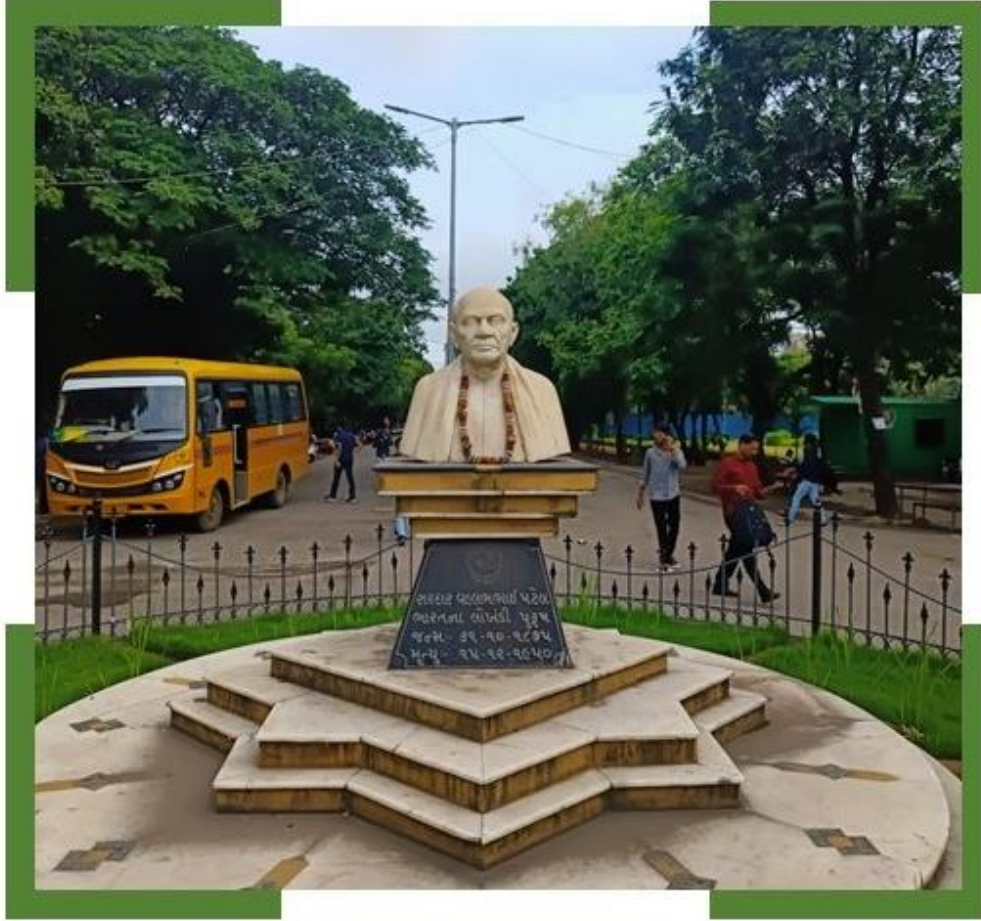


# DEPARTMENT OF MANAGEMENT STUDIES

## 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):

<b>PEO1</b>	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.
<b>PEO2</b>	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.
<b>PEO3</b>	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.
<b>PEO4</b>	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):

<b>PSO1</b>	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.
<b>PSO2</b>	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.
<b>PSO3</b>	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.
<b>PSO4</b>	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):

<b>PO1</b>	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.
<b>PO2</b>	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.
<b>PO3</b>	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.
<b>PO4</b>	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.
<b>PO5</b>	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.
<b>PO6</b>	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.
<b>PO7</b>	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
<b>Core Courses</b>	18	18	13	09	<b>58</b>
<b>Electives Courses</b>	-	-	06	06	<b>12</b>
<b>Software/Laboratory</b>	03	04	-	-	<b>07</b>
<b>Capstone Project</b>	-	-	02	-	<b>02</b>
<b>Dissertation</b>	-	-	-	08	<b>08</b>

# Course Structure for MBA Programme (Business Analytics)

## SEMESTER I

Sr. No.	Course	Code	Scheme	Examination Scheme				Total	Credit
				Theory		Tutorial	Practical		
				Hour	Marks	Marks	Marks		
1	Business Statistics (Analytics Core)	MB XXX	3-1-0	3	100	25	-	125	04
2	Management Accounting (Management Core)	MB XXX	3-1-0	3	100	25	-	125	04
3	Organizational Behaviour and Principles of Management (Management Core)	MB XXX	3-0-0	3	100	-	-	100	03
4	Managerial Economics (Management Core)	MB XXX	3-0-0	3	100	-	-	100	03
5	Analytics in Operations Management (Analytics Core)	MB XXX	3-1-0	3	100	25	-	125	04
6	Business Computing and Prescriptive Analytics (Analytics Core)	MBXXX	3-0-0	03	100	-	-	100	03
<b>Total</b>				<b>18</b>	<b>600</b>	<b>75</b>	<b>-</b>	<b>675</b>	<b>21</b>
<b>Total Credit</b>									<b>21</b>

