

MBA PROGRAM CURRICULUM - 2026

(Applicable for the batches admitted from A.Y 2026-27)

Version 1.0

MASTER OF BUSINESS ADMINISTRATION (BUSINESS ANALYTICS)

Version 1.0–Approved in the BoS meeting on 10-01-2026 & Academic Council meeting on 28-02-2026



A D I T Y A
U N I V E R S I T Y

Aditya Nagar, ADB Road, Surampalem, Andhra Pradesh



ADITYA UNIVERSITY

VISION & MISSION OF THE UNIVERSITY

VISION

To be a globally recognized University through excellence in Education, Innovation, and Sustainable Growth

MISSION

Deliver collaborative education to prepare students for global challenges through

1. Transformative learning.
2. Vibrant research ecosystem.
3. Sustainable and inclusive community

VISION & MISSION OF THE SCHOOL OF BUSINESS

VISION

To be a world-class business school advancing academic excellence, innovation, and global talent to develop responsible leaders shaping an inclusive and sustainable future

MISSION

M1: Deliver transformative business education that blends academic rigor with real-world relevance and ethical grounding.

M2: Nurture globally competent, entrepreneurial leaders through innovation, research, and interdisciplinary learning.

M3: Champion sustainability, social impact, and inclusive growth through collaborative industry and community engagement

PROGRAM OUTCOMES (POs)

After successful completion of the program, the graduates will be able to

- PO1: Application of Management Principles:** Demonstrate the ability to apply foundational and advanced management concepts to address real-world business challenges with practical and effective solutions.
- PO2: Analytical and Critical Reasoning:** Develop strong analytical and critical thinking skills to support data-driven decision-making in dynamic business environments.
- PO3: Value-Centered Leadership:** Cultivate leadership capabilities rooted in integrity, ethics, and a commitment to creating long-term value for organizations and society.
- PO4: Global and Ethical Awareness:** Exhibit a deep understanding of global business dynamics, including economic, legal, and ethical considerations, and communicate these effectively in diverse business contexts.
- PO5: Collaborative Leadership:** Demonstrate the ability to lead and contribute meaningfully in team settings, effectively driving organizational objectives through shared vision and cooperation.
- PO6: Innovation and Research Orientation:** Identify emerging business opportunities, generate research insights, and implement innovative ideas across varied functional and sectorial domains.
- PO7: Tech-Driven Business Adaptability:** Stay abreast of disruptive and emerging technologies, applying them strategically to modernize and enhance business processes and models.
- PO8: Community Engagement and Impact:** Foster meaningful engagement with underserved communities through socially responsible outreach, aiming to create inclusive and transformative business solutions.

PROGRAM SPECIFIC OUTCOMES (PSOs)

After successful completion of the program,

- PSO1: Strategic and Functional Integration:** Graduates will be able to integrate knowledge across core business functions (marketing, finance, HR, operations, analytics) to solve complex business challenges and design effective organizational strategies.
- PSO2: Innovation, Entrepreneurship, and Business Transformation:** Graduates will demonstrate the ability to identify market opportunities, develop innovative solutions, and lead entrepreneurial ventures or transformational initiatives within existing organizations.
- PSO3: Data-Driven Decision-Making and Digital Agility:** Graduates will proficiently apply analytical tools, digital technologies, and data-driven insights to enhance organizational decision-making and drive competitive advantage in a technology-enabled global environment

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

After successful completion, this program will support

- PEO 1: Strengthen Business Foundations:** To equip students with a comprehensive understanding of core business functions and processes. This includes fostering an integrated perspective of value-creating activities within an organization and how they interact to drive overall business success.
- PEO 2: Nurture Strategic Thinking:** To develop students' ability to think critically and strategically by analyzing multifaceted business challenges, exploring feasible solutions, and making sound decisions that align with long-term organizational goals.
- PEO 3: Build Leadership Excellence:** To cultivate essential leadership competencies such as effective communication, collaboration, team management, motivation, and ethical judgment—empowering students to take on leadership roles and guide organizations with confidence and integrity.
- PEO 4: Develop a Global Outlook:** To prepare students to navigate the complexities of the international business landscape by enhancing their awareness of diverse cultures, global market dynamics, and emerging business trends, thereby fostering a truly global mindset.
- PEO 5: Instill Ethical and Social Responsibility:** To instill a deep understanding of ethical standards and social responsibility in business, enabling graduates to make decisions that reflect accountability, stakeholder sensitivity, and a commitment to sustainable practices.

SCHOOL OF BUSINESS

Program Curriculum – 2026

(Applicable for the batches admitted from A. Y. 2026-27)

U.G. Programs Offered

- Bachelor of Business Administration in knowledge partnership with Deloitte
- Bachelor of Business Administration in Business Analytics in knowledge partnership with KPMG
- Bachelor of Business Administration in Global Finance in knowledge partnership with PwC
- Bachelor of Business Administration in FinTech in knowledge partnership with EY
- Bachelor of Business Administration in Health Care Management in knowledge partnership with Red Versity

P.G. Programs Offered

- Master of Business Administration in knowledge partnership with Deloitte
- Master of Business Administration in Business Analytics in knowledge partnership with KPMG
- Master of Business Administration in Global Finance in knowledge partnership with PwC
- Master of Business Administration in FinTech in knowledge partnership with EY
- Master of Business Administration in Health Care Management in knowledge partnership with Red Versity
- Master of Business Administration for Working Professionals

Master of Business Administration (Business Analytics)
Program Curriculum 2026

Credit Division:

S. No	Category of Courses	Credits
1	Program Core Courses (PCC)	62
2	Discipline Specific Courses (DSC)	24
3	Ability Enhancement Course (AEC)	02
4	Summer Internship (SI)	4
5	Capstone Project (CPROJ)	4
6	Mandatory courses (MC)	0
Total Credits		96

Program Core Courses (PCC)

Course Code	Course Title	L	T	P	C	CIE	SEE	Total	Pre-requisite
2608MS01	Management and Organization Behavior	2	0	1	3	50	50	100	-
2608MS02	Accounting for Managers	2	1	0	3	50	50	100	-
2608MS03	Managerial Economics	2	0	1	3	50	50	100	-
2608MS04	Business Statistics and Analysis for Decision-Making	3	1	0	4	50	50	100	-
2608MS05	Legal and Business Environment	2	0	1	3	50	50	100	-
2608MS06	Marketing Management	2	0	1	3	50	50	100	-
2608MS07	Digital Productivity in AI Tools	2	0	1	3	50	50	100	-
2608MS08	Business Research Methodology	3	1	0	4	50	50	100	BSADM
2608MS09	Human Resource Management	2	0	1	3	50	50	100	MOB
2608MS10	Operations Management	2	0	1	3	50	50	100	-
2608MS11	Corporate Finance	3	0	1	4	50	50	100	-
2608MS12	Business Communication and Soft Skills	3	0	0	3	50	50	100	-
2608MS13	Management Information Systems	3	0	1	4	50	50	100	-
2608MS14	Business Ethics and Corporate Governance	2	0	1	3	50	50	100	LBE
2608MS15	Business Taxation	3	1	0	4	50	50	100	AFM
2608MS16	Strategic Management	2	0	1	3	50	50	100	-
2622MS01	Design Thinking and Innovation	2	0	1	3	50	50	100	-
2622MS02	Startup & New Venture	2	0	1	3	50	50	100	DT&I
2622MS03	Environmental Science and Sustainability	2	0	1	3	50	50	100	-
	Total				62				

Discipline Specific Courses (DSC)

(All the DSC Courses will be dealt by Learning Partners)

Business Analytics (BA)									
Course Code	Course Title	L	T	P	C	CIE	SEE	Total	Pre-requisite
2622MS04	Applied Business Statistics and Decision Analytics using Visualization	3	0	1	4	50	50	100	-
2622MS05	Marketing Analytics for Business	3	0	1	4	50	50	100	-
2622MS06	Financial Analytics and Modelling	3	0	1	4	50	50	100	BSADM
2622MS07	HR Analytics and Workforce Intelligence	3	0	1	4	50	50	100	BSADM
2622MS08	Predictive Analytics and Forecasting	3	0	1	4	50	50	100	-
2622MS09	Big Data and Machine Learning Applications	3	0	1	4	50	50	100	-
	Total				24				

Ability Enhancement Course (AEC)									
Course Code	Course Title	L	T	P	C	CIE	SEE	Total	Pre-requisite
2608MS80	Student Activity Based Learning	-	-	-	2	-	-	-	-
	Total				2				

Summer Internship (SI)									
Course Code	Course Title	L	T	P	C	CIE	SEE	Total	Pre-requisite
2608MS81	Summer Internship	-	-	4	4	100	-	100	-
	Total				4				

Capstone Project (CPROJ)									
Course Code	Course Title	L	T	P	C	CIE	SEE	Total	Pre-requisite
2608MS82	Capstone Project	-	-	4	4	50	50	100	-
	Total				4				

Mandatory Courses (MC)

Course Code	Course Title	L	T	P	C	CIE	SEE	Total	Pre-requisite
2608MS83	Corporate Readiness-I	2	-	-	-	100	-	100	-
2608MS84	Corporate Readiness-II	2	-	-	-	100	-	100	CR-I
2608MS85	Corporate Readiness-III	2	-	-	-	100	-	100	CR-II
2608MS86	Project Management	2	-	-	-	100	-	100	-
	Total				0				

Suggestive Semester- Wise Curriculum

SEMESTER-I								
Course Code	Course Title	Course Category	Credits				Total Hours	Pre-requisite
			L	T	P	Total		
2608MS01	Management and Organization Behavior	PCC	2	0	1	3	4	-
2608MS02	Accounting for Managers	PCC	2	1	0	3	3	-
2608MS03	Managerial Economics	PCC	2	0	1	3	4	-
2608MS04	Business Statistics and Analysis for Decision Making	PCC	3	1	0	4	4	-
2608MS05	Legal and Business Environment	PCC	2	0	1	3	4	-
2622MS04	Applied Business Statistics and Decision Analytics using Visualization	DSC	3	0	1	4	5	-
2622MS05	Marketing Analytics for Business Growth	DSC	3	0	1	4	5	-
2608MS83	Corporate Readiness- I	MC	0	0	1	0	2	-
Total						24	31	

SEMESTER-II								
Course Code	Course Title	Course Category	Credits				Total Hours	Pre-requisite
			L	T	P	Total		
2608MS09	Human Resource Management	PCC	2	0	1	3	4	MOB
2608MS10	Operations Management	PCC	2	0	1	3	4	-
2608MS06	Marketing Management	PCC	2	0	1	3	4	-
2608MS11	Corporate Finance	PCC	3	0	1	4	5	-
2608MS12	Business Communication and Soft Skills	PCC	3	0	0	3	3	-
2622MS06	Financial Analytics and Modelling	DSC	3	0	1	4	5	BSADM
2622MS07	HR Analytics and Workforce Intelligence	DSC	3	0	1	4	5	BSADM
2608MS84	Corporate Readiness-II	MC	0	0	1	0	2	CR-I
Total						24	32	

SEMESTER-III								
Course Code	Course Title	Course Category	Credits				Total Hours	Pre-requisite
			L	T	P	Total		
2608MS13	Management Information Systems	PCC	3	0	1	4	5	-
2608MS14	Business Ethics and Corporate Governance	PCC	2	0	1	3	4	LBE
2608MS07	Digital Productivity in AI Tools	PCC	2	0	1	3	4	-
2622MS01	Design Thinking and Innovation	PCC	2	0	1	3	4	-
2622MS08	Predictive Analytics and Forecasting	DSC	3	0	1	4	5	-
2622MS09	Big Data and Machine Learning Applications	DSC	3	0	1	4	5	-
2608MS81	Summer Internship	SI	-	-	4	4	-	-
2608MS85	Corporate Readiness-III	MC	0	0	1	0	2	CR-II
Total						25	29	

SEMESTER-IV								
Course Code	Course Title	Course Category	Credits				Total Hours	Pre-requisite
			L	T	P	Total		
2608MS15	Business Taxation	PCC	3	0	1	4	5	AFM
2608MS16	Strategic Management	PCC	2	0	1	3	4	-
2622MS02	Startup & New Venture	PCC	2	0	1	3	4	DT&I
2622MS03	Environmental Science and Sustainability	PCC	2	0	1	3	4	-
2608MS08	Business Research Methodology	PCC	3	1	0	4	4	BSADM
2608MS82	Capstone Project	CPROJ	-	-	4	4	-	-
2608MS86	Project Management	MC	2	0	0	0	2	-
2608MS80	Student Activity Based Learning	AEC	-	-	-	2	-	-
Total						23	21	

PROGRAM CORE COURSES

MANAGEMENT AND ORGANIZATION BEHAVIOR

	L	T	P	C
Course Code: 2608MS01	2	0	1	3

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Explain the concepts, functions, and evolving challenges of management in 21st-century organizations.
- CO2:** Apply foundational theories of Organizational Behavior to assess individual and group dynamics within organizations.
- CO3:** Analyze various motivation theories and recommend suitable strategies to enhance workplace motivation and performance.
- CO4:** Differentiate between leadership styles and evaluate their effectiveness across diverse and virtual team environments.
- CO5:** Apply techniques to manage organizational culture, conflict, stress, and change for improving organizational effectiveness.

Mapping of Course Outcomes with Program Outcomes:

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	1	1	1	1	1	1	1
CO2	3	3	2	1	2	1	1	1
CO3	3	3	3	3	2	1	1	1
CO4	3	3	3	3	3	1	1	1
CO5	3	3	3	3	3	-	-	-

Mapping of Course Outcomes with Program Specific Outcomes:

CO / PSO	PSO1	PSO2	PSO3
CO1	3	1	1
CO2	3	2	1
CO3	3	3	2
CO4	3	3	2
CO5	3	3	3

UNIT – I

Introduction to Management: Concept, Definition, Nature and Importance of Management, Evolution of Management thought, Levels of Management, Functions of Management- Planning, Organizing, Staffing, Directing, and Controlling. Managerial Roles and Responsibilities, Challenges of Managing 21st Century Corporations/Organization.

UNIT – II

Foundations of Organizational Behavior: Management and Organizational Behavior, Individual Behavior characteristics, Personality, Personality Types, Personality Traits, Perception, Attitude and Learning; Intra & Interpersonal Behavior, Communication and Transactional Analysis and Johari Window; Organizational Behavior Models; Foundations

of Group Behavior, Formation of Groups, Groups versus Teams, Group Dynamics.

UNIT – III

Motivation: Concept, Meaning, Definition, Importance of Motivation in Organizational Behaviour, Types of Motivation, Work Motivation, Maslow's Hierarchy of Need Theory, Theory X – Theory Y, Herzberg's Two Factor Theory, Ouchi's Theory Z, Alderfer's ERG Theory, McClelland's Theory, Vroom's expectancy theory, Adams Equity Theory, Contemporary Issues in the Practice of Motivation, Recent Trends in Motivation.

