment, Decision Making – If, If-else, switch statements. Loops – Repeat loop, while loop, for loop, break statement, next statement. (10 HOURS)

Module 2 – Function definition, components, built-in function-s, User-defined function, calling a function, Strings, String manipulation, Vector Creation, creating Lists, Arrays, manipulating array elements. Data Frames. (10 HOURS)

Module 3 – Descriptive Statistics – Mean, Median, mode, quartiles, Introduction to Confidence Interval and Hypothesis, null and alternate hypothesis, types of errors, Central Limit Theorem, one-tailed and two-tailed tests, hypothesis testing with Z-test, t-test, Chi-square, Anova using R 10 HOURS

Practical Component:

- Live datasets on various aspects of management to be taken and analyzed using R and results interpreted.
- Mini project to be done where actual data is collected by students and analyzed using descriptive analysis of data sets along with hypothesis testing tools.

Course Outcomes

Upon completion of this course the student will be able to:

- To think logically, analytically and critically for decision making based on databases.
- To be able to collect live data using various data capture tools
- To be able to use R to analyze large datasets
- To build models which can be used by Industry for finding solutions to problems
- Have the **versatility** to work effectively in a broad range of analytic, scientific, government, financial, health, technical and other organisations.

Reference Books:

- E-book Applied Statistics with R
- The Art of R Programming: A tour of Statistical Software Design by Norman Hatloff
- R for Excel Users: Introduction to R for Excel Analysts by John Taveras
- R for Beginners by Emmanuel Paradis
- Data Analysis with R(e-book) by Tony Fischetti

BA 305 Data Visualization and Reporting Using R 30 Hours

Credits: 3

Course Description and Objectives: Data Visualization is the graphical representation of information and data. Data Visualization tools provide elements like charts, graphs and maps to see and understand trends and patterns in data. Visualization is the easiest way to interpret data effectively.

The objectives of this course are, enabling students to:

1. Understand the basics of Visualization
2. Acquire the knowledge of using various Visualization techniques
3. Understand the process of applying Visualization techniques for effective understanding of the data
4. Learn various ways to display data leading to decision making
5. Acquire the knowledge of using Tableau and Excel for Visualization of data

Course Content

Module 1 – Connecting to data, understanding the task bar, visualizing data using various charts – bar, line and geographic visualizations. Use data files and create dash boards with various visuals. **6 HOURS**

Module 2 – Joining tables, creating filters, filtering discrete and continuous data, filtering creating dates, highlighting category, creating parameters, creating calculations **10 HOURS**

Module 3 - Creating dashboards and story, implement actions for story **4 HOURS**

Module 4 – Using Excel – Create scenarios and scenario summary, pivot tables to study big data files, slicers to plot graphs and visualize data **10 HOURS**

Practical Component:

- Live datasets will be downloaded concerning various aspects of management and visuals are created using Tableau and Excel which will help in easy understanding of the business.
- Mini project to be done where actual data is collected by students and analyzed using Tableau and Excel.

Course Outcomes

Upon completion of this course the student will be able to:

- To think logically, analytically and critically for decision making based on databases.
- To be able to collect live data using various data capture tools
- To be able to use R to analyze large datasets
- To build models which can be used by Industry for finding solutions to problems
- Have the **versatility** to work effectively in a broad range of analytic, scientific, government, financial, health, technical and other organisations.

References:

- Creating Data Stories with Tableau Public, by Matt Floyd, Ashley Ohmann, Packt Publishing
- Learning Tableau 2019: Tools for Business Intelligence, data prep, and visual analytics, 3rd Edition ,by Joshua N. Milligan
- Mastering Tableau 2019.1: An expert guide to implementing advanced business intelligence and analytics with Tableau 2019.1, 2nd Edition Paperback – February 28, 2019 , by Marleen Meier, David Baldwin
- Tableau 10 Complete Reference: Transform your business with rich data visualizations and interactive dashboards with Tableau 10 Paperback – December 24, 2018 by Joshua N. Milligan, Tristan Guillevin

BA 306 Predictive Analytics

Credits : 3 Hours : 30

Course Introduction and Objectives: Predictive analytics is used to make predictions of the unknown future events such as demand of a product, customer churn, employee attribution, defaulters in credit card payment etc based on historical data. While trying to solve business problems we generally consider several variables. Regression helps us to understand the relationship between the variables and hence identifying the variables which will be useful in decision making. These modules will help us understand how regression and forecasting models can be used to analyze real-life business problems. The focus is on case based problem solving using tools R and interpret model outputs. These tools will be used to perform regression, logistic regression and forecasting.

The objectives of this course are, enabling students to:

1. Understand the advanced tools of Statistics
2. Acquire the knowledge of using various analytical tools for analysis of data
3. Understand the process of identifying the variables effecting the results
4. Learn various tools to analyze data and make predictions and test them
5. Acquire the knowledge of R to develop predictive models.

Module 1 - Regression model building framework: Problem definition, Data pre-processing, identifying variables, model building, Diagnostics and Validation 5 Hours

Module 2 - Simple linear regression: Interpretation of regression Coefficients, Outliers, Significance tests for predictor variables, Residual analysis, Confidence and Prediction intervals 5 Hours

Module 3 - Multiple linear regression: Interpretation of regression coefficients, Categorical variables, heteroscedasticity, Multi-collinearity, outliers, Autoregression and Transformation
Of variables, Regression Model Building 6 Hours

Module 4 - Logistic Regression: Logistic Regression parameters, Interpretation, Wald Test, Hosmer Lemshow Test, ROC, Lorenz curve, cut-off Probability, variable selection in logistic regression, Gini Index 7 Hours

Module 5 – Clustering, Factor Analysis 7 Hours

Practical Component:

- Live datasets of retail, direct marketing, health care, financial services, insurance, supply chain, credit score to be downloaded and make predictions using R
- Live datasets on various aspects of management to be taken and analyzed using R and results interpreted.
- Mini project to be done where actual data is collected by students and analyzed using prescriptive analysis and make predictions.

Course Outcomes

Upon completion of this course the student will be able to:

- To think logically, analytically and critically for decision making based on databases.
- To be able to collect live data using various data capture tools
- To be able to use R to analyze large datasets and make predictions
- To build models which can be used by Industry for finding solutions to problems
- Have the **versatility** to work effectively in a broad range of analytic, scientific, government, financial, health, technical and other organizations.

References

- Data Analysis with R(e-book) by Tony Fischetti
- Data Analysis with R – Selected topics and Examples by Thomas Petzoldt
- Evaluating Machine Learning Models , A Beginners' Guide to key Concepts and Pitfalls by Alice Zheng
- Practical Regression and Anova using R by Julian J. Faraway

Further Reading

- Comprehensive & Practical Inferential Statistics Guide. www.analyticsvidhya.com

Course Introduction and Objectives: SQL is Structured Query Language, a standard language for storing, manipulating and retrieving data stored in databases. Data is collected in various forms and then organized and analyzed and it leads to decision making. Organizing data in proper tables, joining tables when required and querying data are very essential in any organization for gaining insights into the actual situation of business and hence can lead to better decision making.

The objectives of this course are, enabling students to:

1. Understand the basic concepts of databases
2. Acquire the knowledge of using SQL
3. Understand the process of designing databases
4. Learn various data designing techniques and get equipped with manipulation of databases
5. Acquire

the knowledge of join databases

Module 1 – Introduction to SQL, DML, DDL, data, data objects, schema, creating table, update, drop and delete table.

Selecting data, columns, rows from table, rename and add column (6 Hours)

Module 2 – Various SQL functions – date, case statement, where clause, IN, Between, Alias, Concatenate, Trim, Length,

Like, create queries using all these to analyze data (8 Hours)

Module 3 – Joins – Left, Right, Inner, Outer, Cross, Union, Mathematical Functions – Average, Count, Subtraction, Multiplication, Division, Max, Min, Sum, and Round. Use multiple table and create relational database and use the functions (9 Hours)

Module 4 - Aggregate Functions – Group by Clause, Having Clause, Is Null Function, Substring, Analyzing data using these functions (7 Hours)

Practical Component:

- Database are created, manipulated and queried using SQL.
- Able to join two or more tables
- Mini project to be done where actual data is collected by students, organized in table different queries are conducted

Course Outcomes

Upon completion of this course the student will be able to:

- To think logically, analytically and critically for decision making based on databases.
- To be able to collect live data using various data capture tools
- To be able to use SQL to create databases for the data collected
- To build combined database to answer any queries from time to time
- Have the **versatility** to work effectively in a broad range of analytic, scientific, government, financial, health, technical and other organizations.

