# St. Xavier's University, Kolkata

**Xavier Business School**

**Action Area IIIB, New Town, Kolkata – 700160**

# Modular Syllabus for MBA (Semester IV)

# Academic Year: 2026-27 onwards

**SEMESTER IV**

| Code | Titles | Credits | Full Marks |
|---|---|---|---|
| ***Specializations (Elective Papers)** - Each student must select **FIVE** Electives Papers | | | |
| MBR4011T | Specialization (Elective Paper)* | 4 | 100 |
| MBR4021T | Specialization (Elective Paper)* | 4 | 100 |
| MBR4031T | Specialization (Elective Paper)* | 4 | 100 |
| MBR4041T | Specialization (Elective Paper)* | 4 | 100 |
| MBR4051T | Specialization (Elective Paper)* | 4 | 100 |
| MBR4061T | Specialization (Elective Paper)* | 4 | 100 |
| MBR4071T | Specialization (Elective Paper)* | 4 | 100 |
| **Core Papers** | | | |
| MBR4010T | Entrepreneurship | 2 | 50 |
| MBR4020T | ESG-Principles & Practices | 2 | 50 |
| | **Total Credits** | **24** | **600** |

**Section 02**

**MBR4010T: [Entrepreneurship], [2 credits], [Semester IV], [Nature of the Course: Core Course]**

**Course Outcomes (CO)**

*At the end of this course, students will be able to:*

**CO1:** Understand the core concepts of entrepreneurship, including its significance, characteristics, and role in economic development.

**CO2:** Analyze major theories and historical perspectives to interpret entrepreneurial behaviour and cognitive approaches.

**CO3:** Differentiate among various types of entrepreneurs and business ownership structures while recognizing their functions in business.

**CO4:** Evaluate how environmental factors and the startup ecosystem influence entrepreneurial decisions and opportunities.

**CO5:** Develop strategic thinking and prepare a comprehensive business plan with awareness of funding sources and financial requirements.

**Course Content**

| Module No | Module Name | Description | No of Hours allotted | Marks allotted | Credit of each module | Associated Course Outcome (CO) |
|---|---|---|---|---|---|---|
| **Module I** | **Entrepreneurship - An Introduction** | Meaning; Tools of Entrepreneurship; Nature and Characteristics; Why Entrepreneurship; Factors affecting Entrepreneurship; Entrepreneurship & Economic development; Barriers to Entrepreneurship; Future of Entrepreneurship | 4 | 20% | 0.8 | CO1 |
| **Module II** | **Theories of Entrepreneurship** | Character Traits of Entrepreneurs. Historical Perspectives of Entrepreneurship; Emergence of Entrepreneurship; Theories of Entrepreneurship. Cognitive theory and entrepreneurial behaviour. | 4 | 20% | 0.8 | CO2 |
| **Module III** | **Entrepreneur - Types and Functions** | Different types of Entrepreneurs; Functions of an Entrepreneur; Entrepreneur vs. Entrepreneurship; Owner-Manager vs. Entrepreneur. Sole Proprietorship; Partnership; Joint Stock Company; Franchising | 4 | 20% | 0.8 | CO3 |
| **Module IV** | **Entrepreneurship and Role of Environment** | Meaning of Environment; Relation between Entrepreneurship & Environment; Entrepreneurial Environment. Startup scenario in India. | 4 | 20% | 0.8 | CO4 |
| **Module V** | **Developing Strategy and business plan** | Strategy development for new entrepreneurship. Strategy formation cycle. Structure & content of a business plan. Financing of the business – different source of funding | 4 | 20% | 0.8 | CO5 |

**Suggested Texts**

1. Entrepreneurship and small business – Start-up, growth and Maturity (5th Edition) by Paul Burns, Bloomsbury Publication, New Delhi
2. Entrepreneurship – New Venture Creation by David H. Holt, Prentice Hall of India Pvt. Ltd. New Delhi, 2016
3. Entrepreneurship by Rajeev Roy, Oxford University Press, New Delhi, 2020
4. Entrepreneurship – International Edition by Robert D. Hisrich & Michael P. Peters, McGraw Hill, New York, 2020

## Section 03

**CO-PO Mapping**

| CO/ PO | **PO1** Knowledge of Business | **PO2** Critical & Problem-Solving Skills | **PO3** Ethical orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building Skills | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO1 | H | M | L | M | | L | | M |
| CO2 | M | H | | M | | | | H |
| CO3 | H | M | | M | M | | | M |
| CO4 | M | H | L | M | | M | | M |
| CO5 | H | H | M | M | H | M | | M |

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**MBR4020T: [ESG-PRINCIPLES & PRACTICES], [2 credits], [Semester IV], [Nature of the Course: Core Paper]**

**Course Outcomes (CO)**

*At the end of this course, students will be able to*

**CO1 :** Understand the fundamentals of ESG, SDGs, and their link with environmental ecology and CSR.
**CO2:**Analyze stakeholder expectations and governance structures to assess their influence on ESG performance.
**CO3**:Evaluate key ESG frameworks and emission scopes, including SBTi, TCFD, CDP, SASB, and BRSR.
**CO4**:Apply Life Cycle Assessment and Materiality Assessment to identify ESG priorities.
**CO5:**Assess and compare sustainability reporting standards—Integrated Reporting, GRI, and BRSR—to review corporate ESG disclosures.

**Course Content**

| **Module No** | **Module Name** | **Topic(s)** | **Description** | **No of Hours allotted** | **Marks allotted** | **Credit of each Module** | **Associated Course Outcome (CO)** |
|---|---|---|---|---|---|---|---|
| I | Foundations of ESG, SDGs & CSR Linkages | Introduction to ESG: Concepts and evolution<br>ESG vs CSR vs Sustainability<br>Environmental ecology and business responsibility | Introduction and Basic Concepts | 4 | 20% | 0.4 | CO1 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Overview of United Nations Sustainable Development Goals (SDGs) & Strategic importance of ESG for firms | | | | | |
| II | Stakeholders, Governance & ESG Risks | Stakeholder theory and mapping<br>ESG risks and opportunities<br>Corporate governance and board responsibility<br>Role of investors, ESG ratings, and ethics | Concept and Overview | 4 | 20% | 0.4 | CO2 |
| III | ESG Frameworks & Emission Scopes | Science Based Targets initiative (SBTi)<br>Task Force on Climate-related Financial Disclosures (TCFD)<br>Carbon Disclosure Project (CDP)<br>Sustainability Accounting Standards Board (SASB) | Concept and Overview | 4 | 25% | 0.5 | CO3 |
| IV | ESG Tools – Life Cycle & Materiality Assessment | Life Cycle Assessment (LCA): basics and stages<br>Materiality Assessment (single vs double materiality)<br>ESG priority identification<br>Case Study | Concept, Process and Application | 4 | 15% | 0.30 | CO4 |
| V | Sustainability Reporting & Disclosure Analysis | Reporting frameworks – GRI & BRSR<br>Comparative analysis of reporting standards<br>ESG disclosures, transparency & greenwashing<br>Case Study | Concept, Process and Application | 4 | 20% | 0.40 | CO5 |

**Suggested Readings**

Sustainable Investing - The Art of Long-Term Performance – Cary Krosinsky, Nick Robins. Routledge
Demystifying ESG – A Comprehensive Guide for Environmental-Social-Governance Integration and Practice – Garima Dadhich, Raj Atrey. Taxmann.
Benchmarking ESG & CSR: A Compendium of Best Practices in ESG & CSR in India - Garima Dadhich, Raj Atrey. Taxmann.
ESG & BRSR Reporting - Kishor M Parikh - Taxmann.

**CO-PO mapping**

| **CO/ PO** | **PO1** Knowledge of Business | **PO2** Critical & Problem Solving Skills | **PO3** Ethical orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building Skills | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO 1 | M | | H | | | | H | |
| CO 2 | H | | M | M | | | H | |
| CO 3 | M | | H | H | | | M | M |
| CO 4 | H | | H | M | | | H | H |
| CO 5 | M | | H | H | | | H | M |

** *H means High relevance, M means Medium relevance, L means Low relevance*

| **CIA PLAN (out of 60 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| Quiz | Individual | 10 | CO1, CO2 |
| Mid Semester Exam | Individual | 20 | CO1, CO2, CO3 |
| Assignment | Individual | 10 | CO4 |
| Project/Case Presentation | Group | 20 | CO5 |
| TOTAL | | 60 | |

| **END SEMESTER EXAMINATION (out of 40 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| End Semester Exam | Individual | 40 | CO1, CO2, CO3, CO4, CO5 |

**Section 02**

**MBR4011T: [Financial Derivatives and Risk Management], [4 credits], [Semester IV], [Nature of the Course: Elective Course in Finance Area]**

**Course Outcomes (CO)**

*At the end of this course, students will be able to*

**CO1**: get an idea about the regulatory framework of financial derivatives

**CO2:** understand the operations of derivatives exchanges, and be able to compare and contrast Exchange Traded and Over -The Counter (OTC) instruments

**CO3:** gain good knowledge about different types of forwards, futures, swaps and options, the principal differences between them, and where and how they are traded

**CO4:** identify the advantages and disadvantages of using financial instruments according to various market conditions and identify the relationship of financial derivatives with their underlying assets

**CO5:** understand the risks of all types of financial derivatives and derivatives portfolios, and efficient ways of managing those risks.

**Course Content:**

| Module No | Module Name | Topic(s) | Description | No of Hours allotted | Marks allotted | Credit for each Module | Associated Course Outcome (CO) |
|---|---|---|---|---|---|---|---|
| **I** | **Introduction** | Forward contracts, Futures contracts, Options and other derivatives. | Derivatives | 4 | 10% | 0.4 | CO1, CO2 |
| II | **Forward and Futures** | Markets; use of futures for hedging; Risk Management Using Futures and Forwards | Forward and Futures | 8 | 20% | 0.8 | CO3, CO4 |
| | | Pricing- Cost of Carry Model; interest rate futures, FRA | | | | | |
| III | **Options** | Markets; Payoffs; Risk Neutral Valuation | Options | 12 | 30% | 1.2 | CO3, CO4 |
| | | Binomial Option Pricing Model; Black Scholes Option Pricing Model | | | | | |
| | | Put Call Parity; Uses of Options | | | | | |
| | | Option Strategies | | | | | |
| IV | **Swap** | Definition, Types, Interest rate swap, Currency swap | Swap | 8 | 20% | 0.8 | CO3, CO4 |
| V | **Management of market risk** | Stop loss; Delta hedging; Theta; Gamma; Vega; Rho; Scenario Analysis; Portfolio insurance, VaR | Risk Management | 8 | 20% | 0.8 | CO5 |

**Suggested Readings:**

Textbooks:

Hull: Options, Futures and Other Derivatives, Pearson Education/PHI

An Introduction of Financial Economics, Khatua, Majumdar & Ali, ABS, 2021.

**Reference Books**:

Chance: Derivatives & Risk Management, Thomson Learning

Dufobsky & Miller: Derivatives Valuation and Risk Management, OUP

Kumar: Financial Derivatives, PHI

Stulz: Risk Management & Derivatives, Thomson Learning

**Section - 03**

**CO-PO mapping**

| CO/ PO | **PO1** Knowledge of Business | **PO2** Critical & Problem-Solving Skills | **PO3** Ethical orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building Skills | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO1 | H | | | M | | | | |
| CO2 | H | | | M | | | | |
| CO3 | H | H | | | | L | M | L |
| CO4 | H | H | | | | L | M | L |
| CO5 | H | H | | | | M | | L |

*** H means High relevance, M means Medium relevance, L means Low relevance*

| **CIA PLAN (out of 60 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| Surprise Quiz1 (tentatively after 10th session) | Individual | 10 | |
| Mid Semester Exam | Individual | 20 | CO1, CO2 |
| Assignment (tentatively after 15th session) | Group | 10 | CO3 |
| Project Presentation (tentatively between 35th-40th session) | Group | 20 | CO4 & CO5 |
| TOTAL | | 60 | |

| **END SEMESTER EXAMINATION (out of 40 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| End Semester Exam | Individual | 40 | CO1, CO2, CO3, CO4, CO5 |

**MBR4021T : Fixed Income Securities, [Semester IV], [Nature of the Course: Discipline Specific Elective]**

**Course Description**

The course provides a comprehensive understanding of fixed income securities, valuation, risk analysis, and portfolio management techniques. Based on the globally recognized text Fixed Income Analysis by Frank J. Fabozzi, this course equips students with the conceptual and analytical skills required to evaluate debt instruments, understand interest rate dynamics, assess credit quality, and apply fixed-income portfolio strategies.

## Course Outcomes (COs)

**CO1:** Understand the features, structure, and types of fixed income securities.
**CO2:** Analyse yield curves, yield spreads, valuation models, and interest rate dynamics.
**CO3:** Enable students to analyze and value bonds with embedded options and interest rate features using binomial interest rate tree models.
**CO4:** Evaluate Mortgage-Backed Securities (MBS), Asset-Backed Securities (ABS), and fixed-income derivatives.
**CO5:** Develop fixed-income portfolio strategies including immunization and hedging.

**Course Contents**

| Module No. | Module Name | Topic(s) | Description | No. of Hours allotted | Marks allotted | Credit for each Module | Associated Course Outcome |
|---|---|---|---|---|---|---|---|
| I | Introduction to Fixed Income Markets | Features of debt securities—indenture, covenants, maturity, coupon structures; Types of securities—government, corporate, municipal, agency bonds; Risks in fixed income—interest rate, credit, liquidity, currency, inflation; Overview of global and Indian bond markets | Fixed income securities market; Bond markets; Risks in fixed income markets | 10 | 25% | 1 | CO 1 |
| II | Valuation & Yield Measures | Principles of valuation of bonds; Price-yield relationship; Yield measures—YTM, YTC, YTP; Spot rates, forward rates & term structure; Duration & convexity; Yield curve theories | Valuation of bonds; Yield to maturity | 5 | 12.5% | 0.5 | CO 2 |
| III | Fixed Income Instruments with Embedded Features | Callable, puttable and convertible bonds; Floating rate securities, caps, floors; Inverse floaters; Binomial interest rate trees; Valuing bonds with embedded options | Types of bonds; Bond valuation with embedded options | 5 | 12.5% | 0.5 | CO 3 |
| IV | Structured Finance – Mortgage-Backed Securities & Asset-Backed Securities | Mortgage-backed securities: pass-throughs, Collateralized Mortgage Obligations (CMOs); Prepayment risk; Asset-backed securities—auto, credit card, student loans; Stripped Mortgage-Backed Securities (MBS), non-agency MBS; | Understanding structured finance; Mortgage backed securities | 10 | 25% | 1 | CO 4 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Collateralized Debt Obligations (CDOs); Option Adjusted Spread (OAS), Z-spread, Monte Carlo simulation | | | | | |
| V | Derivatives & Fixed Income Portfolio Management | Interest rate futures, swaps, caps, floors; Hedging interest rate risk; Credit derivatives—Credit Default Swaps (CDS), Total Return Swaps (TRS); Credit analysis; Bond portfolio strategies—active, passive, immunization; Global portfolio management | Types of derivatives; Bond portfolio strategies | 10 | 25% | 1 | CO 5 |

## Reference Books


1. Fabozzi, Frank J., "Fixed Income Analysis", CFA Institute Series, Wiley.
2. Fabozzi, Frank J., "Bond Markets, Analysis and Strategies", Pearson.
3. Sundaram, Janakiraman., "Fixed Income Securities" McGraw Hill.
4. Mishkin, Frederic S., "The Economics of Money, Banking and Financial Markets", Pearson.
5. Madura, Jeff., "Financial Markets and Institutions", Cengage.


** The latest edition of the books should be referred by the students.

Reference Websites

- rbi.org.in
- sebi.gov.in
- worldgovernmentbonds.com

**CO-PO mapping**

| CO/ PO | PO1 Knowledge of Business | PO2 Critical & Problem-Solving Skills | PO3 Ethical orientation | PO4 Global perspective & Communication Skills | PO5 Leadership & Team Building Skills | PO6 Entrepreneurship Skills | PO7 Sustainability Perspective | PO8 Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO1 | H | | | M | | | | L |
| CO2 | H | H | | | | | L | L |
| CO3 | H | H | | | | | L | L |
| CO4 | H | | | | | | M | M |
| CO5 | H | M | | | | | M | M |
| CO6 | H | | M | M | M | | M | H |

*** H means High relevance, M means Medium relevance, L means Low relevance*

| CIA PLAN (out of 60 marks) | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| Surprise Quiz1 (tentatively after 10th session) | Individual | 10 | |
| Mid Semester Exam | Individual | 20 | CO1, CO2, CO3 |
| Case study | Group | 10 | CO4, CO5 |
| Assignment | Group | 20 | CO4 |
| TOTAL | | 60 | |

| END SEMESTER EXAMINATION (out of 40 marks) | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| End Semester Exam | Individual | 40 | CO1, CO2, CO3, CO4, CO5 |

**Section 02**

**MBR4031T: Financial Risk Analytics, (4 credits) (Semester IV), Nature of the Course: [Optional Paper – Business Analytics]**

## Course Outcomes (CO)

*At the end of this course, students will be able to*

**CO1:** Understand and explain the principles of financial risk management, including risk-return tradeoff, volatility, correlation, and basic portfolio analysis.

**CO2:** Apply quantitative models to estimate market risk using techniques such as Value-at-Risk (VaR), Expected Shortfall (ES), GARCH family models, and Monte Carlo simulations.

**CO3:** Evaluate and model credit risk through the use of probability of default, internal rating systems, structural models (Merton, KMV), and loss distribution approaches.

**CO4:** Analyze the market risk of fixed income and derivative instruments using advanced techniques including delta-gamma approximation, duration-based revaluation, and cash flow mapping

**CO5:** Assess operational and liquidity risk using aggregate loss distribution models, liquidity-adjusted VaR, and stress testing, including asset-liability management practices in financial institutions.

