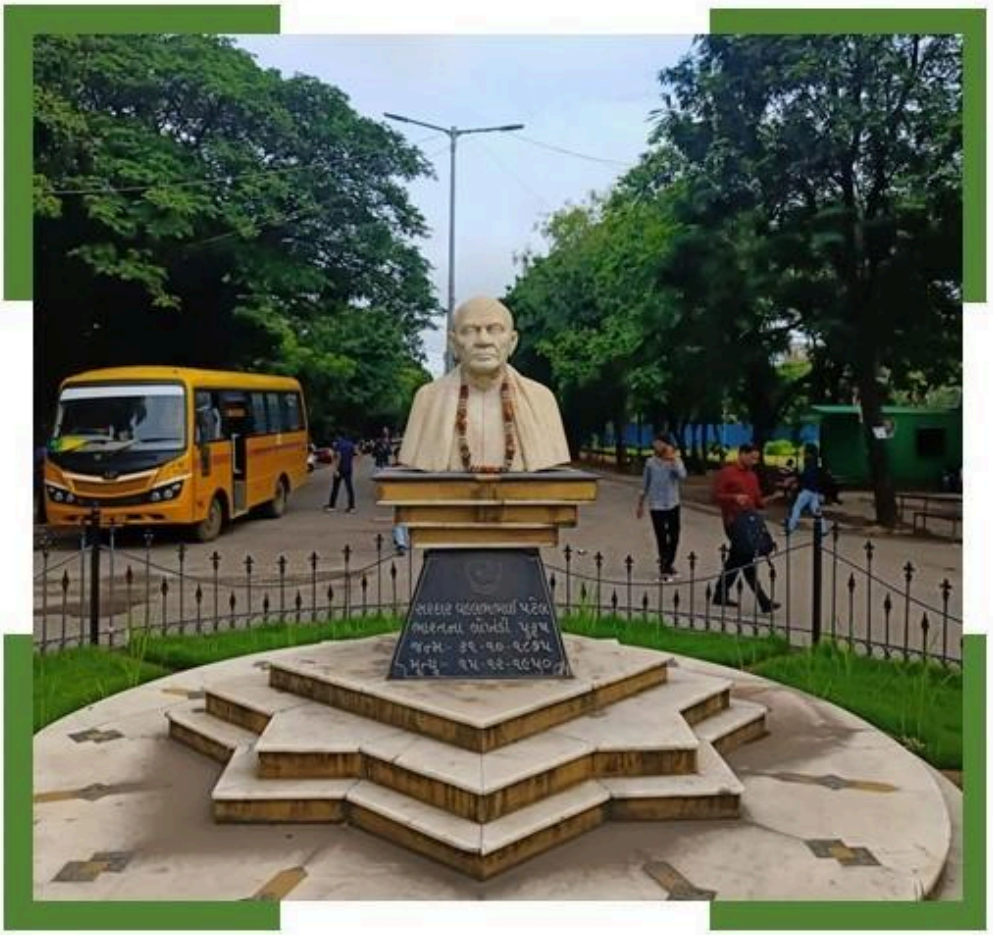
DEPARTMENT OF MANAGEMENT STUDIES

MASTER OF BUSINESS ADMINISTRATION

[Business Analytics]



Department of Management Studies

Sardar Vallabhbhai National Institute of Technology, Surat

सरदार वल्लभभाई राष्ट्रीय प्रौद्योगिकी संस्थान, सूरत

INSTITUTE VISION STATEMENT

Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat, perceives to be a globally accepted centre of excellence in technical education catalysing absorption, innovation, diffusion and transfer of high technologies resulting in enhanced quality for all the stakeholders.

INSTITUTE MISSION STATEMENT

The mission of the Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat is to be a leading technical Institute not only at national level but also at international level for imparting training to manpower as per the needs of technology. It is also envisaged to provide the necessary infrastructure to take up research work and to provide the mechanism to interact with industries effectively.

DEPARTMENT'S VISION STATEMENT

The Department of Management Studies aspire to be at the forefront of technical and managerial education, shaping future leaders who not only excel in their chosen fields but also contribute significantly to the global landscape. Through a dynamic curriculum, cutting-edge research, and industry collaborations, we aim to foster an environment that encourages creativity, critical thinking, and a spirit of innovation among our students.

DEPARTMENT'S MISSION STATEMENT

The mission of Department of Management Studies is to cultivate a transformative learning environment that empowers students with the knowledge, skills, and ethical values essential for excelling in the ever-evolving landscape of business and technology. The department is committed to staying dynamic and responsive to the evolving needs of the industry, thereby ensuring the relevance and currency of the programs.

Programme Educational Objective (PEOs):

PEO1	Analytical Proficiency: Graduates will excel in business analytics, utilizing data insights to drive strategic decisions and optimize organizational performance, contributing to data-driven innovation and competitiveness in the global market.
PEO2	Strategic Leadership: Graduates will lead ethically and responsibly, applying strategic management principles to address societal challenges, foster sustainable development, and create positive social impact alongside organizational success.
PEO3	Problem-solving and Innovation: Graduates will innovate solutions to complex problems, integrating data analytics with critical thinking to drive organizational efficiency, resilience, and societal benefit through entrepreneurial initiatives and collaborative endeavours.
PEO4	Ethical Responsibility and Professional Development: Graduates will uphold ethical standards, engage in continuous professional development, and champion diversity and inclusivity, ensuring their actions contribute to a socially responsible and equitable business environment while advancing their careers with integrity and purpose.

Programme Specific Objectives (PSOs):

PSO1	Data Fluency: Develop students' proficiency in utilizing statistical tools and analytics techniques to interpret and communicate complex data effectively, enabling them to make informed decisions and drive organizational success.
PSO2	Strategic Integration: Equip students with the ability to integrate analytical insights into strategic planning processes, enabling them to identify opportunities, mitigate risks, and optimize resource allocation for sustainable business growth.
PSO3	Practical Application: Provide students with hands-on experience through internships, projects, and case studies, allowing them to apply theoretical knowledge to real-world scenarios and develop practical problem-solving skills in business analytics.
PSO4	Industry Relevance: Ensure alignment with industry trends and demands by regularly updating the curriculum, incorporating emerging technologies, and fostering

	partnerships with industry stakeholders, preparing students for successful careers in the rapidly evolving field of business analytics.

Programme Objectives (POs):

PO1	Develop Analytical Skills: Enable students to acquire analytical skills through a structured curriculum encompassing courses in business statistics, econometrics, and various aspects of analytics such as descriptive, predictive, and prescriptive analytics.
PO2	Foster Business Acumen: Cultivate a strong foundation in core management areas including financial management, marketing management, human resource management, and operations management, enabling students to comprehend the strategic implications of data-driven insights within organizational contexts.
PO3	Enhance Decision-Making Abilities: Equip students with the ability to harness data to make informed decisions across functional domains, integrating analytics tools and techniques with management principles to solve complex business problems.
PO4	Promote Practical Experience: Provide hands-on experience through internships and capstone projects, allowing students to apply theoretical knowledge to real-world scenarios, thereby honing their problem-solving skills and enhancing their employability.
PO5	Facilitate Specialization: Offer elective courses tailored to different areas of specialization such as HR, finance, operations, marketing, and IT, enabling students to delve deeper into specific domains aligned with their career aspirations and interests.
PO6	Encourage Innovation and Adaptability: Foster a culture of innovation and adaptability by incorporating emerging topics such as digital transformation, AI, and open AI, preparing students to thrive in a rapidly evolving business landscape.
PO7	Promote Ethical and Legal Awareness: Instill ethical values and legal awareness by integrating courses covering aspects like legal aspects of business and social responsibility, ensuring that graduates uphold ethical standards while leveraging data and technology in business decision-making processes.

CREDIT MATRIX

Category	**Credits to be Earned**				
	Sem - I	**Sem - II**	**Sem – III**	**Sem - IV**	**Total**
Core Courses	18	18	13	09	**58**
Electives Courses	-	-	06	06	**12**

Software/Laboratory	03	04	-	-	**07**
Capstone Project	-	-	02	-	**02**
Dissertation	-	-	-	08	**08**

Course Structure for MBA Programme (Business Analytics)

SEMESTER I

Sr. No.	Course	Code	Scheme	Examination Scheme			Total	Credit
				Theory	Tutorial	Practical		
				Marks	Marks	Marks		
1	Business Statistics (Analytics Core)	MS 101	3-1-0	100	25	-	125	04
2	Management Accounting (Management Core)	MS 103	3-1-0	100	25	-	125	04
3	Organizational Behaviour and Principles of Management (Management Core)	MS 105	3-0-0	100	-	-	100	03
4	Managerial Economics (Management Core)	MS 107	3-0-0	100	-	-	100	03
5	Analytics in Operations Management (Analytics Core)	MS 109	3-1-0	100	25	-	125	04
6	Business Computing and Prescriptive Analytics (Analytics Core)	MS 111	3-0-0	100	-	-	100	03
Total				**600**	**75**	**-**	**675**	**21**
Total Credit								**21**

SEMESTER II

Sr. No.	Course	Code	Scheme	Examination Scheme			Total	Credit
				Theory	Tutorial	Practical		
				Marks	Marks	Marks		
1	Financial Management (Management Core)	MS 102	3-1-0	100	25	-	125	04
2	Marketing Management (Management Core)	MS 104	3-0-0	100	-	-	100	03
3	Human Resource Management (Management Core)	MS 106	3-0-0	100	-	-	100	03
4	Research Methodology (Analytics Core)	MS 108	3-1-0	100	25	-	125	04
5	Descriptive Analytics, Data Visualization and Analytics (Analytics Core)	MS 110	3-1-0	100	25	-	125	04
6	Data Base and Mining for Managers	MS 112	3-1-0	100	25	-	125	04
7.	Business Communication Skills**	MS 114	2-0-0	00			00	00
TOTAL				**600**	**100**	**-**	**700**	**22**
Total Credit								**22**
**** Pass/fail**								

SEMESTER III

Sr. No.	Course	Code	Scheme	Examination Scheme			Total	Credit
				Theory	Tutorial	Practical		
				Marks	Marks	Marks		
1	Business Analytics (Analytics Core)	MS 201	3-0-0	100	-	-	100	03
2	Marketing Analytics (Analytics Core)	MS 203	3-0-0	100	-	-	100	03
3	Financial Analytics (Analytics Core)	MS 205	3-0-0	100	-	-	100	03
4	Econometrics (Management Core)	MS 207	3-1-0	100	25	-	125	04
5	Elective-1*	MS XXX	3-0-0	100	-	-	100	03
6	Elective-2*	MS XXX	3-0-0	100	-	-	100	03
7	Capstone Project (Management Core)	MS 209	0-0-4	-	-	50	50	02
			Total	**600**	**25**	**50**	**675**	**21**
							Total Credit	**21**
* Student can opt any two elective subjects from the subject mentioned at below.								

List of Electives

Semester III	Subject	Code
HR	Legal Aspects of Business	MS 211
	Performance and Compensation Management	MS 213
	HR Analytics	MS 215
Finance	Investment Analysis & Portfolio Management	MS 217
	Quantitative Applications in Finance	MS 219
	Financial Modelling	MS 221
Operations & Supply Chain	Service Operation Management	MS 223
	Supply Chain Analytics	MS 225
	Gamification	MS 227
Marketing & Strategy	Consumer Behaviour	MS 229
	Advertising and Sales Promotion Management	MS 231
	Advanced Marketing Research (AMR)	MS 233
IT & Digital Transformation	Health Care Analytics	MS 235
	System Thinking and Business Dynamics	MS 237
	IT Project Management	MS 239
	Effective Dashboard and Story Telling Management (via Power BI and other software)	MS 241

SEMESTER IV

Sr. No.	Course	Code	Scheme	Examination Scheme			Total	Credit
				Theory	Tutorial	Practical		
				Marks	Marks	Marks		
1	Advanced Business Analytics (Analytics Core)	MS 202	3-0-0	100	-	-	100	03
2	Predictive Analytics (Analytics Core)	MS 204	3-0-0	100	-	-	100	03
3	Managing Digital Transformation (Management Core)	MS 206	3-0-0	100	-	-	100	03
4	Integrative Project and Dissertation	MS 208	0-0-16	-	-	200	200	08
5	Elective 3*	MS XXX	3-0-0	100	-	-	100	03
6	Elective 4*	MS XXX	3-0-0	100	-	-	100	03
Total				**500**	**-**	**150**	**650**	**23**
Total Credit								**23**
* Student can opt any two elective subjects from the subject mentioned below.								

List of Electives

Semester IV	Subject	Code
HR	Strategies and Skills for Successful Negotiation	MS 212
	Strategic Planning and Human Resource Management	MS 214
	Recruitment and Selection	MS 216
Finance	Futures Options & Risk Management	MS 218
	International Finance	MS 220
	Fintech	MS 222
Operations & Supply Chain	Green Business Management	MS 224
	Quality Management and Six Sigma	MS 226
	Operations Strategy	MS 228
Marketing & Strategy	Sales and Distribution Management	MS 230
	Digital Marketing	MS 232
IT & Digital Transformation	AI in Management	MS 234
	Open AI: Innovation Management	MS 236
	IT consultancy management	MS 238

Total Credits: 21+22+21+23 = 87

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MBA Semester - I Business Statistics MS 101	Scheme	L	T	P	Credit
		3	1	0	04

1.	Course Outcomes (COs): At the end of the course, students will be able to
CO1	Gain understanding of different statistical techniques for data analysis and decision-making with business perspective.
CO2	Summarize and analyze statistical data to solve practical business-related problems.
CO3	Interpret the relevance of statistical findings for solving business problems and decision making.
CO4	Apply various tools to statistical data and use it for problem solving.
CO5	Construct and interpret their own confidence intervals in businesses.

2.	Syllabus	
	Inferential and Descriptive statistics	**08 Hours**
	Introduction to Statistics – Importance and Classification of Data - Measures of Central Tendency and Measures of Dispersion in Frequency Distribution – Presentation of data in the form of charts and graphs.	
	Probability Theory	**09 Hours**
	Classical, Objective & Subjective Approach - Probability Rules - Probability under conditions of Statistical independence and dependence - Bayes Theorem - Probability Distributions - Binomial, Poisson and Normal distribution.	
	Sampling Distribution	**09 Hours**
	Concept of Sampling and Sampling Distribution – Need and significance - Types of Sampling - Concept of Standard Error - Sampling from normal and non-normal population - Central Limit Theorem.	
	Hypotheses Testing	**10 Hours**
	Testing Hypotheses Significance level - Type I & Type II error - One tail and Two tail tests - Hypothesis Testing of means: Z Test, T Test, Chi-Square Test - F distribution - Analysis of variance (ANOVA) - One way and Two-way ANOVA - Introduction to simple regression and correlation.	
	Non-Parametric Methods	**09 Hours**
	Introduction to non-parametric methods - Kolmogorov Test - Median Test - Mann –Whitney Test - U-Test - Wilcoxon T- Test - Friedman ANOVA - McNemar Test - Cochran's Q –Test.	
	Tutorial	**15 Hours**
	Total Contact Time	**60 Hours**

* Various subject-related activities will be included to engage 15 hours of tutorial.

3.	Book Recommended
1	Levin, R. I. (2011). Statistics for management. Pearson Education India.
2	David, M. (2017). Statistics for managers, using Microsoft Excel. Pearson Education India.
3	Black, K. (2023). Business statistics: for contemporary decision making. John Wiley & Sons.
4	Srivastava, T. N., & Rego, S. (2008). Statistics for management. Tata McGraw-Hill Education.
5	Shenoy, G. V., Srivastava, U. K., & Sharma, S. C. (1988). Business statistics. New Age International.
6	Herkenhoff, L., & Fogli, J. (2013). Applied statistics for business and management using Microsoft Excel. New York: Springer.

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MBA Semester - I **Management Accounting** **MS 103**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**1**	**0**	**04**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Gain Foundational knowledge of various concepts of management accounting and its significance in the business.
CO2	Understand the primary purpose of management accounting namely financial statement analysis and budgetary control.
CO3	Analyze cost-volume-profit techniques to determine optimal managerial decisions.
CO4	Prepare a master budget and demonstrate an understanding of the relationship between the components.
CO5	Critically analyze relevant costs and provide viable solutions for internal decision making.

2.	**Syllabus**	
	Introduction	**10 Hours**
	Nature, Scope, and Tools of Management Accounting – Classification: Management Accounting, Financial Accounting, and Cost Accounting - Meaning, Scope and Classification of Costs - Absorption costing - Cost Sheet and Cost Analysis	
	Basic understanding of Management Accounting	**10 Hours**
	Meaning and definition – Comparison among Financial Accounting, Management Accounting and Cost Accounting – Accounting Principles – concepts and conventions – Overview of Accounting Process – Journal Entries, Ledger-Posting and Preparation of Trial Balance – Basic overview of IFRS and Indian Accounting Standards (Ind.AS) – Understanding and Preparing Corporate Financial Statements – Corporate Profit & Loss Account and Corporate Balance Sheet (Vertical B/S only)	
	Cost Accounting	**08 Hours**
	Meaning - Marginal Cost Equation - Contribution - Break-even Analysis - P/V ratio and Margin of Safety - Application of marginal costing and CVP in managerial problems – Introduction - Concept of ABC - Development of ABC system - Allocation of overheads under ABC - Traditional Vs. ABC approach of designing a costing system - Cost Accounting: Meaning and definition of cost, Cost concepts and classification, Costing Methods: Unit Costing, Process costing (excluding equivalent unit of production)	
	Financial Statement Analysis and Inventory valuation	**06 Hours**
	Horizontal analysis - Vertical Analysis - Trend Analysis - Ratio Analysis - Cash Flow Statement FIFO, Weighted Average Method & LIFO (Preparation of stock register card only) Depreciation: Straight line method, written down value method Retrospective effect (Only Theoretical Perspective)	
	Responsibility Accounting	**11 Hours**
	Concept - Responsibility Centres - Goal Congruence - Managerial Efforts and Motivation - Controllability and measurement of financial performance - Responsibility accounting in Service, Government and Non-profit organizations - Key Success Factors - Responsibility Centres - Measures of Overall Performance - Balance Scorecard and Key Performance Indicators	
	Tutorial	**15 Hours**
	Total Contact Time	**60 Hours**

* Various activities related to subject will be included to engage 15 hours of tutorial.

3.	**Book Recommended**
1	Khan, M. Y., & Jain, P. K. (2021). Management accounting (8th ed.). Tata McGraw-Hill.
2	Kaplan. (2023). Management accounting. Kaplan Publication.
3	Horngren, C. T., Harrison, W. T., & Harrison, T. W. (1995). Managerial accounting. Pearson Education.

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MBA Semester - I Organizational Behaviour and Principles of Management MS 105	Scheme	L	T	P	Credit
		3	0	0	03

1.	Course Outcomes (COs): At the end of the course, students will be able to
CO1	Understand the interdependencies of human behaviour and the organizational effectiveness.
CO2	Understand, observe and analyze the behaviour within the organizational context.
CO3	Develop skills to deal with the ongoing behavioural dynamics and organizational Culture resulting in increased efficiency.
CO4	Identify and apply appropriate management techniques for taking decisions and managing various functions of organization.
CO5	Apply theoretical knowledge in simulated and real-life settings.

