

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
122BAT01	Business Statistics	PC	3	3	0	0	3	40	60	100

### Course Objective

- To impart the knowledge of basic probabilistic theory and to learn one dimensional discrete and continuous probability distributions.
- To introduce the notion of sampling distributions and estimation theory.
- To acquire the knowledge of statistical techniques useful in decision making through hypothesis testing- parametric tests and non-parametric tests.
- To study the relationships between the variables by correlation coefficient and forecasting through regression analysis and time series analysis.
- To study the relationships between the variables, time series analysis and index numbers.

### UNIT I THEORY OF PROBABILITY

**9**

Axioms of probability - Conditional probability - Total probability – Baye's theorem- Random variables - Probability mass function - Probability density function - Binomial, Poisson and Normal distributions.

### UNIT II SAMPLING DISTRIBUTION AND ESTIMATION

**9**

Introduction to sampling distributions- sampling distribution of a statistic: mean and proportion- application of central limit theorem -sampling techniques– standard error of a statistic. Estimation: Point and Interval estimates for population parameters of large sample and small samples- determining the sample size.

### UNIT III TESTING OF HYPOTHESIS – PARAMETRIC TESTS

**9**

Tests for single Mean and Proportion, Difference between two means and proportions for both large samples (Z-test) and small samples (t-test)– Tests for single variance and equality of variances using F-test – Analysis of variance (ANOVA): Completely Randomized Design (CRD) (one way classification) – Randomized Block Design (RBD) (two way classification).

### UNIT IV NON PARAMETRIC TESTS

Chi-square test for Goodness of fit – Independence of attributes– Sign test for paired data– Rank sum test– Kolmogorov-Smirnov test– Mann-Whitney U test and Kruskal Wallis test– One sample run test.

### UNIT V BUSINESS FORECASTING

**9**

Correlation analysis: Karl Pearson's Coefficient of Correlation- Spearman's Rank Correlation. Regression Analysis: Least Square fit of Linear Regression - Two lines of Regression – properties of regression coefficients- Standard error of estimate. Time series analysis: Variations in time series, trend analysis, cyclical variations, seasonal variations and irregular variations.

**Total: 45Hrs**

*Note: Use of approved statistical table is permitted in the examination.*

## Course Outcomes

At the end of the course the student will be able to

**CO1:** Use probability distribution concepts for numerical measure of uncertainty.

**CO2:** Evaluate point and interval estimate of a statistic.

**CO3:** Draw inference & decision making through hypothesis testing –parametric tests and analysis of variance.

**CO4:** Apply non-parametric tests suitably when needed.

**CO5:** Apply statistical tools of Correlation and Regression analysis and Time series analysis.

## Reference books

1. Levin R.I., Rubin S. David, “Statistics for Management”, Eight edition, Pearson, 2017. [e-resource: Levin R.I., Rubin S. David, “Statistics for Management”, Pearson, 2019].
2. Arora.P.N. and Arora.S., “Statistics for Management”, S.Chand & Company Ltd, 2009.
3. Keller, G, “Statistics for Management and Economics”, Cengage Learning (Textbook/eBook), 2019.
4. e-resource: Anderson D.R., Sweeney D.J. , Williams T.A., Camm J.D., and Cochran J.J., “Statistics for Business and Economics”, 13<sup>th</sup> edition, Cengage Learning (Textbook/eBook), 2018. Hard copy: [Anderson D.R., Sweeney D.J. and Williams T.A., Statistics for business and economics, 8<sup>th</sup> edition, Thomson (South – Western) Asia, Singapore, 2002.]
5. Black Ken, “Business Statistics: For Contemporary Decision Making”, 10<sup>th</sup> edition (Textbook/eBook) ,Wiley, 2019.

ArticulationMatrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1	3	2	2	1	1	2	1	1	3
CO2	3	3	1	3	2	3	1	2	2	1	1	3
CO3	3	2	1	2	2	2	1	1	1	1	1	3
CO4	3	2	1	3	2	3	1	2	2	1	1	2
CO5	3	3	1	3	2	3	1	2	2	1	1	2

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
122BAT02	Management Practices and Organizational Behaviour	PC	3	3	0	0	3	40	60	100

#### COURSE OBJECTIVES:

- To familiarize the students to the basic concepts of management and organizational behaviour in order to aid in understanding.
- To understand organization culture and functions in a firm.
- To understand the complexity and wide variety of issues managers face in today's business firms.
- To acquaint the students with the fundamentals of leadership in business and to understand individual and group behaviour at work place.
- To improve the effectiveness of an organization. The course will use and focus on Indian experiences, approaches and cases.

#### UNIT I INTRODUCTION TO MANAGEMENT PRACTICES AND ORGANIZATIONAL BEHAVIOUR 9

Evolution of management Thought-Classical, Behavioral and Management Science Approaches Management- meaning, levels, management as an art or science, Managerial functions and Roles - Contribution of F.W.Taylor, HenriFayol, Meaning - Importance of OB - Historical Development & Contribution Disciplines - Foundation of individual behavior and individual decision making

#### UNIT II PLANNING AND MOTIVATION 9

Planning - Steps in Planning Process - Scope and Limitations - Forecasting and types of Planning-Characteristics of a sound Plan - Management by Objectives (MBO) - Policies and Strategies - Scope and Formulation - Decision Making - Types, Techniques and Processes. - Motivation - Theories – Content theories and process theories– Problems in motivation

#### UNIT III LEADERSHIP AND INDIVIDUAL BEHAVIOUR 9

Direction – Leadership – theories – Styles - Meaning of Organizational behavior, contributing disciplines, importance of organizational behavior, Perception and Learning - Personality and Individual Differences- Personality – Basic concepts and theories - Job Performance - Values, Attitudes and Beliefs - Communication Types-Process - Barriers - Making Communication Effective.

#### UNIT IV GROUP AND CONFLICT 9

Groups and Teams: Definition, Difference between groups and teams, Stages of Group Development, Group Cohesiveness, Types of teams, Group Dynamics - Leadership in Groups and Teams -Power and Politics - Organisational Structure - Organisational Climate and Culture, Conflict: concept, sources, Types, Stages of conflict, Management of conflict Organisational Change and Development.

## UNIT V CONTROLLING AND EMERGING ASPECTS OF ORGANIZATIONAL BEHAVIOUR

9

Controlling in Management – Control Process – Innovation Management -Comparative Management Styles and approaches - Japanese Management Practices - Organizational Creativity and Innovation - Organizational behavior across cultures - Conditions affecting cross cultural organizational operations, Managing International Workforce, Productivity and cultural contingencies, Cross cultural communication, Management of Diversity.

**Total: 45 Hrs**

**COURSE OUTCOMES:** On completion of course, Students will develop

- Understanding of various management and organizational behaviour concepts and skills required in the business world
- In-depth knowledge of various functions of management in a real time management context
- Understanding of the complexities associated with management of individual behavior in the organizations
- Develop the skillset to have manage group behaviour in Organizations
- Insights about the future trends in managing organizational behaviour

### REFERENCES:

1. Stephen P. Robbins, Timothy A. Judge & Neharika Vohra, Organizational Behaviour, Eighteen Edition, By Pearson Paperback, eighteen edition 2018.
2. by Dr. N. Mishra, Dr. O. P. Gupta, Dr. O. P. Gupta & Dr. N. Mishra (Preface), Principles of Management: Revised Edition (2021) Paperback – 1 January 2018
3. Samuel C. Certo and S. Trevis Certo, Modern Management: Concepts and Skills, Pearson education, 1<sup>5th</sup> edition, 2018.
4. Robert Konopaske, John M Ivancevich, Michael T Matteson, Oranizational Behavior and Management, 11th edition, Tata McGraw Hill, 2017.
5. McShane, Mary V. Glinow, Organizational Behavior, 8th Edition, Tata Mc Graw Hill, 2017.
6. Charles W.L Hill and Steven L McShane, Principles of Management, McGraw Hill Education, Special Indian Edition, 2017.
7. Stephen P. Robbins, David De Cenzo and Mary Coulter, Fundamentals Of Management, Prentice Hall of India, 9<sup>th</sup> edition 2016.
8. Andrew J. Dubrin, Essentials of Management, Thomson Southwestern, 10th edition, 2016.
9. Harold Koontz and Heinz Weihrich, Essentials of Management: An International, Innovation, And Leadership Perspective, 10th edition, Tata McGraw-Hill Education, 2015.
10. Stephen P. Robbins, Timothy A. Judge, Organisational Behavior, PHI Learning / Pearson Education, 16th edition, 2014.

ArticulationMatrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	3	2	2	1	1	1	2	2	1	1
CO2	3	2	3	3	2	2	1	1	2	2	1	2
CO3	2	3	3	3	2	3	2	1	1	2	2	1

Course Code	Course Title				Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
122BAT03	Legal Aspects of Business				PC	3	3	0	0	3	40	60	100
	CO4	3	2	3	2	1	2	2	2	1	1	2	1
	CO5	2	3	2	3	3	1	1	3	1	2	2	1

#### COURSE OBJECTIVE:

- This course is designed to provide you with an overview of various legal concepts and principles influencing business.
- It introduces you to a broad array of information and develops relevant skills encompassing the dynamic nature of the legal environment.
- Its relationship to the transactional and functional aspects of business.
- The objective of this course is to familiarize the students with various laws that will help them to refine their understanding of how law affects the different aspects of business.
- This course provides an understanding the basics of business law.

#### UNIT I COMMERCIAL LAW

9

THE INDIAN CONTRACT ACT 1872 Definition of contract, essentials elements and types of a contract, Formation of a contract, performance of contracts, breach of contract and its remedies, Quasi contracts - Contract Of Agency: Nature of agency, Creation and types of agents, Authority and liability of Agent and principal: Rights and duties of principal and agents, termination of agency. THE SALE OF GOODS ACT 1930 Nature of Sales contract, Documents of title, risk of loss, Guarantees and Warranties, performance of sales contracts, conditional sales and rights of an unpaid seller

#### UNIT II COMPANY LAW AND COMPETITION ACT

9

COMPANY ACT 1956&2013 Major principles – Nature and types of companies, Formation, Memorandum and Articles of Association, Prospectus, Power, duties and liabilities of Directors, winding up of companies, Corporate Governance. Competition Act 2002 - Introduction, Definitions, Enquiry into Certain Agreements and Dominant Position of Enterprise and Combinations.

#### UNIT III INDUSTRIAL LAW AND INDUSTRIAL ACT

9

An Overview of Factories Act - Payment of Wages Act - Payment of Bonus Act - Industrial Disputes Act - NEGOTIABLE INSTRUMENTS ACT 1881: Nature and requisites of negotiable instruments. Types of negotiable instruments, liability of parties, holder in due course, special rules for Cheque and drafts, discharge of negotiable instruments.

#### UNIT IV CORPORATE TAX & GST

9

Corporate Tax Planning, Corporate Taxes and Overview of Latest Developments in Indirect tax Laws relating to GST: An introduction including constitutional aspects, Levy and collection of CGST & IGST, Basic concept of time and value of supply, Input tax credit,

Computation of GST Liability, Registration, Tax Invoice, Credit & Debit Notes, Electronic Way bill, Returns, Payment of taxes including Reverse Charge

## UNIT V CONSUMER PROTECTION ACT AND INTRODUCTION OF CYBER LAWS 9

Consumer Protection Act – Consumer rights, Procedures for Consumer grievances redressal, Types of consumer Redressal Machineries and Forums-- Cyber crimes, IT Act 2000 and 2002, Cyber Laws, Introduction of IPR Intellectual Property Laws- Introduction, Legal Aspects of Patents, Filing of Patent Applications, Rights from Patents, Infringement of Patents, Copyright and its Ownership, Infringement of Copyright, Civil Remedies for Infringement.– Copy rights, Trade marks, Patent Act. Introduction, Right to Information Act, 2005.

**Total: 45 Hrs**

### COURSE OUTCOMES:

- Understand the fundamental legal principles in developing various contracts and commercial laws in the business world
- Identify the common forms of business associations and elements of Corporate Governance
- Develop insights regarding the laws related to industrial environment
- Ability to understand the fundamentals of corporate tax and GST
- Understand the role of consumer rights and cyber laws in the modern business environment

### REFERENCES:

1. Taxmann, GST Manual with GST Law Guide & Digest of Landmark Rulings, 11th Edition, 2019
2. Ravinder Kumar– Legal Aspect of Business–Cengage Learning, 4<sup>th</sup> Edition-2016.12. V. S. Datey, GST Ready Reckoner, 9 th edition, 2019
3. Akhileshwar Pathak, Legal Aspects of Business, Tata McGraw Hill, 6th Edition 2018.
4. Daniel Albuquerque, Legal Aspect of Business, Oxford, 2 nd edition, 2017
5. Richard Stim, Intellectual Property- Copy Rights, Trade Marks, and Patents, Cengage Learning 15<sup>th</sup> edition 2017. N. D. Kapoor, Elements of Mercantile Law, Sultan Chand and Company, India, 2017.
6. P. K. Goel, Business Law for Managers, Biztantatara Publishers, India, 2017.
7. Ravinder Kumar, Legal Aspects of Business, New Delhi: Cengage Learning, 4 th edition, 2016.
8. P. P. S. Gogna, Mercantile Law, S. Chand & Co. Ltd., India, Fourth Edition, 2015.

ArticulationMatrix												
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CO1	3	2	1	2	1	2		3	3	2	1	1
CO2	3	3	2	3	2	1	1	3	1	1	1	2
CO3	2	3	3	2	2	1	1	3	2	2	2	1
CO4	3	3	3	2	2	2	1	2	1	2	1	1
CO5	3	2	1	3	2	2	2	3	2	1	2	1

<b>Course Code</b>	<b>Course Title</b>	<b>Category</b>	<b>Contact Hours</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>	<b>CA</b>	<b>EA</b>	<b>TOTAL</b>
122BAT04	Managerial Economics	PC	3	3	0	0	3	40	60	100

#### COURSE OBJECTIVE:

- The purpose of the course is to apply a series of basic economics principles to the decision making process within the firm.
- To Enumerate the Issues related to optimal pricing strategies, demand forecasting and optimal financing.
- To learn about appropriate hiring decisions, and investment decisions, among others, can be successfully tackled with managerial economics tools.
- To Introduce the concepts of scarcity and efficiency; to explain principles of micro economics relevant to managing an organization.
- To describe principles of macroeconomics to have the understanding of economic environment of business.

#### UNIT I INTRODUCTION

9

The themes of economics – scarcity and efficiency – three fundamental economic problems – society's capability – Production possibility frontiers (PPF) – Productive efficiency Vs economic efficiency – economic growth & stability – Micro economies and Macro economies – the role of markets and government – Positive Vs negative externalities.

#### UNIT II CONSUMER AND PRODUCER BEHAVIOUR

9

Market – Demand and Supply – Determinants – Market equilibrium – elasticity of demand and supply – consumer behaviour – consumer equilibrium – Approaches to consumer behaviour – Production – Short-run and long-run Production Function – Returns to scale – economies Vs diseconomies of scale – Analysis of cost – Short-run and long-run cost function – Relation between Production and cost function.

#### UNIT III PRODUCT AND FACTOR MARKET

9

Product market – perfect and imperfect market – different market structures – Firm's equilibrium and supply – Market efficiency – Economic costs of imperfect competition – factor market – Land, Labour and capital – Demand and supply – determination of factor price – Interaction of product and factor market – General equilibrium and efficiency of competitive markets.

#### UNIT IV PERFORMANCE OF AN ECONOMY – MACRO ECONOMICS

9

Macro-economic aggregates – circular flow of macroeconomic activity – National income determination – Aggregate demand and supply – Macroeconomic equilibrium – Components

of aggregate demand and national income – multiplier effect – Demand side management – Fiscal policy in theory.

#### UNIT V AGGREGATE SUPPLY AND THE ROLE OF MONEY

9

Short-run and Long-run supply curve – Unemployment and its impact – Okun's law – Inflation and the impact – reasons for inflation – Demand Vs Supply factors – Inflation Vs Unemployment tradeoff – Phillips curve – short- run and long-run – Supply side Policy and management- Money market- Demand and supply of money – money-market equilibrium and national income – the role of monetary policy – **Fiscal policy.**

**Total: 45 Hrs**

#### COURSE OUTCOMES:

- To introduce the concepts of scarcity and efficiency;
- To explain principles of microeconomics relevant to managing an organization
- To describe principles of macroeconomics
- To have the understanding of economic environment of business.
- To study about the policies that regulate economic variables

#### REFERENCES:

1. Dominick Salvatore, Managerial Economics- Principles and worldwide applications, Oxford Publication, 6e, 2015
2. .N Dwivedi, Managerial Economics, 6th ed., Vikas Publication, 2016
3. H. L Ahuja, Managerial Economics, S. Chand, 2015
4. K P M Sundharam and Dutt, Indian Economy, 64th Edition, S Chand Publication.
5. William Boyes and Michael Melvin, Textbook of economics, Biztantra, 7 th edition 2008.
6. N. Gregory Mankiw, Principles of Economics, 8 th edition, Thomson learning, New Delhi, 2017.
7. Richard Lipsey and Alec Chrystal, Economics, 13th edition, Oxford, University Press, New Delhi, 2015.
8. Karl E. Case and Ray C. Fair, Principles of Economics, 12th edition, Pearson, Education Asia, New Delhi, 2017.
9. Panneerselvam. R, Engineering Economics, 2 nd Edition, PHI Learning, 2014.

ArticulationMatrix												
	PO1	PO2	PO3	PO4	PO5	PO 6	PO7	PO8	PO 9	PO 10	PO 11	PO 12
CO1	3	1	1	1	3	3	2	2	3	3	3	3
CO2	3	3	3	3	3	3	2	2	2	2	2	2
CO3	3	2	1	2	2	2	2	2	3	3	3	3
CO4	3	3	3	3	3	3	1	1	1	2	2	2
CO5	3	3	3	2	2	1	2	2	2	2	3	3

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
122BAT05	Accounting for Business Decisions	PC	3	3	0	0	3	40	60	100

#### COURSE OBJECTIVE:

- The objective of the course is to enable students to acquire sound knowledge of concepts, methods and techniques of management accounting.
- This course examines the principles of planning and control of business organizations.
- This course enhances the abilities of learners to analyse financial statements.
- This course helps the students to develop competence with their usage in managerial decision making.
- To acquire a reasonable knowledge in accounts analysis and evaluate financial statements.

#### UNIT I MANAGEMENT ACCOUNTING

9

Introduction to Management Accounting – Generally Accepted Accounting Principles (GAAP) – Double Entry System – Preparation of Journal, Ledger and Trial Balance, Preparation of Final Accounts: Trading, Profit and Loss Account and Balance Sheet - Reading the financial statements.

#### UNIT II ANALYSIS OF FINANCIAL STATEMENTS

9

Financial ratio analysis, Interpretation of ratio for financial decisions- Du-Pont Ratios – Comparative statements - Common size statements.

#### UNIT III FUND FLOW ANALYSIS

9

Fund Flow Analysis – Importance and procedure for preparing a fund flow statement – Schedule of changes in working capital – Funds from operations statement – Fund flow statement – limitations of Fund flow statement.

#### UNIT IV CASH FLOW ANALYSIS

9

Cash flow analysis – importance and procedure for preparing cash flow statement – cash from operation statement – cash flow statement – limitations of cash flow statement.

#### UNIT V BUDGETING AND VARIANCE ANALYSIS

9

Budgetary Control – Sales, Production, Cash, fixed and flexible budget – Standard costing and Variance Analysis – (excluding overhead costing) - Accounting standards and accounting disclosure practices in India.

**Total: 45 Hrs**

#### COURSE OUTCOMES:

- A thorough grounding of financial accounting concepts
- Evaluate financial statement analysis
- Analyse the flow of funds
- Analyse the flow of cash
- Preparation of budgets and variance analysis and assess the accountancy standards of practices in India

#### REFERENCES:

1. R. Narayanaswamy, Financial Accounting, PHI, sixth edition, 2017.
2. M.Y. Khan & P.K. Jain, Management Accounting, Tata McGraw Hill, 8<sup>th</sup> Edition, 2018.
3. T.S. Reddy & A. Murthy, Financial Accounting, Margham Publications, 2014
4. Jan Williams, Susan Haka, Mark S bettner, Joseph V Carcello, Financial and Managerial Accounting - The basis for business Decisions, 18th edition, Tata McGraw Hill Publishers, 2017
5. Charles T. Horngren, Gary L.Sundem, David Burgstahler, Jeff Schatzberg, Introduction to Management Accounting, PHI Learning, 2014 , 16th edition.

ArticulationMatrix												
	PO1	PO2	PO3	PO4	PO5	PO 6	PO7	PO8	PO 9	PO 10	PO 11	PO 12
CO1	3	-	1	2	1	1	1	-	3	3	-	-
CO2	3	2	1	2	2	2	-	2	-	3	-	2
CO3	3	3	2	2	3	2	1	2	1	3	-	1
CO4	3	3	2	3	3	2	1	1	1	2	-	1
CO5	3	2	3	2	2	2	1	2	-	2	-	-

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
122BAT06	Information Management	PC	3	3	0	0	3	40	60	100

#### COURSE OBJECTIVES:

- To provide the knowledge of contemporary issues related to the field of managing information systems.
- To Develop knowledge and skills required to work effectively in a profession
- Enhance self-confidence, ability to make proper decisions and effective communication.
- To understand the importance of information in business
- To know about the recent information systems and technologies.

#### UNIT I INTRODUCTION

9

Data, Information - Information System - evolution, types based on functions and hierarchy, Enterprise and functional information systems.

#### UNIT II SYSTEM ANALYSIS AND DESIGN

10

System development methodologies - Systems Analysis and Design- Data flow Diagram (DFD) - Decision table - Entity Relationship (ER) - Object Oriented Analysis and Design (OOAD) - System Software and Application Software

#### UNIT III DATABASE MANAGEMENT SYSTEMS

8

DBMS – types and evolution, RDBMS, OODBMS, RODBMS, - Data Definition Language - Data Manipulation language - Data Control Languages - Data warehousing - Data Mart - Data mining – **Decision support system (DSS).**

#### UNIT IV INTEGRATED SYSTEMS, SECURITY AND CONTROL

9

Knowledge based decision support systems, Integrating social media and mobile technologies in Information system, Security, IS Vulnerability, Disaster Management, Computer Crimes, Securing the Web – **Testing – Error Detection.**

#### UNIT V ERP AND NEW IT INITIATIVES

9

Overview of ERP - Modules of ERP Packages - Popular ERP Packages - ERP Implementation - Introduction to Deep learning - Big data - Python - R-Programming – Tableau - Advancements in AI – IoT - Block chain - Crypto currency - Quantum computing – **Emerging trends.**

**Total: 45 Hrs**

**COURSE OUTCOMES:**

1. Learn the basics of data and information system.
2. Understand the system development methodologies.
3. Understand database management system and its types.
4. Learn the various technologies in information system and its security.
5. Gains knowledge on effective applications of information systems in business.

**REFERENCES:**

1. Robert Schultheis and Mary Sumner, Management Information Systems – The Manager’ s View, Tata McGraw Hill, 2008.
2. Kenneth C. Laudon and Jane P Laudon, Management Information Systems – Managing the Digital Firm, 15<sup>th</sup> edition, 2018.
3. Panneerselvam. R, Database Management Systems, 3rd Edition, PHI Learning, 2018.
4. James O’Brien, Management Information System ,TMH 2017.
5. Kenneth C. Laudon & Jane P. Laudon, Management Information System, PHI 2018.
6. Gordon B. Davis &Margrethe H. Olson, Management Information System ,TMH 2015.
7. Ray Hackney & Dennis Dunn ,Business Information Technology Management, Macmillan ,2016.
8. Schultheis, Management Information systems: The Manager’s View ,TMH 2017.
9. Ashok Arora&Akshaya Bhatia, Management Information system Excel Books 2016.

<b>ArticulationMatrix</b>												
	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO 6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO 9</b>	<b>PO 10</b>	<b>PO 11</b>	<b>PO 12</b>
<b>CO1</b>	1	2	3	3	2	1	3	3	2	1	2	1
<b>CO2</b>	3	2	2	1	1	2	2	3	3	1	2	2
<b>CO3</b>	3	3	2	2	1	1	1	2	3	1	2	3
<b>CO4</b>	2	1	3	2	3	1	1	2	3	2	3	1
<b>CO5</b>	2	2	1	1	3	3	3	2	1	1	2	3

<b>Course Code</b>	<b>Course Title</b>	<b>Category</b>	<b>Contact Hours</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>	<b>CA</b>	<b>EA</b>	<b>TOTAL</b>
122BAT07	International Business Management	PC	3	3	0	0	3	40	60	100

#### **COURSE OBJECTIVE:**

- To understand the multinational dimensions in management of a MNC company and the business operations in more than one country.
- To facilitate the understanding of International Business concepts.
- To understand the concepts of International Trade and Diversification.
- To familiarize the understanding of multi-polar, multi-cultural world in International Business.
- To support the students to have clear understanding about the different strategies in International Business.

#### **UNIT I AN OVERVIEW OF INTERNATIONAL BUSINESS 9**

Definition and drivers of International Business- Changing Environment of International Business Country attractiveness- Trends in Globalization- Effect and Benefit of Globalization-International Institution: UNCTAD Basic Principles and Major Achievements, Role of IMF, Features of IBRD, Role and Advantage of WTO.

#### **UNIT II THEORIES OF INTERNATIONAL TRADE AND INVESTMENT 9**

Theories of International Trade: Mercantilism, Absolute Advantage Theory, Comparative Cost Theory, Heckscher - Ohlin Theory-Theories of Foreign Direct Investment : Product Life Cycle, Electric, Market Power, Internationalisation - Instruments of Trade Policy : Voluntary Export Restraints, Administrative Policy, Anti-dumping Policy, Balance of Payment.