**Course Content**

| Module No | Module Name | Topic | Description | No of hours | Marks allotted | Credit of each module | Associated Course Outcome |
|---|---|---|---|---|---|---|---|
| 1 | **Overview of Financial Risk Analytics** | Basics of Financial Risk Management, Risk and Return, Volatility, Correlation, Covariance | Fundamental concepts of Financial Risk Analytics | 10 | 25% | 1 | CO1 |
| | | Fundamentals of Bond, Duration, Convexity, Basics of Portfolio Analysis | | | | | |
| | | Systematic Risk Estimation | | | | | |
| | | Basics of Statistics and Probability Theory | | | | | |

| Module No | Module Name | Topic | Description | No of hours | Marks allotted | Credit of each module | Associated Course Outcome |
|---|---|---|---|---|---|---|---|
| 2 | **Credit Risk Modeling** | Introduction to Credit Risk, Default Risk, Estimation of Default Probabilities, Agency Ratings | Credit Risk Modeling methods and techniques | 10 | 25% | 1 | CO1, CO2, CO3 |
| | | Credit Scoring and Internal Rating Models Including Credit Scoring for Private Firms, Non-manufacturing Firms, Emerging Markets Firm, Behavioral Scoring | | | | | |
| | | Loan Default Prediction (Logistic Regression, Probit, Complementary Log-log, Decision Tree), Through the Cycle (TTC), Point in Time (PIT), Credit Metrics (VaR Estimation for Non-tradable Loan/Bond Portfolio) | | | | | |
| | | Structural Models for Estimating Probability of Default and Distance to Default (Merton, KMV), Reduced Form Model, Loss Given Default (LGD), Exposure at Default (EAD), Expected Credit Loss, Unexpected Credit Loss, VaR, Economic Capital, Credit Risk Modeling PD and Credit Risk Loss Distribution | | | | | |
| **3** | **Market Risk optimization** | Market Risk Analysis for Single Asset: Non-parametric and Parametric Approaches to Estimate VaR and Expected Shortfall; Historical Simulation, Monte Carlo Simulation, Simple | Market Risk optimization under different situations and the models used | 10 | 25% | 1 | CO3, CO4 |

| Module No | Module Name | Topic | Description | No of hours | Marks allotted | Credit of each module | Associated Course Outcome |
|---|---|---|---|---|---|---|---|
| | | Variance-based Approach, Risk Metrics, GARCH, EGARCH, GJR-GARCH Models, Extreme Value Theory; VaR Evaluation: Back testing | | | | | |
| | | Market Risk Analysis for Portfolio: Standard Covariance/Correlation Approach, Risk Metrics, Multivariate GARCH Model, Monte Carlo Simulation for the Portfolio; VaR Evaluation | | | | | |
| | | Market Risk Analysis of Fixed Income Securities and Options: VaR of Fixed Income Portfolio: Duration-based Partial Revaluation Approach (Historical Simulation), Cash Flow Mapping; VaR of Options: Monte Carlo Simulation, Delta Approximation, Delta-Gamma Approximation | | | | | |
| 4 | **Operational and Liquidity Risk Analysis, Asset Liability Management in Banks and Others** | Introduction to Operational Risk with Evidence of Operational Failures, Estimating VaR for Operational Risk (Aggregate Loss Distribution/LDA) using Monte Carlo Simulation, Liquidity Adjusted VaR Under Normal and Stressed Market, Stress Testing, RAROC | Liquidity Risk Analysis and Asset Liability Management in financial houses | 10 | 25% | 1 | CO5 |
| | | Asset Liability Management in Banks (NII and Duration GAP Analysis in Banks) | | | | | |

**Section - 03**

**CO-PO mapping**

| CO/PO | **PO1** Knowledge of Business | **PO2** Critical & Problem-Solving Skills | **PO3** Ethical orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building Skills | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO1 | H | M | L | M | M | M | L | M |
| CO2 | H | H | L | L | M | M | L | H |
| CO3 | H | H | L | L | M | M | L | H |
| CO4 | H | H | L | M | M | M | L | H |
| CO5 | H | H | M | M | M | M | M | H |

**** *H means High relevance, M means Medium relevance, L means Low relevance*

| **CIA PLAN (out of 60 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| Research project | Group presentation | 30 | CO1, CO2, CO3 |
| Mid Semester Exam | CIA Written | 20 | CO1, CO2, CO3 |
| Assignment (tentatively after 18th session) | Individual | 10 | CO3, CO4, CO5 |
| TOTAL | | 60 | |

| **END SEMESTER EXAMINATION (out of 40 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| End Semester Exam | Individual | 40 | CO1, CO2, CO3, CO4, CO5 |

# Section 02

**MBR4041T: [Corporate Restructuring & Valuation], [4 credits], [Semester IV], [Nature of the Course: Elective Course in Finance Area]**

**Course Outcomes (CO)**

*At the end of this course, students will be able to:*

**CO1:** get an idea about the regulatory framework of advanced corporate restructuring

**CO2:** understand the operations of various financial management strategies

**CO3:** gain good knowledge about different types of strategic financial decisions

**CO4:**identify the various aspects of financial instruments according to various market conditions and identify the relationship of legal, accounting & taxation aspect

**CO5:** understand all types of valuation aspects

**Course Content:**

| Module No | Module Name | Topic(s) | Description | No of Hours allotted | Marks allotted | Credit foreach Module | Associated Course Outcome (CO) |
|---|---|---|---|---|---|---|---|
| **I** | **Introduction** | Corporate Restructuring: Concept and Form: Merger, Consolidation, Acquisition, Divestiture, Demerger, carve out, Joint venture, Delisting of Securities, M&A as a Growth Strategy, Takeover and Defense Tactics, Funding of Acquisition, LBO and MBO | overview | 4 | 10% | 0.4 | CO1<br>CO2 |
| **II** | **Strategies** | Growth strategy: Intensive, integrative and Diversification growth, Theory of M&A: Monopoly theory, Efficiency Theory, Valuation theory, Raider Theory and Empire Building Theory<br><br>Friendly Vs Hostile Takeover, Takeover Tactics: Dawn Raid, Bear hug, Saturday night special, proxy fight, Successful Takeover Tactics in India - Defence Tactics: Crown jewels, blank cheque, Shark repellents, Poison pill and put, people pill, Green nail and buy-back as takeover defense tactic - Intents of Target Companies | Growth strategy and Merger & Acquisition & Takeover and Defense Tactics | 12 | 30% | 1.2 | CO2<br>CO3 |
| **III** | **Legal aspect** | Companies Act, 1956. SEBI (Buy - back of Securities) Regulation, 1998, SEBI (Substantial Acquisition of Shares and Takeover) Regulation, 1997, SEBI (Delisting of Securities) Guidelines, 2003 and Listing agreement clauses of NSE and BSE (40 A and 40 B) | Legal aspect | 8 | 20% | 0.8 | CO3<br>CO4 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **IV** | **Accounting and Taxation aspect** | Methods of Accounting for M&A, Accounting for Demerger, Tax issues relating to M&A: Capital Gain, Carry forward and Set off Losses | Accounting and Taxation aspect | 8 | 20% | 0.8 | CO3, CO4 |
| **V** | **Funding and Valuation** | Payment Consideration, Sources of Fund, LBO and Going Private. Valuation of Target Company: Concept of Value of a Company, Methods of Enterprise and Equity Valuation, Dividend Discount Model, DCF Model, Shareholder's Value Creation: MVA Approach and EVA Approach. | Funding and Valuation | 8 | 20% | 0.8 | CO5 |

**Suggested Readings:**

Nishikant Jha, "Mergers, Acquisitions and Corporate Restructuring", Himalaya Publishing House
Sudi Sudarshan, "Creating Value from Mergers and Acquisitions - The Challenges", Pearson
Damodaran, A., Investment Valuation: Tools & Techniques for determining the value of any asset, Wiley
Palepu, Healy, Bernard, "Business Analysis & Valuation", Cengage Learning
Arzac, E.R., Valuation for Mergers, Buyouts and Restructuring, Wiley

**Session – 03**

**CO-POmapping**

| **CO/ PO** | **PO1** Knowledge of Business | **PO2** Critical &Problem-Solving Skills | **PO3** Ethical orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building Skills | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO1 | H | | | M | | | | |
| CO2 | H | M | | | | M | M | L |
| CO3 | H | M | | | | M | L | L |
| CO4 | H | M | | | | M | | |
| CO5 | H | | | | | | | |

*** H means High relevance, M means Medium relevance, L means Low relevance*

| CIA PLAN (out of 60 marks) | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| Surprise Quiz1 (tentatively after 10th session) | Individual | 5 | CO1, CO2 |
| Surprise Quiz2 (tentatively after 10th session) | Individual | 5 | CO3, CO4 |
| Mid Semester Exam | Individual | 20 | CO1, CO2, CO3, CO4 |
| Assignment (tentatively after 25th session) | Individual | 10 | CO3, CO4, CO5 |
| Project/Case Presentation (tentatively between 35th-40th session) | Group | 20 | CO1, CO2, CO3, CO4, CO5 |
| TOTAL | | 60 | |

| END SEMESTER EXAMINATION (out of 40 marks) | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| End Semester Exam | Individual | 40 | CO1, CO2, CO3, CO4, CO5 |

**Section - 02**

- **MBR4051T: [International Finance], [4 credits], [Semester IV], [Nature of the Course: Elective Course in Finance Area]**

- **Course Outcomes (CO)**

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

**CO1:** Select and evaluate exchange rates appropriate to different situations.

**CO2:** Appreciate different kinds of flows to a country's foreign exchange market and their impact on some critical parameters pertaining to a country's economy

**CO3:** Appreciate the basis for long term trends in exchange rates and for spotting spot- forward arbitrage opportunities

**CO4:** Evaluate different avenues for garnering foreign currency resources and costs associated therewith, as well as to discuss about credit facilities for exporters/importers

**CO5:** Explore proposals for setting up overseas projects and evaluating multinational project

**Course Content**

| Module No | Module Name | Topic(s) | Description | No of Hours allotted | Marks allotted | Credit for each Module | Associated Course Outcome (CO) |
|---|---|---|---|---|---|---|---|
| I | **Foreign Exchange Markets and Rates** | Financial Market, segments, foreign exchange market, function & location of market, over the counter and telephonic market, authorized dealers, buying/bid rate and selling/ask/offer rate, voice box, market brokers like Hatori Marshall, exposure limits & deal | Foreign Exchange Market & Rates, Various Kinds of Rates and Trades, Arbitrage | 8 | 20% | 0.8 | CO1 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | switch, exchange spread, market volatility, special features of forex market, volume of transaction, share of merchant, arbitrage & speculative trades, round the clock market, settlement/value date, settlement process and settlement risk, direct, indirect & inverse quotes, problems, cross rate, problems, cash, TOM, spot & forward rates, forward premium & discount, problems, arbitrage, condition for arbitrage, problems, TT, Bill, TC and Cash/Currency Rates, problems, | | | | | |
| II | **Demand & Supply in Foreign Exchange Market,** | Sources of inflow & outflow in Forex market, unilateral flows, balance of trade, visible & invisible trades, current account, capital account, FDI and FPI as defined by RBI, balance of payment, problem, foreign exchange reserve, developments during the pandemic, additional overseas borrowing by GOI, convertibility of currency, partial convertibility of rupee, | BOT & BOP, Current & Capital Accounts, FDI & FPI, Foreign Exchange Reserve, Convertibility of Currency | 4 | 10% | 0.4 | CO2 |
| III | **Purchasing Power Parity and Interest Rate Parity** | Purchasing power parity, PPP and spot exchange rate, arbitrage and market equilibrium, computation of real exchange rate, problems, impact of inflation and change of spot rate with time, problems, interest rate parity, relationship between spot & forward rates, scenarios for forward premium and discount, overvalued forward and cash & carry arbitrage, undervalued forward and reverse cash & carry arbitrage, problems, Fisher effect and four way equivalence | Purchasing Power Parity and Exchange Rate, Impact of Inflation, Interest Rate Parity and Forward Premium/Discount, Arbitrage | 5 | 12.5% | 0.5 | CO3 |
| IV | **Raising Fund in Foreign Currency and Cost of** | Foreign currency fund, Debt, off -market & on- market options, foreign currency loan, external commercial | Foreign Currency Debt, Foreign Currency | 8 | 20% | 0.8 | CO4 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Capital; Export & Import Credit** | borrowing, types of bonds, straight bonds, Yankee, Bull Dog, Samurai, Kangaroo, Maple, Panda, Dragon, Alpine Bonds, floating rate notes, LIBOR, TIBOR, SIBOR , inverse floaters, Orange County versus Merrill Lynch, foreign currency convertible bonds, FCCB and FCD, optional convertibility & compulsory convertibility, circumstances of issue, euro currency bonds, euro currency and offshore banking, real life examples, masala bonds, examples, ratings for global bond issues, global rating agencies, piercing the sovereign ceiling, examples, global equity offering, global depository receipt and American depository receipt, process of offer, example, countries of issue, red herring prospectus, road shows, book building, price discovery process and cut off price, issue structuring, domestic custodian & global depository, issue of GDR/ADR, risk of foreign investors, cost of debt, problems, cost of equity, problems, export credit, pre shipment & post shipment credit for export, EPC & PCFC, FBD facilities, ECGC guarantee, import finance, buyer's credit & supplier's credit, difference , letter of comfort, letter of undertaking, examples, PNB & Nirav Modi scam | Bonds and External Commercial Borrowing; Cost of Capital, Credit for Export & Import | | | | |
| V | **Foreign Exchange Risk & Exposure and Risk Management** | Foreign exchange exposure and risk, difference, exposure for asset & liability, combined exposure, problems, types of exposure, accounting exposure, transaction, translation & operating exposure& risk, gain/loss due to exposure, problems, financial forward for hedging, | Foreign Exchange & Interest Rate Exposure and Risk, Financial Derivatives & other hedging mechanisms | 10 | 25% | 1.0 | CO5 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | cash and carry arbitrage & reverse cash and carry arbitrage, problems, financial futures, Indian futures market, hedging using futures, long & short hedge, cross hedge, selection of futures contract, currency futures in IMM, hedging using futures. imperfect hedge, exporter's hedge & importer's hedge, problems, hedging interest rate risk using Eurodollar futures, currency options, call & put, European & American, option premium, strike/exercise price, time to expiration, in the money, at the money & out of the money options, intrinsic value & time value, problems, hedging problems using currency options, cross currency swap, problems, fixed & floating rates of interest, interest rate risk, floor, ceiling and collar as a series of interest rate call or put options or combination of call & put, interest rate swaps, CIRCUS, problems, , lead & lag, netting, money market hedge, problems | | | | | |
| VI | **Multinational Capital Budgeting** | Investment in a subsidiary abroad, surplus of subsidiary, withholding tax, time dependent exchange rates, surplus generated by parent, cost of capital for parent, computation of NPV for the parent, decision criterion, problems | Mechanisms for Multinational Capital Budgeting | 5 | 12.5% | 0.5 | CO6 |

Textbooks:

**1.** International Financial Management – By P. G. Apte

**Section - 03**

- **CO-PO mapping**

| CO/ PO | **PO1** Knowledge of Business | **PO2** Critical & Problem-Solving Skills | **PO3** Ethical orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building Skills | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO1 | H | H | | L | | H | | |
| CO2 | H | | | | | | M | |
| CO3 | H | | | | | | | L |
| CO4 | H | H | | M | | H | | M |
| CO5 | H | H | | M | | H | | M |
| CO6 | H | M | | M | | L | | L |

** *H means High relevance, M means Medium relevance, L means Low relevance*

| **CIA PLAN (out of 60 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| Surprise Quiz1 (tentatively after 10th session) | Individual | 10 | |
| Mid Semester Exam | Individual | 20 | CO1, CO2 |
| Case study | Group | 10 | CO4, CO5 |
| Assignment | Group | 20 | CO3 |
| TOTAL | | 60 | |

| **END SEMESTER EXAMINATION (out of 40 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| End Semester Exam | Individual | 40 | CO1, CO2, CO3, CO4, CO5 |

**Section - 02**

## [MBR4061T] : Investment Banking [4 credits], [Semester IV], [Nature of the Course: Discipline Specific Elective]

**Course Description**

This course provides a comprehensive understanding of the financial services sector with special emphasis on in investment banking and financial services rendered by them. It covers the functions, regulatory framework, and operations of merchant bankers, mutual funds, venture capital, credit rating agencies, insurance companies, and other intermediaries. Students will gain insights into the structure, role, and challenges of the financial services industry in

India, along with practical knowledge on issue management, securitization, asset-liability management, factoring, forfeiting, and real estate finance. The course equips learners for careers in banking, financial consultancy, capital markets, and financial institutions.

**Course Outcomes (COs)**

**CO1:** Understand the structure, components, and recent developments in the financial services industry.
**CO2:** Analyze the role and functions of merchant bankers and issue management intermediaries in capital markets.
**CO3:** Evaluate financial services such as factoring, forfeiting, securitization, and housing finance.
**CO4:** Examine the operations, regulatory framework, and performance of mutual funds, venture capital, and related investment vehicles.
**CO5:** Assess the functioning of insurance products, credit rating systems, pension schemes, and other emerging financial services.