2.	Syllabus	
	Principles of Management	**06 Hours**
	Definitions and Functions of Management - Fayol's and Taylor's principles - Mintzberg's roles of managers - Managerial skills - Delegation and Decentralization - Decision making.	
	Schools of Management Thoughts	**07 Hours**
	Scientific Management School - Administrative School - System School - Human Relations School - Contingency School - Idea of Hawthorne Experiments.	
	Introduction to Organizational Behaviour	**06 Hours**
	Definition, Meaning, Scope and application of OB in Management - Contribution of other disciplines to OB - Emerging issues in OB - Models of OB.	
	Individual Behaviour and Group dynamics	**09 Hours**
	Concept and Meaning of Personality, Perception, Attitudes and Values - Motivational Theories - Transactional Analysis - Group: Meaning and difference between Groups and Teams, Types, Stages of Formation - Conflict Management - Stress and Negotiation – Theories of Leadership.	
	Organizational Culture and Change	**07 Hours**
	Organizational Culture: Meaning and types - Organizational Change: Need, Process and Resistance to change - Organizational Development - OCTAPACE Culture: Concept and Dimensions.	
	Emerging Issues in Management	**10 Hours**
	Professionalization of Management in India - Creativity and Innovation - Japanese and American Management - Management by Objectives - Recent trends in Management - Change Management - Crisis Management - Total Quality Management - Risk Management - Global Practices in Management.	
	Total Contact Time	**45 Hours**

3.	Book Recommended
1	Robbins, S. P., Judge, T., & Breward, K. (2016). Essentials of organizational behaviour. Pearson Canada.
2	Parek, U., & Khanna, S. (2018). Understanding organizational behaviour (4th ed.). Oxford University Press.
3	Feldman, R. S. (2015). Understanding psychology. McGraw-Hill.
4	Prasad, L. M. (2020). Principles and practice of management. Sultan Chand & Sons.

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MBA Semester - I Managerial Economics MS 107	Scheme	L	T	P	Credit
		3	0	0	03

1.	Course Outcomes (COs): At the end of the course, students will be able to
CO1	Understand how markets work, under the workings of supply, demand, and equilibrium.
CO2	Understand the elasticity of supply and demand, taxes, and subsidies.
CO3	Elaborate on the pricing and selling decisions under different types of competitive pressures.
CO5	Practically understand the problems with markets and what we can be done about it.

2.	Syllabus	
	How Markets Work	**08 Hours**
	What is Economics – Microeconomics and Macroeconomics – Market Economies – Production Possibility Frontier – The Demand Curve – Factors that Affect Demand – The Supply Curve – Factors that Affect Supply	
	Demand, Supply and Equilibrium	**10 Hours**
	The Equilibrium – Divergence from the Equilibrium Price – Effects of Changes in Business Environment on the Equilibrium – Demand and Supply: Meaning, Nature and Curves – Elasticity: Types - Price, Income and Cross Elasticity - Factors that affect the elasticity of demand – Taxes in the demand-supply Framework – Buyers and Sellers surplus – Government Intervention in the market: The Welfare Loss	
	Production and Cost	**10 Hours**
	The Production Function – Behavior of Average and Marginal Products – Law of Diminishing Returns – Productivity in the Long Run – Scale and Scope of Production – Costs of Different types – Behavior of average and marginal costs – Relationship between costs and productivity – Costs in the long run	
	Markets	**10 Hours**
	Markets of Different types – Perfectly Competitive Market – Profits in a perfectly competitive Market – Perfect competition in the long run – Monopoly – Profits in a monopolistic market – Sources of Monopoly Power – The Multi-product firms – Monopolistic Competition – Oligopoly – Different Models of Oligopoly – Why do markets Fail – Game Theory: a strategic understanding	
	National Income	**07 Hours**
	Alternative concepts – Measurement and Determination of National income – Inflation: Types, Measurement and Control: Monetary and Fiscal Policies – Currency flows and essentials of exchange rate determination	
	Total Contact Hours	**45 Hours**

3.	Book Recommended
1	Mithani, D. M. (2017). Managerial economics: Theory and application (8th ed.). Himalaya Publishing House.
2	Damodaran, A. (2006). Managerial economics. Oxford University Press.
3	Keat, P. G., & Banerjee, S. (2017). Managerial economics: Economic tools for today's decision makers (7th ed.). Pearson Education.
4	Ahuja, H. L. (2016). Business Economics (!3th Ed.). Sultan Chand Publishing.
5	Ahuja, H. L. (2017). Modern Microeconomics: Theory and Application (19th ed.). Sultan Chand Publishing.
6	Case, K., Fair, R., Oster, S. (2011), Principles of Economics (10th ed.). Pearson.

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MBA Semester - I Analytics in Operations Management MS 109	Scheme	L	T	P	Credit
		3	1	0	04

1.	Course Outcomes (Cos): At the end of the course, students will be able to
CO1	Apply the concepts, principles, problems, and practices of operations management.
CO2	Develop an understanding of operations management function in any organization.
CO3	Understand the importance of productivity and competitiveness to organizations.
CO4	Understand the importance of an effective production and operations strategy to an organization.
CO5	Apply tools and techniques for managing the transformation process that can lead to competitive advantage.

2.	Syllabus	
	Introduction to Operations Management	**12 Hours**
	System and Function View of Organizations – Scope, Evolution and Future of Production and Operation Management – Process Design: Different Types of Manufacturing Process with its Merits and Demerits, Process Selection, Process Performance and Evaluation etc – Product Design: Types of Products and Designing, Evaluation of Design	
	Forecasting and Capacity Design	**11 Hours**
	Demand Forecasting: Need, Types, Objectives and Steps – Overview of Qualitative and Quantitative Methods – Capacity Planning: Long Range, Types, Developing Capacity Alternatives – Overview of MRP, MRP II and ERP – Facility Location: Theories, Steps in Selection, Location Models	
	Design of Product, Process and Work Systems	**10 Hours**
	Facility Layout: Principles, Types, Planning Tools and Techniques – Work Study: Objectives, Procedure – Method Study and Motion Study – Work Measurement and Productivity – Measuring Productivity and Methods to Improve Productivity	
	Scheduling and Project Management	**12 Hours**
	Project Management: Scheduling Techniques - PERT, CPM – Scheduling – Work Centers: Nature, Importance and Line Balancing (Theoretical Concept Only) – Priority Rules and Techniques – Shop Floor Control – Flow Shop Scheduling – Johnson's Algorithm – Gantt Charts – Introduction JIT, Lean Production – Supply Chain Management	
	Tutorial	**15 Hours**
	Total Contact Time	**60 Hours**

* Various activities related to subject will be included to engage 15 hours of tutorial.

3.	Book Recommended
1	Jacobs, F. R., Richard, B., & Shankar, R. (2023). Operations and supply chain management (17th ed.). McGraw-Hill.
2	Jacobs, F. R., & Chase, R. B. (2020). Operations and supply chain management (15th ed.). McGraw-Hill.
3	Russell, R. S., & Taylor-Iii, B. W. (2008). Operations management along the supply chain. John Wiley & Sons.
4	Bedi, K. (2013). Production and operations management (3rd ed.). Oxford University Press.

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MBA Semester - I **Business Computing and Prescriptive Analytics** **MS 111**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (Cos):** **At the end of the course, students will be able to**
CO1	Understand the Perspective Analytics & identify Business problems that can be addressed by Perspective Analytics.
CO2	Apply analytical tools to analyse varying kinds of data and find underlying patterns.
CO3	Identify problems on analysed data with data-driven optimization tools.
CO4	Solve optimization problems using programming tools.
CO5	Formulate a strategy to apply analytical tools to make real-world decisions.

2.	**Syllabus**	
	Fundamental of Business Computing	**20 Hours**
	Introduction to IS: Equipping Organization with Effective Decision Making, Real-time data processing | Transaction Processing System, Analytical tool support, Decision Support System, Understanding Enterprise Systems, ERP Introduction to Analytics in IS: Basic understanding and feature, Introduction to Programming Fundamentals: Data Types, Basic Operations, Logical Statements, Conditional Statements, Looping Statements, Debugging and Error Handling, & Function, Introduction to Object-Oriented Programming	
	Prescriptive Analytics Through Excel Modeling & Open Source (R)	**20 Hours**
	Introduction to Prescriptive analytics, Introduction to R, R Fundamentals, R Studio IDE, Data Structures, Vectors, matrices, arrays, data frames, and lists, Packages, stats and lme4, Hands-on exercises, Built-in functions, Introduction to spread sheet modeling, Reference setting, solver, conditions, formatting, etc., MS Excel Modelling, Lookup, Index, Match, offset, Text functions, Data & Time Functions Introduction of the course, discussion about the project, introduction of data analytics, Overview of Data Analytics Lifecycle - various phases of a typical analytics lifecycle – Basic understanding and Analysis with smart functionality, Sensitivity Analysis: Goal Seek Analysis, Data Tables, Scenarios management and its application. Extract transfer and Load (ETL) Process, Star and Snow Flak Schema: Managerial Analysis, OLAP Analysis & Data Model, Managerial decision modeling on Prescriptive Analytics	
	Discussion and case, situation-based Presentation	**05 Hours**
	Case analysis and discussion	
	Total Contact Hours	**45 Hours**

3.	**Book Recommended**
1	Laudon, K. C., & Laudon, J. P. (2017). Essentials of management information systems. Pearson.
2	Winston, W. (2019). Microsoft Excel 2019 Data analysis and business modeling. Microsoft Press.
3	Kabacoff, R. (2022). R in action: Data analysis and graphics with R and Tidyverse. Simon and Schuster.

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MBA Semester - II **Financial Management** **MS 102**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**1**	**0**	**04**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Understand the concepts of Time value of money and use of analytics in decision-making.
CO2	Gain foundational knowledge on Financial Management so as to take appropriate financial decisions under different business conditions.
CO3	Evaluate and use analytics in investment decisions through Capital Budgeting.
CO4	Analytics of cost of capital and capital structure to develop financial strategies.
CO5	Analyze and evaluate working capital requirements and dividend policy decisions through relevant models.

2.	**Syllabus**	
	Introduction to Financial Management	**10 Hours**
	Concepts and terminologies of financial management, Scope and need of financial management, Finance Functions, Time value of money, Use of analytics in Valuation concepts, Recent developments in the domain of financial management	
	Capital Budgeting Decisions	**11 Hours**
	Meaning, Nature, and Features of Capital Budgeting Decisions, Types of Investment Decisions – Analytics in Investment Evaluation Criteria, Concepts of Cost of Capital, Risk Analytics in Capital Budgeting, Capital structure theories: NI, NOI, MM approach	
	Financing and Dividend Decisions	**12 Hours**
	Financing decisions, Concept of leveraging, Analytics of Operating, Financial and Combined leverages, Usage, and significance, Capital Markets, Sources of Long, Term financing, Analytics of Asset-Based Financing: Leasing, Hire Purchase and Project Financing, Venture Capital Financing, Dividend Theories & Policies	
	Working Capital Management	**12 Hours**
	Definition of Working capital, Principles of Working Capital Management, Use of analytics in Receivables Management and Factoring, Inventory management analytics, Cash management, Planning and financing of working capital	
	Tutorial	**15 Hours**
	Total Contact Hours	**60 Hours**

* Various activities related to subject will be included to engage 15 hours of tutorial.

3.	**Book Recommended**
1	Khan, M. Y., & Jain, P. K. (2024). Financial management: Text and problems (7th ed.). McGraw Hill Education.
2	Srivastava, R., & Misra, A. (2022). Financial management. Oxford University Press.
3	Pandey, I. M. (2021). Financial management (12th ed.). Vikas Publishing House.
4	Van Horne, J. C., & Wachowicz Jr, J. M. (2014). Fundamentals of Financial Management. Pearson.

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MBA Semester - II **Marketing Management** **MS 104**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Explain core concepts of marketing, basic fundamentals of marketing and marketing environment.
CO2	Develop skills related to marketing research and apply the concepts of Segmentation, Targeting, and Positioning.
CO3	Understand consumer insight to develop effective marketing strategies.
CO4	Understand Product, Price, Promotion and Place Strategies.
CO5	Develop understanding related to Branding strategies and international marketing.

2.	**Syllabus**	
	Introduction	**07 Hours**
	Introduction to Marketing, Core Concepts of Marketing, Scope of Marketing, 4Ps of Marketing, Various Concepts in Marketing, Marketing and Customer Value, Corporate and Division Strategic Planning, Business Unit Strategic Planning, Product Planning	
	Marketing Insights and connecting with Customers	**15 Hours**
	Gathering Information and Scanning Environment**,** Internal Records and Marketing Intelligence, Analysing Macro Environment, Demographic Environment, another Major Macro Environment, Marketing Research System, Role of Analytics in Marketing Research Process, Analytics in Demand Forecasting, Levels of Market Segmentation, Basis for Segmenting Consumer Market and Business Market, Targeting, Positioning	
	Building Strong brand and Brand Management	**11 Hours**
	Consumer buying behaviour, Role and Scope of Brand, Brand Equity, Building and Measuring Brand Equity using Marketing analytics, Branding Strategy, Use of Analytics in understanding Customer Life Time Value, Customer Relationship Management (CRM), Overview of Business Market	
	Product, Price, Promotion and Place Strategies	**12 Hours**
	Product Characteristics, Classifications and Differentiation, Product Life Cycle (PLC) and strategies for new product, Pricing Concepts, Channel Decision: Distribution, Retailing, Wholesaling and Logistics, Integrated Marketing Communication: Sales Promotion, Advertising, Public Relations, Direct Marketing, Personal Selling: Analytics in Budget allocation, Designing and Managing Services etc., Overview of International Marketing	
	Total Contact Hours	**45 Hours**

3.	**Book Recommended**
1	Kotler, P., Keller, K., Koshy, A., & Jha, M. (2017). Marketing management: A South Asian perspective (14th ed.). Pearson Education India.
2	Schiffman, L. G., Wisenblit, J., & Kumar, S. R. (2020). Consumer behavior (13th ed.). Pearson Education India.
3	Baines, P., Fill, C., & Page, K. (2013). Marketing (Asian ed.; Adapted by Piyush K. Sinha). Oxford Higher Education.
4	Lamb, C. W., Hair, J. F., McDaniel, C., Summers, J., & Gardiner, M. (2013). MKTG2: 2nd Asia-Pacific edition. Cengage Learning Australia.

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MBA Semester - II **Human Resource Management** **MS 106**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Gain an understanding of terminologies, theories and practices within the field of HRM.
CO2	Develop competence and problem-solving skills related to human resources.
CO3	Identify various methodologies used for human resources compensation.
CO4	Evaluate HRM related social, cultural, ethical and environmental responsibilities and issues in global context.
CO5	Apply innovative solutions to problems in the field of HRM.

2.	**Syllabus**	
	Introduction to HRM	**06 Hours**
	Introduction, Meaning, Significance and Importance of HRM, Environmental influences, Evolution, HRM, Objective: Functions, Overview of Strategic HRM, Process: Integrated HR Strategies, Typical and Selecting, Role of Importance of HR Analytics	
	Pre-Selection and Selection Process	**09 Hours**
	HR Planning: factors, Barriers, Process, Job Analysis: Methods, Uses, Job Description and Job Specification, Recruitment: Objective, Sources, Techniques, Process and evaluation (Qualitative & Quantitative), Selection, Placement and Induction: Procedures, Tests, Interviews, Placement and Induction Issues.	
	Human Resource Development	**12 Hours**
	Employee Training and Development: Process, Types, Evaluation and Feedback of training efforts, Implementing MDP, Career Planning & Development, Role, Challenges, Career management Concept & process, Performance Appraisal (Qualitative & Quantitative): Concept, Objectives, Process & Techniques.	
	Compensation Management	**08 Hours**
	Concept, Component of Compensation, Factors and challenges of Compensation, Role of analytics in developing Compensation system, Reward systems: Terminologies, Role, Wage differentiation, Mechanism of Wages and Salary Administration, Executive Compensation Issues, Fringe benefits, Overview of Separation	
	Industrial Relations	**10 Hours**
	Introduction, Meaning and Objective, Conditions for Healthy Industrial Relations, Trade unions: Functions, Role, types and Scope in future, Grievance Procedure and Disciplinary Procedures., Collective Bargaining: Essential Conditions, Process, Indian experience (case studies), Industrial Conflicts: Definition, Reasons, Resolution machinery, Worker's participation in Management.	
	Total Contact Hours	**45 Hours**

3.	**Book Recommended**
1	Gary, D., & Varkkey, B. (2020). Human resource management (16th ed.). Pearson Education India.
2	Aswathappa, K. (2023). Human resource management: Text and cases (10th ed.). McGraw-Hill.
3	Sanghi, S. (2014). Human Resources Management (2nd ed.). Vikas Publishing House, New Delhi.
4	Pattanayak, B. (2020). Human resource management (6th ed.). PHI Learning Pvt. Ltd.

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MBA Semester - II **Research Methodology** **MS 108**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**1**	**0**	**04**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Gain a foundational understanding of research, including its significance, objectives, and the distinction between research methods and methodology.
CO2	Develop the skills necessary to create theoretical frameworks, to conduct a comprehensive literature review, and grasp the principles of research design.
CO3	Acquire knowledge in designing sampling methods, understanding measurement scales, and collecting data from various sources while minimizing errors.
CO4	Master statistical techniques to analyze and interpret data, and perform hypothesis tests.
CO5	Learn report writing skills related to research and producing high quality research reports.

2.	**Syllabus**	
	Introduction and Review of Literature	**08 Hours**
	Meaning, Objectives and Significance of Research, Research Methods vs Methodology, Research Approaches , Research Process , Criteria of Good Research , Writing Research Proposal. Identification and selection of the Research Problem , Techniques Involved in Defining a Problem. Review of the Literature: Searching the Existing Literature , Developing a Theoretical Framework , Developing a Conceptual Framework , Defining Construct and Variables.	
	Research Design	**07 Hours**
	Research Design: Meaning, Need, Types, Features, and Important Concepts Primary Data: Survey research, Observation Method, and Experimental Research. Secondary Data: Advantages, Disadvantages, Objectives, and Classification.	
	Sampling and Data Collection, Analysis and Interpretation	**22 Hours**
	Design of Sampling: Introduction, Sampling and Non-sampling Errors, Types, and Sample Survey vs Census Survey Measurement and Scaling: Analytics used in Qualitative and Quantitative Data, Classifications of Measurement Scales, Goodness of Measurement Scales, Sources of Error in Measurement, Techniques of Developing Measurement Tools, Scaling, Scale Classification Bases, Scaling Techniques, and Selection of Appropriate Method for Data Collection Data Analysis (Qualitative and Quantitative)	
	Report Preparation	**03 Hours**
	Significance of Report Writing , Steps in Report Writing , Format of Research Report , Types of Reports , Precautions for Writing Research Reports.	
	Case Study Research	**05 Hours**
	Introduction , Types of Case Study Research , Basic types of Designs for Case Studies , Characteristics of Case Study Research , Advantages of Case Study Research , Limitations of Case Study research , Developing Case Study Format for Data collection , Analysis in Case Study Research , Reporting Case Studies , Examples	
	Tutorials will be based on the coverage of the above topics separately	**15 Hours**
	Total Contact Hours	**60 Hours**

3.	**Tutorials**
1	Practical aspects of Bibliometric Analysis
2	Practical aspects of Meta Analysis
3	Questionnaire Designing
4	Coding and Cross tabulation of data
5	Hands on training of SPSS software
6	Hands on training of EViews software
7	Hands on Training of PLS SEM software

4.	**Book Recommended**
1	Zikmund, W. G. (2013). Business research methods (9th ed.). Choudhary Press.
2	Kothari, C. R., & Garg, G. (2019). Research methodology: Methods and techniques (4th ed.). New Age International (P) Ltd. Publishers.
3	Creswell, J. W., & Creswell, J. D. (2023). Research design: Qualitative, Quantitative, and Mixed Methods Approaches (6th ed.). SAGE Publications.
4	Malhotra, N. K., & Das, S. (2019). Marketing research (Latest ed.). Pearson Education.
5	Yin, R. K. (2018). Case study research and applications: Design and methods (6th ed.). Sage Publications.
6	Yin, R. K. (2017). Applications of case study research (6th ed.). Sage Publications.
7	Yin, R. K. (2003). Case study research: Design and methods (3rd ed.). Sage Publications.