#### **UNIT III GLOBAL ENTRY 9**

Strategic compulsions— Strategic options – Global portfolio management- Global entry strategy, different forms of international business, advantages - Organizational issues of international business –Organizational structures – Controlling of international business, approaches to control – Performance of global business, performance evaluation system.

#### **UNIT IV PRODUCTION, MARKETING, FINANCIALS OF GLOBAL BUSINESS 9**

Global production: Location, scale of operations- cost of production - Standardization Vs Differentiation Make or Buy decisions- global supply chain issues- Quality considerations. Globalization of markets: Marketing strategy - Challenges in product development- pricing- production and channel management. Foreign Exchange Determination Systems: Basic Concepts-types of Exchange Rate Regimes- Factors Affecting Exchange Rates.

#### **UNIT V HUMAN RESOURCE MANAGEMENT IN INTERNATIONAL BUSINESS 9**

Selection of expatriate managers- Managing across cultures -Training and development Compensation- Disadvantages of international business – Conflict in international business-

Sources and types of conflict – Conflict resolutions – Negotiation –Ethical issues in international business – Ethical decision-making.

**Total: 45 Hrs**

**COURSE OUTCOMES:**

1. In Depth knowledge of driving factors of international Business
2. Understanding of theories of trade and investment practiced in the global world
3. Deep Insights in to various market entry strategies followed by Global Organizations
4. Ability to identify the various global production and supply chain issues and have an understanding of foreign exchange determination system
5. Enhance the cognitive knowledge of managing business across the cultures

**REFERENCES:**

1. K.Aswathappa, “International Business”, Tata McGraw Hill Education, 6<sup>th</sup> edition, New Delhi, 2015.
2. Alain Verbeke, International Business Strategy, Cambridge University Press, Bangaluru, 2<sup>nd</sup> edition, 2013
3. K. Aswathappa, International Business, 5<sup>th</sup> Edition, Tata Mc Graw Hill, New Delhi, 2012.
4. Vyuptakesh Sharan, International Business, 3<sup>rd</sup> Edition, Pearson Education in South Asia, New Delhi, 2011.
5. Charles W.I. Hill and Arun Kumar Jain, International Business, 6<sup>th</sup> edition, Tata McGraw Hill, New Delhi, 2010.
6. Michael R.Czinkota, Ilkka A. Ronkainen and Michael H. Moffet, International Business, 7<sup>th</sup> Edition, Cengage Learning, New Delhi, 2010.
7. Rakesh Mohan Joshi, International Business, Oxford University Press, New Delhi, 2009.
8. Francis Cherunilam, “International Business”, Prentice Hall of India, New Delhi, 2010.

<b>ArticulationMatrix</b>												
	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO 6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO 9</b>	<b>PO 10</b>	<b>PO 11</b>	<b>PO 12</b>
<b>CO1</b>	3	1	3	3	2	2	1	3	1	1	1	1
<b>CO2</b>	2	2	3	2	2	2	1	3	1	2	1	2
<b>CO3</b>	3	2	1	2	2	2	3	1	2	1	2	1
<b>CO4</b>	2	3	1	2	2	2	2	3	2	2	1	2
<b>CO5</b>	3	3	2	2	1	1	2	3	2	2	1	1

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
122BAP01	Executive Communication - Laboratory	EEC	4	0	0	4	2	60	40	100

### **PRACTICAL**

#### **COURSE OBJECTIVES:**

- To help the students to acquire some of the necessary skills to handle day-to-day managerial responsibilities,
- To help students in speeches, controlling one-to-one communication, enriching group activities and processes,
- For giving effective presentations, writing letters, memos, minutes, reports and advertising, and maintaining one's poise in private and in public
- To Design to get a comprehensive view of business communication and presentation skills.
- To Acquire a clear writing skill for the business requirements and equip with career communication knowledge and self-development.

#### **UNIT I INTRODUCTION AND TYPES OF BUSINESS COMMUNICATION 12**

Introduction to Business Communication - Effective communication - Target group profile - Barriers of Communication - Reading Skills – Listening - Feedback - Nonverbal Communication: Professional dressing - body language - Role Playing - Debates and Quiz - Presentations and Extempore - speech of introduction - speech of thanks - occasional speech - theme speech - Group communication: Meetings - group discussions

#### **UNIT II BUSINESS COMMUNICATION WRITING MODELS AND TOOLS 12**

Business letters - Routine letters - Bad news and persuasion letters - sales letters - collection letters - Maintaining a Diary - Resume/CV - Job application letters – Proposals - Internal communication through - Notices - Circulars – Memos - Agenda and Minutes - Reports.

#### **UNIT III EFFECTIVE PRESENTATIONS 12**

Principles of Effective Presentations - Principles governing the use of audiovisual media - Case Studies - Exercises on Corporate Writing, - Executive Summary of Documents - Creative Writing - Poster Making - Framing Advertisements – Slogans – Captions - Preparing Press - Release and Press Notes

**UNIT IV INTERVIEW SKILLS**

12

Mastering the art of giving interviews in - Selection or placement interviews - Discipline Interviews - Appraisal interviews - Exit interviews - Web /Video conferencing - Tele meeting

**UNIT V REPORT WRITING**

12

Objectives of report - Types of report - Report Planning - Types of Reports - Developing an outline - Nature of Headings - Ordering of Points - Logical Sequencing – Graphs – Charts - Executive Summary - List of Illustration - Report Writing

**Total: 45 Hrs****COURSE OUTCOMES:**

- Develop good managerial communication skills
- Ability to excel in different forms of written communication required in a business context
- Develop good presentation skills
- In-depth understanding of interview skills
- Ability to prepare Business reports

**REFERENCES:**

1. Herta A Murphy, Herbert W Hildebrandt, Jane P Thomas, “Effective Business Communication”, TMH, 10<sup>th</sup> Edition, 2019
2. Krizan, Merrier Jones, Business Communication, 6<sup>th</sup> Edition, Thomson Learning, 2018
3. Essentials of Business Communication, Rajendra Paul & J.S. Korlahalli, 2017
4. R. C. Sharma, Krishna Mohan, Business Correspondence & Report Writing, Tata McGraw Hill, 5<sup>th</sup> Edition, 2017
5. Bovee, Thill, Schatzman, Business Communication, 7<sup>th</sup> Edition, New Delhi, 2016
6. C. S. Rayadu, Communication by, HPH, 2015
7. Meenakshi Raman, Prakash Singh, Business Communication by, Oxford, 2<sup>nd</sup> edition, 2012

ArticulationMatrix												
	PO1	PO2	PO3	PO4	PO5	PO 6	PO7	PO8	PO 9	PO 10	PO 11	PO 12
CO1	3	2	3	3	2	2	1	3	3	1	1	1
CO2	2	3	3	2	2	1	1	3	3	2	2	2
CO3	3	2	1	2	2	2	3	1	2	1	2	1
CO4	3	1	2	3	2	1	1	3	2	1	2	2
CO5	3	1	2	3	2	1	1	1	2	2	1	1

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
122BAP02	Indian Ethos	EEC	4	0	0	4	2	60	40	100

#### COURSE OBJECTIVES:

- To enable the learners in understanding of the basic concepts of Indian Ethos and familiarize about ethical behaviour and value systems at work.
- To understand the importance of ethics in business.
- To acquire knowledge and capability to develop ethical practices for effective management.
- To aware students about basic philosophies of Indian culture, importance of varied culture in building of organizational culture.
- To make students aware about their inner qualities, inner potential and importance of human qualities in providing effective leadership to organizations.

#### NOTE:

- The following is the list of topics suggested for preparation and presentation by students twice during the semester.
- This will be evaluated by the faculty member(s) handling the course and the final marks are consolidated at the end of the semester. No end semester examination is required for this course.
  - 1) Indian Ethos and Personality Development
  - 2) Work ethos and ethics for Professional Managers
  - 3) Indian Values, Value Systems and Wisdom for modern managers
  - 4) Ethos in leadership development
  - 5) Indian system of learning – Gurukul system of learning, Law of humility, Law of growth, Law of responsibility

**Total: 45 Hrs**

#### COURSE OUTCOMES:

- The learners are able to apply the basic concepts of Indian ethos and value systems at work.
- The learners can handle issues of business ethics and offer solutions in ethical perspectives
- The learners are professionally efficient and skilful in value systems and culture
- The learners are capable in ethically manage business towards well being of the society.
- The learners can be socially effective in undertaking business responsibilities.

## REFERENCES:

1. S.K. Chakraborty Values for Ethics for Organization: Theory & Practice Oxford University Press Latest.
2. S.K. Chakraborty Ethics in Management: Vedantic Perspective Oxford University Press Latest.
3. Subhash Sharma New Mantras in Corporate corridors From Ancient Routes to Global Roots New Age International Publishers First Edition.
4. Subhash Sharma Western Windows Eastern Doors Management New Age International Publishers Latest Edition

ArticulationMatrix												
	PO1	PO2	PO3	PO4	PO5	PO 6	PO7	PO8	PO 9	PO 10	PO 11	PO 12
CO1	3	2	3	2	2	3	3	2	3	2	3	2
CO2	2	1	2	3	1	3	2	2	3	3	3	3
CO3	1	3	2	1	2	2	3	3	2	3	2	2
CO4	3	2	1	2	2	1	2	3	2	3	2	2
CO5	3	2	2	3	2	3	1	2	3	2	2	3

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
222BAT08	Operations Research	PC	3	3	0	0	3	40	60	100

### **COURSE OBJECTIVE:**

- To apply quantitative techniques in modeling and solving business related problems.
- To introduce the basic concepts of operational research and linear programming to the students.
- To provide necessary inputs for optimum utilization of resources by employing operational research techniques.
- To apply the mathematical modeling in solving practical problems in industry.
- To recognize the importance and value of optimization techniques to solve the real time problems.

### **UNIT I INTRODUCTION TO LINEAR PROGRAMMING (LP) 9**

**Applications of operation research in functional area of management** - Relevance of quantitative techniques in management decision making - Linear Programming Formulation-Solution by graphical and simplex methods (Primal-Penalty, Two Phase), Sensitivity Analysis - Special cases.

### **UNIT II LINEAR PROGRAMMING EXTENSIONS 9**

Transportation Models (Minimizing and Maximizing Problems)-Balanced and unbalanced Problems-Initial Basic feasible solution by N-W Corner Rule-Least cost and Vogel's approximation methods - Check for optimality-Solution by MODI / Stepping Stone method-Case of Degeneracy-Transshipment Models-Assignment Models (Minimizing and Maximizing Problems)-Balanced and Unbalanced Problems-Solution by Hungarian and Branch and Bound Algorithms-Travelling Salesman problem-Crew Assignment Models.

### **UNIT III DECISION AND GAME THEORIES 9**

Decision making under risk-Decision Trees-Decision making under uncertainty-Game Theory-Two-person Zero sum games-Saddle Point-Dominance Rule-Convex Linear Combination (Averages)-methods of matrices-Graphical and LP solutions.

### **UNIT IV INVENTORY AND REPLACEMENT MODELS 9**

Inventory Models-EOQ and EBQ Models (With and without shortages)-Quantity Discount Models-Replacement Models-Individual replacement Models (With and without time value of money)-**Group** Replacement Models.

### **UNIT V QUEUEING THEORY AND SIMULATION 9**

Queueing Theory-single and multi-channel models-infinite number of customers and infinite calling source-Monte Carlo simulation-use of random numbers-application of simulation techniques.

**TOTAL: 45 Periods**

## **COURSE OUTCOMES:**

**To understand the applications of**

1. Linear programming in product mix decisions
2. Transportation and assignment in logistics and job allocation scenarios
3. Game theory and heuristics of decision making in real time decisions
4. Inventory management and replacement models in manufacturing context
5. Queueing and simulation in real time scenario optimization

## **REFERENCES:**

1. N. D Vohra, Quantitative Techniques in Management, Tata Mcgraw Hill, 2010.
2. G. Srinivasan, Operations Research-Principles and Applications, 2<sup>nd</sup> edition, PHI, 2011.
3. Paneerselvam R., Operations Research, Prentice Hall of India, Fourth Print, 2008.
4. Hamdy A Taha, Introduction to Operations Research, Prentice Hall India, Tenth Edition, Third Indian Reprint, 2019.
5. Bernard W.Taylor III, Introduction to Management Science, 9th Edition, Pearson Ed.
6. Frederick & Mark Hillier, Introduction to Management Science-A Modeling and case studies approach with spreadsheets, Tata Mcgraw Hill, 2010.
7. Nagraj B, Barry R and Ralph M. S Jr., Managerial Decision Modelling with Spreadsheets, Second Edition, 2007, Pearson Education.

<b>Articulation Matrix</b>												
	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO10</b>	<b>PO11</b>	<b>PO12</b>
<b>CO 1</b>	3		3	3						1	2	2
<b>CO 2</b>	3	3	3	2	1					1		2
<b>CO 3</b>	3	2	2	3						3		2
<b>CO 4</b>	3	3	4	2			2	1		1	1	2
<b>CO5</b>	3	3	2	2			2	1		2	1	3

**1-Weakly mapped 2-Moderately mapped 3-Strongly mapped**

<b>Course Code</b>	<b>Course Title</b>	<b>Category</b>	<b>Contact Hours</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>	<b>CA</b>	<b>EA</b>	<b>TOTAL</b>
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222BAT09	Human Resource Management	PC	3	3	0	0	3	40	60	100
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### **COURSE OBJECTIVE:**

- To provide knowledge about management issues related to staffing, training, performance, compensation, human factors consideration and compliance with human resource requirements.
- To enable the students to understand the HR Management and system at various levels in general and in certain specific industries or organizations.
- To help the students focus on and analysis the issues and strategies required to select and develop manpower resources
- To develop relevant skills necessary for application in HR related issues
- To Enable the students to integrate the understanding of various HR concepts along with the domain concept in order to take correct business decisions

### **UNIT I INTRODUCTION TO HRM**

**9**

Definition and Scope -Objectives of HRM –Importance of human factor – Challenges - Growth and Affirmative action - Functions of HRM and Models of HRM-Activities and Challenges of HRM-Role of HR Manager-HRM as linked to Environmental changes - **Diversity and Inclusion.**

### **UNIT II HUMAN RESOURCE PLANNING & RECRUITMENT, SELECTION**

**9**

HRP-Need and Importance - HRP Process-Barriers to HRP-HR Planning Process - Job Analysis-Job Description-Job Specification - Job Rotation-Job enlargement - Job enrichment - Job evaluation- RECRUITMENT: - Recruitment-Process - Methods of Recruitment - Online Recruitment - SELECTION: -Selection process - type of tests & types of interviews - Designing and conducting the effective interview-Induction and Placement, Diversity and Inclusion.

### **UNIT III WAGE AND SALARY ADMINISTRATION & APPRAISING AND MANAGING PERFORMANCE**

**9**

Principles and techniques of wage fixation - Incentive schemes and plans - Appraisal process – methods - Potential problems in performance evaluations - Traditional methods - Modern methods - Potential Appraisal-Methods to improve performance - Career Planning – Development.

### **UNIT IV TRAINING AND EXECUTIVE DEVELOPMENT**

**9**

**Nature** of Training-Training Need Analysis-Methods of Training –Training Design - Training Evaluation -Management Development – Succession Planning – Coaching – Mentoring - On boarding.

### **UNIT V RECENT TRENDS IN HR**

**9**

HR outsourcing- Managing Attrition and Retention- Collective Bargaining-Grievance Management- Quality of work life-HR Accounting and Audit - Whistle Blowing - Employee poaching – HRIS - **Diversity** - Diversity of Workforce - Cause and procedure for employee termination –Flexible working models - E-HRM – **Best Management Practices across the World.**

**TOTAL: 45 Periods**

## **COURSE OUTCOMES:**

1. Students would have gained knowledge on the various aspects of HRM
2. Students will gain knowledge needed for success as a human resource professional.
3. Students will develop the skills needed for a successful HR manager
4. Students would be prepared to implement the concepts learned in the workplace.
5. Students would be aware of the emerging concepts in the field of HRM

## **REFERENCES:**

1. L M Prasad, "Human Resource Management" Sultan Chand and Sons - 2018
2. K Aswathappa, "Human Resource and Personal Management", Tata McGraw Hill, 8<sup>th</sup> Edition, 2017.
3. Dessler Human Resource Management, Pearson Education Limited, 2017.
4. Wayne Cascio, Managing Human Resource, McGraw Hill, 2015.
5. Gary Dessler and Biju Varkkey, Human Resource Management, 14<sup>th</sup> Edition, Pearson Education Limited, 2015.
6. David A. Decenzo, Stephen.P.Robbins, and Susan L. Verhulst, Human Resource Management, Wiley, International Student Edition, 11th Edition, 2014.
7. Luis R.Gomez-Mejia, David B.Balkin, Robert L Cardy. Managing Human Resource. PHI Learning. 2012
8. Bernadin , Human Resource Management ,Tata Mcgraw Hill ,8th edition 2012.
9. Ivancevich, Human Resource Management, McGraw Hill 2012.
10. Uday Kumar Haldar, Juthika Sarkar. Human Resource management. Oxford. 2012

<b>Articulation Matrix</b>												
	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO10</b>	<b>PO11</b>	<b>PO12</b>
<b>CO 1</b>	3	3	3	3	2	2	3	3	3	3	3	1
<b>CO 2</b>	3	3	3	1	2	2	3	3	3	3	3	1
<b>CO 3</b>	3	3	3	1	1	2	1	3	3	3	3	1
<b>CO 4</b>	2	2	2	3	3	2	2	3	1	2	2	3
<b>CO5</b>	3	3	3	1	1	2	1	3	3	3	3	1

**1-Weakly mapped 2-Moderately mapped 3-Strongly mapped**

<b>Course Code</b>	<b>Course Title</b>	<b>Category</b>	<b>Contact Hours</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>	<b>CA</b>	<b>EA</b>	<b>TOTAL</b>
222BAT10	Marketing Management	PC	3	3	0	0	3	40	60	100

## **COURSE OBJECTIVES:**

- To understand the changing business environment and the fundamental premise underlying market driven strategies.
- To identify the indicators of management thoughts and practices.
- To outline key marketing concepts and its application to different markets
- To identify factors and processes essential for designing marketing strategy
- To analyze and examine the implementation of marketing concepts and strategy to firms

## **Unit-I INTRODUCTION OF MARKETING**

**9**

Introduction to Marketing-definitions and Concepts-Marketing principles –Marketing Environment-marketing interface with other functional areas-marketing information system-definitions and process of market Research.

## **Unit-II CUSTOMER VALUE AND MARKETING MIX**

**9**

Consumer Decision Making-Creating Customer Value-Analyzing Consumer Markets-Consumer Behaviour-cultural-Social and Personal Factors-marketing mix-developing products and branding-Product levels-classifying products-Product line and Product mix-Product Life Cycle-New Product Development-Strategic marketing for non-profit organisation (NGO).

## **Unit-III MARKETING STRATEGY**

**9**

Market segmentation-segmentation of consumer market-business market-market targeting - evaluating market segmentation - selecting target market segmentation - positioning-positioning maps-positioning strategy overall marketing strategy - CRM and retain strategy.

## **Unit-IV DISTRIBUTION AND COMMUNICATION MIX**

**9**

Marketing Channels - Channel intermediates and functions - channel structure - alternative channel -channel strategy decisions - Promotional mix – advertising -public relations-sales promotion-personal selling-integrated marketing communications –Human to Human Marketing (H<sub>2</sub>HM).

## **Unit-V PRICING DECISIONS AND TRENDS IN MARKETING**

**9**

Mark-up pricing –Profit maximization pricing –Break even pricing –Pricing strategy –Ethics of Pricing Strategy-Product line pricing –Viral Marketing-Rural marketing –Digital Marketing-Social media –Marketing 5.0 – Neuro and global marketing – **Advertisement Effectiveness – Sales Force Decision.**

**TOTAL: 45 Periods**

## **COURSE OUTCOMES:**

1. Applied knowledge of contemporary marketing theories to the demands of business and management practice.
2. Enhanced knowledge of marketing strategies for consumer and industrial marketing

3. Deep understanding of choice of marketing mix elements and managing integrated marketing channels
4. Ability to analyze the nature of consumer buying behaviour
5. Understanding of the marketing research and new trends in the arena of marketing

## REFERENCES:

1. Philip Kotler, Hermawan Kartajaya & Iwan Setiawan, "Marketing 5.0" Technology for Humanity Hardcover, 2021.
2. Philip Kotler & Gary Armstrong "Principles of Marketing" Global Edition Paperback, 2020.
3. Philip Kotler & Waldemar Pfoertsch, et al. "H2H Marketing: The Genesis of Human-to-Human Marketing, 2020.
4. Alan R. Andreasen, Philip Kotler, et al. "Strategic Marketing for Non-Profit Organizations (NGOs)" Seventh Edition, By Pearson 2019.
5. Paul Baines, Chris Fill, Kelly Page, Marketing, Asian edition, Oxford University Press, 5<sup>th</sup> edition, 2019.
6. Ramasamy, V.S, Namakumari, S, Marketing Management: Global Perspective Indian Context, Macmillan Education, New Delhi, 6<sup>th</sup> edition, 2018.
7. A. NAG, Marketing successfully-A Professional Perspective, Macmillan 2008.
8. Micheal R. Czinkota, Masaaki Kotabe, Marketing Management, Vikas Thomson Learning, 2<sup>nd</sup> edition 2006.
9. Philip Kotler, Gay Armstrong, Prafulla Agnihotri, Principles of marketing, 7<sup>th</sup> edition, 2018.
10. Marketing Management, Philip Kotler, Kevin Lane Keller, Abraham Koshy 13/e, Pearson Education, 2018.
11. Philip T. Kotler and Kevin Lane Keller, Marketing Management, Prentice Hall India, 15th Edition, 2017.

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO 1	3	3	3	3	2	1	3	3	3	3	3	1
CO 2	3	3	3	1	2	1	3	3	3	3	3	1
CO 3	3	3	3	1	1	1	1	3	3	3	3	1
CO 4	2	2	2	3	3	1	2	3	1	2	2	3
CO5	3	3	3	3	1	1	2	3	1	1	2	2

**1-Weakly mapped 2-Moderately mapped 3-Strongly mapped**

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
222BAT11	Financial Management	PC	3	3	0	0	3	40	60	100

## COURSE OBJECTIVES:

- Understand the operational nuances of a Finance Manager; comprehend the technique of making decisions related to finance functions.
- Provide an in-depth view of the process in financial management of the firm
- Develop knowledge on the allocation, management and funding of financial resources.
- Improving students' understanding of the time value of money concept and the role of a financial manager in the current competitive business scenario.
- Enhancing student's ability in dealing short-term dealing with day-to-day working capital decision; and also, longer-term dealing, which involves major capital investment decisions and raising long-term finance.

## **UNIT I FOUNDATIONS OF FINANCE**

**9**

Financial management-Nature, scope and functions of Finance-functions of financial management-objectives-Major financial decisions-Time value of money-Features and valuation of shares and bonds-Concept of risk and return-Single asset of a portfolio.

## **UNIT II INVESTMENT DECISIONS**

**9**

Capital Budgeting-Principles and techniques-Nature-Identifying relevant cash flows-Evaluation Techniques: -Payback-Accounting Rate of Return-Net Present Value-Internal Rate of Return-Profitability Index-Discounted Cash Flow (DCF) techniques-Cost of capital-Overall Cost of capital.

## **UNIT III FINANCING AND DIVIDEND DECISION**

**9**

Leverages-EBIT-EPS Analysis-Capital Structure-Theories: Net Income Approach-Net Operating Income Approach-MM Approach-Determinants-Dividend Decisions-Issues-Importance-Factors determining dividend policy-Types of dividend policies-Forms of dividend-Relevance & Irrelevance theories, Walter's Model-Gordon's model and MM model

## **UNIT IV WORKING CAPITAL MANAGEMENT**

**9**

Principles of working capital-Concepts, Needs, Determinants-issues and estimation of working-capital-Receivables Management-Inventory Management-Cash Management-Working capital finance-Commercial Paper-Company Deposit-Trade Credit-Bank finance.

## **UNIT V LONG TERM SOURCES OF FINANCE**

**9**

Indian capital market-New issues market-Secondary Market-Long term finance-Shares – Debentures and term loans-Lease-Hire Purchase-Venture capital financing-Private Equity.

**TOTAL: 45 Periods**

## **COURSE OUTCOMES:**

1. Identify the concepts of financial decision of an organization

2. Recognize the time value of money
3. Learn the capital budgeting and cost of capital techniques
4. Understand how to decide the decision of capital structure and distribution of dividend
5. Assess the short-term and long-term sources of finance

## REFERENCES:

1. James C. Vanhorne –Fundamentals of Financial Management–PHI Learning, 14<sup>th</sup> Edition, 2020.
2. I. M. Pandey Financial Management, Vikas Publishing House Pvt. Ltd., 11<sup>th</sup> edition, 2018.
3. M.Y. Khan and P.K.Jain Financial management, Text, Problems and cases Tata McGraw Hill, 8th edition, 2017.
4. Prasanna Chandra, Financial Management, 9<sup>th</sup> edition, Tata McGraw Hill, 2017.
5. Brigham, Ehrhardt, Financial Management Theory and Practice, 14<sup>th</sup> edition, Cengage Learning 2015.
6. Aswath Damodaran, Corporate Finance Theory and practice, John Wiley & Sons, 2011.
7. Srivatsava, Mishra, Financial Management, Oxford University Press, 2012.