**Course Contents**

| Module No. | Module Name | Topic(s) | Description | No. of Hours allotted | Marks allotted | Credit for each Module | Associated Course Outcome |
|---|---|---|---|---|---|---|---|
| **I** | **Financial Services Industry** | An Overview: Developments and Activities; Meaning and scope of financial services; Evolution and growth of financial services in India; Key players in the financial services sector; Investment bankers: Services rendered by Investment Bankers; Regulatory framework (RBI, SEBI, IRDAI); Challenges and emerging trends in investment banking services | Understanding financial services industry and the players within the industry; Regulatory framework of the service sector | 10 | 25% | 1 | CO 1 |
| **II** | **Issue Management** | Issue Management Intermediaries: Merchant bankers: registration, categories, functions; Public issue management: pre-issue and post-issue activities; Rights issue, bonus issue, private placement; Book building, green shoe option, prospectus | Issue management as one of the important role of a merchant banker; Pre-issue and Post-issue management | 10 | 25% | 1 | CO 2 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | drafting, underwriting, broking; Public issue marketing strategies | | | | | |
| **III** | **Factoring, Forfeiting & Securitization** | Factoring and Forfeiting Services - Types of factoring: recourse, non-recourse, international; Cost-benefit analysis; factoring mechanism; Forfeiting: meaning, mechanism, advantage; Securitization: Securitization process, SPVs; Role of securitization in financial markets | Factoring and forfeiting services provided by investment banker; Understanding securitization process | 5 | 12.5% | 0.5 | CO 3 |
| **IV** | **Investment Funds, Venture Capital and Loan Syndication** | Types of Investment Funds; Mutual Funds (MF)- Types of MF; Importance of investment in MFs; Organisation of MF; Asset Under Management (AUM), Net Asset Value (NAV) computation; Risk-return analysis in MF; SEBI regulations; Liquid funds and their relevance Venture Capital - Features and stages of venture capital financing; Venture capital financing process, Regulatory framework and exit strategies, Venture capital vs angel investments Loan Syndication – Loan syndication process; Issues involved, cases on | Mutual funds and NAV; Venture Capital investments; Process of Loan Syndication | 10 | 25% | 1 | CO 4 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | loan syndication | | | | | |
| **V** | **Credit Rating** | Importance of Credit Rating; Rating process and methodology; Credit rating agencies in India; Rating symbols and interpretations | Role of Credit Rating Agencies; Interpretation of rating symbols | 5 | 12.5% | 0.5 | CO 5 |

**Reference Materials:**


1. Pathak, B. V., "Indian Financial System", Pearson
2. Bhole, L. M., "Financial Institutions and Markets", Mc Graw Hill Education
3. Machiraju, H. R., "Indian Financial System", Vikas Publishing
4. Ray, S. & Nayak, S.," Banking and Insurance", Pearson
5. Khan, M.Y., "Financial Services", Tata McGraw-Hill Education
6. Reddy, Y.V. & Appannaiah, H.R., "Financial Services", Himalaya Publishing House
7. Tripathy, N., "Investment Banking – Text and Cases", Himalaya Publishing House


**** The latest edition of the books should be referred by the students.**

**Reference Websites**

rbi.org.in
sebi.gov.in
nism.ac.in
bseindia.com
nseindia.com

**CO-PO mapping**

| **CO/ PO** | **PO1** Knowledge of Business | **PO2** Critical & Problem-Solving Skills | **PO3** Ethical orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building Skills | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO1 | H | | H | M | | | M | L |
| CO2 | H | H | | | | L | | |
| CO3 | H | L | | M | | | | L |
| CO4 | H | L | | M | | H | | M |
| CO5 | H | L | | M | | H | | M |
| CO6 | H | | H | M | | L | | L |

*** H means High relevance, M means Medium relevance, L means Low relevance*

| CIA PLAN (out of 60 marks) | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| Surprise Quiz1 (tentatively after 10th session) | Individual | 10 | |
| Mid Semester Exam | Individual | 20 | CO1, CO2 |
| Case study | Group | 10 | CO2, CO4, CO5 |
| Assignment | Group | 20 | CO3 |
| TOTAL | | 60 | |

| END SEMESTER EXAMINATION (out of 40 marks) | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| End Semester Exam | Individual | 40 | CO1, CO2, CO3, CO4, CO5 |

**MBR4071T: [Artificial Intelligence in Finance], [4 credits], [Semester IV], [Nature of the Course: Discipline Specific Elective]**

**Course Outcomes (CO)**

*At the end of this course, students will be able to*

**CO 1:** Understand and apply big data mining, manipulation, and visualization techniques to structured and unstructured financial datasets.

**CO 2:** Develop and implement supervised, unsupervised, and deep learning models for financial analysis and prediction.

**CO 3:** Apply advanced machine learning and AI techniques to risk management, derivative valuation, and trading strategies in finance.

**CO 4:** Explore and utilize generative AI and large language models for innovative financial applications, including text and synthetic data generation.

**CO 5:** Critically evaluate and communicate the results of AI-driven financial models for informed decision-making in real-world scenarios

| Module No | Module Name | Topic(s) | Description | No of Hours allotted | Marks allotted | Credit of each Module | Associated Course Outcome (CO) |
|---|---|---|---|---|---|---|---|
| I | Applied Programming in Python & Big Data Mining & Manipulation | Python Toolsets & Libraries- Pandas, Numpy, Scipy, Matplotlib, Seaborn, Bokeh, Plotly<br>Business Intelligence Tools & Software - Tableau, Power BI, Qlik..<br>7 V's of Big Data - Volume, Velocity, Variability, Variety, Veracity, Value, Visualization<br>Structured & Unstructured Datasets – Data Massaging & Manipulations<br>High Dimensional Data Handling<br>Financial Datasets - Risk, Treasury, Front Office Pricing & Valuation, Trading, Climate & Sustainability | Programming Concept and understanding Big Data | 6 | 15% | 0.6 | CO1 |
| II | ML Supervised Learning Methods & ML Un-Supervised Learning Methods | Statistical & ML Driven Regression - OLS, MLE, LASSO, RIDGE, Elastic-Net<br>Statistical & ML Driven Classification - Linear Classifiers (Logistic Logit, Probit Regression), Bagging (CART Decision Tree, Random forest), Boosting (Ada-Boost, XG-Boost), Support Vector Machines (SVM)<br>ML Model Hyper-Parameter Tuning & K-Fold Cross Validation<br>Machine Learning Model Optimization, Performance Evaluation & Model Explainability<br>ML Quantitative Validation Tests<br>Unsupervised & Semi-Supervised Learning<br>Statistical & ML Driven Clustering & Association - Hierarchal Clustering & Discriminant Analysis, K-Means Clustering, K-Nearest Neighbors (KNN) | Understanding supervised learning and un-supervised learning in finance | 10 | 25% | 1 | CO3 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| III | ML Deep Learning Methods & ML Natural Language Models (NLP) | Deep Learning - Neural Network (DNN) Intro<br>Multi Layer Perceptron (MLP)<br>Artificial Neural Network (ANN)<br>Convolutional Neural Networks (CNNs)<br>Recurrent Neural Network (RNN)<br>RNN-Long Short Term Memory (LSTM)<br>RNN - Gated Recurrent Unit (GRU)<br>Deep Reinforcement Learning (DRL)<br>Unstructured Data Sets & Transformations<br>ML Driven Textual & Speech Processing<br>ML Driven Document Classification<br>ML Driven Image Classification<br>ML Driven Chat-bots | Understanding concept of ML in Finance | 10 | 25% | 1 | CO3 |
| IV | AI for Risk Management, Derivative Valuation & Trading | Financial Risk Prediction & Estimation- PD, LGD, EAD, IFRS9 ECL Provisions, Fraud Detection & Forensic Audit<br>Financial Time Series Forecasting- Loss (Value-at-Risk/Expected Shortfall), Pre-Provision Net Revenue (PPNR)<br>Financial (Un-) Constrained Optimization-Portfolio (CAPM) Optimization, RWA Optimization, Optimal & Effective Hedging<br>Financial Stress Loss Analytics, Synthetic Stress Scenarios & Shock-Sizing, Stress Testing & Reverse Stress Testing<br>Financial Unstructured Data Mining & Analytics, Image Processing & Classification, Risk Sentiment Indicators<br>Financial Risk Prediction & Estimation Financial Instrument Pricing (Equity, Fixed Income, Commodity, IR, FX, Alternative Asset Classes), Derivative Pricing & Linear Factor Models, Derivative Valuation Adjustments (XVAs – CVA, DVA, MVA, FVA), P&L Attribution<br>Financial Time Series Forecasting- Volatility, Correlations & Covariance, Dynamic Hedging Strategy<br>Financial Unstructured Data Mining & Analytics- Pricing Sensitivity & Sentiment Analysis. | Use of AI in Finance | 10 | 25% | 1 | CO4 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Automated Algorithmic Trading- Trade Execution Algorithms, Strategy Implementation Algorithms, Stealth/Gaming Algorithms, Arbitrage Exploitation Algorithms High-frequency Trading | | | | | |
| V | Generative AI for Finance | Financial Text Generation Synthetic Data Generation Large Language Models (LLM) based FinGPT | Understanding Gen AI in Finance and use of Gen AI | 4 | 10% | 0.4 | CO5 |
| Total | | | | 40 | 100% | 4.0 | |

**Suggested Readings**


1. Tsang, E. P. (2023). *AI for Finance*. CRC Press.
2. Arslanian, H., & Fischer, F. (2019). *The future of finance: The impact of FinTech, AI, and crypto on financial services*. Springer.
3. Kanungo, D. K. (2023). *Probabilistic Machine Learning for Finance and Investing: A Primer to Generative AI with Python*. " O'Reilly Media, Inc.".
4. Yadav, A., Alam, M., & Chaudhary, K. (Eds.). (2025). *AI-Driven Finance in the VUCA World*. CRC Press.
5. Chishti, S. (2020). *The AI book: the artificial intelligence handbook for investors, entrepreneurs and fintech visionaries*. John Wiley & Sons.
6. Hilpisch, Y. (2020). *Artificial intelligence in finance*. O'Reilly Media.
7. Mishra, B. (2024). Machine Learning for Financial Professionals. Educohack Press.


**CO-PO mapping**

| **CO/PO** | **PO1** Knowledge of Business | **PO2** Critical & Problem Solving Skills | **PO3** Ethical orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building Skills | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO1 | H | M | | M | | | | L |
| CO2 | H | H | L | M | | | | H |
| CO3 | M | M | L | M | | | | H |
| CO4 | M | M | L | M | | | | M |
| CO5 | L | L | L | L | | | | H |

*** H means High relevance, M means Medium relevance, L means Low relevance*

| CIA PLAN (out of 60 marks) | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| Surprise Quiz 1 | Individual | 10 | CO1, CO2, |
| Mid Semester Exam | Individual | 20 | CO1, CO2, CO3 |
| Case study | Group | 10 | CO1, CO2, CO3, CO4, CO5 |
| Assignment | Group | 20 | CO1, CO2, CO3, CO4, CO5 |
| TOTAL | | 60 | |

| END SEMESTER EXAMINATION (Out of 40 marks) | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| End Semester Exam | Individual | 40 | CO1, CO2, CO3, CO4, CO5 |

**Section 02**

**MBR4012T: [Marketing Analytics], [4 credits], [Semester IV], [Nature of the Course: Discipline Specific Elective]**

**Course Outcomes (CO)**

*At the end of this course, students will be able to:*

**CO1** Explain the classification of data and identify relevant marketing data and tools for analysis

**CO2** Describe the applications of Marketing Analytics and its advances in solving marketing related problems

**CO3** Solve diverse marketing related problems by using data analytics process and tools

**CO4** Analyze different marketing management scenario, explain them and provide data driven solutions

**CO5** Explain the findings derived by using marketing analytics tools and provide help in taking marketing decisions

**Course Contents**

| Module No. | Module Name | Topic | Description | No of Hours allotted | Marks allotted | Credit of each Module | Associated Course Outcome (CO) |
|---|---|---|---|---|---|---|---|
| 1 | **Introduction to Marketing Analytics** | Marketing Decision making process, Analytics in Marketing, Rising relevance of marketing analytics | Basics ideas about use of analytics in Marketing | 2 | 5% | 0.2 | CO1 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2 | **Preparation of Data for Analysis** | Processing of Data, Data Input Format, Coding, Variables and Variable Labels, Value Labels, Missing Data, Types of Analysis, Various types of Charts | Theoretical Concept related to preparation of Data | 4 | 10% | 0.4 | CO1, CO2 |
| 3 | **Marketing Segmentation Analytics** | Understanding Segments, Category based Segmentation, Demographic and Psychographic Segments and their Targeting Strategies, Targeting with more than Two Segments, NonParametric Chi Square Test, One Sample TTests, Cross tab Chi-Square, Independent Samples TTest, ANOVA, Cluster Analysis, Collaborative Filtering, Using Classification Trees for Segmentation | Use of Analytics to identify and explain marketing segments | 10 | 20% | 0.8 | CO3, CO5 |
| 4 | **Product Management Analytics** | Trial, Repeat Volume, Penetration, Volume Projections, Growth—Percentage, Growth– CAGR, Cannibalization Rate, Fair Share Draw Rate, Brand Equity Metrics, Conjoint Utilities and Consumer Preferences | Use of Analytics in product marketing | 6 | 15% | 0.6 | CO3, CO4 |
| 5 | **Pricing Analytics** | Estimating Linear and Power Demand Curves, Pricing Using Subjectively Estimated Demand Curves, Price Bundling, Nonlinear Pricing, Demand Curves and Willingness to Pay, Profit Maximizing with Nonlinear Pricing Strategies, Price Skimming and Sales, Dropping Prices Over Time, Reasons of Sales Promotion | Using analytics for pricing decisions | 4 | 10% | 0.4 | CO3, CO5 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 6 | **Consumer Analytics** | Customer Value, Calculating Lifetime Customer Value, DIRECTV, Customer Value, Estimating the Chance a Customer Is Still Active, Customers Want, Conjoint Analysis, Products, Attributes, and Levels, Full Profile Conjoint Analysis, Logistic Regression, Logistic Regression Model, Maximum Likelihood Estimate of Logistic Regression Model | Using Analytics for Consumer Management and decisions | 6 | 15% | 0.6 | CO3, CO5 |
| 7 | **Retail Analytics** | Market Basket Analysis and Lift, Computing Lift for Two Products, Computing Three-Way Lifts, Using Lift to Optimize Store Layout, RFM Analysis, Allocating Retail Space and Sales Resources | Using Analytics for retail related decision making | 4 | 15% | 0.6 | CO3, CO4 |
| 8 | **Advertising and Web Media Analytics** | Measuring the Effectiveness of Advertising, The Adstock Model, Optimizing Advertising: Pulsing versus Continuous Spending, Media Selection Models, A Linear Media Allocation Model, A Monte Carlo Media Allocation Simulation, Pay per Click (PPC) Online Advertising, Profitability Model for PPC Advertising, Google AdWords Auction | Understanding digital and social media analytics | 4 | 10% | 0.4 | CO3, CO4 |

**Suggested Readings:**

**Textbook:**

Marketing Analytics: Strategic Models and Metrics by Stephan Sorger, Admiral Press

**Reference Books:**

Marketing Analytics: Data-Driven Techniques with Microsoft Excel by Wayne L. Winston, Wiley

Marketing Metrics - Manager's Guide to Measuring Marketing Performance by Neil T Bendle, Paul Farris, Philip E Pfeifer, David J Reibstein, Pearson Education

## Section 03

**CO-PO mapping**

| CO/ PO | PO1 Knowledge of Business | PO2 Critical & Problem Solving Skills | PO3 Ethical orientation | PO4 Global perspective & Communication Skills | PO5 Leadership & Team Building Skills | PO6 Entrepreneurship Skills | PO7 Sustainability Perspective | PO8 Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO1 | H | | | | | L | | M |
| CO2 | M | M | | | | | M | M |
| CO3 | M | M | | | | M | M | M |
| CO4 | M | M | | | | M | M | M |
| CO5 | M | M | | | | | | M |

** *H means High relevance, M means Medium relevance, L means Low relevance*

| **CIA PLAN (out of 60 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| Surprise Quiz1 (tentatively after 10th session) | Individual | 10 | CO1 |
| Mid Semester Exam (University Schedule) | Individual | 20 | CO1, CO2 |
| Individual Assignment 1 (tentatively after 20th session) | Individual /Group | 15 | CO3, CO4 & CO5 |
| Individual Assignment 2 (tentatively after 35th session) | Individual/Group | 15 | CO4 |
| TOTAL | | 60 | |

| **END SEMESTER EXAMINATION (Out of 40 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| End Semester Exam | Individual | 40 (10 marks compulsory question in the form of case let or situation based) | CO1, CO2, CO3, CO4, CO5 |

## Section 02

- **MBR4022T: [Customer Relationship Management], [4 credits], [Semester IV], [Nature of the Course: Discipline Specific Elective]**

- **Course Outcomes(CO)**

*At the end of this course, students will be able to:*

**CO1:** Examine the basic concepts related to Customer Relationship Management

**CO2:** Explain the ideas related to the CRM Process

**CO3:** Apply the theories of CRM and use of technology

**CO4**: Integrate the digital system with the CRM process

**CO5:** Analyze the situation and formulate CRM strategies

**Course Content:**

| Module No. | Module Name | Topic | Description | No of Hours allotted | Marks allotted | Credit of each Module | Associated Course Outcome (CO) |
|---|---|---|---|---|---|---|---|
| 1 | **Introduction to Customer Relationship Management** | Introduction, Meaning andDefinition of CRM, Importance of CRM, Concept and Growth of Relationship Marketing, Scope of Relationship Marketing, concept of Lifetime Customer and Customer Loyalty, Benefits and difficulties of CRM | Overview and fundamentalconcept of Customer Relationship Management | 6 | 10% | 0.6 | CO1 |
| 2 | **CRM Process** | Customer Development Process, Customer satisfaction, Importance of customer retention, Customer Retention Strategies, Customer Life Time Value, types of Relationship Management, CRM process for B2B markets: Enterprise Resource Planning (ERP), - Supply Chain Management | CRM Process and Implementation | 8 | 20% | 0.8 | CO1, CO2 |
| 3 | **Technology in CRM** | Technological Applications in CRM, Customer Databases and Information Systems, Database Marketing Strategies, CRM Software Solutions for B2C and B2B Markets, Accounting Systems for Customer Acquisition and Retention Costs, Customer Loyalty and Profitability through Technology | Applications of Technology in CRM | 8 | 20% | 0.8 | CO2, CO3 |
| 4 | **e- CRM** | Importance of e - CRM in Service Marketing, Challenges involved in formulating and implementing e - CRM strategies, e - CRM architecture and its components, Five engines of e - CRM, Evolution ofe-customer and e-marketing, e-CRM for personalized services | Understanding e - CRM | 10 | 25% | 0.6 | CO2, CO3, CO4 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 5 | **Analytics in CRM** | Managing and sharing customer data - Customer information databases - Ethics and legalities of data use - Data Warehousing and Data Mining concepts - Data analysis - Market Basket Analysis (MBA), Click stream Analysis, Personalization and Collaborative Filtering | Fundamental Concepts of Analytics in CRM | 8 | 25% | 0.4 | CO4,CO5 |