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MBA Semester - II **Descriptive Analysis & Data Visualization** **MS 110**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**1**	**0**	**04**

1	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Analyze and summarize data using descriptive statistics, including central tendency and dispersion measures.
CO2	Perform exploratory data analysis (EDA) to prepare and transform datasets for deeper insights.
CO3	Create effective data visualizations using various techniques and tools to communicate findings.
CO4	Utilize popular data visualization tools to design interactive dashboards and reports.
CO5	Apply descriptive and exploratory analysis techniques to enhance business decision-making.

2.	**Syllabus**	
	Descriptive Analysis	**14 Hours**
	Definition and Importance of Descriptive Analysis; Differences between Descriptive, Predictive, and Prescriptive Analytics; Qualitative vs. Quantitative Data; Measures of Dispersion; Skewness; Kurtosis; Correlation & Regression; Importance in Understanding Data Spread; Random Variable; Discrete (Binomial, Poisson, Geometric, Hypergeometric, Negative Binomial) and Continuous (Uniform, Exponential, Normal, Gamma); Markov Inequality; Application of Descriptive Statistics in Business Decision Making; Usage of mathematical modeling through spreadsheets	
	Exploratory Data Analysis	**09 Hours**
	Definition and Purpose of EDA; Importance in Data Analysis Workflow; Data Cleaning and Preparation: Handling Missing Data; Data Transformation Techniques; Univariate Analysis: Analyzing Single Variables, Histograms, Box Plots, and Frequency Distributions; Bivariate Analysis: Correlation vs. Causation, Scatter Plots and Cross-Tabulations; Multivariate Analysis: Techniques for Analyzing Multiple Variables; Principal Component Analysis (PCA) Overview	
	Data Visualisation - Introduction and Principles	**10 Hours**
	Importance of Visualization in Data Analysis; Industry Best Practices and Common Pitfalls; Types of Visualizations Charts: Bar, Line, Pie, Bullet Graphs, Sankey, and Area Charts; Advanced Visualizations: Heatmaps, Treemaps, and Geographic Maps; Storytelling with Data: Creating a Narrative with Visualizations; The Role of Context in Data Interpretation; Taxonomy of Data Visualization Methods; Constructing and Evaluating Design Solution and Design Systems; Critiques in Data Visualisation; Ethics for Data Visualisation	
	Tools for Data Visualisation	**12 Hours**
	Overview of Popular Tools (Tableau, Power BI, Qlik, Google Looker Studio, Spreadsheets, etc); Data Wrapper; Criteria for Selecting the Right Tool; Basic and Intermediate Features (Tableau and Power BI): Creating Dashboards and Interactive Visual Reports; Introduction to Visualization Libraries: Python Libraries (Matplotlib, Seaborn); R Visualization Libraries (ggplot2, tidyverse, shiny, etc); Use Cases and Examples	
	Tutorial	**15 Hours**
	Power BI: Create a customizable interactive dashboard to visualize key metrics (sales trends over time, regional performance, and product comparisons), trends, geospatial mapping, and comparisons relevant to a Product-Sales dataset. Participants will learn to filter and slice data interactively. Python: Generate visualizations that highlight performance trends and correlation analyses between various parameters for organisational training related datasets. R: Conduct text analysis and sentiment analysis to create visualizations. Participants will learn to derive insights from textual data.	

	Tableau: Create dynamic dashboards that display website performance metrics, traffic trends, and user engagement. Participants will implement filters and visual storytelling techniques.	
	Total Contact Hours	**60 Hours**

* Various activities related to the subject will be included to engage 15 hours of tutorial.

3.	**Book Recommended**
1	Hwang, J., & Yoon, Y. (2021). Data Analytics and Visualization in Quality Analysis Using Tableau. CRC Press
2	Wilke, C. O. (2019). Fundamentals of data visualization: A Primer on Making Informative and Compelling Figures. O'Reilly Media
3	Alexander, M., Decker, J., & Wehbe, B. (2014). Microsoft Business Intelligence Tools for Excel analysts. John Wiley & Sons
4	Alexander, M., & Walkenbach, J. (2013). Excel Dashboards and Reports. Wiley.
5	Wickham, H., Çetinkaya-Rundel, M., & Grolemund, G. (2023). R for Data Science. O'Reilly Media, Inc.
6	Jones, J. S., & Goldring, J. (2022). Exploratory and descriptive statistics. Sage Publications.
7	Dowdy, S., Wearden, S., & Chilko, D. (2004). Statistics for research (3rd ed.). Wiley-Interscience.
8	Knaflic, Cole Nussbaumer. (2015) Storytelling with Data,

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MBA Semester - II **Data Base and Mining for Managers** **MS 112**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**1**	**0**	**04**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Understand database systems, concepts, and query language.
CO2	Understand the E-R model and the relational model.
CO3	Apply SQL Queries using various basic and advanced concepts of RDBMS.
CO4	Understand fundamental data mining concepts, principles, and terminology.
CO5	application of data mining and databases in the business world (learning through cases).

2.	**Syllabus**	
	Introduction to Database Management	**17 Hours**
	Basics of Database: Introduction and applications of DBMS, Purpose of database, View of Data, Database Languages, Database architecture, Database users and DBA; Relational Model: Structure of Relational Databases, Database Schema, Keys (in detail), Relational Operations and Relational Algebra; Entity Relationship Model: Basic Concepts and Definitions, Constraints, Entity Relationship Diagram, Weak Entity Sets, Extended E-R Features, Conversion of ER diagram into relations, Learning ER model with cases; Normalization & application of normalization	
	Introduction to SQL and NoSQL DB and DB as a Service (DBS)	**10 Hours**
	NoSQL Databases: Introduction, Properties of NoSQL Databases, Types of NoSQL Databases; SQL: Introduction to SQL, Data Definition of SQL, Structure of SQL Queries, Basic SQL Operations (Rename, String Operations, Order by, Where Clause), Set Operations, Null Values, Aggregate Functions, Nested Subqueries, Modification of Database, JOIN Expressions, Views, Integrity Constraints, Data Types and Schemas, Authorization, DB as a Service (DBS), Simulation of SQL through R language, Application of SQL in business industry	
	Data Mining Basics	**18 Hours**
	From database to data mining why?, Data Mining Definition; KDD process; Datawarehouse: Architecture of Datawarehouse, DataMart, Usages of Datawarehouse in the Business World, Simulation of Data Warehouse; Data Pre-processing: Data Cleaning, Data Integration, Data Reduction, Data Transformation; Data Cube Technology; Exploratory data analysis (EDA); Supervised and Unsupervised Learning; Regression Analysis; Market Basket Analysis, Market Basket Procedure, Application of Market Basket Analysis; Introduction of classification: Introduction of Information Gain Theory, Entropy; Introduction to Different Methods in Classifications (Tree-based Approaches only), Usages of Classification in Business Worlds; Outlier Analysis; Introduction to Cluster; Introduction to Text Mining, Tokens, Social Media Analysis; Usages of Data Mining in Marketing, Finance, HR, etc.	
	Tutorial	**15 Hours**
	Total Contact Hours	**60 Hours**

* Various activities related to the subject will be included to engage 15 hours of tutorial.

3.	Book Recommended
1	Silberschatz, A., Korth, H. F., & Sudarshan, S. (2019). Database system concepts (6th ed.). McGraw-Hill.
2	Data Mining: Concepts and Techniques (The Morgan Kaufmann Series in Data Management Systems), by Jiawei Han (Author), Jian Pei (Author), Hanghang Tong (Author)
3	Coronel, C., & Morris, S. (2019). Database systems (7th ed.). Cengage Learning.
4	Hand, D. J., Mannila, H., & Smyth, P. (2001). Principles of data mining. Cambridge, MA: MIT Press.
5	Berry, M. J. A., & Linoff, G. S. (2000). Mastering data mining. New York, NY: Wiley.
6	Delmater, J. R., & Hancock, J. (2001). Data mining explained. New York, NY: Digital Press.
7	Gupta, G. K. (2018). Database management systems. McGraw Hill Education.

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MBA Semester - II **Business Communication Skills** **MS 114**	**Scheme**	**L**	**T**	**P**	**Credit**
		2	**0**	**0**	**00**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Demonstrate effective verbal and non-verbal communication skills in professional settings.
CO2	Write clear, concise, and persuasive business documents tailored to various audiences.
CO3	Analyze and synthesize information from business texts to enhance comprehension and decision-making.
CO4	Collaborate effectively within teams to resolve conflicts and foster positive working relationships.
CO5	Deliver engaging presentations using effective visual aids and confident speaking techniques.

2.	**Syllabus**	
	Foundations of Business Communication	**10 Hours**
	Introduction to Business Communication: Importance for Managers, Types of Business Communication, Communication Process and Models, Barriers to Effective Communication, Cultural Considerations in Communication, Effective Speaking Skills, Public Speaking Techniques, Active Listening, Understanding Non-Verbal Cues, Techniques for Effective Reading, Identifying Key Information, Summarizing and Analyzing Business Texts	
	Writing for Business Success	**10 Hours**
	Principles of Clear and Concise Writing, Types of Business Documents (Emails, Reports, Proposals, Quotation, Memos, minutes of meetings), Tailoring Content for Different Audiences, Editing and Proofreading Techniques, Using Visual Aids Effectively, Strategies for Crafting Persuasive Messages, Influencing Techniques, Practical Writing Exercises	
	Advanced Communication Skills	**10 Hours**
	Building Effective Work Relationships, Conflict Resolution Strategies and Role of Analytics, - Facilitating Team Communication, Designing Visual Aids, Delivery Techniques (Engagement, Voice Modulation), Handling Audience Questions, Group Presentations, Self-Reflection on Communication Development	
	Total Contact Hours	**30 Hours**

3.	**Book Recommended**
1	Mehra, P. (2016). Business communication for managers (2nd ed.). Pearson Education.
2	Board of Editors. (2013). Vibrant English. Orient Blackswan Private Limited - New Delhi.
3	Wheten, D. A., & Cameron, K. S. (2021). Developing management skills (9th ed.). Pearson Publication.
4	Pal, R. (2012). Essentials of business communication. Sultan Chand & Sons.
5	Kaul, A. (2015). Effective business communication. Prentice Hall India Learning Pvt. Ltd..

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MBA Semester – III (Core) **Business Analytics** **MS 201**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Understand the fundamentals of Business Analytics.
CO2	Apply Business Intelligence (BI) tools and data management techniques.
CO3	Utilize predictive analytics methods.
CO4	Implement optimization techniques and decision models.
CO5	Evaluate ethical considerations and emerging trends.

2.	**Syllabus**	
	Fundamentals of Business Analytics	**08 Hours**
	Introduction to Business Analytics; Business Analytics Process; Importance of Business Analytics; Data Science vs. Business Analytics; Challenges in Data-Driven Decision Making, Data Warehouse Simulation, Type of Analytics, Data Analytics VS Business Analytics, Business Analytics Need	
	Business Analytics for Decision-Making (Unsupervised Learning)	**15 Hours**
	Types of learning, Cases of learning, why learning is important, How Machine learning differs from AI, Unsupervised Learning in detail, discussion on various methods and techniques, store layout design, association mining, Eclat Algorithm, Clustering, Types of clustering, K Means, K medoid, Hierarchical Clustering, agglomerative, divisive, Single linkage, complete linkage, dB scan, Recommendation system, Item-based filtering, collaborating filtering etc.	
	Business Analytics for Decision-Making (Supervised Learning)	**15 Hours**
	Introduction to Supervised Learning, Effectiveness of Supervised Learning (Confusion matrix in detail), Classification Models, Information Gain Theory, ID3 Procedure, Chaid Procedure, Ensemble Learning technique, Random Forest, Bagging and Boosting, Neural Network model etc	
	Application of Business Analytics	**07 Hours**
	Sports Analytics, Image Analytics, Consumer Marketing Analytics, Sentiment Analytics, Election Analytics etc.	
	Total Contact Hours	**45 Hours**

3.	**Book Recommended**
1	Shmueli, G., Bruce, P. C., Gedeck, P., Yahav, I., & Patel, N. R. (2021). Machine learning for business analytics: Concepts, techniques, and applications in R (2nd ed.). Wiley.
2	Schniederjans, M. J., Schniederjans, D. G., & Starkey, C. M. (2014). Business analytics principles, concepts, and applications: What, why, and how (1st ed.). Pearson FT Press.
3	Camm, J. D., Cochran, J. J., Fry, M. J., & Ohlmann, J. W. (2024). Business analytics with MindTap (4th ed.). Cengage Learning India Private Limited.

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MBA Semester - III **Marketing Analytics** **MS 203**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Develop marketing strategies and resource allocation decisions driven by Quantitative Analysis.
CO2	Develop understanding of issues related to Pricing and Digital Marketing.
CO3	Build understanding of issues related to Integrated Marketing Communications and Quantitative Analysis.
CO4	Provide orientation in cutting edge techniques of Market Basket Analysis.
CO5	Explore the concepts and practical applications of Cluster Analysis.

2.	**Syllabus**	
	Understanding with Marketing Data and Pricing Model	**08 Hours**
	Analysis and Summarization of Marketing data, understanding Consumer data, Nonlinear pricing, price bundling, Price skimming and sales, Revenue management	
	Marketing Analytics Forecasting and Customers Need	**09 Hours**
	Regression for forecast sales, Trends and seasonality, winter's method, Conjoint analysis, Discrete choice analysis	
	Customer value and Market segmentation	**10 Hours**
	Lifetime customer value. monte Carlo simulation for marketing decisions, allocating marketing resources between customer acquisition and retention, decision model for segmentation	
	Forecasting New product sales and Retailing	**10 Hours**
	Using S curve to Forecast Sales of new Product, The Bass Diffusion Model, Copernican Principal to Predict Duration of Future Sales, RFM Analysis and optimizing Direct Mail Campaigns, Scan*prof model, Allocating Retail space and sales resources, Forecasting sales from few data points	
	Advertisement and Marketing research tools	**08 Hours**
	Measuring the effectiveness of the advertisement, Media Selection model, Pay per Click online advertising, principal component analysis, Multidimensional Scaling, analysis of Variance (one way and two way), Viral marketing, Review marketing etc	
	Total Contact Time	**45 Hours**

3.	**Book Recommended**
1	Winston, W. L. (2014). Marketing analytics: Data-driven techniques with Microsoft Excel (1st ed., Kindle edition). Wiley.
2	Rajkumar, V., Farris, P., & Wilcox, R. T. (2014). Cutting-edge marketing analytics: Real world cases and data sets for hands-on learning. Pearson.
3	Stephan, S. (2013). Marketing analytics: Strategic models and metrics. Admiral Press.

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MBA Semester - III **Financial Analytics** **MS 205**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Understand Financial Analytics Models and Techniques.
CO2	Understand Analysing Volatility Models.
CO3	Implement High-Frequency Data Analysis in Financial Markets.
CO4	Implement Financial Analytics for Portfolio Optimization.
CO5	Enhance Practical Skills with Computer-Based Applications.

2.	**Syllabus**	
	Introduction to Financial Analytics	**08 Hours**
	Introduction and Analytics Models, Retraining and Reskilling Financial Participators in the Digital Age, Basics of Financial Data Analytics, Predictive Analytics Techniques-Theory and Applications in Finance; Prescriptive Analytics Techniques - Theory and Applications in Finance, Forecasting Returns of Crypto Currency: Identifying Robustness of Auto Regressive and Integrated Moving Average (ARIMA) and Artificial Neural Networks (ANNs)	
	Asset Volatility and Volatility Models	**14 Hours**
	Characteristics of Volatility, Structure of a Model, Model Building, The ARCH Model, Properties of ARCH Models, Testing for ARCH Effect, Building an ARCH Model, The GARCH Model, The Integrated GARCH Model, The GARCH-M Model, The Stochastic Volatility Model, Alternative Approaches- Use of High Frequency Data, Use of Daily Open, High, Low, and Close Prices	
	High-Frequency Data Analysis	**16 Hours**
	High-frequency Data Analysis; Non-Synchronous Trading, Bid-Ask Spread of Trading Prices, Empirical Characteristics of Trading Data, Models for Price Changes, Duration Models, Modeling Credit Risk; Corporate Liabilities as Contingent Claims, Endogenous Default Boundaries and Optional Capital Structure; Intensity Modeling, Rating Based Term-structure Models, Credit Risk and Interest-rate Swaps, Modeling Dependent Defaults	
	Online Finance	**07 Hours**
	Online Problems and Competitive Analysis, Online Price Search - Searching for the Best Price, Searching for a Price at Random; Online Trading - One-Way Trading; Online Portfolio Selection - The Universal Online Portfolio, Efficient Universal Online Portfolio Strategies; Notes, Computer Lab and Problems	
	Total Contact Time	**45 Hours**

3.	**Book Recommended**
1	Tsay, R. S. (2012). An introduction to analysis of financial data with R. Wiley.
2	Nielsen, S. F. (2014). An introduction to analysis of financial data with R.
3	Arratia, A. (2014). Computational finance: An introductory course with R. Atlantis Press.
4	Sinem, D. K. (2022). Financial data analytics: Theory and application. Springer Nature Switzerland AG.
5	Tsay, R. S. (2005). Analysis of financial time series. John wiley & sons.

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MBA Semester - III Econometrics MS 207	Scheme	L	T	P	Credit
		3	1	0	04

1.	Course Outcomes (COs): At the end of the course, students will be able to
CO1	Explain the basic principles of econometrics, including the assumptions underlying regression models and statistical inference.
CO2	Apply econometric techniques to analyse real-world economic data and draw meaningful conclusions.
CO3	Critically evaluate the assumptions of regression models and assess their validity in different economic contexts.
CO4	Assess the robustness of econometric results and consider alternative explanations for observed patterns in the data.
CO5	Design and conduct an econometric research project, including formulating research questions, collecting data, and applying appropriate statistical techniques.

2.	Syllabus	
	Introduction to Econometrics	**10 Hours**
	Introduction to Econometrics and Econometric Analysis, Steps involved in Econometric Analysis, Introduction to Classical Linear Regression Model: Two variable classical linear regression model, Assumptions of Classical Linear Regression Model, Classical Linear Regression Model assumptions	
	Single Equation Regression Analysis	**10 Hours**
	Estimation of the regression model, Properties of Ordinary Least Square estimators, Regression analysis: Objective, Statistical Analysis and Interpretation of results, Hypothesis Testing: Types of Hypotheses, Test statistic, Critical Region, Hypothesis testing: Level of significance and confidence interval approach, Goodness of Fit(R^2): Concepts of Explained Sum of Squares (ESS), Residual Sum of Squares, Total Sum of Squares	
	Multiple Regression Analysis	**10 Hours**
	Multiple Linear Regression Model: Interpretation of the model, Statistical Analysis, Interpretation of the results, Model misspecification: R^2 vs Adjusted R^2, F statistics: Application of F statistics, Overall significance of the model, Equality between two regression coefficients, Testing the validity of linear restricted and Unrestricted models	
	Dummy Variable Regression Model	**10 Hours**
	Dummy Variable models: Introduction, ANOVA, ANCOVA, Dummy variable trap, Relaxing the assumptions of Classical Linear Regression Model, Multicollinearity: Introduction, Consequences, Detection, Remedial measures	
	Relaxing the Assumptions of the Classical Model	**05 Hours**
	Autocorrelation: Introduction, Consequences, Detection, Remedial measures, Heteroskedasticity: Introduction, Consequences, Detection, Remedial measures	
	Tutorial	**15 Hours**
	Total Contact Hours	**60 Hours**

* Various activities related to subject will be included to engage 15 hours of tutorial.

