



BHARATHIDASAN UNIVERSITY TIRUCHIRAPPALLI - 620 024.

M.B.A.- MASTER OF BUSINESS ADMINISTRATION

CHOICE BASED CREDIT SYSTEM - LEARNING OUTCOMES

BASED CURRICULUM FRAMEWORK (CBCS - LOCF)

(Applicable to the candidates admitted from the academic year 2026-27 onwards)

Sem.	Name of the Courses	Title of Course	Ins. Hrs.	Credit	Exam Hrs.	Marks		
						Int.	Ext.	Total
I	Core Course - I (CC)	Management Concepts and Organisational Behaviour	5	5	3	30	70	100
	Core Course - II (CC)	Mathematics and Statistics for Managers	5	5	3	30	70	100
	Core Course - III (CC)	Managerial Communication	5	5	3	30	70	100
	Core Course – IV (CC)	Environment and Ethics in Business	5	5	3	30	70	100
	Core Course - V (CC)	Accounting for Managers	5	5	3	30	70	100
	Discipline Centric Elective Course - I (DCEC)	1. Managerial Economics (or) 2. Information Technology for Managers	5	4	3	30	70	100
	Value Added Course – I (VAC)*	Event Management	-	2*	3	30	70	100*
		Total	30	29				600
II	Core Course - VI (CC)	Operations Research	5	5	3	30	70	100
	Core Course - VII (CC)	Production Management	5	5	3	30	70	100
	Core Course - VIII (CC)	Marketing Management	5	5	3	30	70	100
	Core Course - IX (CC)	Financial Management	5	5	3	30	70	100
	Core Course - X (CC)	Human Resource Management	5	5	3	30	70	100
	Discipline Centric Elective Course-II (DCEC)	1. Knowledge Management (OR) 2. Business Law and Labour Legislation	4	4	3	30	70	100
	Non-Major Elective Course-I (NME)	One course from outside Department	2	2	3	30	70	100
		Total	31	31				700
@Summer Internship Training/ Industrial Activity during the Summer Vacation after second semester. (Compulsory)								

III	Core Course –XI (CC)	Entrepreneurial Development	5	5	3	30	70	100
	Core Course – XII (CC)	Research Methods in Management	5	5	3	30	70	100
	Generic Elective Course – I (GEC -1)	Choose any 4 Generic Elective Courses out of five from any two groups from the list(2 each) (Course A-I-V / B-I-V / C-I-V / D-I-V / E-I-V)	5	3	3	30	70	100
	Generic Elective Course – II (GEC -2)		5	3	3	30	70	100
	Generic Elective Course – III (GEC -3)		5	3	3	30	70	100
	Generic Elective Course – IV (GEC -4)		5	3	3	30	70	100
	Non-Major Elective Course-II (NME)	One course from outside Department	2	2	3	30	70	100
	Summer Internship/Industrial Activity@		-	5		-	-	100
Total			32	29				800
IV	Core Course - XIII (CC)	Strategic Management	5	5	3	30	70	100
	Generic Elective Course – V (GEC -5)	Choose any 4 Generic Elective Courses out of five from any two groups from the list(2 each)	5	3	3	30	70	100
	Generic Elective Course- V I (GEC -6)		5	3	3	30	70	100
	Generic Elective Course –VII (GEC -7)		5	3	3	30	70	100
	Generic Elective Course –VIII (GEC -8)	Course A-VI-X / B-VI-X / C-VI-X / D-VI-X /E-VI-X	5	3	3	30	70	100
	#Project Work.	(Dissertation 75 + VivaVoce 25). Actual Project during the vacation of III semester and Viva voce before the IV semester Exam.	-	6		-	-	100
	Value Added Course – II (VAC)*	AI in Business Decision Making	—	2*	3	30	70	100*
Total			25	23				600
Grand Total			118	112				2700

ELECTIVES:CHOOSE ANY TWO GROUP

The Students should compulsorily choose 8 Elective Courses from two area of specialization from the list given below:

Semester	Name of the Courses	Title of Course	Ins. Hrs.	Credit	Exam Hrs.	Int. Marks	Ext. Marks	Total
III	A: MARKETING							
	GE-Course-1	Digital Marketing	5	3	3	30	70	100
	GE-Course-2	Brand Management	5	3	3	30	70	100
	GE-Course-3	Consumer Behaviour	5	3	3	30	70	100
	GE-Course-4	Business to Business Marketing	5	3	3	30	70	100
	GE-Course-5	Sales and Distribution Management	5	3	3	30	70	100
IV	GE-Course-6	Marketing Communication and Media Management	5	3	3	30	70	100
	GE-Course-7	Customer Relationship Management	5	3	3	30	70	100
	GE-Course-8	Advertising and Sales Promotion	5	3	3	30	70	100
	GE-Course-9	Marketing of Services	5	3	3	30	70	100
	GE-Course-10	Retail Management	5	3	3	30	70	100