UNIT – IV

Leadership: Introduction to Leadership, Definitions, Leadership vs Management, Theories, Leadership Styles, Emotional Intelligence, Ethical Leadership, Cross-Cultural Leadership, Leadership Development, Crisis Leadership, Virtual Team Leadership, Power and Politics.

UNIT – V

Management of Organizational Behavior: Organizational Culture, Organizational Climate, Managing Conflict, Work Stress Management, Work-Life Balance; Managing Change.

Textbooks:

1. Dr. Chandrani Singh (2024), Principles and Practices of Management and Organizational Behavior. Routledge India; 1st edition, ISBN 978-1032634241.
2. Stephen P. Robbins, Timothy A. Judge and Neharika Vohra (2022) Organizational Behavior, 18e, 978-9356064270. Pearson Education

Reference Books:

1. Kavita Singh (2024) Organizational Behaviour: Text and Cases, Pearson India, ISBN 13: 978-1282652729
2. Laurie J. Mullins and Gary Rees (2023) Management and Organizational Behaviour (13th Edition), ISBN-13: 978-1292422381. Pearson Education Limited.

Web Links:

1. <https://archive.nptel.ac.in/courses/110/107/110107150/>
2. <https://archive.nptel.ac.in/courses/110/106/110106145/>

Relevant cases have to be discussed in each unit and in examination case study is compulsory from any unit.

ACCOUNTING FOR MANAGERS

L T P C

Course Code: 2608MS02

2 1 0 3

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Explain accounting concepts, principles, standards, and the accounting cycle.
- CO2:** Prepare final accounts and apply methods of fixed assets and depreciation accounting.
- CO3:** Apply cost accounting principles including cost sheet preparation and inventory control.
- CO4:** Analyze budgeting techniques like performance, fixed, flexible, and zero-based budgeting.
- CO5:** Evaluate decisions using financial statement analysis, ratio analysis, and marginal costing.

Mapping of Course Outcomes with Program Outcomes:

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	2	2	1	1	1	1	1
CO2	3	3	2	1	2	1	1	1
CO3	3	3	3	2	1	1	1	1
CO4	3	3	3	3	2	1	1	-
CO5	3	3	3	3	2	1	1	-

Mapping of Course Outcomes with Program Specific Outcomes:

CO / PSO	PSO1	PSO2	PSO3
CO1	3	2	1
CO2	3	3	1
CO3	3	3	2
CO4	3	3	2
CO5	3	3	3

UNIT – I

Financial Accounting: Scope and Nature of Accounting, Accounting concepts, Principles & Standards, Accounting Cycle, Journalizing, Subsidiary Books; Ledger Posting, Preparation of Trial Balance, Rectification of Errors. Capital and Revenue Expenditure & Income.

UNIT – II

Depreciation and Final Accounting: Fixed Assets and Depreciation Accounting. Preparation of Final Accounts, Manufacturing Account; Trading Account, Profit and Loss Account; Balance Sheet (with adjustments), Financial Statements.

UNIT – III

Cost Accounting: Objectives, Classification of Cost, Preparation of Cost Sheet, Material Cost Accounting, Perpetual Inventory Control, Inventory Valuation, EOQ, ABC Analysis.

UNIT – IV

Performance Evaluation Techniques: Introduction to Budgeting and Budgetary Control; Performance Budgeting; Classification of Budget; Fixed and Flexible Budgets, Zero Based Budgeting.

UNIT – V

Decision Making Techniques: Financial Statement Analysis, Ratio Analysis, Common Size Statements, Du Pont Analysis, Marginal Costing, Application of Marginal Costing in Decision Making, Cost Volume Profit Analysis, Fundamentals of standard costing.

Textbooks:

1. Sanjay Dhamija, Financial Accounting for Managers (4th Edition) (2024), ISBN- 13: 978-9357054898, Pearson India.
2. Paul D. Kimmel, Jerry J. Weygandt, and Jill E. Mitchell, Financial Accounting for Managers, (2023) ISBN- 13: 978-1119811428 Wiley.

Reference Books:

1. Peter D. Easton, Robert F. Halsey, Mary Lea McAnally, Al L. Hartgraves, and Wayne J. Morse, Financial & Managerial Accounting for MBAs (7th Edition) (2025), ISBN - 13: 978-1618536211, Cambridge Business Publishers
2. Ray H. Garrison, Eric Noreen, and Peter C. Brewer, Managerial Accounting (17th Edition), (2021), ISBN- 13: 978-1260247787, McGraw Hill Education.

Web Links:

1. <https://archive.nptel.ac.in/courses/110/101/110101003/>
2. <https://nptel.ac.in/courses/110101004>

Relevant cases have to be discussed in each unit and in examination case study is compulsory from any unit.

MANAGERIAL ECONOMICS

Course Code: 2608MS03

L	T	P	C
2	0	1	3

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Explain the nature, scope, and key concepts of managerial economics and its relation to other economic areas.
- CO2:** Analyze demand and supply concepts, elasticity, and demand forecasting techniques.
- CO3:** Apply production theories and functions, including returns to scale and laws of returns.
- CO4:** Examine cost concepts, cost-output relationships, economies of scale, and breakeven analysis.
- CO5:** Evaluate market structures, pricing methods, market failures, and core macroeconomic indicators.

Mapping of Course Outcomes with Program Outcomes:

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	2	2	1	1	1	1	1
CO2	3	3	2	1	2	1	1	1
CO3	3	3	3	2	2	1	1	1
CO4	3	3	3	3	3	1	1	1
CO5	3	3	3	3	3	2	1	1

Mapping of Course Outcomes with Program Specific Outcomes:

CO / PSO	PSO1	PSO2	PSO3
CO1	3	2	1
CO2	3	3	1
CO3	3	3	2
CO4	3	3	2
CO5	3	3	3

UNIT – I

Introduction to Managerial Economics: Definition, Nature and Scope, Relationship with other areas in Economics, The role of managerial economist. Concept of opportunity cost, Incremental concept, time Perspective, Discounting Principle, Risk & uncertainty, Equimarginal Principle, Concept of Utility.

UNIT – II

Demand Analysis: Introduction to Demand, Law of Demand, Determinants of Demand, Demand Function, Elasticity of demand, types and significance of Elasticity of Demand - Measurement of price Elasticity of Demand – Need for Demand forecasting, forecasting techniques, Law of Supply, Elasticity of Supply.

UNIT – III

Production Analysis: Production function, Types of Production, Factors of Production, Law of Variable Proportion, Isoquant and Isocost, Marginal Rate of Technical Substitution,

Production functions with one/two variables, Cobb-Douglas Production Function, Returns to Scale and Laws of Returns.

UNIT – IV

Cost Theory and Estimation: Cost concepts, determinants of cost, cost – output relationship in the short run and long run –Economies and Diseconomies of Scale, Breakeven Point, Cost - Volume – Profit analysis.

UNIT – V

Market Structure and Pricing Practices: Features and types of different Markets – Price-Output determination in Perfect competition, Monopoly, Monopolistic competition and Oligopoly both in the long run and short run. Pricing methods in practice.

Market Failures: definition, types, causes, effects and corrective measures to market failures.

Macroeconomics: National income-definition, concepts, measurement of national income, Trade cycles, Monetary policy, Fiscal policy, inflation and balance of payment.

Textbooks:

1. Dominick Salvatore & Siddhartha K. Rastogi, Managerial Economics: Principles and Worldwide Applications (9th Edition) (2020), Oxford University Press ISBN-13: 978-0199496563.
2. William F. Samuelson, Stephen G. Marks, & Jay L. Zagorsky, Managerial Economics (9th Edition)(2021) John Wiley & Sons, ISBN 13: 978-1119554912

Reference Books:

1. Nick Wilkinson, Managerial Economics: Problem-Solving in a Digital World (2nd Edition) (2022) Cambridge University Press, ISBN- 13: 978-1108984508.
2. Satya P. Das, Managerial Economics (2nd Edition) (2022), SAGE Publications India, ISBN- 13: 978-9354791802.

Web Links:

1. <https://archive.nptel.ac.in/courses/110/101/110101149/>
2. <https://archive.nptel.ac.in/courses/110/105/110105075/>

Relevant cases have to be discussed in each unit and in examination case study is compulsory from any unit.

BUSINESS STATISTICS AND ANALYSIS FOR DECISION MAKING

Course Code: 2608MS04

L	T	P	C
3	1	0	4

Course Outcomes:

At the end of the Course, Student will be able to:

CO1: Explain the types of data and types of variables

CO2: Apply various concepts of descriptive statistics

CO3: Analyze the theories of probability

CO4: Solve the problems related to Linear programming.

CO5: Evaluate various transportation models and game theory.

Mapping of Course Outcomes with Program Outcomes:

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	2	2	1	1	1	1	1
CO2	3	3	2	2	2	1	1	1
CO3	3	3	3	2	2	1	1	1
CO4	3	3	3	3	3	1	1	1
CO5	3	3	3	3	3	2	1	1

Mapping of Course Outcomes with Program Specific Outcomes:

CO / PSO	PSO1	PSO2	PSO3
CO1	3	2	1
CO2	3	3	1
CO3	3	3	2
CO4	3	3	2
CO5	3	3	3

UNIT – I

Introduction to Business Statistics: Introduction to Statistics, Statistics in Business, Types of data – Nominal, Ordinal, Interval, Ratio. Types of variables – Dependent, independent, moderating, intervening, extraneous. Discrete / continuous. Charts and Graphs.

UNIT – II

Descriptive Statistics: Measure of central tendency – mean, median, quartile, mode (for Group and ungrouped data) Measure of variability – Range, interquartile range, standard deviation, variance, coefficient of variation, (for Group and ungrouped data) Measures of shape – kurtosis, skewness, boxplot.

UNIT – III

Introduction to Probability: Theories of probability – Classical, Relative frequency and subjective. Laws of probability – addition, multiplication. Inverse Probability. Revision of probability: BAYES' RULE, Discrete distribution – Binomial, Poisson, Continuous distribution – Uniform, normal.

UNIT – IV

Introduction to Linear Programming problems (LP) – LP Formulations – Graphical Solution – Simplex Method

UNIT – V

Classification of Models- Introduction –Transportation Models NWCR, LCM, VAM – MODI Method- Assignment Problem- Game theory: Saddle Point Determination, Dominance Property, Two Person Zero–sum Game

Textbooks:

1. Ken Black, Business Statistics: For Contemporary Decision Making (11th Edition), John Wiley & Sons,(2023) ISBN- 13: 978-1119905448
2. S. Christian Albright & Wayne L. Winston, Business Analytics: Data Analysis and Decision Making (7th Edition), (2020), Cengage Learning, ISBN- 13: 978-0357392072.

Reference Books:

1. S. D. Sharma, Operations Research, 2020, Kedar Nath, Ram Nath & Co., Meerut, ISBN: 9788178849376.
2. David F. Groebner, Patrick W. Shannon, Phillip C. Fry, Business Statistics: A Decision-Making Approach (11th Edition): Pearson, ISBN- 13: 978-0137835393

Web Links:

1. <https://archive.nptel.ac.in/courses/110/107/110107114/>
2. <https://archive.nptel.ac.in/noc/courses/noc21/SEM1/noc21-mg07/>

Relevant cases have to be discussed in each unit and in examination case study is compulsory from any unit.

LEGAL AND BUSINESS ENVIRONMENT

Course Code: 2608MS05

L	T	P	C
2	0	1	3

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Explain the steps and procedures for the incorporation of a company and the appointment of directors.
- CO2:** Appraise the legality of object, unlawful and illegal agreements, contingent contracts, and the performance and discharge of contracts.
- CO3:** Analyze the offences by companies, amendments to the act, and RBI guidelines on digital transactions.
- CO4:** Evaluate the industrial policy, five-year planning and foreign direct investment (FDI).
- CO5:** Analyze the impact and effectiveness of these laws and regulations on business practices.

Mapping of Course Outcomes with Program Outcomes:

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	3	2	2	1	1	1	1	1
CO2	3	3	2	1	2	1	1	1
CO3	3	3	3	2	1	1	1	1
CO4	3	3	3	3	2	1	1	1
CO5	3	3	3	3	3	2	1	1

Mapping of Course Outcomes with Program Specific Outcomes:

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	1
CO2	3	3	1
CO3	3	3	2
CO4	3	3	2
CO5	3	3	3

UNIT – I

Companies Act, 2013, Steps and Procedure for Incorporation of a Company, Appointment of Directors, Powers, Duties, & Liabilities of Directors, Role of Audit and Auditors, Change of Auditors, Related Party Transactions, Company Meetings, Resolutions, Winding-up of a Company.

UNIT – II

Law of Contract: Nature and Types of Contract and Essential Elements of Valid Contract, Offer and Acceptance, Consideration, Capacity to Contract and Free Consent, Legality of Object. Unlawful and illegal Agreements, Contingent Contracts, Performance and Discharge of Contracts, Remedies for Breach of Contract. Contracts-II: Indemnity and

Guarantee, Contract of Agency, Sale of Goods Act-1930: General Principles, Conditions & Warranties, Performance of Contract of Sale, Auction Sale and E-Auctions.

UNIT – III

Negotiable Instruments Act - 1881: Negotiable Instruments, Promissory Note, Bills of Exchange, & Cheque, Parties to Negotiable Instruments, Types of Endorsements, Holder, Holder in Due-course, Dishonor and Discharge of Negotiable Instruments, Offences by the Companies, Amendments, RBI Guidelines on Digital Transactions.

UNIT – IV

Business Environment: Industrial Policy, Five Year Planning, Foreign Direct Investment (FDI), Fiscal Policy, Latest Union Budget, Reforms Undertaken by the Government, Monetary Policy, Banking Sector Reforms, NITI Aayog, Responsibilities and Functions.

UNIT – V

Business Regulations and Environment Laws: a) Consumer Protection Act 2019, Information Technology Act 2000, Cyber Security Competition Act 2002, Intellectual Property Rights. b) Environmental Law: Water, Air Pollution, Green Tribunal in Protecting Environment, Sustainability Reporting Practices.

Textbooks:

1. Rajdeep Banerjee, Joyeeta Banerjee, Legal Aspects of Business, Sage Publications, 1e, 2022, ISBN-10: 9354793177.
2. Ravinder Kumar, Legal Aspects of Business, Cengage Learning, 5e, 2021, ISBN-13: 9978-8131531594.
3. Dr. Saroj Kumar and Mr. Vikrant Verma, Legal and Business Environment, Thakur Publication, ISBN-978-93-88280-50-1

Reference Books:

1. Business Environment and Legal Aspects of Business by Dr. Anand Vyas
2. Business Law by Prof. Sharad D. Geet
3. From Distress to Development: DIBC and India's Economic Future by Prof. G. Satyanarayan
4. Insolvency Governance: Law and Management Strategies for Corporate Revival by Prof. G. Satyanarayan

Web Links:

1. <https://archive.nptel.ac.in/courses/110/107/110107145/>
2. https://onlinecourses.swayam2.ac.in/imb22_mg02/preview

Relevant cases have to be discussed in each unit and in examination case study is compulsory from any unit

MARKETING MANAGEMENT

	L	T	P	C
Course Code: 2608MS06	2	0	1	3

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Explain marketing and the core marketing concepts
- CO2:** Identify market segments based on effective segmentation criteria
- CO3:** Analyze products, the product life cycle, and propose strategies for new product development
- CO4:** Assess pricing strategies, the relevance of the value chain to marketing, and customer lifetime value
- CO5:** Evaluate integrated marketing channels, manage retailing and logistics, and the effectiveness of various promotional strategies

Mapping of Course Outcomes with Program Outcomes:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	2	2	3	2	2	1	1
CO2	3	3	2	3	2	2	1	1
CO3	3	3	3	2	2	3	2	2
CO4	3	3	3	3	2	2	3	2
CO5	3	3	2	2	3	3	3	2

Mapping of Course Outcomes with Program Specific Outcomes:

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	1
CO2	3	3	2
CO3	3	2	3
CO4	3	3	2
CO5	3	3	3

UNIT – I

Understanding Marketing World: Defining Marketing for the New Realities - The Scope of Marketing - Core Marketing Concepts - Marketing Environment; Selling Vs Marketing; Company Orientation toward the Marketplace; Marketing Mix.