References:

- Principles of Relational Database Systems, by Sitansu S Mitra
- SQL, the complete reference, by James R. Groff
- Fundamental of Database System by Navathe and Elmasri, 5th Edition , Pearson Education
- Database System Concepts by Silverschatz, Korth and Sudarshan, 6th Edition, Tata McGraw - Hill Education
- SQL: The Complete Reference 3rd Edition by Groff, Weinberg and Oppel, Tata McGraw - Hill Education
- Fundamentals of Database Management Systems by Alexis Leon and Mathews Leon – TMH Publications

SEMESTER - 4
401: STRATEGIC MANAGEMENT

Course Objectives:

The objective of this course is to understand the basic facts, concepts and to develop the skills of strategic formulation to handle different situations in corporate world and to understand the current scenario of market, understanding the nature & type of competition.

Course Outcomes

- Understand the basic concepts and principles of strategic management analyse the internal and external environment of business
- Develop and prepare organizational strategies that will be effective for the current business environment
- Devise strategic approaches to managing a business successfully in a global context

Course Content

Module -1 (8Hours)

Introduction - Concept of Strategy, Strategic Management process, Evolution of strategy, Vision, Mission and Objectives, Environment Appraisal – Concept of environment, External and internal environment scanning, Pitfalls in environmental scanning. Module- 2

Porter's five forces model of competition, ETOP & PESTLE Analysis, SWOT Analysis. Ansoff Matrix, BCG Matrix – its significance in strategy formulation.

Module -2 (8Hours)

Corporate Level Strategies: Internationalization, Cooperation and Digitalization, Stability, Retrenchment and Restructuring. Business Level Strategies: Cost Leadership, Differentiation, Focus Strategy, Offensive strategies, Defensive strategies and competitive advantages.

Module -3 (6Hours)

External Growth Strategy: Merger, Acquisition, Pros and cons of Mergers and Acquisitions; Joint Venture, Problems of JVs, Foreign collaboration as a strategy for growth.

Module -4 (8Hours)

Structural analysis of competitive environment, McKinsey's 7-S Framework, Strategic analysis and choice – Criteria for evaluating strategic alternatives, Operational and derived functional plans to implement strategy. Integration of functional plans. Evaluation and Control, Strategic control and operational Control, Organizational systems and Techniques of strategic evaluation.

Recommended Book

- David, F.R. (2014). Strategic Management: Concepts and Cases. 15th Ed. Pearson Education.

Reference Books

- Srinivasan, R. (2014). Strategic Management: The Indian Context. 5th Ed. PHI Learning.
- Fitzroy, P., Hulbert, J.M., & Ghobadian, A. (2012). Strategic Management. 2nd Ed.

Routledge

- Cherunilam, F. (2016). Business Environment: Text and Cases. 25th Ed. Himalya Publishing
- Kazmi, A. & Kazmi, A. (2015). Strategic Management. 4th Ed. McGraw Hill Education.

402: ENTREPRENEURSHIP 3Credits & 30 Hours

Course Objective:

Developing entrepreneurship abilities in the students by exposing them to the business opportunities and imparting skills and techniques of exploring these opportunities through the formulation of a bankable project. It is also aimed to study the formalities of setting up of a company and its management. .

Course Outcomes

- Entrepreneurship and Innovation minors will be able to sell themselves and their ideas and find problems worth solving.
- Will be able to create value and mobilize people and resources effectively.
- Students increase their awareness and deliberately practice the skills and disciplines necessary to increase confidence and agency; foster self-efficacy and self-advocacy; improve communication and problem-solving skills, manage strong impulses and feelings; and identify personal purpose.

Course Content

Module – 1 Entrepreneurial Competence: Entrepreneurship concept – Entrepreneurship as a Career – dimensions of Entrepreneurial Competencies – Entrepreneurial assessment - Part-time vs. Full time Entrepreneurship – Intrapreneurship – Role of Mentors. Innovation and Entrepreneurship – Design Thinking – Process. (4Hours)

Module – 2 Enterprise Promotion: New Venture Creation – Resources, Capabilities, and strategies – identifying attributes of strategic resources – Opportunity Analysis – innovator or imitator – SWOT analysis – Internal and External Environment Analysis – Industry Analysis – Embryonic Companies and Spin offs – Opportunities in Emerging/Transition/Decline industries – Porter's five forces model – Startup India – Make in India – Govt. Support Schemes for Startups (6Hours)

Module – 3 Strategic Planning For Emerging Ventures: The nature of planning in emerging firms – Strategic planning and its value – Entry Wedge – Resource based strategies – First mover advantage – Isolating Mechanisms – Industry stages and Strategy – Evaluating Strategy and Entrepreneurial Opportunities.-Structural Planning – Forms of business ownership – Franchising – networking and alliances – Buying an existing business – Identifying the right Business Model Canvas – Seven Domains of John Mullins. (8Hours)

Module – 4 Business Plan Preparation & Pitching: Business Plan – Myths, importance, content, sections – expectations of investors – Dos and Don'ts – innovative methods of presenting a business plan – mind map, animated videos, etc. Incubators, Accelerators, Angels, VCs and Crowd funding – Expectation of investors - Art of Pitching – importance, types - Elevator pitch, 3 minutes pitch, etc. (6Hours)

Module – 5 Strategic Evaluation: Issues-Problems-Response to Enterprise Problems - Business Development Services – Definition, Scope - Support Services Required By Small Enterprises - Important Support Schemes from Government – Industrial Sickness – Definition – Causes – Symptoms – Prediction – Revival – Managerial Deficiencies - Revival of Sick unit – BIFR and SICA's Role – Strategic Choices in Decline industries – Leadership – Niche – Harvest – Divest – Turnaround Strategies. (6Hours)

Recommended Books

- D.F.Kuratko and T.V.Rao (2016), Entrepreneurship: A South Asian Perspective, Cengage Learning.
- Abrams (2016). The Successful Business Plan: Secrets and Strategies. Planning Shop, USA, 6th Edition
- Raj Shankar (2012). Entrepreneurship: Theory & Practice. Vijay Nicole
- Hisrich et.al (2010). Entrepreneurship. Tata McGraw Hill, New Delhi
- Dollinger (2003). Entrepreneurship. Pearson, New Delhi

403: BUSINESS ETHICS AND CORPORATE ANALYSIS 3 Credits & 30 Hours

Course Objective: The objectives of the course are to be aware of the process of emergence of Corporate Governance.

Course Outcomes:

- Understand various aspects of Corporate Governance.
- Roles, Responsibilities and other aspects of Corporate Governance in India and Internationally.
- Understand the concepts of Business Ethics and Corporate Governance and Corporate Social Responsibilities.
- Environment Concern and Media with reference to Corporate Government and Ethics.

Module: 1 Understanding corporate Governance (6Hours)

The concept of corporation / what is corporate Governance; Theoretical basics of Corporate Governance; Corporate Governance mechanisms and systems; what Good Governance is; India model of Governance; Issues in Corporate Governance.

Case Studies for discussion, Infosys Technologies, Tata Steel

Module: 2 Emergence of Corporate Governance Introduction (8Hours)

OECD principles; Corporate Governance Committees; World bank on Corporate Governance; McKinsey survey on Corporate Governance; Sarbanes – Oxley Act 2002; Indian Committees and Guidelines; Working group on the Companies Act 1996; CII and SEBI initiatives, Naresh Chandra Committee report 2002; Kumar Mangalambirla committee report; Narayan Murthy committee report; Dr.J.J. Irani committee report 2005. ITC – Limited. Is corporate Governance or Skin Deep

Module: 3 Board of Directors: A powerful instrument in Governance (6Hours)

Introduction and role of the Board in Ensuring corporate Governance; Governance issues relating to the Board, Role of Directors; Independent Directors; Family owned Business and Corporate governance; Rights and Privilege of shareholders; Corporate Governance and other stake holders.

Module: 4 Business Ethics and Corporate Governance (4Hours)

Introduction, Importance and need for Business Ethics; Indian sciences, Root of Unethical behavior; Corporate Governance and Ethics; how Ethics can be made meaningful frame; Corporate Governance Perspective.

Module: 5 Corporate Social Responsibility (6Hours)

What is Corporate Social Responsibility; Corporate Philanthropy; Definitions of Corporate Social responsibility; Corporate Social Responsibility and its Evolution and Development; Justification for Corporate Social Responsibility; Corporate social Responsibility as per Indian Government rules and regulations?

Case Study:

Hindustan Lever

TVS group of company

References:

1. Corporate Governance Principles, Policies and Practices by A.C.Fernando Pearson Education 2006.
2. Corporate Governance “ Dur Singh and SubhashGarg : Excel Books, New Delhi 2001.
3. Business Ethics and Corporate Governance by Dr. S.S.Khanka.S.Chand 2014.
4. OECD Principles of Corporate Governance 2004.

Financial Management Specialization	
Code	SUBJECT NAME
FM404	Financial Engineering
FM405	Behavioral Finance
FM406	Management of Financial Services
FM407	Financial Analytics

FM404 FINANCIAL ENGINEERING 3 Credits & 30 Hours

Course Objectives: To impart analytical ability in financial engineering, stock and derivatives and analytics.