III	B: FINANCE							
	GE-Course-1	E- Banking	5	3	3	30	70	100
	GE-Course-2	Mutual Funds	5	3	3	30	70	100
	GE-Course-3	Strategic Financial Management	5	3	3	30	70	100
	GE-Course-4	Financial Services	5	3	3	30	70	100
	GE-Course-5	Security Analysis and Portfolio Management	5	3	3	30	70	100
IV	GE-Course-6	Derivatives Management	5	3	3	30	70	100
	GE-Course-7	Insurance Management	5	3	3	30	70	100
	GE-Course-8	Project Management	5	3	3	30	70	100
	GE-Course-9	Global Financial Management	5	3	3	30	70	100
	GE-Course-10	Merchant Banking	5	3	3	30	70	100
III	C: HUMAN RESOURCE MANAGEMENT							
	GE-Course-1	Strategic Human Resource Management	5	3	3	30	70	100
	GE-Course-2	Performance Management	5	3	3	30	70	100
	GE-Course-3	Organisation Development	5	3	3	30	70	100
	GE-Course-4	Compensation Management	5	3	3	30	70	100
	GE-Course-5	Change Management	5	3	3	30	70	100
IV	GE-Course-6	Human Resources Analytics	5	3	3	30	70	100
	GE-Course-7	Training and Development	5	3	3	30	70	100
	GE-Course-8	Public Relations Management	5	3	3	30	70	100
	GE-Course-9	Managing Interpersonal Effectiveness	5	3	3	30	70	100
	GE-Course-10	Group Dynamics	5	3	3	30	70	100

III	D: SYSTEMS							
	GE-Course-1	E- Business	5	3	3	30	70	100
	GE-Course-2	Internet Technologies	5	3	3	30	70	100
	GE-Course-3	Enterprise Resource Planning	5	3	3	30	70	100
	GE-Course-4	Web Technology	5	3	3	30	70	100
	GE-Course-5	Decision Support System	5	3	3	30	70	100
IV	GE-Course-6	Software Project Management	5	3	3	30	70	100
	GE-Course-7	Relational Database Management System	5	3	3	30	70	100
	GE-Course-8	Object Oriented Programming and C++	5	3	3	30	70	100
	GE Course -9	Big data Analytics	5	3	3	30	70	100
	GE Course -10	Data Warehousing and Data Mining	5	3	3	30	70	100
III	E: OPERATIONS							
	GE-Course-1	Supply Chain Management	5	3	3	30	70	100
	GE-Course-2	Advanced Operation Research	5	3	3	30	70	100
	GE-Course-3	Management Control Systems	5	3	3	30	70	100
	GE-Course-4	Materials Management	5	3	3	30	70	100
	GE-Course-5	Maintenance Management	5	3	3	30	70	100
IV	GE-Course-6	Robust Design	5	3	3	30	70	100
	GE-Course-7	Lean Manufacturing	5	3	3	30	70	100
	GE-Course-8	World Class Manufacturing	5	3	3	30	70	100
	GE-Course -9	Total Quality Management	5	3	3	30	70	100
	GE-Course-10	Business Process Management	5	3	3	30	70	100

NON MAJOR ELECTIVE COURSE (NMEC-1&2) (For Other Department Students)	
1	Principles of Management
2	Investment Planning

SUMMARY OF CURRICULUM STRUCTURE OF PG PROGRAMMES – MBA

Sl. No.	Types of the Courses	No. of Courses	No. of Credits	Marks
1.	Core Courses	13	65	1300
2.	Discipline Centric Courses	2	8	200
3.	Generic Elective Courses	8	24	800
4.	Summer Internship Training/ Industrial Activity	1	5	100
5.	Project	1	6	100
6.	Non-Major Elective Courses	2	4	200
7.	Total	27	112	2700
8.	Value Added Courses*	2*	4*	200*

*** The value added courses credit will not be included in the total CGPA .**

These courses are extra-credit courses.

Instruction hours for these courses is 30 hours.

@Summer Internship will be carried out during the summer vacation after the first year. Viva Voce will be conducted by the college and marks shall be sent to the University and the same will be included in the Third Semester Marks Statement.