3.	Book Recommended
1	Dougherty, C. (2011). Introduction to econometrics. Oxford university press, USA
2	Gujarati, D. N., & Porter, D. J. (1995). Basic econometrics, New York: McGraw-Hill. Inc.
3	Gujarati, D. (2014). Econometrics by example. Bloomsbury Publishing.

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MBA Semester - III **Capstone Project** **MS 209**	**Scheme**	**L**	**T**	**P**	**Credit**
		0	**0**	**4**	**04**

The Capstone Project involves working under the mentorship of an executive of the concerned organization for 12 weeks, demanding a deep dive into the functional aspects of a designated organization. This immersive project serves as a bridge between theoretical learning and practical application, requiring students to embed themselves within the organization's operations. Throughout this period, they conduct a comprehensive functional study, analyzing processes, workflows, and the interplay of different departments. This hands-on experience allows students to not only apply their acquired knowledge but also develop crucial professional skills such as problem-solving, teamwork, and communication. The capstone project provides a valuable opportunity to contribute meaningfully to the organization, gain industry insights, and build a professional network, ultimately enhancing their career readiness and preparing them for the challenges of the professional world. The culmination of this effort.

Project Report Formatting Specification:

- Word Format
- Font Size: 12 for regular text, 14 for subtitles, and 16 for titles
- Font Type: Times New Roman
- Line Spacing: 1.5
- Margin: 1.5 inch to Left and 1 inch to all other sides
- Page Type: A4
- Page number on the bottom right of each page, e.g. 1 of 94, 2 of 94,...
- Alignment: Justified
- Column Specification: One
- The word file needs to be converted to pdf format for online submission
- Bibliography style: American Psychological Association (APA)
- The report should not have the logo of either the Institute

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Department of Management Studies

MBA Semester – III (Elective) Legal Aspects of Business MS 211	Scheme	L	T	P	Credit
		3	0	0	03

1.	Course Outcomes (COs): At the end of the course, students will be able to
CO1	Understand the foundational Principles of Business Law.
CO2	Understand contracts and commercial transactions.
CO3	Explore types of companies & analyze Memorandum & Articles of Association.
CO4	Understand Intellectual Property Rights.
CO5	Apply legal knowledge to real-world business scenarios.

2.	Syllabus	
	Indian Contract Act – 1872	**10 Hours**
	General Principles of Contract Act: Introduction, Essentials of a Valid Contract . Agreement and Contract, Types of Contracts, Proposal and Acceptance, Capacity to Contract, Free Consent, Performance and Discharge of a Contract, Remedies on Breach of a Contract, Specific Contracts: Indemnity, Guarantee, Bailment, Pledge, Agency, Other Contracts – Rights & Duties of the Respective Parties, Applications in the Business World	
	Companies Act, 2013	**10 Hours**
	Introduction, Types of Companies, Memorandum & Articles of Association, Prospectu Meetings, Appointment and Removal of Directors & Managers, Membership of a Company, Issue of Capital, Amalgamation and Reconstruction, Partnership Act: Applications of The Act, Definition of Partner, Mutual Rights and Liabilities, Indian Trusts Act: Meaning of Trust, Creation of Trust, Purpose of a Trust, Who can be a Trustee	
	Negotiable Instruments Act – 1881	**10 Hours**
	Instruments, Types of Negotiable Instruments and their Essential Features, Dishonor of Instruments GST Act, 2017: Basic Understanding and Applicability, Registration Process Sale of Goods Act, 1930: Contract of Sale and its Features, Conditions & Warranties; Performance of Contract, Rights of an Unpaid Seller, Breach of Contract; Consumer Protection Act, 1986: Introduction, Consumer & Consumer Disputes, Consumer Protection Councils, Various Consumer Disputes Redressal Agencies	
	Intellectual Properties Rights (IPRs)	**10 Hours**
	Introduction, Major Types: Patents, Trademarks, Copyrights, Industrial Designs, etc. – Important Provisions with respect to: Registration, Renewal, Revocation, Remedies in case of Infringement. Environmental Laws: Introduction, Major Laws like Air Pollution, Water Pollution, Environment Protection, Powers of Central & State Governments, Various Offences & Penalties Information Technology Act, 2000: Introduction, Digital Signature, Cyber-crimes and Remedies, Electronic Records, Controlling and Certifying Authority, Cyber Regulation Appellate Tribunals	
	Practical Implications	**05 Hours**
	Students should select Real Life Cases from Government and/ or Corporate World, Study the Same and make presentation in the class	
	Total Contact Time	**45 Hours**

3.	Book Recommended
1	Kapoor, N. D. (2020). Elements of mercantile law (38th ed.). Sultan Chand & Sons.
2	Pathak, A. (2005). Legal aspects of business. Tata McGraw-Hill Publishing Company Ltd.
3	Bently, L., Sherman, B., Gangjee, D., & Johnson, P. (2022). Intellectual property law. Oxford University Press.

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MBA Semester – III (Elective) Performance & Compensation Management MS 213	Scheme	L	T	P	Credit
		3	0	0	03

1.	Course Outcomes (COs): At the end of the course, students will be able to
CO1	Understand the dynamics of performance appraisal and performance management to develop criteria and standards for performance assessment.
CO2	Analyze how effective appraisal systems can be linked to managerial objectives and compensation.
CO3	Comprehend the components of executive compensation and understand how jobs are priced to establish compensation levels.
CO4	Understand incentive systems and non-economic rewards.
CO5	Understand International aspects of Performance Appraisal and Compensation.

2.	Syllabus	
	Introduction	**08 Hours**
	Concept, The Foundation of Performance Management, The conceptual framework of Performance Management, Contextual Factors, Performance Management as system, Performance Management cycle, Performance measures, Formal Performance Review, The Ethical Dimension, Issues in Performance Management, Managing Performance Management, Managing Under-Performance	
	Performance Management	**12 Hours**
	Performance Management Process, Goal Setting, 360 Degree Feedback, Performance Coaching, Performance Review, Analyzing and Assessing Performance, Managing Organization & Team Performance, Performance Management and Rewards, Developing and maintaining Performance Management, Stages of Development, Performance Management Development Programme, The Performance Management Role of Line Manager, Evaluating Performance Management	
	Methods of Job Evaluations	**15 Hours**
	Introduction to Pay Models & Strategy, Job based Structure and Job Evaluation, Methods of Job Evaluation, Company Wage Policy: Wage Components, Wage Determination, Pay Grades, Wage Surveys, Modern Trends in Compensation: From Wage and Salary to Cost to Company concept, Designing Pay Levels, Mix and Pay Structure, Competency-based Pay, Incentive Plans for Production Employees and for Other Professionals, Developing Effective Incentive Plans, Pay for Performance, Supplementary Pay Benefits: Insurance Benefits, Retirement Benefits, Employee Services Benefits, Benefits & Incentive, Practices in Indian Industry	
	Wage System in India	**10 Hours**
	Wages in India: Minimum Wage, Fair Wage and Living Wage, Methods of State Regulation of Wages, Wage Differentials & National Wage Policy, Regulating Payment of Wages, Wage Boards, Pay Commissions, Dearness Allowances, Linking Wages with Productivity, Special Compensation Situations: International Compensation, Managing Variations, International Pay System	
	Total Contact Time	**45 Hours**

3.	Book Recommended
1	Armstrong, M. (2009). Armstrong's handbook of performance management: An evidence-based guide to delivering high performance. Kogan Page Publishers.
2	Gary, D. (2011). Human resource management. Pearson Education India.
3	Milkovich, G. T., Newman, J. M., & Gerhart, B. (2014). Compensation. McGraw-Hill.

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MBA Semester – III (Elective) HR Analytics MS 215	Scheme	L	T	P	Credit
		3	0	0	03

1.	Course Outcomes (COs): At the end of the course, students will be able to
CO1	Understand the relevance of HR Analytics in the current business scenario.
CO2	Analyse the models of conducting HR Analytics and understanding of the methods of capturing, examining & purifying data for conduction of HR Analytics.
CO3	Use MS Excel for conduction of HR Analytics for key HR Processes.
CO4	Explore various tools and software technologies used for conduction of Descriptive HR Analytics and Visualization of HR Data.
CO5	Understand the futuristic perspective of Predictive and Prescriptive HR Analytics.

2.	Syllabus	
	Introduction to HR Analytics	**07 Hours**
	History of Different HRM Perspectives, Transition from HRM to HCM and Gaining Sustainable Advantage through HCM. HR Analytics and Changing Role of HR Professionals. Importance and Scope of HR Analytics. Significance of HR Analytics, Benefits of HR Analytics. Levels of Analysis and Conducting analytics. Key Influencers of HR Analytics Process. Big Data Era in HR Analytics, HR Analytics: Linkage to Business Outcomes	
	Conducting HR/Workforce Analytics	**09 Hours**
	Models of HR Analytics, How to Conduct HR Analytics. Understanding HR Data: Importance of Data, Types and Scales of Data; Methods of Capturing Data, Data Examination & Purification. Understanding various HR Metrics from the perspective of HR Analytics	
	Analytics for Key HR Processes Using MS Excel	**09 Hours**
	HR Analytics for Recruitment & Selection, Training & Development, Performance Appraisal, Talent Management, Employee Engagement, Compensation Management and Expatriate Management	
	Descriptive Analytics	**12 Hours**
	Overview of Select Tools for Conduction HR Analytics: MS Excel, R, Power BI, Tableau, SPSS & PSPP. Descriptive Analytics in HR: HR Dashboards using MS Excel, Slicing and Dicing of HR Data using MS Excel Pivot Table Applications, Data Visualization for Key HR processes	
	Predictive & Prescriptive HR Analytics	**8 Hours**
	Predictive HR Analytics: Correlation, Linear and Multiple Regression, Factor Analysis and Cluster Analysis, Comparison of Means and Analysis of Variance for Manpower Demographics, Employee Satisfaction, Training Effectiveness etc. Prescriptive HR Analytics, Predictive vs Prescriptive HR Analytics, Future of HR Analytics	
	Total Contact Time	**45 Hours**

3.	Book Recommended
1	Diez, F., Bussin, M., & Lee, V. (2019). Fundamentals of HR analytics: A manual on becoming HR analytical. Emerald Publishing Limited.
2	Banerjee, P., Pandey, J., & Gupta, M. (2019). HR analytics: Practical applications of HR analytics. Sage.

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MBA Semester – III (Elective) **Investment Analysis and Portfolio Management** **MS 217**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Develop a basic understanding of the investment environment.
CO2	Diversify risk by doing Security Analysis.
CO3	Develop the ability to evaluate various investment avenues and their suitability for different investors.
CO4	Valuation of Financial Assets like stocks & bonds.
CO5	Understand and build portfolio with various securities.

2.	**Syllabus**	
	Introduction	**11 Hours**
	Definition, Nature, Objectives of Investment, Investment vs. Speculation vs. Gambling, Investment Environment: Overview of Financial Markets and Instruments, Risk and Return: Types of Risk, Measuring Return, and Risk-Return Tradeoff, Primary and Secondary Markets: Structure and Function, Role of Stock Exchanges and Regulatory Bodies, Trading Mechanisms: Types of Orders and Settlement Procedures, Market Indices: Construction and Applications	
	Security Analysis	**12 Hours**
	Economic Analysis: Macro-Economic Indicators, Industry Analysis: Tools and Techniques, Company Analysis: Financial Statements, Ratio Analysis, and Valuation Models, Basics of Technical Analysis: Tools and Techniques, Charting Techniques: Patterns and Indicators, Efficient Market Hypothesis: Forms and Implications, Behavioral Finance: Role of Psychology in Investment Decisions	
	Portfolio Analysis and Portfolio Management	**12 Hours**
	Portfolio Concepts: Diversification and Risk Reduction, Modern Portfolio Theory: Markowitz Model and Efficient Frontier, Capital Asset Pricing Model (CAPM), Arbitrage Pricing Theory (APT), Portfolio Management Strategies: Active vs. Passive Management, Bond and Equity Portfolio Management, Portfolio Performance Measurement: Sharpe, Treynor, and Jensen Ratios, Portfolio Revision Techniques	
	Investment Alternatives and Global Investment Environment	**10 Hours**
	Equity, Bonds, Mutual Funds, and Derivatives, Hedge Funds, Real Estate, and Commodities, Retirement and Tax Planning Strategies, Ethical Investing and ESG Factors, International Investing: Risks and Opportunities, Foreign Exchange Market and Currency Risk, Global Equity Markets and ADRs/GDRs, Emerging Markets and Investment Trends	
	Total Contact Time	**45 Hours**

3.	**Book Recommended**
1	Bhalla, V. K. (2009). Investment management: Security analysis and portfolio management (15th ed.). Sultan Chand.
2	Chandra, P. (2012). Investment analysis and portfolio management. Tata McGraw-Hill Education Private Limited.
3	Fischer, D. E., & Jordan, R. J. (1987). Security analysis and portfolio management. Pearson Education.
4	Kevin, S. (2015). Security analysis and portfolio management (3rd ed.). PHI Learning.

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MBA Semester – III (Elective) **Quantitative Applications in Finance** **MS 219**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Analyze Financial Instruments and Market Behaviour.
CO2	Do Data Analysis for Financial Modeling.
CO3	Evaluate Risk and Portfolio Management.
CO4	Develop Market Trading Strategies.
CO5	Integrate Theory with Practice.

2.	**Syllabus**	
	Introduction to Quantitative Finance	**06 Hours**
	Quantitative Finance Unveiled: Defining Quantitative Finance; Wielding Financial Weapons of Mass Destruction; Analyzing and Describing Market Behaviour; Managing Risk; Computing, Algorithms and Markets; Understanding Probability and statistics: Probability by flipping coin, Building Distribution with random variables, introduction to some important distributions; Taking a look at Random Behavior: Setting up a random walk, Averaging with Central limit Theorem, moving up a gear, reverting to the mean	
	Tackling Financial Instruments	**08 Hours**
	Sizing Up Interest Rates, Shares and Bonds: Explanation of Interest, Sharing in profit and Growth, taking the pulse of World Markets, Defining bonds and bond jargons, Swapping between Fixed and Floating rates; Exploring Options: Examining a variety of Options, Reading the Financial data: Strike Price, Using options in practice: Hedging your risk, placing bet on market, Writing options, Earning income from options, distinguishes European, American and other options; Trading Options On and Off exchanges, Relating the Price of put and calls; Trading risk with future Markets: Future Contracts, rolling position	
	Investigating the Market Behaviour	**08 Hours**
	Understand the Market Volatility; use of Historical data; Shrinking time using square root; Comparing volatility calculations; Estimating Volatility by Statistical Means; the Symmetric GARCH Model; The leverage effect; Going beyond the Simple volatility Models; Estimating Future Volatility with term structures	
	Analyzing Data	**07 Hours**
	Data Smoothing; Estimating more Distributions; Modelling non-normal Returns; Reducing the amount of data; Applying PCA to yield curves; Using PCA to build Models; Using the Greeks in the Black-Scholes Model: Delta, dynamic hedging and gamma, theta, Rho, Vega; Rebalancing a portfolio; Gauging the Interest rate derivatives: Yield curve and forward rate, Modelling the interest rates	
	Risk and Portfolio Management	**08 Hours**
	Managing Market risk: Stop loss, hedging schemes, evaluate outcome with utility functions, use of Covariance Matrix to measure market risk – diversifying portfolios – Minimizing Portfolio Variance – CAPM model - Assessing Portfolio performance: Sharpe ratio, Drawdowns, Risk parity – Constricting VaR (Value at Risk) using the covariance matrix – simulating the VaR – Estimating Tail risk with extreme value theory	
	Market Trading and strategy	**8 hours**
	Technical Analysis: Constructing candle, relying on relative strength, checking momentum indicator, blending the stochastic indicator, breaking out of channels; Making predictions by market variables: Regression; Predicting from past values: Autocorrelation model, Moving average model,	

	kernel regression; Fitting models to data: Maximizing the likelihood, Fitting and overfitting, applying occam's Razor, Detecting outliers, back-testing, out of sample validation	
	Total Contact Time	**45 Hours**

3.	**Book Recommended**
1	Bell, S. (2016). Quantitative finance for dummies. Wiley.
1	Hull, J. C. (2009). Options, futures, and other derivatives (7th ed.). Prentice Hall.
2	Neftci, S. N. (2000). Introduction to the mathematics of financial derivatives (2nd ed.). Academic Press.
3	Cerny, A. (2009). Mathematical techniques in finance: Tools for incomplete markets (2nd ed.). Princeton University Press.
4	Campbell, J. Y., Lo, A. W., & Mackinlay, A. C. (1997). The econometrics of financial markets. Princeton University Press.
5	Copeland, T. E., & Weston, J. F. (1992). Financial theory and corporate policy. Addison Wesley.

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MBA Semester - III Financial Modeling MS 221	Scheme	L	T	P	Credit
		3	0	0	03

1.	Course Outcomes (Cos): At the end of the course, students will be able to
CO1	Understand Financial Models and Their Applications.
CO2	Analyze financial statement and design financial Model.
CO3	Build, Test, and Audit Models Using Excel, understand Excel functions.
CO4	Perform Sensitivity Analysis and Risk Simulation.
CO5	Integrate Modelling Skills with Practical Decision-Making.

2.	Syllabus	
	Introduction to Financial Models and Model Designing	**08 Hours**
	Introduction; Context and Objectives of Modelling; The stages of Modelling – Backward thinking and Forward Calculation Process; Introduction to use of models in decision support ; Benefits of using models; Challenges in using Models; Designing Sensitivity and Flexibility Requirements; Database versus Formulae-driven Approaches; Designing the Workbook Structure: Generic Best Practice Structure, Using Information from Multiple Worksheet	
	Accounting for Financial Modeling	**05 Hours**
	Prepare and Analyze the Income statement: B/S, Cash Flow Statement, Geographic revenue sheet, Segment Revenues, Cost statement, debt statement, Performa Adjustments, Income Statement; Ratio Computation; Cash Flow Statement Projection	
	Model Building, Testing and Auditing with Excel	**08 Hours**
	Introduction to creating Transparency; Approaches to identifying the drivers of Complexity; Optimizing Audit Paths; Identifying Inputs, Calculations and Outputs; Creating Documentation, Comments and Hyperlinks; Introduction to Building Robust and Transparent Formulae; General Causes of Mistakes; Approaches to build formulae, to testing, Error detection; Choosing excel Function for Transparency; Flexibility and Efficiency; Dealing with Circularity; Process tools and Techniques for model Review Auditing and Validation	
	Sensitivity Analysis & Company Analysis	**10 Hours**
	Introduction to Simulation and Optimization; the Modelling of risk and Uncertainty, and using Simulation; Discuss the Business Model and Value Drivers of a Company; Capital Structure: Calculate the Total Enterprise Value and build a Capital Structure Table; Historical Financials: Populate the Historical Financials; Ratios: Calculate the Financial Ratios	
	Excel Functions, Functionality & Foundation of VBA and Macros	**14 Hours**
	Core Arithmetic and Logical Functions; Array functions and Formulae; Mathematical Functions; Financial Functions; Statistical Functions; Information Functions; Date and Time Functions; Text Functions and Functionality; Lookup and reference Functions; Filters, database Functions and Pivot tables; Selected Shortcuts and other feathers; Uses of VBA and Core operations; Working with Objects and ranges; Controlling Execution; Writing Robust Code: approaches to testing, debugging and error handling; Manipulation and Analysis of Data Set with VBA; User Defined Functions: benefits, syntax Application	
	Total Contact Time	**45 Hours**

3.	Book Recommended
1	Rees, M. (2018). Principles of financial modelling (1st ed.). Wiley.
2	Tjia, J. S. (2009). Building financial models (2nd ed.). McGraw-Hill.
3	Benninga, S. (2008). Financial modelling (3rd ed.). The MIT Press.