UNIT – II

Segmentation, Targeting and Positioning: Segmentation - Bases for Segmenting Consumer Markets - Geographic Segmentation - Demographic Segmentation - Psychographic Segmentation - Behavioral Segmentation - Market Targeting; Effective Segmentation Criteria - Evaluating and Selecting the Market Segments – Positioning.

UNIT – III

Product Concept and Brand Management: Setting Product Strategy - Product Classification, Product Levels, Product Line and Mix Concept, Product Life Cycle and New Product Development - Introducing New Market Offerings - Building Loyalty - Brand Communities - Win-Backs - Cultivating Customer Relationships - Customer Relationship Management.

UNIT – IV

Pricing, Value Chain and Customer Value: Developing Pricing Strategies and Programs – Understanding the Value Chain and its Relevance to Marketing – Managing Customer Value; The Value Delivery Process – The Value Chain – Building Customer Value, Satisfaction, and Loyalty – Measuring Customer Life Time Value and – Retaining Customers.

UNIT – V

Distribution and Promotion: Designing and Managing Integrated Marketing Channels – Managing Retailing, Wholesaling and Logistics. Designing and Managing Integrated Marketing Communications – Managing Mass Communications: Advertising, Sales Promotions, Events and Experiences and Public Relations, Omni Channel Strategy, Marketing Metrics, Neuro Marketing.

Textbooks:

1. Kotler, P., Keller, K. L., & Chernev, A. (2021). Marketing management (16th ed.). Pearson. ISBN: 9781292404813
2. Marshall, G. W., & Johnston, M. W. (2021). Marketing management (4th ed.). McGraw Hill Education. ISBN: 9781260381917

Reference Books:

1. Iacobucci, D. (2021). Marketing management (6th ed.). Cengage Learning. ISBN: 9780357635087.
2. Czinkota, M. R., Kotabe, M., Vrontis, D., & Shams, S. M. R. (2021). Marketing management: Past, present and future (4th ed.). Springer. ISBN: 9783030669157.

Web Links:

1. <https://archive.nptel.ac.in/courses/110/104/110104068/>
2. https://onlinecourses.nptel.ac.in/noc22_mg57/preview

Relevant cases have to be discussed in each unit and in examination case study is compulsory from any unit

DIGITAL PRODUCTIVITY IN AI TOOLS

Course Code: 2608MS07

L	T	P	C
2	0	1	3

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Explain advanced Microsoft Word features such as templates, mail merge, and document protection to produce professional business documents.
- CO2:** Analyze business data using Excel functions, pivot tables, and scenario tools for data-driven decision-making.
- CO3:** Design engaging presentations and manage communications effectively using PowerPoint, Outlook, and Microsoft 365 integrations.
- CO4:** Evaluate the relevance, reliability, and ethical use of generative AI tools like ChatGPT, Copilot, and Gemini in business contexts
- CO5:** Create AI-enhanced business solutions using creative and analytical tools for content creation, automation, and visualization.

Mapping of Course Outcomes with Program Outcomes:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	2	1	2	2	3	3	1
CO2	3	2	1	2	2	2	2	2
CO3	3	2	1	2	2	2	3	2
CO4	3	2	2	2	3	2	3	2
CO5	3	3	3	3	3	3	3	3

Mapping of Course Outcomes with Program Specific Outcomes:

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	2
CO2	3	2	2
CO3	3	2	3
CO4	3	2	3
CO5	3	3	3

UNIT – I

Advanced Microsoft Word for Business Use: Document formatting, templates, and styles, Table of contents, citations, and referencing, Mail merge and automated forms, Collaborating and reviewing documents, Protecting and securing Word files

UNIT – II

Excel for Business Analytics and Decision Making: Basic to intermediate formulas and functions, Data cleaning, validation, and conditional formatting, Pivot tables and charts, Scenario analysis using What-If tools, Introduction to Excel Macros and automation

UNIT – III

PowerPoint & Outlook for Effective Communication: Slide design principles and templates, Embedding charts, videos, and animations, Presenter view and smart art for business storytelling, Managing calendar, meetings, and email productivity in Outlook, Integrating OneDrive and Teams with Office tools

UNIT – IV

Generative AI Platforms: Foundations & Business Use Cases: Introduction to ChatGPT, Gemini, Claude, Copilot, Practical applications: report writing, resume building, ideation, Prompt crafting for better AI results, Ethics, privacy, and limitations of generative AI tools, Evaluating reliability and accuracy of AI content

UNIT – V

Creative & Analytical AI Tools for Productivity: AI tools for presentation design: Tome, Beautiful.ai, Gamma, Text-to-speech and AI video editors: Lumen5, ElevenLabs, Music and content creation: Soundraw, Beatoven.ai, AI data tools: Tableau Public, Google Colab, ChatGPT Code Interpreter, Capstone: Build & present a business solution using AI tools

Textbooks:

1. Microsoft Office 365: In Practice 2021 Edition, Randy Nordell, McGraw-Hill Education, 2021
2. The Artificial Intelligence Handbook: How AI Is Revolutionizing Business Productivity, Nathan Hunter, Independently Published, 2023

Reference Books:

1. Excel Data Analysis: Your visual blueprint for analyzing data, charts, and PivotTables, Jinjer Simon, Wiley, 2022
2. Slide:ology: The Art and Science of Creating Great Presentations, Nancy Duarte, O'Reilly Media, 2008

Web Links:

1. <https://learn.microsoft.com/en-us/training/>
2. <https://openai.com/>

Relevant cases have to be discussed in each unit and in examination case study is compulsory from any unit.

HUMAN RESOURCE MANAGEMENT

	L	T	P	C
Course Code: 2608MS09	2	0	1	3

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Explain the basic concepts, functions, and current trends in Human Resource Management (HRM).
- CO2:** Apply the principles of manpower acquisition, including human resource planning, recruitment, and selection processes.
- CO3:** Design and evaluate training and development programs for employee growth and career development.
- CO4:** Assess performance appraisal techniques and wage and salary administration methods in HRM.
- CO5:** Analyze industrial relations concepts, issues, and the process of managing industrial disputes and collective bargaining.

Mapping of Course Outcomes with Program Outcomes:

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	3	2	2	2	2	2	3	2
CO2	3	3	2	2	3	3	3	2
CO3	3	3	2	3	3	2	3	2
CO4	3	2	3	3	2	3	2	2
CO5	3	3	3	3	2	2	2	3

Mapping of Course Outcomes with Program Specific Outcomes:

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	2
CO2	3	3	3
CO3	3	3	2
CO4	3	2	3
CO5	3	3	2

UNIT – I

Introduction to Human Resource Management: Introduction, Concept, Definitions, Nature, Scope, Importance and Objectives of HRM, Evolution of HRM, Functions of HRM, Roles and Responsibilities of HR Manager, Current Trends in HR.

UNIT – II

Manpower Acquisition: Concept, Objectives, Importance, Job Analysis - Nature, Methods, Approaches, Job Description and Job Specification, Job Enlargement, Job Enrichment, Job Design, HRP - Process of HRP, Factors Affecting HRP, Recruitment- Purpose, Process, Sources, Methods of Recruitment, Selection- Importance and Processes of Selection, Types of Tests in Selection, Interview.

UNIT – III

Training and Development: Concept, Meaning, Objectives, Importance of Training, Assessment of Training, Need for Training, Process of Training. Methods of Training, Designing a Training Program, Executive Development, Methods of Executive Development, Internal Mobility - Promotion, Demotion and Transfer, Separation of Employees – Voluntary and Involuntary, Succession Planning, Career Planning, Process., Career Development, Career Anchors, Career Life Cycle.

UNIT – IV

Performance Appraisal: Introduction, Meaning, Objectives, Definition, Need and Importance of Performance Appraisal, Process of Performance Appraisal, Methods of Performance Appraisal.

Wage and Salary Administration: Objectives and Principles, Essentials of a sound Wage Structure, Methods of Wage Payments, Incentive Plans, Types of Incentive Plans and Profit Sharing, Job Evaluation, Fringe Benefits and Perks, Employee Welfare.

UNIT – V

Industrial Relations: Concept, Meaning, Characteristics, Objectives and Approaches of Industrial Relations, Causes and Measures for Industrial Relations, Factors Influencing Industrial Relations, Industrial Disputes and Settlement, Workers Participation in Management, Collective Bargaining, Grievance Redressal, Conciliation, Adjudication and Arbitration, Trade Unions-Nature, Role and Problems, HRMS, HRIS.

Textbooks:

1. Verhulst, S. L., & DeCenzo, D. A. (2021). Fundamentals of human resource management (14th ed.). Wiley. ISBN: 9781119803744
2. Crews, D. (2021). Mastering human resource management (1st ed.). FlatWorld. ISBN: 9781453397077

Reference Books:

1. Blokdyk, G. (2020). Human resource management: A complete guide – 2021 edition. The Art of Service. ISBN: 9781867424604.
2. McConnell, C. R. (2021). Human resource management in health care (3rd ed.). Jones & Bartlett Learning. ISBN: 9781284155136.

Web Links:

1. <https://archive.nptel.ac.in/courses/110/105/110105069/>
2. https://onlinecourses.nptel.ac.in/noc21_mg21/preview

Relevant cases have to be discussed in each unit and in examination case is compulsory from any unit.

OPERATIONS MANAGEMENT

	L	T	P	C
Course Code: 2608MS10	2	0	1	3

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Analyze operations strategy and align it with competitive business priorities.
- CO2:** Design products, processes, and facilities using quantitative and strategic frameworks.
- CO3:** Apply forecasting, capacity planning, and supply chain models for operational efficiency.
- CO4:** Evaluate productivity, technology integration, and Industry 4.0 applications in operations.
- CO5:** Implement quality management systems and statistical tools for continuous improvement.

Mapping of Course Outcomes with Program Outcomes:

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	3	2	2	1	3	1	2	1
CO2	3	2	2	3	2	3	2	1
CO3	2	3	3	2	3	3	2	1
CO4	3	2	3	3	3	3	3	1
CO5	3	2	2	2	3	2	3	1

Mapping of Course Outcomes with Program Specific Outcomes:

CO/PSO	PSO 1	PSO 2	PSO 3
CO1	3	2	1
CO2	3	3	2
CO3	3	3	3
CO4	3	3	3
CO5	2	3	3

UNIT – I

Operations Strategy and Process Design

Role of operations in competitive strategy, operations strategy and performance objectives (cost, quality, flexibility, delivery), process design and process mapping, Theory of Constraints (TOC), lean systems and Just-in-Time (JIT), manufacturing vs service operations, strategic capacity considerations.

UNIT – II

Product and Facility Design

New product development and stage-gate models, value engineering and value analysis, facility location models (factor rating, center of gravity), facility layout planning (process,

product, cellular), work measurement techniques, job design and ergonomics, service process design.

UNIT – III

Forecasting, Planning and Supply Chain Analytics

Quantitative forecasting methods, aggregate production planning models, capacity requirement planning (CRP), Material Requirement Planning (MRP), scheduling techniques, inventory models (EOQ, safety stock), supply chain coordination, procurement and global sourcing strategies.

UNIT – IV

Productivity, Technology and Industry 4.0

Productivity measurement and benchmarking, work study and process improvement, Six Sigma overview, automation and robotics in operations, Industry 4.0 technologies, IoT in supply chain management, digital twins, smart factories and data-driven operations.

UNIT – V

Quality and Continuous Improvement

Strategic quality management, cost of quality, Statistical Process Control (SPC), control charts (variable and attribute), acceptance sampling and operating characteristic curves, Total Quality Management (TQM), Kaizen and continuous improvement, ISO 9001 & ISO 14001 standards, quality in global supply chains.

Textbooks:

1. Stevenson, W. J., & Kull, T. J. (2024). Operations and supply chain management (14th ed.). McGraw Hill Education. ISBN: 9781265322342
2. Heizer, J., Render, B., & Munson, C. (2022). Operations management: Sustainability and supply chain management (14th ed.). Pearson. ISBN: 9780137649136

Reference Books:

1. Nahmias, S., & Olsen, T. (2023). Production and operations analysis (8th ed.). Waveland Press. ISBN: 9781478649234
2. Langabeer, J. R. (2022). Health care operations management: A systems approach (3rd ed.). Jones & Bartlett Learning. ISBN: 9781284194142

Web Links:

1. https://onlinecourses.nptel.ac.in/noc20_me30/preview
2. <https://archive.nptel.ac.in/courses/110/107/110107141/>

Relevant cases have to be discussed in each unit and in examination case study is Compulsory from any unit.

CORPORATE FINANCE

Course Code: 2608MS11

L	T	P	C
3	0	1	4

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Explain the role and scope of the finance function in modern business.
- CO2:** Apply time value of money and valuation models in financial decisions.
- CO3:** Use capital budgeting techniques to evaluate investment decisions.
- CO4:** Analyze capital structure theories and measure cost of capital.
- CO5:** Assess dividend policies and their impact on firm valuation.

Mapping of Course Outcomes with Program Outcomes:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	2	2	2	2	3	2	2
CO2	3	3	3	2	2	3	2	2
CO3	3	3	3	2	3	3	3	2
CO4	3	3	3	3	2	3	3	2
CO5	3	3	3	3	3	3	2	2

Mapping of Course Outcomes with Program Specific Outcomes:

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	2
CO2	3	3	2
CO3	3	3	3
CO4	3	3	3
CO5	3	3	3

UNIT – I

The Finance Function: Nature and Scope, Evolution of Finance Function, Its New Role in the Contemporary Scenario, Goals of Finance Function, Profit Maximization and Wealth Maximization; Concept of Time Value of Money, Future Value and Present Value and the Basic Valuation Model.

UNIT – II

The Investment Decision: Investment Decision Process, Project Generation, Evaluation, Selection, Implementation. Developing Cash Flow, Data for New Projects, Capital Budgeting Techniques: Traditional and DCF Methods.