Course Outcomes:

- 1 To impart students the knowledge to use simple stochastic models to price derivative securities in various asset classes including equities, fixed income, credit and mortgage- backed securities.
- 2 To learn and apply functioning of stocks and derivatives.
- 3 Understanding online platforms of learning.

Module 1: Introduction

Scope of Financial Engineering, Financial Engineering Versus Financial Analysis, Productizing the Solution, Factors Contributing to the Growth of Financial Engineering-Environmental Factors, Price Volatility, Globalization of the Markets, Tax Asymmetries (4Hours)

Module 2: Application of tools of Financial Engineering , Conceptual tools of the Financial Engineer – Value relationships and applications, measuring return, risk – Understanding interest rate and exchange rates , application tools of the Financial Engineer – Overview of Derivatives, An Overview of product design of derivative products – Futures, Forwards, Options and Swaps, Fixed income securities (8Hours)

Module 3: Advances in Financial Theory, The Cost of Information and the Cost of Transacting, Intra firm Factors, Liquidity Needs, Risk Aversion, Agency Costs, Quantitative Sophistication and Management Training, Accounting Benefits. (6Hours)

Module 4: Financial Engineering Process and Strategies – Cash Flows, Time Value, Sensitivity Analysis of Time Value, Applications, Spreadsheets, Compounding, Absolute Valuation Versus Relative Valuation, The source of Price risk, Evolution of ALM (Asset – Liability Mismatch), Risk Aversion and Portfolio Analysis, Role of Investment Horizon (Time dimension), Hedging – Building approach, Arbitrage and Synthetic Instruments (6Hours)

Module 6: Future Trends – Impact of Globalization, Regulatory Change and Increased Competition Recent Advances in settlement and clearing of financial transactions and securities, Legal projection for innovative financial products and services. (4Hours)

Text Books –

1. Financial Engineering: A Complete Guide to Financial Innovation, K., Marshall, John F. / Bansal, Vipul, Phi Learning

FM405 BEHAVIOURAL FINANCE 3 Credits & 30 Hours

Course Description: This course seeks to provide comprehensive knowledge to the students about irrational investor behavior and about how to create individual investor portfolios that account for their irrational behavior. This course will also help students become more introspective about their own behavior and enable them to create a portfolio that works best for themselves

Module-1

Introduction to Behavioral Finance (8Hours)

What is Behavioral Finance? – The Big Picture, Standard Finance v/s Behavioral Finance, The Role of Behavioral Finance in Creating a Successful Advisory Relationship; The History of Behavioral Finance – Historical Perspective on the link between Psychology and Economics, Modern Behavioral Finance, Psychographic Models used in Behavioral Finance; Introduction to Behavioral Biases – Definition and Categorization, Differences between Cognitive and Emotional Biases.

Module-2 Belief Perseverance Biases (6Hours)

Cognitive Dissonance Bias, Conservatism Bias, Confirmation Bias, Representativeness Bias, Illusion of Control Bias, Hindsight Bias – Description, Practical Application, Research Review, Diagnostic Testing and Advice

Module-3 Information Processing Biases (4Hours)

Mental Accounting Bias, Anchoring and Adjustment Bias, Framing Bias, Availability Bias, Self-Attribution Bias, Outcome Bias, Recency Bias - Description, Practical Application.

Module-4 Emotional Biases (4Hours)

Aversion Bias, Overconfidence Bias, Self-Control Bias, Status Quo Bias, Endowment Bias, Regret Aversion Bias, Affinity Bias - Description, Practical Application, Research Review, Diagnostic Testing and Advice.

Module-5 (6Hours)

Application of Behavioral Finance to Asset Allocation, Best Practical Allocation, Guidelines for Determining Best Practical Asset Allocation, Investment Policy and Asset Allocation, Case Studies. Behavioral Investor Type Diagnostic Process, Background of the Development of Behavioral Investor Types, Psychographic Models of Investor Behavior, Early Psychographic Models, The Behavioral Alpha Process – A Top-Down Approach, Behavioral Investor Types – Preserver, Follower, Independent, Accumulator.

Text Books and Reference Books:

Essential Reading

Michael M Pompian, Behavioral Finance and Wealth Management, Wiley Finance.

Essential Reading / Recommended Reading

Recommended Reading

Daniel Kahneman, Thinking, Fast and Slow, Penguin Books.

HershShefrin, Beyond Greed and Fear, Oxford University Press.

Course Objectives/Course Description

Course Description: This course familiarizes the students about the Indian financial System. Within the financial system, the focus of study would be the financial products, financial institutions, and money market and capital markets.

Module-1: Overview of Indian Financial System and Services (6Hours)

Financial system – An overview, Indian financial system, Global financial system, Financial services – An overview, Financial Institutions - Clearing Corporation of India Limited (CCIL), Credit Information Bureau of India Limited (CIBIL), Discount and Finance House of India Limited (DFHI), Over-the-Counter Exchange of India Limited (OTCEI), National Securities Depository Limited (NSDL), National Housing Bank (NHB), Export Import Bank of India (EXIM)

Module-2: Money Markets (4Hours)

Role and responsibilities of RBI with respect to money market, RBI monetary policy and its relevance to money market
Money market, Call money market, Commercial paper market, Commercial bill market, Certificate of deposit (CD), Treasury bills, Govt. Securities market

Module-3: Capital Markets (8Hours)

Primary Capital markets – An overview, Capital market instruments, Capital market reforms,
New issues market – A Conceptual framework and new issues market evaluation, Prospectus, Global depository receipts
Secondary Capital Markets: Stock exchange – An overview, Stock exchange trading, Stock exchange – Regulatory framework, Indian stock exchanges – A Profile, Insider trading, listing, Delisting, SEBI – Functions and Working, Restructuring of Indian stock exchanges – Major issues - Ethical dimensions of Financial Markets. Need for self-regulation and role of SEBI in the functioning of financial markets.

Module-4: Financial Services (6Hours)

Credit rating, Hire purchase finance, Factoring and Forfaiting, Leasing- An overview, Lease evaluation, Mutual funds, Securitization, Venture capital and Private equity funds - Financial innovation, their importance and impact on the functioning of the institutions. Potential systemic impact of these innovations and their ethical dimension

Module-5: Insurance (6Hours)

Types of insurance, the insurance mechanism, what is Insurance? Place in financial system – concept & role, purpose & need, social security, Fundamental Principles, Life and Non-Life products, Reinsurance, Underwriting and Actuarial Framework, Indian Insurance Market & Regulations

Text Books and Reference Books:

1. Prof Balaji Rao D. G. Financial markets and Investment Instruments (2nd ed.). Skyward Publishers
2. Prof Balaji Rao D. G. Financial markets and Investment Instruments (2nd ed.). Skyward Publishers
3. Dr Gurusamy, S. Indian financial system. Tata McGraw Hill.
4. Khan, M.Y. (2011) Financial services (5th ed.). New Delhi: Tata McGraw Hill Publications.
5. Bhalla, V.K. (2010) Management of financial services (1st ed.). New Delhi: Anmol Publications Pvt. Ltd.
6. Srivastava, R.M. (2010) Financial management. Mumbai: Himalaya Publishing.

FM407 FINANCIAL ANALYTICS 3 Credits & 30 Hours

Course Objectives/Course Description

Course Description: Businesses today accumulate large amounts of data through their transaction processing systems. There is tremendous potential in such data to extract vital information for better business decision making. The course covers concepts and applications of analytics models that are indispensable for analyzing financial data. It offers students hands-on experience in exploratory data analysis for solving real-life business problems

Module-1 (4Hours)

Introduction to Analytics for Finance

Terminology, evolution of data analytics, machine learning, structured and unstructured data, supervised and unsupervised learning. Introduction to prediction, classification, association, clustering and time-series. Applications of analytics in finance.

Solving Analytics Problem through CRISP-DM Framework and SEMMA process. Problem identification, data mining/preparation, modelling and interpretation. Ethics in data collection process.

Module-2 (6Hours)

Exploratory and Predictive Models

Exploratory data analysis –Data cleaning, outlier treatment, data visualization, univariate and bivariate analysis, model fit metrics, model diagnostics, over fitting, oversampling. Application in finance – best performing stock identification

Predictive data analysis – Multiple linear regression using R, model building, assumptions, diagnostic testing, issues in prediction. Time series models using R.

Module-3 (8Hours)

Classification Models

Introduction to classification – concepts and applications in finance. Decision Trees – concept of partitioning, data pre-processing, model training, model building in R. Logistic Regression – building model in R, classification table and AUC. Support Vector Machine (SVM) & Random forest – introduction, hyper plane, maximal and soft margin classifier, kernels, models using R. Neural networks – introduction, structure of neural networks, information flow, types of layers, training a neural network, neural network in R.