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MBA Semester – III (Elective) **Service Operation Management** **MS 223**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Understand the fundamentals of Service Operations Management.
CO2	Apply various Pricing Strategies in the context of services.
CO3	Analyze the components and dynamics of the services supply chain.
CO4	Explore performance measurement techniques and their application to service operations.
CO5	Apply Service Operations Management principles to real-world cases.

2.	**Syllabus**	
	Introduction to Service Operations	**07 Hours**
	Introduction to Service Operations: The Service Concept, Changing Paradigms in Competitiveness of Services, Services Manufacturing Continuum	
	Service Strategy, Positioning and Pricing Strategy	**10 Hours**
	Developing a Service Strategy, Service Positioning and Implications for Service Delivery Design, Service Enhancement using Internet, Pricing Strategies in Services	
	Optimizing Service Systems	**10 Hours**
	Capacity Issues in Service Systems, Queuing Theory Applications in Service Operations, Simulation as a tool for Design of Services, Simulation Applications in Service System Design, Services Supply Chain	
	Quality-driven Excellence: Navigating Customer Satisfaction	**10 Hours**
	The role of Quality as a driver, Customer Satisfaction and Delivery of Service, Quality Improvement Methods, Critical Success Factors, Quality Awards, Measurement and Management of Quality, Consultation and Management of Change, Facility Location and Layout, The Marketing Function, Identifying Customer Expectations	
	Performance Measurement and Management	**08 Hours**
	Performance Measurement and Management, Linking Operations Decisions to Business Performance, Driving Operational Improvement, Developing Service Strategy & Service Culture	
	Total Contact Time	**45 Hours**

3.	**Book Recommended**
1	Johnston, R., Clark, G., & Shulver, M. (2017). Service operations management: Improving service delivery (4th ed.). Pearson.
2	Slack, N., Johnston, R., Clark, G., & Shulver, M. (2020). Service operations management (5th ed.). Pearson.
3	Wright, N., & Race, P. (2004). Management of service operations (2nd ed.). Cengage Learning Business Press.
4	Wright, N. J. (1999). The management of service operations.

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MBA Semester - III (Elective) **Supply Chain Analytics** **MS 225**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Understand the importance of the basics of Business Analytics and Optimization.
CO2	Explore the importance of the basics of Supply Chain Analytics and Optimization.
CO3	Understand the concepts, techniques & applications of computer in Supply Chain.
CO4	Explain the role and applications of Predictive Analytics in a Supply Chain.
CO5	Analyze and make informed decisions in complex Supply Chain scenarios.

2.	**Syllabus**	
	Context of Today's Supply Chains (SC) Analytics	**15 Hours**
	Understanding and Defining the Supply Chain Analytics (SCA), Revisions of Basic Lessons of Supply Chain Management: Why is Analytics important in a Supply Chain?, Relating Operations Management with Supply Chain Concepts & SC Analytics, The Importance of Supply Chain Analytics in the Flows Involving: Material, Money, Information and Ownership	
	Supply Chain Analytics	**12 Hours**
	Key Issues in Supply Chain Analytics, What Involves in Supply Chain Analytics, Concept of Descriptive Analytics in a Supply Chain, Discussion on a few Supply Chains Analytics Applications In India (Students Participation is Expected), Decision Domains in Supply Chain Analytics	
	Foundation of Business Analytics (BA)	**10 Hours**
	Introduction to Modeling, Approaches for Optimization and Simulation, Modeling Software, Supply Chain (SC) Decisions that requires Mathematical or Interpretative Modeling, Understanding of Data and its Role in Analytics, Analytics of a Transportation Problem in a Supply Chain, Managerial Implication of Results of Analytics	
	Foundation of Prescriptive Analytics in Network Planning in a Supply Chain	**08 Hours**
	Network Planning in a Supply Chain, Importance of Network Planning, Design of Logistics Network Using Heuristics/Optimization, Concept of 3pl/4pl in a Supply Chain – Case Study: GATI	
	Total Contact Time	**45 Hours**

3.	**Book Recommended**
1	Liu, K. Y. (2022). Supply chain analytics: Concepts, techniques and applications. Springer Nature Switzerland AG.
2	Shapiro, J. F., (2004). Challenges of strategic supply chain planning and modeling. Computers & Chemical Engineering.
3	Simchi-Levi, D., Kaminsky, P., E., & Ji J., (2000). Designing and managing the supply chain.
4	Saxena, R., Srinivasan, A., Saxena, R., & Srinivasan. A., (2013). Analytics Methods. Business Analytics: A Practitioner's Guide.

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MBA Semester – III (Elective) **Gamification** **MS 227**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Understand the foundational principles and frameworks of gamification.
CO2	Design and implement gamification strategies for operations and supply chain processes.
CO3	Apply gamification techniques to optimize quality, risk, and logistics management.
CO4	Foster innovation and collaboration through gamified solutions.
CO5	Explore emerging trends and develop strategies to overcome gamification challenges.

2.	**Syllabus**	
	Fundamentals of Gamification	**08 Hours**
	Introduction To Gamification: History, Concepts, And Evolution; Games as Motivators: Reward Systems, Storytelling, and Engagement Strategies; Gamification Basics: Progress Tracking, Social Engagement, and Narrative Design; Game Psychology: User Behavior, Repetition, Experimentation, and Ambient Design; Ethics In Gamification: Balancing User Privacy, Accessibility, And Fairness	
	Gamification Frameworks And Design Principles	**10 Hours**
	Popular Frameworks: MDA (Mechanics, Dynamics, Aesthetics), Octalysis, HEXAD User Type Framework, and Fogg Behavior Model; Designing Gamified Systems: Goals, Objectives, and OKRs for Gamified Experiences; Mechanics, Dynamics, and Components; Tools For Gamification Design: Mapping Personas, Creating User Flow Diagrams, and Defining Success Metrics; Avoiding Design Pitfalls: Balancing Complexity, Fairness, and User Engagement	
	Gamification In Operations And Supply Chain	**09 Hours**
	Gamified Process Optimization: Reducing Cycle Times and Improving Operational Efficiency; Quality and Risk Management; Supplier And Logistics Collaboration: Building Trust and Transparency Through Gamification; Sustainable Supply Chains: Incentivizing Green Practices And Reducing Waste	
	Gamification For Innovation And Collaboration	**09 Hours**
	Social Collaboration Through Gamification; Innovation Gamification; Gamification in Training and Education: Improving Employee Skill Sets Through Serious Games; Behavioral Changes and Gamified Incentives: Encouraging Desired Actions Within Teams	
	Future Trends And Challenges In Gamification	**09 Hours**
	Emerging Technologies: AI, AR/VR, Blockchain, And IoT In Gamification; Future of Gamification: Personalized And Predictive Gamified Solutions; Challenges In Implementation: Adoption Barriers, User Fatigue, and Ethical Considerations; Building Gamification Strategies: Creating Business Cases And Securing Leadership Buy-In; Workshop: Developing A Gamified Roadmap For Supply Chain Management	
	Total Contact Hours	**45 Hours**

3.	**Book Recommended**
1	Hyzy, M., & Wardle, B. (2023). Gamification for product excellence: Make your product stand out with higher user engagement, retention, and innovation. Packt Publishing Ltd.
2	Savignac, E. (2017). The gamification of work: The use of games in the workplace. Wiley.
3	Kogan, K., & Tapiero, C. S. (2007). Supply chain games: operations management and risk valuation (Vol. 113). Springer Science & Business Media.
4	Stieglitz, S., Lattemann, C., Robra-Bissantz, S., Zarnekow, R., & Brockmann, T. (Eds.). (2018). Gamification: Using game elements in serious contexts. Springer.
5	Werbach, K., & Hunter, D. (2015). The gamification toolkit: dynamics, mechanics, and components for the win. University of Pennsylvania Press.

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MBA Semester – III (Elective) Consumer Behaviour MS 229	Scheme	L	T	P	Credit
		3	0	0	03

1.	Course Outcomes (COs): At the end of the course, students will be able to
CO1	Understand basic concepts related to key market players – Consumer, Marketers & Technology.
CO2	Learn aspects related to Consumer – Individual Identity.
CO3	Understand the impact of communication, media and social influences on consumer behaviour.
CO4	Analyse various social and cultural factors influencing purchase decision.
CO5	Develop a comprehensive understanding of Consumer Decision-Making, Marketing Ethics, and Consumer Research.

2.	Syllabus	
	Basic concepts – Consumers, Marketers, and Technology	**08 Hours**
	The Marketing Concept (Market Segmentation, Targeting, and Positioning), Technology Benefits Consumers and Marketers, Customer Value, Satisfaction and Retention, Technology and Customer Relationships, Real-Time Bidding	
	Consumer – Individual Identity	**10 Hours**
	Consumer Motivation and Personality, System of Needs and its theory, Personality development and its Traits, Anthropomorphism, Consumer Perception and Positioning, Positioning and Repositioning, Consumer Learning, Consumer Attitude Formation and Change, Attitude Models, Cognitive Dissonance and Conflict Resolution	
	Communication and Consumer Behaviour	**08 Hours**
	Persuading Consumers, Print & Broadcast to Social Media and Mobile Advertising, Reference Groups and Communities, Opinion Leaders, and Word-of-Mouth, Factors affecting reference influence	
	Social and Cultural Settings	**09 Hours**
	Family and its Social standing, Family Decision Making and Member's Roles, Family Life cycle, Cultural Values and Consumer Behaviour, Enculturation and Acculturation, Subcultures and Consumer Behaviour, Cross-Cultural Consumer Behaviour: An International Perspective	
	Consumer Decision-Making, Marketing Ethics, and Consumer Research	**10 Hours**
	Consumer Decision-Making: Process, Diffusion and Adoption of Innovation, Marketers' Ethics and Social Responsibility, Camouflaged Advertising, False and Misleading Advertising, Consumer Research (Qualitative Research and Quantitative Research)	
	Total Contact Time	**45 Hours**

3.	Book Recommended
1	Schiffman, L., & Wisenblit, J. (2019). Consumer behaviour (12th ed.). Pearson.
2	Schiffman, L., Wisenblit, J., & Kumar, R. S. (2016). Consumer behaviour (11th ed.). Pearson.
3	Schiffman, L., & Kanuk, L. L. (2007). Consumer behaviour (9th ed.). Pearson.
4	Hawkins, D. I., & Mothersbaugh, D. L. (2010). Consumer behaviour (11th ed.). Tata McGraw Hill.
5	Schiffman, L., Kanuk, L. L., & Kumar, R. S. (2010). Consumer behaviour (10th ed.). Pearson.

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MBA Semester – III (Elective) Advertising and Sales Promotion Management MS 231	Scheme	L	T	P	Credit
		3	0	0	03

1.	Course Outcomes (COs): At the end of the course, students will be able to
CO1	Learn the concept of Advertising & need of Advertising Management for achieving business goals.
CO2	Understand the IMC and other aspects in Advertising Management & examine its role in development.
CO3	Explore role of PR in shaping public behavior & understand effective publicity strategies.
CO4	Understand the fundamentals of Sales Promotion and its techniques for sales results.
CO5	Gain insights of Direct Marketing and Personal Selling.

2.	Syllabus	
	Introduction to Advertising	**05 Hours**
	Advertising Management: Meaning, Nature, Scope, Types, Advertising & Other Promotional Tools, Role of Advertising in Promotion Mix, Process of Advertising	
	Advertising Management	**12 Hours**
	Advertising Planning and Decision Making, Integrated Marketing Communication, The Promotional Mix: The Tools for IMC, Strategies for Advertising, Setting Advertising Objectives, Approaches of Advertising: DAGMAR, AIDA, Advertising Budget: Meaning, Methods, Approaches, Advertising Media Planning, Ethical and Social Issues in Advertising, Management of Advertising Agency, Role of Advertising in National Development, Advertising and Society, Global Marketing and Advertising	
	Public Relations and Publicity	**12 Hours**
	Public Relations: The Definition of Public Relations, Integrating Public Relations into the IMC Mix, Practicing Public Relations: Behind Perception, Attitude and Behavior Measures, Establishing a Public Relations Plan, Developing and Executing the Public Relations Program, Advantages and Disadvantages of Public Relations, Measuring the Effectiveness of Public Relations, Publicity as a Strategy, The Power of Publicity	
	Introduction to Sales Promotion	**06 Hours**
	Definition, Types of Sales Promotion Activities, The Growth of Sales Promotion, Consumer Oriented Sales Promotion & its Techniques, Trade Oriented Sales Promotion with its types	
	Direct Marketing and Personal Selling	**10 Hours**
	Direct Marketing: Definition, Growth, Objectives, Developing Database, Strategies and Media, Internet, Direct Selling, Evaluating the effectiveness of direct marketing, Advantages and Limitations of Direct Marketing, Personal Selling, Relationship Marketing, Personal Selling Responsibilities, Advantages and Limitations of Personal Selling	
	Total Contact Time	**45 Hours**

3.	Book Recommended
1	Khan, M. (2006), A - Consumer behaviour and advertising management- Netlibrary Inc. New Age International (P) Ltd.
2	Batra, R., Myers J. G., Aaker D. A. (1996). Advertising Management. Prentice Hall Inc.
3	Belch, G. E., & Belch, M. A. (2020). Advertising and promotion: An integrated marketing communications perspective (4th ed.). McGraw-Hill Irwin.
4	Belch, G. E., & Belch, M. A. (2012). Advertising and promotion: An integrated marketing communications perspective (9th ed.). McGraw-Hill Irwin.

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MBA Semester – III (Elective) Advanced Marketing Research MS 233	Scheme	L	T	P	Credit
		3	0	0	03

1.	Course Outcomes (COs): At the end of the course, students will be able to
CO1	Develop understanding of Marketing Research concepts, processes & ethical aspects.
CO2	Learn to define research problems, develop approaches for making optimal marketing strategies.
CO3	Gain knowledge about formulating & choosing appropriate Research Method for varied scenarios.
CO4	Understand different tools for analyzing data & prepare professional marketing research reports.
CO5	Analyse case studies of real-world business scenarios and improve practical decision-making skills.

2.	Syllabus	
	Marketing Research	**08 Hours**
	Overview, Definition, Classification, Marketing Research Process, The Role of Marketing Research in Marketing Decision Making, Marketing Research & Competitive Intelligence, The Decision to Conduct Marketing Research, The Marketing Research Industry, Marketing Research & Social Media, Mobile Marketing Research (MMR), Ethics in Marketing Research	
	Defining Problem & Developing Approach	**07 Hours**
	Importance of Defining the Problem, The Process of Defining the Problem, Process of Developing an Approach, International Marketing Research & its Process	
	Research Method Formulation	**15 Hours**
	Definition, Classification, Exploratory Research, Descriptive Research, Causal Research, Relationship among Exploratory, Descriptive & Causal Research, Potential Sources of Error, Budgeting & Scheduling the Project, Marketing Research Proposal, Exploratory Research Design: Secondary & Syndicated Data, Qualitative Research, Descriptive Research Design: Survey and Observation, Causal Research Design: Experimentation, Questionnaire and Form Design, Sampling Design and Procedures, Final and Initial Sample Size Determination	
	Data Collection and Preparation	**05 Hours**
	Fieldwork, Data Preparation, Frequency Distribution, Cross-Tabulation, and Hypothesis Testing	
	Data Analysis, Reporting and Case Studies	**10 Hours**
	Analysis of Variance and Covariance, Correlation and Regression, Discriminant and Logit Analysis, Factor Analysis, Cluster Analysis, Multidimensional Scaling and Conjoint Analysis, Structural Equation Model and Path Analysis, Report Preparation and Presentation, Case Study Discussion	
	Total Contact Time	**45 Hours**

3.	Book Recommended
1	Malhotra, N. K. (2020). Marketing research: An applied orientation (7th ed.). Pearson.
2	Boyd, H., Westfall, R., & Stasch, S. (1985). Marketing research: Text and cases (7th ed.). Richard D. Irwin Inc.
3	Hair, J. F. Jr, Bush, R. P., & Ortinau, D. J. (2021). Essentials of marketing research (5th ed.). Tata McGraw-Hill.
4	Hair, J. F. Jr, Bush, R. P., & Ortinau, D. J. (2002). Marketing research: Within a changing information environment (2nd ed.). Tata McGraw-Hill.
5	McDaniel, C., & Gates, R. (2015). Marketing research (10th ed.). South Western College Publishing.
6	Nargundkar, R. (2008). Marketing research: Text and cases (3rd ed.). Tata McGraw-Hill.

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MBA Semester – III (Elective) **Healthcare Analytics** **MS 235**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Understand the importance of analytics as a fundamental tool and a driving force for success in healthcare with Analysis of current challenges.
CO2	Understand improve decision-making supporting Healthcare Quality Improvement component & application analytical strategy framework for healthcare quality performance.
CO3	Analyze Healthcare Outcome Improvement through Patient Profiling and Population Health Management understand risk stratification.
CO4	Understand the measures, metrics, and indicators, advanced analytics in healthcare and its potential, and advanced analytics for optimal healthcare solutions.
CO5	Learn and Analyze the variable determinants of health factors, learn HIMSS, AMAM, Emerging trends of AI and ML in healthcare.

2.	**Syllabus**	
	Introduction to Healthcare Challenges and Transformation Initiatives	**15 Hours**
	Introduction to Healthcare Analytics: Discuss The Role of analytics in healthcare transformation, Current challenges in healthcare, and sustainability of healthcare spending, Type of Healthcare Analytics and Applications, Identification of Healthcare Delivery Challenges: Factors Contributing to Current Healthcare spending unsustainability, Critical Issues in Healthcare Quality of Care, Strategies for Continuous Improvement: Initiatives Leading to Delivery Transformation for Whole-person Care and Social Determinants of Health, Research Quantitative Studies on Critical Drivers of Preventable High Health Care Utilization	
	Healthcare Quality Management and Performance Improvement	**10 Hours**
	How Analytics Can Improve Decision Making: Analytics, Quality, and Performance, Applications of Healthcare Analytics, Components of Healthcare Analytics, Developing an Analytics Strategy to Drive Change, Analytics Strategy Framework with a Focus on Quality/Performance Improvement, Defining Healthcare Quality and Value: What Is Quality, Overview of Healthcare QI, Common QI Frameworks in Healthcare, Working with QI Methodologies	
	Provider and Patient Profiling	**9 Hours**
	Research Provider Profiling Measuring and Benchmarking of Clinical Performance for Value-Based Payment Models: Tools for Conducting Profiling and Performance Assessment and Overview of software like Tableau; Risk Scores and Risk Stratification (e.g. LACE Index) Techniques, Ethical considerations in profiling; population health prediction	
	Developing and Leveraging Advanced Analytics in Healthcare	**06 Hours**
	Measures, Metrics, and Indicators Healthcare Analytics, Indicators to Guide Healthcare, Moving from Analytics Insight to Healthcare Improvement, Overview of Advanced Analytics, Applications of Advanced Analytics, Developing and Testing Advanced Analytics	
	Optimal Health Care Solutions & Growth of Mature Analytical Organization	**05 Hours**
	Variable Determinants of Health Factors that Influence Health Status: HIMSS Adoption Model for Analytics Maturity (AMAM), Methods of Measuring Analytics Capabilities, Operational Efficiency with Data-Driven Approaches; Emerging Trends AI and ML in healthcare (e.g., precision medicine, chatbot assistants)	
	Total Contact Time	**45 Hours**

3.	**Book Recommended**
1	El Morr, C., & Ali-Hassan, H. (2019). *Analytics in healthcare: A practical introduction*. Springer.
2	Strome, T. L. (2013). *Healthcare analytics for quality and performance improvement*. John Wiley & Sons.
3	Davenport, T. H., & McNeill, D. (2013). *Analytics in healthcare and the life sciences: Strategies, implementation methods, and best practices*. Pearson FT Press.
4	Sylvia, M. L., & Vigil, I. M. (2021). *Population health analytics*. Jones & Bartlett Learning.
5	Yang, H., & Lee, E. K. (2016). *Healthcare analytics: From data to knowledge to healthcare improvement*. John Wiley & Sons.