**Suggested Readings:**

**Textbooks:**

1. Anderson, K., and Kerr, C., "Customer relationship Management", McGraw Hill, 2002
2. Payne, A., "Handbook of CRM", Butterworth- Heinmann (Elsevier), 2005

**Reference Books:**

1. V. Kumar & Werner J., Customer Relationship Management, Willey India, 2008
2. Francis Buttle and Stan Maklan, Customer Relationship Management: Concepts and Technologies" (Routledge), 2019

**Section 03**

**CO-PO mapping**

| **CO/ PO** | **PO1** Knowledge of Business | **PO2** Critical & Problem Solving Skills | **PO3** Ethical Orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building Skills | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO1 | M | | L | L | | L | L | |
| CO2 | M | L | L | L | | | L | |
| CO3 | M | M | L | L | | | | |
| CO4 | M | M | | L | | | L | |
| CO5 | M | M | | | | L | L | |

** *H means High relevance, M means Medium relevance, L means Low relevance*

| **CIA PLAN (out of 60 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| Surprise Quiz1 (tentatively after 10th session) | Individual | 10 | CO1 |
| Mid Semester Exam (University Schedule) | Individual | 20 | CO1, CO2 |
| Individual Assignment 1 (tentatively after 20th session) | Individual | 15 | CO3, CO4 & CO5 |
| Case Study Analysis/Presentation (tentatively after 35th session) | Individual/Group | 15 | CO3, CO4 & CO5 |
| TOTAL | | 60 | |

| **END SEMESTER EXAMINATION (Out of 40 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| End Semester Exam | Individual | 40 (10 marks compulsory question in the form of case let or situation based) | CO1, CO2, CO3, CO5 |

**Section 02**

**MBR4032T: [Retail Marketing and Management], [4 credits], [Semester IV], [Nature of the Course: Marketing Specialization]**

**Course Outcomes (CO)**

*At the end of this course, students will be able to*

**CO 1:** Understand the fundamental concepts, scope, and evolution of retailing along with the dynamics of the retail environment in India and globally.
**CO 2:** Analyze consumer behaviour in retail settings and evaluate retail market segmentation, targeting and positioning strategies.
**CO 3:** Examine retail merchandising, pricing, store operations, and supply chain strategies used by contemporary retailers.
**CO 4:** Evaluate the role of technology, digital transformation, and omnichannel retailing in shaping modern retail experiences.
**CO 5:** Develop a comprehensive retail marketing plan integrating store layout, branding, customer experience, service strategies, and performance metrics.

**Course Content**

| Module No. | Module Name | Topic(s) | Description | No. of Hours allotted | Marks Allotted | Credit of each Module | Associated Course Outcome |
|---|---|---|---|---|---|---|---|
| 1. | I. Introduction to Retailing and Retail Environment | Nature and Importance of Retailing | Introduction & Basic Concepts | 8 | 20% | 0.20 | CO1 |
| | | Evolution of Retail Formats | | | | | |
| | | Functions and Role of Retailers | | | | | |
| | | Types of Retail Institutions | | | | | |
| | | Retail Environment in India | | | | | |
| | | Organized vs. Unorganized Retail | | | | | |
| | | Global Retailing Landscape | | | | | |
| | | Retail Regulatory Framework | | | | | |
| | | Emerging Retail Trends | | | | | |
| 2. | II. Retail Consumer Behaviour, Segmentation and Retail Strategy | Understanding Retail Shoppers | Concept, process and types | 10 | 25% | 0.25 | CO2, CO5 |
| | | Factors Influencing Retail Buying Behaviour | | | | | |
| | | Shopping Orientation | | | | | |
| | | Retail Market Segmentation and Targeting | | | | | |
| | | Store Positioning Strategies | | | | | |
| | | Retail Market Research | | | | | |
| | | Retail Location Strategies and Site Selection | | | | | |
| 3. | III. Retail Merchandising, Product Mix and Pricing Management | Retail Merchandising Process | Concept, process and application | 8 | 20% | 0.20 | CO3, CO5 |
| | | Category Management | | | | | |
| | | Assortment Planning | | | | | |
| | | Private Labels and Brand Management in Retail | | | | | |
| | | Retail Pricing Objectives and Strategies | | | | | |
| | | Markdown Strategies | | | | | |
| | | Psychological Pricing | | | | | |
| | | Retail Promotion Mix | | | | | |
| | | Visual Merchandising | | | | | |
| 4. | IV. Retail Store Operations, Logistics and | Store Operations and HRM in Retail | Concept, process and methods | 8 | 20% | 0.20 | CO3, CO4, CO5 |
| | | Inventory Management | | | | | |
| | | Retail Logistics | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Supply Chain Management | Vendor Relations<br>Distribution Channel Management<br>Retail Supply Chain Models<br>Use of Technology in Store Operations<br>Customer Relationship Management (CRM) for Retail | | | | | |
| 5. | V. Digital Retailing, Omnichannel Strategy and Future Trends | E-Retailing and Online Marketplaces<br>Omnichannel Retail Strategy<br>Role of Mobile Commerce<br>Retail Analytics<br>AI and Automation<br>Customer Experience (CX) and Personalization<br>Sustainability in Retailing<br>Social Commerce<br>Franchising and International Retailing. | Concept, methods and overview | 6 | 15% | 0.15 | CO4, CO5 |

**Suggested Readings**

Levy, Weitz & Grewal: Retailing Management, McGraw Hill.
Berman & Evans: Retail Management: A Strategic Approach, Pearson.
Swapna Pradhan: Retailing Management: Text and Cases, Tata McGraw Hill.
Michael Levy & Barton Weitz: Retail Management, McGraw Hill.
Barry R. Berman & Joel R. Evans: Marketing in the Retail Sector, Pearson.
Recent research articles, case studies and industry reports from Deloitte, KPMG, Technopak, and Retailers Association of India (RAI).

**CO-PO mapping**

| **CO/ PO** | **PO1** Knowledge of Business | **PO2** Critical & Problem Solving Skills | **PO3** Ethical orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building Skills | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO 1 | H | M | | H | | | | M |
| CO 2 | H | M | | M | | | L | M |
| CO 3 | H | H | | L | | | | H |
| CO 4 | H | H | | L | | | L | M |
| CO 5 | H | H | | M | | M | M | M |

** *H means High relevance, M means Medium relevance, L means Low relevance*

| CIA PLAN (out of 60 marks) | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| Assignment/Quiz | Individual | 10 | CO1, CO2 |
| Mid Semester Exam | Individual | 20 | CO1, CO2, CO3 |
| Assignment (tentatively after 15th session) | Group | 10 | CO3 |
| Project Presentation (tentatively between 35th-40th session) | Group | 20 | CO4, CO5 |
| TOTAL | | 60 | |

| END SEMESTER EXAMINATION (out of 40 marks) | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| End Semester Exam | Individual | 40 | CO1, CO2, CO3, CO4, CO5 |

**Section 02**

- **MBR4042T : [Digital and Social Media Marketing], [4 credits], [Semester IV], [Nature of theCourse: Discipline Specific Elective]**

- **Course Outcomes(CO)**

*At the end of this course, students will be able to:*

**CO1:**Describe the digital marketing contextin terms of its evolution, significance, key characteristics; and differentiate it from the traditional marketing context.

**CO2:**Review the different elements of the digital marketing environment and itsimpact on digital marketing strategies.

CO3: Apply the digital marketing mix and various promotional techniques on digital platforms toformulate an integrated and comprehensive digital marketing plan

**CO4:**Formulate suitable digital marketing strategies by integrating various concepts of digital marketing.

**CO5:**Understand electronic customer relationship management (e-CRM) and apply analytics techniques for understanding consumer behaviour as well as monitoring the performance of digital marketing.

**Course Contents**

| Module | Module Name | Topic | Description | No of Hours allotted | Marks allotted | Credit for each Module | Associated Course Outcome (CO) |
|---|---|---|---|---|---|---|---|
| 1 | **Introduction to Digital Marketing** | Definition, Significance, Evolution of internet,<br>Role of the Internet in transforming marketing, Building a consensual marketing relationship with customers,<br>Buy and sell side ecommerce Business or Consumer Model,<br>Generic digital marketing strategy development process,<br>Difference between digital and traditional marketing | Understanding Digital Marketing context | 2 | 5% | 0.2 | CO1 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | communications | | | | | |
| 2 | **The Digital Marketing Environment** | Different elements of the digital environment that impact on an organisation's digital marketing strategy<br>Competitor, customer and intermediary assessment,<br>Impact of the Internet on the five competitive forces, Evaluation of changes in trading patterns,<br>Business models enabled by e-commerce. Microenvironment,<br>Macro Environment,Value chain partners, New Channel Structure | Understanding Elements of Digital Marketing Environment | 6 | 15% | 0.6 | CO2 |
| 3 | **Planning Digital Marketing Campaigns** | 'Personal' joins the marketing 'Ps',The effect on 'price', 'product' and 'place', Creating brand consistent digital promotions; Secure personal information across digital networks;Building digital marketing models; | Planning Integrated Digital marketing campaigns | 6 | 15% | 0.6 | CO3 |
| 4 | **Digital Marketing Strategy Development** | Digital Marketing strategy;<br>Scope of digital marketing strategy;<br>An integrated Internet marketing strategy; Need of separate digital marketing plan;<br>A generic strategic approach;<br>Situation review;<br>Internal audit or analysis;<br>External audits or analysis;<br>Channel marketing strategy;<br>Strategic goal setting; Frameworks for objective setting;<br>Strategy formulation; Strategy implementation | Formulating Digital Marketing strategies | 8 | 20% | 0.8 | CO4 |
| 5 | **Digital Marketing Mix** | Introduction; Product; The long tail concept; The Internet and branding;<br>The importance of brand online;<br>Price; Increased price transparency;<br>Downward pressure on price; New pricing approaches (including auctions); Alternative pricing structure or policies;<br>Place; Place of purchase; New channel structures; Channel conflicts; Virtual organisations;<br>Promotion; People, process and physical evidence | Understanding Marketing Mix in digital platforms | 4 | 10% | 0.4 | CO3 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 6 | **Digital CRM** | Benefits of relationship marketing; Differentiating customers by value; Key concepts of electronic customer relationship management (e-CRM); Benefits of e-CRM; Marketing applications of CRM; Customer lifecycle management; Permission marketing; Personalisation and mass customisation; Online and multi-channel service quality; Approaches to implementing e-CRM; The IDIC approach to relationship building; Techniques for managing customer activity and value; Lifetime value modelling; Loyalty schemes; Virtual communities | Understanding CRM in Digital Marketing Platform | 6 | 15% | 0.6 | CO5 |
| 7 | **Online Promotion Techniques** | Search engine marketing; Search engine optimisation (SEO); Pay-per-click (PPC) search marketing; Trusted feed; Online PR; Online PR activities; Online partnerships; Affiliate marketing; Online sponsorship; Interactive advertising; Fundamentals of online advertising; Purpose of interactive advertising; Measurement of interactive ad effectiveness; Interactive ad targeting options; Interactive ad formats; Making banner advertising work; Buying advertising; E-mail marketing; Viral marketing; On-site promotional techniques | Digital Marketing Promotional Techniques | 6 | 15% | 0.6 | CO3 |
| 8 | **Maintaining and monitoring the online presence** | Introduction; Performance management for Internet marketing; The maintenance process | Advertising Analytic, Web analytics and monitoring digital marketing performance | 2 | 5% | 0.2 | CO5 |

**Suggested Readings:**

**Textbook:**

1. e-Marketinge Xcellence Planning and optimizing your digital marketing by Dave Chaffey and PR Smith, Elsevier

**Reference Books:**

2. Digital Marketing by Will Rowan, Kogan Page
3. Understanding digital marketing: marketing strategies for engaging the digital generation by Damian Ryan, Calvin Jones, Kogan Page
4. Marketing to the Social Web: How Digital Customer Communities Build Your Business by Lary Weber, Kogan Page

**Section 03**

- **CO-POmapping**

| CO/ PO | PO1 Knowledge of Business | PO2 Critical & Problem Solving Skills | PO3 Ethical orientation | PO4 Global perspective & Communication Skills | PO5 Leadership & Team Building | PO6 Entrepreneurship Skills | PO7 Sustainability Perspective | PO8 Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO1 | H | | | M | | | | |
| CO2 | H | | | M | | | | |
| CO3 | H | M | | | | M | | |
| CO4 | H | M | | | | M | | |
| CO5 | H | M | | | | | | |

** *H means High relevance, M means Medium relevance, L means Low relevance*

| **CIA PLAN (out of 60 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| Surprise Quiz1 (tentatively after 10th session) | Individual | 10 | CO1 |
| Mid Semester Exam (University Schedule) | Individual | 20 | CO1, CO2 |
| Individual Assignment or Group Project (tentatively after 20th session) | Individual /Group | 20 | CO3, CO4 & CO5 |
| Case Study Analysis/Presentation (tentatively after 35th session) | Individual/Group | 10 | CO4 |
| TOTAL | | 60 | |

| **END SEMESTER EXAMINATION (Out of 40 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| End Semester Exam | Individual | 40 (10 marks compulsory question in the form of case let or situation based) | CO1, CO2, CO3, CO4 |

# Section 02

- **MBR4052T: [Marketing for Startups & New Ventures], [4 credits], [Semester IV], [Nature of the Course: Discipline Specific Elective]**

- **Course Outcomes (CO)**

*At the end of this course, students will be able to*

**CO1:** Understand the key concepts of startup marketing and the startup ecosystem.
**CO2:** Identify customer needs and create effective value propositions.
**CO3:** Apply lean marketing and Go-To-Market strategies for new ventures.
**CO4:** Use digital marketing and branding techniques to promote startups.
**CO5:** Understand new venture creation and financing processes.

**Course Content**

| Module No | Module Name | Description | No of Hours allotted | Marks allotted | Credit of each module | Associated Course Outcome (CO) |
|---|---|---|---|---|---|---|
| **Module I** | **Foundations of Startup Marketing** | Introduction to entrepreneurial marketing and its distinct characteristics. Understanding the startup ecosystem, stages, and unique marketing challenges. Market analysis: Identifying opportunities, trends, and whitespace. Competitive landscape analysis: Direct and indirect competitors, competitive advantage. The role of innovation and disruption in startup marketing. | 8 | 20% | 0.8 | CO1 |
| **Module II** | **Customer Discovery & Value Proposition** | Customer segmentation for startups: Demographics, psychographics, behavior. Developing customer personas and user stories. Conducting effective customer interviews and surveys (Jobs-to-Be-Done framework). Problem-solution fit and product-market fit. Crafting a compelling value proposition and unique selling propositions (USPs). Techniques for testing and validating value propositions. | 8 | 20% | 0.8 | CO2 |
| **Module III** | **Lean Marketing & Go-To-Market Strategies** | Principles of lean marketing: Build-Measure-Learn feedback loop. Minimum Viable Product (MVP) marketing and iterative testing. Go-To-Market (GTM) strategy frameworks and planning. Identifying and selecting optimal channels for market entry (e.g., direct sales, partnerships, online platforms). Pricing strategies for startups: Value-based, competitive, penetration, freemium. Strategies for acquiring early adopters and building initial traction. | 8 | 20% | 0.8 | CO3 |
| **Module IV** | **Digital Marketing & Brand Building for Startups** | Overview of essential digital marketing channels for startups: SEO, SEM (PPC), social media marketing, content marketing, email marketing. Website and landing page optimization for conversion. Building a startup brand identity: Mission, vision, values, tone of voice, visual identity. Brand storytelling and narrative development. Community building and influencer marketing strategies. Introduction to marketing automation and CRM for early-stage ventures. | 8 | 20% | 0.8 | CO4 |
| **Module V** | **Creating & Financing new venture** | Moving form an Idea to a New Venture: Preparing the Proper Ethical and legal foundation – Building a New Venture Team – Leadership – Corporate Entrepreneurship, Social Entrepreneurship. Financing the New Venture: Financing entrepreneurial Ventures – Valuation of a new company – Arrangement of funds – Alternate Source of Funding – Start – ups, MSMEs, any new venture. | | 20% | 0.8 | CO5 |

**Suggested Readings**


1. Morgan, H. L., A. Kallianpur, and L. M. Lodish, "Entrepreneurial Marketing," *Lessons from Wharton's Pioneering MBA Course*, John Wiley & Sons, 2001.
2. Aaker, D. A., *Strategic Market Management*, John Wiley & Sons, 1998.


## Section 03

**CO-PO Mapping**

| CO/ PO | **PO1** Knowledge of Business | **PO2** Critical & Problem-Solving Skills | **PO3** Ethical orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO1 | H | L | | L | | M | | M |
| CO2 | H | H | | L | | H | | M |
| CO3 | M | H | | | | H | | M |
| CO4 | M | M | | | | M | | |
| CO5 | H | L | M | H | | H | M | M |

*** H means High relevance, M means Medium relevance, L means Low relevance*

**Section 02**

**MBR4062T: [GLOBAL MARKETING], [4 credits], [Semester IV], [Nature of the Course: Discipline Specific Elective]**

### Course Outcomes (CO)

*At the end of this course, students will be able to*

CO 1: Understand the basic concept of Global Marketing and the nature and implications of the Global Marketing Environment.
CO 2: Analyze the appropriate the market entry strategies, segmentation and positioning strategies.
CO 3: Evaluate the implementation of marketing strategy through the global marketing mix – including product, branding, pricing, communication and logistics and distribution management
CO 4: Analyze the various challenges that international markets pose and appropriate strategic and tactical solutions to overcome it.
CO 5: Develop a global marketing strategy to achieve sustained competitive advantage.