Module-4 (6Hours)

Introduction to cluster analysis, applications of cluster analysis in finance, cluster analysis process – attributes selection, distance calculation, selecting clustering algorithm, determining number of clusters, visualizing cluster results, interpretation and validation. Types of clustering – hierarchical and non-hierarchical methods. Building clustering models in R. Case study on the application of clustering analysis technique in financial data analysis.

Module-5 (6Hours)

Emerging applications of analytics in finance

Association – extracting and inspecting association rules, mining techniques, visualization of product association. Social network analysis, big data analytics, cognitive analytics, deep learning, text analytics. Latest trends and cases from industry. Text Books and Reference Books:

Essential references:

1. Shmueli, G., Patel, N. R., & Bruce, P. C. (2008). Data Mining for Business Intelligence: Concepts, Techniques, and Applications in Microsoft Office Excel with XLMiner (2nd ed., p. 428). Wiley
 2. Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L., Multivariate data analysis, 7th edition, Prentice hall, 1998
- Essential Reading / Recommended Reading
1. Applied Multivariate Statistical Analysis by Richard A. Johnson, Dean W. Wichern, PHI Learning

Maindonald, J., & Braun, J. (2006). Data analysis and graphics using R: an example-based approach (Vol. 10). Cambridge University Press.

Marketing Specialization	
Code	SUBJECT NAME
MKT404	Product and Brand Management
MKT405	Distribution Management
MKT406	Retailing Management
MKT407	Marketing Analytics

MKT404 PRODUCT AND BRAND MANAGEMENT 3 Credits & 30 Hours

Course Objective

The course will provide students with a knowledge and insight into managing product-markets and building brand equity involving managing brands within the context of other brands, as well as managing brands over multiple categories, over time, and across multiple market segments. Course Outcomes

Understand key principles of branding

Explain branding concepts and ideas in their own words

Course Outcomes:

Understand and conduct the measurement of brand equity and brand performance practically develop a brand, including positioning and communication

Prepare a professional, logical and coherent report in the form of a brand audit Course Contents

Module- 1: 8Hours

Understanding Brands and Branding This module provides a basic understanding of branding: what a brand is, what functions brands serve, and when a brand strategy is relevant for customers and the firm. The cases in this introductory module expose students to the underlying conceptual framework for the course in which brand meanings—resonant, unique and well-managed over time—create brand strength, which in turn provides value to the firm in the form of competitive advantage, increased market share, and reduced risks. The main sessions in this module focus on establishing the key foundations of a strong brand: value proposition, brand personality, brand positioning, and brand relationships—and the distinction between brand image and identity.

Module -2: 8Hours

Measuring Brands In order to really understand a brand's meaning and its sources of strength, a critical step is measurement. This module covers traditional and non-traditional tools for measuring brand strength—both qualitative and quantitative methods (e.g., interviews, focus groups, ethnography, surveys and brand valuation methods). Exposure to these tools will be integral in helping students learn from consumers the meaning and strength of a particular brand.

Module -3: 6Hours

Crafting Brands this module provides a view into what is involved in the formulation of the brand asset. The most important task in designing the brand is specifying the unique and relevant meaning the brand is to capture. This meaning must then be translated to reflect in the range of brand elements: brand name, logo, slogan, jingle, package design, retail space, online space and overarching experience.

Module -4: 8Hours

Managing Brands this final module focuses on the challenges that confront brands as they seek growth and relevance over time, and the stewardship a skills and perspectives that enable sustained brand health. We explore the growth of brand equity through extensions, strategic alliances between brands, re-positioning, and global expansion. We will also examine the design of brand portfolios to maximize equity for the firm, and investigate repositioning and revitalization strategies. Collectively, the sessions in this module convey the complexity and significance of the long-term task of brand maintenance.

Recommended Book

Aaker, D. A. (2010). Building Strong Brands. Simon and Schuster UK Ltd.

Heding, T., Knudtzen, C. F., and Bjerre, M. (2009). Brand Management, Research, Theory and Practice. Routledge

MKT405 DISTRIBUTION AND SUPPLY CHAIN MANAGEMENT 3 Credits & 30 Hours

Course Objectives/Course Description

This subject aims to focus on marketing channels as a key component of marketing mix which has the potential to influence the profitability and growth of a company and its business. It emphasizes on the growing importance of marketing channels as a strategic area of marketing management. Channel strategy needs to be viewed as a vital area for delivering customer value and creating sustainable competitive advantage.

At the end of the course a student should be able to Knowledge

- Understand what are marketing channels and their importance
- Understand the key concepts of supply chain management and its operations
- The role that distribution plays in the marketing strategy of a firm
- The role distribution plays in creation and retention of value in a product Skills
- Design marketing channel for a product in each territory
- Manage a marketing channel keeping in mind the value preposition of a product
- Take channel management decisions independently
- Resolve channel conflicts

Module-1 the Channel Participants (4Hours)

An Overview of the Channel participants - Producers and Manufacturers Intermediaries

(Wholesale and Retail) – Franchising Facilitating Agencies - Agriculture Supply Chain - Distributor ROI -Behavioral Processes in Marketing Channels

The Marketing Channels as a Social System, Conflict in the marketing Channel - Power in the

Marketing Channel, Role in the marketing Channel, communication Processes in the Marketing Channel, Marketing Channel Concepts

Growing importance of Marketing Channels - The Marketing Channel Strategy versus Logistic management

Module-2: Developing the Marketing Channels (8Hours)

Strategy in Marketing Channels - Marketing Channel Strategy and the Role of Distribution in Corporate Objectives and Strategy

Marketing Channel Strategy and the Marketing Mix Channel Strategy and Designing in Marketing Channels - Channel Strategy and the Selection of Channel Members

Channel Strategy and Managing the Marketing Channel - Designing the Marketing Channels -

What is Channel Design - Who Engages in Channel Design a Paradigm of the Channel Design Decision?

Go to Market” with Multiple Channels - Selecting the Channel Members - Channel Member Selection and Channel Design

The Selection Process - finding prospective channel members - Applying Selection criteria - securing the Channel members - Target Markets and Channel Design strategy

Module-3 Managing the Marketing Channels (6 Hours)

Motivating the Channel Members - Finding out the needs and Problems of Channel Members - Offering Support to Channel Members

Providing Leadership to Motivate Channel Members Product Issues in Channel Management - New Product

Planning and Channel Management - the Product Life Cycle and Channel Management

Anatomy of Channel Pricing Structure - Guidelines for Developing Effective Channel Pricing

Strategies - Other Issues in Channel Pricing (Free Riding Grey Markets)

Breakeven Analysis for “Free Schemes” in Channel Promotions - Evaluating Channel Member Performance

Factors Affecting scope and frequency of Evaluations - Performance Evaluation versus Day-to- Day Monitoring

Module-4 Additional Perspectives on Marketing Channels (6Hours)

Electronic Marketing Channels: Structure of Electronic Marketing Channels - Developments and Trends in Electronic Marketing Channels

Business Models in Internet Channels - Television Sky shop - Advantages and Disadvantages of Electronic Marketing Channels

Direct Selling Channel Systems - Structure and Trends in Direct Selling - Direct Agents - DSA and MLM formats in Direct Selling

Franchise Marketing Channels - Marketing Channels for Services - International Channel Perspectives

Module-5 Supply Chain Managements & Logistics (6Hours)

Essentials of Supply Chain management - Key concepts of Supply Chain management

Supply Chain Operations - Planning and Sourcing - Supply Chain Operations

Supply Chain Coordination - Creating Supply Chains for Competitive Advantage

Logistics and Channel Management

The Role of Logistics - Logistics Systems - Costs and Components

Four Key Areas of Interface between Logistics and Channel Management

Module-6 Cases & Discussion

McDonald's Distribution Strategy

Microsoft Retails Stores

Text Books and Reference Books:

1. Rosen bloom, B. (2012). Marketing channels (8th ed.). New Delhi: Cengage Learning Essential Reading / Recommended Reading

1. Anne, T. C., & Anderson, E., Stern, W. L., Adel, I., & Ansary El. 2001) Marketing channels (7th ed.). New Delhi: Pearson Education

2. Hugos, M. H. (2007). Essentials of supply chain management (3rd ed.).New Delhi: Wiley

MKT406 RETAILING MANAGEMENT 3 Credits & 30 Hours

Course Objectives: This paper is offered as a marketing elective in the fifth trimester. It gives a complete insight on the knowledge of retailing and prepares students for careers in the area of organized retailing. Students opting for this elective specialize in the various aspects of retailing; – multichannel retailing, retailing strategy, customer relationship management, information systems and supply chain management, managing merchandise, store management etc.

Course Outcomes: This course attempts to provide insights on the knowledge of retailing and prepares students for careers in the area of organized retailing.