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO 1	1	3	3	1	2	2	3	3	2	3	3	2
CO 2	3	3	3	1	1	2	2	3	3	3	3	3
CO 3	3	3	3	1	1	2	1	2	3	3	3	3
CO 4	3	2	2	2	2	3	2	3	2	2	2	2
CO5	3	2	3	2	3	2	2	2	3	2	2	3

**1-Weakly mapped 2-Moderately mapped 3-Strongly mapped**

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
222BAT12	Operations Management	PC	3	3	0	0	3	40	60	100

**COURSE OBJECTIVE:**

- To provide a broad introduction to the field of operations management and explain the concepts, strategies, tools and techniques for managing the transformation process that can lead to competitive advantage.
- To develop an understanding of how the operations, have strategic importance and can provide a competitive advantage in the workplace.
- To understand the relationship between operations and other business functions.
- To understand techniques of location and facility planning; line balancing; job designing; and capacity planning in operations management.
- To understand the Materials Management function starting from Demand Management through Inventory Management.

**UNIT I INTRODUCTION TO OPERATIONS MANAGEMENT****9**

Operations Management – Nature, importance, Historical Development, Transformation Process, Differences between Services and Goods, A system perspective, functions, challenges, current priorities, Recent Trends; Operations Strategy –Strategic Fit, Framework; Supply Chain Management

**UNIT II FORECASTING, CAPACITY AND FACILITY DESIGN****9**

Demand Forecasting –Need, Types, Objectives and Steps. Overview of Qualitative and Quantitative methods, Capacity Planning –Long Range, Types, Developing Capacity Alternatives, Overview of Sales and Operations Planning. Overview of MRP, MRP II and ERP. Facility Location –Theories, Steps in Selection, Location Models, Facility Layout –Principles, Types, Planning Tools and Techniques

**UNIT III DESIGN OF PRODUCT, PROCESS AND WORK SYSTEMS****9**

Product Design –Influencing Factors, Approaches, Legal, Ethical and Environmental Issues. Process –Planning, Selection, Strategy, Major Decisions. Work Study –Objectives, Procedure. Method Study and Motion Study. Work Measurement and Productivity –Measuring Productivity and Methods to improve Productivity

**UNIT IV MATERIALS MANAGEMENT****9**

Materials Management –Objectives, Planning, Budgeting &Control. Purchasing –Objectives, Functions, Policies, Vendor Rating &Value Analysis. Store Management –Nature, Layout, Classification &Coding. Inventory –Objectives, Costs &Control Techniques. Overview of JIT

## UNIT V SCHEDULING AND PROJECT MANAGEMENT

9

Project Management –Scheduling Techniques, PERT and CPM; Scheduling –Work Centers- Nature, Importance; Priority Rules and Techniques, Shop floor Control; Flow Scheduling – Johnson’s Algorithm –Gantt Charts; Personnel Scheduling in Services

**TOTAL: 45 Periods**

### COURSE OUTCOMES:

1. Understanding of the evolution of operations management practices and world class manufacturing processes.
2. Knowledge about capacity planning, strategic sourcing and procurement in organizations.
3. Enhances the understanding of product development and design process
4. Ability to forecast demand and overcome bottlenecks.
5. Provides insight to Quality management tools and practices.

### REFERENCES:

1. Richard B. Chase, Ravi Shankar, F. Robert Jacobs, Operations and Supply Chain Management, McGraw Hill Education (India) Pvt. Ltd, 14th Edition, 2014.
2. Mahadevan B, Operations management: Theory and practice. Pearson Education India; 2015.
3. William J Stevenson, Operations Management, Tata McGraw Hill, 9th Edition, 2009.
4. Russel and Taylor, Operations Management, Wiley, 5th Edition, 2006.
5. Norman Gaither and Gregory Frazier, Operations Management, South Western Cengage Learning, 9th edition, 2015.
6. Cecil C. Bozarth, Robert B. Handfield, Introduction to Operations and Supply Chain Management, Pearson, 4th Edition, 2016.
7. Panneerselvam. R, Production and Operations Management, 3rd Edition, PHI Learning, 2012.

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO 1	3	2	1	3	3	2	1	2	1	2	2	1
CO 2	2	3	2	2	1	1	2	1	3	1	2	1
CO 3	3	2	1	3	2	3	3	3	1	2	1	1
CO 4	3	3	3	2	2	2	1	2	1	2	3	1
CO5	3	2	3	3	2	2	2	2	1	2	3	3

**1-Weakly mapped 2-Moderately mapped 3-Strongly mapped**

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
222BAT13	Business Analytics	PC	3	3	0	0	3	40	60	100

### **COURSE OBJECTIVES:**

- Use business analytics for decision making and enable all participants to recognize, understand and apply the language, theory and models of the field of business analytics
- To apply the appropriate analytics and generate solutions and foster an ability to critically analyze, synthesize and solve complex unstructured business problems
- Encourage an aptitude for business improvement, innovation and entrepreneurial action and Model and analyze the business situation using analytics.
- Encourage the sharing of experiences to enhance the benefits of collaborative learning
- Instill a sense of ethical decision-making and a commitment to the long-run welfare of both organizations and the communities they serve

### **UNIT I INTRODUCTION TO BUSINESS ANALYTICS (BA) 9**

Business Analytics-Terminologies-Process-Importance-Relationship with organizational Decision Making-Business Analytics for Competitive Advantage.

### **UNIT II MANAGING RESOURCES FOR BUSINESS ANALYTICS 9**

Resources for business analytics-Managing business analytics personnel-Data and Technology-Organizational Structures aligning Business Analytics-Managing Information Policy-Data quality and change in Business Analytics.

### **UNIT III DESCRIPTIVE ANALYTICS 9**

Introduction to Descriptive Analytics-Visualizing and Exploring Data-Descriptive Statistics-Sampling and Estimation-Probability Distribution for Descriptive Analytics-Analysis of Descriptive analytics

### **UNIT IV PREDICTIVE ANALYTICS 9**

Introduction to Predictive Analytics-Logic and Data Driven Models-Predictive Analysis Modeling and procedure-Data Mining for Predictive Analytics-Analysis of Predictive analytics

### **UNIT V PRESCRIPTIVE ANALYTICS 9**

Introduction to Prescriptive Analytics-Prescriptive Modeling-Non-Linear Optimization-Demonstrating Business Performance Improvement

**TOTAL: 45 Periods**

## COURSE OUTCOMES:

Ability to understand the role of Business Analytics in decision making

1. Ability to identify the appropriate tool for the analytics scenario
2. Ability to apply the descriptive analytics tools and generate solutions
3. Understanding of Predictive Analytics and applications
4. Knowledge of Prescriptive Analytics and demonstrating business process improvement

## REFERENCES

1. Marc J. Schniederjans, Dara G. Schniederjans and Christopher M. Starkey, " Business Analytics Principles, Concepts, and Applications-What, Why, and How" , Pearson Ed, 2014.
2. Christian Albright S and Wayne L. Winston, "Business Analytics-Data Analysis and Decision Making" , Fifth edition, Cengage Learning, 2015.
3. James R. Evans, "Business Analytics-Methods, Models and Decisions", Pearson Ed, 2012.

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO 1	3	2	1	3	3	2	1	2	1	2	2	1
CO 2	2	3	2	2	1	1	2	1	3	1	2	1
CO 3	3	2	1	3	2	3	3	3	1	2	1	1
CO 4	3	3	3	2	2	2	1	2	1	2	3	1
CO5	3	2	3	3	2	2	2	2	1	2	3	3

**1-Weakly mapped 2-Moderately mapped 3-Strongly mapped**

# **OPEN ELECTIVE**

<b>Course Code</b>	<b>Course Title</b>	<b>Category</b>	<b>Contact Hours</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>	<b>CA</b>	<b>EA</b>	<b>TOTAL</b>
222BAE01	Entrepreneurship Development	OEC	3	3	0	0	3	40	60	100

### **COURSE OBJECTIVES:**

1. To equip and develop the learner's entrepreneurial skills and qualities essential to undertake business.
2. To impart the learner's entrepreneurial competencies needed for managing business efficiently and effectively.
3. To explain concepts of Entrepreneurship and build an understanding about business situations in which entrepreneurs act
4. To qualify students to analyze the various aspects, scope and challenges under an entrepreneurial venture
5. To explain classification and types of entrepreneurs and the process of entrepreneurial project development and discuss the steps in venture development and new trends in entrepreneurship.

### **UNIT I ENTREPRENEURIAL COMPETENCE**

**9**

Entrepreneurship concept - Entrepreneurship as a Career-Entrepreneurial Personality - Characteristics of Successful Entrepreneurs-Knowledge and Skills of an Entrepreneur – **Women Entrepreneurship – Special Schemes for first Generation Entrepreneur.**

### **UNIT II ENTREPRENEURIAL ENVIRONMENT**

**9**

Business Environment - Role of Family and Society - Entrepreneurship Development Training and Other Support Organizational Services - Central and State Government Industrial Policies and Regulations.

### **UNIT III BUSINESS PLAN PREPARATION**

**9**

Sources of Product for Business - Prefeasibility Study - Criteria for Selection of Product - Ownership-Capital Budgeting- Project Profile Preparation – **Business Plan** - Matching Entrepreneur with the Project - Feasibility Report Preparation and Evaluation Criteria.

### **UNIT IV LAUNCHING OF SMALL BUSINESS**

**9**

Finance and Human Resource Mobilization - Operations Planning - Market and Channel Selection -Growth Strategies-Product Launching-Incubation, Venture capital, Start-ups - **Angel Investor – Crowd Funding.**

## UNIT V MANAGEMENT OF SMALL BUSINESS

9

Monitoring and Evaluation of Business-Business Sickness-Prevention and Rehabilitation of Business Units-Effective Management of small Business-Case Studies - **Emerging Trends.**

**TOTAL: 45 Periods**

### COURSE OUTCOMES:

After the completion of the course, the students will be able to:

- The learners will gain entrepreneurial competence to run the business efficiently.
- The learners are able to undertake businesses in the entrepreneurial environment
- The learners are capable of preparing business plans and undertake feasible projects.
- The learners are efficient in launching and develop their business ventures successfully
- The learners shall monitor the business effectively towards growth and development.

### REFERENCES:

1. R.D.Hisrich, Entrepreneurship, Tata McGraw Hill, New Delhi, 2018.
2. Prasanna Chandra, Projects-Planning, Analysis, Selection, Implementation and Reviews, Tata McGraw-Hill, 8<sup>th</sup> edition, 2017.
3. S.S.Khanka, Entrepreneurial Development, S.Chand and Company Limited, New Delhi, 2016.
4. Poornima. M. Charantimath, ED and Small Scall Buiness Enterprice Pearson – New Delhi 2014
5. Donald F Kuratko,T.V Rao. Entrepreneurship: A South Asian perspective. Cengage Learning, 2012.
6. Arya Kumar. Entrepreneurship, Pearson, 2012.
7. Anjan Raichaudhuri, “Managing new Ventures” PHI Learing Pvt. Ltd 2011
8. Rajeev Roy, Entrepreneurship, Oxford University Press, 2nd Edition, 2011.
9. Dr. Vasant Desai, “Small Scale Industries and Entrepreneurship”, HPH, 2006.

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO 1						3	3	3	3	3	3	
CO 2						3	3		3	3		
CO 3						3	3	3	3	3	3	
CO 4								3	3			
CO5								3	3	3		

**1-Weakly mapped 2-Moderately mapped 3-Strongly mapped**

<b>Course Code</b>	<b>Course Title</b>	<b>Category</b>	<b>Contact Hours</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>	<b>CA</b>	<b>EA</b>	<b>TOTAL</b>
222BAE02	Digital Marketing	OEC	3	3	0	0	3	40	60	100

### **COURSE OBJECTIVES:**

1. To equip and develop Digital Marketing and Social Media have transformed marketing and business practice across the globe.
2. To understanding of the ever-evolving digital landscape and examines the strategic role of digital marketing processes
3. To tools used in designing the overall Marketing strategy and the Digital Marketing Plan.
4. To explores the challenges of Interactive media, the online market place, and the creative challenges of communicating
5. To retention strategies of customers through these media, the main search engines and the future trends in digital marketing.

### **UNIT I**

**9**

Online Market Space-Digital Marketing Strategy-Components-Opportunities for building Brand-Website-Planning and Creation-Content Marketing.

### **UNIT II**

**9**

Search Engine Optimization-Keyword Strategy-SEO success factors-On-Page Techniques-Off-Page Techniques. Search Engine Marketing-How Search Engine works-SEM components-PPC advertising-Display Advertisement

### **UNIT III**

**9**

E-Mail Marketing-Types of E-Mail Marketing-Email Automation-Lead Generation-Integrating Email with Social Media and Mobile-Measuring and maximizing email campaign effectiveness. Mobile Marketing-Mobile Inventory/channels-Location based; Context based; Coupons and offers, Mobile Apps, Mobile Commerce, SMS Campaigns-Profiling and targeting.

### **UNIT IV**

**9**

Social Media Marketing - Social Media Channels - Leveraging Social media for brand conversations and buzz. Successful/benchmark Social media campaigns - Engagement Marketing – Building Customer relationships - Creating Loyalty Drivers-Influencer Marketing.

### **UNIT V**

**9**

Digital Transformation & Channel Attribution-Analytics-Ad-words, Email, Mobile, Social Media and Web Analytics-Changing your strategy based on analysis-Recent trends in Digital marketing

**TOTAL: 45 Periods**

## COURSE OUTCOMES:

1. Translate some of the key marketing and business models that will help to shape your digital marketing strategy
2. Review the history of digital marketing to give some perspective to your digital strategic plan
3. Describe online market presence, segmentation and the 4 Ps of marketing and their implications for digital marketing
4. Discuss the opportunities and risks of integrated digital marketing
5. Outline an approach to developing a digital marketing plan and Explain the key digital marketing activities needed for competitive success

## References

1. Fundamentals of Digital Marketing by Puneet Singh Bhatia; Publisher: Pearson Education; First edition (July 2017); ISBN-10:933258737X; ISBN-13:978-9332587373.
2. Digital Marketing by Vandana Ahuja ; Publisher: Oxford University Press ( April 2015)3. ISBN-10:0199455449; ISBN-13:978-0199455447
3. Marketing 4.0: Moving from Traditional to Digital by Philip Kotler; Publisher: Wiley; 1<sup>st</sup> edition (April2017) ; ISBN10:9788126566938;ISBN13:9788126566938;ASIN:8126566930
4. Ryan, D. (2014). Understanding Digital Marketing: Marketing Strategies for Engaging the Digital Generation, Kogan Page Limited.
5. Pulizzi, J Beginner's Guide to Digital Marketing, Mcgraw Hill Education.
6. Barker, Barker, Bormannand Neher (2017), Social Media Marketing: A Strategic Approach, 2E South-Western, Cengage Learning.

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO 1	1	3	3	1	2	2	3	3	2	3	3	2
CO 2	3	3	3	1	1	2	2	3	3	3	3	3
CO 3	3	3	3	1	1	2	1	2	3	3	3	3
CO 4	3	2	2	2	2	3	2	3	2	2	2	2
CO5	3	2	3	2	3	2	2	2	3	2	2	3

**1-Weakly mapped 2-Moderately mapped 3-Strongly mapped**

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
222BAE03	Total Quality Management	OEC	3	3	0	0	3	40	60	100

### **COURSE OBJECTIVE:**

1. To learn the various principles and practices of Quality Management
2. To understand the concept of Quality
3. To understand the Implication of Quality on Business
4. To Implement Quality Implementation Programs
5. To have exposure to challenges in Quality Improvement Programs

### **UNIT I INTRODUCTION**

**9**

Introduction-Need for quality-Evolution of quality-Definitions of quality-Dimensions of product and service quality-Basic concepts of TQM-TQM Framework-Contributions of Deming, Juran and Crosby-Barriers to TQM-Quality Statements-Customer Focus-Customer orientation, Customer satisfaction, Customer complaints, and Customer Retention-Costs of quality.

### **UNIT II TQM PRINCIPLES**

**9**

Leadership-Strategic quality planning, Quality Councils-Employee Involvement-Motivation, Empowerment, Team and Teamwork, Quality circles Recognition and Reward, Performance Appraisal-Continuous process improvement-PDCA cycle, 5S, Kaizen-Supplier Partnership-Partnering, Supplier selection, Supplier Rating.

### **UNIT III TQM TOOLS AND TECHNIQUES**

**9**

The seven traditional tools of quality-New management tools-Six sigma: Concepts, Methodology, applications to manufacturing, service sector including IT-Bench Marking-Reason to bench mark, Bench marking process-FMEA-Stages, Types.

### **UNIT IV TQM TOOLS AND TECHNIQUES II**

**9**

Control Charts-Process Capability-Concepts of Six Sigma-Quality Function Development (QFD)-Taguchi quality loss function-TPM-Concepts, improvement needs-Performance measures. European frequency quality indicator.

### **UNIT V QUALITY SYSTEMS**

**9**

Need for ISO 9000 - **ISO 9001-2015** Quality System-Elements, Documentation, Quality Auditing-QS 9000-ISO 14001:2015-Concepts, Requirements and Benefits-ISO 45001: 2018-ISO 26000 and 27000-Introduction-TQM Implementation in manufacturing and service sectors.

**TOTAL: 45 Periods**

**COURSE OUTCOMES:**

1. Understanding the evolution of Quality management
2. Understanding of quality philosophies and practices
3. Ability to apply statistical process control to enhance quality.
4. Ability to apply quality tools to enhance organization's quality performance
5. Awareness of quality management systems

**REFERENCES:**

1. Dale H.Besterfield, Carol Besterfield-Michna, Glen H. Besterfield, Mary Besterfield-Sacre, Hemant.
2. Urdhwareshe, Rashmi Urdhwareshe, Total Quality Management (TQM), Fifth edition, Pearson Education, 2018.
3. Shridhara Bhat K, Total Quality Management-Text and Cases, Himalaya Publishing House, First Edition 2010
4. Poornima M.Charantimath, Total Quality Management, Pearson Education, Second Edition, 2011.
5. Douglas C. Montgomery, Introduction to Statistical Quality Control, Wiley Student Edition 4th Edition, Wiley India Pvt Limited, 2008.
6. Indian standard-quality management systems-Guidelines for performance improvement (Fifth Revision), Bureau of Indian standards, New Delhi.
7. Panneerselvam.R, Sivasankaran. P, Quality Management, PHI Learning, 2014.

<b>Articulation Matrix</b>												
	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO10</b>	<b>PO11</b>	<b>PO12</b>
<b>CO 1</b>	3	3	3	3	2	2	3	3	3	3	3	1
<b>CO 2</b>	3	3	3	1	2	2	3	3	3	3	3	1
<b>CO 3</b>	3	3	3	1	1	2	1	3	3	3	3	1
<b>CO 4</b>	3	3	2	3	3	1	3	2	1	1	2	1
<b>CO5</b>	3	2	2	3	1	2	2	3	2	3	2	3

**1-Weakly mapped 2-Moderately mapped 3-Strongly mapped**

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
222BAE04	Artificial Intelligence and Internet of Things	OEC	3	3	0	0	3	40	60	100

#### **COURSE OBJECTIVES:**

1. To expose various algorithms related to Deep Learning and Artificial Intelligence.
2. To prepare students to apply suitable algorithm for the specified applications.
3. Demonstrate fundamental understanding of artificial intelligence (AI) and expert systems.
4. The aim of Artificial Intelligence & Machine Learning course is to prepare students for career in computer science & engineering where knowledge of AI & ML techniques leading to the advancement of research and technology.
5. Artificial Intelligence and Machine Learning are the terms of computer science. Machine Learning is the learning in which machine can learn by its own without being explicitly programmed.

#### **UNIT I DEEP NETWORKS**

**9**

Deep Networks: Modern Practices: Deep Forward Networks: Example: Learning XOR-Gradient-Based Learning-Hidden Units-Architecture Design-Regularization for Deep Learning.

#### **UNIT II MODELS**

**9**

Optimization for Training Deep Models: How Learning Differs from Pure Optimization - Challenges in Neural Network Optimization - Basic Algorithms - Parameter Initialization Strategies - Algorithms with Adaptive Learning Rates - Approximate Second-Order Methods - Optimization Strategies and Meta Algorithms.

#### **UNIT III INTELLIGENT SYSTEMS**

**9**

Introduction to Artificial Intelligence: Intelligent Systems – **Market basket analysis** - Foundations of AI-Applications-Tic-Tac-Toe Game Playing-Problem Solving: State-Space Search and Control Strategies: Introduction-General Problem Solving-Exhaustive Searches-Heuristic Search Techniques – **Ant Colony optimization - Data envelopment analysis (DEA)**.

#### **UNIT IV KNOWLEDGE REPRESENTATION**

**9**

Advanced Problem-Solving Paradigm: Planning: Introduction-Types of Planning Systems-Knowledge Representation: Introduction-Approaches to Knowledge Representation - Knowledge Representation using Semantic Network-Knowledge Representation using Frames.

#### **UNIT V APPLICATIONS**

**9**

Expert Systems and Applications: Blackboard Systems- Truth Maintenance Systems - Applications of Expert Systems – Machine - Learning Paradigms: Machine-Learning Systems - Supervised and Unsupervised Learning – **Speech recognition - Robotics**.

**TOTAL: 45 Periods**

**COURSE OUTCOMES:**

1. Knowledge of Algorithms of Deep Learning & Artificial Intelligence.
2. Knowledge of applying Algorithm to specified applications.
3. Ability to understand intelligent systems and Heuristic Search Techniques
4. Understanding of Knowledge Representation, Semantic Networks and Frames
5. Knowledge of Expert systems, applications and Machine learning

**REFERENCES:**

1. Ian Good fellow, Yoshua Bengio, Aaron Courville, “Deep Learning”, MIT Press, 2016.
2. Li Deng and Dong Yu, “Deep Learning Methods and Applications”, Foundations and Trends in Signal Processing.
3. Yoshua Bengio, "Learning Deep Architectures for AI", Foundations and Trends in Machine Learning.
4. Saroj Kaushik, "Artificial Intelligence", Cengage Learning India Pvt. Ltd.
5. Deepak Khemani, “A First Course in Artificial Intelligence”, McGraw Hill Education (India) Private Limited, NewDelhi.
6. Elaine Rich, Kevin Night, Shivashankar B Nair, "Artificial Intelligence" Third Edition, McGraw Hill, 2008.

<b>Articulation Matrix</b>												
	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO10</b>	<b>PO11</b>	<b>PO12</b>
<b>CO 1</b>	3	3		2	2							
<b>CO 2</b>	2		3	2								
<b>CO 3</b>	3	2		3								
<b>CO 4</b>	2		1		3		2					
<b>CO5</b>	3	2		1		2	2					

**1-Weakly mapped 2-Moderately mapped 3-Strongly mapped**

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
222BAE05	Event Management	OEC	3	3	0	0	3	40	60	100

#### **COURSE OBJECTIVE:**

1. This course is designed to introduce the principles of event management.
2. The course aims to impart knowledge on the various events and how these events can be organized successfully.
3. Be aware of event management as a profession.
4. Gain basic knowledge about establishing and managing an event.
5. Understand and develop soft skills that would help in event management

#### **UNIT I EVENT CONTEXT**

**9**

History & Evolution-Types of events-MICE-Types of Meeting, Trade Shows, Conventions, Exhibitions-Structure of event industry-Event Management as a profession-Perspectives on event: Government, Corporate & Community-Code of Ethics.

#### **UNIT II EVENT PLANNING & LEGAL ISSUES**

**9**

Conceptualizing the event-Host, sponsor, Media, Guest, Participants, Spectators-Crew-Design of concept-Theme and content development-Visualization-Event Objectives-Initial Planning-Budgeting-Event design and budget checklist-Preparation of functional sheets-Timing-Contracts and Agreements-Insurance, Regulation, License and Permits-Negotiation.

#### **UNIT III EVENT MARKETING**

**9**

Role of Strategic Marketing Planning - Pricing-Marketing Communication Methods & budget-Elements of marketing communication-Managing Marketing Communication-Role of Internet – Sponsorship-Event Sponsorship-Strategy-Managing Sponsorships-Measuring & Evaluating sponsorship.

#### **UNIT IV EVENT OPERATION**

**9**

Site Selection-Types of location-Venue Requirements-Room, Stage, Audi-Visual, Lighting, Performers, Decors, Caterer, Photography & Videography-Protocols-Guest List-Guest Demographics-Children at event-Invitation-Media-Freelance Event Operation-Road show -Food & Beverage-Entertainment-Event Logistics-Supply of facilities-Onsite Logistics-Control of event logistics-Evaluation & Logistics.

#### **UNIT V SAFETY & EVENT EVALUATION**

**9**

Risk assessment-Safety officer, Medical Manager-Venue, Structural Safety-Food Safety-Occupational Safety-Fire Prevention-Sanitary Facilities-Vehicle Traffic-Waste Management. Event Impact-Event Evaluation Process-Service Quality-Customer Satisfaction

**TOTAL: 45 Periods**

## **COURSE OUTCOMES:**

1. Learning about structure and code of ethics of events
2. Exploring and getting to know about event planning and regulations
3. Understand about event marketing, planning and strategies
4. Enhance professional skills in event management
5. Analyze the safety measure of event management

## **REFERENCES:**

1. Lynn Van Der Wagen, Event Management for Tourism, Cultural Business & Sporting Events, 4 th Edition, Pearson Publications, 2014.
2. Lynn Van Der Wagen, & Brenda R. Carlos, Successful Event Management.
3. Judy Allen, Event Planning 2nd Edition, Wiley & Sons, Canada, 2014.
4. G.A.J. Bowdin, Events Management, Elseiver Butterworth
5. John Beech, Sebastian Kaiser & Robert Kaspar, The Business of Events Management, Pearson Publication, 2014.
6. Judy, Event Planning Ethics and Etiquette: A Principled Approach to the Business of Special Event Management, 2014.
7. Shannon Kilkenny, The complete guide to successful event planning.
8. Julia Rutherford Silvers, Professional Event Coordination, The Wiley Event Management Series.
9. Allison, The Event Marketing Handbook: Beyond Logistics & Planning.