### Course Content

| Module No | Module Name | Topic(s) | Description | No of Hours allotted | Marks allotted | Credit of each Module | Associated Course Outcome (CO) |
|---|---|---|---|---|---|---|---|
| I | Introduction to Global Marketing & the Global Marketing Environment: | Nature of Global Marketing: Challenges and Opportunities<br>Economic and Financial Environment<br>Political and Legal Environment<br>Social & Cultural Environment | Introduction and Basic Concepts | 10 | 25% | 0.25 | CO1 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| II | Approaching Global Markets | Global Information System and Market Research<br>Global Market Segmentation and Positioning<br>Foreign Market Entry strategies | Concept, Process and Application | 8 | 20% | 0.20 | CO1, CO2 |
| III | Product Policy Decisions and Pricing Decisions | Product Policy Decisions and Product Planning<br>Branding Decisions; Marketing of Products & Services<br>Drivers of foreign market Pricing; Currency Fluctuations; Antidumping regulations | Concept, Process and Application | 8 | 20% | 0.20 | CO3, CO4, CO5 |
| IV | Communication strategies and Logistics and Distribution | Globally Integrated Marketing Communication Mix; Impact of Culture on Advertising<br>Managing Physical Distribution; International Distribution Channel; International Retailing | Concept, Process and Application | 8 | 20% | 0.20 | CO3, CO4, CO5 |
| V | Recent Trends in Global Marketing | Marketing Strategies for Emerging Markets<br>Global Marketing in the Digital Age<br>Sustainable Marketing | Concept, Methods and overview | 6 | 15% | 0.15 | CO4, CO5 |

**Suggested Readings**

Caterora & Graham: International Marketing, Pearson Education, 2000.

Sak Onkvisit, John J. Shaw: International Marketing- Analysis and Strategy, Routledge, 4th ed

Wareen J. Keegan, Mark C. Green.: Global Marketing Management, Pearson Education, 7th ed

**CO-PO mapping**

| **CO / PO** | **PO1** Knowledge of Business | **PO2** Critical & Problem Solving Skills | **PO3** Ethical orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building Skills | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO 1 | H | | | H | | | | |
| CO 2 | H | M | | H | | | | |
| CO 3 | H | H | | H | | | | |
| CO 4 | H | M | | M | | | | |
| CO 5 | H | H | | H | | | | L |

** *H means High relevance, M means Medium relevance, L means Low relevance*

| **CIA PLAN (out of 60 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| Assignment/Quiz | Individual | 10 | CO1, CO2 |
| Mid Semester Exam | Individual | 20 | CO1, CO2,CO3 |
| Assignment (tentatively after 15th session) | Group | 10 | CO3, CO4 |
| Project Presentation (tentatively between 35th-40th session) | Group | 20 | CO4, CO5 |
| TOTAL | | 60 | |

| **END SEMESTER EXAMINATION (out of 40 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| End Semester Exam | Individual | 40 | CO1, CO2, CO3, CO4, CO5 |

**Section 02**

**MBR4072T: [Artificial Intelligence in Marketing], [4 credits], [Semester IV], [Nature of the Course: Discipline Specific Elective]**

**Course Outcomes (CO)**

At the end of this course, students will be able to

**CO1:** Understand the basic terminology and concepts related to Artificial Intelligence, machine learning, data types, and marketing analytics.

**CO2:** Explain the role of AI and data-driven decision-making in key marketing areas such as segmentation, targeting, positioning, pricing, and communication

**CO3:** Apply simple AI-supported analytical approaches (e.g., basic segmentation, propensity insights, dashboards) to interpret customer and market data for managerial decisions.

**CO4:** Analyze AI-enabled marketing strategies in personalization, digital communication, and campaign optimization across different customer touchpoints and channels.

**CO5:** Design an AI-enabled marketing plan or solution for a chosen brand/organization that integrates customer insights, digital tools, and principles of responsible/ethical AI.

**Course Content**

| Module | Module Name | Topic | Description | No of Hours allotted | Marks allotted | Credit of each Module | Associated Course Outcome (CO) |
|---|---|---|---|---|---|---|---|
| 1 | **Foundations of AI & Marketing Analytics** | Evolution of marketing in the age of data and AI; traditional vs. AI-driven marketing; Basics of AI and machine learning (at a managerial level): Key terms: algorithms, training data, model, prediction, classification, clustering. Types of learning: supervised, unsupervised, reinforcement (conceptual). Data in marketing: Structured vs. unstructured data; internal vs. external data sources; Customer data platforms (CDPs), CRM data, social media data, web & app analytics (overview).<br>Role of AI in marketing decision areas: Market research, segmentation, targeting, positioning, pricing, promotion, distribution; Introduction to tools (conceptual only): dashboards, basic exposure to Excel-based analytics, and optional demonstration of tools like Power BI / Tableau / Google Analytics / simple AI-based marketing tools | Basic ideas about AI, data, and their applications in marketing | 8 | 20% | 0.8 | CO1 |
| 2 | **AI for Customer Insights & Segmentation** | Customer analytics and AI: Descriptive, predictive, and prescriptive analytics in marketing. AI-driven segmentation: Clustering concepts (e.g., k-means) at managerial level; behavioural & value-based segmentation; RFM analysis (Recency, Frequency, Monetary value) and its enhancement with AI.<br>Predictive modelling for marketing: Propensity models for response, conversion, and cross-sell / upsell (conceptual);<br>Recommendation systems (overview): Content-based, collaborative filtering (high-level understanding).<br>Managerial interpretation of model outputs: Reading basic performance metrics (accuracy, precision/recall, AUC – only conceptually); Using insights for positioning, campaign design, and resource allocation. | Customer analytics, AI-based prediction, and marketing insights | 8 | 20% | 0.8 | CO1, CO2 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | **AI in Digital Marketing, Personalization & Communication** | AI in digital advertising: Overview of Programmatic advertising, real-time bidding; Personalization at scale: Dynamic website/app content; email and message personalization; product recommendations Social media and AI: Sentiment analysis, social listening, influencer identification (conceptual); Virtual influencers, generative AI content Campaign optimization using AI: A/B testing vs. multi-armed bandits (conceptual); Budget allocation and bid optimization supported by AI tools; Case studies: AI-enhanced campaigns by global and Indian brands. | Ideas about AI-driven advertising, personalization, and campaign optimization | 8 | 20% | 0.8 | CO3, CO5 |
| 4 | **AI in Customer Journey Management & CRM** | Customer journey mapping in an AI-enabled context: AI for CRM and relationship marketing; Churn prediction and win-back strategies; Customer Lifetime Value (CLV) estimation (conceptual); Next-best-offer / next-best-action recommendations. Conversational AI: Chatbots, voice assistants, and virtual agents in marketing and service; Design considerations and metrics (response time, satisfaction, containment rate). Sales and demand forecasting using AI: Time-series forecasting concepts; use in inventory and pricing decisions (managerial view); Integrating AI insights across touchpoints for an omnichannel customer experience. | Concepts about AI-enabled customer relationship management and customer experience | 8 | 20% | 0.8 | CO3, CO4 |
| 5 | **Implementation, Ethics & Future of AI in Marketing** | Governance, privacy, and security: Data protection principles (GDPR-like concepts, Indian context overview); Transparency, explainability (XAI – high-level), and accountability Ethical and societal issues: Bias and discrimination in AI models; filter bubbles; dark patterns in personalization; Responsible AI | Ethical, responsible, and future-oriented AI in marketing | 8 | 20% | 0.8 | CO3, CO5 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | and sustainable marketing; aligning AI with brand values and CSR<br>Future of AI in marketing: Generative AI for content, creative, and strategy support; Autonomous marketing systems and "always-on" optimization. | | | | | |

**Suggested Readings**


- Walters, H., & Hammond, R. (2025). *AI in Marketing: Applications, Insights, and Analysis*. Routledge/Taylor & Francis.
- Malhotra, N. K., Sudhir, K., & Toubia, O. (2023). *Artificial Intelligence in Marketing*. Emerald.
- King, K. (2019). *Using Artificial Intelligence in Marketing: How to Harness AI and Maintain the Competitive Edge*. Kogan Page.
- Gupta, S., & Jathar, A. (Year). *Marketing Analytics*. Wiley India.
- Sterne, J. (2017). *Artificial Intelligence for Marketing: Practical Applications*. Wiley


**CO-PO mapping**

| **CO/ PO** | **PO1** Knowledge of Business | **PO2** Critical & Problem Solving Skills | **PO3** Ethical orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building Skills | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO1 | L | | | | | | | |
| CO2 | M | L | | | | L | | |
| CO3 | M | M | | | | M | M | L |
| CO4 | M | M | | | | M | M | L |
| CO5 | M | H | | | | M | L | L |

** *H means High relevance, M means Medium relevance, L means Low relevance*

| **CIA PLAN (out of 60 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| Surprise Quiz1 (tentatively after 10th session) | Individual | 10 | CO1 |
| Mid Semester Exam (University Schedule) | Individual | 20 | CO1, CO2 |
| Individual Assignment 1 (tentatively after 20th session) | Individual /Group | 15 | CO3, CO4 & CO5 |
| Individual Assignment 2 (tentatively after 35th session) | Individual/Group | 15 | CO4 |
| TOTAL | | 60 | |

| END SEMESTER EXAMINATION (Out of 40 marks) | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| End Semester Exam | Individual | 40 (10 marks compulsory question in the form of case let or situation based) | CO1, CO2, CO3, CO4, CO5 |

**MBR4013T: Organisational Change and Development [4 Credits] | [Semester IV] |**
**Nature of the course: HR specialisation Course**

**Course Outcomes (CO)**

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

**CO1:** Explain the concepts, values, and assumptions of Organizational Development.

**CO2:** Analyse organizational data to diagnose change needs.

**CO3:** Apply OD intervention strategies at individual, group, and organizational levels.

**CO4:** Evaluate the role of consultants and effectiveness of OD interventions.

**CO5:** Design OD interventions aligned with organizational strategy.

**Course Content**

| **Module No** | **Module Name** | **Topics Description** | **No of Hours** | **Marks Allotted** | **Credit of Each Module** | **Associated CO** |
|---|---|---|---|---|---|---|
| **I** | **Foundations of OD** | Change, OD history, values, assumptions; Case analysis pedagogy. | 06 | 15% | 0.6 | CO1 |
| **II** | **OD Process & Diagnosis** | Action research, diagnosis; Simulation-based learning. | 07 | 20% | 0.7 | CO2 |
| **III** | **OD Interventions** | Team, group, intergroup interventio | 07 | 20% | 0.7 | CO3 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | ns; Role play applications. | | | | |
| **IV** | **Consultant Roles** | Client–consultant relations; Workshop-style delivery. | 06 | 15% | 0.6 | CO4 |
| **V** | **Strategic & Structural OD** | TQM, transformation; Project-based exploration | 07 | 15% | 0.7 | CO5 |
| **VI** | **Contemporary OD** | Ethics, digital OD, future trends; Use of AI tools. | 07 | 15% | 0.7 | CO4, CO5 |

Suggested Readings

Thomas Cummings, Christopher Worley (2013), *Organization Development and Change* (10th ed.) Cengage Learning.

French, W. L., Bell,C. H. and Vohra, V. ((2006) *Organization Development : Behavioral Science Interventions for Organization Improvement* (6th ed.) Pearson Education

**CO-PO mapping**

| **CO/ PO** | **PO1** Knowledge of Business | **PO2** Critical & Problem Solving Skills | **PO3** Ethical orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building Skills | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO 1 | H | M | | | | | | |
| CO 2 | H | M | | | | | | |
| CO 3 | H | H | | | L | | | |
| CO 4 | H | | | | | | | |
| CO 5 | H | H | M | M | L | | | |

*** H means High relevance, M means medium relevance, L means Low relevance*

**CIA Plan (Out of 60 Marks)**

| Evaluation Components | Mode | Full Marks | CO for Rubrics |
|---|---|---|---|
| Surprise Quiz 1 | Individual | 05 | CO1 |
| Surprise Quiz 2 | Individual | 05 | CO1 |
| Mid Semester Exam | Individual | 20 | CO2 |
| Assignment | Group | 10 | CO3 |
| Project & Presentation | Group | 20 | CO4 & CO5 |

**End Semester Examination (Out of 40 Marks)**

| Evaluation Components | Mode | Full Marks | CO for Rubrics |
|---|---|---|---|
| End Semester Exam | Individual | 40 | CO1, CO2, CO5 |

**MBR4023T: [Behavioral Psychology], [4 Credits], [Semester IV] | Nature of the course: HR specialization**

**Course Outcomes (CO)**

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

- **CO1**: Understand workplace behavioural psychology, digital learning, and well-being foundations.
- **CO2**: Interpret how personality, perception, and neurodiversity shape work behaviour and engagement.
- **CO3**: Analyse the impact of motivation, recognition, and collaboration tools on performance and work-life balance.
- **CO4**: Identify drivers of team behaviour, ethical leadership, and conflict management for productive cultures.
- **CO5**: Evaluate change management, behavioural interventions, and digital transformation in sustaining innovation and well-being.

**Course Content**

| Module No | Module Name | Topics Description | No of Hours | Marks Allotted | Credit of Each Module | Associated CO |
|---|---|---|---|---|---|---|
| I | Behavioral Psychology Foundations | Concepts and scope of behavioral science; value alignment; Metaverse in learning; digital tools for behavior measurement. +1 | 07 | 17.5% | 0.7 | CO1 |
| II | Personality and Work Behavior | Adaptive mindset (resilience/grit); self-leadership; PERMA model; neurodiversity inclusion; person-organization fit. +1 | 08 | 20% | 0.8 | CO2 |
| III | Motivation and Well-being | Personalized incentives; digital recognition; goal-setting software; hybrid/remote | 08 | 20% | 0.8 | CO3 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | collaboration; psychological safety. +1 | | | | |
| IV | Group Dynamics and Leadership | Ethical leadership; power dynamics; neuroleadership; leading across generations; analytics-driven conflict management. +1 | 07 | 17.5% | 0.7 | CO4 |
| V | Organizational Change and Culture | Behavioral nudging; agile change; gamification of habits; performance assessment and feedback for productivity. +1 | 07 | 17.5% | 0.7 | CO5 |
| VI | Case Application | Case studies and industry application of behavioral science theories (Reflective Learning). +1 | 03 | 7.5% | 0.3 | CO1-CO5 |

Suggested Readings


1. **Luthans, F.** (2011). *Organizational behavior: An evidence-based approach*.
2. **Kahneman, D.** (2011). *Thinking, fast and slow*.
3. **Seligman, M. E. P.** (2011). *Flourish: A visionary new understanding of happiness and well-being*.
4. **Dweck, C. S.** (2016). *Mindset: The new psychology of success*.
5. **Misra, G. (Ed.).** (2011). *Handbook of Psychology in India*.


III. **CO-PO Mapping**

| **CO** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** |
|---|---|---|---|---|---|---|---|---|
| **CO1** | H | | | | | | | |
| **CO2** | H | | | H | | | | |
| **CO3** | H | | H | M | H | M | | |
| **CO4** | H | M | | | | | M | |
| **CO5** | H | H | | | | M | | |

*H = High , M = Medium , L = Low*

**CIA Plan (Out of 60 Marks)**

| **Evaluation Components** | **Mode** | **Full Marks** | **CO for Rubrics** |
|---|---|---|---|
| Surprise Quiz 1 (after session 10) | Individual | 05 | CO1 |
| Surprise Quiz 2 (after session 25) | Individual | 05 | CO1 |
| Mid Semester Exam | Individual | 20 | CO2 |
| Assignment (after session 15) | Group | 10 | CO3 |
| Project Presentation (sessions 35-40) | Group | 20 | CO4 & CO5 |

**End Semester Examination (Out of 40 Marks)**

| **Evaluation Components** | **Mode** | **Full Marks** | **CO for Rubrics** |
|---|---|---|---|
| **End Semester Exam** | Individual | 40 | CO1, CO2, CO5 |

**MBR4033T: Human Resource Analytics [4 Credits] | [Semester IV] | Nature of the Course: HR specialisation Course**

**Course Outcomes (CO)**

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

**CO1:** Analyze and differentiate between HR analytics and traditional HR metrics, and evaluate their application in strategic decision-making.

**CO2:** Understand and apply analytical foundations to HR data, and develop HR metrics for key HR processes such as recruitment, performance appraisal, and employee training.

**CO3:** Collect, examine, and purify HR data, utilizing both qualitative and quantitative data for effective HR analytics.

**CO4:** Utilize descriptive and predictive analytics tools (e.g., MS Excel, Pivot Tables) to measure and visualize HR metrics and make data-driven decisions.

**CO5:** Interpret and apply predictive analytics to HR processes, including employee satisfaction, manpower demographics, and training effectiveness, and assess future HR trends.