Module-1 the World of Retailing (8Hours)

Introduction to world of Retailing: Economic, Social, Legal, Ethical, Significance and Opportunities. Trends in retailing, Wheel of Retailing, and Retailer's Characteristics.
Types of Retailers: Food and General Merchandise Retailers, Non Store Retail Formats, Services Retailing and Types of Ownership.
Omni-channel Retailing: Retail channels, Electronic retail and shopping in future.

Module-2 Retailing Strategy (6Hours)

Retail Market Strategy: Planning and development, Target Market and Retail Formats, Building Sustainable Competitive Advantage, Strategic Retail Planning Process and Business Operations. Retail Financial developments: Structure of Business, Investment Decisions, Financial Evaluation and Strategic Profit Model.

Module-3 Retail Location and SCM (4 Hours)

Retail locations and site selection: Planned vs. Unplanned Locations
Retail Locations: Catchment Analysis, Trade Area Analysis, Huff-Gravity Model. Information Systems
Distribution: Supply Chain Management, Physical Distribution, Inventory and Warehouse Management.

Module-4 Merchandise Management (6 Hours)

Merchandise Planning: Category Management, Sales Forecasting and Assortment Planning Process.
Buying Merchandise: Branding Strategies, Sourcing Decisions and Vendor Management.
Pricing strategies: Objectives, Pricing Calculations and Approaches, Price Adjustments. Retail Communication Mix: Developing Brand Loyalty and Image, Selecting Promotional Mix, Planning Retail Communication Process.

Module-5 Store Management (6Hours)

Retail Store Operations – KPI's and KRA's, Customer Footfalls Tracking, Customer Services, Resolving Issues and Complaints, Shop Lifting & Shrinkage.
Store Design: Designing a Planogram, Types of Store Layout and Design, Objectives Of Good Store Design, Space Planning. Visual merchandising: Merchandise Presentation Techniques, Importance of Atmospherics

Text Books and Reference Books: Essential Reading:

1. Michael Levy, Barton Weitz, Ajay Pandit., Retailing Management. McGraw Hill, Eighth Edition, Reprint 2017.
- Essential Reading / Recommended Reading Recommended References:
- Berman, B., Evans, J. R. Retail Management-A Strategic approach. McGraw Hill (8e). Newman, A. J. & Cullen, P., Retailing: Environment and Operations. Ed-Indian edition, New Delhi, Thompson.
- Bajaj, C. Bajaj, T. R. & Nidhi, V. S., Retail Management. Oxford University Press, India.
- Gilbert David, Retail Marketing Management. Pearson Education, India.

Course Objectives/Course Description

This course conceptualizes Marketing analytics and Research which is essential for growing business of any size. It enables to understand big-picture marketing trends, forecast future results, monitor trends, and understand potential ROI of marketing programs. Marketing Research and analytics provides metrics to measure the performance of marketing initiatives.

Course Outcomes:

To understand and analyse the role of analytical models and their impact on marketing decisions in the modern enterprise

To evaluate the different processes and relationships in marketing systematically using statistical models and predictive analytics

Module-1 INTRODUCTION TO MARKETING RESEARCH (6 Hours)

Basic concepts of marketing research. Process of marketing research, Formulating the research problem, Research design, Measurement and scaling. Questionnaire formulation, Sampling.

Module-2 APPLICATION OF REGRESSION IN MARKETING (6 Hours)

Single variable regression in marketing, adding variables to regression, Economic significance, marketing action on regression outputs.

Module-3 CUSTOMER LIFETIME VALUE (8 Hours)

Concept of customer value, Approaches to measuring customer value, Introduction to customer lifetime value, the present value of the future cash flows-attributed to the customer relationship, Customer retention and Customer lifetime value.

Module-4 PRODUCT ANALYTICS (4 Hours)

Selection of relevant variables for product analysis- Principal component analysis for identifying variables, K- means cluster analysis for customer segmentation - positioning a product, identifying customer preferences using conjoint analysis

Module-5 PRICING AND ADVERTISING ANALYTICS (6Hours)

Pricing decisions - cost oriented, demand oriented, competition oriented, Price discrimination and revenue management, Pricing product lines, Price elasticity of demand, Building a comprehensive price elasticity model, Advertising and impersonal marketing communication, Advertising decisions in practice, Sales force decisions.

Text Books and Reference Books:

Malhotra N, K., & Dash, S. (2016). Marketing Research: An applied orientation, Pearson

Winston, W.L. (2014), Marketing Analytics, data driven techniques with Microsoft Excel, Wiley

Essential Reading / Recommended Reading

Lillien G.L., Rangaswamy A and Bryun A. (2012) Principles of Marketing Engineering, Trafford Publishers

Nargundkar , R., (2002) .Marketing research : text and cases

Venkatesan R., Farris , P., Wilcox R. (2014), Cutting- edge marketing analytics

Operations Specialization	
Code	SUBJECT NAME
OPS 404	Service Operations Management
OPS 405	Operations Strategy
OPS 406	Total Quality Management
OPS 407	Supply Chain Analytics

404 Service Operations Management 3 Credits & 30 Hours

Course Objectives: This paper is offered as a functional elective subject in Operations. It emphasizes the importance of effective operations management in the service industry. Students can develop and specialize on the various approaches to the efficient working of the service industry. The course is delivered mainly through case discussions.

MODULE-1: Introduction to Service Operations Management (8Hours)

Understanding of Services Economy, Nature of Services-service package and services classification, Increased the role of services in Manufacturing and recent trends. Technology in Services –Technology in Service Encounter Emergence of self-service, Automation in services, Internet services, Ethical dimensions of Services.

MODULE-2: Service Operations Strategies Service Operations Strategies, Transformation and SSR and CRM.TQM, Lean and automation (IRCTC Next Generation E-Ticketing System-Case Study of the Web Portal (<https://www.irctc.co.in/eticketing/loginHome.jsf>) (6 Hours)

MODULE-3: Service Management in Retail (Branding in the Age of Social Media: (4 Hours)

Importance of SMAC and Impact of Social Media Analytics on Retail and other allied services.

MODULE-4: Services Management in Hotel and Tourism Industry: (6Hours)

Hotel and Tourism Industry in India- Present Status. Strategies for development of Hotel Industry. Role of state and central governments in developing the Hotel and Tourism Industry.

MODULE-5: Current Trends, Growth and Globalization of Services: (8 Hours)

Domestic growth and expansion strategies- Focused service, focused network, clustered service diversified network, Franchising, Generic International Strategies and Global service strategies. Ethical issues in service contracts.

Text Books and Reference Books:

Essential Reference:

1. James A Fitzsimmons, M. J. (2014). Service Management -Operations, Strategy, and Information technology. New Delhi: Tata Mc Graw Hill.

Essential Reading / Recommended Reading Recommended References:

KPMG Report on Retailing (Latest report)

Dr Malhotra, A. K. (2009). Hospital management-an evaluation. New Delhi: Global India Publications.

405: Operations Strategy 3 Credits & 30 Hours

Course objective: The Subject analyses the relationships between manufacturing and service companies and their suppliers, customers, and competitors. The course covers strategic decisions in technology, facilities, vertical integration, human resources, and other areas, and also explores means of competition such as cost, quality, and innovativeness.

The readings, material covered in class, and written assignments are designed to match the following course goals:

Introducing the key elements of operations strategy and management and their historical context for the delivery of both services and goods.

Reflecting upon the role of operations strategy and management within the organization and their contribution to wider organizational strategies, goals and objectives.

Considering how organizations can develop and deploy distinct operational strategies.

Course Outcomes:

Understanding the context of operations strategy and management and its links with other disciplines of management and other organizations.

Demonstrating the link between core concepts and modern applications in a number of industries.

Appreciating the contemporary changes within the field of study and the current research directions.

Course Content

Module -1: Introduction (6Hours)

Importance and Linkage with Corporate strategy, Strategies and values, competing through operations. Operation strategy in global economy Strategic alliances and production sharing, fluctuations of international financial conditions and international companies. Changing nature of world business. Quality, Customer service and cost challenges and social responsibility, Current perspective-Strategic fit.

Module -2: Methodology for Developing Operations Strategy (6Hours)

Value as business concept – strategic issues in manufacturing – Value Chain concept Focus, core competence and distinctive capabilities – stake holders & strategy, Checking markets, Outcome of Market debate – Linking manufacturing to Markets – strategic integration – why products sell in the markets – Order Winners, Order Qualifiers. Lean systems-Eliminating waste.

Module -3: Operation Strategy Implementation (8Hours)

Technology strategy Issues in New Product development Time to market – strategic nature of process– Business implication of Process choice – Hybrid Process. Change management and Sustainability Procedure – company or plant based profiles – decisions for product reallocation – downsizing – Capacity decisions Progression & Regression. Evaluating various trade-offs alternatives – Focused manufacturing – Product or process focus – Make or Buy – merits /demerits – value chain approach – just in time – lean manufacturing.