## SEMESTER II

Sr. No.	Course	Code	Scheme	Examination Scheme				Total	Credit
				Theory		Tutorial	Practical		
				Hour	Marks	Marks	Marks		
1	Financial Management (Management Core)	MBXXX	3-1-0	03	100	25	-	125	04
2	Marketing Management (Management Core)	MBXXX	3-0-0	03	100	-	-	100	03
3	Human Resource Management (Management Core)	MBXXX	3-0-0	03	100	-	-	100	03
4	Research Methodology (Analytics Core)	MB XXX	3-1-0	03	100	25	-	125	04
5	Descriptive Analytics, Data Visualization and Analytics (Analytics Core)	MBXXX	3-1-0	03	100	25	-	125	04
6	Data Base and Mining for Managers	MBXXX	3-1-0	03	100	25	-	125	04
7.	Business Communication Skills**	MBXXX	2-0-0	02	00			00	00
<b>TOTAL</b>				<b>20</b>	<b>600</b>	<b>100</b>	<b>-</b>	<b>700</b>	<b>22</b>
<b>Total Credit</b>									<b>22</b>
<b>** Pass/fail</b>									

### SEMESTER III

Sr. No.	Course	Code	Scheme	Examination Scheme				Total	Credit
				Theory		Tutorial	Practical		
				Hour	Marks	Marks	Marks		
1	Business Analytics (Analytics Core)	MB XXX	3-0-0	3	100	-	-	100	03
2	Marketing Analytics (Analytics Core)	MB XXX	3-0-0	3	100	-	-	100	03
3	Financial Analytics (Analytics Core)	MB XXX	3-0-0	3	100	-	-	100	03
4	Econometrics (Management Core)	MBXXX	3-1-0	03	100	25	-	125	04
5	Elective-1*	MB XXX	3-0-0	3	100	-	-	100	03
6	Elective-2*	MB XXX	3-0-0	3	100	-	-	100	03
7	Capstone Project (Management Core)	MB XXX	0-0-4	-	-	-	50	50	02
<b>Total</b>				<b>18</b>	<b>600</b>	<b>25</b>	<b>50</b>	<b>675</b>	<b>21</b>
<b>Total Credit</b>									<b>21</b>
* Student can opt any two elective subjects from the subject mentioned at below.									

#### List of Electives

Semester III	Subject
HR	Legal Aspects of Business
	Performance and Compensation Management
	HR Analytics
Finance	Investment Analysis & Portfolio Management
	Quantitative Applications in Finance
	Financial Modelling
Operations & Supply Chain	Service Operation Management
	Supply Chain Analytics
	Gamification
Marketing & Strategy	Consumer Behaviour
	Advertising and Sales Promotion Management
	Advanced Marketing Research (AMR)
IT & Digital Transformation	Health Care Analytics
	System Thinking and Business Dynamics
	IT Project Management
	Effective Dashboard and Story Telling Management (via Power BI and other software)

## SEMESTER IV

Sr. No.	Course	Code	Scheme	Examination Scheme				Total	Credit
				Theory		Tutorial	Practical		
				Hour	Marks	Marks	Marks		
1	Advanced Business Analytics (Analytics Core)	MBXXX	3-0-0	03	100	-	-	100	03
2	Predictive Analytics (Analytics Core)	MBXXX	3-0-0	03	100	-	-	100	03
3	Managing Digital Transformation (Management Core)	MBXXX	3-0-0	03	100	-	-	100	03
4	Integrative Project and Dissertation	MBXXX	0-0-16	16	-	-	200	200	08
5	Elective 3*	MBXXX	3-0-0	03	100	-	-	100	03
6	Elective 4*	MBXXX	3-0-0	03	100	-	-	100	03
<b>Total</b>				<b>27</b>	<b>500</b>	<b>-</b>	<b>150</b>	<b>650</b>	<b>23</b>
<b>Total Credit</b>									<b>23</b>

\* Student can opt any two elective subjects from the subject mentioned below.