**Course Content**

| **Module No** | **Module Name** | **Topics Description** | **No of Hours** | **Marks Allotted** | **Credit of Each Module** | **Associated CO** |
|---|---|---|---|---|---|---|
| **I** | **Foundations & Strategic Role** | Concept, scope, and evolution of HR analytics; strategic contribution to business outcomes; maturity models and industry trends. | 07 | 17.5% | 0.7 | CO1 |
| **II** | **Analytical Foundations** | Analytical thinking; data vs. metrics vs. KPIs; evidence-based HR; causality and the analytics lifecycle applied to recruitment and compensation. | 08 | 20% | 0.8 | CO2 |
| **III** | **Data Prep & Metric** | HRIS, ATS, and LMS data | 08 | 20% | 0.8 | CO3 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | **Development** | landscape; data governance and quality; designing HR scorecards, dashboards, and productivity metrics. | | | | |
| **IV** | **Descriptive Analytics & Visualization** | Reporting trends and distributions; practical work with Excel, Power BI, and Tableau; data storytelling and interactive dashboards. | 08 | 20% | 0.8 | CO4 |
| **V** | **Predictive & Prescriptive Analytics** | Modeling techniques for survey data; scenario and what-if analysis; linking HR to financial outcomes; ethics and bias in analytics. | 06 | 15% | 0.6 | CO5 |
| **VI** | **Case Application & Future Trends** | Case studies illustrating analytics-driven value creation and exploration of future trends in people analytics. | 03 | 7.5% | 0.3 | CO1-CO5 |
| **Total** | | | **40** | **100%** | **4.0** | |

Suggested Readings

**Bhattacharyya, D. K. (2017).** *HR Analytics: Understanding Theories and Applications*. SAGE Publications.
**Edwards, M. R., & Edwards, K. (2016).** *Predictive HR Analytics: Mastering the HR Metric*. Kogan Page.
**Fitz-enz, J. (2010).** *The New HR Analytics: Predicting the Economic Value of Human Capital*. AMACOM.
**Kavanagh, M. J., et al. (2018).** *Human Resource Information Systems* (4th ed.). Sage.
CO-PO Mapping

| CO/ PO | **PO1** Knowledge of Business | **PO2** Critical & Problem- Solving Skills | **PO3** Ethical orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building Skills | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| **CO1** | H | | | | | | | |
| **CO2** | H | | | H | | | | |
| **CO3** | H | | H | M | H | M | | |
| **CO4** | H | M | | | | | | M |
| **CO5** | H | H | | | | | M | |

**H = High, M = Medium, L = Low**

**CIA Plan (Out of 60 Marks)**

| **Evaluation Components** | **Mode** | **Full Marks** | **CO for Rubrics** |
|---|---|---|---|
| Surprise Quiz 1 (after session 10) | Individual | 05 | CO1 |
| Surprise Quiz 2 (after session 25) | Individual | 05 | CO1 |
| Mid-Semester Exam | Individual | 20 | CO2 |
| Assignment (after session 15) | Group | 10 | CO3 |
| Project Presentation (sessions 35-40) | Group | 20 | CO4 & CO5 |

**End Semester Examination (Out of 40 Marks)**

| **Evaluation Components** | **Mode** | **Full Marks** | **CO for Rubrics** |
|---|---|---|---|
| End Semester Exam | Individual | 40 | CO1, CO2, CO5 |

**Section -02**

- **MBR4043T: [International Human Resource Management], [4 Credits], [Semester IV], [Nature of the Course: Specialization]**

- **Course Outcomes (CO)**

*At the end of this course, Students will be able to*

**CO1:**Understand the concepts and the current trends in HRM from a Global perspective

**CO2:** Elaborate on the process of International Business in the context of global organizations

**CO3:**Examine the recruitment and selection process and their dynamics in global organizations

**CO4:**Evaluate Factors influencing Compensation Packages and Programmes in internationalscenario.

**CO5:**Create new knowledge and apply creative solutions for IIIMA cases

- **Course Content**

| Module No | Module Name | Topic(s) | Description | No of Hours allotted | Marks allotted | Credit of each Module | Associated Course Outcome (CO) |
|---|---|---|---|---|---|---|---|
| I | International Business and HRM | Overview, Scope and Concept of IHRM | International Business and HRM | 4 | 10% | 0.4 | CO1 |
| II | Recruitment and Selection by Multinationals | Human Resource Planning and Information System Recruitment and Selection of Expatriates | Recruitment and Selection of Expatriates & Human Resource Outsourcing | 5 | 12.5% | 0.5 | CO1 |
| III | Performance Management in International Organizations | Performance Management of Expatriates | Performance Feedback, Cultural Implications of the Feedback Process | 5 | 12.5% | 0.5 | CO2 |
| IV | International Compensation Management | Factors influencing Compensation Programmes | Constitution of Total Compensation Package | 4 | 10% | 0.4 | CO 3 |
| V | Repatriation of Expatriates | Developing a Framework for Global HR Managers, Talent Management | Meaning of Repatriation, The Repatriation Process | 5 | 12.5% | 0.5 | CO 4 |
| VI | Cross Cultural Theories and Implications in International Business | Theory of Culture, Integrating Cultural Dimensions | Different theories of Cross-Cultural Research approach | 6 | 15% | 0.6 | CO 2 |
| VII | Diversity Management in International Business | Approaches to Managing Diversity | Process of Managing Diversity | 4 | 10% | 0.4 | CO 3 |
| VIII | Managing International Projects and Teams – An HRM | Elements of a Dynamic International Team | Elements of a Dynamic International Team | 5 | 12.5% | 0.5 | CO 4 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Approach | | | | | | |
| IX | Cases and Discussion | Case Based Learning | IIMA Case Components | 2 | 5 % | 0.2 | CO 5 |

**Suggested Readings:**

1. S. C. Gupta: International Human Resource Management - Texts and Cases; Macmillan Publishers, 2008 (Reprint Second Edition)

2. K. Aswathappa and Sadhna Dash: International Human Resource Management - Texts and Cases; Tata McGrwa-Hill Education, 2013 (Second Edition)

**Section -03**

**CO-POmapping**

| **CO/ PO** | **PO1:** Knowledge of Business | **PO2:** Critical & Problem-Solving Skills | **PO3:** Ethical orientation | **PO4:** Global perspective & Communication Skills | **PO5:** Leadership & Team Building Skills | **PO6:** Entrepreneurship Skills | **PO7:** Sustainability Perspective | **PO8:** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO1 | H | H | | H | M | | | L |
| CO2 | H | | M | | M | | H | |
| CO3 | H | H | | | M | | | M |
| CO4 | H | M | | | | | | |
| CO5 | H | M | | M | | | | H |

**H = High, M = Medium, L = Low**

| **CIA PLAN (out of 60 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| Surprise Quiz1 (tentatively after 10th session) | Individual | 10 | CO1, CO2 |
| Mid Semester Exam | Individual | 20 | CO1, CO2, CO3, |
| Assignment (tentatively after 15th session) | Group | 10 | CO3, CO4, C05 |
| Project Presentation (tentatively between 35th-40th session) | Group | 20 | CO3, CO5 |
| TOTAL | | 60 | |

| **END SEMESTER EXAMINATION (out of 40 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| End Semester Exam | Individual | 40 | CO1, CO2, CO3, CO4, CO5 |

**MBR4053T: Human Resource Accounting & Audit**
**[4 Credits] | [Semester IV] | Nature of The Course: HR Specialisation Course (Optional Paper)**

**Course Outcomes (CO)**

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

- **CO1**: Understand the concepts, evolution, and significance of Human Resource Accounting (HRA) in organizations.
- **CO2**: Analyze human capital investment decisions and their relationship with productivity and organizational performance.
- **CO3**: Apply various approaches and models for measurement and valuation of human resources.
- **CO4**: Design and evaluate HR accounting systems, management control mechanisms, and cost structures and
- **CO5**: Assess HR audit processes and apply strategic tools like Balanced Scorecard for performance improvement.

| Module No. | Module Name | Topics | Hours | Marks | Credits | Associated CO |
|---|---|---|---|---|---|---|
| **I** | **Meaning & Definition of HRA** | Meaning, Definition, Importance, Evolution, Scorecard History, HRA for Managers, Investment in HR, Workforce Quality & Performance, Market Investment Theory, Pros & Cons of HRA | 6 | 15 | 0.6 | CO1 |
| **II** | **Human Resource Planning** | HR Planning, Human Capital Investment, Expenditure vs Productivity, Training, Human Capital Productivity, Measurement of Human Value, Objectives of HRA, Approaches, Valuation Models | 8 | 20 | 0.8 | CO2, CO3 |
| **III** | **Investment Approach** | Investment Approach, HR Value Concepts, Cost Methods, Recruiting & Training Costs, Depreciation, Rate of Return, Turnover, Organizational Climate, Cost Reduction & Performance | 8 | 20 | 0.8 | CO3 |
| **IV** | **HR Accounting** | HR Accounting Design, Implementation, Responsibility Accounting, Management Control, HR Subsystems (Recruitment, Appraisal, Training), Cost Classification, Behavioral & Social Control | 6 | 15 | 0.6 | CO4 |
| **V** | **HR Audit** | HR Audit Concept, Scope, Approaches (Comparative, Compliance, Statistical, MBO), | 6 | 15 | 0.6 | CO5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Audit Process, Methodology, Challenges, Audit Reports & Action Plans, Benefits; | | | | |
| **VI** | **Balanced Scorecard** | Balanced Scorecard – Need, Framework, Strategic Linkages | 6 | 15 | 0.6 | CO5 |

# Suggested Readings :


1. Eric G. Flamholtz´ Springer: Human Resource Accounting: Advances in Concepts, Methods and Applications
2. Jac Fitz-enz, et. Al: How to Measure Human Resource Management, Mc Graw Hill
3. Rakesh Chandra Katiyar: Accounting for Human Resource, UK Publishing House
4. M. Saeed, D. K. Kulsheshtha: Human Resource Accounting, Anmol Publications
5. D. Prabakara Rao: Human Resource Accounting; Inter India Publications


**CO-PO mapping**

| **CO/ PO** | **PO1** Knowledge of Business | **PO2** Critical & Problem Solving Skills | **PO3** Ethical orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building Skills | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO 1 | H | L | L | L | – | – | – | L |
| CO 2 | H | H | L | L | L | M | L | M |
| CO 3 | H | H | L | L | L | M | L | H |
| CO 4 | H | H | M | L | M | L | L | M |
| CO 5 | H | H | M | M | M | M | M | H |

*** H means High relevance, M means medium relevance, L means Low relevance*

**CIA Plan (Out of 60 Marks)**

| **EvaluationComponents** | **Mode** | **Full Marks** | **CO for Rubrics** |
|---|---|---|---|
| Surprise Quiz 1 | Individual | 5 | CO1 |
| Surprise Quiz 2 | Individual | 5 | CO2 |
| Mid Semester Exam | Individual | 20 | CO2, CO3 |
| Assignment | Group | 10 | CO3 |

| | | | |
|---|---|---|---|
| Project & Presentation | Group | 20 | CO4, CO5 |

End Semester Examination (Out of 40 Marks)

| **Evaluation Components** | **Mode** | **Full Marks** | **CO for Rubrics** |
|---|---|---|---|
| End Semester Exam | Individual | 40 | CO1, CO2,CO3, CO4, CO5 |

**MBR4063T: Artificial Intelligence in Human Resource Management, 4 Credits, Semester IV Nature of the Course: HR specialisation**

**Course Outcomes (CO)**

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

- **CO1:** Understand the concept of Artificial Intelligence in the context of HRM.
- **CO2:** Interpret the application of AI in talent acquisition and employee onboarding.
- **CO3:** Analyze the role of AI in performance management and learning & development.
- **CO4:** Identify the need and application of AI in employee engagement, retention, and HR analytics.
- **CO5:** Evaluate the trends, challenges, and future of HR in relation to Artificial Intelligence.

**Course Content**

| **Module No** | **Module Name** | **Topic(s)** | **Description** | **No. of Hours** | **Marks Allotted** | **Credit of Each Module** | **Associated CO** |
|---|---|---|---|---|---|---|---|
| I | Introduction to AI in HR | Foundations of AI in HRM | Definition and scope; evolution from automation to decision intelligence; key technologies (ML, NLP, RPA, predictive analytics); benefits – efficiency, accuracy, cost savings, employee experience | 6 | 15% | 0.6 | CO1 |
| II | AI in Talent Acquisition & Onboarding | AI-driven Recruitment Systems | Resume screening; chatbots; job matching algorithms; predictive hiring; cultural fit analysis; onboarding automation; VR-based training; ethical concerns (privacy, bias) | 6 | 15% | 0.6 | CO2 |
| III | AI in Performance | Intelligent Performance | Real-time feedback; sentiment analysis; | 6 | 15% | 0.6 | CO3 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Management & Learning & Development | Systems | competency & skill gap analytics; personalized learning paths; AI coaching; fairness and employee acceptance challenges | | | | |
| IV | AI in Employee Engagement, Retention & HR Analytics | Workforce Analytics & Engagement | Sentiment surveys; burnout detection; wellness analytics; predictive retention models; workforce planning; transparency and trust issues | 6 | 15% | 0.6 | CO4 |
| V | Future of AI in HR – Trends & Challenges | Emerging AI Practices | Virtual HR assistants; augmented analytics; AI for DEI; legal and data security concerns; implementation barriers; Indian & global perspectives; hybrid human–AI models | 6 | 15% | 0.6 | CO5 |
| VI | Case Study & Application | Applied AI-HR Integration | Industry case studies (Indian & global); reflective analysis; AI-HR project design and presentation | 10 | 25% | 1.0 | CO1–CO5 |

**Suggested Readings**


1. Agrawal, V. (Ed.). (2025). *Human Resource Management and Artificial Intelligence*. Routledge.
2. Budhwar, P., Bamel, U., et al. (2022). *Artificial Intelligence—Challenges and Opportunities for HRM*. Taylor & Francis.
3. Eubanks, B. (2022). *Artificial Intelligence for HR* (2nd ed.). Kogan Page.
4. Ghosh, S., et al. (2023). *Artificial Intelligence Techniques in Human Resource Management*. Apple Academic Press.
5. *Handbook of Research on Artificial Intelligence in Human Resource Management* (2022). Elgar Publishing


**CO–PO Mapping**

| **CO / PO** | **PO1** Knowledge of Business | **PO2** Critical & Problem Solving Skills | **PO3** Ethical orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building Skills | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO 1 | H | | | | | | | |
| CO 2 | H | H | | | | | | |
| CO 3 | H | H | M | H | M | | | |
| CO 4 | H | M | M | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| CO 5 | H | H | M | | | | | |

**H = High , M = Medium, L = Low**

**CIA PLAN (Out of 60 Marks)**

| Evaluation Components | Mode | Full Marks | CO (for Rubrics) |
|---|---|---|---|
| Surprise Quiz 1 (tentatively after 10th session) | Individual | 5 | CO! |
| Surprise Quiz 2 (tentatively after 25th session) | Individual | 5 | CO1 |
| Mid Semester Exam | Individual | 20 | CO1, CO2 |
| Assignment (tentatively after 15th session) | Group | 10 | CO3 |
| Project Presentation (tentatively between 35th–40th session) | Group | 20 | CO4 & CO5 |
| **TOTAL** | | **60** | |

**END SEMESTER EXAMINATION (Out of 40 Marks)**

| Evaluation Components | Mode | Full Marks | CO for Rubrics |
|---|---|---|---|
| End Semester Examination | Individual | 40 | CO1, CO2, CO5 |

**Section 2 :**

**MBR4073T: Employer Branding [4 Credits] | [Semester IV] | Nature of the Course: HR Specialisation**

## Course Outcomes (CO)

At the end of this course, students will be able to:
**CO1:** Understand the conceptual foundations of employer branding and the CREST model components.
**CO2:** Interpret the relationship between culture, reputation, employee experience, and talent strategies in shaping employer brand identity.
**CO3:** Analyze various tools and metrics used for measuring and enhancing employer branding effectiveness.
**CO4:** Identify emerging trends and best practices in employer branding, including AI, storytelling, and inclusion-driven strategies.
**CO5:** Evaluate the strategic role of employer branding in improving talent retention, engagement, and organizational transformation.

## Course Content

| Module No | Module Name | Topics Description | No of Hours | Marks Allotted | Credit of Each Module | Associated CO |
|---|---|---|---|---|---|---|
| **I** | **Culture and Core Values** | Organizational DNA; identifying core values; purpose-driven culture; diversity and inclusion branding. | 07 | 17.5% | 0.7 | CO1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **II** | **Reputation and Recruitment** | Reputation management; EVP design; AI-based recruitment branding; storytelling through employees. | 08 | 20% | 0.8 | CO2 |
| **III** | **Engagement and Experience** | Onboarding to offboarding brand; employee experience analytics; hybrid engagement; personalized journeys. | 08 | 20% | 0.8 | CO3 |
| **IV** | **Strategy and Storytelling** | Employer branding KPIs; CSR and sustainability alignment; digital micro-content; purpose branding. | 07 | 17.5% | 0.7 | CO4 |
| **V** | **Talent Retention and Transformation** | Link between brand and retention; career development; alumni networks; boomerang employees; internal mobility branding. | 07 | 17.5% | 0.7 | CO5 |
| **VI** | **Case Application** | Case studies and industry application of branding theories (Reflective Learning). | 03 | 7.5% | 0.3 | CO1-CO5 |

**Suggested Readings**

**Barrow, S., & Mosley, R. (2005).** *The Employer Brand: Bringing the Best of Brand Management to People at Work*. Wiley.

**Mosley, R., & Schmidt, L. (2024).** *Employer Branding for Dummies*. Wiley.

**Naz, Z., & Zahidi, F. (2024).** *Employer Branding for Competitive Advantage*. Routledge.

**Minchington, B. (2022).** *The Business of Employer Branding*. Employer Brand International

**CO-PO Mapping**

| CO | **PO1** Knowledge of Business | **PO2** Critical & Problem Solving Skills | **PO3** Ethical orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building Skills | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| **CO 1** | H | | | | | | | |
| **CO 2** | H | | | H | | | | |
| **CO 3** | H | | H | M | H | M | | |
| **CO 4** | H | M | | | | | | M |
| **CO 5** | H | H | | | | | M | |

**H = High, M = Medium, L = Low**

**V. Evaluation Plan**
**CIA Plan (Out of 60 Marks)**

| **Evaluation Components** | **Mode** | **Full Marks** | **CO for Rubrics** |
|---|---|---|---|
| Surprise Quiz 1 (after session 10) | Individual | 05 | CO1 |
| Surprise Quiz 2 (after session 25) | Individual | 05 | CO1 |
| Mid Semester Exam | Individual | 20 | CO2 |
| Assignment (after session 15) | Group | 10 | CO3 |
| Project Presentation (sessions 35-40) | Group | 20 | CO4 & CO5 |

**End Semester Examination (Out of 40 Marks)**

| **Evaluation Components** | **Mode** | **Full Marks** | **CO for Rubrics** |
|---|---|---|---|
| End Semester Exam | Individual | 40 | CO1, CO2, CO5 |

# Section 02

**MBR4014T: Business Intelligence and Advanced Forecasting Techniques, (4 credits) (Semester III), Nature of the Course: [Optional Paper – Business Analytics]**

## Course Outcomes (CO)

*At the end of this course, students will be able to*

**CO1:** Demonstrate a comprehensive understanding of modern Business Intelligence (BI) architecture, including integration of data warehousing, data lakes, and cloud-based solutions aligned with strategic business goals.