The Project Work will be evaluated jointly by TWO Examiners (i.e. one Internal and the other External)

The Viva-Voce will be conducted with Two Examiners (i.e. one Internal and the other External Examiner)

PROGRAMME OUTCOMES:

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

- Apply management knowledge in marketing, finance, human resource management, systems, and operations for effective business decision-making and organizational performance.
- Communicate effectively in oral and written forms in professional, academic, and business environments using appropriate communication tools and techniques.
- Analyze business situations, interpret data, and evaluate alternatives to support logical and informed managerial decision-making.
- Identify business problems, formulate strategies, and develop appropriate solutions using management principles, tools, and techniques.
- Apply quantitative, statistical, financial, and analytical techniques for business analysis, research, and managerial decision-making.
- Use digital technologies, information systems, data analytics tools, and e-business platforms in business operations and decision-making processes.
- Demonstrate leadership, teamwork, and managerial competence while working effectively in organizational, multidisciplinary, and multicultural environments.
- Apply ethical principles, professional values, social responsibility, and sustainability concepts in business decisions and organizational practices.
- Demonstrate independent learning ability, adaptability to emerging technologies, and continuous professional development in changing business environments.
- Apply logical, analytical, and scientific reasoning to solve business problems and support organizational growth and innovation.

PROGRAMME SPECIFIC OUTCOMES:

- Systematic understanding of globalization and its impact on people, businesses and the economy.
- An ability to critically understand current issues (e.g., diversity, social responsibility, sustainability, innovation, knowledge management, etc.) in business.
- An ability to analyze a problem and adopt appropriate managerial skills for obtaining its solution.
- An ability to communicate effectively, both in writing and orally (speaking/ writing skills).
- An ability to recognize the importance of professional development by pursuing post graduate studies or face competitive examinations, that offer challenging and rewarding careers in management.
- An ability to apply knowledge, skills and right attitude necessary to provide effective leadership in a global environment.
- An ability to develop competent management professionals with strong ethical values, capable of assuming apivotal role in various sectors of the Indian Economy & Society, aligned with the national priorities.
- An ability to develop proactive thinking so as to perform effectively in the dynamic socio-economic and business ecosystem.
- The ability to understand, analyse and demonstrate the knowledge of human cognition, Intelligence, Machine Learning and data engineering in terms of real world problems to meet the challenges of the future.
- The ability to develop computational knowledge and project development skills using innovative tools and techniques to solve problems in the areas related to Deep Learning, Machine learning, Artificial Intelligence.

First Year

CORE COURSE-I

Semester-I

**MANAGEMENT CONCEPTS AND
ORGANISATIONAL BEHAVIOUR**

Course Code:

(Theory)

Credit: 5

OBJECTIVES:

- To understand the evolution, principles, and functions of management and their application in organizations.
- To develop knowledge on planning, organizing, staffing, directing, and controlling functions of management.
- To analyze individual behaviour, personality, perception, learning, and motivation in organizational settings.
- To understand group dynamics, leadership, communication, organizational culture, and conflict management.
- To apply organizational behaviour concepts, managerial skills, and AI-enabled management practices for improving organizational effectiveness.

UNIT – I:

Management: Definition – Nature – Scope and functions – Evolution of management thought – Relevance of management to different type of organization. Planning: Nature, importance and strategic considerations in planning – Planning Premises – components of planning as objectives, policies, strategies, procedures, methods, rules, projects and budgets.

UNIT – II:

Organising: Nature, purpose and kinds of organization – Structure – Principles and theories of organization – Departmentation – Span of control – Line and staff functions - Centralization and decentralization – Staffing and Directing: General principles, importance and techniques. Delegation of Authority – Process or Elements of delegation – Advantages – Types – Principles how to make delegation effective. – Informal organization -: Objectives and process of control – Devices of control

UNIT – III:

Controlling: Objectives and process of control – Devices of control - Integrated control- Business process reengineering – Total quality management – Bench marking.

UNIT – IV:

Organizational Behavior – Definition - Need for studying Organizational Behavior, Disciplines involved in the study of Organizational Behavior -Contributing disciplines- Application of Organizational Behavior in Business - Contemporary challenges and opportunities for OB, Developing an OB model. International dimensions of OB.

UNIT – V:

Individual behaviour – personality, perception, learning, attitudes inter-personal behavior – Group and inter-group behaviour. Group Dynamics – Formal and Informal Group, Group Norms. Management of change-conflict Management-, leadership-nature, styles and approaches, development of leadership including laboratory training.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the concepts of Management - Practical: Studying Management styles of two Global institutions in the lime-light- Mini Project - Group discussion and case study.

TEXT BOOKS:

1. Stephen P. Robbins, Mary Coulter, and Neharika Vohra, *Management*, 16th Edition, Pearson, 2023.
2. Fred Luthans, *Organizational Behaviour*, 16th Edition, McGraw Hill, 2024.
3. Koontz and Weihrich, *Essentials of Management*, 13th Edition, McGraw Hill, 2023.
4. P. Subba Rao, *Organizational Behaviour*, Himalaya Publishing House, 2024.
5. Aswathappa K., *Organizational Behaviour*, 13th Edition, Himalaya Publishing House, 2023.