UNIT – III

Capital Structure and Cost of Capital: Capital Structure Theories: The Modigliani Miller Theory, NI, NOI Theory and Traditional Theory, Cost of Capital: Concept, Importance and Measurement of Cost of Capital, Weighted Average and Marginal Cost of Capital.

UNIT – IV

Dividend Decisions: Factors Determining Dividend Policy, Dividends and Valuation of the Firm, the Basic Models, Forms of Dividend. Declaration and Payment of Dividends. Bonus Shares, Rights Issue, Share splits, Major Forms of Dividends, Cash and Bonus Shares. Dividends and Valuation. Major Theories centered on the works of Gordon, Walter.

UNIT – V

Working Capital Management: Working Capital Management: Components of Working Capital, Gross vs. Net Working capital, Determinants of Working Capital Needs, the Operating Cycle Approach. Financing of Working Capital through Bank Finance and Trade Credit,

Textbooks:

1. Ross, S. A., Westerfield, R. W., Jaffe, J., & Jordan, B. D. (2021). *Corporate finance* (13th ed.). McGraw Hill Education. ISBN: 9781260772388.
2. Brealey, R. A., Myers, S. C., Allen, F., & Edmans, A. (2022). *Principles of corporate finance* (14th ed.). McGraw Hill Education. ISBN: 9781264080946

Reference Books:

3. Bratton, W. W. (2021). *Corporate finance: Cases and materials* (9th ed.). West Academic Publishing. ISBN: 9781684679270.
4. Haas, J. J. (2021). *Corporate finance* (2nd ed.). West Academic Publishing. ISBN: 9781647088651

Web Links:

3. https://onlinecourses.nptel.ac.in/noc20_mg31/preview
4. <https://archive.nptel.ac.in/courses/110/107/110107144/>

Relevant cases have to be discussed in each unit and in examination case study is compulsory from any unit.

BUSINESS COMMUNICATION AND SOFT SKILLS

	L	T	P	C
Course Code: 2608MS12	3	0	0	3

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Explain key managerial skills and personal competencies, including emotional intelligence and negotiation.
- CO2:** Apply team-building and networking skills to manage teams and collaborate across business functions.
- CO3:** Apply interpersonal and supportive communication skills for effective coaching, counselling, and personal interview management.
- CO4:** Analyze effective communication techniques and evaluate strategies for interviews, group discussions, and professional interactions in the context of technological advancements.
- CO5:** Analyze and construct various business documents and apply appropriate etiquette in professional communication and meetings.

Mapping of Course Outcomes with Program Outcomes:

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	2	2	3	3	2	1	1	1
CO2	2	3	3	2	2	1	1	1
CO3	3	2	3	2	2	1	1	1
CO4	2	3	3	3	2	1	1	1
CO5	2	2	2	3	2	1	1	1

Mapping of Course Outcomes with Program Specific Outcomes:

CO / PSO	PSO1	PSO2	PSO3
CO1	1	-	-
CO2	1	-	-
CO3	1	-	-
CO4	1	-	-
CO5	1	-	-

UNIT – I

Introduction to skills & personal skills: Importance of competent managers, skills of effective managers, developing self-awareness on the issues of emotional intelligence, self-learning styles, values, attitude towards change, learning of skills and applications of skills– Negotiation and assertiveness skills.

UNIT – II

Team building: Developing teams and team work, advantages of team, leading team, team membership. Team management, networking skills, interaction across business functions Skill development and skill application.

UNIT – III

Building relationship: Skills for developing positive interpersonal communication, importance of supportive communication, coaching and counselling, defensiveness and disconfirmation, principles of supportive communications. Personal interview management. Skill analysis and application on above areas. Reflective assessment on dimension of managerial success.

UNIT – IV

Writing CVs & Application Letter: Group discussions, interview, types of interview, candidates' preparation, Interviewers preparation; Impact of Technological Advancement on Business Communication- oral Communication, principles of successful oral communication, two sides of effective oral communication, effective listening, non – verbal communication, Body language, Paralanguage.

UNIT – V

Introduction to business letters: Types of business letter, Layout of business letter, Reports: definition & purpose, types of business reports, reports writing, letter for Job Application, Thank You Letter, Letter of Complaint, Memos. Meetings: need, importance & planning of Meetings, drafting of notice, agenda, minutes & resolutions of Meeting, writing memorandum, press release, press conference, Business etiquettes – netiquettes, telephonic & table etiquettes .

Textbooks:

1. Andrew J. Dubrin, Essentials of Management, Thomson Southwestern, 9th edition, 2012, ISBN-13. 978-8131517130
2. Samuel C. Certo and Tervis Certo, Modern management: concepts and skills, Pearson education, 12th edition, 2012. ISBN-10. 0132176319; ISBN-13. 978-0132176316

Reference Books:

1. Harold Koontz and Heinz Weihrich, Essentials of management: An International & Leadership Perspective, 9th edition, Tata McGraw– Hill Education, 2012. ISBN- 978-1259005121
2. P.D. Chaturvedi – Busines Communication (Pearson Education, 3st Edition 2006). ISBN-13 978-9332517608

Web Links:

1. <https://archive.nptel.ac.in/courses/110/105/110105052/>
2. <https://nptel.ac.in/courses/110105052>

Relevant cases have to be discussed in each unit and in examination case study is compulsory from any unit

MANAGEMENT INFORMATION SYSTEMS

	L	T	P	C
Course Code: 2608MS13	3	0	1	4

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Identify the information needs of an organization and a business function
- CO2:** Assess effectiveness of decision-making process and MIS design
- CO3:** Analyze DSS techniques for making effective decisions
- CO4:** Appraise the parameters for information systems process and application
- CO5:** Apply DBMS to attain the goals of the organization

Mapping of Course Outcomes with Program Outcomes:

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	3	2	2	3	1	1	1	2
CO2	3	3	3	2	2	2	1	2
CO3	2	3	3	3	3	2	2	2
CO4	2	2	2	3	3	2	1	2
CO5	3	3	3	2	3	2	1	3

Mapping of Course Outcomes with Program Specific Outcomes:

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	1
CO2	3	3	2
CO3	3	3	3
CO4	2	2	3
CO5	3	3	3

UNIT – I

Management Information System; Basic Concepts – Organization Structure – Business Functions – Role of MIS – MIS in Business - MIS Developing Process Models - Simon’s Model in Information System – Major Trends in Information Technology.

UNIT – II

Managerial Decision Making and MIS Design: Decision Making Process; Relationship between Decision-Making and MIS; Group Decision Making - Integrating Managerial Levels and Functional areas by MIS-Components of MIS. System and Design; Systems Development Initiate

UNIT – III

Different Methodologies: System Life Cycle Design - Prototype Approach - System Implementation. Decision Support System; Definitions of DSS – Architecture of DSS - Scope of DSS - Characteristic and Capabilities of DSS - Components of DSS – Modules in DSS- Classification of DSS – Steps in Designing a DSS.

UNIT – IV

Information System Applications and Process: MIS applications, DSS – GDSS - DSS applications in E enterprise - Knowledge Management System and Knowledge Based Expert System, Enterprise Model System and E-Business, E- Commerce, E-communication, Business

Process Reengineering. Technology of information system: Data process- Transaction and application process; Unified communication and network; Security challenges in E-enterprises; Security threats and vulnerability-Controlling security threat and vulnerability.

UNIT – V

Data Base Management System: Objectives of data base approach- Characters of database, Management systems- Data processing system- Components of DBMS packages, Data base administration, Data models, Data warehouse.

Textbooks:

1. Laudon, K. C., & Laudon, J. P. (2021). Management information systems: Managing the digital firm (17th ed.). Pearson. ISBN: 9780136971276.
2. Baltzan, P. (2024). M: Information systems (7th ed.). McGraw Hill Education. ISBN: 9781266609909

Reference Books:

1. Piccoli, G., & Pigni, F. (2022). Information systems for managers: In the digital age (5th ed.). Prospect Press. ISBN: 9781943153848.
2. Valacich, J. S., Schneider, C., & Hashim, M. (2021). Information systems today: Managing in the digital world (9th ed.). Pearson. ISBN: 9780136524656.

Web Links:

1. https://onlinecourses.nptel.ac.in/noc20_mg60/preview
2. <https://archive.nptel.ac.in/courses/122/105/122105022/>

Relevant cases have to be discussed in each unit and in examination case study is compulsory from any unit.

BUSINESS ETHICS AND CORPORATE GOVERNANCE

	L	T	P	C
Course Code: 2608MS14	2	0	1	3

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Analyze ethical frameworks and apply them to managerial decision-making in complex business environments.
- CO2:** Evaluate corporate governance structures, regulatory mechanisms, and board responsibilities.
- CO3:** Assess ethical risks, compliance systems, and stakeholder conflicts in domestic and global contexts.
- CO4:** Examine globalization challenges, international governance standards, and cross-cultural ethical issues.
- CO5:** Design CSR and ESG strategies aligned with sustainable development and long-term value creation.

Mapping of Course Outcomes with Program Outcomes:

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	3	2	2	3	2	1	1	2
CO2	2	3	2	3	2	1	1	2
CO3	2	3	3	2	2	1	1	2
CO4	3	3	2	3	2	1	1	2
CO5	2	2	2	3	3	1	1	3

Mapping of Course Outcomes with Program Specific Outcomes:

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	1
CO2	2	3	1
CO3	3	3	2
CO4	3	2	3
CO5	2	3	2

UNIT – I

Introduction to Business Ethics: Definition – Principles of Personal Ethics – Principles of Professional Ethics – The Development of Business Ethics – Importance and Need for Business Ethics – Significance of Business Ethics – Values and Ethics in Business.

UNIT – II

Corporate Governance – Introduction, Definitions – Historical Perspective of Corporate Governance – Significance of Corporate Governance in Developing Countries – Issues in Corporate Governance – Major Thrust Areas of Corporate Governance – Indian Model of Corporate Governance.

UNIT – III

Ethical Decision Making in Business – Ethical Decision making with Cross – Holder Conflicts and Competition – Applying Moral philosophy to Ethical Decision Making – Kohlberg’s Model of Cognitive Moral Development – Influences on Ethical Decision Making.

UNIT – IV

Globalization and Business Ethics – Growth of Global Corporations – Factors Facilitating Globalization – Role of Multinational Corporations – International Business Issues – International Codes of Business conduct – Challenges of Globalization in the context of Growing Market Economies – Key Global Issues for Business – Corporate Governance is a pre-requisite for Globalization.

UNIT – V

Corporate Social Responsibility: Concept, Definitions of CSR – Models for implementation of CSR – CSR as a business strategy for sustainable development – Advantages of CSR – Scope of CSR – Understanding Social Responsibility of Business – Protecting and Promoting Stake Holder’s Interests.

Textbooks:

1. Ghillyer, A. (2025). Business ethics now (6th ed.). McGraw Hill Education. ISBN: 9781260262513
2. Kumar, S., & Rai, A. K. (2021). Ethics and corporate governance. Cengage Learning. ISBN: 9789390555840.
3. Insolvency Governance: Law and Management Strategies for Corporate Revival by Prof. G. Satayanarayan
4. From Distress to Development: DIBC and India’s Economic Future by Prof. G. Satayanarayan

Reference Books:

1. Zimmerli, W. C., Holzinger, M., & Richter, K. (Eds.). (2021). Corporate ethics and corporate governance. Springer. ISBN: 9783540708186.
2. Mescher, B. (2021). Quick reference card: Business ethics (2nd ed.). LexisNexis Australia. ISBN: 9780409355819
3. . Business Ethics And Corporate Governance
4. By Dr. Vibha Suraj Bhusari, Dr. Laxmi R. Mahnatre

Web Links:

1. <https://archive.nptel.ac.in/courses/110/105/110105079/>
2. https://onlinecourses.swayam2.ac.in/cec19_mg24/preview

Relevant cases have to be discussed in each unit and in examination case study is compulsory from any unit.

BUSINESS TAXATION

Course Code: 2608MS15

L	T	P	C
3	1	0	4

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Explain the tax system in India, including the structure and powers of the Union and States to levy taxes.
- CO2:** Analyze the provisions related to small-scale industries and exports under Central Excise.
- CO3:** Assess various infringements of customs law, including offenses and penalties.
- CO4:** Analyze the impact of GST on businesses, including the impact on pricing, supply chain, and tax compliance.
- CO5:** Evaluate the assessment proceedings under GST, including the filing of returns and refunds.

Mapping of Course Outcomes with Program Outcomes:

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	3	2	2	2	2	1	1	3
CO2	2	3	2	2	2	2	1	2
CO3	2	3	3	2	2	2	1	2
CO4	3	3	3	2	2	2	2	3
CO5	3	2	3	2	3	2	2	3

Mapping of Course Outcomes with Program Specific Outcomes:

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	1
CO2	2	3	2
CO3	2	3	2
CO4	3	3	3
CO5	3	3	3

UNIT – I

Introduction: Objectives of Taxation - Canons of Taxation - Tax system in India - Direct and Indirect Taxes - Meaning and Types - Powers of Union and States to levy taxes- State Excise-CENVAT. Detail study of State Excise during calculation of Tax.

UNIT – II

Income Tax for Business: Residential status and tax incidence for businesses- Computation of business income- Allowable and disallowable expenses- Depreciation as per Income Tax rules- Tax planning vs. tax evasion for businesses- Set-off and carry forward of business losses- Tax Deducted at Source (TDS) compliance for businesses- Advance tax and self-assessment tax

UNIT – III

Customs Duty: Meaning - Levy and Collection of Customs Duty - Organization of the Customs Department - Officers of the Customs - Powers - Appellate machinery - Infringement of the law - Offences and Penalties - Exemption from Duty - Customs Duty Drawback - Duty Free Zones.

UNIT – IV

GST - Background behind implementing GST - The need for GST- Business impact Benefits of GST-SGST-CGST and IGST - Taxes covered by GST- Definitions - Scope and Coverage Scope of supply-Levy of tax - Rate Structure -Taxable Events.

UNIT – V

GST - Assessment Proceedings - Return - Refunds - Input Tax Credit - Reverse charge Mechanism, Transitional Provisions composition under GST- Administrative structure of GST - Officers as per CGST Act - Officers as per SGST Act - Jurisdiction - Appointment Powers.

Textbooks:

1. Spilker, B. C., Ayers, B. C., Barrick, J. A., Lewis, T., Robinson, J. R., & Worsham, R. G. (2022). McGraw Hill's taxation of business entities 2022 edition (13th ed.). McGraw Hill Education. ISBN: 9781264369058
2. Jones, S. M., Callaghan, S. R., & Rhoades-Catanach, S. C. (2021). Principles of taxation for business and investment planning 2021 edition (24th ed.). McGraw Hill Education. ISBN: 9781260247817.

Reference Books:

1. James, M. (2022). The taxation of small businesses 2022/2023 (15th ed.). Spiramus Press. ISBN: 9781913507319.
2. Lederman, L., & Cauble, E. (2025). Understanding corporate taxation (5th ed.). Carolina Academic Press. ISBN: 9781531033095

Web Links:

1. <https://www.youtube.com/watch?v=swrzarYcMvY>
2. https://www.youtube.com/watch?v=QUI_OevD3yw

Relevant cases have to be discussed in each unit and in examination case study is compulsory from any unit.