**CO2:** Apply advanced data preparation and integration techniques, including ETL processes, data cleaning, and quality assessment for structured and unstructured data from diverse sources.

**CO3:** Develop and evaluate advanced forecasting models, such as ARIMA, SARIMA, and GARCH, using time series analysis and Box-Jenkins methodology to support data-driven decision-making.

**CO4:** Utilize qualitative and quantitative forecasting methods, including exponential smoothing, barometric techniques, and economic indicators, to produce short-term and long-term forecasts using relevant software tools

**CO5:** Design and implement interactive dashboards and complex visualizations using advanced BI tools like Tableau, Power BI, and Looker, integrating predictive analytics and data mining capabilities.

**Course Content**

| Module No | Module Name | Topic | Description | No of hours | Marks allotted | Credit of each module | Associated Course Outcome |
|---|---|---|---|---|---|---|---|
| 1 | **Advanced Business Intelligence** | Comprehensive BI Architecture: Integration of Data Warehousing and Data Lakes, BI Strategy Alignment with Business Goals, Data Governance and Quality Management | Fundamental concepts of Advanced BI and the trends and tools | 10 | 25% | 1 | CO1 |
| | | BI Trends: Cloud BI, Self-Service BI, and AI Integration, in-depth Analysis of Advanced BI Tools (e.g., Tableau, Power BI, Looker | | | | | |
| | | Creating Complex Dashboards and Interactive Visualizations, Advanced Analytics Features: Predictive Analytics, Data Mining | | | | | |
| | | Hands-on Lab: Developing a Complex BI | | | | | |
| 2 | **Data Preparation and Integration** | ETL (Extract, Transform, Load) Processes: Tools and best practices, Integrating Data from Multiple Sources: Databases, APIs, and flat files | ETL Process and related techniques | 10 | 25% | 1 | CO1, CO2 |
| | | Resolving Data Conflicts: Merging datasets with | | | | | |

| Module No | Module Name | Topic | Description | No of hours | Marks allotted | Credit of each module | Associated Course Outcome |
|---|---|---|---|---|---|---|---|
| | | conflicting information | | | | | |
| | | Advanced Data Cleaning and Transformation Methods | | | | | |
| | | Data Integration: ETL Processes and Data Merging, Handling Big Data and Unstructured Data, Data Quality Assessment and Improvement | | | | | |
| 3 | **Advance quantitative forecasting** | Mixed Autoregressive and Moving Average Models | Forecasting processes, models and techniques | 12 | 25% | 1 | CO3, CO4 |
| | | Homogeneous Non-Stationary Processes: ARIMA Models, Box-Jenkins Methodology, Specification of ARIMA Models | | | | | |
| | | SARIMA, ARMAX Model, Causality, Exogeneity, VAR, Impulse Response Functions, Volatility Measurement | | | | | |
| | | ARCH Process, GARCH Process | | | | | |
| 4 | **Qualitative Forecasting Techniques** | Survey and Opinion Polling Techniques, Exponential Smoothing and Other Advanced Techniques, Barometric Techniques, Leading, Lagging and Coincident Economic Indicators, Diffusion and Composite Indexes, Accuracy of Forecast, Short Run Forecast, Long Term Forecast | Quantitative process and usage of software as forecasting tool | 8 | 25% | 1 | CO5 |
| | | Use of Software Packages for Forecasting | | | | | |

**Section - 03**

- **CO-PO mapping**

| CO/PO | **PO1** Knowledge of Business | **PO2** Critical & Problem-Solving Skills | **PO3** Ethical orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building Skills | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO1 | H | M | L | M | M | M | L | H |
| CO2 | H | H | L | L | M | M | L | H |
| CO3 | H | H | L | L | M | M | L | H |
| CO4 | H | H | L | M | M | M | L | H |
| CO5 | H | H | L | M | H | M | L | H |

**** *H means High relevance, M means Medium relevance, L means Low relevance*

| **CIA PLAN (out of 60 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| Research project | Group presentation | 30 | CO1, CO2, CO3 |
| Mid Semester Exam | CIA Written | 20 | CO1, CO2, CO3 |
| Assignment (tentatively after 18th session) | Individual | 10 | CO3, CO4, CO5 |
| TOTAL | | 60 | |

| **END SEMESTER EXAMINATION (out of 40 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| End Semester Exam | Individual | 40 | CO1, CO2, CO3, CO4, CO5 |

**MBR4024T: Human Resource Analytics [4 Credits] | [Semester IV] | Nature of the Course: HR specialisation Course**

**Course Outcomes (CO)**

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

**CO1:** Analyze and differentiate between HR analytics and traditional HR metrics, and evaluate their application in strategic decision-making.

**CO2:** Understand and apply analytical foundations to HR data, and develop HR metrics for key HR processes such as recruitment, performance appraisal, and employee training.

**CO3:** Collect, examine, and purify HR data, utilizing both qualitative and quantitative data for effective HR analytics.

**CO4:** Utilize descriptive and predictive analytics tools (e.g., MS Excel, Pivot Tables) to measure and visualize HR metrics and make data-driven decisions.

**CO5:** Interpret and apply predictive analytics to HR processes, including employee satisfaction, manpower demographics, and training effectiveness, and assess future HR trends.

**Course Content**

| Module No | Module Name | Topics Description | No of Hours | Marks Allotted | Credit of Each Module | Associated CO |
|---|---|---|---|---|---|---|
| **I** | **Foundations & Strategic Role** | Concept, scope, and evolution of HR analytics; strategic contribution to business outcomes; maturity models and industry trends. | 07 | 17.5% | 0.7 | CO1 |
| **II** | **Analytical Foundations** | Analytical thinking; data vs. metrics vs. KPIs; evidence-based HR; causality and the analytics lifecycle applied to recruitment and compensation. | 08 | 20% | 0.8 | CO2 |
| **III** | **Data Prep & Metric Development** | HRIS, ATS, and LMS data landscape; data governance and quality; designing HR scorecards, dashboards, and productivity metrics. | 08 | 20% | 0.8 | CO3 |
| **IV** | **Descriptive Analytics & Visualization** | Reporting trends and distributions; practical work with Excel, Power BI, and Tableau; data storytelling and interactive dashboards. | 08 | 20% | 0.8 | CO4 |
| **V** | **Predictive & Prescriptiv** | Modeling techniques for survey data; | 06 | 15% | 0.6 | CO5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | **e Analytics** | scenario and what-if analysis; linking HR to financial outcomes; ethics and bias in analytics. | | | | |
| **VI** | **Case Application & Future Trends** | Case studies illustrating analytics-driven value creation and exploration of future trends in people analytics. | 03 | 7.5% | 0.3 | CO1-CO5 |
| **Total** | | | **40** | **100%** | **4.0** | |

Suggested Readings

**Bhattacharyya, D. K. (2017).** *HR Analytics: Understanding Theories and Applications*. SAGE Publications.

**Edwards, M. R., & Edwards, K. (2016).** *Predictive HR Analytics: Mastering the HR Metric*. Kogan Page.

**Fitz-enz, J. (2010).** *The New HR Analytics: Predicting the Economic Value of Human Capital*. AMACOM.

**Kavanagh, M. J., et al. (2018).** *Human Resource Information Systems* (4th ed.). Sage.

CO-PO Mapping

| **CO/ PO** | **PO1** Knowledge of Business | **PO2** Critical & Problem- Solving Skills | **PO3** Ethical orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building Skills | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| **CO1** | H | | | | | | | |
| **CO2** | H | | | H | | | | |
| **CO3** | H | | H | M | H | M | | |
| **CO4** | H | M | | | | | | M |
| **CO5** | H | H | | | | | M | |

**H = High, M = Medium, L = Low**

**CIA Plan (Out of 60 Marks)**

| Evaluation Components | Mode | Full Marks | CO for Rubrics |
|---|---|---|---|
| Surprise Quiz 1 (after session 10) | Individual | 05 | CO1 |
| Surprise Quiz 2 (after session 25) | Individual | 05 | CO1 |
| Mid-Semester Exam | Individual | 20 | CO2 |
| Assignment (after session 15) | Group | 10 | CO3 |
| Project Presentation (sessions 35-40) | Group | 20 | CO4 & CO5 |

**End Semester Examination (Out of 40 Marks)**

| Evaluation Components | Mode | Full Marks | CO for Rubrics |
|---|---|---|---|
| End Semester Exam | Individual | 40 | CO1, CO2, CO5 |

# Section 02

- **MBR4034T: [Marketing Analytics], [4 credits], [Semester IV], [Nature of the Course: Discipline Specific Elective]**

- **Course Outcomes (CO)**

*At the end of this course, students will be able to:*

- **CO1** Explain the classification of data and identify relevant marketing data and tools for analysis
- **CO2** Describe the applications of Marketing Analytics and its advances in solving marketing related problems
- **CO3** Solve diverse marketing related problems by using data analytics process and tools
- **CO4** Analyze different marketing management scenario, explain them and provide data driven solutions
- **CO5** Explain the findings derived by using marketing analytics tools and provide help in taking marketing decisions

**Course Contents**

| Module | Module Name | Topic | Description | No of Hours allotted | Marks allotted | Credit of each Module | Associated Course Outcome (CO) |
|---|---|---|---|---|---|---|---|
| 1 | **Introduction to Marketing Analytics** | Marketing Decision making process, Analytics in Marketing, Rising relevance of marketing analytics | Basics ideas about use of analytics in Marketing | 2 | 5% | 0.2 | CO1 |
| 2 | **Preparation of Data for Analysis** | Processing of Data, Data Input Format, Coding, Variables and Variable Labels, Value Labels, Missing Data, Types of Analysis, Various types of Charts | Theoretical Concept related to preparation of Data | 4 | 10% | 0.4 | CO1, CO2 |
| 3 | **Marketing Segmentation Analytics** | Understanding Segments, Category based Segmentation, Demographic and Psychographic Segments and their Targeting Strategies, Targeting with more than Two Segments, NonParametric Chi Square Test, One Sample TTests, Cross tab Chi-Square, Independent Samples TTest, ANOVA, Cluster Analysis, Collaborative Filtering, Using Classification Trees for Segmentation | Use of Analytics to identify and explain marketing segments | 10 | 20% | 0.8 | CO3, CO5 |
| 4 | **Product Management Analytics** | Trial, Repeat Volume, Penetration, Volume Projections, Growth—Percentage, Growth– CAGR, Cannibalization Rate, Fair Share Draw Rate, Brand Equity Metrics, Conjoint Utilities and Consumer Preferences | Use of Analytics in product marketing | 6 | 15% | 0.6 | CO3, CO4 |
| 5 | **Pricing Analytics** | Estimating Linear and Power Demand Curves, Pricing Using Subjectively Estimated Demand Curves, Price Bundling, Nonlinear Pricing, Demand Curves and Willingness to Pay, Profit Maximizing with Nonlinear Pricing Strategies, Price Skimming and Sales, Dropping Prices Over Time, Reasons of Sales Promotion | Using analytics for pricing decisions | 4 | 10% | 0.4 | CO3, CO5 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 6 | **Consumer Analytics** | Customer Value, Calculating Lifetime Customer Value, DIRECTV, Customer Value, Estimating the Chance a Customer Is Still Active, Customers Want, Conjoint Analysis, Products, Attributes, and Levels, Full Profile Conjoint Analysis, Logistic Regression, Logistic Regression Model, Maximum Likelihood Estimate of Logistic Regression Model | Using Analytics for Consumer Management and decisions | 6 | 15% | 0.6 | CO3, CO5 |
| 7 | **Retail Analytics** | Market Basket Analysis and Lift, Computing Lift for Two Products, Computing Three-Way Lifts, Using Lift to Optimize Store Layout, RFM Analysis, Allocating Retail Space and Sales Resources | Using Analytics for retail related decision making | 4 | 15% | 0.6 | CO3, CO4 |
| 8 | **Advertising and Web Media Analytics** | Measuring the Effectiveness of Advertising, The Adstock Model, Optimizing Advertising: Pulsing versus Continuous Spending, Media Selection Models, A Linear Media Allocation Model, A Monte Carlo Media Allocation Simulation, Pay per Click (PPC) Online Advertising, Profitability Model for PPC Advertising, Google AdWords Auction | Understanding digital and social media analytics | 4 | 10% | 0.4 | CO3, CO4 |

 **Suggested Readings:**

**Textbook:**

1. Marketing Analytics: Strategic Models and Metrics by Stephan Sorger, Admiral Press

**Reference Books:**

1. Marketing Analytics: Data-Driven Techniques with Microsoft Excel by Wayne L. Winston, Wiley
2. Marketing Metrics - Manager's Guide to Measuring Marketing Performance by Neil
3. T Bendle, Paul Farris, Philip E Pfeifer, David J Reibstein, Pearson Education

**Section 03**

- **CO-PO mapping**

| CO/ PO | PO1 Knowledge of Business | PO2 Critical & Problem Solving Skills | PO3 Ethical orientation | PO4 Global perspective & Communication Skills | PO5 Leadership & Team Building Skills | PO6 Entrepreneurship Skills | PO7 Sustainability Perspective | PO8 Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO1 | H | | | | | L | | M |
| CO2 | M | M | | | | | M | M |
| CO3 | M | M | | | | M | M | M |
| CO4 | M | M | | | | M | M | M |
| CO5 | M | M | | | | | | M |

*** H means High relevance, M means Medium relevance, L means Low relevance*

| CIA PLAN (out of 60 marks) | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| Surprise Quiz1 (tentatively after 10th session) | Individual | 10 | CO1 |
| Mid Semester Exam (University Schedule) | Individual | 20 | CO1, CO2 |
| Individual Assignment 1 (tentatively after 20th session) | Individual /Group | 15 | CO3, CO4 & CO5 |
| Individual Assignment 2 (tentatively after 35th session) | Individual/Group | 15 | CO4 |
| TOTAL | | 60 | |

| END SEMESTER EXAMINATION (Out of 40 marks) | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| End Semester Exam | Individual | 40 (10 marks compulsory question in the form of case let or situation based) | CO1, CO2, CO3, CO4, CO5 |

# Section 02

**MBR4044T: Financial Risk Analytics, (4 credits) (Semester IV), Nature of the Course: [Optional Paper – Business Analytics]**

### Course Outcomes (CO)

*At the end of this course, students will be able to*

**CO1:** Understand and explain the principles of financial risk management, including risk-return tradeoff, volatility, correlation, and basic portfolio analysis.

**CO2:** Apply quantitative models to estimate market risk using techniques such as Value-at-Risk (VaR), Expected Shortfall (ES), GARCH family models, and Monte Carlo simulations.

**CO3:** Evaluate and model credit risk through the use of probability of default, internal rating systems, structural models (Merton, KMV), and loss distribution approaches.

**CO4:** Analyze the market risk of fixed income and derivative instruments using advanced techniques including delta-gamma approximation, duration-based revaluation, and cash flow mapping

**CO5:** Assess operational and liquidity risk using aggregate loss distribution models, liquidity-adjusted VaR, and stress testing, including asset-liability management practices in financial institutions.