REFERENCES:

1. Stephen P. Robbins & Timothy A. Judge – *Organizational Behavior*, Pearson, 2023 Edition
2. McShane – *Organizational Behavior: Emerging Knowledge Global Reality*, McGraw Hill, 2024 Edition
3. Mary Uhl-Bien et al. – *Organizational Behavior*, Wiley, 2023 Edition
4. Jack Wood et al. – *Organisational Behaviour: Core Concepts and Applications*, Wiley, 2024 Edition
5. Ricky Griffin – *Organizational Behavior*, Cengage, 2023 Edition

E-RESOURCES:

1. <https://www.classcentral.com/course/independent-principles-of-management-11932>
2. <https://www.coursera.org/learn/principles-of-management>
3. <https://www.mygreatlearning.com/academy/learn-for-free/courses/principles-of-management>
4. https://onlinecourses.nptel.ac.in/noc21_mg30/preview
5. <https://www.udemy.com/course/principles-of-management-j/>

COURSE OUTCOMES:

On completion of this course, the students will be able to:

- Explain management concepts, principles, and functions in organizational contexts.
- Apply managerial functions and decision-making techniques for organizational effectiveness.
- Analyze individual and group behaviour in organizations.
- Evaluate leadership, communication, motivation, and organizational culture using contemporary and AI-enabled management approaches.
- Develop managerial and interpersonal skills for effective organizational performance and teamwork.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	1	-	-	-	2
CO2	3	2	3	2	2	1	2	-	-	3
CO3	2	2	3	2	-	-	3	-	-	3
CO4	2	2	3	3	1	2	2	2	-	3
CO5	2	3	2	2	-	1	3	2	3	2

3-Strong 2-Medium 1-Low

First Year

**CORE COURSE-II
MATHEMATICS AND STATISTICS FOR
MANAGERS**

Semester-I

Course Code:

(Theory)

Credit: 5

COURSE OBJECTIVES:

- To understand fundamental mathematical concepts used in managerial decision-making.
- To develop skills in matrices, linear programming, and optimization techniques for business problems.
- To apply statistical tools for data analysis, interpretation, and business forecasting.
- To analyze probability concepts and their applications in managerial uncertainty and risk.
- To use statistical software and quantitative techniques for solving real-world business problems.

UNIT – I:

Mathematical basis of managerial decisions: Functions – Application of functions – maxima & Minima – Matrix Algebra – Arithmetical Operations – Properties, Solutions of equations by inverse method, Gauss – Jordan method and Cramer's rule:

UNIT – II:

Linear Programming – Formulation – Graphical methods – Simplex Method (Simple problems) - Introduction to Probability – Addition & Multiplication theorems – Bayes theorems and its applications. Theory of expectation – EMV.

UNIT – III:

Descriptive Statistics – measures of central tendency – measures of dispersion; Skewness & Kurtosis – Frequency distribution – Histograms – Polygons. Definition of random variable – Binomial distribution, Poisson distribution, Normal distribution – Applications to Business situations.

UNIT – IV:

Preliminary concept of sampling - Types of samples - Deliberate, Judgement sampling – Quota sampling - Cluster sampling - Probability sampling - Random sampling- Stratified sampling- Systematic sampling- Multistage sampling. Testing of Hypothesis and Theory of inference – Type I and II errors. Concept of sampling distribution – test of significance for means, proportions and S.Ds. Large samples: Analysis of Variance one-way classification.

UNIT – V:

Theory of Correlation and Regression: Meaning of Correlation and regression – Principles of Least squares – Simple Linear Regression – Simple correlation – Co-efficient – Rank Correlation – Multivariate and partial correlation - bivariate regression model, regression coefficients; coefficient of determination.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to the Quantitative Techniques for Management Decisions - Practical: Studying on F test – ANOVA – Chi – Square test – Mini Project on Quantitative Techniques and Correlation analysis.

TEXT BOOKS:

1. Anderson, Sweeney, Williams, *Quantitative Methods for Business*, 13th Edition, Cengage, 2024.
2. Richard Levin, David Rubin, *Statistics for Management*, 9th Edition, Pearson, 2023.
3. Kanti Swarup, P.K. Gupta, Man Mohan, *Operations Research*, 20th Edition, Sultan Chand, 2024.
4. Gupta S.P., *Statistical Methods*, 46th Edition, Sultan Chand, 2023.
5. Aczel & Sounderprandian, *Complete Business Statistics*, 11th Edition, McGraw Hill, 2024.