<b>Articulation Matrix</b>												
	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO10</b>	<b>PO11</b>	<b>PO12</b>
<b>CO 1</b>	1	3		3			3		3	3		
<b>CO 2</b>	3	3		1					3			
<b>CO 3</b>	1			3			1			3		
<b>CO 4</b>	2	3		3			3		1	1		
<b>CO5</b>	2	3		3					2	3		

**1-Weakly mapped 2-Moderately mapped 3-Strongly mapped**

Course Code	Course Title	Category	Contact Hours	L	T	P	C
222BAE06	Software Quality Management	OEC	3	3	0	0	3

#### Course Objectives

1. To understand and be able to apply software quality fundamentals to real-world software projects.
2. To understand an ethical approach to Quality, value and cost considerations, quality models and safety considerations.
3. To demonstrate by means of example-software quality management processes such as quality assurance, verification and validation, and reviews/audits.
4. To illustrate the essential software practical considerations such as quality requirements, defect characterization, SQM techniques and software quality measurement.
5. To employ the latest software quality tools.

#### **UNIT - I INTRODUCTION TO SOFTWARE QUALITY**

**9**

Software Quality – Hierarchical models of Boehm and McCall – Quality measurement – Metrics measurement and analysis – Gilb’s approach – GQM Model

#### **UNIT - II SOFTWARE QUALITY ASSURANCE**

**9**

Quality tasks – SQA plan – Teams – Characteristics – Implementation – Documentation – Reviews and Audits Software Quality, Product versus Process Quality management, techniques to help enhance software quality.

#### **UNIT - III QUALITY CONTROL AND RELIABILITY**

**9**

Tools for Quality – Ishikawa’s basic tools – CASE tools – Defect prevention and removal – Reliability models – Rayleigh model – Reliability growth models for quality assessment

#### **UNIT - IV QUALITY MANAGEMENT SYSTEM**

**9**

Elements of QMS – Rayleigh model framework – Reliability Growth models for QMS – Complexity metrics and models – Customer satisfaction analysis.

#### **UNIT - V QUALITY STANDARDS**

**9**

Need for standards – ISO 9000 Series – ISO 9000-3 for software development – CMM and CMMI – Six Sigma concepts. Software Validation and Verification and Quality plans

**Total: 45 Periods**

### Course outcomes

1. Describe fundamental concepts of software quality assurance and explore test planning and its management.
2. Understand fundamental concepts of software automation.
3. Apply Selenium automation tool for testing web-based application.
4. Demonstrate the quality management, assurance, and quality standard to software system.
5. Demonstrate Software Quality Tools and analyze their effectiveness.

### References

1. Frank Gryna, Richard Chua, Joseph Defeo, "Juran's Quality Planning and Analysis for Enterprise Quality", Fifth Edition, Tata McGraw Hill
2. Nina S Godbole, "Software Quality Assurance", 2004, Narosa
3. Stephen H.Kan, "Metrics and Models in Software Quality Engineering", Second Edition, Pearson, 2003.
4. Jeff Tian, "Software Quality Engineering", 2005, Wiley Student Edition
5. Pankaj Jalote, "Software Project Management in Practice", 2002, Pearson
6. Roger S. Pressman, "Software Engineering-A Practitioner's Approach", Seventh Edition, McGraw Hill, 2010.
7. Humphrey Watts, "Managing the Software Process", Addison Wesley, 1986.
8. Software Project Management: Bob Hughes and Mike Cotterell-Tata McGraw Hill
9. Software Engineering a Practitioner's approach – Roger S Pressman Tata McGraw Hill,
10. Introduction to Software Project Management & Quality Assurance: By Ince, Dorrel, Helen Sharp & Mark Woodman
11. Software Engineering – Ian Sommerville, Addison Wesley, 2004
12. Norman E. Fenton and Shari Lawrence Pfleeger, "Software Metrics" Thomson, 2003
13. Mordechai Ben – Menachem and Garry S.Marlist, "Software Quality", Thomson Asia Pte Ltd, 2003.
14. Mary Beth Chrissis, Mike Konrad and Sandy Shrum, "CMMI", Pearson Education (Singapore) Pte Ltd, 2003.
15. ISO 9000-3 "Notes for the application of the ISO 9001 Standard to software development".

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO 1	1	3		3			3		3	3		
CO 2	3	3		1					3			
CO 3	1			3			1			3		
CO 4	2	3		3			3		1	1		
CO5	2	3		3					2	3		

**1-Weakly mapped 2-Moderately mapped 3-Strongly mapped**

Course Code	Course Title	Category	Contact Hours	L	T	P	C
222BAE07	Enterprise Resource Planning	OEC	3	3	0	0	3

### Course objective

1. To provide a contemporary and forward-looking on the theory and practice of Enterprise Resource Planning Technology.
2. To focus on a strong emphasis upon practice of theory in Applications and Practical oriented approach.
3. To train the students to develop the basic understanding of how ERP enriches the business organizations in achieving a multidimensional growth.
4. To aim at preparing the students technological competitive
5. To make them ready to self-upgrade with the higher technical skills.

### Unit-I

9

ERP Overview-Definition, History, Benefits, Enterprise Applications. ERP Life Cycle, Implementation Methodology. Costs of ERP Implementation. Selecting Consulting Partner. ERP package Selection, Project Team and Organizational Structure – **Trends in ERP.**

### Unit-II

9

ERP Project Management, Requirements, Business Process Re-engineering-reengineering phases, role of IT in BPR, benchmarking, Business Process Modeling and Business Modeling, Gaps, Gap management Strategy, Configuration and Testing - **Data warehousing - Data Mining.**

### Unit-III

9

ERP Security, Data Migration, Cut-over Planning and Go Live Preparation, Training, Change management, ASAP Methodology, Success/failure of an ERP implementation, Application Support-Support Cycle, Transition Cycle, Service levels and SLAs, Support Models.

### Unit-IV

9

ERP functional Modules-Human capital management, financial Management, Procurement and Inventory Management, Supplier Relationship Management, supply Chain Planning, Sales and Service, CRM, Quality Management, Product Life Cycle management, Logistics.

### Unit-V

9

Technology for ERP-Portal, Content Management System, Business Intelligence, Data warehousing. Emerging trends in ERP. Case Studies-ITC, Nestle, Maruti Suzuki, Airtel, Asian Paints.

**Total hours: 45**

**Course outcomes:**

1. Make basic use of Enterprise software.
2. Its role in integrating business functions
3. Analyze the strategic options for ERP identification and adoption.
4. Design the ERP implementation strategies.
5. Create reengineered business processes for successful ERP implementation.

**References**

1. Parthasarathy.S New Age International P.Ltd.,
2. Rajesh Ray, 1st Edition, Enterprise Resource Planning, McGraw Hill Publications
3. Alexis Leon, Enterprise Resource Planning, Tata McGraw Hill Publications
4. Jagan Nathan Vaman, Enterprise Resource Planning, Tata McGraw Hill Publications
5. Mary Sumner, Enterprise Resource Planning, Pearson Publications 2007

<b>Articulation Matrix</b>												
	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO10</b>	<b>PO11</b>	<b>PO12</b>
<b>CO 1</b>		3	3	1							3	1
<b>CO 2</b>		3									3	2
<b>CO 3</b>		3									3	1
<b>CO 4</b>								3	3	1	3	
<b>CO5</b>		3		1		2		3	2	3	2	1

**1-Weakly mapped 2-Moderately mapped 3-Strongly mapped**

Course Code	Course Title	Category	Contact Hours	L	T	P	C
222BAE08	Software Project Management	OEC	3	3	0	0	3

Course Objectives:

1. This course is aimed at introducing the primary important concepts of project management related to managing software development projects.
2. They will also get familiar with the different activities involved in Software Project Management.
3. To understand efficient management strategy for a business scenario
4. They will also come to know how to successfully plan and implement a software project management activity.
5. To complete a specific project in time with the available budget.

#### **Unit-I SOFTWARE MANAGEMENT & ECONOMICS: 9**

The Waterfall Model, Conventional Software Management Performance; Evolution of Software Economics-Software economics, Pragmatic software cost estimation, reducing software product size, Improving software processes.

#### **Unit-II THE OLD AND THE NEW WAY OF PROJECT MANAGEMENT 9**

Improving team effectiveness, improving automation through software environment, Achieving required quality; Peer inspections-A pragmatic view, the principles of conventional software engineering, Principles of modern software management, Transitioning to an iterative process.

#### **Unit-III SOFTWARE MANAGEMENT PROCESS FRAMEWORK: 9**

Life cycle phases, the artifact sets, Management artifacts, Engineering artifacts, Pragmatic artifacts; Model Based Software Architectures-A management perspective and A technical perspective.

#### **Unit-IV PROJECT ORGANIZATION AND PLANNING: 9**

Work breakdown structures, Planning guidelines, the cost and schedule estimating process, The iteration planning process, Pragmatic planning, Line-of-Business organizations, Project organizations, Evolution of organizations; Process automation-Automation building blocks, The project environment.

**Unit-V PROJECT CONTROL AND PROCESS INSTRUMENTATION: 9**

The Seven-Core metrics, Management indicators, Quality indicators, Life-Cycle expectations, Pragmatic software metrics, Metrics automation, Modern project profiles, Next generation software economics, Modern process transitions.

**Total hours: 45**

**References Books:**

1. Walker Royce, “Software Project Management”, 1st Edition, Pearson Education, 2006.
2. Bob Hughes and Mike Cotterell, “Software Project Management”, 3rd Edition, Tata McGraw Hill Edition, 2005.
3. Joel Henry, “Software Project Management”, 1st Edition, Pearson Education, 2006.
4. Pankaj Jalote, “Software Project Management in practice”, 1st Edition, Pearson Education, 2005.

**Course Outcomes:**

1. Identify the different project contexts and suggest an appropriate management strategy.
2. Practice the role of professional ethics in successful software development.
3. Identify and describe the key phases of project management.
4. Determine an appropriate project management approach through an evaluation of the business context and scope of the project.
5. Demonstrate through application, knowledge of the key project management skills, such as product and work break-down structure, schedule, governance including progress reporting, risk and quality management

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO 1		3	3	1							3	1
CO 2		3									3	2
CO 3		3									3	1
CO 4								3	3	1	3	
CO5		3		1		2		3	2	3	2	1

**1-Weakly mapped 2-Moderately mapped 3-Strongly mapped**

Course Code	Course Title	Category	Contact Hours	L	T	P	C
222BAE09	Personality Development and Self Grooming	OEC	3	3	0	0	3

**Course Objectives:**

1. The course intends to develop talent, facilitate employability enabling the incumbent to excel and sustain in a highly competitive world of business.
2. The programme aims to bring about personality development with regard to the different behavioral dimensions that have far reaching significance in the direction of organizational effectiveness.
3. To make students know about self-awareness, life skills, soft skills, need for personal development etc.
4. To get full benefit of this course, student needs to have basic idea about traits of Personality Development.
5. Learning about the essential factors for personality development and bringing them into practice.

**Unit -1 Introduction to Personality Development:**

**9**

Personality traits and theories - Self-Image and Self-Concept - Dressing Sense and Table Mannerisms, Diet, Exercise - Mental Health, Body Language.

**Unit -2 Self Grooming:**

**9**

Group Dynamics, Team Building, Time Management, Positive Attitude, Self-esteem, Self confidence, Assertiveness, Motivation Self grooming being an essential aspect of personality holds due importance. Creating positive attitude, confidence and mental ability to handle situations for constructive learning

**Unit -3 Social and Corporate Etiquettes:**

**9**

Interpersonal Relations, Communication in organizations, Personal Branding, Leadership Skills, Presentation Skills, Personal skills- Negotiation skills, Conflict Management, Anger Management - emphasizes on developing negotiation skills, self presentation, creating a brand for self etc. required to work with groups from different disciplines, backgrounds, and expertise to accomplish organizational goals.

**Unit – 4 Effective Communication Skills**

**9**

Effective Communication Skills: Effective Communication, Effective Speaking, Effective Listening, Persuasive Skills, Interview Skills

## Unit V: Techniques of Personality Development

9

Techniques of Personality Development Techniques of Personality Development: Stress Management, handling stress, Time Management, Team Building, Goal Setting. Soft Skills: Knowing Yourself (SWOT), Emotional Intelligence, Empathy, Interpersonal Skills

**Total hours: 45**

### Course Outcomes:

The student will be able to understand, analyze develop and exhibit accurate sense of self.

1. Think critically.
2. Demonstrate knowledge of personal beliefs and values and a commitment to continuing personal reflection and reassessment.
3. Learn to balance confidence with humility and overcome problems associated with personality.
4. Basic idea of significance and reasons for Personality development and self grooming.

### Reference

1. Alex K., Soft Skills – Know Yourself and Know the World, S. Chand & Company Pvt. Ltd., New Delhi, Third Revised Edition, 2016.
2. Bhatnagar Nitin and Mamta Bhatnagar, Effective Communication and Soft Skills: Strategies for Success, Pearson Education, New Delhi, 2011.
3. Chaturvedi P.D., Fundamentals of Business Communication, Pearson Education, New Delhi, 2012.
4. Dulek Ronald E. and John S. Fielden, Principles of Business Communication, Macmillan Publishing Company, London, 1990.
5. Francis Peter S.J., Soft Skills and Professional Communication, Tata McGraw Hill, New Delhi, 2012.
6. Goleman Daniel, Emotional Intelligence, BloomsBury Publishing, New Delhi, 2013.
7. Masters and Wallace, Personal Development for Life and Work, South-Western Cengage Learning, USA, 2010.
8. Onkar R.M., Personality Development and Career Management (A Pragmatic Perspective), S. Chand & Company Pvt. Ltd., New Delhi, Third Revised Edition, 2014

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO 1	2	3	3	1	3	2	2	1	2	3	3	1
CO 2	2	3	2	2	2	3	2	2	2	2	3	2
CO 3	2	3	3	1	1	1	1	2	3	2	3	1
CO 4	2	3	2	2	2	2	2	3	3	1	3	1
CO5	2	3	1	1	1	2	2	3	2	3	2	1

**1-Weakly mapped 2-Moderately mapped 3-Strongly mapped**

### **PRACTICALS**

<b>Course Code</b>	<b>Course Title</b>	<b>Category</b>	<b>Contact Hours</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>	<b>CA</b>	<b>EA</b>	<b>TOTAL</b>
222BAP03	Data Analysis and Business Modelling-Laboratory	EEC	4	0	0	4	2	60	40	100

#### **OBJECTIVE:**

1. Handle input/output operations in files.
2. To understand how to excel to do Business analytics
3. To have hands-on experience on data analysis for business modelling.
4. To have thorough knowledge on Spreadsheet Software and Data Analysis Tools.
5. Use the aggregations and group operations for data analysis

<b>Sl. No.</b>	<b>Exp. No.</b>	<b>Details of experiments name</b>	<b>Duration</b>
1	1	Descriptive Statistics	3
2	2	Parametric Tests	3
3	3	Non-parametric Tests	3
4	4	Correlation & Regression	3
5	5	Forecasting	3
6	1	Extended experiment	3
7	6	Portfolio Selection	3
8	7	Risk Analysis & Sensitivity Analysis	3
9	8	Revenue Management	3
10	2	Extended experiment	3
11	9	Transportation & Assignment	3
12	10	Networking Models	3
13	11	Queueing Theory	3
14	12	Inventory Models	3
15	3	Extended experiments	3

**TOTAL: 45 PERIODS**

### **COURSE OUTCOMES:**

1. Deep knowledge about the nature of data and conducting hypothesis testing using various data analysis techniques
2. Facilitates to identify the relationship between variables using data analytical tools
3. Provides understanding about forecasting in real time business world using analytical tools
4. Ability to conduct Risk and sensitivity analysis and portfolio selection based on business data
5. Enhances knowledge about networking, inventory models and queuing theory using data analytical tools

### **REFERENCES:**

1. David R. Anderson, et al, "An Introduction to Management Sciences: Quantitative approaches to Decision Making", (13th edition) South-Western College Pub, 2011.
2. William J. Stevenson, Ceyhun Ozgur, "Introduction to Management Science with Spreadsheet", Tata McGraw Hill, 2009.
3. Hansa Lysander Manohar, "Data Analysis and Business Modelling using Microsoft Excel" PHI, 2017.
4. David M. Levine et al, "Statistics for Managers using MS Excel" (6th Edition) Pearson, 2010.

<b>Articulation Matrix</b>												
	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO10</b>	<b>PO11</b>	<b>PO12</b>
<b>CO 1</b>	3		3	3						1	2	2
<b>CO 2</b>	3	3	3	2	1					1		2
<b>CO 3</b>	3	2	2	3						3		2
<b>CO 4</b>	3	3	4	2			2	1		1	1	2
<b>CO5</b>	3	3	2	2			2	1		2	1	3

**1-Weakly mapped 2-Moderately mapped 3-Strongly mapped**

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
222BAP04	Business Ethics	EEC	4	0	0	4	2	60	40	100

#### **COURSE OBJECTIVE:**

1. To enable the learners to have exposure on business ethics and ethical business perspectives.
2. Explore the relationship between ethics and business and the subsequent theories of justice and economics across different cultural traditions.
3. Comprehend the relationship between ethics, morals and values in the workplace and Analyze and understand various ethical philosophies to explain how they contribute to current management practices.
4. Critically apply understanding of ethics of real-world contexts and gather and analyse information by way of undertaking a research project on a topic relevant to business ethics.
5. Critically analyze the reasons of systematic failure of corporate governance that could spread from individual firms to entire markets or economies.

#### **NOTE:**

- The following is the list of topics suggested for preparation and presentation by students twice during the semester.
- This will be evaluated by the faculty member(s) handling the course and the final marks are consolidated at the end of the semester. No end semester examination is required for this course.
  - 1) Individual Culture and Ethics
  - 2) Ethical codes of conduct and value Systems
  - 3) Loyalty and Ethical Behaviour, Ethical decision making
  - 4) Ethical business issues and solutions
  - 5) Corporate Social Responsibilities of Business

**TOTAL: 45 PERIODS**

#### **COURSE OUTCOMES:**

1. The learners can handle issues of business ethics and offer solutions ethical perspectives.
2. The learners are able to apply the basic concepts of Indian ethos and value systems at work.
3. The learners are professionally efficient and skilful in value systems and culture.
4. The learners are capable in ethically manage business towards well being of the society
5. The learners can be socially effective in undertaking business responsibilities.

<b>Articulation Matrix</b>												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO 1	2	3	2	3	1	3				3	3	
CO 2	3	2	3	3	3	3	3			3	3	
CO 3	2	3	2	2	2	3	3			3	3	
CO 4	3	2	2	2	2	3	3			3	3	
CO5	2	3	2	2	2	2	3			2	2	

**1-Weakly mapped 2-Moderately mapped 3-Strongly mapped**

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAT14	Strategic Management	PE	3	3	0	0	3	40	60	100

### Course Objectives:

1. To make the students to understand the concepts of strategic management, strategy formation process and to help students to understand different types of strategies.
2. To enable students to implement, evaluate the strategies and apply strategic control processes.
3. To provide students industry cases and help them to create and develop new strategies
4. To expose students to various perspectives and concepts in the field of Strategic Management
5. The course would enable the students to understand the principles of strategy formulation, implementation and control in organizations.

### UNIT 1: STRATEGY AND PROCESS

9

Introduction- Concept of Strategy -Strategy Formation Process -Stakeholders in Business - Vision- Mission and Purpose- Business Definition- Objectives and Goals – **The strategic management model**

### UNIT 2: COMPETITIVE ADVANTAGE

9

Corporate Governance and Social Responsibility- **PESTEL analysis- External Environment - Porter's Five Forces Model** - Competitive changes during industry evolution–Embryonic Stage-Matured and declining Stage - Globalization and Industry Structure – National Context and Competitive - Distinct Competitive Capabilities – Competencies – Core Competencies - Generic Building Blocks of Competitive - Distinctive competencies – Sources – Evaluation of key resource - Avoiding Failures and Sustaining Competitive Advantage.

### UNIT 3: STRATEGIES

9

The Generic and Grand Strategic Alternatives - Stability- Expansion -Vertical integration - Mergers -Acquisitions - Focus Strategy – Business Level Strategy – Strategy in the Global Environment – Environmental Threat and Opportunity Profile (ETOP) – Organizational Capability Profile – Corporate Portfolio Analysis – SWOC(T) Analysis - GAP Analysis – McKinsey's 7S Framework - GE9 Cell Model – Selection of Matrix – Balanced Score Card – **competitive profile matrix (CPM)**

### UNIT 4: STRATEGY IMPLEMENTATION AND EVALUATION

9

The Implementation Process - Resource Allocation- Designing Organizational Structure – Designing Strategic Control Systems - Matching Structure and Control to Strategy – Implementing Strategic Change.

### UNIT 5: STRATEGIC EVALUATION AND CONTROL

9

Politics – Power and Conflict-Techniques of Strategic Evaluation and Control-Other Strategic Issues Managing Technology and Innovation-Strategic Issues for Non-Profit Organizations- New Business Models and Strategies for Internet Economy.

**Total - 45Hrs**

## Course Outcomes:

Upon successful completion of the course, students shall have ability to

1. Understand the strategic management process and competitive advantage
2. Realize the concepts of strategic management and different types of strategies.
3. Ability to develop, implement the strategic control processes and new businessmodels for internet economy
4. Facilitates to identify the various control systems required for organizational strategy implementation process
5. Enhances the cognitive knowledge about various strategic issues and development of new business models

## References:

1. Charles WL Hill and Gareth RJ ones, Strategic Management Theory, An Integrated approach, Cengage Learning,11/e, 2015.
2. Thomas L Wheelen, J David Hunger and KrishRangarajan, Concepts in Strategic Management and Business policy, Pearson Education,14/e, 2016.
3. Michael A Hitt Robert E Hoskisson R DuaneIrel and, Management of Strategy Concepts and Cases, Cengage Learning, 12/e, 2016.
4. Francis Cherunilam, Strategic Management, Himalaya Publishing House, 4/e, 2016.
5. Kazmi, Strategic Management and Business Policy, Tata McGraw Hill, 3/e, 2009.
6. John A Pearce Richard B Robinson, Strategic Management Tata McGrawHill,12/e, 2012

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	2	2	2	1	1	2	1	2	1	1
CO2	2	2	1	3	3	2	1	2	2	2	1	1
CO3	3	3	2	1	2	2	1	2	1	2	2	1
CO4	2	3	3	2	2	1	1	2	1	2	1	2
CO5	3	3	2	2	2	1	2	2	2	1	1	1

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAT15	Business Research Methods	PE	3	3	0	0	3	40	60	100

### Course Objectives:

1. To develop research skills in view of investigating into the business opportunities as well as problems. To inculcate the systematic manner of preparing research report after interpretation
2. To analysis of Research related data. To develop understanding of the basic framework of research process.
3. To develop an understanding of various research designs and techniques.
4. To identify various sources of information for literature review and data collection and understand some basic concepts of research and its methodologies.
5. Organize and conduct research in a more appropriate manner. write a research report and thesis and write a research proposal

### Unit -1 Business Research

9

Introduction – Definitions – nature and scope – Significance - Research Process - Research Problem and Design - Defining and formulating the research problem - Identification and selection of problems in Management - Research design – meaning – Need – concepts – **Feature of good design** – Types - Experimental design in Management

### Unit – 2 Methods of Data Collection

9

Primary data collection: - Qualitative & Observation Research - Primary data collection techniques - Qualitative Research Techniques - Focus Groups, Depth Interviews, Projective Techniques - Observation Research Techniques - Survey Techniques Questionnaire Design and Testing. Secondary data collection: -Role of secondary data in management research - Sources of secondary data - Limitations of secondary data – **Data processing – Data Diagram**

### Unit – 3 Measurement & Scaling Techniques

9

Measurement in Research - Basic Scaling Techniques: Nominal – Ordinal - Interval – Ratio – **Likert Scale/Type Data - Semantic differential scale - purpose** - Measuring Attitude: Comparative Rating Scale, Non-Comparative, Rating Scale - Itemized Rating Scale - Meaning & Relationship of Reliability & Validity

### Unit – 4 Sampling Techniques and Hypothesis Testing

9

Need for sampling - Basis of sampling - Sampling Process - Types of sampling – probability & non probability sampling, sampling error. Hypothesis – Introduction Study – Process – Significant types, type I, type II error.

## Unit – 5 Data Analysis and Report Preparation

9

Multivariate Analysis: Factor Analysis – Cluster Analysis – Correspondence Analysis, Discriminant Functional Analysis and Conjoint Analysis – Application of SAS. Report Preparation – Interpretation and report writing – **Layout of a Project Report – Contents of report – Types of report – Precautions in writing research report**

**Total - 45Hrs**

### Course Outcomes:

1. Students would become acquainted with the scientific methodology in business domain.
2. They would also become analytically skillful.
3. They would become familiar with the nuances of scientific communication.
4. Students would be able to analyze data and find solutions to the problems.
5. Students could prepare research reports

### References:

1. Donald R.Cooper and RamcisS.Schindler, Business Research Methods, TMH, New Delhi, 2017.
2. Zigmand Business Research Methods, TMH, New Delhi, 2015.
3. C.R. Kothari Research Methodology, New Age Publications, New Delhi, 2001
4. Uma Sekaran, Research Methods for Business, John Wiley and Sons Inc., New York, 2000.
5. Donald H.Mc.Burney, Research Methods, Thomson Asia Pvt. Ltd. Singapore 2002.
6. Ranjit Kumar, Research Methodology, Sage Publication, London, New Delhi, 1999.

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	1	3	2	3	1	2	2	1	1	2
CO2	3	3	2	2	1	2	2	2	2	1	1	2
CO3	3	3	2	3	3	3	1	1	2	1	1	2
CO4	3	2	1	2	3	2	2	2	2	1	1	3
CO5	3	2	1	2	2	2	1	2	2	1	1	2

# Human Resources

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAH01	Industrial Relations & Labour Legislations	PE	3	3	0	0	3	40	60	100

#### **Course objectives:**

1. To explore contemporary knowledge and gain a conceptual understanding of industrial relations.
2. To have a broad understanding of the legal principles governing the employment relationship at individual and collective level.
3. Provide understanding of industrial relation problems, labor laws and a framework for analysis of such problems.
4. When one works in an industry understanding trade unions, collective bargaining and industrial conflict becomes inevitable.
5. To minimise strikes, lockout, Heroes, etc., by providing good working conditions and fair wages to the workers.