STRATEGIC MANAGEMENT

	L	T	P	C
Course Code: 2608MS16	2	0	1	3

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Explain the strategic context and terminology and aspects of strategic planning
- CO2:** Analyze the factors involved in strategy formulation and strategic analysis.
- CO3:** Assess the various approaches to strategy implementation
- CO4:** Compare different forms of corporate restructuring
- CO5:** Analyze different techniques of strategic evaluation and control

Mapping of Course Outcomes with Program Outcomes:

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	3	3	2	3	2	1	1	2
CO2	3	3	3	3	2	2	1	2
CO3	2	3	3	2	3	1	1	2
CO4	3	2	2	3	3	2	1	3
CO5	3	2	3	3	3	2	1	3

Mapping of Course Outcomes with Program Specific Outcomes:

CO/PSO	PSO1	PSO2	PSO3
CO1	3	2	1
CO2	3	3	2
CO3	3	3	2
CO4	3	2	3
CO5	3	3	3

UNIT – I

Introduction of Strategic Management: Strategic Context and Terminology; Definition of Strategy; Difference between policy, Strategy and Tactic; strategic planning- Difference between Long Range Planning and Strategic Planning; Characteristics of Strategic Decisions.

UNIT – II

Strategy Formulation: Mission, Vision & Strategic Intent, features of strategic goals. Social Responsibility and ethical decision making; analyzing the business environment: .Internal and External environment; **Macro Environment (PESTLE)** Porter's Industry Analysis; Five forces Model.

Strategic Analysis: SWOT, BCG Matrix, Ansoff Matrix, PIMS, Market Development, Product Development.

UNIT – III

Strategy Implementation: Strategy and structure; managing strategic change; establishing strategic controls; Management tools in strategy: Benchmarking; Benchmarking practices worldwide; Reengineering- Systematic approach, clean sheet approach, Reverse Engineering, Balanced Score card, Crisis Management, Strategic Agility – Exports-factors-Export incentives and govt. schemes, business valuation and factors effecting exports and imports.

UNIT – IV

Corporate Restructuring Forms of corporate restructuring; Rational for existence of firms; Organizational forms; Turnaround management; Joint Ventures & Strategic Alliances: Generic motives for a strategic alliance, types of strategic alliances; managing the alliances; Mergers & Acquisitions: Rational for mergers & acquisitions; Mergers types; Divestitures & Spin-offs: Liquidations and spin- offs.

UNIT – V

Strategic Evaluation and Control Strategic Evaluation and Control: Concept, Role, and Barriers; Control Process; Techniques of Strategic Evaluation and Control.

Textbooks:

1. Rothaermel, F. T. (2023). Strategic management (6th ed.). McGraw Hill Education. ISBN: 9781264124312
2. Dess, G. G., McNamara, G., Eisner, A. B., & Sauerwald, S. (2023). Strategic management: Text and cases (11th ed.). McGraw Hill Education. ISBN: 9781264124329

Reference Books:

1. Dyer, J. H., Godfrey, P., Jensen, R., & Bryce, D. (2022). Strategic management: Concepts and cases (4th ed.). Wiley. ISBN: 9781119763543
2. David, F. R., David, F. R., & David, M. E. (2023). Strategic management: A competitive advantage approach, concepts and cases (18th ed.). Pearson. ISBN: 9780138168315

Web Links:

1. <https://archive.nptel.ac.in/courses/110/108/110108047/>
2. <https://archive.nptel.ac.in/courses/110/105/110105161/>

Relevant cases have to be discussed in each unit and in examination case study is compulsory from any unit.

DESIGN THINKING AND INNOVATION

Course Code: 2622MS01

L	T	P	C
2	0	1	3

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Analyze the evolution and strategic relevance of Design Thinking in contemporary organizations.
- CO2:** Apply advanced empathy and research tools to identify unmet needs and define opportunity areas.
- CO3:** Develop innovative solutions using structured ideation, systems thinking, and business model frameworks.
- CO4:** Design, prototype, test, and refine scalable solutions using iterative innovation processes.
- CO5:** Evaluate innovation strategies, types of innovation, and mechanisms for building innovation-driven organizations.

Mapping of Course Outcomes with Program Outcomes:

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

Mapping of Course Outcomes with Program Specific Outcomes:

CO / PSO	PSO1	PSO2	PSO3
CO1	2	2	2
CO2	2	2	3
CO3	2	2	3
CO4	2	2	2
CO5	2	2	3

UNIT – I

Strategic Foundations of Design Thinking

Evolution of Design Thinking, human-centered innovation, design as a strategic capability, problem framing and reframing, systems thinking, design thinking in digital transformation, case discussions from Apple, IDEO, Airbnb, and Tesla.

UNIT – II

Empathy Research and Opportunity Identification

Advanced user research methods, ethnographic techniques, stakeholder mapping, customer journey mapping, identification of latent needs, defining “wicked problems,” translating insights into value propositions.

UNIT – III

Ideation and Business Model Innovation

Structured ideation techniques, design sprints, lateral thinking, blue ocean strategy, business model canvas, value proposition design, service design, innovation in products, processes and platforms.

UNIT – IV

Prototyping, Experimentation and Lean Innovation

Rapid prototyping methods, MVP (Minimum Viable Product), lean startup approach, experimentation frameworks, usability testing, risk validation, innovation metrics and learning loops.

UNIT – V

Innovation Strategy and Organizational Transformation

Types of innovation (incremental, disruptive, architectural, radical), innovation portfolio management, ambidextrous organizations, intrapreneurship, scaling innovation, innovation governance, culture and leadership for innovation.

Textbooks:

3. Gavin Ambrose, Paul Harris, Basics Design - 8: Design Thinking, illustrated, reprint, AVA Publishing, ISBN-10:2940411174, ISBN-13: 978-2940411177.
4. Christian Müller-Roterberg, Handbook of Design Thinking, Kindle Direct Publishing, ISBN: 978-1790435371.

Reference Books:

3. C S G Krishnamacharyulu & Lalitha R, Innovation Management, Himalaya Publishing House. ISBN-10:9350979209, ISBN-13: 978-9350979204.
4. Vinnie Jauhari, Sudanshu Bhushan, Innovation Management, Oxford Higher Education. ISBN-10: 0198080980, ISBN-13: 978-0198080985.

Web Links:

3. https://onlinecourses.nptel.ac.in/noc22_mg32/preview
4. https://onlinecourses.swayam2.ac.in/imb23_mg65/preview

Relevant cases have to be discussed in each unit and in examination case study is compulsory from any unit.

STARTUP AND NEW VENTURE

	L	T	P	C
Course Code: 2622MS02	2	0	1	3

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Explain the Entrepreneurial mindset, strategic perspectives, and growth strategies for entrepreneurial firms.
- CO2:** Analyze various types of business models and revenue models in the context of entrepreneurship.
- CO3:** Conduct a comprehensive feasibility study covering technical, market, financial, organizational, and legal aspects.
- CO4:** Identify and analyze target customer segments using various segmentation approaches and market research techniques.
- CO5:** Evaluate and strengthen business models using SWOT analysis, Porter's Five Forces, and market positioning strategies.

Mapping of Course Outcomes with Program Outcomes:

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	3	2	2	3	3	2	2	3
CO2	2	3	2	3	3	2	3	3
CO3	3	2	3	2	2	3	2	3
CO4	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3

Mapping of Course Outcomes with Program Specific Outcomes:

CO/PSO	PSO1	PSO2	PSO3
CO1	3	3	2
CO2	2	3	3
CO3	3	2	3
CO4	3	3	3
CO5	3	3	3

UNIT – I

Entrepreneurial Mindset and Strategic Perspectives: Evolution and Role of Entrepreneurship, Entrepreneurial Qualities and Skills, Types and Functions of Entrepreneurs, Approaches and Process of Entrepreneurship, Entrepreneurial Journey and Personality, Motivations and Competencies, Entrepreneurial Stress, Strategic Planning and Positioning, Business Stabilization, Adaptive and Growing Firms, Growth Strategies (Internal & External), Managerial Challenges in Growth.

UNIT – II

Business Model Basics: Introduction to Business Models-Types of Business Models-Traditional v/s New age business Model, Revenue Models: Introduction of the types of revenue models, Advertising Model, Affiliate Model, Selling Real Model- Web Sales,

Channel Sales, Retail Sales Model, Selling Virtual model- Freemium Model, Licensing Model, Subscription Model, aggregator business models (OLA, UBER)

UNIT – III

Feasibility Study: Meaning and Importance of Feasibility Study, Steps in Conducting a Feasibility Study, Technical Feasibility, Market Feasibility, Financial Feasibility, Organizational Feasibility, Legal and Regulatory Feasibility, Market Analysis, Demand Forecasting, Cost Estimation, Revenue Projections, Break-even Analysis, SWOT Analysis, Sensitivity Analysis, Components of a Feasibility Report, Feasibility vs Business Plan, Common Mistakes in Feasibility Studies.

UNIT – IV

Segment Profiling: Geographic / Demographic, Behavioural / Psychographic, Target Segment, Customer Segment, Size / TAM, Segment Profiling, Types of Segment Profiling, Different Approaches to Segment Profiling, Market Research Techniques for Understanding Customer Segments, Competitive Activity, Risks, Approach to deal with existing risk

UNIT – V

Evaluating Strength of Business Model: SWOT Analysis, Porter's Five Forces Analysis, Marketing Strategies-Market positioning, Tangible and perceived value of a product, Exploring International Markets and Global Expansion, Growth Potential: Target Segment Collaboration, , **Failure of Business model:** Reasons why does a business model fail, Approaches to revive the failure of business model

Textbooks:

1. Allen, K. R. (2021). Launching new ventures: An entrepreneurial approach (8th ed.). Cengage Learning. ISBN: 9780357039175
2. Neck, H. M., Neck, C. P., & Murray, E. L. (2023). Entrepreneurship: The practice and mindset (3rd ed.). SAGE Publications. ISBN: 9781071884874

Reference Books:

1. Shepherd, D. A., & Patzelt, H. (2021). Entrepreneurial strategy: Starting, managing, and scaling new ventures. Palgrave Macmillan. ISBN: 9783030789343.
2. Kuratko, D. F., & Hornsby, J. S. (2021). New venture management: The entrepreneur's roadmap (3rd ed.). Routledge. ISBN: 9780367466725

Web Links:

1. https://onlinecourses.nptel.ac.in/noc22_mg32/preview
2. <https://elearn.nptel.ac.in/shop/iit-workshops/ongoing/innovation-and-entrepreneurship-a-multidisciplinary-approach/?v=c86ee0d9d7ed>

Relevant cases have to be discussed in each unit and in examination case is compulsory from any unit.

ENVIRONMENTAL SCIENCE AND SUSTAINABILITY

Course Code: 2622MS03

L	T	P	C
2	0	1	3

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Analyze environmental systems, ecosystem services, and sustainability challenges from a managerial perspective.
- CO2:** Evaluate environmental risks, regulatory frameworks, and corporate compliance mechanisms.
- CO3:** Apply sustainability principles in resource management, energy transition, carbon management, and circular economy models.
- CO4:** Assess ESG frameworks and sustainability reporting standards for strategic and investor-oriented decision-making.
- CO5:** Design sustainable business strategies aligned with SDGs, climate action, and responsible governance principles.

Mapping of Course Outcomes with Program Outcomes:

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	1	1	1	–	2	–	–	3
CO2	1	2	2	–	3	1	1	3
CO3	1	2	2	–	2	1	3	3
CO4	–	1	1	–	3	1	–	2
CO5	1	2	2	1	3	2	2	3

Mapping of Course Outcomes with Program Specific Outcomes:

CO / PSO	PSO1	PSO2	PSO3
CO1	1	-	2
CO2	1	2	2
CO3	2	2	3
CO4	1	1	2
CO5	2	2	3

UNIT – I

Environmental Systems and Business Sustainability

Ecosystem services, biodiversity risk, climate change, planetary boundaries, stakeholder responsibility, and strategic integration of sustainability into business decision-making.

UNIT – II

Environmental Risk and Corporate Compliance

Environmental pollution impacts, regulatory frameworks including Water Act 1974, Air Act 1981 and EPA 1986, environmental risk assessment, compliance systems, and environmental auditing.

UNIT – III

Sustainable Resource Management and Energy Transition

Renewable and non-renewable resource economics, energy management, carbon footprint and carbon markets, circular economy principles, and sustainable supply chain practices.

UNIT – IV

ESG and Sustainability Reporting Frameworks

ESG concepts, sustainability reporting standards (GRI, TCFD, SASB), ISO 14001, life cycle assessment, environmental impact assessment, and ESG integration into corporate strategy.

UNIT – V

Sustainable Strategy and SDG Alignment

UN Sustainable Development Goals, green innovation, climate risk disclosure, inclusive growth, ethical governance, and sustainable business model development.

Textbooks:

1. Benny Joseph, *Environmental Science and Engineering* ‘, Tata McGraw-Hill, New Delhi. ISBN-10:9387432351, ISBN-13: 978-9387432352.
2. Anubha Kaushik and C. P. Kaushik’s —*Perspectives in Environmental Studies*l, 6th Edition, New Age International Publishers. ISBN-10:9789386418630, ISBN-13:978-9386418630.

Reference Books:

3. R.K. Trivedi, *Handbook of Environmental Laws, Rules, Guidelines, Compliances and Standards*, Vol. I and II, Enviro Media. ISBN-10: 8178002213, ISBN-13:978-8178002217.
4. Cunningham, W.P. Cooper, T.H. Gorhani, *Environmental Encyclopedia*, Jaico Publ., House, Mumbai. ISBN-10:8172247869, ISBN-13: 978-8172247867.

Web Links:

3. https://onlinecourses.nptel.ac.in/noc23_hs155/preview
4. https://onlinecourses.swayam2.ac.in/nou20_agl2/preview

Relevant cases have to be discussed in each unit and in examination case study is compulsory from any unit.

BUSINESS RESEARCH METHODOLOGY

Course Code: 2608MS08

L	T	P	C
3	1	0	4

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Explain the foundations of scientific research, research process, research design, and ethical considerations in business research.
- CO2:** Design appropriate research frameworks including sampling methods, measurement scales, and data collection techniques.
- CO3:** Analyze and process primary and secondary data using appropriate classification, tabulation, and statistical techniques.
- CO4:** Apply statistical inference methods including hypothesis testing, parametric and non-parametric tests, and ANOVA for decision-making.
- CO5:** Evaluate and apply multivariate analysis techniques and prepare professional research reports.

Mapping of Course Outcomes with Program Outcomes:

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	3	2	2	3	2	1	3	2
CO2	3	3	2	2	3	2	2	3
CO3	3	3	3	3	3	3	2	3
CO4	3	3	3	3	2	3	3	3
CO5	3	3	3	3	3	3	3	3

Mapping of Course Outcomes with Program Specific Outcomes:

CO/PSO	PSO 1	PSO 2	PSO 3
CO1	3	2	2
CO2	3	3	2
CO3	3	3	3
CO4	3	3	3
CO5	3	3	3

UNIT – I

Introduction: Meaning of research, research methodology, scientific research, objectives, Nature and Importance of Research, The role of Business Research, Types of Research, Steps in Research process, criteria for good research, problems by encountered by researchers in India, ethical issues in business research.