REFERENCES:

1. Levin & Rubin – *Statistics for Management*, Pearson, 2023 Edition
2. Anderson, Sweeney & Williams – *Quantitative Methods for Business*, Cengage, 2024 Edition
3. K. V. S. Sharma – *Business Statistics*, Vikas Publishing, 2023 Edition
4. Richard Levin – *Statistics for Management*, Pearson, 2024 Edition
5. Spiegel – *Schaum's Outline of Statistics*, McGraw Hill, 2023 Edition

E-RESOURCES:

1. <https://www.coursera.org/courses?query=quantitative%20methods>
2. <https://hbsp.harvard.edu/product/504702-HTM-ENG>
3. <https://www.classcentral.com/course/swayam-quantitative-techniques-for-management-20268>
4. <https://www.crisil.com/en/home/crisil-1academy/eLearning/risk-management/quantitative-techniques.html>
5. <https://careerkarma.com/blog/quantitative-methods/>

COURSE OUTCOMES:

On completion of this course, the students will be able to:

- Explain fundamental mathematical concepts used in managerial decision-making.
- Apply linear programming, matrices, and optimization techniques to business problems.
- Analyze statistical data using measures of central tendency and dispersion.
- Evaluate probability distributions and apply them in business uncertainty and risk analysis.
- Apply statistical and quantitative tools for managerial decision-making and forecasting.

COURSE ARTICULATION MATRIX:

Course Outcome s	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	1	-	-	-	2
CO2	3	2	3	2	2	1	2	-	-	3
CO3	2	2	3	2	-	-	3	-	-	3
CO4	2	2	3	3	1	2	2	2	-	3
CO5	2	3	2	2	-	1	3	2	3	2

3-Strong 2-Medium 1-Low

First Year

CORE COURSE-III

Semester-I

MANAGERIAL COMMUNICATION

Course Code

(Theory)

Credit: 5

COURSE OBJECTIVES:

- To understand the fundamentals, nature, and process of managerial communication in business organizations.
- To develop effective oral, written, and non-verbal communication skills required in managerial roles.
- To analyze business communication models, barriers, and strategies for effective communication.
- To understand formal and informal communication systems, reports, presentations, and business correspondence.
- To apply modern communication tools, digital platforms, and AI-enabled communication technologies in organizational settings.

UNIT – I:

Communication – Meaning and Significance for Management – Types of Communication Media – Process of Communication – Barriers to Communication - Principles of Effective Communication.

UNIT – II:

Correspondence – Norms for Business Letters – Letter for different kinds of situations – Personalized stand letters, enquiries, customers' complaints, collection letters – Sales promotion letters – Job Application Letters- Bio-Data- Covering Letters, Interview letters, Letter of Reference

UNIT – III:

Non-verbal communication – Personal Appearance Posture – Body Language – Use of Charts, Diagrams & Tables – Visual & Audio Visual Aids for communication – Dyadic communication: Face to Face Communication –Listening: Meaning, Importance, Types of listening, Tips for effective listening, Barriers for listening

UNIT – IV:

Report Writing – Structure of Reports – Long & Short Reports – Formal & Informal Reports – Writing Research Reports, Technical Reports – Norms for including Exhibits & Appendices.

UNIT – V:

Conducting Meetings: Procedure – Preparing agenda, Minutes and Resolutions Conducting Seminars & Conferences: Procedure of Regulating Speech Evaluating Oral Presentation – Group Discussion: Drafting Speech.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Students are advised to form small groups among themselves and practice face-to-face communication, enhance the use of Body Language and draft a Speech for various occasions.

TEXT BOOKS:

1. Lesikar, R.V. & Flatley, M.E., *Basic Business Communication*, 14th Edition, McGraw Hill, 2024.
2. Bovee, C.L. & Thill, J.V., *Business Communication Today*, 16th Edition, Pearson, 2024.
3. Courtland L. Bovee, *Business Communication Essentials*, 9th Edition, Pearson, 2023.
4. Mukesh Chaturvedi & Abha Chaturvedi, *Business Communication: Concepts, Cases and Applications*, 3rd Edition, Pearson, 2024.
5. K.K. Sinha, *Business Communication*, Galgotia Publishing, 2023.