#### **UNIT – 1 INDUSTRIAL RELATIONS**

**9**

Concept, scope – objectives - Importance - Approaches to IR - Industrial relations system in India - Trade Unions Act, 1926 **Amendment (2001)** - trade union movement in India- objective - role - functions-procedure for registration of trade unions- Rights and responsibilities- problems- Employee relations in IT sector - **Plantations Labour Act, 1951.**

#### **UNIT – 2 INDUSTRIAL CONFLICTS AND LABOUR WELFARE**

**9**

The Industrial Disputes Act, 1947 **Amendment (2010)** -Disputes – Impact – Causes – Strikes – Prevention – Industrial Peace – Government Machinery – Conciliation – Arbitration – Adjudication. Labour welfare- statutory Voluntary- welfare funds-welfare of unorganized labour

#### **UNIT – 3 LABOUR LEGISLATIONS-I**

**9**

Origin and growth of labour legislation in India- Principles of labour legislations-Factories Act 1948 **Amendment (2023)** – Minimum Wages Act, 1948 **Amendment (2021)** – Payment of Wages Act, 1936 **Amendment (2017)** - Payment of Bonus Act, 1965 **Amendment (2015)**

#### **UNIT – 4 LABOUR LEGISLATIONS-II**

**9**

**Labour welfare – labour legislation** - The Industrial employment (standing orders) Act, 1946- The Apprentices act, 1961 **Amendment (2022)** – The Equal Remuneration act, 1976- Payment of Gratuity act 1972 **Amendment (2018)** - Employee compensation act in 2013 **Amendment (2020)**

#### **UNIT – 5 LABOUR LEGISLATIONS-III**

**9**

Employees' Provident fund and miscellaneous provisions act, 1952 **Amendment (2013)** - Employees' state insurance (ESI) Act, 1948 **Amendment (2010)** - Maternity Benefit Act, 1961 **Amendment (2023)** - Contract Labour Regulations and Abolition Act, 1970 **Amendment (2020)** - The Child Labour Prevention and Regulation Act, 1986 **Amendment (2016)**.

**Total - 45 Hours**

**Course outcomes:**

The student gets to learn about

1. Industrial relations system and Trade unions
2. Industrial Disputes and labor welfare measures
3. Labor legislation introduction and legal provisions for factory workers, wages and Bonus
4. Legal provisions for equal remuneration, gratuity, compensation, industrial employment and Apprenticeship
5. Legal provisions for EPF, ESI, Maternity, contract labours, and child labour prevention.

**References:**

1. Mamoria C.B. and SathishMamoria, Dynamics of Industrial Relations, Himalaya Publishing House, New Delhi, 2016.
2. Kapoor N. D , Elements of Mercantile Law, Sultan Chand, 2014.
3. ArunMonappa, RanjeetNambudiri, PatturajaSelvaraj. Industrial relations &Labour Laws. Tata McGraw Hill. 2012
4. P.K. Padhi, Industrial Laws, PHI, 2017.
5. P.R.N Sinha, InduBalaSinha, SeemaPriyadarshiniShekhar. Industrial Relations, Trade Unions and Labour Legislation. Pearson. 2017
6. Tax Mann, Labour Laws, 2018.
7. Srivastava, Industrial Relations and Labour laws, Vikas, 2015.
8. P.N.Singh, Neeraj Kumar. Employee relations Management. Pearson. 2011.
9. RatnaSen, Industrial Relations in India, Shifting Paradigms, Macmillan India Ltd., New Delhi, 2007.
10. C.S.VenkataRatnam, Globalisation and Labour Management Relations, Response Books, 2007.

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1	3	3	1	2	1	3	2	2	1
CO2	3	3	3	3	3	3	2	2	2	1	2	1
CO3	3	3	3	3	3	2	1	1	2	1	2	1
CO4	3	3	2	3	3	1	1	2	3	3	3	2
CO5	3	3	3	3	3	2	1	1	2	3	2	2

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAH02	Training and Development	PE	3	3	0	0	3	40	60	100

### **Course Objectives:**

1. To familiarize the students with the overall domain knowledge on training and development.
2. To enable the understanding of how the organizations are conducting trainings for their people.
3. To allow the students to acquire the ideas of becoming a corporate trainer.
4. Training programs should be designed by trainers and/or learners to achieve certain overall goals for the learner.
5. Programs should also include various learning objectives that when reached culminate in the learner achieving the overall goals of the training program.

### **Unit – 1 Introduction to Training**

**9**

Definition and concepts – Training and Development a comparison - Objective of Training - Scope of Training – Training Benefits the Organization - Current and Future Trends in Training – Role of training – Stakeholders in training.

### **Unit – 2 Analysis of Training Needs**

**9**

Organization support for training need assessment – Types of TNA: organizational analysis - Task, Person. Analysis – Methods and Techniques of Training Need Analysis –Training needs Analysis and Process – Current competence and performance.

### **Unit – 3 Training Design**

**9**

Prime Considerations while designing a Training Programme - Training Design Module - Budgeting for training. – Types of costs involved in training program – Developing objectives – Expectancy theory– Factors influencing transfer of training – Qualities of a professional trainer

### **Unit – 4 Learning & Training Methods**

**9**

Nature of Learning - Principles of learning – Methods of learning - Factors Influencing the learning process – Blooms Taxonomy of learning – Feedback about training - Training Methods – On the job - Off the job training methods – suggestions for making training effective.

### **Unit – 5 Implementation and Evaluation Training**

**9**

Physical Arrangements - Tips for Trainer for Effective Implementation – Trainers skills and styles – Evaluation – Principles - Types of Evaluation Instruments –Dimensions of evaluation – Kirkpatrick's Model - Management Development - the need and importance of management development - management characteristics- training for executive level management.

**Total 45 Hours**

**Course Outcomes:**

1. Able to get the overall ideas of training and development.
2. Practice the on the job and Off the Job training methods.
3. Capable of developing the training modules and become trainer.
4. Higher Capacity for the Adoption of New Methods and Technologies. ...
5. Employee Training and Development Helps Companies Keep Pace With Changes in the Industry. .

**References**

1. “Dr.B.Janakiram”, Training & Development, Biztantra, 2008.
2. “R.K.Sahu”, Training for Development, Excel books, 2005
3. “Rolf Plynton and UdaiPAreek”, Training for Development, Vistaar Publications, 2007.
4. “Irwin.L.Goldstein”, Training in Organisations, Thomson, 2007.

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1	3	3	1	2	1	3	2	2	1
CO2	3	3	3	3	3	3	2	2	2	1	2	1
CO3	3	3	3	3	3	2	1	1	2	1	2	1
CO4	3	3	2	3	3	1	1	2	3	3	3	2
CO5	3	3	3	3	3	2	1	1	2	3	2	2

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAH03	Performance Management	PE	3	3	0	0	3	40	60	100

### **Course Objectives**

1. To understand the importance of Performance Management in business and how it contribute to develop people performances.
2. Learn the main phases of performance improvement in the organizations for optimum results.
3. To know about the conduct of effective team performance appraisal assessments.
4. Understand and implement the key elements to design a strategic organizational and departmental objective.
5. Setting goals that drive high performance and achieve culture and realize the benefits of utilizing and effective goal setting tools and linking it practically performance measurement system.

### **Unit – 1 Performance Management Perspectives 9**

Overview of Performance Management – Dimensions of Performance Management –Process of Performance Management – Five factor model- Elements of effective Performance Management.

### **Unit – 2 Performance Planning and Review 9**

Performance planning- Process of setting performance criteria – Performance review - Methodologies of performance planning – Process of performance planning - Performance-counselling –process and counselling interview

### **Unit – 3 Performance Management System 9**

Assessment of organizational performance needs – Establishing performance management process –Competency based PMS –Generic model of PMS –Importance of Performance Management System - Competency based PMS –Characteristics, purpose, process and components- Functions – Best practices in PMS.

### **Unit – 4 Team Performance Management 9**

Performance managing – Team performance management -work wheel and team performance-measuring and managing team performance - Seven rules of excellence for HR professionals – Performance linked reward system -HR balance score cards.

### **Unit – 5 Performance Management Implementation 9**

Strategies for effective implementation of Performance Management -Performance management and mentoring- performance measurement methods – Past oriented – Future oriented - Ethics in Performance Management - Code of Ethics.

**Total -- 45 Hours**

### Course Outcomes

1. Describe and apply insights of employee in the theoretical principles of performance of Appraisal
2. Classify and evaluate compensation theories.
3. Analyze the relationship between Traditional and Modern Methods of Performance Appraisal
4. Driving behavior to align with the organization's core values, goals and strategy.
5. Providing a basis for making operational human capital decisions (e.g., pay). Improving communication between employees and managers.

### References

1. Bhattacharyya, “Performance Management Systems and Strategies”, 1e, Pearson Education India, 2011.
2. “T.V.Rao”, Performance Management & Appraisal Systems, Response Books, 2016.
3. “Herman Aguinis”, Performance Management, Pearson education, 2008.
4. “Peter Ward”, 360 Degree Feedback, Jaico publishing house, 2006.
5. “DewakarGoel”, Performance Appraisal & Compensation Management, Prentice Hall of India, 2008.
6. “B.D.Singh”, Compensation & Reward Management, Excel Books, 2007.
7. “R.K.Sahu”, Performance Management System, Excel Books, 2007.
8. “Srinivas . R. Kandula”, Performance Management”, PHI, 2006 Edited by Frances Neale, Hand book of Performance Management, Jaico Publishing, 2008.

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1	3	3	1	2	1	3	2	2	1
CO2	3	3	3	3	3	3	2	2	2	1	2	1
CO3	3	3	3	3	3	2	1	1	2	1	2	1
CO4	3	3	2	3	3	1	1	2	3	3	3	2
CO5	3	3	3	3	3	2	1	1	2	3	2	2

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAH04	Managerial Behaviour and Effectiveness	PE	3	3	0	0	3	40	60	100

### **Course Objectives:**

1. To examine managerial styles in terms of concern for production and concern for people.
2. To assess different systems of management and relate these systems to organizational characteristics.
3. To acquaint the students with the fundamentals of managing business and to understand individual and group behavior at work place so as to improve the effectiveness of an organization.
4. The course will use and focus on Indian experiences, approaches and cases. Develop understanding of different approaches to designing organizational structures.
5. Discover and understand the concept of motivation, leadership, power and conflict.

### **UNIT – 1 DEFINING THE MANAGERIAL JOB**

**9**

Descriptive Dimensions of Managerial Jobs – Methods – Model – Time Dimensions in Managerial Jobs – Effective and Ineffective Job behaviour – Functional and level differences in Managerial Job behaviour.

### **UNIT – 2 DESIGNING THE MANAGERIAL JOB**

**9**

Identifying Managerial Talent – Selection and Recruitment – Managerial Skills Development – Pay and Rewards – Managerial Motivation – Effective Management Criteria – Performance Appraisal Measures – Balanced Scorecard - Feedback – Career Management – Current Practices.

### **UNIT – 3 THE CONCEPT OF MANAGERIAL EFFECTIVENESS**

**9**

Definition – The person, process, product approaches – Bridging the Gap – Measuring Managerial Effectiveness – Current Industrial and Government practices in the Management of Managerial Effectiveness- the Effective Manager as an Optimizer.

### **UNIT – 4 ENVIRONMENTAL ISSUES IN MANAGERIAL EFFECTIVENESS**

**9**

Organisational Processes – Organisational Climate – Leader – Group Influences – Job Challenge – Competition – Managerial Styles.

## UNIT – 5 DEVELOPING THE WINNING EDGE

9

Organisational and Managerial Efforts – Self Development – Negotiation Skills – Development of the Competitive Spirit – Knowledge Management – Fostering Creativity and innovation.

**Total - 45 Hours**

### Course Outcomes:

1. Students will gain knowledge about appropriate style of managerial behaviour. Students will be able to explain the concept of Organisation Design and determine the factors that affect Organisation Design.
2. Students will be able to identify the components of Individual Behaviour and apply the concept of Learning, Perception, Attitudes and values.
3. The student will be able to distinguish between the various theories of motivation and their application in organizations and also be able to apply these theories to practical problems in organizations. The future managers/ students will be able to analyse the behaviour of individuals and groups in organisations in terms of the key factors that influence organisational behaviour and demonstrate skills required for working in groups (team building).
4. The students will be able to justify how organizational change and conflict affect working relationships within organizations and demonstrate how to apply relevant theories to solve problems of change and conflict within organizations.

### References:

1. Peter Drucker, Management, Harper Row, 2006.
2. Milkovich and Newman, Compensation, McGraw-Hill International, 2013.
3. Blanchard and Thacker, Effective Training Systems, Strategies and Practices Pearson 2012.
4. Dubrin, Leadership, Research Findings, Practices & Skills, Biztantra, 2015.
5. Joe Tidd , John Bessant, Keith Pavitt , Managing Innovation ,Wiley 3<sup>rd</sup> edition,2006.
6. T.V.Rao,Appraising and Developing Managerial Performance, Excel Books,2002.
7. R.M.Omkar, Personality Development and Career Management, S.Chand 1st edition,2008.
8. Richard L.Daft, Leadership, Cengage, 1 st Indian Reprint 2008.

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	2	1	3	3	2	2	3	2	2	2
CO2	3	2	2	3	2	3	2	2	1	2	2	3
CO3	2	1	2	2	3	2	3	3	2	3	2	2
CO4	2	2	1	2	3	2	2	3	2	2	3	2
CO5	3	2	3	2	2	1	3	2	2	3	3	3

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA
322BAH05	People Analytics	PE	3	3	0	0	3	40	60

**Course objectives:**

1. The concepts and significance of HR analytics
2. The tools, methods, approaches and techniques of HR analytics
3. Application of analytics in various HR sub-systems
4. have expertise in this year's focal area of promoting diversity and inclusion;
5. know how to create a business case for your project and address stakeholder interests;

**UNIT – 1 People Measurement**

**9**

Need for People Measurement, Significance and concept of People Analytics, People Analytics and business linkages, Prerequisites of People Analytics; Models and frameworks of People Analytics; Measuring intellectual capital, need and rationale for People Accounting & Audit, Approaches and methods of People Accounting & Audit.

**UNIT – 2 HRIS for People Analytics**

**9**

People Information System; Role of HRIS in analytics; HRIS development and Implementation, the development process- need analysis, systems design, structure and culture; HRIS Applications- Making HRIS work.

**UNIT – 3 Analytics for People sub-systems**

**9**

People Analytics for Staffing, Training & Development, Performance Management Systems, Career Planning Systems, Rewards and Compensation Management, Employee Relations systems. - Employee feedback system

**UNIT – 4 Analytics for People system**

**9**

People performance frameworks and measurement systems; Measuring People Climate and People Management Capabilities; Competency Management Frameworks & Competency Mapping, Integration of competency-based People System. Measuring People Effectiveness, The People Scorecard

**UNIT – 5 Trends and Future Challenges**

**9**

Technology and changes in People Analytics, Role of Social Media, Big Data and Predictive Analytics in People, Assessing the effectiveness of People Analytics, Post analysis steps, Review and monitoring, Issues in People valuation and measurement; Emerging challenges: Global and Indian Experience.

**Total - 45 Hours**

## Course Outcomes:

After studying this course, the student will be able to:

1. Analyze problems and issues in HR and the relevance of HR analytics.
2. Logically synthesize the tools, methods and techniques of HR analytics to understand real world corporate scenario.
3. Identify the application and uses of HR analytics in various HR sub-systems
4. Be able to select useful methods from the methodological toolkit of people analytics (e.g., interviews, surveys, interventions and experiments);
5. Be able to translate evidence into actionable and relevant recommendations.

## References:

1. Ulrich, D. & Brockbank, W. (2010). The HR Value Proposition. Harvard Business School Press.
2. Fitz-enz, J. (2013). How to measure HRM. McGraw-Hill.
3. Fitz-enz, J., & Mattox, J. (2014). Predictive Analytics for Human Resources. Wiley.
4. Phillips, J., & Phillips, P.P. (2014). Making Human Capital Analytics Work: Measuring the ROI of Human Capital Processes and Outcomes. McGraw-Hill
5. Director, S. (2014). Financial Analysis for HR Managers: Tools for Linking HR Strategy to Business Strategy. Pearson FT Press
6. Becker, B. E., Huselid, M. A., & Ulrich, D. (2001). The HR scorecard: Linking people, strategy, and performance. Harvard Business Press

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	2	2	3	2	3	3	2	3	2	2
CO2	2	2	1	2	3	2	2	3	2	2	3	2
CO3	3	2	3	2	2	1	3	2	2	3	3	3
CO4	2	3	2	1	3	3	2	2	3	2	2	2
CO5	3	2	2	3	2	3	2	2	1	2	2	3

# **FINANCE ELECTIVES**

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAF01	Derivatives Management	PE	3	3	0	0	3	40	60	100

### Course Objectives

- To understanding the students about the concepts of derivatives and its types and acquaint the knowledge of options, futures and hedging and the development position of derivatives in India.
- To provide a comprehensive understanding of derivatives and introduce the analytics of derivative valuation
- To understanding the application of derivatives in formulating simple corporate financial management strategies.
- The key purpose of a derivative is the management and especially the mitigation of risk.
- Derivative contract is entered, one party to the deal typically wants to free itself of a specific risk, linked to its commercial activities, such as currency or interest rate risk, over a given time period.

### Unit – 1 Introduction to Derivatives

9

Introduction to Financial Derivatives – Types of Derivatives –Forwards, Futures, Swaps, Options - Application of derivatives in Risk Management

### Unit – 2 Forwards & Futures

9

Forwards & Futures market- Mechanics of futures markets - Different categories of Forwards & Futures - Hedging strategies - Valuation- Determination of forward and futures prices - Risk management using Forwards and Futures

### Unit – 3 Options

9

Types of Options & their characteristics – Specification of stock options - Application of options- Valuation - Properties of stock options - Merton model - Binomial trees - The Black - Scholes Model –Risk Management using Options.

### Unit – 4 Swaps

9

Characteristics of Swaps- Categories of Swaps- Mechanics of interest rate swaps - Currency swaps - Application- Valuation- Usage of Swaps in Risk Management

### Unit – 5 Other Derivatives

9

Other derivatives - Credit Derivatives, Interest Rate Derivatives, Insurance Derivatives, Exotic Options - Derivatives Pitfalls - Current trends in India.

**Total - 45 Hrs**

## Course Outcomes

Upon completion of this course, students should be able to:

1. Understand the structural differences among derivative instruments.
2. Understand how derivatives are traded in exchanges and/or OTC markets.
3. Price derivative securities with different pricing models and Use Derivatives for hedging and/or speculation purposes.
4. Demonstrate knowledge of all aspects of derivative market theory and the roles they play in the financial markets.
5. Identify how derivative instruments can be used to change or hedge risk and evaluate risks and pay-offs associated with trading such instruments and their implications.

## Reference:

1. Sankarshan Basu John C Hull, Options Futures and Other Derivatives, Pearson Publication 9Th Edition, 2016.
2. John.C.Hull, Options, Futures and other Derivative Securities', PHI Learning, 7<sup>th</sup> Edition, 2008.
3. Keith Redhead, 'Financial Derivatives – An Introduction to Futures, Forwards, Options and SWAPs', – PHI Learning, 2008.
4. Hull.c.John, "Options, Futures and Other Derivatives" Pearson, Printice Hall sixth edition 2006.
5. Durbin, Michael, "All about Derivatives" Tata Mcgraw Hill publications 1st Edition 2006.
6. Stulz, Risk Management and Derivaties, Cengage Learning, 1<sup>st</sup> Edition, 2008.
7. Varma, Derivaties and Risk Management, 1<sup>st</sup> Edition, 2008.
8. David Dubofsky – 'Option and Financial Futures – Valuation and Uses, McGraw Hill International Edition.
9. S.L.Gupta, Financial Derivaties- Theory, Concepts and Practice, Prentice Hall Of India, 2008.
10. Website of NSE, BSE.

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1	1	2	2	1	1	2	1	1	1	1
CO2	2	2	1	3	-	-	1	1	-	1	2	1
CO3	1	1	1	-	-	-	1	1	-	1	-	1
CO4	2	1	1	1	-	1	1	1	2	1	1	1
CO5	2	1	1	2	2	-	-	1	1	1	-	1

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAF02	Security Analysis and Portfolio Management	PE	3	3	0	0	3	40	60	100

### **Course objectives:**

#### **Enables student to**

1. Understand the nuances of stock market operations.
2. Understand the techniques involved in deciding upon purchase or sale of securities.
3. Portfolio development is the process by which a student documents and demonstrates college-level competencies (knowledge and skills) acquired in environments and agencies outside the traditional higher education classroom.
4. Portfolio analysis conducted at regular intervals helps the investor to make changes in the portfolio allocation and change them according to the changing market and different circumstances.
5. The analysis also helps in proper resource / asset allocation to different elements in the portfolio.

### **UNIT – 1 INVESTMENT SETTING**

**9**

Financial and economic meaning of Investment – Characteristics and objectives of Investment – Investment process -Types of Investment – Investment alternatives – Choice and Evaluation – Risk and return concepts - Valuation of bonds and stock.

### **UNIT -2 FUNDAMENTAL ANALYSIS**

**9**

Economic Analysis – Economic forecasting and stock Investment Decisions – Forecasting techniques. Industry Analysis: Industry classification, Industry life cycle – Company Analysis Measuring Earnings – Forecasting Earnings – Applied Valuation Techniques – Graham and Dodds investor ratios.

### **UNIT – 3 TECHNICAL ANALYSIS**

**9**

Fundamental Analysis Vs Technical Analysis - Dow Theory, **Elliot Wave Theory** – Charting methods - Chart Patterns Trend – Trend reversals – Market Indicators -Moving Average – Exponential moving Average Oscillators -RSI -ROC - MACD. Efficient Market theory - Forms of market efficiency -weak, semi-strong, strong form - Empirical tests of market efficiency -its application.

### **UNIT – 4 PORTFOLIO CONSTRUCTION AND SELECTION**

**9**

Portfolio analysis - Reduction of portfolio risk through diversification – Portfolio risk - Portfolio Selection - Feasible set of portfolios - Efficient set - Markowitz model - Single index model - Construction of optimum portfolio - Multi-index model.

## UNIT – 5 CAPITAL ASSET PRICING MODEL

9

Capital Asset Pricing model - Lending and borrowing - CML - SML - Pricing with CAPM - Arbitrage pricing theory - Portfolio Evaluation - Sharpe's index Treynor's index, Jensen's index - Mutual Funds - Portfolio Revision.

**Total: 45 Hrs**

### Course Outcomes:

1. Understand the concept of investment and identify the investment alternatives to investors
2. Learn the nuances of fundamental analyses and technical analyses
3. Analyse and evaluate the value of securities
4. Explain how to construct an efficient portfolio
5. Explore the various methods through which portfolio evaluation could be done

### References:

1. Donald E.Fischer & Ronald J.Jordan, Security Analysis & Portfolio Management, PHI Learning., New Delhi, 8th edition, 2011.
2. Prasannachandra, Investment analysis and Portfolio Management, Tata McGraw Hill, 2011.
3. PunithavathyPandian, Analysis & Portfolio Management, Vikas publishing house PVT LTD, second edition, 2013.
4. Reilly & Brown, Investment Analysis and Portfolio Management, Cengage Learning, 9th edition, 2011.
5. S. Kevin, Securities Analysis and Portfolio Management, PHI Learning, 2012.
6. Bodi, Kane, Markus, Mohanty, Investments, 8th edition, Tata McGraw Hill, 2011.
7. V.A.Avadhan, Securities Analysis and Portfolio Management, Himalaya Publishing House, 2013.
8. V.K.Bhalla, Investment Management, S.Chand & Company Ltd., 2012

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1	2	3	2	1	2	1	3	1	1
CO2	3	1	2	2	3	2	1	1	1	3	-	1
CO3	2	-	1	3	3	1	2	2	-	3	-	1
CO4	3	2	-	3	3	1	-	1	1	3	-	1
CO5	3	2	-	3	2	1	-	1	1	3	-	1

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAF03	Merchant Banking and Financial Services	PE	3	3	0	0	3	40	60	100

**Course Objective:**

1. Recognize the functions of various financial service organizations
2. Discuss the benefits merchant banking services in issue management
3. Identify the role of intermediaries and to suggest companies an appropriate financial product to raise funds for business
4. Providing funds to companies, underwriting, managing their portfolios, offering corporate advisory, and managing corporate issues.
5. Merchant banks facilitate and boost economic entrepreneurship. They undertake various jobs pertaining to the preparation of project reports conduct of market research and pre-investment surveys.

**UNIT – I Introduction to Merchant Banking 9**

Introduction – An Over view of Indian Financial System – Merchant Banking in India – Recent Developments and Challenges ahead – Institutional Structure – Functions of Merchant Banks - Legal and Regulatory Framework.

**UNIT – II Issue Management 9**

Role of Merchant Banker in Appraisal of Projects, Designing Capital Structure and Instruments – Issue Pricing – Book Building – Preparation of Prospectus Selection of Bankers, Advertising Consultants, etc. - Role of Registrars –Bankers to the Issue, Underwriters, and Brokers.

**UNIT – III Other Fee Based Services 9**

Mergers and Acquisitions – Portfolio Management Services – Credit Syndication – Credit Rating – Mutual Funds - Business Valuation.

**UNIT – IV Fund Based Financial Services 9**

Leasing and Hire Purchasing – Basics of Leasing and Hire purchasing – Financial Evaluation.