UNIT – II

Data Collection: Defining Research Problem, Selection of an appropriate survey research design, types of research designs, sampling design, types of sample designs-Random and

non random sample designs, measurement and scaling techniques- Nominal Scale, Ordinal Scale, Interval Scale, Ratio Scale.

UNIT – III

Survey Research and Data Classification: Types of Data, primary data collection methods, secondary data collection methods, Data processing operations-editing, coding, classification, tabulation and Graphic Presentation, problems in data processing, types of data analysis- univariate, bivariate and multivariate.

UNIT – IV

Statistical Inference: Formulation of Hypothesis, Introduction to Null hypothesis vs. alternative hypothesis, Tests of Hypothesis- univariate and bivariate, parametric vs. non-parametric tests, procedure for testing of hypothesis, t tests, Z tests, Chi Square test, ANOVA- one-way & two way.

UNIT – V

Multivariate Analysis: Nature of multivariate analysis, classifying multivariate techniques, analysis of dependence, analysis of interdependence, multiple regression, factor analysis, cluster analysis, discriminant analysis, Report writing.

Textbooks:

1. Schindler, P. S. (2021). Business research methods (14th ed.). McGraw Hill Education. ISBN: 9781260733723
2. Hair, J. F., Page, M., & Brunsveld, N. (2023). Essentials of business research methods (5th ed.). Routledge. ISBN: 9780367757793.

Reference Books:

1. 1. Aguinis, H. (2025). Research methodology: Best practices for rigorous, credible, and impactful research. SAGE Publications. ISBN: 9781071839141
2. 2. Gorard, S. (2021). How to make sense of statistics: Everything you need to know about using numbers in social science. SAGE Publications. ISBN: 9781526413826
3. Robert S Witte and John S Witte, Statistics, Wiley. ISBN: 978-1-119-25451-5

Web Links:

1. https://onlinecourses.swayam2.ac.in/cec20_mg14/preview
2. <https://archive.nptel.ac.in/courses/110/107/110107080/>

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DISCIPLINE SPECIFIC COURSES (BUSINESS ANALYTICS)

APPLIED BUSINESS STATISTICS AND DESCRIPTIVE STATISTICS

Course Code: 2622MS04

L T P C
3 0 1 4

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Frame managerial problems as statistical questions and identify appropriate data types and sampling approaches.
- CO2:** Apply descriptive statistics and exploratory data analysis techniques to summarize and understand business data.
- CO3:** Model business uncertainty using probability distributions and expected value concepts.
- CO4:** Formulate and solve linear optimization problems using spreadsheet-based decision models.
- CO5:** Analyze managerial decisions using decision trees, scenarios, and integrated statistical and optimization techniques.

Mapping of Course Outcomes with Program Outcomes:

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	2	2	1	1	1	1	1
CO2	3	3	2	1	2	1	1	1
CO3	3	3	3	2	1	1	1	1
CO4	3	3	2	2	2	2	2	1
CO5	3	3	3	2	2	3	2	1

Mapping of Course Outcomes with Program Specific Outcomes:

CO / PSO	PSO1	PSO2	PSO3
CO1	3	2	1
CO2	3	3	1
CO3	3	3	2
CO4	3	3	2
CO5	3	3	3

UNIT – I

Role of Statistics in Business & Data Foundations

Role of statistics in managerial decision-making; framing business problems as analytical questions; types of data and measurement scales (nominal, ordinal, interval, ratio); data collection methods; sampling techniques and sources of bias; data quality checks and preparation of clean data tables for analysis.

UNIT – II

Descriptive Statistics & Exploratory Data Analysis (EDA)

Measures of central tendency and dispersion; interpretation of mean, median, mode, variance, and standard deviation; use of percentiles and quartiles; identifying outliers and patterns; exploratory visualization using histograms, box plots, and dashboards.

UNIT – III**Probability & Risk: Distributions and Expected Value**

Introduction to probability concepts; discrete and continuous probability distributions; binomial and normal distributions; expected value and variance; application of probability models to business risk and return analysis.

UNIT – IV**Optimization with Linear Programming & Decision Models**

Introduction to optimization in business; formulation of objective functions and constraints; linear programming models for allocation and scheduling problems; use of Solver for optimization; interpretation of sensitivity analysis, binding constraints, and shadow prices.

UNIT – V**Decision Analytics & Capstone Integration**

Decision-making under uncertainty using decision trees, payoff tables, and scenario analysis, Integration of exploratory data analysis, probability, and optimization in business decision model, Development of comprehensive business case solutions with documented assumptions and transparent methodology, Visualization and communication of data-driven insights effectively to managerial stakeholders.

Textbooks:

1. Anderson, D. R., Sweeney, D. J., & Williams, T. A. *Statistics for Business & Economics*, 14th Edition, 2019, Cengage Learning, ISBN-13: 978-1337901062
2. Levine, D. M., Stephan, D. F., & Szabat, K. A. *Business Statistics: A First Course*, 8th Edition, 2017, Pearson, ISBN-13: 978-0134497167

Reference Books:

1. Keller, G, *Statistics for Management and Economics*, 11th Edition, 2018, Cengage Learning.
ISBN-13: 978-1337093453
2. Winston, W. L, *Microsoft Excel Data Analysis and Business Modeling*, 5th Edition, 2019. Microsoft Press, ISBN-13: 978-1509307004

Web Links:

1. https://nptel.ac.in/courses/110107114?utm_source=chatgpt.com
2. https://www.coursera.org/specializations/business-statistics-analysis?utm_source=chatgpt.com

Relevant cases have to be discussed in each unit and in examination case study is compulsory from any unit.

MARKETING ANALYTICS FOR BUSINESS

Course Code: 2622MS05

L T P C
3 0 1 4

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Define marketing analytics objectives and select appropriate KPIs across acquisition, engagement, and retention.
- CO2:** Analyze customer journeys and compute cohort-based retention and customer lifetime value.
- CO3:** Apply pricing and elasticity models to evaluate revenue and margin trade-offs.
- CO4:** Segment customers using analytical techniques and identify actionable target segments.
- CO5:** Design and evaluate marketing experiments, assess campaign effectiveness using ROI and uplift metrics, and communicate insights through executive-level dashboards and storytelling.

Mapping of Course Outcomes with Program Outcomes:

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	2	2	1	1	1	2	1
CO2	3	3	2	1	2	2	2	1
CO3	3	3	2	2	1	2	2	1
CO4	3	3	2	2	2	2	2	1
CO5	3	3	3	2	2	3	3	1

Mapping of Course Outcomes with Program Specific Outcomes:

CO / PSO	PSO1	PSO2	PSO3
CO1	3	2	2
CO2	3	3	3
CO3	3	3	3
CO4	3	3	3
CO5	3	3	3

UNIT – I

Marketing Analytics Foundations & KPIs

Introduction to marketing analytics; role of analytics in marketing decision-making; identification of marketing objectives across acquisition, engagement, and retention; definition of key performance indicators; north-star metrics; funnel metrics including traffic, click-through rate, and conversion; basic concepts of attribution and measurement planning.

UNIT – II

Customer Journey Mapping & Cohort / CLV Analysis

Concept of customer journey mapping; identification of touchpoints across channels; construction of cohort tables; analysis of retention and churn; estimation of customer lifetime value using simple and margin-adjusted approaches; role of discount rate and margins in CLV interpretation.

UNIT – III

Pricing & Elasticity Modeling

Introduction to pricing analytics; measurement of price sensitivity and elasticity of demand; estimation of demand curves using regression intuition; simulation of revenue and profit under alternative price points; use of Solver to identify optimal pricing under business constraints.

UNIT – IV

Segmentation & Targeting (Cluster Analysis)

Purpose of segmentation in marketing strategy; selection of behavioral and demographic features; feature scaling and distance measures; concept and steps of k-means clustering; profiling and interpretation of segments; selection of target segments and visualization of segment characteristics.

UNIT – V

Promotion Analytics, Dashboards & Executive Communication

Design of marketing experiments including A/B testing frameworks, statistical significance, and power, Measurement of uplift, incremental lift, campaign ROI, and common attribution pitfalls, Design and development of marketing dashboards with appropriate metric selection and visual hierarchy, Crafting data-driven narratives and linking analytical insights to strategic marketing decisions.

Textbooks:

1. Farris, P. W., Bendle, N. T., Pfeifer, P. E., & Reibstein, D. J., *Marketing Metrics: The Manager's Guide to Measuring Marketing Performance*, 3rd Edition, 2015, Pearson Education, ISBN-13: 978-0134085968
2. Lilien, G. L., Rangaswamy, A., & De Bruyn, A., *Principles of Marketing Engineering and Analytics*, 3rd Edition, 2017, DecisionPro, Inc, ISBN-13: 978-0985764814

Reference Books:

1. Kaushik, A., *Web Analytics 2.0: The Art of Online Accountability and Science of Customer Centricity*, 1st Edition, 2010, Sybex (Wiley Publishing), ISBN-13: 978-0470529393
2. Knaflitz, S. N., *Storytelling with Data: A Data Visualization Guide for Business Professionals*, 1st Edition, 2015, Wiley, ISBN-13: 978-1119002253

Web Links:

1. <https://www.coursera.org/specializations/marketing-analytics>
2. <https://nptel.ac.in/courses/110107122>

Relevant cases have to be discussed in each unit and in examination case study is compulsory from any unit.

FINANCIAL ANALYTICS & MODELING

Course Code: 2622MS06

L	T	P	C
3	0	1	4

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Interpret financial statements and evaluate firm performance using ratio and trend analysis.
- CO2:** Apply capital budgeting techniques to assess and compare investment projects.
- CO3:** Value bonds and equities using fundamental valuation models and market-based multiples.
- CO4:** Develop integrated financial models linking income statement, balance sheet, and cash flow.
- CO5:** Assess financial risk using sensitivity analysis and spreadsheet-based Monte Carlo simulation, and communicate insights through dashboards and executive-level reports.

Mapping of Course Outcomes with Program Outcomes:

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	2	1	1	-	1	1	-
CO2	3	3	1	1	-	2	1	-
CO3	3	3	1	1	-	2	1	-
CO4	3	3	1	1	1	2	3	-
CO5	3	3	2	2	1	3	3	1

Mapping of Course Outcomes with Program Specific Outcomes:

CO / PSO	PSO1	PSO2	PSO3
CO1	3	1	2
CO2	3	2	3
CO3	3	2	3
CO4	3	2	3
CO5	3	3	3

UNIT – I

Financial Statements & Ratio Analysis

Structure and interpretation of income statement, balance sheet, and cash flow statement; common-size financial statements; profitability, liquidity, leverage, and efficiency ratios; DuPont analysis; trend analysis for financial performance evaluation.

UNIT – II

Capital Budgeting & Project Evaluation

Principles of capital budgeting; estimation of project cash flows; discounted cash flow (DCF) approach; net present value (NPV), internal rate of return (IRR), payback period, and

profitability index; consideration of taxes, inflation, and hurdle rates; conceptual understanding of weighted average cost of capital (WACC).

UNIT – III

Equity & Bond Valuation

Bond valuation concepts; bond pricing, yield to maturity, and duration; intuition of convexity; equity valuation using dividend discount models; valuation using market multiples; comparison and interpretation of valuation outcomes.

UNIT – IV

Integrated Financial Modeling in Excel

Structure of integrated financial models; linking income statement, balance sheet, and cash flow statement; revenue drivers and cost schedules; modeling depreciation and working capital; scenario toggles; managing circular references and model integrity.

UNIT – V

Financial Risk Analysis, Monte Carlo Simulation & Executive Reporting

Understanding financial uncertainty and risk; one-way and two-way sensitivity analysis using spreadsheet data tables; introduction to Monte Carlo simulation using random number generation; interpretation of probability distributions and outcome percentiles; translating financial model outputs into management reports; selection of relevant financial KPIs; dashboard design for financial decision-making; variance analysis; and communicating insights and strategic recommendations to executives.

Textbooks:

1. Financial Modeling, Benninga, S., 4th Edition, 2018, MIT Press, ISBN: 978-0262027288
2. Fundamentals of Corporate Finance, Ross, S. A., Westerfield, R. W., & Jordan, B. D., 12th Edition, 2019, McGraw-Hill Education, ISBN: 978-1260772385

Reference Books:

1. Applied Corporate Finance, Damodaran, A., 4th Edition, 2014, Wiley, ISBN: 978-1118808938
2. Microsoft Excel Data Analysis and Business Modeling, Winston, W. L., 5th Edition, 2014, Microsoft Press, ISBN: 978-0735669137

Web Links:

1. <https://nptel.ac.in/courses/110/105/110105255/>
2. <https://www.coursera.org/specializations/wharton-business-financial-modeling>

Relevant cases have to be discussed in each unit and in examination case study is compulsory from any unit.

HR ANALYTICS AND WORKFORCE INTELLIGENCE

	L	T	P	C
Course Code: 2622MS07	3	0	1	4

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Define HR key performance indicators and establish data governance and privacy frameworks.
- CO2:** Forecast workforce demand and supply and design staffing and skill-mix plans.
- CO3:** Analyze attrition patterns and assess retention risks using basic predictive approaches.
- CO4:** Design transparent dashboards linking performance, productivity, and engagement metrics.
- CO5:** Evaluate talent acquisition effectiveness and diversity metrics using responsible analytics, and translate HR analytics insights into evidence-based policies while addressing ethical considerations and risk.

Mapping of Course Outcomes with Program Outcomes:

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	3	3	1	1	2	1
CO2	3	3	1	1	1	2	2	1
CO3	3	3	2	2	1	2	2	1
CO4	3	3	2	2	2	2	3	1
CO5	3	3	3	3	2	3	3	2

Mapping of Course Outcomes with Program Specific Outcomes:

CO / PSO	PSO1	PSO2	PSO3
CO1	3	1	2
CO2	3	2	3
CO3	3	2	3
CO4	3	2	3
CO5	3	3	3

UNIT – I

HR Metrics, Data Architecture & Governance

Role of analytics in strategic HR management; definition and calculation of core HR KPIs such as time-to-fill, attrition, and engagement; HRIS data structures and integration; data governance principles; privacy, PII handling, and role-based access controls.

UNIT – II

Workforce Planning & Demand / Supply Modeling

Concept of workforce planning; forecasting headcount requirements; modeling hiring pipelines and ramp-up periods; capacity planning; analysis of skill mix requirements; use of forecasts to support strategic workforce decisions.

UNIT – III

Attrition & Retention Analytics

Measurement of employee attrition; identification of attrition drivers; event rates and basic survival analysis intuition; logistic regression concepts for attrition risk estimation; interpretation of odds ratios and feature importance; limitations and ethical considerations of predictive HR analytics.