REFERENCES:

1. Herta Murphy – *Effective Business Communication*, McGraw Hill, 2023 Edition
2. Raymond V. Lesikar – *Business Communication*, Tata McGraw Hill, 2024 Edition
3. Courtland Bovée – *Business Communication Today*, Pearson, 2023 Edition
4. Kitty O. Locker – *Business Communication*, McGraw Hill, 2024 Edition
5. Meenakshi Raman – *Business Communication*, Oxford University Press, 2025 Edition

E-RESOURCES:

1. <https://www.edx.org/learn/business-communications>
2. <https://learndigital.withgoogle.com/digitalunlocked/course/business-communication>
3. <https://www.eduonix.com/courses/Office-Productivity/a-complete-guide-for-effective-business-communication>
4. <https://www.futurelearn.com/courses/effective-communication>
5. <https://learn.saylor.org/course/BUS210>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the principles, process, and importance of managerial communication in organizations.
- Apply effective oral, written, and non-verbal communication skills in business contexts.
- Analyze communication barriers and evaluate strategies to improve organizational communication.
- Prepare business reports, presentations, emails, and professional documents effectively.
- Utilize digital communication tools and AI-enabled platforms for effective managerial communication.

COURSE ARTICULATION MATRIX:

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

3-Strong 2-Medium 1-Low

First Year

CORE COURSE- IV

Semester-I

ENVIRONMENT AND ETHICS IN BUSINESS

Course Code

(Theory)

Credit:

5

COURSE OBJECTIVES:

- To understand the fundamentals of environmental management, ecosystem concepts, and natural resource conservation, environmental pollution, its types, causes, impacts, and control measures.
- To analyze environmental policies, sustainability concepts, and corporate environmental responsibility.
- To understand the concepts, principles, and importance of ethics in business organizations awareness of ethical theories, moral values, and corporate governance frameworks.
- To analyze ethical issues in business decision-making and managerial practices, understand corporate social responsibility (CSR), sustainability, and stakeholder management.
- To apply ethical decision-making frameworks and AI-enabled governance tools for responsible business conduct.

UNIT – I:

Environmental Management - Basic idea and Terminologies - The concept of sustainable development - Different measures - Limits to growth – Economy - Environment interdependence - The Environment Kuznets curve. Environmental issues - global problems - Sources of Pollution - Air, Water and soil pollution - Pollution control instruments.

UNIT – II:

Environmental Management System - Environmental Standards, ISO 14000 - Environmental auditing - environmental clearance for establishing and operating industries in India - Environment legislation and Protection Acts.

UNIT – III:

Introduction to Business Ethics – Meaning, Requirement of ethics in business, need, importance for ethics in business – Moral vs Ethics, Law vs Ethics – issues involved in business ethics - Benefits of business ethics.

UNIT – IV:

Ethics at Workplace – Role of individual morals and Standards in defining work place ethics – Factors influencing behavior – issues involved in HRD – Ethical issues of individual in workplace – Guide lines for managing ethics in the work place. Ethics in Accounting and Finance – Fundamental principles of ethics in the context of Finance and Accounting – Creating an ethical accounting environment – Reasons for unethical behavior – Threats faced by Finance and Accounting Professional.

UNIT – V:

Ethics in Marketing and Consumer Protection – Ethical issues involved in Marketing – Need for ethical guidance – competition – consumer – consumer protection councils in India – Rights for Consumer – Ethics in Advertisement. Corporate Social Responsibility (CSR) – Meaning, Importance – Features of CSR – Basic initiatives in the field of CSR and sustainable development – Corporate CSR reports – Globalization of CSR.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Recent challenges and development in Environmental management, impact of the society, Contemporary issues Related to Business Ethics - Practical: Studying the Role of Ethics in Organization - Mini Project on CSR and Related Case Study- Group discussion.

TEXT BOOKS:

1. Bala Krishna Rao, *Environmental Management*, PHI Learning, 2023.
2. Y.K. Singh, *Environmental Management*, S. Chand Publishing, 2024.
3. Andrew Crane & Dirk Matten, *Business Ethics: Managing Corporate Citizenship and Sustainability in the Age of Globalization*, 7th Edition, Oxford University Press, 2024.
4. Linda K. Trevino & Katherine A. Nelson, *Managing Business Ethics*, 8th Edition, Wiley, 2023.
5. Manuel G. Velasquez, *Business Ethics: Concepts and Cases*, 9th Edition, Pearson, 2023.

REFERENCES:

1. R. Rajagopalan – *Environmental Studies: From Crisis to Cure*, Oxford University Press, 2023 Edition
2. M. Karpagam & Geetha Jaikumar – *Environmental Economics & Management*, Sultan Chand, 2024 Edition
3. Andrew Crane & Dirk Matten – *Business Ethics*, Oxford University Press, 2024 Edition
4. Manuel Velasquez – *Business Ethics: Concepts & Cases*, Pearson, 2023 Edition
5. Laura Hartman – *Business Ethics Decision Making*, McGraw Hill, 2024 Edition

E-RESOURCES:

1. <https://www.edx.org/learn/business-ethics>
2. <https://alison.com/course/ethical-intelligence-in-business>
3. <https://www.classcentral.com/course/canvas-network-business-ethics-for-the-real-world-1323>
4. <https://www.edx.org/professional-certificate/usmx-environmental-management-for-sustainability>
5. https://onlinecourses.swayam2.ac.in/nou22_ag16/preview

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain fundamental concepts of environmental management, ecosystems, and natural resources.
- Analyze environmental pollution issues and evaluate control and mitigation strategies.
- Explain the fundamental concepts, theories, and importance of business ethics, Apply ethical frameworks to analyze managerial and organizational decision-making.
- Evaluate ethical issues in corporate governance and business operations, Analyze CSR practices, sustainability initiatives, and stakeholder relationships.
- Develop ethical and socially responsible business strategies using modern governance and AI-supported decision systems.