**UNIT – V Other Fund Based Financial Services 9**

Consumer Credit – Credit Cards – Real Estate Financing – Bills Discounting – factoring and Forfeiting – Venture Capital.

**Total: 45 Hours**

**Course Outcome:**

1. Understanding the functions of various financial service organizations.
2. Gaining knowledge on merchant banking services in issue management.
3. Getting exposure on financial products and funds raising.
4. Helpful in demand forecasting. Students will be able to chalk out Business Policies. It will be helpful in Business Planning.
5. Students will gain the knowledge of Profit Planning and control.

**References:**

1. M.Y.Khan, Financial Services, Tata McGraw-Hill, 11th Edition, 2008
2. NaliniPravaTripathy, Financial Services, PHI Learning, 2008.
1. Machiraju, Indian Financial System, Vikas Publishing House, 4<sup>th</sup> Edition, 2010.
2. J.C.Verma, A Manual of Merchant Banking, Bharath Publishing House, New Delhi,
3. Varshney P.N. & Mittal D.K., Indian Financial System, Sultan Chand & Sons, NewDelhi.
4. Sasidharan, Financial Services and System, Tata Mcgraw Hill, New Delhi, 1st Edition,2008.
5. Website of SEBI

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	1	1	1	-	1	2	2	3	1	2
CO2	2	2	2	2	3	-	-	1	1	3	-	1
CO3	3	2	2	2	2	3	1	3	1	3	1	1
CO4	3	2	2	2	2	2	1	3	2	3	3	3
CO5	3	1	2	2	2	2	-	2	-	2	-	1

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAF04	Financial Analytics	PE	3	3	0	0	3	40	60	100

## **COURSE OBJECTIVE**

1. To provide a strong foundation in financial analytics in order to handle complex financial data, build advanced analytical models and deliver effective visualization product and comprehensive reports.
2. The main goal of retail marketing is to drive sales by promoting products to customers in an effective manner.
3. It also aims to earn their loyalty by providing a superior customer experience and keeping customers engaged with your brand.
4. Acquiring customers and retaining customers.
5. Turning customers into brand ambassadors.

### **Unit – 1**

**9**

Introduction to Financial Analytics: Definition, relevance and scope financial Analytics, recent trends in financial analytics, financial Time Series and Their Characteristics: Asset Returns, Distributional Properties of Returns, Review of Statistical Distributions and properties of financial time

### **Unit – 2**

**9**

Asset Portfolio Models: Basics of portfolio construction, Markowitz Theorem, Capital Asset Pricing Model, Diversification and Portfolio Optimization, Modeling Volatility and Risk: Characteristics of volatility. Modeling volatility using ARCH/GARCH models. Measuring and modeling risk. Application of Value at Risk (VaR)

### **Unit – 3**

**9**

High-Frequency Data Analysis: Nonsynchronous Trading, Bid–Ask Spread of trading Prices, Empirical Characteristics of Trading Data, Models for Price Changes, Duration Models

### **Unit – 4**

**9**

Modeling Credit Risk: Corporate Liabilities as contingent claims, Endogenous default boundaries and optional Capital Structure, Intensity Modeling, Rating based term-structure models, Credit risk and interest-rate Swaps, Modeling dependent defaults

### **Unit – 5**

**9**

Derivative Pricing: Issues regarding derivative markets. Brownian motion, Black - Sholes model. Modeling derivative prices

**Total 45 Hrs**

## Course Outcomes

1. Analyse and model financial data
2. Construct and optimize asset portfolios
3. Evaluate and model Risk on various financial assets
4. Use the most powerful and sophisticated routines in R for analytical finance.
5. Apply key marketing theories, frameworks and tools to solve Marketing problems.

## References:

1. Argimiro Arratia (2014), "Computational Finance An Introductory Course with R", Atlantis Press, ISBN 978-94-6239-069-0
2. Bernhard Pfaff (2013), "Financial risk modelling and portfolio optimization with R", Wiley, ISBN 978-0-470-97870-2
3. Cairns, A.J. G (2004), "Interest Rate Models: An Introduction", Princeton University Press, ISBN: 9780691118949
4. Christian Gouriéroux & Joann Jasiak (2002), "Financial Econometrics: Problems, Models, and Methods", Princeton University Press, ISBN: 9780691088723
5. David Ruppert (2011), "Statistics and Data Analysis for Financial Engineering", Springer, ISBN 978-1-4419-7786-1
6. Duffie, D. and Singleton, K.J (2003), "Credit Risk: Pricing, Measurement, and Management", Princeton University Press, ISBN: 9780691090467
7. John Y. Campbell, Andrew W. Lo, & A. Craig MacKinlay (1997), "The Econometrics of Financial Markets", Princeton University Press, ISBN: 9780691043012
8. Lando, D (2004), "Credit Risk Modeling: Theory and Applications, Princeton University Press", ISBN: 9780691089294
9. Ngai Hang Chan (2010). "Time Series Applications to Finance with R and S-Plus®", Second Edition, Wiley, ISBN 978-0-470-58362-3
10. Ren'e Carmona (2014), "Statistical Analysis of Financial Data in R", Second Edition. Springer, ISBN 978-1-4614-8787-6
11. Stefano M. Iacus (2011), Option Pricing and Estimation of Financial Models with R", First Edition. Wiley, ISBN: 978-0-470-74584-7
12. Ruey S. Tsay (2010), "Analysis of Financial Time Series", 3rd Edition, Wiley, ISBN: 978-0-470-41435-4

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	1	1	1	-	1	2	2	3	1	2
CO2	2	1	1	2	1	-	1	2	2	3	1	2
CO3	3	-	2	2	2	-	1	3	2	3	-	3
CO4	3	1	2	2	3	1	2	3	2	3	1	3
CO5	3	1	2	2	2	1	2	2	2	3	1	3

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAF05	International Trade Finance	PE	3	3	0	0	3	40	60	100

### **Course Objectives:**

To enable student

1. Understand export import finance and forex management
2. Understand the documentation involved in international trade
3. Provide information about the multiple solutions or services or financial products available in the Banking on international business; To help participants choose the most adjusted financial instrument to each
4. Individual business; Provide the participants of the various sources of information that support
5. international business, ranging from financial and logistical support, the official rules and regulations.

### **UNIT – 1 INTERNATIONAL TRADE**

**9**

International Trade – Meaning – Benefits – Basis of International Trade – Foreign Trade - Economic Growth – Balance of Trade – Balance of Payment – Current Trends in India – Barriers to International Trade – WTO – Indian EXIM Policy.

### **UNIT – 2 EXPORT AND IMPORT FINANCE**

**9**

Special need for Finance in International Trade – INCO Terms (FOB, CIF, etc.,) – Payment Terms – Letters of Credit – Pre-shipment and Post Shipment Finance – Forfaiting – Deferred Payment Terms – EXIM Bank – ECGC and its schemes Import Licensing – Financing methods for import of Capital goods

### **UNIT – 3 FOREX MANAGEMENT**

**9**

Foreign Exchange Markets – Spot Prices and Forward Prices – Factors influencing Exchange rates – The effects of Exchange rates in Foreign Trade – Tools for hedging against Exchange rate variations – Forward, Futures and Currency options – FEMA – Determination of Foreign Exchange rate - Forecasting.

### **UNIT – 4 DOCUMENTATION IN INTERNATIONAL TRADE**

**9**

Export Trade Documents: Financial Documents – Bill of Exchange – Types- Commercial Documents - Proforma, Commercial, Consular, Customs, Legalized Invoice, Certificate of

Origin Certificate Value, Packing List, Weight Certificate, Certificate of Analysis and Quality, Certificate of Inspection, Health certificate. Transport Documents - Bill of Lading, Airway Bill, Postal Receipt, Multimodal Transport Document. Risk Covering Document: Insurance Policy, Insurance Cover Note. Official Document: Export Declaration Forms, GR Form, PP Form, COD Form, Softer Forms, Export Certification, GSPS –UPCDC Norms.

## UNIT – 5 EXPORT PROMOTION SCHEMES

9

Government Organizations Promoting Exports – Export Incentives: Duty Exemption – IT Concession – Marketing Assistance – EPCG, DEPB – Advance License – Other efforts I Export Promotion – EPZ – EQU – SEZ and Export House.

**Total: 45 Hrs**

### Course Outcomes

1. Possess good knowledge on international trade and the documentation involved in it.
2. Financial Sector Employees with duties in the international arena or in the commercial area (Directors, Managers and Account Managers Companies)
3. Important positions of import and export companies
4. Consultants working with the financial sector or business oriented international trade
5. Entrepreneurs with interest in acquiring specific knowledge of financial instruments to support international trade

### References

1. Apte P.G., International Financial Management, Tata McGraw Hill, 2011.
2. Jeff Madura, International Corporate Finance, Cengage Learning, 9th Edition, 2011.
3. Alan C. Shapiro, Multinational Financial Management, PHI Learning, 5th Edition, 2010.
4. Eun and Resnik, International Financial Management, Tata McGraw Hill, 5th Edition, 2011.
5. Website of Indian Government on EXIM policy

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	1	-	2	-	1	2	1	2	-	1
CO2	3	3	3	3	3	3	3	2	3	3	2	3
CO3	3	3	3	3	3	3	3	2	3	3	2	3
CO4	2	2	1	-	2	-	1	2	1	2	-	1
CO5	3	3	3	3	3	3	3	2	3	3	2	3

# MARKETING ELECTIVES

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAM01	Retail Marketing	PE	3	3	0	0	3	40	60	100

### Course Objectives:

1. To understand the concepts of effective retailing
2. The main goal of retail marketing is to drive sales by promoting products to customers in an effective manner.
3. It also aims to earn their loyalty by providing a superior customer experience and keeping customers engaged with your brand.
4. Acquiring customers and retaining customers.
5. Turning customers into brand ambassadors.

### UNIT – 1 INTRODUCTION

9

An overview of Global Retailing – Challenges and opportunities – Retail trends in India – Socio economic and technological Influences on retail management – Government of India policy implications on retails.

### UNIT – 2 RETAIL FORMATS

9

Organized and unorganized formats – Different organized retail formats – Characteristics of each format – Emerging trends in retail formats – MNC's role in organized retail formats.

### UNIT – 3 RETAILING DECISIONS

9

Choice of retail locations - internal and external atmospherics – Positioning of retail shops – Building retail store Image - Retail service quality management – Retail Supply Chain Management – Retail Pricing Decisions. Merchandizing and category management – buying.

### UNIT – 4 RETAIL SHOP MANAGEMENT

9

Visual Merchandise Management – Space Management – Retail Inventory Management – Retail accounting and audits - Retail store brands – Retail advertising and promotions – Retail Management Information Systems - Online retail – Emerging trends .

## 9

**Total: 45 Hrs**

1. To provide insights on retail operation
2. To understand effective methods and strategies required for retail management.
3. To understand how to utilize resources and techniques used in retail management.
4. To understand analysis of store location, merchandising, products and pricing.
5. To gain knowledge about shopping behaviour

1. Michael Havy ,Baston, Aweitz and Ajay Pandit, Retail Management, Tata Mcgraw Hill, Sixth Edition, 2007
2. Ogden, Integrated Retail Management, Biztantra, India, 2008.
3. Patrick M. Dunne and Robert F Lusch, Retailing, Thomson Learning, 4th Edition 2008.
4. Chetan Bajaj, Rajnish Tow and Nidhi V. Srivatsava, Retail Management, Oxford University Press, 2007.
5. SwapnaPradhan, Retail Management -Text and Cases, Tata McGraw Hill, 3rd Edition, 2009.
6. Dunne, Retailing, Cengage Learning, 2nd Edition, 2008
7. Ramkrishnan and Y.R.Srinivasan, Indian Retailing Text and Cases, Oxford University Press, 2008
8. Dr.JaspreetKaur , Customer Relationship Management, Kogent solution.

Articulation Matrix											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	3	3	3	2	2	3	2	1	1	2
CO2	3	3	2	2	2	3	3	2	2	2	2
CO3	3	3	3	3	2	3	3	2	3	3	3
CO4	2	2	2	2	3	3	2	2	2	2	1
CO5	2	2	3	3	3	3	3	3	2	2	1

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAM02	Service Marketing	PE	3	3	0	0	3	40	60	100

### **Course Objectives:**

1. To appreciate the challenges involved in managing the services and analyse the strategies to deal with these challenges.
2. To give insights about the foundations of services marketing, customer expectations of services and gap existing in the service delivery processes and service Quality.
3. Creating new knowledge (Cognitive)
4. Developing feelings and emotions (Affective)
5. Enhancing physical and manual skills (Psychomotor)

### **UNIT – 1 INTRODUCTION**

**9**

Introduction– Definition– Service Economy – Evolution and growth of service sector – Nature and Scope of Services –Difference between services and tangible products – Unique characteristics of services– Challenges and issues in Services Marketing.

### **UNIT – 2 SERVICE MARKETING OPPORTUNITIES**

**9**

Assessing service market potential – Approaches to IMO Framework - Classification of services – Expanded marketing mix – Service marketing – Environment and trends – Service market segmentation, targeting and positioning.

### **UNIT – 3 SERVICE DESIGN AND DEVELOPMENT**

**9**

Service Life Cycle – New service development – Service Blue Printing – GAP model of service quality – Measuring service quality – SERVQUAL – Service Quality function development.

### **UNIT – 4 SERVICE DELIVERY AND PROMOTION**

**9**

Positioning of services – Designing service delivery System, Service Channel – Pricing of services, methods – Service marketing triangle – Managing demand, Managing supply, managing Demand and Supply of Service–Integrated Service marketing communication.

## UNIT – 5 SERVICE STRATEGIES

9

Service Marketing Strategies for Health – Hospitality – Tourism – Financial – Logistics – Educational –Marketing of Online Services– Entertainment & public utility Information technique Services – service recovery

**Total: 45 Hrs**

### Course Outcomes:

On successful completion of the course students will be able to:

1. Demonstrate an extended understanding of the similarities and differences in service-based and physical product based marketing activities
2. Develop and justify marketing planning and control systems appropriate to service-based activities
3. Demonstrate integrative knowledge of marketing issues associated with service productivity, perceived quality, customer satisfaction and loyalty
4. Develop blueprint for the services sector and develop a better appreciation of the necessary strategies to create a service excellence.
5. Recognise the challenges faced in services delivery as outlined in the services gap model

### References:

1. Christopher H. Lovelock and JochenWirtz, Services Marketing: People, Technology, strategy Pearson Education, New Delhi, 8<sup>th</sup> edition, 2016.
2. John.E.G.Bateson, K.Douglas Hoffman, Services Marketing, South Western Cengage learning, 4th Edition, 2011.
3. Kenneth E Clow, et al, Services Marketing Operation Management and Strategy, Biztantra, 2<sup>nd</sup> Edition, New Delhi, 2004.
4. Valarie Zeithaml et al, Services Marketing, 5th International Edition, Tata McGraw Hill, 2007.
5. Christian Gronroos, Services Management and Marketing a CRM in Service Competition, 3<sup>rd</sup> Edition, Wiley, 2007.
6. R. Srinivasan, SERVICES MARKETING, Prentice Hall of India Private Limited, 4<sup>th</sup> Edition 2014, New Delhi.
7. Vinnie Jauhari&kirtiDutta (2017), Services Marketing, Text and cases, 2nd edition.

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	1	3	3	1	1	3	1	1	1
CO2	3	3	1	1	3	2	1	1	3	2	1	1
CO3	3	3	2	2	1	2	3	1	3	1	2	3
CO4	2	3	2	1	3	3	1	1	2	1	1	1
CO5	3	2	3	2	1	2	1	3	1	1	3	3

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAM03	Sales and Distribution Management	PE	3	3	0	0	3	40	60	100

**Course Objectives:**

1. To gain insights into the selling and distribution process.
2. Sales and distribution is to increase the overall volume of products sold in order to generate net revenue for the business.
3. The goal of the Sales Management course is to examine the elements of an effective sales force as a key component of the organization's total marketing effort.
4. The course will extend student's understanding of marketing's reach and potential impact in achieving its overarching goals.
5. To produce or provide necessities for the significant customer populations dispersed over various locations.

**UNIT – 1 INTRODUCTION 9**

Sales management - nature and scope. Sales management positions. Personal Selling Scope, theories and strategies. Sales forecasting and budgeting decisions. Online selling - scope, potential, Merits and Demerits.

**UNIT – 2 PERSONAL SELLING PROCESS, SALES TERRITORIES & QUOTAS 9**

Selling process - relationship selling - Designing Sales Territories - quotas - Sales organisation structures- **sales audit**

**UNIT – 3 MANAGING THE SALES FORCE 9**

Sales force - recruitment, selection, training, motivating, compensation and control.

**UNIT – 4 MANAGING DISTRIBUTION CHANNELS 9**

Distribution Management - Introduction, need and scope. Channels -Strategies and levels, retailing and wholesaling. Designing channel systems and channel management – **VMS – HS.**

**UNIT – 5 BASICS OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT 9**

Logistics - Scope, definition and components. Managing FG Inventory & warehousing. Transportation -Scope, Modes and role in Supply Chain effectiveness. Use of Information Technology in Online Selling and Goods tracking.

**Total: 45 Hrs.**

**Course Outcomes:**

The student gets to learn about

1. The basics of sales management, theories and strategies
2. The process of personal and relationship selling
3. Managing sales force
4. Managing distribution channels
5. Inventory and supply chain.

**References:**

1. Krishna K. Havaladar, Vasant M. Cavale, Sales and Distribution Management - Text and Cases, Third Edition, McGraw Hill Education, 2017
2. Gupta S.L., Sales and Distribution Management - Text and Cases - An Indian Perspective, Excel Books, 2008
3. Pingali Venugopal, Sales and Distribution Management - An Indian Perspective, Response Books from Sage Publications, 2008.

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	2	1	1	1	1	1	2	2	1	1	1
CO2	3	2	1	1	2	3	3	2	2	2	2	1
CO3	3	3	3	3	3	3	3	1	3	2	1	2
CO4	3	3	3	3	3	3	2	3	3	2	1	2
CO5	2	3	1	2	2	2	1	3	1	1	1	1

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAM04	Marketing Analytics	PE	3	3	0	0	3	40	60	100

### Course Objectives

1. This course develops students' capabilities to use analytical tools and techniques to address marketing problems, with a focus on providing data to assist marketing decision-making.
2. To provide a strong foundation in marketing analytics in order to handle diversified marketing data, build advanced analytical models and deliver effective visualization product and comprehensive reports.
3. Marketing analytics enables marketers to measure, manage and analyse customer preferences and trends, as well as evaluate marketing performance to maximize its effectiveness.
4. Students will develop an understanding how to use marketing analytics to predict outcomes.
5. The course also examines the ethical and technical issues related to data privacy.

### Unit – 1

9

Introduction to marketing Analytics: Meaning, characteristics, advantages and disadvantages of marketing analytics, Market Data Sources (Primary and Secondary). Market Sizing: Stakeholders, Applications & Approaches (Top-down and Bottom-up), PESTLE Market Analysis, Porter Five Force Analysis – **Analytical framework for marketing models.**

### Unit – 2

9

**Product analytics** - Pricing Policy and Objectives, Estimating Demand: Price Elasticity, Estimating Linear and Power Demand Curves, Optimize Pricing, Incorporating Complementary Products, Pricing using Subjective Demand Curve, Pricing Multiple Products, Price Bundling & Nonlinear Pricing: Pure Bundling & Mixed Bundling, Determine Optimal Bundling Pricing, Profit Maximizing strategies using Nonlinear Pricing Strategies, Price Skimming & Sales, Revenue Management: Markdown Pricing and Handling Uncertainty

### Unit – 3

9

Introduction, Simple Linear Regression & Multiple Regression model to forecast sales, Forecasting in Presence of Special Events, Modelling trend and seasonality; Ratio to moving average forecasting method, Using S curves to Forecast Sales of a New Product

### Unit – 4

9

**Customer analytics** -: The segmentation-targeting-positioning (STP) framework, Segmentation, The concept of market segmentation, managing the segmentation process, Deriving market segments and describing the segments using Cluster analysis – Survival analysis, Analysing customer life time value predicting customer retention and profit – choice modelling.

Market Basket analysis: Computing two way and three-way lift, RFM Analysis, Allocating Retail Space and Sales Resources: Identifying the sales to marketing effort relationship & its modeling, optimizing sales effort Advertising Analysis: Measuring the Effectiveness of Advertising, Pay per Click (PPC) Online Advertising

**Total: 45 Hrs**

### Course Outcomes

The course covers a reasonable curriculum in marketing analytics at the end of the course the student should be able to

1. Understand the importance of marketing analytics for forward looking and systematic allocation of marketing resources
2. Know how to use marketing analytics to develop predictive marketing dashboard for organization
3. Analyse data and develop insights from it to address strategic marketing challenges demonstrate the use of analytical tools in marketing.
4. Choose appropriate data sources and analytical tools to assess marketing performance, apply analytics tools to a variety of data collected by marketers.
5. Translate the results of quantitative analyses into managerial insights for marketing decision-making. Explain and illustrate how marketing analytics are used in an integrated manner to solve strategic marketing problems.

### References

1. “BreaCesar (2014), “Marketing and Sales Analytics: Proven Techniques and Powerful Applications from Industry Leaders”, FT Press, ISBN-0133761711 Chapman Christopher N, Feit Elea McDonnell(2015),
2. “R for Marketing Research and Analytics”, Springer, ISBN-3319144367 Emmett Cox (2012), “Retail Analytics: The Secret Weapon”, Wiley, ISBN- 978-1- 118-09984-1
3. FokDennis (2003), “Advanced Econometric Marketing Models”, ERIM, ISBN 90–5892–049-6 \Grigsby Mike(2015), “Marketing Analytics: A Practical Guide to Real Marketing Science”, Kogan Page Publishers, ISBN- 0749474181
4. Lilien Gary L, KotlerPhili, Moorthy K. Sridhar (1992), “Marketing Models”, Prentice-Hall, ISBN 0135446449
5. MirelesCarlosHernández (2010), “Marketing Modeling for New Products”, ERIM, ISBN 978-90-5892-237-3
6. Rackley Jerry(2015), “Marketing Analytics Roadmap: Methods, Metrics, and Tools”, Apress, ISBN- 1484202597

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	3	2	3	2	2	1	2	2	2	2
CO2	3	2	2	2	2	2	2	2	2	2	2	2
CO3	3	3	3	3	3	2	2	2	2	2	2	2
CO4	3	2	3	2	2	3	2	2	2	2	3	3
CO5	3	2	2	3	3	3	3	3	2	2	2	2

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAM05	Integrated Marketing Communication	PE	3	3	0	0	3	40	60	100

### Course objectives

1. Explain the process of advertising planning and the contemporary context in which it is executed.
2. To analyse the strategies and practices involved in the process of advertising management.
3. To apply advertising theories and analytical frameworks to specific cases and examples of advertising practice.
4. Demonstrate an understanding of Integrated Marketing Communications concepts, principle and terminology.
5. Understand how the communications process fits into and works with consumer behavior with emphasis on the consumer decision making process.

### Unit – 1

9

Introduction–Concept of Marketing Communication, Marketing Communication Mix, Factor Affecting Marketing, Communication Mix, Drivers of Integrated Marketing Mix; Models of Marketing Communication – Blade Box, Model, AIDAS Model, Lavidge Steiner Model, DAGMAR Model, PCB Model; Marketing Communication, Planning Process

### Unit – 2

9

Managing the Marketing Communication Process – Analysis of Promotional Opportunities, Concepts of Segmentation and Target Marketing, Promotional Strategy of Formulation and Competitive Positioning, Determination of Promotional Objectives, Deciding Promotional Appropriation, Integrating Marketing Communication Programme, Commissioning and contracting External Resources

### Unit – 3

9

Advertising and Media Planning – Advertising Plan, Creative Strategy, Advertising Appeal, Creative Formats, Stages of Creative Strategy – Idea Generation, Copy Writing, Layout, copy testing and Diagnosis; Media planning – Traditional and Contemporary Media; Media Objectives – Reach, Frequency, Cost etc.; Media Strategy, Media Scheduling, Media Planning Models, Key Issues in Advertising – Comparative Advertising, Web Advertising; Advertising Agency – Functions and Types, Outdoor Advertising

### Unit – 4

9

Wider Issues and Dimensions – Sales Promotions, Personal Selling, Direct Marketing, Public Relations, Publicity and Corporate Advertising, Unconventional Promotional Media,

Marketing Communication, Budgeting, Measuring, Promotional Performance, Global Marketing Communication, Legal and Ethical Issues in Integrated Marketing, Communication.

**Total: 45 Hrs**

### Course Outcomes

1. Demonstrate an understanding of Integrated Marketing Communications concepts, principle and terminology.
2. Analyze a specific IMC campaign, including media strategy, target market selection, message content and evaluation criteria.
3. Apply IMC concepts in developing a limited promotional campaign that includes message development and media selection for a product or service.
4. Demonstrate project management skills as they work cooperatively on a team project.
5. Coordinate marketing strategy with a public relations/social media campaign.

### References:

1. Advertising Management, JaishriJethwaney&Shruti Jain, Oxford University Press
2. Advertising & Promotions: An IMC perspective, Kruti Shah and Alan D'Souza, Tata McGraw Hill
3. Advertising Management, Aakar, Batra and Myers, Prentice 4. Advertising & Promotions, S H Kazmi and Satish K Batra, Excel
4. Advertising; Principles and Practice, Wells, Moriarty and Burnett, Pearson 6. Advertising & Promotion: An IMC approach, Terence A. Shimp Pub., Cengage Learning

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	3	3	3	3	3	2	2	2	2	2
CO2	3	3	3	3	3	3	1	1	3	2	2	2
CO3	2	1	1	2	3	3	3	3	3	3	2	2
CO4	2	1	1	3	3	3	2	2	2	1	2	2
CO5	2	2	2	2	3	2	2	2	2	2	2	2

# **OPERATION ELECTIVES**

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAO01	Project Management	PE	3	3	0	0	3	40	60	100

### Course objectives:

1. Identify the key activities in the project life cycle.
2. Recognize the components of a project charter and how to be appropriately scale them based on the size of a project.
3. Keep projects on track by managing project risks and effectively using a communication plan.
4. Capture valuable project lessons and use them to define and improve project management practices within your organization.
5. Develop an action plan for continuing to expand your project management knowledge. Understand the role of the “triple constraint” in project management and apply it in determining project scope.