UNIT – IV

Performance, Productivity & Engagement Dashboards

Linking performance ratings, engagement scores, and productivity outcomes; normalization of performance measures; design of composite indices; bias awareness and fairness considerations; development of transparent and interpretable HR dashboards.

UNIT – V

Talent Acquisition, Diversity Analytics & HR Policy Integration

Analytics for talent acquisition including evaluation of sourcing channels, recruitment funnel metrics, and conversion analysis; optimization of hiring processes; measurement and monitoring of diversity indicators with responsible use of diversity analytics; integration of workforce, attrition, and performance analytics; translation of analytical insights into evidence-based HR policy proposals; cost–benefit and risk analysis; change management considerations; and ethical use of employee data.

Textbooks:

1. Predictive Analytics for Human Resources, Fitz-Enz, J., & Mattox, J. R. II, 1st Edition, 2014, Wiley, ISBN-10: 1118893670 | ISBN-13: 978-1118893678
2. HR Analytics: A Textbook, Mande, A., Patil, V., *et al.*, 2024, Himalaya Publishing House, ISBN-10: 935840390X | ISBN-13: 978-9358403909

Reference Books:

1. HR Analytics: Driving Return on Human Capital, Rasmussen, T. & Ulrich, D., 1st Edition (approx. 2015), McGraw-Hill Education, *Exact ISBN not readily available (commonly cited in academic sources)*.
2. Human Resource Management: People, Data, and Analytics, Bauer, T., Erdogan, B., Caughlin, D., & Truxillo, D., 1st Edition, 2019, SAGE Publications, ISBN-10: 1506363121 | ISBN-13: 978-1506363127

Web Links:

1. <https://nptel.ac.in/courses/110/105/110105255/>
2. <https://www.coursera.org/specializations/wharton-people-analytics>

Relevant cases have to be discussed in each unit and in examination case study is compulsory from any unit.

PREDICTIVE ANALYTICS AND FORECASTING

Course Code: 2622MS08

L	T	P	C
3	0	1	4

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Explain the predictive analytics lifecycle and prepare data for model development responsibly.
- CO2:** Build and interpret regression models and evaluate assumptions and diagnostics.
- CO3:** Develop baseline forecasting models and assess forecast accuracy.
- CO4:** Analyze time series components and incorporate seasonality into forecasts.
- CO5:** Apply introductory text analytics techniques to transform unstructured documents into predictive features, and execute an end-to-end predictive analytics project while communicating business value and ROI.

Mapping of Course Outcomes with Program Outcomes:

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	3	2	2	1	2	2	1
CO2	3	3	2	1	1	2	2	1
CO3	3	3	2	1	1	2	2	1
CO4	3	3	2	1	1	2	2	1
CO5	3	3	3	2	2	3	3	1

Mapping of Course Outcomes with Program Specific Outcomes:

CO / PSO	PSO1	PSO2	PSO3
CO1	2	1	3
CO2	3	2	3
CO3	3	2	3
CO4	3	2	3
CO5	3	3	3

UNIT – I

Predictive Analytics Process & Data Preparation

Overview of predictive analytics in business; predictive analytics process and CRISP-DM framework; definition of target variables; train-test and validation splits; handling missing values; data leakage risks and prevention; basic feature preparation using spreadsheets and Python.

UNIT – II

Regression Fundamentals & Diagnostics

Simple and multiple linear regression models; ordinary least squares (OLS) estimation; interpretation of regression coefficients; goodness-of-fit measures including R-squared and

adjusted R-squared; assumption checking; multicollinearity and variance inflation factor (VIF); residual analysis and diagnostics.

UNIT – III

Forecasting Basics: Moving Averages & Exponential Smoothing

Role of forecasting in business planning; moving average methods; simple exponential smoothing; Holt and Holt–Winters methods; parameter selection; forecast accuracy measures such as MAPE and RMSE; comparison of baseline forecasts.

UNIT – IV

Time Series Decomposition & Seasonality

Components of time series data; trend, seasonality, and irregular components; additive and multiplicative decomposition models; seasonal adjustment and deseasonalization; STL decomposition intuition; improving forecasts using decomposition insights.

UNIT – V

Regression & Predictive Modeling Fundamentals

Target variables and problem framing; train–test and validation splits; handling missing values; data leakage risks and prevention; simple and multiple linear regression models; ordinary least squares (OLS) estimation; interpretation of regression coefficients; goodness-of-fit measures including R-squared and adjusted R-squared; assumption checking; multicollinearity and variance inflation factor (VIF); residual analysis and diagnostics; basic feature preparation using spreadsheets and Python.

Textbooks:

1. Data Mining for Business Analytics, Shmueli, G., Bruce, P., Yahav, I., Patel, N., & Lichtendahl, K., 1st Edition, 2020, Wiley, ISBN-13: 978-1119549840
2. Forecasting: Principles and Practice, Hyndman, R. J., & Athanasopoulos, G., 3rd Edition, 2021, OTexts, ISBN-13: 978-0987507119

Reference Books:

1. Introduction to Linear Regression Analysis, Montgomery, D. C., Peck, E. A., & Vining, G. G., 5th Edition, 2012, Wiley, ISBN-13: 978-0470542818
2. Data Science for Business, Provost, F., & Fawcett, T., 1st Edition, 2013, O'Reilly Media, ISBN-13: 978-1449361327

Web Links:

1. https://nptel.ac.in/courses/110104743?utm_source=chatgpt.com
2. https://nptel.ac.in/courses/106101578?utm_source=chatgpt.com

Relevant cases have to be discussed in each unit and in examination case study is compulsory from any unit.

BIG DATA AND MACHINE LEARNING APPLICATIONS

Course Code: 2622MS09

L	T	P	C
3	0	1	4

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Explain big data architectures and identify appropriate tools for large-scale business problems.
- CO2:** Compare NoSQL data models with relational databases and design schemas for analytics use cases.
- CO3:** Apply clustering techniques to segment data and interpret clusters for managerial decisions.
- CO4:** Build basic recommendation systems and evaluate their performance.
- CO5:** Develop and interpret decision tree models, and design an end-to-end machine learning workflow incorporating fairness, privacy, and governance considerations.

Mapping of Course Outcomes with Program Outcomes:

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	1	1	1	2	3	1
CO2	3	3	1	1	1	2	3	1
CO3	3	3	2	1	1	2	2	1
CO4	3	3	2	1	1	2	2	1
CO5	3	3	3	2	2	3	3	1

Mapping of Course Outcomes with Program Specific Outcomes:

CO / PSO	PSO1	PSO2	PSO3
CO1	2	1	3
CO2	3	2	3
CO3	3	2	3
CO4	3	2	3
CO5	3	3	3

UNIT – I

Big Data Foundations and Architectures

Introduction to big data in business; characteristics of big data and scalability challenges; distributed storage and computing concepts; HDFS, YARN, and MapReduce architecture; batch versus stream processing; data lake patterns and use cases; criteria for selecting big data tools.

UNIT – II

NoSQL Data Models for Analytics

Limitations of traditional relational databases at scale; overview of NoSQL databases; document, column-family, and key-value stores; schema design for analytics workloads;

indexing strategies; eventual consistency and CAP theorem intuition; basic CRUD operations and use cases.

UNIT – III

Clustering and Unsupervised Learning

Role of unsupervised learning in business analytics; k-means clustering algorithm; hierarchical clustering concepts; feature scaling and distance measures; selection of number of clusters; cluster validation using inertia and silhouette intuition; business interpretation of clusters.

UNIT – IV

Recommendation Systems

Introduction to recommendation systems; collaborative filtering approaches; content-based recommendation methods; user-item matrix construction; similarity measures; cold-start problem and mitigation strategies; evaluation metrics such as precision and recall.

UNIT – V

Decision Trees & End-to-End Machine Learning Workflow

Decision trees for classification and regression; tree structure and splitting criteria including Gini index and entropy; handling overfitting and model complexity; pruning techniques; interpretation of decision trees and feature importance; integration of tree-based models within a complete machine learning workflow from data ingestion to deployment; data preparation and feature engineering; model training, validation, monitoring, and performance reporting; communication of results to stakeholders; and awareness of fairness, bias, privacy, documentation, and governance considerations in machine learning solutions.

Textbooks:

1. Mining of Massive Datasets, Leskovec, J., Rajaraman, A., & Ullman, J. D., 3rd Edition, 2020, Cambridge University Press, ISBN-13: 978-1108476345
2. Data Mining for Business Analytics, Shmueli, G., Bruce, P., Yahav, I., et al., 1st Edition, 2020, Wiley, ISBN-13: 978-1119549840

Reference Books:

1. Data Science for Business, Provost, F., & Fawcett, T., 1st Edition, 2013, O'Reilly Media, ISBN-13: 978-1449361327
2. Hands-On Machine Learning with Scikit-Learn, Keras, and TensorFlow, Géron, A., 2nd Edition, 2019, O'Reilly Media, ISBN-13: 978-1492032649

Web Links:

1. <https://nptel.ac.in/courses/106106202>
2. <https://nptel.ac.in/courses/106106224>

Relevant cases have to be discussed in each unit and in examination case study is compulsory from any unit.

MANDATORY COURSES

CORPORATE READINESS-I

Course Code: 2608MS83

L	T	P	C
2	0	0	0

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Make use of online tools for networking and profile building
- CO2:** Develop personal interview and soft skills
- CO3:** Build effective note taking skills
- CO4:** Take part in Group discussion sessions.
- CO5:** Making and delivering presentations.

Mapping of Course Outcomes with Program Outcomes:

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	2	2	2	3	3	1	3	2
CO2	3	2	2	2	2	2	3	3
CO3	2	2	1	1	2	2	2	2
CO4	2	2	2	2	2	2	3	3
CO5	3	2	2	2	2	2	2	3

Mapping of Course Outcomes with Program Specific Outcomes:

CO / PSO	PSO1	PSO2	PSO3
CO1	2	2	2
CO2	3	3	2
CO3	2	2	1
CO4	3	2	2
CO5	3	2	2

UNIT – I

Use Online Tools to Get More Opportunities

Introduce Yourself Professionally:

what is an Elevator pitch

Create an elevator pitch to introduce yourself professionally.

Build Your Personal Brand:

what a personal brand is and why it is important

Elements of a strong personal brand

Ways to build your skills and knowledge, reputation, and values and personality to strengthen your brand

Importance of authenticity in building a personal brand

Online Profile Building:

Importance of a professional online presence
social media tools for professional success
social media netiquette

Unleash the Power of LinkedIn Networking:

Ways to use LinkedIn for career growth
LinkedIn for your job search
LinkedIn to build your personal brand and network with professionals

Mock GD Session

UNIT – II

Prepare for Personal Interview:

Complete Guide to the Interview Process:

Parts of an interview process
prepare an articulate personal message for interviews
Research industry, companies and interviewer-specific information
Align profiles to the role they are applying for.

Tips for What to do During the Interview:

Appropriate behaviors to adopt before and during an interview
Strategies for effectively navigating a telephonic interview.

What Do You Know About Where You Want to Go?

Key areas of industry awareness
Importance of industry awareness
Interview questions based on industry awareness

How to Ace a Behavioral Interview:

Small talk to set the tone before a formal discussion
Respond to behavioral interview questions,
respond to organization-specific questions using the
Mission-Product/service-culture framework.

How to Answer Competency Based Questions:

Character and competency-based questions
Character based questions on strengths and weaknesses
STAR framework to answer competency-based questions

How to Highlight Your Soft Skills:

Lecture Introduction and Lesson Objectives
Soft skills to highlight during an interview
Respond to questions about time management
Respond to questions about adaptability
Respond to questions about conflict management
Respond to questions about teamwork

Netiquette to Follow for Virtual Interviews and Meetings:

Lecture Introduction and Lesson Objectives
Appropriate netiquette behaviors

What is meant by netiquette

UNIT – III

Note Taking:

Effective Note Taking:

Lecture Introduction and Lesson Objectives

Importance of note-taking

Process of note-taking

Different strategies for taking notes

Workplace interactions that require note-taking

Online tools for note-taking

Recording Minutes of a Meeting:

Importance of recording minutes in meetings

Best Practices for Recording Minute: gathering necessary documents, creating a template, structuring minutes

Essential Elements of Meeting Minutes

Assessment III:

Quiz

Workbook

Individual Assignment

UNIT – IV

Group Discussions:

Cracking Group Discussions:

Group Discussions as a Format

Universal Rules for Group Discussions

Strategies to be Heard during Group Discussions

Building on Others' Information

Decorum and Behaviors to Ensure in Group Discussions

Practicing Yourself

Mock GD Sessions

UNIT – V

Make and Deliver a Presentation:

Using Presentations in a Workplace:

Lecture Introduction and Lesson Objectives

Use of presentations in a workplace

Microsoft PowerPoint Vs Google Slides

Make A Presentation: Planning & Research:

Lecture Introduction and Lesson Objectives

Steps for planning and delivering a presentation

Presentation and slide show

Make A Presentation: Structuring, Drafting and Designing:

Lecture Introduction and Lesson Objectives

what is a Company case study

Drafting a Company Case Study
Lecture Introduction and Lesson Objectives
Steps to follow to fact-check content
What editing and proofreading are
Avoiding plagiarism
Design principles while creating a presentation

Make A Presentation: Practicing As a Group/ Delivering

Lecture Introduction and Lesson Objectives
Strategies for preparing an impactful presentation
Nonverbal communication to enhance your presentation
Speaker notes to present confidently
Strategies for dealing with technical glitches

Text Books:

1. The Business Readiness Levels: Balance skills, manage risk and demonstrate progress with a simple venture benchmark by Mohaimin Chowdhury and Richie Ramsden, ASIN-B07V1VNMYR.
2. 5 Steps to crack Personal Interview: A complete guide to get your dream job by Saurav Bhowmik, ISBN-978-1643244334.

Reference Books:

1. GD Guide, To Excel in Group Discussion by Gyan Shankar, 2019, ISBN: 9781797457413
2. Personal Interview Skills by Krishan Kumar ISBN: 978-8193823101

Web links:

1. <https://archive.nptel.ac.in/courses/109/104/109104031/>
2. <https://nptel.ac.in/courses/109105144>

CORPORATE READINESS-II

Course Code: 2608MS84

L	T	P	C
2	0	0	0

Course Outcomes:

At the end of the Course, Student will be able to:

CO1: Apply MSPC, ESEF, STAR frameworks to answer questions in interview.

CO2: Develop confident body language

CO3: Build effective group discussion skills.