Module -4: Linear Programming (4Hours)

Formulation of LPP- Simplex method- Duality- Sensitivity Analysis- Goal Programming, (Numerical is expected on simplex method)

Module -5: Decision trees (6 Hours)

Concept of decision making & decision trees- Application of decision trees in making manufacturing decisions like expansion of present plant- build new plant or sub-contract. (Numerical is expected on decision tree) Preferred Books:

Operations Research- by Nita Shah, Ravi Gore, Hardik Soni- Prentice Hall India Operations Management by Terry Hill, Palgrave, 2nd Edition.

Operations Now by Byron Finch, TMGH, 3rd Edition.

Operations Management by Norman Gaither, Greg Frazier, Cengage Learning, India Ed. Operations Research- Hari Prakash et.al.- SciTech Publications

406: Total Quality Management 3 Credits & 30 Hours

Course Objective

After completing the course students would be able to:

- 1: Conceptualize Total Quality.
- 2: Closely link management of quality with that of reliability and maintainability for total product assurance.
- 3: Describe the Concept of Total Quality and its evolution.

MODULE-I Basics Concepts of Quality: 8 Hours

Definition of Quality, Dimensions of Quality, Quality Planning, Quality costs -Analysis Techniques for Quality Costs, Basic concepts of Total Quality Management, Historical Review, Principles of TQM, Leadership - Concepts, Role of Senior Management, Quality Council, Quality Statements, Strategic Planning, Deming Philosophy, Barriers to TQM Implementation.

MODULE-II: TQM Principles: 8Hours

Customer satisfaction - Customer Perception of Quality, Customer Complaints, Service Quality, Customer Retention, Employee Involvement - Motivation, Empowerment, Teams, Recognition and Reward, Performance Appraisal, Benefits, Continuous Process Improvement - Juran Trilogy, PDCA Cycle, 5S, Kaizen, Supplier Partnership - Partnering, sourcing, Supplier Selection, Supplier Rating, Relationship Development, Performance Measures - Basic Concepts, Strategy, Performance Measure.

MODULE-III: Statistical Process Control: 6Hours

The seven tools of quality, Statistical Fundamentals - Measures of central Tendency and Dispersion, Population and Sample, Normal Curve, Control Charts for variables and attributes, Process capability, Concept of six sigma, New seven Management tools.

MODULE-IV: TQM Tools: Benchmarking 8Hours

Reasons to Benchmark, Benchmarking Process, Quality Function Deployment (QFD) - House of Quality, QFD Process, Benefits, Taguchi Quality Loss Function, Total Productive Maintenance (TPM) - Concept, Improvement Needs. Quality System: Need for ISO 9000 and Other Quality Systems, ISO9000:2000 Quality System - Elements, Implementation of Quality System, Documentation, Quality Auditing, TS16949, ISO 14000 - Concept, Requirements and Benefits.

Recommended Readings:

1. Besterfield Dale H, Quality Control, Pearson Education.
2. Charantimath, P., Total Quality Management, Pearson Education.
3. Bedi, Quality Management, Oxford University Press.
4. Juran J. M. and Gryna, Jr. F.M., Quality Planning and Analysis, TMH, New Delhi
5. Ronald G Day, Quality Function Deployment, TMH, New Delhi...
6. Evan J.R., Total Quality Management, Excel Book, New Delhi.
7. Hansan B.L. and Ghare, P.M. Quality Control and Application, PHI.
8. Hagan, Management of Quality, Oxford University Press.
9. Juran J M and Frank M Gryna, Quality Planning and Analysing, TMH, New Delhi

407 Supply Chain Analytics 3 Credits & 30 Hours

Course Objectives: To treat the subject in depth

Emphasizing on the advanced quantitative models and methods in logistics and supply chain management and its practical aspects

Explore latest developments in the field. Course Content

Module -1: Warehousing Decisions (8 Hours)

Mathematical Programming Models - P-Median Methods - Guided LP Approach - Balmer – Wolfe Method - Greedy Drop Heuristics - Dynamic Location Models - Space Determination and Layout Methods.

Module -2: Inventory Management (6 Hours)

Inventory aggregation Models - Dynamic Lot sizing Methods - Multi-Echelon Inventory models - Aggregate Inventory system and LIMIT.

Module -3: Transportation Network Models (8 Hours)

Notion of Graphs, Minimal Spanning Tree, Shortest Path Algorithms - Maximal Flow Problems - Multistage Transshipment and Transportation Problems - Set covering and Set Partitioning Problems - Traveling Salesman Algorithms - Advanced Vehicle Routing Problem Heuristics - Scheduling Algorithms-Deficit function Approach and Linking Algorithms.

Module -4: Risk Analysis in Supply chain (6Hours)

Measuring transit risks -supply risks- delivering risks - Risk pooling strategies

Module -5: Applications in SCM (4 Hours)

Data Envelopment Analysis- Fuzzy Logic and techniques – Applications in SCM Preferred Books:

1. Gerald Feigen, Supply Chain Planning and Analytics: The Right Product in the Right Place at the Right Time the Right Product in the Right Place at the Right Time
2. Gerard Blokdyk -Supply Chain Analytics: Beginner's Guide
3. Gerhard J Plenert - Supply chain Optimization through segmentation and Analytics

HUMAN RESOURCE MANAGEMENT

HRM 402 STRATEGIC HUMAN RESOURCE MANAGEMENT: 3 Credits & 30 Hours

Course Objectives: Professionals will be able to relate the concept with the practical world, recent developments in the field of HR.

Course Outcomes:

- Recent trends in the HRM function with respect to the dynamics in the environment
- Professionals will understand the role of HR in the organization
- Functions and changing trends in HR

Module-1: Context of Strategic HRM: Investment perspective of HRM, factors influencing investment oriented organizations, Impact of changes in technology, Workforce demographics & diversity on HRM. (6 Hours)

Module-2: Strategic Role & Planning: Strategic HR Vs Traditional HR, Barriers to strategic HR, Strategic HR planning; aggregate & succession planning. (6 Hours)

Module-3: Strategic Perspectives on Recruitment, Training & Development, Temporary Vs Permanent employees, Internal Vs External recruiting; Interviewing, testing, references; International Assignment, Diversity, Strategizing training & development, need assessment, design & delivery. (8 Hours)

Module-4: Strategic Perspectives on Performance Management, Feedback & Compensation: Use of System, who, what & how to evaluate, measures of evaluation, Internal equity, external equity, and Individual equity. (6 Hours)

Module-5: Employee Separation: Reduction in force, Turnover, Retirement, International vs. Domestic HRM, and strategic HR Issues in International Assignment. (4 Hours)

References: ① Strategic HRM – Jeffery Mello, Thompson Publication, New Delhi

② Luis R. Gomez-Mejia, David B. Balkin, Robert L. Cardy, Managing Human Resources, PHI, 2001. – (Unit 1)

③ S.K. Bhatia – Strategic Human resources Management, Deep & Deep Publication Pvt. Ltd., 2007...

④ Charles R. Greer, Strategic Human Resource Management, Pearson Education, 2003.

⑤ Kandula S.R. (2001). Strategic Human Resource Development. Eastern Economy Edition, Prentice Hall India.

⑥ Boxell & Purcell, J. (2003). Strategy And Human Resource Management. Palgrave Macmillan

⑦ Strategic HRM – Michael Armstrong, Kogan page, London

⑧ Strategic HRM – Agarwal, Oxford University Press, New Delhi.

⑨ Strategic Management – Gregory Dess and Alex Miller.

⑩ Strategy Driven Talent Management – Edtd Silzer Dovell

HRM 403 Labour Legislations: 3 Credits & 30 Hours

Course Objectives: Professionals will be able to relate the concept with the practical world, Recent developments in the field of HR.

Course Outcomes: Recent trends in the HRM function with respect to the dynamics in the environment

Module-1: Industrial Disputes Act 1947: Emphasis on Sec 2 (all definitions), 9A, 10, 12, 17, 18, 22, 23, 24, 25, Chapter V B, Up to Sec 25 (S) and Sec 33. Karnataka ID Rules, Industrial Employment (Standing Orders) Act, Karnataka Standing Orders Rules. **(6 Hours)**

Module-2: Indian Factories Act 1948: Karnataka Factory Rules, Contract Labour (Regulation and Abolition) Act 1971, Karnataka Contract Labour Rules. **(6 Hours)**

Module-3: Payment of Gratuity Act 1982: Payment of Bonus Act 1965, Karnataka Industrial Establishments (National Festival Holidays) Act. **(7 Hours)**

Module-4: ESI Act 1948: Employees Provident Fund and Miscellaneous Provisions Act 1952, Workmen's Compensation Act 1932. Payment Wages Act 1936. **(7 Hours)**

Module-5: Code of Discipline in Industries: Report of the second national labour commission 2002. Latest ILO deliberation on labour legislation in developing countries. **(4 Hours)**

References: ☐ Industrial Laws – P.L. Malik ☐ Industrial Laws – Sanjeev Kumar ☐ Labour Law Journals – Monthly ☐ Current Labour Reporter – Monthly ☐ CLR Annual Digest – 1999 – 2005

HR ANALYTICS 3 Credits & 30 Hours

Course Objectives:

- To introduce the student to the theory, concepts and business application of Human Resources research, data, metrics, systems, analyses and reporting.
- To develop an understanding of the role and importance of HR analytics and the ability to track, store, retrieve, analyze and interpret HR data to support decision making.
- To aware the challenges human resources analytics for the competitive advantage of the organization.
- To enable students to use applicable benchmarks/ metrics to conduct research and statistical analyses related to Human Resources Management.