### UNIT – 1 INTRODUCTION TO PROJECT MANAGEMENT 9

Project Management – Definition – Goal – **PMBOK - Projects organisational & benefits** - Project Manager – Roles- Responsibilities and Selection-project lifecycle

### UNIT – 2 PLANNING, BUDGETING AND RISK MANAGEMENT 9

The Planning Process – **Project Scope - feasibility study - base line plan - Budgeting - Process**, Managing risks - concepts, identification, assessment and response planning

### UNIT – 3 SCHEDULING & RESOURCE ALLOCATION 9

PERT & CPM Networks - Project durations and floats - Crashing – Resource loading and levelling - Simulation for resource allocation - Goldratts Critical Chain- **Decision tree**

### UNIT – 4 PROJECT ORGANISATION & CONFLICT MANAGEMENT 9

Formal Organisation Structure – Organisation Design – **Evolution of Organisational** - Conflict – Origin & Consequences - Project Teams - Managing conflict – Team methods for resolving conflict

### UNIT – 5 CONTROL AND COMPLETION 9

Project Control – Process, Monitoring, Internal and External control, Performance analysis, Performance Index Monitoring. Project Evaluation, Reporting and Termination. Project success and failure - Lessons

**Total: 45 Hrs**

**Course Outcomes:**

1. Ability to understand the roles and responsibilities of a project manager
2. Ability to plan and budget projects
3. Ability to schedule and allocate resources to projects
4. Ability to manage project organization
5. Ability to control and complete projects

**References:**

1. John M. Nicholas, Project Management for Business and Technology - Principles and Practice, Second Edition, Pearson Education, 2006.
2. Clifford Gray and Erik Larson, Project Management, Tata McGraw Hill Edition, 2005.
3. Gido and Clements, Successful Project Management, Seventh Edition, Thomson Learning, 2017.
4. Samuel J.M., Jack R.M., Scott M.S., Margaret M.S., and Gopalan M.R., Project Management, First Indian edition, Wiley-India, 2006.
5. Harvey Maylor, Project Management, Third Edition, Pearson Education, 2006.
6. Panneerselvam. R, Senthilkumar. P, Project Management, PHI Learning, 2009.

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	2	3	3	3	3	3	3	1	2	2
CO2	3	3	2	3	3	3	3	3	3	1	1	2
CO3	3	3	3	3	3	3	3	3	3	2	2	3
CO4	3	3	3	3	3	3	2	2	3	3	1	3
CO5	3	3	3	3	3	3	2	2	3	3	2	3

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAO02	Supply Chain Management	PE	3	3	0	0	3	40	60	100

### Course Objectives:

1. To help understand the importance of and major decisions in supply chain management for gaining competitive advantage.
2. Contribute to the strategic planning and scheduling of material requirements, resource allocation and inventory for efficient production and fulfillment of customer orders and returns.
3. Co-ordinate the efficient handling and movement of goods, services, materials and related information within and between supply chains.
4. Develop and apply ongoing strategies for personal, career and professional development.
5. Use leadership and communication skills to establish and manage strategic relationships with a diversity of stakeholders and support the achievement of business goals.

### UNIT – 1 INTRODUCTION

9

Supply Chain – Fundamentals, Evolution, Role in Economy, Importance, Decision Phases, Enablers & Drivers of Supply Chain Performance; **Green SCM**

### UNIT – 2 SUPPLY CHAIN NETWORK

9

Distribution Network Design – Role in supply chain, influencing factors, design options, online sales and distribution network, Distribution Strategies; Network Design in supply chain – Role, influencing factors, framework for network design, **channel relationship**

### UNIT – 3 PLANNING DEMAND, INVENTORY AND SUPPLY

9

Managing supply chain cycle inventory and safety inventory - Uncertainty in the supply chain, Analyzing impact of supply chain redesign on the inventory, Risk Pooling, Managing inventory for short life-cycle products, multiple item -multiple location inventory management - **Collaborative Planning, Forecast & Rejected**

### UNIT – 4 LOGISTICS

9

Transportation – Role, Modes and their characteristics, infrastructure and policies, transport documentation, design options, trade-offs in transportation design, intermodal transportation. Logistics outsourcing – catalysts, benefits, value proposition. 3PL, 4PL, 5PL, 6PL; International Logistics -objectives, importance in global economy, Characteristics of global supply chains, Incoterms.

### UNIT – 5 SUPPLY CHAIN INNOVATIONS

9

Supply Chain Integration, SC process restructuring, IT in Supply Chain; Agile Supply Chains, Legible supply chain, Green Supply Chain, Reverse Supply chain; Supply chain technology trends – AI, Advanced analytics, Internet of Things, Intelligent things, conversational systems, robotic process automation, immersive technologies, Blockchain.

**Total: 45 Hrs**

**Course Outcomes:**

1. Understanding of supply chain fundamentals
2. Ability to design supply chain networks to enhance supply chain performance
3. Ability to plan demand based on inventory and supply
4. Understanding the role of logistics in supply chain performance
5. Awareness of innovations for sustainable supply chains

**References:**

1. Sunil Chopra, Peter Meindl and DharamVirKalra, Supply Chain Management- Strategy Planning and Operation, Pearson Education, Sixth Edition, 2016.
2. Janat Shah, Supply Chain Management – Text and Cases, Pearson Education, 2009
3. Ballou Ronald H, Business Logistics and performance Supply Chain Management, Pearson Education, 5th Edition, 2007.
4. David Simchi-Levi, Philip Kaminsky, Edith Simchi-Levi, Designing and Managing the Supply Chain: Concepts, Strategies, and Cases, Tata McGraw-Hill, 2005.
5. Pierre David, International Logistics, Biztantra, 2011.

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	2	1	3	3	1	2	1	1	1	3
CO2	3	3	1	2	3	1	3	2	1	1	1	1
CO3	3	3	2	1	3	2	3	3	1	1	2	3
CO4	2	1	2	3	3	1	3	3	3	1	2	1
CO5	1	3	3	2	2	3	1	2	3	1	3	1

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAO03	Services Operations Management	PE	3	3	0	0	3	40	60	100

### Course Objectives:

1. To help understand how service performance can be improved by studying services operations management
2. To understand the growing significance and impact of services on the growth and economy and the scientific ways to run the operations so as to optimize the business and brand returns.
3. The Service Operations Management module is about improving organisations to make them better for customers and service providers.
4. The module will build upon work undertaken in the Operations Management core module.
5. Service Operations Management module will develop students' understanding of the concepts, tools and techniques taught previously relating to process design and delivery.

### UNIT – 1 INTRODUCTION

9

Services – Importance, role in economy, service sector – nature, growth. Nature of services - distinctive characteristics, Service Package, Service classification, service-dominant logic, open-systems view. Service Strategy –Strategic service vision, competitive environment, generic strategies, winning customers; **positioning of service organizational value chain**

### UNIT – 2 SERVICE DESIGN

9

New Service Development – Design elements – Service Blue-printing - process structure – generic approaches. Service Encounter – triad, creating service orientation, service profit chain; Front-office Back-office Interface– service decoupling. Technology in services – self-service, automation, e-commerce, e-business, technology innovations.

### UNIT – 3 SERVICE QUALITY

9

Service Quality- Dimensions, Service Quality Gap Model; Measuring Service Quality – SERVQUAL, Walk-through Audit, Quality service by design, Service Recovery, Service Guarantees. Process Improvement –productivity improvement - DEA, quality tools, benchmarking, Quality improvement programs.

### UNIT – 4 SERVICE FACILITY

9

Supporting facility - Service scrapes -Facility design – nature, objectives, process analysis - Service facility layout. Service Facility Location – considerations, facility location techniques – metropolitan metric, Euclidean, center of gravity, retail outlet location, location set covering problem. Vehicle routing and Scheduling

### UNIT – 5 MANAGING CAPACITY AND DEMAND

9

Managing Demand – strategies; Managing capacity – basic strategies, supply management tactics, operations planning and control; Yield management; Inventory Management in Services– Retail Discounting Model, Newsvendor Model; Managing Waiting Lines – Queuing systems, psychology of waiting; Managing for growth-expansion strategies, franchising, globalization.

**Total: 45 Hrs**

### **Course Outcomes:**

1. Appreciation of nature of service operations
2. Ability to design services
3. Ability to inculcate quality in service design and delivery
4. Apply models to design service facility
5. Ability to grow and sustain service business

### **References:**

1. James A. Fitzsimmons, Mona J, Fitzsimmons, Sanjeev Bordoloi, Service Management – Operations, Strategy, Information Technology, McGraw-Hill Education – 8th Edition 2018.
2. Richard D. Metters, Successful Service Operations Management, Cengage Learning, 2nd Edition, 2012.
3. Cengiz Haksever, Barry Render, Service Management, Pearson Education, 2013.
4. Robert Johnston, Graham Clark, Service Operations Management, Pearson Education, 2nd Edition, 2005.
5. Bill Hollins and Sadie Shinkins, Managing Service Operations, Sage, 2006.

<b>Articulation Matrix</b>												
	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO10</b>	<b>PO11</b>	<b>PO12</b>
<b>CO1</b>	3	3	2	3	2	2	1	1	2	1	2	1
<b>CO2</b>	3	3	2	3	3	3	3	3	3	1	2	1
<b>CO3</b>	3	3	3	3	3	3	3	3	3	2	2	1
<b>CO4</b>	3	3	3	3	3	3	2	2	3	3	2	3
<b>CO5</b>	3	3	3	3	3	3	2	2	3	3	2	3

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAO04	Supply Chain Analytics	PE	3	3	0	0	3	40	60	100

### **Course Objective:**

1. To treat the subject in depth by emphasizing on the advanced quantitative models and methods in logistics and supply chain management and its practical aspects and the latest developments in the field.
2. Understand the process and information required for preparing the different types of demand forecasts required for operations and supply chain management.
3. This course is mainly designed for residential (on-campus) master programs. Students with a few years of working experience, and some quantitative background will find it a natural fit and a great extension for their learning experience.
4. With a minor modification of replacing the Network Optimization by Cost Benefit Analysis in the later part of the syllabus, the technical complexity of the course is greatly reduced, and the course will fit for the on-line programs as well.
5. Be able to isolate business and economic variable with predictive value for the preparation of demand forecasts

### **UNIT – 1 INTRODUCTION 9**

Introduction to analytics – descriptive, predictive and prescriptive analytics, Data Driven Supply Chains – Basics, transforming supply chains, Barriers to implementation, Road Map.

### **UNIT – 2 WAREHOUSING DECISIONS 9**

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

### **UNIT – 3 INVENTORY MANAGEMENT 9**

Inventory aggregation Models, Dynamic Lot sizing Methods, Multi-Echelon Inventory models, Aggregate Inventory system and LIMIT, Risk Analysis in Supply Chain - Measuring transit risks, supply risks, delivering risks, Risk pooling strategies.

### **UNIT – 4 TRANSPORTATION NETWORK MODELS 9**

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

Analytic Hierarchy Process (AHP), Data Envelopment Analysis (DEA), Fuzzy Logic and Techniques, the analytical network process (ANP), TOPSIS-Application in SCM

**Total: 45 Hrs**

**Course Outcomes:**

1. Understanding of supply chain analytics fundamentals
2. Ability to design warehouse models to enhance supply chain performance.
3. Ability to analyse models and strategies in inventory management.
4. Ability to understand network models in transportation.
5. Ability to make decision using multi-criteria in applications of SCM

**References:**

1. Nada R. Sanders, Big data driven supply chain management: A framework for implementing analytics and turning information into intelligence, Pearson Education, 2014.
2. Michael Watson, Sara Lewis, Peter Cacioppi, Jay Jayaraman, Supply Chain Network Design: Applying Optimization and Analytics to the Global Supply Chain, Pearson Education, 2013.
3. Anna Nagurney, Min Yu, Amir H. Masoumi, Ladimer S. Nagurney, Networks Against Time: Supply Chain Analytics for Perishable Products, Springer, 2013.
4. MuthuMathirajan, ChandrasekharanRajendran, SowmyanarayananSadagopan, ArunachalamRavindran, ParasuramBalasubramanian, Analytics in Operations/Supply Chain Management , I.K. International Publishing House Pvt. Ltd., 2016.
5. Gerhard J. Plenert, Supply Chain Optimization through Segmentation and Analytics, CRC Press, Taylor & Francis Group, 2014.

<b>Articulation Matrix</b>												
	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO10</b>	<b>PO11</b>	<b>PO12</b>
<b>CO1</b>	2	3	2	1	2	2	1	2	2	1	1	3
<b>CO2</b>	3	2	1	3	3	1	3	2	1	2	3	1
<b>CO3</b>	2	3	3	1	2	2	2	3	1	1	2	3
<b>CO4</b>	2	1	2	3	3	1	3	3	3	3	2	1
<b>CO5</b>	1	2	3	2	2	3	1	2	3	1	3	2

<b>Course Code</b>	<b>Course Title</b>	<b>Category</b>	<b>Contact Hours</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>	<b>CA</b>	<b>EA</b>	<b>TOTAL</b>
322BAO05	Technology Management	PE	3	3	0	0	3	40	60	100

### **Course Objectives:**

1. The course aims at providing an overview of various issues connected with Management of Technology in organizations.
2. The course provides an exposure to technology related issues like technology identification, technology forecasting, technology acquisition and technology absorption.
3. The course also provides an appreciation of linkages of technology with policy and support systems.
4. Provide graduates with the expertise and confidence to assume leadership positions in technical environments by successfully
5. Apply measurement and analytical tools to increase the quality of products and/or services

### **UNIT – 1 9**

Introduction , Definitions, Role and importance , Technology developments, implications of Technology Management, Technology change, TLC, Diffusion and Growth of Technologies-Technological Transformation alternatives, Technology Policy and Planning, Technology development-Options & Strategies, Socio-Economic planning, production functions & Technological Change, Macro effects of Technology change.

### **UNIT – 2 9**

Technology Development and Acquisition - Forecasting and Technology Innovation chain, Role of Technology Forecasting approaches and methodologies; Technology Strategy, Generation, and Development.

### **UNIT – 3 9**

Technology Transfer - Models, Modes, Technology search strategy, Dimensions of Technology Transfer, Features & Routes of Technology Transfer, Technology absorption capabilities, Pricing of Technology Transfer agreements, Code of conduct for Technology transfer - Government initiative, Technology transfer and absorption process at unit level.

### **UNIT – 4 9**

Technology absorption and diffusion - Technology - package and Technology dependence, concepts, constraints of Technology absorption - Technology import in India, Government initiatives, Benefits of Technology absorption. Technology Assessment (TA) Organization - Management of echnology Assessment Technology Evaluation - Diffusion - Major diffusion activities, Diffusion Strategy.

## UNIT – 5

9

Technology Environment - Science & Technology in India, R &D, Technology Missions, Trade Policy Missions, Trade Policy, Education, and other policies, Linkages. Technology Support Systems: Financing - Venture Capital, Technology up-gradation, Technology Information Systems (TIS) , Technology Strategy for a firm, Technology Gaps and needs, Evaluation of Technology option and Routes, R&D Resource Management.

**Total Hrs 45**

### Course outcomes

1. Clearly articulate ideas in group settings to a range of audiences
2. Make decisions consistent with societal and organizational standards
3. Provide leadership, motivation, and feedback to team members
4. Constructively challenge current assumptions and practices
5. Understand the financial and legal workings of organizations

### References

1. Sharif Nawaz: Management of Technology Transfer & Development, APCFT, Bangalore, 1983.
2. Rohtagi P K, Rohtagi K and Bowonder B: Technological Forecasting, Tata McGraw Hill, New Delhi.
3. Betz Fredrick: Managing Technology, Prentice Hall, New Jersey.
4. Gaynor: Handbook of Technology Management, McGraw Hill.
5. Tarek Khalil: Management of Technology, McGraw Hill International, 2000.

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	2	1	3	1	1	2	3	1	1	1
CO2	3	3	2	2	3	3	2	3	1	2	1	2
CO3	3	3	2	3	2	2	3	3	2	1	2	3
CO4	3	1	3	2	3	1	2	3	3	2	2	3
CO5	1	3	3	3	2	3	2	2	3	1	3	3

# SYSTEMS ELECTIVES

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAS01	E-Business Management	PE	3	3	0	0	3	40	60	100

### Course Objectives:

1. To understand the practices and technology to start an online business.
2. To introduce concepts, tools and approaches to electronic business to the post- graduate and undergraduate students.
3. Electronic commerce focuses on the use of information and communication technology.
4. To enable the external activities and relationships of the business with individuals, groups, and other businesses.
5. Toe-business refers to business with help of the internet.

### UNIT – 1 INTRODUCTION TO e-BUSINESS

9

e-business, e-business vs e-commerce, Economic forces – advantages – myths – e-business models, design, develop and manage e-business, Web 2.0 – Social Networking, Mobile Commerce, S-commerce

### UNIT – 2 TECHNOLOGY INFRASTRUCTURE

9

Internet and World Wide Web, internet protocols - FTP, intranet and extranet, information publishing technology- basics of web server hardware and software.

### UNIT – 3 BUSINESS APPLICATIONS

9

Consumer oriented e-business – e-tailing - models - Marketing on web – advertising, e-mail marketing, affiliated programs - e-CRM; online services, Business oriented e-business, e-governance, EDI on the internet, Delivery management system, Web Auctions, Virtual communities and Web portals – social media marketing

### UNIT – 4 e-BUSINESS PAYMENTS AND SECURITY

9

E-payments - Characteristics of payment of systems, protocols, e-cash, e-cheque and Micro payment systems- internet security – cryptography – security protocols – network security.

### UNIT V LEGAL AND PRIVACY ISSUES

9

Legal, Ethics and privacy issues – Protection needs and methodology – consumer protection, cyber laws, contracts and warranties, Taxation and encryption policies

**Total: 45 Hrs.**

### Course Outcomes:

1. Ability to build and manage an e-business.
2. Knowledge about Technology Infrastructure
3. Understanding of customer oriented business applications
4. Knowledge of e business payment protocols and security
5. Understanding of ethical, legal , privacy issues and encryption policies

### References:

1. Harvey M.Deitel, Paul J.Deitel, Kate Steinbuhler, e-business and e-commerce for managers, Pearson, 2011.
2. Efraim Turban, Jae K. Lee, David King, Ting Peng Liang, Deborrah Turban, Electronic Commerce –A managerial perspective, Pearson Education Asia, 2010.
3. ParagKulkarni, SunitaJahirabadkao, PradeepChande, e business, Oxford University Press, 2012.
4. Hentry Chan &el , E-Commerce – fundamentals and Applications, Wiley India Pvt Ltd, 2007.
5. Gary P. Schneider, Electronic commerce, Thomson course technology, Fourth annual edition, 2007
6. Bharat Bhasker, Electronic Commerce – Frame work technologies and Applications, 3<sup>rd</sup> Edition. Tata McGrawHill Publications, 2009
7. KamleshK.Bajaj and Debjani Nag, Ecommerce- the cutting edge of Business, Tata McGraw Hill Publications, 7<sup>Th</sup> reprint, 2009.
8. Kalakota et al, Frontiers of Electronic Commerce, Addison Wesley, 2004
9. MichealPapaloelon and Peter Robert, e-business, Wiley India, 2006.

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<b>Course Code</b>	<b>Course Title</b>	<b>Category</b>	<b>Contact Hours</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>	<b>CA</b>	<b>EA</b>	<b>TOTAL</b>
322BAS02	Decision Support System and Intelligent Systems	PE	3	3	0	0	3	40	60	100

#### Course Objectives

1. The objective of this course is to give students the up-to-date of decision-making concepts, process, strategies, and technologies that are often used to support decision making in real-world issues coupled with agile approach and industry 4.0 specification.
2. Students will know how to analyse, to design, to implement and to validate an Intelligent Decision Support System (IDSS).
3. The integration of Artificial Intelligence models and Statistical models, and the knowledge discovery from data step will be emphasized.
4. The course consists of foundations and developments of IDSS, software tools for IDSS development, IDSS for Digital Manufacturing Systems, and IDSS applications
5. To provide a study of intelligent decision making processes and relevant tools that support such processes. Students will learn the challenges and techniques of decision support in an environment with imperfect and changing information.

#### Unit – 1 9

IDSS Foundation and Development - The needs of decision support tools - Modelling of Decision Process - IDSS Architecture, Analysis, Design, Requirements, and Validation - Impact of IDSS in Industrial Performance - Economic Impact of IDSS in industry - Agile Approach for Smart Production

#### Unit – 2 9

Software Tools for IDSS Development - The analytic hierarchy process (AHP) - R-software - RapidMiner - WEKA - Deep Learning for Smart Production

#### Unit – 3 9

IDSS for Digital Manufacturing Systems - Artificial Intelligence and DSS - Knowledge Acquisition and Representation - Predictive Models - Uncertainty Models - Industrial Applications - Knowledge-based Systems for Smart Production

#### Unit – 4 9

Methods and Techniques for Intelligent Decision Support - Linear and nonlinear programming -. Sensitivity analysis - Network flow modeling - Goal programming and multiple objective optimization - Regression models - Forecasting models -Discriminant analysis

#### Unit – 5 9

Domain-Specific Intelligent Decision Support - Decision Analysis and Cost-Effectiveness Analysis in Business, Healthcare, and Social Services - Financial Decision Support Systems - Clinical Decision Support Systems - Social Decision Support Systems

### Course outcomes

1. Explain concepts of a decision support system in term of an interactive system providing information, tools and models and its effects on Industry 4.0.
2. Apply techniques of IDSS (e.g. artificial neural networks, machine learning, rule-based systems, etc.) and validate IDSS techniques to solve a complex industrial problem.
3. Identify decision factors, models, and analysis of intelligent decision support systems (IDSS) to support a smart production system appraise the frameworks of IDSS.
4. Design a knowledge-based system for a smart production system.
5. Recognize the type of decision problems in real-world scenarios and apply appropriate approaches to solving them

### Reference

1. Gupta, J.N.D., Forgionne, G.A., and Manuel, M.T., Intelligent Decision-making Support Systems: Foundations, Applications and Challenges, Springer, 2006
2. Iantovics, B., and Kountchev, R., Advanced Intelligent Computational Technologies and Decision Support Systems, Springer, 2014
3. Kumer. K., Zindani, D. and Davim, J.P., Digital Manufacturing and Assembly Systems in Industry 4.0, CRC Press, 2019
4. Tweedale, J.W., Neves-Silva, R., Jain, L.C., Phillips-Wren, G., Watada, J., and Howlett, R.J., Intelligent Decision Technology Support in Practice, Springer, 2016
5. Valencia-Garcia, R, Paredes-Valverde, M.A., Salas-Zarate, M.P. and Alor-Hernandez, Giner., Exploring Intelligent Decision Support Systems, Springer, 2018
6. Ragsdale, C. Spreadsheet Modeling and Decision Analysis: A Practical Introduction to Business Analytics, 8th edition, Cengage Learning, 2017.
7. Sharda, R., Delen D., and Turban, E. Data Science,& Artificial Intelligence: Systems for Decision Support, 11th edition, Pearson, 2019.
8. Tweedale, J. W. et al., (Editors) Intelligent Decision Technology Support in Practice (Smart Innovation, Systems and Technologies), 1st edition, Springer, 2016.
9. Albright, S. C. and Winston, W. L. Business Analytics: Data Analysis & Decision Making, 5th Edition, South-Western College Pub, 2014.

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	1	3	2	2	1	3	2	2	2	2
CO2	3	3	2	3	3	2	2	3	1	2	1	1
CO3	3	3	1	3	2	2	2	3	2	1	2	1
CO4	3	3	3	3	2	2	1	2	2	2	1	2
CO5	3	3	1	3	2	2	1	3	2	1	2	1

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAS03	Supply Chain Information System	PE	3	3	0	0	3	40	60	100

**Course Objectives:**

1. To explain the various technological aspects that are described in the different logistical background
2. To explain the real time description updated technologies in the logistics sector and supply chain industry
3. To ensure efficient and cost-effective production, timely delivery of products and services, effective inventory management, collaborative relationships between suppliers and customers, flexibility, and responsiveness to changes in demand.
4. To optimizing efficiency, minimizing costs, increasing customer satisfaction, and providing a competitive advantage to firms.
5. To support and improve the flow of goods and materials in a supply chain.

**UNIT – 1 ELECTRONIC SCM, COMMUNICATION NETWORKS**

**9**

Introduction e-SCM – e-SCM framework - Key success factors for e-SCM - Benefits of e-SCM Positioning information in Logistics - Strategic information linkage - Supply chain communication networks - Role of communication networks in supply chains - Overview of telecommunication networks –EDI - Data security in supply chain networks - Overview of internet able models

**UNIT – 2 ENTERPRISE INFORMATION SYSTEMS**

**9**

Overview of enterprise information systems - Information functionality and principles - Introduction enterprise information systems - Classification of enterprise information systems - Information architecture - Framework for managing supply chain information - Describe on popular enterprise application packages -Benefits of enterprise information systems

**UNIT – 3 SCM SYSTEMS DEVELOPMENT, DEPLOYMENT AND MANAGEMENT**

**9**

Stakeholders in supply chain information systems - Stakeholders in SCM Stakeholders in supply chain information systems - Information systems development- Logistics information systems design Defining enterprise architecture - Choosing appropriate system development methodologies - Adopting relevant systems development model

**UNIT – 4 DEPLOYMENT AND MANAGEMENT**

**9**

Information systems deployment - IT Operations and infrastructure management Portfolio, programme and project management - Management of risk - Management of value

## UNIT – 5 INFORMATION INTEGRATION

9

Enterprise application integration and supply chain visibility - Enterprise application integration  
- Supply chain visibility - Supply chain event management - Supply chain performance -  
Planning and design methodology - Problem definition and planning - Data collection and  
analysis - Recommendations and implementation -Decision support systems

**Total: 45 Hrs.**

### Course Outcomes:

1. The students will be able to understand the various enterprise information system and its architecture and benefits.
2. Students can gain knowledge about various e-commerce models, e-SCM, benefits and communication networks.
3. Apply knowledge to evaluate and manage an effective supply chain.
4. “Cost,” responsiveness, security, sustainability, resilience and innovation.
5. Improved product and material flow.