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MBA Semester – III (Elective) System Thinking and Business Dynamics MS 237	Scheme	L	T	P	Credit
		3	0	0	03

	Course Outcomes (COs): At the end of the course, students will be able to
CO1	Understand system dynamics modeling for the analysis of business policy and strategy.
CO2	Systematically explore new strategies and develop their understanding of complex systems.
CO3	Develop principles of policy design for successful management of complex strategies.
CO4	Learn to recognize and deal with situations where policy interventions are likely to be delayed, diluted or defeated by unanticipated reactions and side effects.
CO5	Apply systems thinking concepts to promote effective organizational learning and decision-making.

2.	Syllabus	
	Introduction to Systems Thinking and Dynamics	**12 Hours**
	Introduction of Systems Thinking: Basic Concepts and Principles , Historical Context and Development, Importance of Systems Thinking in Business; Introduction to System Dynamics Modelling: Building Causal Loop Diagrams, Stock and Flow Diagrams; Feedback Loops and Their Impact on Business Systems; Holistic Thinking vs. Reductionist Thinking, Systems Thinking in Business Processes	
	Dynamic Complexity in Business System Archetypes and Patterns	**12 Hours**
	Understanding Dynamic Complexity: Delay, Amplification and Dampening Effects – Non-Linear Relationships In Business Systems; Case Studies Illustrating Dynamic Complexity; Common System Archetypes, Limits to Growth, Shifting the Burden, Tragedy of the Commons, Identifying and Analysing Archetypal Patterns, Strategies for Breaking System Archetypes	
	Modelling and Simulation	**08 Hours**
	Introduction to Simulation Software overview of Popular Tools (e.g., Stella, Vensim, AnyLogic): Building Dynamic Models for Business Scenarios, Conducting Simulations and Scenario Analysis, Interpreting Simulation Results, what-if Scenarios, Sensitivity Analysis	
	Organizational Learning and Adaptation	**07 Hours**
	The Role of Organizational Learning in Dynamic Systems: Strategies for Fostering Learning Within Organizations, Principles of Learning Organizations (Senge's Five Disciplines); Adaptive Management and Decision Making; Continuous Improvement in Business Processes; Applications in Supply Chain Management: Marketing, Finance and other Business Functions	
	Advanced Topics in System Dynamics	**06 Hours**
	Instability and Oscillation; Deep Dive into Oscillatory Patterns in Business, Supply chain and the origin of oscillation, Strategies for Managing Instability, Applications of Systems Thinking in Business Dynamics; AI and Machine Learning in Systems Modeling	
	Total Contact Hours	**45 Hours**

3.	Book Recommended
1	Sterman, J. D. (2000). Business dynamics: Systems thinking and modeling for a complex world. McGraw-Hill Education.
2	Meadows, D. H. (2008). Thinking in systems: A primer. Chelsea Green Publishing.
3	Rutherford, A. (2019). The systems thinker: Essential thinking skills for solving problems, managing chaos. PublishDrive.
4	Boardman, J., & Sauser, B. (2008). Systems thinking: Coping with 21st-century problems. CRC Press.
5	Senge, P. M. (1990). The fifth discipline: The art & practice of the learning organization. Doubleday Business

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MBA Semester – III (Elective) **IT Project Management** **MS 239**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

	Course Outcomes (COs): **At the end of the course, students will be able to**
CO1	Understanding of the fundamentals of IT project management, including methodologies, tools, and the project life cycle.
CO2	Learn project scope, create work breakdown structures, estimate costs, allocate resources, and develop detailed project schedules using tools like Gantt charts, CPM, and PERT.
CO3	Acquire skills to assess, and mitigate project risks, and implement quality assurance frameworks to ensure successful project delivery.
CO4	To monitor project performance and ensure alignment with objectives, utilize advanced tools and techniques such as EVM, Scop, and conflict resolution.
CO5	Discusses quality frameworks like CMMI and Six Sigma and includes UAT and lessons learned to handle change requests effectively in IT projects. And Emerging Trends in IT Project Management.

2.	**Syllabus**	
	Foundations of IT Project Management	**06 Hours**
	Introduction to IT Project Management: Purpose and limitation of the project, Stakeholders, and organizational structure of the project. Organizational structures of project activities, IT Project Characteristics, Concept of Project life cycle, Requirement Life cycle ,Software Requirement Specification	
	Decision Making models	**08 Hours**
	Why MCDM? MCDM MODELS for IT Project Management, AHP, TOSIS, FUZZY AHP, FUZZY TOPSIS, etc	
	Project Planning and Scheduling and Process models	**16 Hours**
	Defining & Setting Project Goals and Clear Objectives; Work Breakdown Structure (WBS); Estimating, Time Management Techniques (CPM, PERT, Gantt Charts), Resource Planning and Allocation's modesl (waterfall , prototype, rad, spiral, agile, devops etc)	
	Software Cost estimation models & Project Execution and Monitoring	**08 Hours**
	Team Structure, Cost estimation modes; (Loc and functional point based models), use care point model, nordan and putnam work for team strength, Risk Management Analysis, Software Maturity index, Software Maintained cost, Software Release Policy management, Executing Project Plans: Team Collaboration and Resource Utilization (PBI, JIRA), Stakeholder Communication and Management, Monitoring Performance with KPIs, Tools for Monitoring: Earned Value Management (EVM), Managing Scope Changes and Change Requests, Resolving Team Conflicts	
	Quality Assurance and Post-Implementation Review	**07 Hours**
	Software Quality parameters, CMM, PCMM, CMMI, ISO 9126, Quality triangle, Quality Assurance Frameworks, Software test management, Emerging Trends in Project Management for Analytics	
	Total Contact Hours	**45 Hours**

3.	Book Recommended
1	Project Management Institute. (2021). A guide to the project management body of knowledge (PMBOK guide) (7th ed.). Project Management Institute.
2	Schwalbe, K. (2022). Information technology project management (10th ed.). Cengage Learning.
3	Layton, M. C. (2017). Agile project management for dummies (2nd ed.). For Dummies.
4	Goetsch, D. L., & Davis, S. (2016). Quality management for organizational excellence: Introduction to total quality (8th ed.). Pearson.
5	Schniederjans, M. J., Schniederjans, D. G., & Starkey, C. M. (2014). Business analytics principles, concepts, and applications: What, why, and how. Pearson FT Press.
6	Hughes, R. (2012). Agile data warehousing project management: Business intelligence systems using Scrum. Morgan Kaufmann.

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MBA Semester – III (Elective) **Effective Dashboard and Story Telling Management (Via Power BI & other Software)** **MS 241**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

	Course Outcomes (COs): **At the end of the course, students will be able to**
CO1	Learn the principles & concepts of Data visualization and data storytelling & basic framework.
CO2	Learn how to extract insights from data using advanced data analysis functions and techniques & data modeling.
CO3	Design and create intuitive and interactive dashboards using Power BI or other tools.
CO4	Develop skills to communicate complex data stories to stakeholders.
CO5	Develop dashboard visualizations for diverse purposes Apply data-driven decision-making to the world with the role of emerging technology.

2.	**Syllabus**	
	Foundations of Data Visualization and Storytelling	**05 Hours**
	Overview of data visualization and storytelling: Why they matter, Importance of data visualization in decision-making; Key principles of effective visualization: Simplicity, clarity, and relevance, Introduction to data storytelling framework (Power BI Basics, Tableau)	
	Data Preparation and Exploratory Data Analysis	**08 Hours**
	Intro to data preparation using (PBI, or other tools.), Data cleaning approach, Modeling your data in Power BI, Data Schemas and relationships, Types of Function and Commonly Used Functions for Creating calculations and measures in Power BI, Advanced data analysis techniques (e.g., regression, clustering)	
	Dashboard Design and Creation and Hosting Dashboard	**12 Hours**
	Dashboards vs Reports vs Apps; Designing intuitive and interactive dashboards and advanced functions, Creating visualizations and reports in Power BI, Best practices for dashboard layout and design; Advanced dashboard techniques (e.g., dynamic visuals, drill-down capabilities), Publish and export reports	
	Data Storytelling and Communication	**04 Hours**
	Principles of effective data storytelling, Creating narratives and presentations with data Communicating complex data insights to stakeholders; Best practices for data visualization and communication	
	Advanced Data Visualization and Dashboard Techniques Real-world Application with case-study	**16 Hours**
	Advanced data visualization techniques (e.g., DAX, M, Power Query): Creating dynamic and interactive dashboards; Integrating machine learning and AI into dashboards, Real-world examples of effective dashboard design and data storytelling, Geographic and spatial data visualization (e.g., maps and geospatial analysis), and Exploration of future trends in data visualization Discuss the role of emerging technologies (e.g., VR, AR) in data visualization. Case studies of successful dashboard implementations	
	Total Contact Hours	**45 Hours**

3.	**Book Recommended**
1	Knaflic, C. N. (2015). Storytelling with data: A data visualization guide for business professionals. Wiley.
2	Dykes, B. (2019). Effective data storytelling: How to drive change with data, narrative, and visuals. Wiley.
3	Duarte, N. (2019). Data story: Explain data and inspire action through story. Ideapress Publishing.
4	Cairo, A. (2016). The truthful art: Data, charts, and maps for communication. Peachpit Press.
5	Yau, N. (2013). Data points: Visualization that means something. Wiley.

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MBA Semester – IV **Advance Business Analytics (Analytics Core)** **MS 202**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Apply advanced predictive models for business problem-solving.
CO2	Develop forecasting expertise using ARIMA, Holt-Winters, and neural networks.
CO3	Utilize optimization techniques for data-driven decision-making.
CO4	Implement machine learning methods in business applications.
CO5	Analyze ethical, legal, and strategic aspects of business analytics.

2.	**Syllabus**	
	Advanced Business Analytics	**03 Hours**
	Advanced Business Analytics, How different from Business Analytics, Dimensionality Reduction (PCA, SVD)	
	Advanced Unsupervised Learning	**08 Hours**
	Unsupervised Learning: Association miming FP growth Tree, Relim Algorithm, Utility and measurement of Association mining, Clustering: Divisive clustering (DIANA), Fuzzy C means clustering, Hierarchal clustering measure, Graph based Clustering, Self-organization map, Validation of clustered , Recommendation system in detail	
	Advanced Forecasting and Time Series Analysis	**05 Hours**
	Auto-Regressive Integrated Moving Average (ARIMA) Models; Holt-Winters and Seasonal Forecasting Techniques; Markov Chains in Business Analytics	
	Advanced Supervised Learning	**10 Hours**
	Classification Models, Ensemble Methods, AdaBoost (Adaptive Boosting), Gradient Boosting, Neural Networks, Backpropagation, Activation Functions, Deep Neural Networks (DNNs), Support Vector Machine (SVM), Logistic Regression, Bayesian Belief network	
	GA+FUZZY +NATURE computing in business	**10 Hours**
	Genetic Algorithm: Theory of Evolution, Binary-Code GA, Fitness Function, Roulette Wheel Selection, Cross Over, Mutation, Exploration, Exploitation; Fuzzy Logic in Business: Crisp and Fuzzy Set, Fuzzy Rule Generation, Linguistic Variable, Fuzzification/ Defuzzification, Mamdani Fuzzy Inference, Sugeno Fuzzy Inference; Nature computing in business: Swarm Optimization, Particle Swarm Optimization (PSO), Ant Colony Optimization, Artificial Bee Colony Optimization	
	Generative AI and Decision making process, Explainable AI and Application of Business Analytics in Real worlds	**09 Hours**
	Bias and Fairness in AI & Machine Learning; Robotics Learning, Usages of Open AI for Mangers, Prompt management, Generative AI in Tourism, What is the XAI, STRUCTURE OF XAI, models in XAI, Usages of analytics and XAI in business world	
	Total Contact Time	**45 Hours**

3.	**Book Recommended**
1	Larose, D. T., & Larose, C. D. (2015). Data mining and predictive analytics. John Wiley & Sons.
2	Negnevitsky, M. (2019). Artificial intelligence: A guide to intelligent systems (3rd ed.). Pearson India.
3	Camm, J. D., Cochran, J. J., Fry, M. J., & Ohlmann, J. W. (2024). Business analytics with MindTap (4th ed.). Cengage Learning India Private Limited.
4	Larson, D. (2025). Modern business analytics: Increasing the value of your data with Python and R. O'Reilly Media.
5	Evans, J. R. (2021). Business analytics (3rd ed.). Pearson Education.
6	Prasad, R. N., & Acharya, S. (2016). Fundamentals of business analytics (2nd ed.). Wiley.

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MBA Semester – IV **Predictive Analytics (Analytics Core)** **MS 204**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Understand the process of formulating Data mining technology KDD Process CRISP and other tools.
CO2	Understand Data Preparation Exploratory data analysis, cleaning, predictive modeling techniques.
CO3	Learn appropriate predictive modeling approaches to identify cases for model development.
CO4	Learn fundamentals of customer experience and digital transformation.
CO5	Understand model evaluation and deployment concept with ethical implication.

2.	**Syllabus**	
	Introduction to Data Mining and Perspective analytics	**16 Hours**
	Introduction and Concepts of Data Mining: Technologies & Tools, Data Mining Process: KDD Process Model, CRISP-DM, Mining on various kinds of data (Text mining, Time-series mining, Image, and video mining), Applications of Data Mining, Challenges in Data Mining, Data Cleaning Process, Tender analytics (simulation), Team analysis, HR analysis, Price analysis, Optimization and its analysis	
	Foundations of Data Understanding and Preparation in Analytics	**10 Hours**
	Data Understanding and Predictions: Reading data from various sources, Extent of Missing information, Data Wrangling, Segmentation, Outlier Detection, Automated Data Preparation, Combining Data Files, EDA: Data visualization, Data analysis, Theme based analysis, Distributions, and Summary, Statistics Relationships among variables using Pandas, & R, Power BI, Automated and Advance EDA: (Aggregate Data, Duplicate Removal, Sampling Data, Data Caching, Partitioning data, Missing Values)	
	Model Development	**12 Hours**
	Forecasting Techniques: Moving Average, Exponential Smoothing (SES, DES, TES), Predictive Model Evaluation and Interpretation: Choosing the Right Model for a Business Problem, Evaluation Metrics: RMSE, MAPE, AUC-ROC, Lift, and Gain Charts, Bias-Variance Tradeoff & Overfitting, Interpreting Model Results for Business Decision-Making, Explainable AI (XAI) in Predictive Analytics, Predictive Analytics in Marketing and Customer Behavior: Customer Segmentation and Targeting Using Predictive Models, Customer Churn Prediction: Identifying At-Risk Customers, Predicting Customer Lifetime Value (CLV), Sentiment Analysis for Brand Positioning & Market Trends, Statistical Inference and Hypothesis Testing Parametric and non parametric tests (one sample, independent sample, paired sample and two and more then two samples)	
	Customer Experience and Deployment Concept	**07 Hours**
	Introduction to Customer Experience (CX) and Digital Transformation: Design Thinking for Digital Transformation, Personalization and Customization in Digital Strategies, model Evaluation deployment concepts, Putting models into Production, Ethical Considerations in Predictive Analytics, Model Evaluation Metrics & Deployment with practical approach, automated machine learning (AutoML), cloud-based predictive analytics (AWS, Google Cloud, Azure)	
	Total Contact Time	**45 Hours**

3.	Book Recommended
1	Kotu, V., & Deshpande, B. (2014). Predictive analytics and data mining: Concepts and practice with RapidMiner. Morgan Kaufmann.
2	Hastie, T., Tibshirani, R., & Friedman, J. (2009). The elements of statistical learning: Data mining, inference, and prediction (2nd ed.). Springer Verlag.
3	James, G., Witten, D., Hastie, T., & Tibshirani, R. (2021). An introduction to statistical learning: With applications in R (2nd ed.). Springer.
4	Siegel, E. (2016). Predictive analytics: The power to predict who will click, buy, lie, or die (2nd ed.). Wiley.
5	Burkov, A. (2020). Machine learning engineering. True Positive Inc.

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MBA Semester – IV **Managing Digital Transformation (Management Core)** **MS 206**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Gain a comprehensive understanding of digital transformation and its implications for organizations and industries.
CO2	Develop practical skills and knowledge in designing and implementing digital transformation strategies.
CO3	Enhance their ability to think critically and creatively in developing innovative digital solutions.
CO4	Improve their understanding of the importance of leadership, change management, and cybersecurity in digital transformation.
CO5	Develop strategies for managing digital risks and ensuring the security and integrity of digital assets.

2.	**Syllabus**	
	Introduction to Digital Transformation, Strategies, and Future Trends	**12 Hours**
	Definition and Scope of Digital Transformation: Historical Context and Evolution of Digital Transformation, The Impact of Digital Transformation on Organizations and Industries, Developing a Digital Transformation Strategy, Models and Frameworks for Digital Transformation, Emerging Trends in Digital Transformation: Sustainability, Green IT, and Digital Resilience	
	Leadership and Change Management in Digital Transformation	**12 Hours**
	Leadership Challenges in The Digital Era: Transformational Leadership and Characteristics in Digital Contexts, building a Digital-Ready Leadership Team Collaboration, Impact of Digital Transformation on Organizational Culture, Change Management Models: Kotter's 8-Step Model, ADKAR Model, Lewin's Change Management Framework for Digital Initiatives and Strategies Overcoming Resistance to Change	
	Technology Enablers for Digital Transformation and Cybersecurity	**14 Hours**
	Cloud Computing and Infrastructure: Cloud Types (IaaS, PaaS, SaaS), Big Data Analytics and tools with its Role in Decision-Making, Internet of Things (IoT) and its applications, Artificial Intelligence and Machine Learning in Digital Transformation, Fundamentals of Cybersecurity: Threats, Vulnerabilities, and Best Practices, Cybersecurity Considerations in Digital Transformation Managing Digital Risks: GDPR Compliance, Data Privacy and, Risk Mitigation Frameworks, Data Security, Compliance and Ethical Considerations	
	Customer-Centric Digital Transformation	**07 Hours**
	Customer Experience (CX): Core Concept in Digital Transformation, Tools for Measuring and Enhancing Customer Experience (CX Metrics and KPIs), Design Thinking (Ideation, Prototyping, and Implementation) for Digital Transformation, Personalization and Customization in Digital Strategies, Design Thinking and Agile Methodologies for Customer-Centric Innovations	
	Total Contact Time	**45 Hours**

3.	**Book Recommended**
1	Westerman, G., Bonnet, D., & McAfee, A. (2014). Leading digital: Turning technology into business transformation. Harvard Business Review Press.
2	Ross, J. W., Beath, C., & Mocker, M. (2020). Designed for digital: How to architect your business for sustained success. MIT Press.
3	Patrick, M., & Elena, P. (2017). Digital transformation in Norwegian enterprises. Springer International Publishing AG.
4	George, W. (2014). Leading digital: Turning technology into business transformation. Harvard Business.
5	Gerald, C. K. (2019). Digital transformation: Survive and thrive in an era of mass extinction. RosettaBooks.