### List of Electives

Semester IV	Subject
HR	Strategies and Skills for Successful Negotiation
	Strategic Planning and Human Resource Management
	Recruitment and Selection
Finance	Futures Options & Risk Management
	International Finance
	Fintech
Operations & Supply Chain	Green Business Management
	Quality Management and Six Sigma
	Operations Strategy
Marketing & Strategy	Sales and Distribution Management
	Digital Marketing
IT & Digital Transformation	AI in Management
	Open AI: Innovation Management
	IT consultancy management

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



**S. V. National Institute of Technology, Surat**

**Department of Management Studies**

<b>MBA Semester - I Business Statistics MG-XXX</b>	<b>Scheme</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Credit</b>
		<b>3</b>	<b>1</b>	<b>0</b>	<b>04</b>

<b>1.</b>	<b>Course Outcomes (Cos): At the end of the course, students will be able to</b>
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

<b>2.</b>	<b>Syllabus</b>	
	<b>Inferential and Descriptive statistics</b>	<b>08 Hours</b>
	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.	
	<b>Probability Theory</b>	<b>09 Hours</b>
	Classical, Objective & Subjective Approach - Probability Rules - Probability under conditions of Statistical independence and dependence - Bayes Theorem - Probability Distributions - Binomial, Poisson and Normal distribution.	
	<b>Sampling Distribution</b>	<b>09 Hours</b>
	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.	
	<b>Hypotheses Testing</b>	<b>10 Hours</b>
	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.	
	<b>Non-Parametric Methods</b>	<b>09 Hours</b>
	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.	
	<b>Tutorial</b>	<b>15 Hours</b>
	<b>Total Contact Time</b>	<b>60 Hours</b>

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

<b>3.</b>	<b>Book Recommended</b>
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

<b>MBA Semester - I Management Accounting MG-XXX</b>	<b>Scheme</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Credit</b>
		<b>3</b>	<b>1</b>	<b>0</b>	<b>04</b>

<b>1.</b>	<b>Course Outcomes (Cos):</b> <b>At the end of the course, students will be able to</b>
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

<b>2.</b>	<b>Syllabus</b>	
	<b>Introduction</b>	<b>10 Hours</b>
	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.	
	<b>Basic understanding of Management Accounting</b>	<b>10 Hours</b>
	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).	
	<b>Cost Accounting</b>	<b>08 Hours</b>
	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).	
	<b>Financial Statement Analysis and Inventory valuation</b>	<b>06 Hours</b>
	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).	
	<b>Responsibility Accounting</b>	<b>11 Hours</b>
	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.	
	<b>Tutorial</b>	<b>15 Hours</b>
	<b>Total Contact Time</b>	<b>60 Hours</b>

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

<b>3.</b>	<b>Book Recommended</b>
1	Khan M.Y. and Jain P.K. (2021), "Management Accounting", Tata McGraw-Hill, 8 <sup>th</sup> Edition
2	Kaplan (2023), "Management Accounting", Kaplan Publication.
3	Charles T. Horngren., Walter T. Harrison and Harrison T.W. (1995), "Managerial Accounting", Pearson Education

<b>MBA Semester - I</b> <b>Organizational Behaviour and Principles of Management</b> <b>MG-XXX</b>	<b>Scheme</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Credit</b>
		<b>3</b>	<b>0</b>	<b>0</b>	<b>03</b>

<b>1.</b>	<b>Course Outcomes (Cos):</b> <b>At the end of the course, students will be able to</b>
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

<b>2.</b>	<b>Syllabus</b>	
	<b>Principles of Management</b>	<b>06 Hours</b>
	Definitions and Functions of Management - Fayol's and Taylor's principles - Mintzberg's roles of managers - Managerial skills - Delegation and Decentralization - Decision making.	
	<b>Schools of Management Thoughts</b>	<b>07 Hours</b>
	Scientific Management School - Administrative School - System School - Human Relations School - Contingency School - Idea of Hawthorne Experiments.	
	<b>Introduction to Organizational Behaviour</b>	<b>06 Hours</b>
	Definition, Meaning, Scope and application of OB in Management - Contribution of other disciplines to OB - Emerging issues in OB - Models of OB.	
	<b>Individual Behaviour and Group dynamics</b>	<b>09 Hours</b>
	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.	
	<b>Organizational Culture and Change</b>	<b>07 Hours</b>
	Organizational Culture: Meaning and types - Organizational Change: Need, Process and Resistance to change - Organizational Development - OCTAPACE Culture: Concept and Dimensions.	
	<b>Emerging Issues in Management</b>	<b>10 Hours</b>
	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.	
	<b>Total Contact Time</b>	<b>45 Hours</b>