### REFERENCES:

1. Bowersox&Closs, Logistical Management, McGraw-Hill Companies, 1996.
2. R.H.Ballou, Business Logistics Management, Prentice-Hall, 2004.
3. Strauss,E-Marketing, 4/e, Pearson Education 2008
4. Chaffey, E- Business and E- Commerce Management, 3/e, Pearson Education 2008
5. Blanchard, Logistics Engineering & Management, 6/e, Pearson Education 2008
6. Statistics for Managers Using MS Excel, 4/e, Levine, Pearson Education 2007
7. Donald J. Bowersox and David J. Closs, Logistical Management - The Integrated Supply chain

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	2	2	2	1	1	2	1	2	1	1
CO2	2	2	1	3	3	2	1	2	2	2	1	1
CO3	3	3	2	1	2	2	1	2	1	2	2	1
CO4	2	3	3	2	2	1	1	2	1	2	1	2
CO5	3	3	2	2	2	1	2	2	2	1	1	1

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAS04	Business Modelling	PE	3	3	0	0	3	40	60	100

### Course Objectives

1. To learn different business strategy. To learn different elements of e-commerce
2. To know Internet marketing techniques. Understand and explain in your own words ways in which model-based support systems are needed and can be utilized in managerial decision processes.
3. Demonstrate competence in analysis/development of some common models analytically
4. Demonstrate competence in analysis/development of some common models graphically
5. Demonstrate competence in using a spreadsheet for analysis, interpret model results in the context of the business situation and explain in plain language

### Unit – 1 9

Introduction to Electronic Commerce - What is E-Commerce (Introduction and Definition) - Need to study E-commerce - Eight unique features of E-commerce - Difference between E-commerce and E-business - Major types of E-com (B2c, B2B, C2C, P2P, M-Commerce)

### Unit – 2 9

E-com Business models - Eight key elements of a business model - B2C business model - B2B business model - Business models in emerging e-com areas - C2C business models and P2P models - M commerce business models

### Unit – 3 9

The elements of e-commerce - Elements - E-visibility - The e-shop - Online payments - Delivering the goods - After-sales service - Internet E-commerce security - E-Business - Introduction - Internet books shop - Grocery supplies - Software supplies and support - Electronic Newspapers - Internet banking - Virtual Auctions - Online share dealing - e-diversity

### Unit – 4 9

Electronic payment System - Online credit card transactions - Digital Wallets and Digital Cash - Online stored value system - Digital accumulating balance payment systems - Digital checking payment systems - Wireless payment systems – Electro - E-com Security - E-commerce security environment - Security threats in E-com environment - Malicious code and unwanted programs - Phishing and identity theft - Hacking and cyber vandalism - Credit card fraud/Theft - Spoofing

Technology Solution - Protecting Internet Communications - Encryption - Symmetric Key Encryption - Public key Encryption - Public Key Encryption using digital signatures - Digital Envelopes - Digital Certificates - Limitations to Encryption solutions - Electronic Markets - Markets - Electronic Markets - Usage of Electronic Markets - Advantages and disadvantages - Future of Electronic Markets

**Total 45 Hrs.**

### Course Outcomes

1. Understand the elements of a formal model integrity review
2. have an informed conversation about inherent Microsoft Excel limitations
3. quickly and effectively cleanse a dataset in Microsoft Excel
4. understand when and how to use the suite of Microsoft Excel functionality including: shortcuts, styles, custom formats, conditional formatting, freeze panes, macro recording, VBA editing, hiding worksheets, grouping, range names (static and dynamic), dynamic controls (drop-down lists, radio buttons, check boxes, interactive buttons), pivot tables, linked workbooks, flags, and array techniques
5. Understand when and how to best use the suite of Microsoft Excel formulas, including.

### References

1. E-commerce, Strategy, Technologies and applications by David Whiteley, Tata McGraw-Hill Edition
2. E-Commerce Concepts, Models , Strategies by - G.S.V Murthy
3. E-Commerce- Kenneth C.Laudon and Carol GuercioTraver
4. E-Commerce by --Kamlesh K Bajaj and Debjani Nag
5. Internet marketing and E-commerce-Ward Hanson and KirthiKalyanam

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1	2	1	1	2	2	3	3	1	2	3
CO2	3	1	1	2	1	3	2	3	2	1	2	2
CO3	3	1	1	1	1	2	2	3	3	1	2	2
CO4	2	1	1	2	2	3	3	3	2	1	1	2
CO5	3	1	2	2	2	3	3	1	3	1	2	1

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAS05	Advanced Database Management Systems	PE	3	3	0	0	3	40	60	100

### Course objectives

1. The main objective of this course is to enable students to the fundamental concepts of database analysis and design.
2. To recognize the importance of database analysis and design in the implementation of any Database application and to understand the process of drawing the ER-Diagrams.
3. It also gives the knowledge of the roles of transaction processing and concurrency control.
4. Convert the ER-model to relational tables, populate relational database and formulate SQL queries on data. Improve the database design by normalization.
5. Familiar with basic database storage structures and access techniques: file and page organizations, indexing methods including B tree, and hashing.

### UNIT – 1

9

Introduction to Databases: Characteristics of the Database Approach, Advantages of using the DBMS Approach, A Brief History of Database Applications. Overview of Database Languages and Architectures: Data Models, Schemas and Instances, Three-Schema Architecture and Data Independence, Database Languages and Interfaces, Database System environment, Centralized and Client-Server Architecture for DBMS.

### UNIT – 2

9

Relational Model: The Relational Model Concepts, Relational Model Constraints and Relational Database Schemas. SQL: Data Definition, Constraints, and Basic Queries and Updates, Views (Virtual Tables) in SQL.

### UNIT – 3

9

Conceptual Data Modeling: High-Level Conceptual Data Models for Database Design, A Sample Database Application, Entity Types, Entity Sets, Attributes and Keys, Relationship Types, Relationship Sets, Roles, and Structural Constraints, Weak Entity Types. ER-Diagrams: Refining the ER Design, ER Diagrams, Naming Conventions and Design Issues, Relationship Types of Degree Higher Than Two.

### UNIT – 4

9

Database Design Theory: Functional Dependencies, Normal forms based on Primary Keys, Second and Third Normal Forms, Boyce-Codd Normal Form.

**UNIT – 5****9**

Transaction Processing: Introduction, Transaction and System Concepts, Desirable Properties of Transactions. Introduction to Protocols for Concurrency Control in Databases: Two-Phase Locking Techniques for Concurrency Control-Types of Locks and System Lock Tables.

**Total 45 Hrs.****Course Outcomes**

1. Understand the basic principles of database management systems.
2. Draw Entity-Relationship diagrams to represent simple database application scenarios
3. Write SQL queries for a given context in relational database.
4. Discuss normalization techniques with simple examples.
5. Describe transaction processing and concurrency control concepts.

**Reference**

1. DATABASE SYSTEMS Models, Languages, Design and Application Programming, 6th Edition, RamezElmasri ,ShamkantB.Navathe , Pearson

Articulation Matrix												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	2	3	3	2	1	3	2	1	2	2
CO2	3	3	3	3	3	3	2	3	2	2	1	1
CO3	3	3	2	3	3	2	2	3	2	1	2	1
CO4	3	3	2	3	3	2	1	3	2	1	1	2
CO5	3	2	1	3	2	2	1	3	2	1	2	1

# **BUSINESS ANALYTICS ELECTIVES**

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAB01	Prescriptive Analytics	PE	3	3	0	0	3	40	60	100

### **Course Objectives:**

1. To know how to derive meaning from huge volume of data and information
2. To understand how knowledge discovering process is used in business decision making.
3. To provide businesses with the necessary information, at the right time, to enhance and support smarter decision making.
4. To identify patterns and relationships that can help solve business problems through data analysis.
5. Data mining techniques and tools enable enterprises to predict future trends and make more-informed business decisions.

### **UNIT – 1 INTRODUCTION**

**9**

Data mining, Text mining, Web mining, Spatial mining, Process mining, Data ware house - data marts.

### **UNIT – 2 DATA MINING PROCESS**

**9**

Data mining process – KDD, CRISP-DM, SEMMA and Domain-Specific, Classification - Prediction performance measures - RSME, MAD, MAP, MAPE, Confusion matrix, Receiver Operating Characteristic curve & AUC; Validation Techniques - hold-out, k-fold cross-validation, LOOCV, random sub sampling, and bootstrapping.

### **UNIT – 3 PREDICTION TECHNIQUES**

**9**

Data visualization, Time series – ARIMA, Winter Holts, Vector Autoregressive analysis, Multivariate regression analysis.

### **UNIT – 4 CLASSIFICATION AND CLUSTERING TECHNIQUES**

**9**

Classification- Decision trees, k nearest neighbor, Logistic regression, Discriminant analysis; Clustering; Market basket analysis;

### **UNIT – 5 MACHINE LEARNING AND AI**

**9**

Genetic algorithms, Neural network, Fuzzy logic, Support Vector Machine, Optimization techniques – Ant Colony, Particle Swarm, DEA

**Total: 45 Hrs.**

## Course Outcomes:

1. Learn to apply various data mining techniques into various areas of different domains.
2. Be able to interact competently on the topic of data mining for business intelligence.  
Know the basics of data mining processes, algorithms, & systems well enough to interact with CTOs, expert data miners, consultants, etc.
3. Apply various prediction techniques.
4. Learn about supervised and unsupervised learning technique.
5. Develop and implement a basic trainable neural network (or) a fuzzy logic system to design and manufacturing

## References:

1. Jaiwei Ham and MichelineKamber, Data Mining concepts and techniques, Kauffmann Publishers 2006
2. Efraim Turban, Ramesh Sharda, Jay E. Aronson and David King, Business Intelligence, Prentice Hall, 2008.
3. W.H.Inmon, Building the Data Warehouse, fourth edition Wiley India pvt. Ltd. 2005.
4. Ralph Kimball and Richard Merz, The data warehouse toolkit, John Wiley, 3<sup>rd</sup> edition, 2013.
5. Michel Berry and Gordon Linoff, Mastering Data mining, John Wiley and Sons Inc, 2<sup>nd</sup> Edition, 2011
6. Michel Berry and Gordon Linoff, Data mining techniques for Marketing, Sales and Customer support, John Wiley, 2011
7. G. K. Gupta, Introduction to Data mining with Case Studies, Prentice hall of India, 2011
8. Giudici, Applied Data mining – Statistical Methods for Business and Industry, John Wiley. 2009
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10. Michalewicz Z., Schmidt M. Michalewicz M and Chiriack C, Adaptive Business Intelligence, Springer – Verlag, 2007
11. GalitShmueli, Nitin R. Patel and Peter C. Bruce, Data Mining for Business Intelligence – Concepts, Techniques and Applications Wiley, India, 2010.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	2	1	2	1	1	2	3	1	1	1
CO2	2	2	2	1	3	2	1	1	2	1	1	1
CO3	2	2	1	1	2	2	1	2	2	1	2	1
CO4	2	3	1	1	2	1	1	1	1	1	1	1
CO5	1	3	1	1	2	1	1	1	1	1	1	1

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAB02	Deep Learning and Artificial Intelligence	PE	3	3	0	0	3	40	60	100

### **Course Objectives:**

1. To expose various algorithms related to Deep Learning and Artificial Intelligence.
2. To prepare students to apply suitable algorithm for the specified applications.
3. To make students comfortable with tools and techniques required in handling large amounts of datasets.
4. They will also uncover various deep learning methods in NLP, Neural Networks etc.
5. To identify problems where artificial intelligence techniques are applicable. Apply selected basic AI techniques; judge applicability of more advanced techniques.

### **UNIT – 1 DEEP NETWORKS**

**9**

Deep Networks: Modern Practices: Deep Forward Networks: Example: Learning XOR - Gradient-Based Learning - Hidden Units - Architecture Design - Regularization for Deep Learning.

### **UNIT – 2 MODELS**

**9**

Optimization for Training Deep Models: How Learning Differs from Pure Optimization - Challenges in Neural Network Optimization - Basic Algorithms - Parameter Initialization Strategies - Algorithms with Adaptive Learning Rates - Approximate Second-Order Methods - Optimization Strategies - Meta Algorithms.

### **UNIT – 3 INTELLIGENT SYSTEMS**

**9**

Introduction to Artificial Intelligence: Intelligent Systems - Foundations of AI – Applications - Tic-Tac-Toe Game Playing - Problem Solving: State-Space Search and Control Strategies: Introduction - General Problem Solving - Exhaustive Searches - Heuristic Search Techniques.

### **UNIT – 4 KNOWLEDGE REPRESENTATION**

**9**

Advanced Problem-Solving Paradigm: Planning: Introduction - Types of Planning Systems - Knowledge Representation: Introduction - Approaches to Knowledge Representation - Knowledge Representation using Semantic Network - Knowledge Representation using Frames.

### **UNIT – 5 APPLICATIONS**

**9**

Expert Systems and Applications: Blackboard Systems - Truth Maintenance Systems - Applications of Expert Systems - Machine-Learning Paradigms: Machine-Learning Systems - Supervised - Unsupervised Learning.

**Total: 45 Hrs.**

**Course Outcomes:**

1. Knowledge of Algorithms of Deep Learning & Artificial Intelligence.
2. Knowledge of applying Algorithm to specified applications.
3. Ability to understand intelligent systems and Heuristic Search Techniques
4. Understanding of Knowledge Representation, Semantic Networks and Frames
5. Knowledge Of Expert systems, applications and Machine learning

**References:**

1. Ian Goodfellow, YoshuaBengio, Aaron Courville, "Deep Learning", MIT Press, 2016.
2. Li Deng and Dong Yu, "Deep Learning Methods and Applications", Foundations and Trends in Signal Processing.
3. YoshuaBengio, "Learning Deep Architectures for AI", Foundations and Trends in Machine Learning.
4. SarojKaushik, "Artificial Intelligence", Cengage Learning India Pvt. Ltd.
5. Deepak Khemani, "A First Course in Artificial Intelligence", McGraw Hill Education(India) Private Limited, NewDelhi.
6. Elaine Rich, Kevin Night, Shivashankar B Nair, "Artificial Intelligence" Third Edition, McGraw Hill, 2008.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	2	2	3	2	1	2	1	1	1	1
CO2	3	2	1	2	2	2	1	2	1	1	1	1
CO3	3	1	1	1	2	2	1	1	2	1	2	1
CO4	3	1	3	1	1	1	2	1	2	1	1	2
CO5	3	3	2	1	1	1	2	2	2	1	1	1

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAB03	Predictive Analytics	PE	3	3	0	0	3	40	60	100

### **Course Objectives:**

1. To showcase the opportunities that exist today to leverage the power of the web and social media
2. Students will apply network analytics and devise KPI's and other digital marketing metrics.
3. The student will also learn about Ad quality score, landing page quality, etc. Advanced analytics with machine learning algorithms is the key takeaway of this course.
4. To Spot trends related to offerings and brands. Understand conversations - what is being said and how it is being received.
5. Derive customer sentiment towards products and services.

### **UNIT – 1 INTRODUCTION**

**9**

Evolution of online communities - History and Evolution of Social Media- Social Media vs. traditional media - Social Media Audience and Goals for using Social Media - Understanding Social Media: Strong and weak ties – Influencers - How ideas travel – Virality - Social theory and social media -technological determinism in popular discourse on social media technologies.

### **UNIT – 2 COMMUNITY BUILDING AND MANAGEMENT**

**9**

Science of Social Media - Keys to Community Building - Promoting Social Media Pages - Linking Social Media Accounts-The Viral Impact of Social Media-Digital PR-Encourage Positive Chatter in Social Media - Identity in social media: formation of identities, communities, activist movements, and consumer markets - Social Media as business.

### **UNIT – 3 SOCIAL MEDIA POLICIES AND MEASUREMENTS**

**9**

Social Media Policies-Etiquette, Privacy - ethical problems posed by emerging social media technologies - The road ahead in social media- The Basics of Tracking Social Media -social media analytics- Insights Gained from social Media- Customized Campaign Performance Reports -Observations of social media use.

### **UNIT – 4 WEB ANALYTICS**

**9**

Web Analytics - Present - Future, Data Collection - Importance - Options, Overview of Qualitative Analysis, Business Analysis, KPI - Planning, Critical Components of a Successful Web Analytics Strategy, Web Analytics Fundamentals, Concepts, Proposals & Reports, Web Data Analysis.

## UNIT – 5 SEARCH ANALYTICS

9

Search engine optimization (SEO), non-linear media consumption, user engagement, user-generated content, web traffic analysis, navigation, usability, eye tracking, online security, online ethics, content management system, data visualization, RSS feeds, Mobile platforms, User centred design, Understanding search behaviors.

**Total: 45 Hrs.**

### Course Outcomes:

1. The students will be able to enhance the social media skills.
2. The students will be able to develop a mass communication strategy and guide campaigns.
3. To get an idea of social media policies.
4. Understand the fundamentals and concepts of web analytics.
5. How to effectively use the resulting insights to support website design decisions, campaign optimisation, search analytics, etc.

### References:

1. K. M. Shrivastava, Social Media in Business and Governance, Sterling Publishers Private Limited, 2013
2. Christian Fuchs, Social Media a critical introduction, SAGE Publications Ltd, 2014
3. Bittu Kumar, Social Networking, V & S Publishers, 2013
4. AvinashKaushik, Web Analytics - An Hour a Day, Wiley Publishing, 2007
5. Eric T. Peterson, Web Analytics Demystified, Celilo Group Media and Café Press, 2004
6. TakeshiMoriguchi, Web Analytics Consultant Official Textbook, 7<sup>th</sup> Edition, 2016

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	1	1	1	1	1	1	1	1	1	1
CO2	3	2	1	1	1	2	1	1	1	1	1	1
CO3	3	3	1	1	1	2	1	1	1	1	2	1
CO4	3	3	1	1	1	1	1	1	1	1	1	2
CO5	3	3	1	1	1	1	1	2	1	1	1	1

Course Code	Course Title	Category	Contact Hours	L	T	P	C	CA	EA	TOTAL
322BAB04	Social Media Web Analytics	PE	3	3	0	0	3	40	60	100

### **COURSE OBJECTIVE:**

1. To showcase the opportunities that exist today to leverage the power of the web and social media
2. Students will apply network analytics and devise KPI's and other digital marketing metrics.
3. The student will also learn about Ad quality score, landing page quality, etc. Advanced analytics with machine learning algorithms is the key takeaway of this course.
4. To Spot trends related to offerings and brands. Understand conversations - what is being said and how it is being received.
5. Derive customer sentiment towards products and services.

### **UNIT I INTRODUCTION**

**9**

Evolution of online communities - History and Evolution of Social Media- Social Media vs. traditional media - Social Media Audience and Goals for using Social Media - Understanding Social Media: Strong and weak ties – Influencers - How ideas travel – Virality - Social theory and social media -technological determinism in popular discourse on social media technologies.

### **UNIT II COMMUNITY BUILDING AND MANAGEMENT**

**9**

Science of Social Media - Keys to Community Building - Promoting Social Media Pages - Linking Social Media Accounts-The Viral Impact of Social Media-Digital PR-Encourage Positive Chatter in Social Media - Identity in social media: formation of identities, communities, activist movements, and consumer markets - Social Media as business.

### **UNIT III SOCIAL MEDIA POLICIES AND MEASUREMENTS**

**9**

Social Media Policies-Etiquette, Privacy- ethical problems posed by emerging social media technologies - The road ahead in social media- The Basics of Tracking Social Media - social media analytics - Insights gained from social media - Customized Campaign Performance Reports - Observations of social media use.

### **UNIT IV WEB ANALYTICS**

**9**

Web Analytics - Present - Future, Data Collection - Importance - Options, Overview of Qualitative Analysis, Business Analysis, KPI - Planning, Critical Components of a Successful

Web Analytics Strategy, Web Analytics Fundamentals, Concepts, Proposals & Reports, Web Data Analysis.

## UNIT V SEARCH ANALYTICS

9

Search Engine Optimization (SEO), non-linear media consumption, user engagement, user generated content, web traffic analysis, navigation, usability, eye tracking, online security, online ethics, content management system, data visualization, RSS feeds, Mobile platforms, User centre design, Understanding search behaviors.

**TOTAL: 45 Hrs**

### COURSE OUTCOMES:

1. The students will be able to enhance the social media skills.
2. The students will be able to develop a mass communication strategy and guide campaigns.
3. To get an idea of social media policies.
4. Understand the fundamentals and concepts of web analytics.
5. How to effectively use the resulting insights to support website design decisions, campaign optimization, search analytics, etc.

### REFERENCES:

1. K. M. Shrivastava, Social Media in Business and Governance, Sterling Publishers Private Limited, 2013
2. Christian Fuchs, Social Media a critical introduction, SAGE Publications Ltd, 2014
3. Bittu Kumar, Social Networking, V & S Publishers, 2013
4. Avinash Kaushik, Web Analytics - An Hour a Day, Wiley Publishing, 2007
5. ric T. Peterson, Web Analytics Demystified, Celilo Group Media and Café Press, 2004
6. TakeshiMoriguchi, Web Analytics Consultant Official Textbook, 7<sup>th</sup> Edition, 2016

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	1	1	1	1	1	2		1	1	1
CO2	2	2	1	1	1	1	1	2	2	1	1	1
CO3	3	2	1	1	1	1	1	2	2	1	1	1
CO4	2	2	1	1	1	2	1	2	2	1	1	2
CO5	3	2	1	1	1	2	1	2	2	1	1	1

<b>Course Code</b>	<b>Course Title</b>	<b>Category</b>	<b>Contact Hours</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>	<b>CA</b>	<b>EA</b>	<b>TOTAL</b>
322BAB05	Multivariate data analysis	PE	3	3	0	0	3	40	60	100

## COURSE OBJECTIVES

1. Introduce the language of multivariate data analysis, understand the characteristics of multivariate quantitative research, including strengths and weaknesses
2. Understand the principles and characteristics of the multivariate data analysis techniques
3. To understand the main features of multivariate data. To be able to use exploratory and confirmatory multivariate statistical methods properly.
4. To be able to carry out multivariate statistical techniques and methods efficiently and effectively. Familiarize you with classic multivariate statistics, Make sure that you understand how to actually conduct these analyses
5. Prepare you for further study in applied statistics, Give you enough background to understand current applied statistics research

Unit – 1 9

Introduction - Basic multivariate statistics–mean, variance, covariance, correlation, linear combination of variables, geometric concepts, distances

Unit – 2 9

Interdependence methods Principal component analysis, factor analysis, cluster analysis, correspondence analysis, multidimensional scaling

Unit – 3 9

Dependence methods Multiple regression models, logistic regression canonical correlation, discriminate analysis.

Unit – 4 9

Elements of data processing, matrix algebra useful for statistics with R and SAS. Multivariate Normal Distribution. Multivariate Normal Distribution, cont. Inference about a mean vector. One-Way Multivariate Analysis of Variance, Two-Way Multivariate Analysis of Variance.

Unit – 5 9

Multivariate Normal Distribution, inference about a mean vector, One-Way MANOVA, Two-way MANOVA, cont. Repeated Measures, Profile Analysis, Two-way MANOVA, Profile Analysis, Multivariate regression.

Total 45 Hrs

## COURSE OUTCOMES

To pass the course the student should be able to:

1. Account for important theorems and concepts in multivariate analysis,
2. Account for the most common multivariate methods,
3. Apply the multivariate methods in the framework of the multivariate analysis,
4. Use the statistical software to analyse data. (DATA MINING) Explore and summarize multivariate data using graphical and numerical methods and techniques to uncover hidden information and patterns.
5. Describe properties of multivariate distributions such as multivariate normal.

### References

1. Dillon and Goldstein, Multivariate Analysis, Dryden, 1984.
2. Green, Analyzing Multivariate Data, Dryden 1978.
3. Johnson and Wickern, Applied Multivariate Statistical Analysis, Prentice Hall (3rd edition)
4. Mardia, Kent and Bibby, Multivariate Analysis, Academic Press, 1989.
5. Morrison, Applied Linear Statistical Methods, Prentice Hall, 1983.
6. Bollen, Structural Equations with Latent Variables Wiley, 1989.
7. Green and Carroll, Mathematical Tools for Applied Multivariate Analysis, Academic Press, 1976.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1			2		2		2	1	1
CO2	2	2	1	1	1	2	1	2	1	1	1	1
CO3	3	2	1	1	1	2	1	2	1	1	2	1
CO4	2	2	1	1	1	2	1	2	1	1	1	2
CO5	3	2	1	1	1	2	1	2	1	1	1	1

**ADHIYAMAAN COLLEGE OF ENGINEERING (AUTONOMOUS)**

**MASTER OF BUSINESS ADMINISTRATION**

**REGULATION 2022**

**CURRICULUM AND SYLLABUS OF IV SEMESTER**

**SEMESTER – IV**

<b>Sl. No</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Category</b>	<b>Contact Hours</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
1	422BAP07	Project Work	EEC	28	0	0	28	14
<b>TOTAL</b>				<b>28</b>	<b>0</b>	<b>0</b>	<b>28</b>	<b>14</b>