CO4: Analyze the importance of organizational culture and values

CO5: Develop time management, Multi-tasking, WLB and EQ skills

Mapping of Course Outcomes with Program Outcomes:

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	3	2	2	2	2	2	3	2
CO2	2	1	3	2	2	2	2	2
CO3	2	2	3	3	2	2	2	3
CO4	2	2	2	3	3	3	2	3
CO5	2	3	2	2	3	3	3	3

Mapping of Course Outcomes with Program Specific Outcomes:

CO / PSO	PSO1	PSO2	PSO3
CO1	3	2	2
CO2	2	2	2
CO3	3	2	2
CO4	2	2	2
CO5	3	2	2

UNIT – I

Practice Personal Interviews:

Mock Interview I:

Lecture Introduction and Lesson Objectives

Practice and prepare for behavioral and character-based questions

Apply the MSPC and ESEF frameworks to answer questions

★ Activity 1

★ Activity 2

Mock Interview II:

Lecture Introduction and Lesson Objectives

Practice and prepare for behavioral questions to highlight your soft skills

Apply the STAR framework to answer questions related to time management, adaptability, teamwork and conflict resolution

★ Activity 1

★ Activity 2

Mock Interview III:

Lecture Introduction and Lesson Objectives

Practice and prepare for curveball questions

Apply reasoning and critical thinking skills to answer whimsical, office situation and brain teaser questions

★ Activity 1

★ Activity 2

UNIT – II

Body Language:

What is Confident Body Language?

Lecture Introduction and Lesson Objectives

Importance of nonverbal communication

Adopt a confident body language

★ Activity 1

★ Activity 2

How to Appear Confident During Interviews

Lecture Introduction and Lesson Objectives

Do's and don'ts of body language during interviews

Soler framework to maintain good body language during interviews

★ Activity 1

★ Activity 2

The Importance of Grooming:

Lecture Introduction and Lesson Objectives

Essentials of personal grooming

How to be approachable in the workplace

★ Activity 1

★ Activity 2

UNIT – III

Stand Out in Group Discussions

How to Think in Group Discussions:

Lecture Introduction and Lesson Objectives

What a group discussion entails

Skills needed for an effective group discussion

★ Activity 1

★ Activity 2

How to Speak and Which Roles to Play in a Discussion:

Lecture Introduction and Lesson Objectives

Different roles of participants in a GD

Practice preparing for a GD

★ Activity 1

★ Activity 2

Tips and Tricks to Ace Group Discussions:

Lecture Introduction and Lesson Objectives
Types of Group Discussions (GDs)
Do's and don'ts of participating in GDs
Practice participating in GDs

★ Activity 1

★ Activity 2

Use The Rule of Three:

Lecture Introduction and Lesson Objectives
'Rule of 3' technique
Case Study: Steve Jobs
Rule of 3' to structure a powerful response

★ Activity 1

★ Activity 2

Avoid Thinking Traps:

Lecture Introduction and Lesson Objectives
Common thinking traps and their impact
Strategies to overcome thinking traps

★ Activity 1

★ Activity 2

Overcome the Fight-Flight:

Lecture Introduction and Lesson Objectives
The fight, flight or freeze response
Gibbs' Reflective Cycle
Action plan to overcome the fight, flight or freeze response

★ Activity 1

★ Activity 2

UNIT – IV

Understand Workplaces:

Organizational Culture and Values:

Lecture Introduction and Lesson Objectives
Organizational culture and its importance
Elements of organizational culture
Connection between organizational culture, values and behavior

★ Activity 1

★ Activity 2

Diversity and Inclusion:

Lecture Introduction and Lesson Objectives
Elements of diversity
Importance of diversity in the workplace
Strategies to adapt to diversity in the workplace

★ Activity 1

★ Activity 2

Situational Awareness:

Lecture Introduction and Lesson Objectives
Steps to follow in case of workplace discrimination
What discrimination and harassment in the workplace look like

★ Activity 1

★ Activity 2

Thinking like a leader:

Lecture Introduction and Lesson Objectives

Leadership

Theories of leadership

Personal leadership style

★ Activity 1

★ Activity 2

UNIT – V

Self-Management:

Time Management:

Lecture Introduction and Lesson Objectives

Online tools that can be used to apply different time management strategies

Different time management strategies and techniques

★ Activity 1

★ Activity 2

Multitasking and Productivity:

Lecture Introduction and Lesson Objectives

Multitasking and recognize the drawbacks of multitasking

Process of becoming a task opportunist

Ways to become task opportunist effectively

Different apps and tools to become a better task opportunist

★ Activity 1

★ Activity 2

Manage Stress to Improve Work-life Balance:

Lecture Introduction and Lesson Objectives

Signs of stress and identify triggers

Impact of stress on wellbeing

Action plan to ensure a healthy work-life balance

★ Activity 1

★ Activity 2

Improve EQ and Manage Emotions:

Lecture Introduction and Lesson Objectives

Meaning and importance of having high emotional quotient in the workplace

Differentiate between emotional quotient and intelligence quotient

How to foster healthy relationships in the workplace for stronger communication

★ Activity 1

★ Activity 2

Text Books:

1. The Business Readiness Levels: Balance skills, manage risk and demonstrate progress with a simple venture benchmark by Mohaimin Chowdhury and Richie Ramsden, ASIN-B07V1VNMYR.
2. 5 Steps to crack Personal Interview: A complete guide to get your dream job by Saurav Bhowmik, ISBN-978-1643244334.

Reference Books:

1. GD Guide, To Excel in Group Discussion by Gyan Shankar, 2019, ISBN-13:978-1797457413.
2. Self-Awareness By Harvard Business Review, Daniel Goleman, Robert Steven Kaplan, Susan David, Tasha Eurich, ISBN:978-1633696617

Web links:

1. <https://archive.nptel.ac.in/courses/109/104/109104031/>
2. <https://nptel.ac.in/courses/109105144>

CORPORATE READINESS-III

Course Code: 2608MS85

L	T	P	C
2	0	0	0

Course Outcomes:

At the end of the Course, Student will be able to:

CO1: Analyze the role team work and collaboration

CO2: Build trust, credibility and professional network.

CO3: Distinguish between different types of arguments.

CO4: Evaluate the role of emotional intelligence at work place.

CO5: Develop self-awareness and skill identification.

Mapping of Course Outcomes with Program Outcomes:

CO / PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO1	2	2	3	2	2	3	2	3
CO2	2	2	2	2	2	3	2	3
CO3	3	3	2	2	1	2	1	2
CO4	2	2	3	2	3	3	2	3
CO5	2	3	3	2	3	2	2	3

Mapping of Course Outcomes with Program Specific Outcomes:

CO / PSO	PSO1	PSO2	PSO3
CO1	3	2	2
CO2	2	2	2
CO3	3	2	2
CO4	2	2	2
CO5	3	3	2

UNIT – I

Understand Teamwork:

Teamwork:

Lecture Introduction and Lesson Objectives

Skills required for teamwork

Different roles people can play in a team

Importance of teamwork

★ Activity 1

★ Activity 2

Advanced Conflict Resolution Strategies:

Lecture Introduction and Lesson Objectives

Common workplace conflicts and identify the causes behind them

Role of collaboration in handling conflicts

Strategies for enabling collaboration

★ Activity 1

★ Activity 2

Collaborate With Others:

Lecture Introduction and Lesson Objectives

Conflict and its causes

Three approaches of handling conflict

★ Activity 1

★ Activity 2

Give And Receive Feedback:

Lecture Introduction and Lesson Objectives

Process of feedback

Giving constructive feedback

How to receive feedback positively

Create a development plan based on the feedback received

★ Activity 1

★ Activity 2

UNIT – II

Prepare for the Workplace:

Build Trust & Credibility:

Lecture Introduction and Lesson Objectives

Elements of trust

Self-assess and reflect on your own trustworthiness

Reflect on people you find trustworthy using the BRAVING framework

★ Activity 1

★ Activity 2

Build Your Professional Networks:

Lecture Introduction and Lesson Objectives

How professional networking helps in building trust

Practices to build trust

The seven-step process to mend broken trust

★ Activity 1

★ Activity 2

Learn The Art of Small Talk:

Lecture Introduction and Lesson Objectives

Importance of making small talk at the workplace

Strategies for making small talk meaningful

Techniques for overcoming your hesitation when initiating small talk

★ Activity 1

★ Activity 2

Practice Small Talk in Professional Spaces:

Lecture Introduction and Lesson Objectives

Small talk is and its benefits

Do's and don'ts for practicing small talk

Small talk in different professional spaces

★ Activity 1

★ Activity 2

UNIT – III

Logical Arguments:

Lecture Introduction and Lesson Objectives

Identify an argument and its parts

Structure sound arguments

Identify logical fallacies

Structure an argument by applying logic

★ Activity 1

★ Activity 2

Types of Arguments:

Lecture Introduction and Lesson Objectives

Deductive and inductive arguments in workplace scenarios

Written argument: a position, reasons, evidence, counter-argument

Situations where you have to use written arguments in the workplace and see examples of written arguments

★ Activity 1

★ Activity 2

Evidence and Biases:

Lecture Introduction and Lesson Objectives

Differentiate between facts and opinions

Strategies to avoid bias in written arguments

Authenticity of evidence

★ Activity 1

★ Activity 2

Critically Evaluating Arguments:

Lecture Introduction and Lesson Objectives

Differentiate between strong and weak arguments through a group activity

Untangle arguments using different techniques

Use effective argumentation techniques to build convincing skills

★ Activity 1

★ Activity 2

Overcoming Biases:

Lecture Introduction and Lesson Objectives

Biases and their effect on thinking

Internally held and externally experienced biases

Debiasing techniques to develop unbiased thinking

Responding appropriately to externally experienced biases

★ Activity 1

★ Activity 2

UNIT – IV

Emotional Intelligence:

Empathy at work:

Lecture Introduction and Lesson Objectives

What is empathy

Scenarios where you need to show empathy

Blockers to empathy

Showing empathy at the workplace

★ Activity 1

★ Activity 2

Compassion and gratitude:

Lecture Introduction and Lesson Objectives

Importance of showing compassion and discuss ways of demonstrating it

Differentiate between gratitude and appreciation and discuss the impact of both

Practice showing gratitude

★ Activity 1

★ Activity 2

UNIT – V**Self-Awareness:****Learning strategies:**

Lecture Introduction and Lesson Objectives

Different types of intelligences

Learning styles and identify strategies that you can use to enhance your learning

Obstacles to learning and create a plan of action to enhance productivity

★ Activity 1

★ Activity 2

Self-awareness - skill identification:

Lecture Introduction and Lesson Objectives

Differentiate between emotional quotient and intelligence quotient and the impact of each of them

What it means to be self-aware

Johari Window Model to cultivate self-awareness

★ Activity 1

★ Activity 2

Motivating self and others:

Lecture Introduction and Lesson Objectives

Components of motivation

‘BREAK’ approach to improve your motivation

Importance of motivation and its theories

Differentiate between intrinsic and extrinsic motivation

★ Activity 1

★ Activity 2

Addressing an Audience with Confidence: Part 1

Lecture Introduction and Lesson Objectives

Purpose and importance of confidence

Ways to show confidence through body language

Practice Jam Session to boost confidence

★ Activity 1

★ Activity 2

Addressing an Audience with Confidence: Part 2

Lecture Introduction and Lesson Objectives

Purpose and importance of public speaking

Ways to address audience during public speaking

Practice public speaking through class activity

★ Activity 1

★ Activity 2

Text Books:

1. The Business Readiness Levels: Balance skills, manage risk and demonstrate progress with a simple venture benchmark by Mohaimin Chowdhury and Richie Ramsden, ASIN-B07V1VNMYY.
2. The Emotionally Intelligent Team: Building Collaborative Groups that Outperform the Rest by Vanessa Urch Druskat, ASIN-B0C9N3W9Q5

Reference Books:

1. Establishing Trust and Credibility by Timothy F. Bednarz , Majorium Business Press, ASIN: B00HRFZ93Y
2. Self-Awareness By Harvard Business Review, Daniel Goleman, Robert Steven Kaplan, Susan David, Tasha Eurich, ISBN: 978-1633696617

Web links:

1. https://onlinecourses.nptel.ac.in/noc23_mg123/preview
2. https://onlinecourses.nptel.ac.in/noc20_hs13/preview

PROJECT MANAGEMENT

Course Code: 2608MS86

L	T	P	C
2	0	0	0

Course Outcomes:

At the end of the Course, Student will be able to:

- CO1:** Critically evaluate project management concepts, life cycle models, and strategic alignment of projects.
- CO2:** Design comprehensive project plans incorporating scheduling, feasibility analysis, and risk assessment.
- CO3:** Analyze project financing decisions using advanced appraisal and valuation techniques.
- CO4:** Apply quantitative tools and agile methodologies for effective project monitoring and control.
- CO5:** Assess leadership dynamics, stakeholder management, and behavioral challenges in complex projects.

Mapping of Course Outcomes with Program Outcomes:

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CO3	3	3	2	2	2	2	2	2
CO4	2	3	2	2	2	2	3	2
CO5	2	2	3	2	3	3	2	3

Mapping of Course Outcomes with Program Specific Outcomes:

CO / PSO	PSO1	PSO2	PSO3
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CO2	3	3	2
CO3	2	3	2
CO4	2	2	2
CO5	2	2	3

UNIT – I

Strategic Project Management: Project Characteristics and Life Cycle Models (Predictive, Iterative, Agile, Hybrid). Project Identification and Strategic Alignment. Project Selection Models. Portfolio Management. Systems Approach to Project Management. Governance and Sustainability in Projects.

UNIT – II

Project Planning and Appraisal: Comprehensive Project Planning Process. Work Breakdown Structure (WBS). Scheduling Techniques – Gantt Charts, PERT, CPM. Feasibility Analysis – Technical, Commercial, Economic, Financial and Social. Cost–Benefit Analysis. Quantitative Risk Assessment and Sensitivity Analysis.

UNIT – III

Project Finance and Evaluation: Project Cost Estimation Techniques. Sources of Project Finance. Cash Flow Estimation for New, Replacement and Expansion Projects. Investment Appraisal Techniques – NPV, IRR, MIRR, Profitability Index. Cost of Capital and Capital Rationing. Risk Analysis in Capital Budgeting.

UNIT – IV

Project Monitoring and Control: Network Analysis and Critical Path Method. Resource Allocation and Leveling. Earned Value Management (EVM). Quality Management in Projects. Agile Project Management – Scrum Framework, Lean Principles. Digital Tools in Project Monitoring.

UNIT – V

Organizational and Behavioral Aspects of Project Management: Organizational Structures for Projects (Functional, Matrix, Projectized). Role of Project Manager. Leadership in Projects. Stakeholder Engagement and Communication Strategies. Conflict Resolution and Stress Management. Team Dynamics and Cross-Cultural Project Management.

Textbooks:

1. Larson, E. W., & Gray, C. F. (2022). *Project Management: The Managerial Process* (8th ed.). McGraw Hill Education. ISBN: 9789354602078.
2. Project Management Institute (2021). *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)* (7th ed.). Project Management Institute. ISBN: 9781628256659.

Reference Books:

1. Nagarajan, K. (2020). *Project Management* (9th ed.). New Age International Publishers. ISBN: 9789360748531.
2. Kerzner, H. (2017). *Project Management: A Systems Approach to Planning, Scheduling, and Controlling* (12th ed.). Wiley. ISBN: 9781119165354.

Web Links:

1. https://onlinecourses.nptel.ac.in/noc23_mg124/preview
2. https://onlinecourses.nptel.ac.in/noc24_mg01/preview