COURSE ARTICULATION MATRIX:

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

3-Strong 2-Medium 1-Low

First Year

CORE COURSE- V

Semester-I

ACCOUNTING FOR MANAGERS

Course Code

(Theory)

Credit: 5

COURSE OBJECTIVES:

- To understand the fundamental concepts of financial and managerial accounting for business decision-making.
- To prepare, analyze, and interpret financial statements for managerial use.
- To develop skills in cost accounting, budgeting, and variance analysis.
- To apply accounting tools for planning, control, and performance evaluation in organizations.
- To use accounting information systems and basic digital tools for financial decision-making and reporting

UNIT – I:

Purpose and Scope; changing role of Accountant in profession, industry and as a consultant; Basic accounting concepts and postulates and their implications. Accounts Records and Systems; The journal and other subsidiary books. The Ledger and account, debit and credit, adjusting and closing entries, ruling and balancing accounts. The trial balance. Construction of Profit and Loss Account and Balance Sheet of joint stock companies as per companies' act requirement.

UNIT – II:

Cost concepts, determination of costs, elements of Cost-cost classification- Preparation of cost sheet, tender.

UNIT – III:

Overheads, Allocation, Apportionment, Absorption, Control over Factory, administration, selling and distribution Overheads, valuation of Inventories.

UNIT – IV:

Marginal costing – Distinction between absorption costing and marginal costing- Cost volume profit (CVP) Analysis- Break Even Analysis- Margin of safety.

UNIT – V:

Budget and budgetary control - Objectives- Advantages and limitations- Production budget - Sales budget- Cash budget and Flexible budget

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Recent developments in accounting practices– case study relating to financial analysis and working capital performance of companies. Group discussion.

TEXT BOOKS:

1. Horngren, Datar, Rajan, *Cost Accounting: A Managerial Emphasis*, 16th Edition, Pearson, 2024.
2. M.Y. Khan & P.K. Jain, *Management Accounting*, 8th Edition, McGraw Hill, 2023.
3. R.N. Anthony, *Management Accounting Principles*, Pearson, 2024.
4. Charles T. Horngren, *Financial & Managerial Accounting*, Pearson, 2023.
5. Jawahar Lal, *Advanced Management Accounting*, S. Chand, 2024.

REFERENCES:

1. Horngren et al. – *Financial & Management Accounting*, Pearson, 2024 Edition
2. R. Narayanaswamy – *Financial Accounting: A Managerial Perspective*, PHI, 2023 Edition
3. Maheshwari & Maheshwari – *Accounting for Management*, Vikas, 2023 Edition
4. Tulsian – *Financial Accounting*, S. Chand, 2024 Edition
5. Sharma & Shashi K. Gupta – *Management Accounting*, Kalyani Publishers, 2025 Edition

E-RESOURCES:

2. [http://www.sxccal.edu/TwinningProgramme/downloads/MBA-Accounting-Managers 1stYear.pdf](http://www.sxccal.edu/TwinningProgramme/downloads/MBA-Accounting-Managers%201stYear.pdf).
3. <https://www.classcentral.com/course/edx-financial-management-in-organizations-9109>
4. <https://alison.com/courses/accounting>
5. <https://www.oxfordhomestudy.com/courses/accounting-courses-online/free-online-accounting- courses>
6. <https://www.udemy.com/topic/accounting/free/>

COURSE OUTCOMES:

On completion of this course, the students will be able to:

- Explain basic accounting concepts and principles used in managerial decision-making.
- Prepare and interpret financial statements for business analysis.
- Apply cost accounting techniques for cost control and managerial planning.
- Analyze budgeting, variance analysis, and performance evaluation tools.
- Use accounting information systems for financial reporting and managerial decisions.