Course Outcomes: Practical application of HR concepts to the present scenario

Module 1: (8 Hours)

Introduction to HR Analytics:

Role of analytics, Defining HR analytics, HR analytics: HR measurement journey in tune with HR maturity Journey. Understanding the organization system and HR challenges in the system. Understanding HR indicators. Working sessions; taking some HR challenges and understanding the determinates of HR challenges and consequences. Content analysis and document analysis.

Module 2: Basics of HR analytics (8 Hours)

Analytical model, a typical application of HR analytics, Predictive analysis; Determine Key Performance indicators, analyze and report data, interpreting results, and predicting future. Regression analysis relating to HR for decision making and future prediction.

Module 3:

HR Metrics and Insights into Data-Driven HR: (6 Hours)

Defining Metrics, Demographics, data sources and requirements, types of data, tying data set together based on relations, difficulties in obtaining data, ethics of measurements and evaluation, HR Dashboards. Typical data sources, typical questions faced (survey), data issues, and connecting HR analytics to Business benefits (Case Studies using Excel and SPSS).

Module 4: Assessing HR program with analytics (8 Hours)

Emerging concepts in HR and relating with analytics; engagement analytics, team effectiveness analytics, performance analytics, attrition analytics, organizational ambidexterity analytics. Statistical software used for HR analytics; MS Excel, IBM-SPSS, IBM- AMOS, SAS, and R Programming and data visualization tools such as Tableau.

References:

1. **Practical Applications of HR Analytics A Step-by-Step Guide** by Pratyush Banerjee , Jatin Pandey , Manish Gupta, Sage Publications
2. **Predictive HR Analytics: Mastering the HR Metric** by Dr Martin Edwards , Kirsten Edwards , Kogan Page Limited.

HRM 406 Diversity Equity and Inclusion (3 Credits & 30Hours)

Course Objectives:

In this course diversity, equity and Inclusion are analysed to identify strategies that can and do support organisational success. These include various forms of rewards, challenges, effective policies and practices associated with leading and managing diverse workforces. Issues including culture, ethnicity, gender, sexual orientation, ability/disability, appearance, age, politics, religion, and social class – which are all relevant to diversity - permeate this course.

Course Outcomes

1. Critically evaluate values and behaviour that influence our own and others' assumptions, attitudes and stereotypes regarding diversity and inclusivity. 2. Research the challenges and benefits of recruiting, supporting and developing staff from diverse backgrounds. 3. Analyse the benefits of ethical workplaces leadership and management in the context of diversity in the workplace. 4. Apply theoretical concepts and tools to ethically engage a diverse workforce within a range of employment situations and organizations. 5. Evaluate diversity and inclusion policies, that are ethical, legislated, and adhere to best practice employee performance and organizational success.

Module 1: Workplace Diversity, Equity & Inclusion (6Hours)

☐ Define diversity ☐ Discuss different types of diversity ☐ Understand the arguments behind the business case for diversity ☐ articulate both the advantages and the challenges of diversity ☐ Define Equity ☐ Define Inclusion ☐ Making Formal Strides toward DEI Maturity

Module 2: Subconscious & Implicit Bias, Gender, Sexual Orientations & Gender Identities: (8 Hours)

Subconscious & Implicit Bias:

☐ Define subconscious/implicit bias & origins, ☐ Conditions that can exacerbate biased reactions, ☐ Strategies for combatting subconscious/implicit bias, including, Directions to focus on job-related qualifications, A motivation to respond without prejudice, Fostering value for diversity

Gender: ☐ Status of women: ☐ Economic participation & opportunity ☐ Educational attainment ☐ Health and survival ☐ Political empowerment ☐ The gender wage gap ☐ Gender roles and stereotyping ☐ Rejecting the stereotypes ☐ Recommendations Sexual Orientation & Gender Identities

- Define LGBTIQ
- Define gender identity and sexual orientation and discuss the lived experience of LGBTIQ individuals
- Population size of LGBTIQ community & history of discrimination, especially from religious groups
- Employment legislation and lawsuits protecting LGBTIQ workers as well as recommendations for organization's to be inclusive of the LGBTIQ community

Module 3: Age and Ability (8 Hours)

Age Generational Differences & Disability, ☐ aging trend ☐ Active aging ☐ Bridge employment ☐ Benefits to employers

☐ "Never the right age" ☐ Ageism ☐ what is disability & employment related discrimination ☐ Laws & legislations protecting people with disability

Module 4: Diversity Legislation & Management Practices: (8 Hours)

Legislation, Employee discrimination, Major employment legislation throughout the world ☐ Labor rights globally
Diversity Management Approaches & Models of Workforce Diversity & Inclusion, ☐ Define diversity management, ☐
Business case for diversity, ☐ Different approaches to diversity management and pros and cons of each Diversity
training and Its effectiveness, ☐ Best practices for managing diversity

References:

ÖZBILGIN, M. F. 2009. Equality, Diversity and Inclusion at Work, U. K., Edward Elgar Publishing

Chanlat, J, & Özbilgin, M (eds) 2017, Management and Diversity : Thematic Approaches, Emerald Publishing Limited, Bingley.

STRACHAN, G., FRENCH, E. & BURGESS, J. 2010. Managing Diversity in Australia: Theory and Practice, Australia, McGraw-Hill Australia.

Journals:

IV Semester

BUSINESS ANALYTICS	
Code	SUBJECT NAME
BA 401	ADVANCED ANYLYTICS
BA 402	PYTHON
BA 403	MACHINE LEARNING ALGORITHMS
BA 404	BIG DATA ANALYTICS

SPECIALISATION - BUSINESS ANALYTICS:

Business Analytics is the study of data through statistical and operations analysis. It is the formation of predictive models, application of optimization techniques and interpreting the outcomes and communicating them to the customers, business partners and decision makers. Huge amount of data is generated every minute in different fields like Banking, Retail, Healthcare, Telecom, Automobile and various other sectors. Companies use Business Analytics to gain insight which enables them to automate and optimize their business processes.

This course is designed to strengthen the knowledge in tools and techniques required to analyze data leading to decision making.

BA 401 Advanced Analytics

Credits: 3

Hours: 30 Hours

Course Introduction and Objectives: Advanced analytics is a part of data science that uses high-level methods and tools to focus on projecting future trends, events, and behaviors. This helps in prescribing the best course of action when making complex decisions involving tradeoffs between business goals and constraints, using optimization technology. It is the third and final phase of business analytics which also includes descriptive and predictive analytics. Most management reporting – such as sales, marketing, operations, and finance uses this type of post-mortem analysis.

The objectives of this course are, enabling students to:

1. Understand the advanced tools of Statistics
2. Acquire the knowledge of using various analytical tools for analysis of data
3. Understand the process of identifying the variables for decision making
4. Learn various tools to analyze data and make predictions and prescribe various options which lead to decision making
5. Acquire the knowledge of R to develop prescriptive models.

Module 1 – Forecasting Techniques: Time series data, Moving average method, Exponential Smoothing, Auto regressive models, ARIMA. 8 Hours

Module 2 – Introduction to Linear Programming Model, Assumptions of LPP, Sensitivity Analysis, Solving LPP, Duality (7 Hours)

Module 3 – Game Theory, Decision trees, Random Forest 8 Hours

Module 4 – Text Analytics using Natural Language Processing 7 Hours

Course Outcomes

Upon completion of this course the student will be able to:

- To think logically, analytically and critically for decision making based on databases.
- To be able to collect live data using various data capture tools
- To be able to use R to analyze large datasets and make predictions
- To build models giving various solutions to problems which lead to effective decision making
- Have the **versatility** to work effectively in a broad range of analytic, scientific, government, financial, health, technical and other organisations.

References : Data Analysis with R(e-book) by Tony Fischetti

- Data Analysis with R – Selected topics and Examples by Thomas Petzoldt
- Evaluating Machine Learning Models , A Beginners' Guide to key Concepts and Pitfalls by Alice Zheng
- Practical Regression and Anova using R by Julian J. Faraway

BA 402 Python

Credits : 3

Hours : 30 Hours

Course Introduction and Objectives: Python is an open source language and is community developed, it has a massive support base. Millions of like-minded developers work with the language on a regular basis. In addition, the community continuously works together to improve upon core functionality. It is a simple language which is easy to learn, open source, portable, extensible and embeddable. Python is highly used to analyse data.