**Course Content**

| Module No | Module Name | Topic | Description | No of hours | Marks allotted | Credit of each module | Associated Course Outcome |
|---|---|---|---|---|---|---|---|
| 1 | **Overview of Financial Risk Analytics** | Basics of Financial Risk Management, Risk and Return, Volatility, Correlation, Covariance | Fundamental concepts of Financial Risk Analytics | 10 | 25% | 1 | CO1 |
| | | Fundamentals of Bond, Duration, Convexity, Basics of Portfolio Analysis | | | | | |
| | | Systematic Risk Estimation | | | | | |
| | | Basics of Statistics and Probability Theory | | | | | |
| 2 | **Credit Risk Modeling** | Introduction to Credit Risk, Default Risk, Estimation of Default Probabilities, Agency Ratings | Credit Risk Modeling methods and techniques | 10 | 25% | 1 | CO1, CO2, CO3 |
| | | Credit Scoring and Internal Rating Models Including Credit Scoring for Private Firms, Non-manufacturing Firms, Emerging Markets Firm, Behavioral Scoring | | | | | |
| | | Loan Default Prediction (Logistic Regression, Probit, Complementary Log-log, Decision Tree), Through the Cycle (TTC), Point in Time (PIT), Credit Metrics (VaR Estimation for Non-tradable Loan/Bond Portfolio) | | | | | |
| | | Structural Models for Estimating Probability of Default and Distance to Default (Merton, KMV), Reduced Form Model, Loss Given Default (LGD), Exposure at Default (EAD), Expected Credit Loss, Unexpected Credit Loss, VaR, Economic Capital, Credit Risk Modeling PD and Credit Risk Loss Distribution | | | | | |

| Module No | Module Name | Topic | Description | No of hours | Marks allotted | Credit of each module | Associated Course Outcome |
|---|---|---|---|---|---|---|---|
| **3** | **Market Risk optimization** | Market Risk Analysis for Single Asset: Non-parametric and Parametric Approaches to Estimate VaR and Expected Shortfall; Historical Simulation, Monte Carlo Simulation, Simple Variance-based Approach, Risk Metrics, GARCH, EGARCH, GJR-GARCH Models, Extreme Value Theory; VaR Evaluation: Back testing | Market Risk optimization under different situations and the models used | 10 | 25% | 1 | CO3, CO4 |
| | | Market Risk Analysis for Portfolio: Standard Covariance/Correlation Approach, Risk Metrics, Multivariate GARCH Model, Monte Carlo Simulation for the Portfolio; VaR Evaluation | | | | | |
| | | Market Risk Analysis of Fixed Income Securities and Options: VaR of Fixed Income Portfolio: Duration-based Partial Revaluation Approach (Historical Simulation), Cash Flow Mapping; VaR of Options: Monte Carlo Simulation, Delta Approximation, Delta-Gamma Approximation | | | | | |
| 4 | **Operational and Liquidity Risk Analysis, Asset Liability Management in Banks and Others** | Introduction to Operational Risk with Evidence of Operational Failures, Estimating VaR for Operational Risk (Aggregate Loss Distribution/LDA) using Monte Carlo Simulation, Liquidity Adjusted VaR Under Normal and Stressed Market, Stress Testing, RAROC | Liquidity Risk Analysis and Asset Liability Management in financial houses | 10 | 25% | 1 | CO5 |
| | | Asset Liability Management in Banks (NII and Duration GAP Analysis in Banks) | | | | | |

**Section - 03**

**CO-PO mapping**

| CO/PO | PO1 Knowledge of Business | PO2 Critical & Problem-Solving Skills | PO3 Ethical orientation | PO4 Global perspective & Communication Skills | PO5 Leadership & Team Building Skills | PO6 Entrepreneurship Skills | PO7 Sustainability Perspective | PO8 Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO1 | H | M | L | M | M | M | L | M |
| CO2 | H | H | L | L | M | M | L | H |
| CO3 | H | H | L | L | M | M | L | H |
| CO4 | H | H | L | M | M | M | L | H |
| CO5 | H | H | M | M | M | M | M | H |

**** *H means High relevance, M means Medium relevance, L means Low relevance*

| **CIA PLAN (out of 60 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| Research project | Group presentation | 30 | CO1, CO2, CO3 |
| Mid Semester Exam | CIA Written | 20 | CO1, CO2, CO3 |
| Assignment (tentatively after 18th session) | Individual | 10 | CO3, CO4, CO5 |
| TOTAL | | 60 | |

| **END SEMESTER EXAMINATION (out of 40 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| End Semester Exam | Individual | 40 | CO1, CO2, CO3, CO4, CO5 |

# Section 02

**MBR4054T: Prescriptive Analytics and Business Optimization, (4 credits) (Semester III), Nature of the Course: [Optional Paper – Business Analytics]**

**Course Outcomes (CO)**

*At the end of this course, students will be able to*

**CO1:** Understand and apply the foundational concepts of prescriptive analytics including LP, NLP, and MCDM in business decision-making.
**CO2:** Demonstrate the ability to formulate and solve various optimization problems using appropriate mathematical and computational methods.
**CO3:** Utilize advanced tools such as Python, R, and MATLAB for building and analyzing optimization models in real-world scenarios.
**CO4:** Evaluate decision-making models under uncertainty using simulation, sensitivity analysis, and scenario planning techniques
**CO5:** Integrate prescriptive analytics techniques to develop and present comprehensive solutions aligned with business goals and strategies.

**Course Content**

| Module No | Module Name | Topic | Description | No of hours | Marks allotted | Credit of each module | Associated Course Outcome |
|---|---|---|---|---|---|---|---|
| 1 | **Foundations of Prescriptive Analytics** | Definition and scope of prescriptive analytics, Comparison with descriptive and predictive analytics, Role in decision-making and business strategy | Fundamental concepts of Prescriptive Analytics and various related algorithms | 12 | 25% | 1 | CO1, CO2 |
| | | Linear Programming (LP): Formulation, graphical method, Simplex algorithm, Nonlinear Programming (NLP): Convex vs. non-convex problems, methods for solving NLP, Integer Programming (IP): Binary and integer constraints, branch-and-bound technique | | | | | |
| | | Decision-making under certainty, risk, and uncertainty | | | | | |
| | | Multi-Criteria Decision Making (MCDM): Techniques such as Analytic Hierarchy Process (AHP) and Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) | | | | | |
| 2 | **Optimization Techniques and Applications** | Sensitivity analysis: Shadow prices, reduced costs, Duality theory: Primal and dual problems, complementary slackness, Nonlinear constraints and objective functions | Application of optimization techniques including latest techniques | 8 | 25% | 1 | CO2, CO4 |
| | | Mixed-Integer Linear Programming (MILP): Formulation and solution techniques | | | | | |
| | | Advanced techniques: Cutting-plane methods, branch-and-bound, branch-and-cut, Bellman's principle of optimality, Applications: | | | | | |

| Module No | Module Name | Topic | Description | No of hours | Marks allotted | Credit of each module | Associated Course Outcome |
|---|---|---|---|---|---|---|---|
| | | Resource allocation, shortest path problems | | | | | |
| 3 | **Advanced Tools and Software for Analytics** | Overview of Python, R, and MATLAB for optimization, Key libraries and packages: PuLP (Python), lpSolve (R), Optimization Toolbox (MATLAB) | Various tools and programs for optimization and result interpretation | 8 | 20% | 1 | CO2, CO3 |
| | | Building and solving optimization models using Python and R, Using MATLAB for complex optimization problems | | | | | |
| | | Real-world applications of optimization tools in various industries Practical exercises using Python, R, or MATLAB for model development, Analyzing and interpreting results from Software outputs. | | | | | |
| 4 | **Decision-Making Models and Risk Analysis** | Multi-Criteria Decision Analysis (MCDA) methods, Simulation-Based Optimization: Monte Carlo simulation, scenario analysis, Techniques for assessing risk: Sensitivity analysis, scenario planning, Evaluating decision models under uncertainty | Multicriterion Decision Making | 6 | 15% | 0.5 | CO5 |
| | | Develop decision-making models incorporating risk and sensitivity analyses Use simulation tools to refine and evaluate decision models | | | | | |
| 5 | **Integration and Real-World Application** | Aligning prescriptive analytics with business strategy and goals, Examples of successful integration in various industries, Detailed analysis of complex business scenarios using prescriptive analytics, | Integration features | 6 | 15% | 0.5 | CO5 |

| Module No | Module Name | Topic | Description | No of hours | Marks allotted | Credit of each module | Associated Course Outcome |
|---|---|---|---|---|---|---|---|
| | | Integration of various techniques and tools learned throughout the course | | | | | |
| | | Develop a comprehensive prescriptive analytics solution for a given business problem, Present findings and recommendations | | | | | |

**Section - 03**

- **CO-PO mapping**

| CO/PO | **PO1** Knowledge of Business | **PO2** Critical & Problem-Solving Skills | **PO3** Ethical orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building Skills | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO1 | H | H | | | | | | |
| CO2 | H | H | | | | | | |
| CO3 | H | H | | M | | | | H |
| CO4 | H | H | | | | | | M |
| CO5 | H | H | | M | M | M | M | H |

**** *H means High relevance, M means Medium relevance, L means Low relevance*

| **CIA PLAN (out of 60 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| Research project | Group presentation | 30 | CO1, CO2, CO3 |
| Mid Semester Exam | CIA Written | 20 | CO1, CO2, CO3 |
| Assignment (tentatively after 18th session) | Individual | 10 | CO3, CO4, CO5 |
| TOTAL | | 60 | |

| **END SEMESTER EXAMINATION (out of 40 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| End Semester Exam | Individual | 40 | CO1, CO2, CO3, CO4, CO5 |

# Section 02

- **MBR4064T: Artificial intelligence, ML & Deep Learning and Big Data, (4 credits) (Semester III), Nature of the Course: [Optional Paper – Business Analytics]**
- **Course Outcomes (CO)**

*At the end of this course, students will be able to*

**CO1:** Develop the knowledge and skills to conceptualize, understand and apply AI techniques, focusing on solving real-world problems and fostering critical thinking about AI's impact in various fields.

**CO2:** Select appropriately the techniques and algorithm when implementing intelligent systems. Understand the principles and limitations of AI algorithms and models.

**CO3:** Understand the core concepts of Machine Learning, including different types of learning (supervised, unsupervised, reinforcement), common algorithms, and the role of data in ML models.

**CO4:** Understand the architecture and functioning of Deep Learning including neural networks. This includes different types of layers, activation functions, and training algorithms.

**CO5:** Understanding the concept of Big Data and the characteristics (volume, velocity, variety, veracity, value) and challenges of Big Data with industry level examples of implementation.

**Course Content**

| Module No | Module Name | Topic | Description | No of hours | Marks allotted | Credit of each module | Associated Course Outcome |
|---|---|---|---|---|---|---|---|
| 1 | **Introduction to Artificial Intelligence** | Overview of AI: History and Evolution of AI, Definitions and Scope of AI<br>AI Applications in Various Industries, Ethical Considerations and Challenges in AI,<br>Fundamental Concepts of State space search, adversarial search, constrained satisfaction search | Fundamental concepts of Artificial Intelligence and techniques and challenges | 10 | 25% | 1 | CO1, CO2 |
| 2 | **Key concept of Machine Learning** | What is machine learning, and how does it differ from traditional programming?<br>ML Workflow: Data Collection, Preprocessing, Model Building<br>Evaluation Overview of supervised learning, unsupervised learning, and reinforcement learning<br>Examples from various domains like healthcare, finance, marketing, and robotics. | Concepts and related types of Machine Learning, their algorithms and usage | 12 | 35% | 1 | CO2, CO3 |
| **3** | **Overview of Deep Learning** | What Makes a Network "Deep"? Definition of deep learning, and Significant Importance in today's technological | Deep Learning fundamentals with basic of | 8 | 15% | 1 | CO3, CO4 |

| Module No | Module Name | Topic | Description | No of hours | Marks allotted | Credit of each module | Associated Course Outcome |
|---|---|---|---|---|---|---|---|
| | | landscape<br>Real-world applications, such as image recognition, natural language processing, and autonomous systems.<br>Basic Structure of Artificial Neural Networks (ANNs), | Artificial Neural Network structure | | | | |
| 4 | **Fundamental concept of Bigdata** | What is big data, why big data, convergence of key trends, unstructured data, industry examples of big data<br>Web analytics, big data and marketing, fraud and big data, risk and big data, credit risk management,<br>Big data and algorithmic trading, big data and healthcare, big data in medicine, advertising and big data, big data technologies | Big data concepts, usage, approach, methods and examples | 10 | 25% | 1 | CO5 |

**Section - 03**

- **CO-PO mapping**

| **CO/PO** | **PO1** Knowledge of Business | **PO2** Critical & Problem-Solving Skills | **PO3** Ethical orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building Skills | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO1 | M | H | L | L | L | L | | H |
| CO2 | H | H | L | M | M | L | | H |
| CO3 | H | H | | H | | L | | H |
| CO4 | H | H | | H | | L | | H |
| CO5 | H | H | | H | | L | | H |

**** *H means High relevance, M means Medium relevance, L means Low relevance*

| **CIA PLAN (out of 60 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| Research project | Group presentation | 30 | CO1, CO2, CO3, CO4 |
| Mid Semester Exam | CIA Written | 20 | CO1, CO2, CO3 |
| Assignment (tentatively after 18th session) | Individual | 10 | CO3, CO5 |
| TOTAL | | 60 | |

| END SEMESTER EXAMINATION (out of 40 marks) | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| End Semester Exam | Individual | 40 | CO1, CO2, CO3, CO4, CO5 |

# Section 2 :

**MBR4074T: [Artificial Intelligence in Marketing], [4 credits], [Semester IV], [Nature of the Course: Discipline Specific Elective]**

**Course Outcomes (CO)**

At the end of this course, students will be able to

**CO1:** Understand the basic terminology and concepts related to Artificial Intelligence, machine learning, data types, and marketing analytics.

**CO2:** Explain the role of AI and data-driven decision-making in key marketing areas such as segmentation, targeting, positioning, pricing, and communication

**CO3:** Apply simple AI-supported analytical approaches (e.g., basic segmentation, propensity insights, dashboards) to interpret customer and market data for managerial decisions.

**CO4:** Analyze AI-enabled marketing strategies in personalization, digital communication, and campaign optimization across different customer touchpoints and channels.

**CO5:** Design an AI-enabled marketing plan or solution for a chosen brand/organization that integrates customer insights, digital tools, and principles of responsible/ethical AI.

**Course Content**

| Module | Module Name | Topic | Description | No of Hours allotted | Marks allotted | Credit of each Module | Associated Course Outcome (CO) |
|---|---|---|---|---|---|---|---|
| 1 | **Foundations of AI & Marketing Analytics** | Evolution of marketing in the age of data and AI; traditional vs. AI-driven marketing; Basics of AI and machine learning (at a managerial level): Key terms: algorithms, training data, model, prediction, classification, clustering. Types of learning: supervised, unsupervised, reinforcement (conceptual). Data in marketing: Structured vs. unstructured data; internal vs. external data sources; Customer data platforms (CDPs), CRM data, social media data, web & app analytics (overview).<br>Role of AI in marketing decision areas: Market research, segmentation, targeting, positioning, pricing, promotion, distribution; Introduction to tools (conceptual only): dashboards, basic exposure to Excel-based analytics, and optional demonstration of tools like Power BI / Tableau / Google Analytics / simple AI-based marketing tools | Basic ideas about AI, data, and their applications in marketing | 8 | 20% | 0.8 | CO1 |

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|---|---|---|---|---|---|---|---|
| 2 | **AI for Customer Insights & Segmentation** | Customer analytics and AI: Descriptive, predictive, and prescriptive analytics in marketing.  AI-driven segmentation: Clustering concepts (e.g., k-means) at managerial level; behavioural & value-based segmentation; RFM analysis (Recency, Frequency, Monetary value) and its enhancement with AI.<br>Predictive modelling for marketing: Propensity models for response, conversion, and cross-sell / upsell (conceptual);<br>Recommendation systems (overview): Content-based, collaborative filtering (high-level understanding).<br>Managerial interpretation of model outputs: Reading basic performance metrics (accuracy, precision/recall, AUC – only conceptually); Using insights for positioning, campaign design, and resource allocation. | Customer analytics, AI-based prediction, and marketing insights | 8 | 20% | 0.8 | CO1, CO2 |
| 3 | **AI in Digital Marketing, Personalization & Communication** | AI in digital advertising: Overview of Programmatic advertising, real-time bidding;<br>Personalization at scale: Dynamic website/app content; email and message personalization; product recommendations<br>Social media and AI: Sentiment analysis, social listening, influencer identification (conceptual); Virtual influencers, generative AI content<br>Campaign optimization using AI: A/B testing vs. multi-armed bandits (conceptual); Budget allocation and bid optimization supported by AI tools; Case studies: AI-enhanced campaigns by global and Indian brands. | Ideas about AI-driven advertising, personalization, and campaign optimization | 8 | 20% | 0.8 | CO3, CO5 |
| 4 | **AI in Customer Journey Management & CRM** | Customer journey mapping in an AI-enabled context: AI for CRM and relationship marketing; Churn prediction and win-back strategies; Customer Lifetime Value (CLV) estimation (conceptual); Next-best-offer / next-best-action recommendations.<br>Conversational AI: Chatbots, voice assistants, and virtual agents in marketing and service; Design | Concepts about AI-enabled customer relationship management and customer experience | 8 | 20% | 0.8 | CO3, CO4 |

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|---|---|---|---|---|---|---|---|
| | | considerations and metrics (response time, satisfaction, containment rate). Sales and demand forecasting using AI: Time-series forecasting concepts; use in inventory and pricing decisions (managerial view); Integrating AI insights across touchpoints for an omnichannel customer experience. | | | | | |
| 5 | **Implementation, Ethics & Future of AI in Marketing** | Governance, privacy, and security: Data protection principles (GDPR-like concepts, Indian context overview); Transparency, explainability (XAI – high-level), and accountability Ethical and societal issues: Bias and discrimination in AI models; filter bubbles; dark patterns in personalization; Responsible AI and sustainable marketing; aligning AI with brand values and CSR<br>Future of AI in marketing: Generative AI for content, creative, and strategy support; Autonomous marketing systems and "always-on" optimization. | Ethical, responsible, and future-oriented AI in marketing | 8 | 20% | 0.8 | CO3, CO5 |

**Suggested Readings**


- Walters, H., & Hammond, R. (2025). *AI in Marketing: Applications, Insights, and Analysis*. Routledge/Taylor & Francis.
- Malhotra, N. K., Sudhir, K., & Toubia, O. (2023). *Artificial Intelligence in Marketing*. Emerald.
- King, K. (2019). *Using Artificial Intelligence in Marketing: How to Harness AI and Maintain the Competitive Edge*. Kogan Page.
- Gupta, S., & Jathar, A. (Year). *Marketing Analytics*. Wiley India.
- Sterne, J. (2017). *Artificial Intelligence for Marketing: Practical Applications*. Wiley


**CO-PO mapping**

| **CO/ PO** | **PO1** Knowledge of Business | **PO2** Critical & Problem Solving Skills | **PO3** Ethical orientation | **PO4** Global perspective & Communication Skills | **PO5** Leadership & Team Building | **PO6** Entrepreneurship Skills | **PO7** Sustainability Perspective | **PO8** Lifelong learning & Research Skills |
|---|---|---|---|---|---|---|---|---|
| CO1 | L | | | | | | | |
| CO2 | M | L | | | | L | | |
| CO3 | M | M | | | | M | M | L |
| CO4 | M | M | | | | M | M | L |
| CO5 | M | H | | | | M | L | L |

| **CIA PLAN (out of 60 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| Surprise Quiz1 (tentatively after 10th | Individual | 10 | CO1 |

| | | | |
|---|---|---|---|
| session) | | | |
| Mid Semester Exam (University Schedule) | Individual | 20 | CO1, CO2 |
| Individual Assignment 1 (tentatively after 20th session) | Individual /Group | 15 | CO3, CO4 & CO5 |
| Individual Assignment 2 (tentatively after 35th session) | Individual/Group | 15 | CO4 |
| TOTAL | | 60 | |

** *H means High relevance, M means Medium relevance, L means Low relevance*

| **END SEMESTER EXAMINATION (Out of 40 marks)** | | | |
|---|---|---|---|
| **Evaluation Components** | **Mode** | **Full Marks** | **CO (for Rubrics)** |
| End Semester Exam | Individual | 40 (10 marks compulsory question in the form of case let or situation based) | CO1, CO2, CO3, CO4, CO5 |