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MBA Semester – IV Integrative Project and Dissertation MS-208	Scheme	L	T	P	Credit
		0	0	16	08

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MBA Semester – IV (Elective) **Strategies and Skills for Successful Negotiation** **MS 212**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Understand value claiming and value creation as two broad sources of value in negotiations and specific negotiation strategies that allow one to claim and create value.
CO2	Learn systematic approach to resolving conflict and disagreement, negotiating effectively as a team, and dealing with the prospect of being deceived while negotiating.
CO3	Able to build trustworthy and fruitful relationships with others both in their professional and personal life.
CO4	Influence people, create a workplace identity, and boost managerial or leadership career journeys.
CO5	Develop personal skills as negotiator and decision maker.

2.	**Syllabus**	
	Introduction	**10 Hours**
	Introduction to Negotiation, Types of Negotiation, Six style of Negotiation, Building the Foundation of Negotiation, Gaining Power and Influences, Bargaining Strategies, Impact of Emotions on Negotiation, The Negotiation Process	
	Fundamentals of Negotiation	**10 Hours**
	Distributive Bargaining, Myths, Essence, Tactics of Distributive Bargaining, Hardball tactics; Integrative Bargaining, Myths, Essence, Tactics of Integrative Negotiations, Types of Integrative Solution	
	Multiparty and Third Party Negotiation	**10 Hours**
	Multiparty Negotiation, Challenges, Audience Effects, Inter-Team Negotiation, Individual Differences, Personality, Emotional Intelligence, Alternative Dispute Resolution, Mediation-Arbitration, Managers as Third Party	
	International Negotiation and Complexity	**15 Hours**
	International Negotiation, International vs Domestic Negotiation, Legal and political Pluralism, Role of Foreign Government, Instability and Change, Cultural Influence on Negotiation, Dimensions of Culture, Culture and Negotiation Process	
	Total Contact Time	**45 Hours**

3.	**Book Recommended**
1	David S. H., (2011). Negotiation : Closing Deals, Settling Disputes and Making Team Decisions. SAGE Publications.
2	Tracy, B. (2018). The Brian Tracy Success Library. Manjul Publishing House.
3	Whetten, D. A., & Cameron, K. S. (2017). Developing Management Skills. Pearson House.

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MBA Semester – IV (Elective) **Strategic Planning and Human Resource Management** **MS 214**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Understand strategic HRM issues and its application.
CO2	Develop strategic thinking and ability to integrate HR activity with organizational goal.
CO3	Understand strategic approach to HR acquisition, recruitment and selection.
CO4	Apply the benefit of strategic compensation and IR.
CO5	Understand the complexity of global HRM and Labor Relations.

2.	**Syllabus**	
	An Introduction to Strategic HR Management	**12 Hours**
	The context of Strategic Management of Human Resource, An Investment Perspective of Human Resource Management, HR Metrics, Social Responsibility and Human Resource Management, Workforce Demographic changes and Diversity, Models of Strategy, Corporate Strategy, Business Unit Strategy, Strategic Workforce Planning	
	HR Planning and Designing Work System	**08 Hours**
	Strategic Role of Human Resource Planning, Micro and Macro Dimensions, Forecasting Demand & Supply of Human Resources, Types of Planning, Design and Redesign Work System, Mergers and Acquisition, HR Issues and Challenges related to Technology	
	Implementation Strategic Human Resource Management	**15 Hours**
	Staffing, International Assignments, New Trends in Staffing, Training and Development, Organizational Development, Integrating Training with Performance Management System and Compensation, Performance Management and Feedback, Addressing Shortcomings of PMS, Compensation, Legal Issues in Compensation	
	Labor Relations and Global Human Resource Management	**10 Hours**
	Labor Relations, The National Labor relations Act, Collective Bargaining, Unions Today, Employee Separation and Retention Management, Retaining Talents, Knowledge Management, Global Human Resource Management, Strategic HR Issues in Global Assignments, Repatriation	
	Total Contact Time	**45 Hours**

3.	**Book Recommended**
1	Greer, C. R. (2021). Strategic human resource management. Pearson Custom Publishing.
2	Mello, J. A. (2015). Strategic human resource management. Cengage Learning.
3	Baron, J. N., & Kreps, D. M. (1999). Strategic human resources: Frameworks for general managers. John Wiley & Sons.

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MBA Semester – IV (Elective) **Recruitment and Selection** **MS 216**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Understand the Fundamental Concepts of Recruitment and its significance in various sectors.
CO2	Understand the various stages of the selection process, including tests, group discussions, and interviews.
CO3	Analyze both Quantitative and Qualitative aspects of Manpower Inventory.
CO4	Explore outsourcing in the context of gains, problems, and issues.
CO5	Develop Job Analysis and Selection Procedure.

2.	**Syllabus**	
	Manpower Planning	**12 Hours**
	Manpower Planning, Concept, Benefits, Types of manpower planning; Predictive Workforce Monitoring, Methods and Techniques, Demand & Supply Forecasting methods, Issues of Shortage and Surplus, Succession Planning, Trends Shaping HR, HR and Gig Economy and Alternative Staffing, Recruiting Diverse Workforce, Developing and Using Application Forms, Use and Applicability of Statistical and Mathematical Models in Manpower Planning, Cohort Analysis, Census Analysis, Markov Model	
	Introduction to Recruitment	**10 Hours**
	Concepts, Factors Influencing Recruitment, Reservation Rules, Resettlement and Rehabilitation Rules, Policy and Programs in Public Sector, Private Sector, MNCs, Government Establishments, Educational Institutions, Health Care & Hospital, Process of Recruitment, Sources of Recruitment, Alternatives to Recruitment, The New Techniques: Web, Social Media, Mobile; Recruitment Issues in the Core Sector, Service Sector and IT Sector	
	Planning for Recruitment and Selection	**15 Hours**
	Tools, Methods and Techniques, Job Analysis, Job Description, Job Specification ; Skills Analysis/Skill Inventory, Performance Appraisal Manpower Plan Implementation Strategies, Recruitment, Redeployment, Downsizing Plan, Retention Plan, Training Plan, Career Plan, Succession Plan, Compensation Plan, Strategic Manpower Planning, Concepts, Objectives, SMP Process, Tools, Evaluation, Balanced Score Card, HR Dash Boards, HR Scorecard	
	Introduction to Selection	**08 Hours**
	Meaning, Use of Selection for Competitive Advantage, Selection Process tests, Types of Tests: Group Discussions, Interviews, Types of Interviews, Common Interview Problems, Assessment Centers, Gamification, Physical Fitness Tests; Hiring Decisions, Barriers to Effective Selection, Evaluation of Selection Process, Making Selection Effective, Outsourcing: Gains, Problems, Issues	
	Total Contact Time	**45 Hours**

3.	**Book Recommended**
1	Noe, R. A., & Deo, A. (2023). Employee training and development. McGraw-Hill.
2	Dessler, G. (2004). A framework for human resource management. Pearson Education India.
3	Aswathappa, K. (2009). Essentials of business environment. Karnataka: Himalaya Publishing House.

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MBA Semester – IV (Elective) Future Options & Risk Management MS 218	Scheme	L	T	P	Credit
		3	0	0	03

1.	Course Outcomes (COs): At the end of the course, students will be able to
CO1	Get a comprehensive understanding of Derivatives.
CO2	Learn the application of stock market basics in the Indian Derivative Market.
CO3	Understand the analytics of Derivative Valuation.
CO4	Apply the knowledge of derivatives in Risk Management Strategies.
CO5	Develop their trading strategies in the volatile market.

2.	Syllabus	
	Introduction to Derivatives	**06 Hours**
	Introduction to Financial Derivatives, Types of Derivatives: Forwards; Futures; Swaps, Types of Traders, Application of derivatives in Risk Management	
	Trading Mechanism and Clearing and Settlement	**09 Hours**
	Trading Mechanism, Eligibility criteria for selection of stocks for derivatives trading, Selection criteria of Index for trading, Adjustments for Corporate Actions, Trading costs, Algorithmic trading, Tracking Futures and Options data, Clearing Members, Clearing Mechanism, Settlement Mechanism, Risk Management, Position limits, Violations and Penalties	
	Forwards & Futures	**10 Hours**
	Forwards & Futures Market, Mechanics of Futures Market, Terminology Associated with Futures Contract, Payoff Charts for Future Contract, Hedging Strategies, Futures Pricing	
	Options	**10 Hours**
	Types of Options & their Characteristics, Specification of Stock Options, Properties of Stock Options, Merton Model, Binomial Trees, The Black Scholes Model, Risk Management Using Options	
	Swaps & Other Derivatives	**10 Hours**
	Characteristics of Swaps, Categories of Swaps: Mechanics of Interest Rate Swaps, Currency Swaps, Application, Valuation, Usage of Swaps in Risk Management, Other Derivatives: Credit Derivatives, Insurance Derivatives, Exotic Options, Derivatives Pitfalls, Current Trends in India	
	Total Contact Time	**45 Hours**

3.	Book Recommended
1	Hull, J., Treepongkaruna, S., Colwell, D., Heaney, R., & Pitt, D. (2013). Fundamentals of futures and options markets. Pearson Higher Education AU.
2	NISM-Series-VIII: Equity Derivatives Certification Examination.
3	Srivastava, R., & Misra, A. (2012). Financial Management. OUP Catalogue.
4	Kamiya, S., Kang, J. K., Kim, J., Milidonis, A., & Stulz, R. M. (2021). Risk management, firm reputation, and the impact of successful cyberattacks on target firms. Journal of Financial Economics.
5	Gupta, S. L. (2017). Financial Derivatives: Theory, concepts and problems. PHI Learning Pvt. Ltd.
6	Vohra, N., & Bagri, V. (2017). Futures and options (2nd ed.). McGraw-Hill Education.

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MBA Semester – IV (Elective) **International Finance** **MS 220**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Understand the Global Financial Environment.
CO2	Evaluate Parity Conditions and Balance of Payments.
CO3	Explore Foreign Exchange and Derivative Markets.
CO4	Manage Exchange Rate and Currency Exposure.
CO5	Apply Capital Market and Investment Strategies.

2.	**Syllabus**	
	International Financial Management Environment	**08 Hours**
	The Rise of Multinational Corporation, Globalization of Business and Finance; International Financial Management: theory and Practices, Setting the equilibrium spot exchange rate, Asset Market Model, The fundamental of central bank Intervention, The equilibrium approach to exchange rate; Disequilibrium theory and exchange rate overshooting; Alternative Exchange rate system; The international Monetary System; Emerging Market Currency Crisis	
	Overview of Parity Condition and Balance of Payment	**07 Hours**
	Arbitrage and the law of one price; Purchasing power parity; The fisher effect; The international Fisher effect; Interest rate Parity Theory; The relationship b/w forward rate and future spot rate; currency Forecasting; The balance of payment Categories; The International Flow of Goods, Services and Capital; Copping with the current account deficit	
	Foreign Exchange Market and Derivative Market	**07 Hours**
	Organization of Foreign Exchange Market; The Spot Market; The Forward Market; Future Contracts; Currency Options; Reading currency Future and options prices; Interest rate and Currency Swap; Interest rate forwards and Futures; Structured notes; Credit Default Swaps	
	International Market	**08 Hours**
	Alternative measures of Foreign Exchange Exposure; Alternative currency Translation method; Transaction Exposure, Designing a hedging strategy, Managing Translation Exposure, Managing Transaction Exposure; Foreign exchange risk & economic Exposure; The Economic Consequences of Exchange rate Changes; Identifying Economic exposure; Calculating Economic Exposure; An Operational measure of exchange risk; Managing Operating Exposure	
	International Capital Market & Portfolio Management	**05 Hours**
	Corporate Sources and uses of Funds; Development banks; Project Finance; The Euro Markets; The risk and benefits of International Equity investment; International Bond investment; Optimal International Asset Allocation; Measuring total return and exchange risk	
	International Capital Budgeting	**05 Hours**
	Basics of Capital Budgeting; Cost of Equity Capital; The WACC for foreign Projects; discounted rates for foreign Investments; The Cost of Debt Capital; Theory of Multinational Corporation; Designing global expansion strategy	
	Risk analysis and International Financial System	**05 Hours**
	Country Risk Analysis: economic and political factors, international lending; Political risk analysis; Growth options and Project evaluation; The value of international Financial System; Intercompany fund flow mechanism; Designing a global Remittance policy	
	Total Contact Time	**45 Hours**

3.	**Book Recommended**
1	Shapiro, A. C., & Hanouna, P. (2019). Multinational financial management. John Wiley & Sons.
2	Eiteman, D. K., Stonehill, A. I., & Moffett, M. H. (2007). Multinational business finance. Pearson Education India.
3	Buckley, A. (1996). The essence of international money. Financial Times/ Prentice Hall.
4	Apte, P. G. (1995). International financial management. Tata McGraw-Hill Publishing Company Limited.

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MBA Semester – IV (Elective) Fintech MS 222	Scheme	L	T	P	Credit
		3	0	0	03

1.	Course Outcomes (COs): At the end of the course, students will be able to
CO1	Understand the Fundamentals of Fintech and transformation banking.
CO2	Analyse Payment and Remittance Technologies.
CO3	Understand Crowdfunding and Wealth Tech Innovations.
CO4	Apply Data Analytics, AI, IoT and Block chain in Financial Services.
CO5	Evaluate Cybersecurity and Regulatory Technology (Reg Tech).

2.	Syllabus	
	Introduction to Fintech & Payment System	**12 Hours**
	Areas of Fintech, History of Fintech, Importance of Fintech; Global Fintech Investment: Fintech Hub, Fintech Unicorns; Effect of Fintech on banking, Banking as a Service & Open APIs; Neo Banks: Key Players in Neo Banks; Traditional methods of Payments and Remittances; Online Transfer; Size and trends of Remittance Market; Mobile money transfer; Cryptocurrency transactions; Peer-to-peer FX transactions; Real time Payments; Social Media based remittances; Nano Payments; Digital lending (discuss with major players examples): History, Peer-to-peer lending, Marketplace lending business model, Consumer lending, BNPL (Buy now pay later), Digital lending for student, Short term working capital solutions, Peer-to-business loan, invoice financing, Digital mortgages, marketplace lending, mortgage auction, Digital mortgage brokers	
	Fintech, Banking and Crowdfunding	**15 Hours**
	Regulation/Policy landscape; Impact of Fintech on banking business; Methods of transformation; Effect on customers' behaviours; Point-of-Sale Evolution; mPOS (Mobile Point of sale); mPOS business model; Online acquiring; Digital wallets; The future of E-wallets; T-commerce; Traditional stages of funding; Crowdfunding business Model; key Crowdfunding platforms; Crowd investing; Key Crowd investing Platforms; Security Token Offerings (STOs): A Regulated Alternative - Initial Exchange Offerings (IEOs): The Balanced Option, Regulation in Crowdfunding; Social Investing, Wealth tech Categories, Investment Ideas: Micro-Investing, Investing as a Game	
	Data Analytics and AI	**06 Hours**
	Applications of Data Analytics in Fintech; Enterprise software for data management; Data science in Financial Service Industry; AI: Use of AI in Financial services, Challenges for implementation of AI in Financial service industry, Risks Associated with AI Implementation in Financial Services	
	Internet of Things	**03 Hours**
	Growth drivers of IoT; Smartphone Growth penetration; Impact of IoT on business; Combining IoT and Block chain; IoT in Financial Services; Challenges for IoT	
	Blockchain and distributed ledgers & Insurtech	**05 Hours**
	Blockchain: The Components of Blockchain, Impact of Blockchain on Financial Services, Investment in Blockchain, uses of block chain in financial system, Blockchain Insurance; Insurance with Machine Learning and Generative AI; Distributed Ledgers	
	Cyber Security & RegTech	**04 Hours**
	Identification; Unique Identification System in India; FIDO; OpenID; The Cyber Security Sector: Types of Cybercrime, Cybersecurity Categories and Players, Regulation Technology (RegTech)	
	Total Contact Time	**45 Hours**

3.	**Book Recommended**
1	Agustin, R. (2024). *Fintech in a flash* (4th ed.). De Gruyter.
2	Chishti S. & Barberis J. (2016). The Fintech book. Wiley.
3	Blakstad S., Allen R., (2018). Fintech Revolution: universal inclusion in the new financial ecosystem. Palgrave Macmillan.
4	Sironi and Paolo, (2016). Fintech Innovation: from Robo-Advisors to goal based Investing and gamification. John Wiley & Sons Inc.

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MBA Semester – IV (Elective) Green Business Management MS 224	Scheme	L	T	P	Credit
		3	0	0	03

1.	Course Outcomes (COs): At the end of the course, students will be able to
CO1	Understand about Green Business.
CO2	Analyze the advantages, issues and opportunities of Green Business Management.
CO3	Provide knowledge over the strategies for building eco-business.
CO4	Examine and apply Green Techniques, including the use of green tax incentives and rebates.
CO5	Apply Green Product Management concepts within the framework of sustainable business practices.

2.	Syllabus	
	Introduction to Green Management	**08 Hours**
	The Concept of Green Management: Evolution, Nature, Scope, Importance and Types, Developing A Theory, Green Management in India, Relevance in Twenty First (21st) Century	
	Organizational Environment	**15 Hours**
	Indian Corporate Structure and Environment, How to go Green, Spreading the Concept in Organization, Environmental and Sustainability Issues for the Production of High-tech Components and Materials, Life Cycle Analysis of Materials, Sustainable Production and its Role in Corporate Environmental Responsibility (CER)	
	Approaches from Ecological Economics	**15 Hours**
	Indicators of Sustainability, Eco-system Services and their Sustainable Use, Bio Diversity, Indian Perspective, Alternate Theories, Green Techniques and Method, Green Tax Incentives and Rebates (to Green Projects and Companies), Green Project Management in Action, Business Redesign, Eco-commerce Models	
	Environmental Reporting and ISO 14001	**07 Hours**
	Climate Change Business and ISO 14064, Green Financing, Financial Initiative by UNEP, Green Energy Management, Green Product Management	
	Total Contact Time	**45 Hours**

3.	Book Recommended
1	Ziegler, A., & Nogareda S. J., (2006). Green management and green technology-exploring the causal relationship. ZEW-Centre for European Economic Research Discussion Paper.
2	Mohan, G. K., & Pradesh, K. A. (2019). Mandatory Disclosure as per Annexure 10 of the AICTE Approval Process Handbook.
3	Winston, A. (2014). The big pivot: Radically practical strategies for a hotter, scarcer, and more open world. Harvard Business Review Press.

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MBA Semester – IV (Elective) **Quality Management and Six Sigma** **MS 226**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Understand various aspects of Total Quality Management.
CO2	Analyze several tools and techniques to enhance the productivity.
CO3	Develop the ability to understand, apply, and evaluate Total Quality Management (TQM) systems and their integration into the culture of an organization.
CO4	Evaluate the importance of six sigma in achieving business excellence.
CO5	Apply the role of human resources in maintaining quality standards.