<b>3.</b>	<b>Book Recommended</b>
1	Robbins, S. P., Judge, T. A., & Vohra, N. (2023). Organizational behaviour 18 Edition. MaakZoo
2	Udai Parek. & Sushama Khanna, (2018), "Understanding Organizational Behaviour", Oxford University Press, 4th Edition
3	Robert S. Fredman (2021). Understanding psychology 15 <sup>th</sup> Edition :McGraw Hill.
4	Prasad, L. M. (2020). Principles and practice of management. Sultan Chand & Sons

<b>MBA Semester - I Managerial Economics MG-XXX</b>	<b>Scheme</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Credit</b>
		<b>3</b>	<b>0</b>	<b>0</b>	<b>03</b>

<b>1.</b>	<b>Course Outcomes (Cos): At the end of the course, students will be able to</b>
CO1	Understand how markets work, under the workings of supply, demand, and equilibrium
CO2	Understand 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

<b>2.</b>	<b>Syllabus</b>	
	<b>How Markets Work</b>	<b>08 Hours</b>
	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	
	<b>Demand, Supply and Equilibrium</b>	<b>10 Hours</b>
	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	
	<b>Production and Cost</b>	<b>10 Hours</b>
	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	
	<b>Markets</b>	<b>10 Hours</b>
	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	
	<b>National Income</b>	<b>07 Hours</b>
	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.	
	<b>Total Contact Hours</b>	<b>45 Hours</b>

<b>3.</b>	<b>Book Recommended</b>
1	D. M. Mithani, (2017), “Managerial Economics - Theory and Application”, Himalaya Publishing House, Eighth Edition
2	Damodaran, (2006), “Managerial Economics”, Oxford University Press.
3	Keat Banerjee, (2017), Managerial Economics: Economic Tools for Today’s Decision Makers”, Pearson Education, Seventh Edition

<b>MBA Semester - I</b> <b>Analytics in Operations Management</b> <b>MG-XXX</b>	<b>Scheme</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Credit</b>
		<b>3</b>	<b>1</b>	<b>0</b>	<b>04</b>

<b>1.</b>	<b>Course Outcomes (Cos):</b> <b>At the end of the course, students will be able to</b>
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

<b>2.</b>	<b>Syllabus</b>	
	<b>Introduction to Operations Management</b>	<b>12 Hours</b>
	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	
	<b>Forecasting and Capacity Design</b>	<b>11 Hours</b>
	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.	
	<b>Design of Product, Process and Work Systems</b>	<b>10 Hours</b>
	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	
	<b>Scheduling and Project Management</b>	<b>12 Hours</b>
	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.	
	<b>Tutorial</b>	<b>15 Hours</b>
	<b>Total Contact Time</b>	<b>60 Hours</b>

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

<b>3.</b>	<b>Book Recommended</b>
1	Jacobs, F. R., Chase, R.B. & Shankar, R. (2023), Operations and supply chain Management. McGraw-Hill 17 <sup>th</sup> Edition
2	Jacobs, F. R., & Chase, R. B., (2020), Operations and supply chain management, McGraw-Hill, 15 <sup>th</sup> edition
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, Oxford University Press 3rd Edition

<b>MBA Semester - I</b> <b>Business Computing and Prescriptive Analytics</b> <b>MG-XXX</b>	<b>Scheme</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Credit</b>
		<b>3</b>	<b>0</b>	<b>0</b>	<b>03</b>

<b>1.</b>	<b>Course Outcomes (Cos):</b> <b>At the end of the course, students will be able to</b>
CO1	Gain a foundational understanding of 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

<b>2.</b>	<b>Syllabus</b>	
	<b>Fundamental of Business Computing</b>	<b>20 Hours</b>
	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 future, Introduction to Programming Fundamentals: Data Types, Basic Operations, Logical Statements, Conditional Statements, Looping Statements, Debugging and Error Handling, & Function, Introduction to Object-Oriented Programming	
	<b>Prescriptive Analytics Through Excel Modeling &amp; Open source (R)</b>	<b>20 Hours</b>
	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 sheeting 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	
	<b>Discussion and case, situation-based Presentation</b>	<b>5 Hours</b>
	Case analysis and discussion	
	<b>Total Contact Hours</b>	<b>45 Hours</b>

<b>3.</b>	<b>Book Recommended</b>
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.