The objectives of this course are, enabling students to:

1. Understand the basics of need of Programming language to analyze data
2. Acquire the knowledge of using functions available to write programs
3. Understand the process of applying this knowledge for problem solving
4. Learn various types of applications used to program in python
5. Acquire the knowledge of using python to analyze data.

Module 1 - Python Basics, Running Python, Literals, Python Comments, Data Types Variables, Writing a Python Module, print () Function, Named Arguments, Collecting User Input. Functions and Modules, Defining Functions, Variable Scope, Global Variables, Function Parameters, Returning Values 10 Hours

Module 2 – Arithmetic Operators, Assignment Operators, Built-in Math Functions, the math Module, the random Module, Seeding. Conditional Statements, the is not Operators, Ternary Operator, Loops in Python, the enumerate () Function 12 Hours

Module 3 - Python Strings, String Indexing, Slicing Strings, Concatenation and Repetition, Common String Methods, String Formatting, Built-in String Functions (8 Hours)

Practical Component:

- Practical examples to be taken by students and short programs to be executed in Python
- Students will get hands on experience to use Jupityr, Anaconda and other applications to program in Python.
- Mini project to be done where actual data is collected by students and analyzed using Python.

Course Outcomes

Upon completion of this course the student will be able to:

- To think logically, analytically and critically for writing small programs
- To be able to create own functions for solving problems
- To be able to use Python to analyze datasets
- To be able to learn analytical tools using python
- Have the **versatility** to work effectively in a broad range of analytic, scientific, government, financial, health, technical and other organizations.

- **References:**

- Python for Data Analysis by Wes McKinney, O'Reilly Publication
- Python Data Science Handbook by Jake VanderPlas
- Python Programming: An Introduction to Computer Science by John Zelle
- Python Essential Reference by David M.Beazley
- Python: The Complete Reference by Martin C. Brown

BA 403 MACHINE LEARNING ALGORITHMS

Credits : 3

Hours : 30 Hours

Course Objectives: This is a three-credit course offered as a Functional Core during fourth trimester for all Business Analytics Specialization students. This course provides the core knowledge and skills needed in the area of Machine Learning Algorithms. Businesses today accumulate large amounts of data through their transaction processing systems and social networks. There is tremendous potential in such data to extract vital information for better business decision making.

Course Outcomes:

- Comprehend the need & relevance of computer applications for supporting functions & decision making for all levels of management.
- Analyze the various types of technology solutions & their widespread usage across industry. Also to develop awareness of computer networking. Understand office software's and business process modelling

Module 1 - Introduction to Machine Learning (8Hours)

Terminology, Evolution of Data Analytics, Role of Statistics, Database Systems & Machine Learning, Supervised and Unsupervised learning, Introduction to Prediction, Classification, Association, Clustering & Time Series Introduction, Examples*. Classification vs Prediction, Strengths of Prediction, Issues in Prediction and Ethics in Machine Learning*

Module 2 - Multi Linear Regression (4Hours)

Simple and Multiple Linear Regression, step wise regression, forward and backward methods, Model building, Model Validation and residual analysis, Introduction to Regularization, Ridge Lasso and elastic net and **Naive Bayes classifier**

Module 3 - Logistic Regression and Discriminant analysis (6 Hours)

Model estimation, Binary logit, multinomial logit, discrete choice models, and probit models.

Concept of Discriminant analysis, fisher function, fitting the model, validation of the model fit and model performance assessment.

Module 4 - Decision Trees & Random Forest (8 Hours)

Classification – concept, Introduction to Decision trees and random forest, Concept of Partitioning, Data pre-processing, Model training, Model building in R, Model comparison, parameter tuning.

Module 5 - Classification SVM and KNN (6 Hours)

Introduction, Hyper plane, Maximal Margin Classifier, Soft Margin Classifier, Kernels, Model building in R. Introduction to the concept of K-Nearest neighbour, application and prediction using the model

Text Books and Reference Books:

Essential references

1. U Dinesh Kumar (2017), Business Analytics: The Science of Data - Driven Decision Making, Wileys

Essential Reading / Recommended Reading

Recommended references:

1. Turban, E., Aronson, J. E., Liang, T.-P., & Sharda, R. (2010). *Decision support and business intelligence systems* (9th ed., p. 720). Prentice-Hall.
2. Berson, A., Smith, S. J., & F. (1997). *Data Warehousing, Data Mining and OLAP* (1st ed., p. 640). Computing McGraw-Hill.
3. Han, J., & Kamber, M. (2000). *Data Mining: Concepts and Techniques* (1st ed., p. 550). Morgan Kaufmann
4. Shmueli, G., Patel, N. R., & Bruce, P. C. (2008). *Data Mining for Business Intelligence: Concepts, Techniques, and Applications in Microsoft Office Excel with XLMiner* (2nd ed., p. 428). Wileys

Recommended references:

1. Turban, E., Aronson, J. E., Liang, T.-P., & Sharda, R. (2010). *Decision support and business intelligence systems* (9th ed., p. 720). Prentice-Hall.
2. Berson, A., Smith, S. J., & F. (1997). *Data Warehousing, Data Mining and OLAP* (1st ed., p. 640). Computing McGraw-Hill.
3. Han, J., & Kamber, M. (2000). *Data Mining: Concepts and Techniques* (1st ed., p. 550). Morgan Kaufmann
4. Shmueli, G., Patel, N. R., & Bruce, P. C. (2008). *Data Mining for Business Intelligence: Concepts, Techniques, and Applications in Microsoft Office Excel with XLMiner* (2nd ed., p. 428). Wileys

BA 404 BIG DATA ANALYTICS

Credits: 3 Hours: 30

Course Description: This is a three-credit course offered as a Functional Core during fifth trimester for Business Analytics Specialization students. The course encompasses fundamentals of Big Data, Big Data architecture and Big Data ecosystem and basics of Cloud Computing. By the end of the course, students will be able to independently work on Big Data platforms spanning different domains.

Module 1 - Introduction to Big Data (8Hours)

Introduction to Big Data, different types of data, Challenges in handling Bigdata Why Big Data Solutioning, Understanding the Big Data Ecosystem: The components of a Big Data architecture. File system – HDFS. Hive. Hadoop. Kerberos. Pig. Cassandra, In Memory Computing, Other products.

Module 2 - Programming with Spark Introduction to PySpark. Downloading, installing and getting started with PySpark. PySpark - Spark Context Programming with Resilient distributed datasets, PySpark – SparkConf, PySpark – StorageLevel, PySpark – Mllib. PySpark – Serializers (8HOURS)

Module 3 - NoSQL DB: HBase: (4Hours)

What is HBase, CAP Theorem, Other NoSQL Databases, Starting HBase Shell, HBase Shell Commands, General Commands: Data Definition Language: Data Manipulation HBase Command: HBase MemStore

Module 4 - Working with Data Ware House/ ETL (6Hours)

Hadoop – MapReduce: What is MapReduce, MapReduce data flow, Usage of MapReduce, MapReduce Word Count Example.

Hive architecture and installation. Comparison with traditional databases. HiveQL: Create Database, Create Table: External and Managed Table, Loading Data, querying data, sorting and aggregating.

Sqoop: Extract-transform-load (ETL) layer, Sqoop: Import, Export, Where clause.

Module 5 - Big Data and Cloud Computing (4 Hours)

Introduction to cloud computing, cloud computing concepts, cloud computing applications, cloud systems and infrastructure, cloud services, cloud providers, cloud security, Big Data applications in cloud (Google Cloud/Amazon Web Services/Azure).

Self-Study: Big Data Analytics in Healthcare, Big Data Analytics in Ecommerce, Big Data Analytics in Social Media, Big Data Analytics in Multimedia, Bigdata in Mobile Communications. Ethics of Big Data in Cyber Security.

Text Books And Reference Books:

Essential references:

1. Seema Acharya and Subhashini Chellappa. Big Data and Analytics. 1st Edition. Wiley (2015)

Essential Reading / Recommended Reading

Recommended references:

<https://data-flair.training/blogs/data-analytics-tutorial/>

<https://www.tutorialspoint.com/hbase/index.htm>

<https://www.guru99.com/hive-tutorials.html>

<https://www.thorntech.com/2018/09/big-data-in-the-cloud/>

<https://www.datameer.com/blog/big-data-in-the-cloud/>

<https://www.datasciencecentral.com/profiles/blogs/how-cloud-computing-technology-helps-in-big-data-analysis>

<https://www.whizlabs.com/blog/big-data-and-cloud-computing/>

Radha Shanthamani, M Vijayalakshmi. Big Data Analytics. 2nd Edition. Wiley (2017)

Mohammed M. Alani, Hissam Tawfik Mohammed Saeed, Obinna Anya Applications of Big Data Analytics- Trends, Issues, and Challenges