2.	**Syllabus**	
	Introduction to Quality Management	**08 Hours**
	Concepts of Quality and Principles, Dimensions of Quality, The Deming Philosophy, Quality Management System, Quality Planning, Benefits of TQM, Customer Perception of Quality	
	Concepts of Improvement	**08 Hours**
	Benchmarking, Quality Audits, Quality Circles, Quality Costs, Supplier Evaluation, Continuous Process Improvements, Innovation Management, 5S Concepts	
	Process Capability	**12 Hours**
	Six Sigma Concepts: New Seven tools of Quality, Business Process Reengineering, Quality Function Deployment, Failure Mode and Effect Analysis	
	Business Excellence	**07 Hours**
	Business Excellence (EFQM, Deming, Malcolm Baldrige Awards), Indian Quality Awards and Case Studies	
	Total Quality Management in HRM	**10 Hours**
	Employee Involvement: Motivation, Teams, Quality Circles, Organizational Culture, Building and Sustaining Total Quality Organizations, Introductory Aspects of ISO 9000 Series Standards and ISO 14000	
	Total Contact Time	**45 Hours**

3.	**Book Recommended**
1	Besterfield, D. H., Besterfield-Michna, C., Besterfield-Sacre, M., Besterfield, G. H., & Urdhwareshe, H. (2018). Total quality management (5th ed.). Pearson Education India.
2	Ramasamy, S. (2017). Total quality management. McGraw-Hill Education.
3	Charantimath, P. M. (2017). Total quality management (3rd ed.). Pearson Education India.
4	Janakiraman, B., & Gopal, R. K. (2006). Total quality management: Text and cases. PHI Learning Pvt. Ltd

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MBA Semester – IV (Elective) **Operations Strategy** **MS 228**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Gain understanding of Operations Strategy of a real business system in terms of the achieved alignment between the external and internal environments and integrate key principles to recommend improvements.
CO2	Assess and evaluate strategic use of operations as an integrated system of interrelated functions and decisions rather than as a set of isolated transformation activities.
CO3	Analyze the necessity for a close fit between operations and corporate level strategies, and recommend ways to help achieve synergies between them.
CO4	Design strategy for optimum allocation and efficient utilization of labor, materials, equipment and technology at strategic and tactical levels in the organization.
CO5	Develop skills for implementation and control of the operations strategy over time, focusing on managing the associated risks without sacrificing the need for innovation and change.

2.	**Syllabus**	
	Concept and Framework of Operations Strategy	**05 Hours**
	Role and Objectives of Operations Strategy, Operations Strategy Framework, Incorporating Operations Strategy in the Corporate Strategy, Operations Performance Essentials, Competition, Competencies & Operations, Defining Operations Strategy in Overall Environment and Process of Operations Strategy Formulation	
	Resource View of Operations Strategy	**10 Hours**
	Concepts and Principles of Developing Operations Strategy, Methodology of Developing Operations Strategy, Capacity Strategy: Capacity Types, Flexibility & Consolidation, Capacity Timing & Expansion, Capacity Sizing & Investment, Facility Strategy & Globalization, Infrastructure Development, Supply Network Strategy, Capacity Location, Global Network & Off-shoring, Strategic Sourcing, Coordinating the Supply Chain	
	Process View of Operations Strategy	**10 Hours**
	Process Technology Strategy, Effect of Technology Advancement and Technology Management, Integration of Operations Strategy Planning and Technology Planning, Production Implications of Corporate Marketing Decisions, Strategy Development and Practices, Improvement & Innovation, New Product & New Service Development, Product Variety Impact in Operations Strategy, Operations Strategy Process, Sustainable Alignment	
	Competency View of Operations Strategy	**10 Hours**
	Implementation of Operations Strategy, Business Implication of Process Choice: Dynamics of Process-Product Life Cycles, Product Profiling, Improving Operations Process by Process Positioning, Cross-Cutting Capability, Operations Strategy Process: Implementation, Pre-requisites of Organized and Focused Operations Strategy & Unit, Principles and Concepts of Factory, Involvement of Human Aspects	
	Redefining Operations Strategy	**10 Hours**
	Operations Redefining & Restructuring, Demand and Revenue Management, Operations Strategy Process Substitutes: BPR, TQM, Lean, Six Sigma: Business Process Focused Strategies & Organization Development, Quality Planning and Controlling System, Improving Response Time with IT, Operations Audit Approach, Risk Management & Hedging: Accounting & Financial Perspectives and Operations System, Business Continuity Planning, Disaster Recovery Strategy	
	Total Contact Time	**45 Hours**

3.	Book Recommended
1	Nigel S., Lewis M. and Sharma M G., (2018). Operations Strategy, Pearson Education, Fifth edition
2	Hill T., Hill A., (2017). Operations Strategy: Design, Implementation and Delivery, Bloomsbury Publishing
3	Mieghem J. A. V, Allon G., (2015). Operations Strategy: Principles and Practice, Dynamic Ideas LLC, 2nd Edition
4	Gong Y., (2013). Global Operations Strategy: Fundamentals and Practice, Springer Berlin Heidelberg, 1st Edition

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MBA Semester – IV (Elective) Sales and Distribution Management MS 230	Scheme	L	T	P	Credit
		3	0	0	03

1.	Course Outcomes (COs): At the end of the course, students will be able to
CO1	Explore the fundamentals of sales management & effective salesmanship.
CO2	Organize how sales teams are managed for effective sales result.
CO3	Develop a comprehensive understanding of distribution channels to design an effective network.
CO4	Gain insights of logistics, transportation, & technology for global distribution.
CO5	Smoothly manage sales resources effectively for both (domestic & international) markets.

2.	Syllabus	
	Sales Management, Personal Selling, and Salesmanship	**08 Hours**
	Introduction of Sales Management, Evolution of the Sales Department, Sales Executive as Coordinator, Theories of Selling, SPIN Selling, Personal Selling Process (Prospecting), Objectives of Personal Selling (Sales Forecasting Method), Sales-related Marketing Policies, Formulating Personal-Selling Strategy	
	Organizing Sales Effort	**06 Hours**
	Nature of Sales Management positions, Functions of Sales Executive, Qualities of effective of Sales Executive, Purpose of Sales Organization, Setting up a Sales Organization, Types of Sales Organization Structures, Sales Department Relations	
	Managing Sales Force & Controlling Sales Effort	**12 Hours**
	Sales Job Analysis, Recruitment & Selection Process (Briefly, specific to Sales Jobs), Sales Training: Need & Types, Sales Force Compensation Structure & Motivation Tools, Sales Force Evaluation and Supervision: Sales Expenses, Sales Performance Evaluation, Sales Meetings and Sales Contests, Sales Reports, Sales Budgets, Sales Audits, Sales Territories & Quotas, Sales Control and Cost Analysis	
	Distribution Management	**12 Hours**
	Introduction of Distribution Management, Functions of Channel Partners, Designing Marketing Channels, Selecting Channel Partners, Objective and Methods of Manufacturer-Channel Partners' Cooperation, Developing Managerial Efficiency in Distributive Organizations, Channel Intensity, Classification of Distribution Channels: Types of Channel Intermediaries, Designing Distribution Channel Strategy, Factors Affecting the Design of Marketing Channels, Factors Affecting Selection of Channel Partners	
	Market Logistics and Supply Chain Management	**07 Hours**
	Definition & Scope of Logistics, Elements of Logistics, Inventory & Warehouse Management, Transportation, Technology in Logistics and SCM, Channel Information Systems, Managing the Channel Partners, Distribution Management in International Markets (Mode of Entry)	
	Total Contact Time	**45 Hours**

3.	Book Recommended
1	Still, R. R., Cundiff, E. W., Govoni, A. P., & Puri, S. (2017). Sales management: Decision strategy and cases (6th ed.). Pearson Education India.
2	Jobber, D., & Lancaster, G. (2015). Selling and sales management (10th ed.). Pearson Education.
3	Shah, J. (2016). Supply chain management: Text and cases (2nd ed.). Pearson.
4	Tanner, J., Honeycutt, E. D., & Erffmeyer, R. C. (2014). Sales management (1st ed.). Pearson.

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MBA Semester – IV (Elective) **Digital Marketing** **MS 232**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Understand the basic Concepts of Digital marketing and the road map for successful Digital marketing strategies.
CO2	Develop foundational understanding of digital marketing strategies and their alignment with business objectives.
CO3	Develop an understanding of SEM strategies, including paid search advertising and organic search optimization.
CO4	Explore the different forms of online advertising, including display ads, video ads, and native advertising.
CO5	Apply techniques for optimizing content for social media, blog and multi-media marketing and suggest analytics to measure the effectiveness of digital and social media.

2.	**Syllabus**	
	Introduction to Digital marketing	**10 Hours**
	Evolution, Drivers of the New Marketing Environment, Digital Landscape, Current trends of Digital Marketing, Digital Marketing Strategy, Digital Marketing Buying Models, Digital Marketing Channels: types and business models (Overview)	
	Understanding Digital Marketing	**12 Hours**
	Introduction to SEM, SEA, SEO & SMO: Concept, Working of SERP, SEO strategy – on page and off page, Website Marketing: Website Design and review, Website Indexing on Search Engine, Website Optimization for social media, Website analytics, Search Engine Advertising: Concept, Ad placement, Ad ranks, Creating Ad Campaigns, Display Marketing: Types of display Ads, Programmable digital marketing, Display Ad analytics	
	Social Media Marketing	**15 Hours**
	YouTube Marketing: Search engine, channels, Ads, YouTube video optimization for SEO, YouTube analytics, Social Media Marketing: Concept, Social Media Marketing Strategies, Facebook Marketing, LinkedIn Marketing, Instagram Marketing, Twitter (X) Marketing, Mobile marketing and Email Marketing, Social Media Marketing Analytics	
	Online Tools for Marketing	**08 Hours**
	Engagement Marketing through Content Management: Engagement marketing, Social Plugins and their Contribution to Marketing, Online shopping in the era of Social Networking, Online Campaign Management: Corporate Blogs, CRM 2.0 tool, Consumer Segmentation using Consumer Sentiment Score, Consumer STP using Online Tools, Overview of Market influence Analytics in Digital Ecosystem	
	Total Contact Time	**45 Hours**

3.	**Book Recommended**
1	Ahuja V. (2015). Digital Marketing, Oxford University Press.
2	Kotler P., Kartajaya H., Satiawan I., (2017). Marketing 4.0: Moving from Traditional to Digital. Wiley Publication.
3	Gupta, S. (2023). Digital marketing (3rd ed.). Pearson.
4	Dodson, I. (2016). The art of digital marketing: The definitive guide to creating strategic, targeted, and measurable online campaigns (1st ed.). Wiley.

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MBA Semester – IV (Elective) **AI in Management** **MS 234**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Demonstrate foundational knowledge of AI concepts, terminology, and ethical considerations in the context of management.
CO2	Assess AI technologies and their applications across functional management areas.
CO3	Evaluate the role of AI-driven tools, such as decision support systems, predictive analytics, process optimization, and operational efficiency.
CO4	Analyze research trends and propose innovative, ethical AI applications in management.
CO5	Integrate AI technologies into management practices, aligning with organizational goals and addressing challenges.

2.	**Syllabus**	
	Introduction to AI in Management and Machine Learning	**09 Hours**
	Definition and Evolution of AI, Key Concepts and Terminology, Overview of AI Technologies in Management, Ethical Considerations in AI Adoption, Understanding Machine Learning Algorithms: Supervised, Unsupervised Learning, and Reinforcement Learning; Feature Engineering and Model Evaluation, Practical Applications of Machine Learning in Management	
	AI in Marketing and Customer Experience	**09 Hours**
	AI for Customer Segmentation and Personalization, Marketing Campaign Optimization with AI, Predictive Analytics for Sales Forecasting, Chatbots and Virtual Assistants for Customer Engagement, Sentiment Analysis and Social Media Insights, Case Studies: AI Transformations in Marketing	
	AI in Operations and Supply Chain Management	**09 Hours**
	Intelligent Automation and Robotic Process Automation, AI for Supply Chain Optimization and Logistics, Predictive Maintenance and Reliability-Centered Maintenance, Process Automation and Workflow Optimization, AI Applications in Inventory Management, Case Studies: AI in Operations and Logistics	
	AI in Finance and Strategic Management	**09 Hours**
	AI in Fraud Detection and Risk Management, Automated Financial Reporting and Analysis, Portfolio Optimization with AI, AI in Strategic Planning and Execution, Competitive Intelligence through AI, AI-driven innovation and Business Disruption, Responsible AI: Ethical Considerations in Strategic Decision-Making	
	AI in Human Resources Management and Future Trends	**09 Hours**
	AI in Talent Acquisition and Recruitment, Employee Engagement and Performance Monitoring, AI-Driven HR Analytics, Ethical Considerations in AI-Based HR Practices, Current Research and Developments in AI, Societal Impact of AI in Management, Responsible AI Adoption in Organizations	
	Total Contact Time	**45 Hours**

3.	**Book Recommended**
1	Titov, K. (2024). Introduction to Artificial Intelligence: Understanding the Basics: A Comprehensive Guide to Artificial Intelligence. Konstantin Titov.
2	Pradeep, A. K., Appel, A., & Sthanunathan, S. (2018). AI for marketing and product innovation: Powerful new tools for predicting trends, connecting with customers, and closing sales. John Wiley & Sons.
3	Davenport, T. H. (2018). The AI Advantage: How to put the artificial intelligence revolution to work. MIT Press.
4	Eubanks, B. (2022). Artificial intelligence for HR: Use AI to support and develop a successful workforce. Kogan Page Publishers.
5	Marr, B. (2019). Artificial intelligence in practice: how 50 successful companies used AI and machine learning to solve problems, John Wiley & Sons

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Department of Management Studies

MBA Semester – IV (Elective) **Open AI: Innovation Management** **MS 236**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Explain the role of Open AI in driving innovation within organizations.
CO2	Design and manage AI-driven innovation strategies and projects.
CO3	Assess risks and ethical implications of AI in innovation management.
CO4	Apply AI tools to optimize innovation lifecycles and improve organizational outcomes.
CO5	Analyze regulatory and economic factors influencing AI-based innovation.

2.	**Syllabus**	
	Fundamentals of Open AI and Innovation Management	**08 Hours**
	Overview of Open AI: Definition, scope, and applications in innovation; Introduction to Innovation Management: Definition, objectives, and importance; AI-Driven Innovation: Use of AI in enhancing creativity and problem-solving; Types of Innovations: Product, process, business model, and disruptive innovation; Life Cycle of Innovation: Stages from idea generation to commercialization; Introduction to AI-powered tools for innovation management	
	Organizational Structures for AI-Driven Innovation	**08 Hours**
	Types of Organizational Structures for Innovation: Centralized, decentralized, and hybrid models; AI in Organizational Decision-Making: Tools for predictive and prescriptive analytics; Open Innovation and the Role of AI: Crowdsourcing, collaboration platforms, and ecosystems; Triple-Helix Model: Government, academia, and industry collaboration in the AI era; Managing R&D with AI: Research areas, classification, and AI-assisted decision-making; Building Agile Teams for Innovation: Organizational strategies in digital transformation	
	AI in Strategic Innovation and Digital Transformation	**09 Hours**
	Strategic AI Applications: Forecasting trends and scenario analysis; Digital Transformation Frameworks; AI-driven innovation Strategies: Creating competitive advantages using AI; AI in Innovation Policy Formulation: Methods for policy development and implementation; Real-Time Data Analysis and AI Integration in Business Strategy	
	Project Management and Risk Assessment for AI-Driven Innovation	**10 Hours**
	Innovation Project Lifecycle: Planning, execution, and evaluation; AI-Powered Project Management Tools: Automation, tracking, and reporting; Risk Identification and Classification; Techniques to Mitigate Innovation Risks; Patent Research and Legal Considerations: AI in IP and patent analysis; AI-Driven Portfolio Management; Ethical Risks in AI-Driven Innovation	
	Regulatory, Ethical, and Future Trends in AI-Driven Innovation	**10 Hours**
	Regulatory Frameworks for AI-driven Innovation: Regional and Global Perspectives; Ethical Challenges in AI Innovation: Transparency, bias, and Societal Impacts; Pricing of AI-driven Innovations: Factors Influencing Costs and Economic Value Analysis; Economic Efficiency of AI in Innovation Management: Evaluating ROI and long-term benefits; Future Trends in AI-Driven Innovation: Generative AI, quantum computing, and automation; Case Studies: Successful and failed AI-driven innovation projects	
	Total Contact Time	**45 Hours**

3.	**Book Recommended**
1	Lewrick, M., & Hatamleh, O. (2024). AI & innovation: How to transform your business and outpace the competition with generative AI. Paperback.
2	Dubey S S., (2020). Technology and Innovation Management, PHI Learning Pvt. Ltd., 2nd Edition.
3	Trott, P. (2020). Innovation management and new product development (7th ed.). Pearson.
4	Turner, J. (2018). Robot rules: Regulating artificial intelligence. Springer.
5	Alareeni, B., & Elgedawy, I. (Eds.). (2023). AI and Business, and Innovation Research: Understanding the Potential and Risks of AI for Modern Enterprises. Springer Nature.

S. V. National Institute of Technology, Surat

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MBA Semester – IV (Elective) **IT Consultancy Management** **MS 238**	**Scheme**	**L**	**T**	**P**	**Credit**
		3	**0**	**0**	**03**

1.	**Course Outcomes (COs):** **At the end of the course, students will be able to**
CO1	Explain the lifecycle, roles, and challenges of IT consultancy.
CO2	Apply consulting frameworks and methodologies to client engagement.
CO3	Propose IT solutions for digital transformation and business process optimization.
CO4	Execute IT consultancy projects with effective project management strategies.
CO5	Analyse emerging trends and propose sustainable, ethical practices in IT consulting.

2.	**Syllabus**	
	Introduction to IT Consultancy and Consulting Frameworks	**09 Hours**
	Overview of IT consultancy; Roles and responsibilities of consultants; IT consulting lifecycle: engagement process, methodologies, and deliverables; Key competencies for consultants: communication, problem-solving, and technical expertise; Challenges in consultancy: ethical dilemmas, time constraints, and conflict management; Consulting methodologies: Agile, Lean, Waterfall, ITIL; Frameworks for IT consulting: COBIT, TOGAF, DevOps integration	
	Client Engagement and Relationship Management	**09 Hours**
	Understanding client needs: techniques for requirement gathering; Building client relationships: trust, credibility, and transparency; Proposal development: writing effective proposals and business cases; Contract and SLA management: understanding contracts, service-level agreements, and compliance; Conflict resolution: managing disagreements and difficult clients; Stakeholder management: identifying key stakeholders and managing expectations; Business process analysis: identifying gaps and proposing solutions	
	IT Consultancy in Digital Transformation	**09 Hours**
	Role of IT consultants in digital transformation; Technology trends in IT consulting: cloud computing, AI, IoT, cybersecurity; Digital process automation: RPA and workflow optimization; Consulting for data-driven decision-making: big data, analytics, and visualization tools; Innovation and disruption through IT consulting	
	Project Management for IT Consultants	**09 Hours**
	Project planning and execution: tools and techniques for effective management; Risk management in IT projects: identifying and mitigating risks; Budgeting and resource allocation: optimizing resources for success; Quality assurance in IT consulting: delivering high-quality outcomes; Agile project management: Scrum, Kanban, and hybrid approaches; IT strategy development for projects	
	Emerging Trends and Future of IT Consultancy	**09 Hours**
	AI-driven tools for consulting; Green IT and sustainable practices: role of consultants in sustainable strategies; Freelance and independent consulting: building personal brands and networks; Ethical considerations: data privacy, cybersecurity, governance; Future of IT consultancy: evolving services and client demands; Societal impact of IT consultancy	
	Total Contact Time	**45 Hours**

3.	**Book Recommended**
1	Williams, C. (2019). Management consultancy for innovation (1st ed.). Routledge
2	Highsmith, J. (2009). Agile project management: creating innovative products. Pearson education
3	Kubr, M. (2002). Management consulting: A guide to the profession. International Labour Organization
4	Sadler, P. (2001). Management consultancy: A handbook for best practice. Kogan Page Publishers
5	Royce, T. (2025). Mastering IT project management: Strategies for success in a digital world. Publisher