COURSE ARTICULATION MATRIX:

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

3-Strong 2-Medium 1-Low

First Year

DISCIPLINE CENTRIC ELECTIVE COURSE-I

Semester-I

1. MANAGERIAL ECONOMICS

Course Code:

(Theory)

Credit: 4

COURSE OBJECTIVES:

- To understand the scope, nature, and role of managerial economics in business decision-making.
- To analyze demand, supply, elasticity, and consumer behaviour in managerial decision contexts.
- To apply production, cost, and revenue concepts for optimal business decisions.
- To examine market structures and pricing strategies under different competitive conditions.
- To evaluate macroeconomic factors and apply them in business forecasting and policy decisions.

UNIT – I:

Consumer Preferences – Consumer preference and utility function, utility maximization, indirect utility, compensated (Hicksian) and ordinary (Marshallian) demand functions. Consumer Demand – Normal versus inferior goods, consumers surplus Behaviour under Uncertainty – Expected utility - Supply Analysis: The objective of supply analysis; Determinants of supply, Elasticity of Supply.

UNIT – II:

The theory of Firm Behaviour – Production function, isoquants, elasticity of substitution, returns to scale, profit maximization, factor demand and output supply functions, profit function. Cost Minimization – Conditional factor demands, average and marginal costs, short-run versus long – run costs.

UNIT – III:

Market Equilibrium – short-run equilibrium, entry and exit, long-run equilibrium. Monopoly – Basic model, welfare and output, price discrimination (first degree, second degree, third degree), monopoly regulation. Oligopoly – Basic elements of game theory, quantity, or price leadership model; collusion.

UNIT – IV:

Macro economics; micro foundations, aggregation problem, macro-economic problems. Micro foundations of Keynesian Models – Micro economic foundations of consumption function, investment function and liquidity preferences. Macro economic Models for India.

UNIT – V:

Indian Economic Development – Understanding the Indian Economy – Growth of GDP and Per Capita Income – Planning for the economy; Monetary Policy –Inflation- Financial Sector Reforms – Role of Central Bank – Credit Policy – Industrial Policy – Industrial Controls and Licensing – Productivity and Growth – Industrial Credit – Industrial Sickness–Foreign Investment – Industrial Reforms - Impact of WTO.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the Managerial Economics - Practical: Studying the Role of Economic Forecasting in Business - Mini Project and Related Case Study- Group discussions.

TEXT BOOKS:

1. Dominick Salvatore, Managerial Economics in a Global Economy, 9th Edition, Oxford University Press, 2024.
2. H.L. Ahuja, Managerial Economics, 11th Edition, S. Chand Publishing, 2023.
3. D.N. Dwivedi, Managerial Economics, 9th Edition, Vikas Publishing House, 2024.
4. Geetika, Piyali Ghosh and Purba Roy Choudhury, Managerial Economics, 4th Edition, McGraw Hill, 2023.
5. Christopher R. Thomas and S. Charles Maurice, Managerial Economics Foundations of Business Analysis and Strategy, 13th Edition, McGraw Hill, 2024.

REFERENCES:

1. Varian Hal R., Intermediate Microeconomics A Modern Approach, 10th Edition, W.W. Norton & Company, 2023.
2. Paul Krugman and Robin Wells, Macroeconomics, 7th Edition, Worth Publishers, 2024.
3. Mishkin Frederic S., The Economics of Money Banking and Financial Markets, 13th Edition, Pearson, 2023.
4. Rudiger Dornbusch, Stanley Fischer and Richard Startz, Macroeconomics, 14th Edition, McGraw Hill, 2023.
5. Uma Kapila, Indian Economy Since Independence, Academic Foundation, 2024.

E-RESOURCES:

1. <https://www.edx.org/learn/managerial-economics>
2. <https://www.coursera.org/courses?query=managerial%20economics>
3. <https://www.classcentral.com/course/swayam-introduction-to-managerial-economics-14155>
4. <https://www.udemy.com/course/introduction-to-managerial-economics/>
5. <https://alison.com/course/managerial-economics-cost-theory>.

COURSE OUTCOMES:

On completion of this course, the students will be able to:

- Explain the principles, scope, and applications of managerial economics in business decisions.
- Analyze demand, supply, elasticity, and consumer behaviour for managerial decision-making.
- Apply production and cost theories to optimize business operations.
- Evaluate pricing strategies and market structures in different competitive environments.
- Integrate macroeconomic concepts for forecasting and managerial planning.

COURSE ARTICULATION MATRIX:

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

3-Strong 2-Medium 1-Low

First Year	DISCIPLINE CENTRIC ELECTIVE COURSE-I	Semester-I
	2. INFORMATION TECHNOLOGY FOR	
	MANAGERS	
Course Code	(Theory)	Credit: 4

COURSE OBJECTIVES:

- To understand the role of Information Technology (IT) in modern business organizations and managerial decision-making.
- To gain knowledge of information systems, databases, and enterprise applications used in business environments.
- To analyze the use of IT tools such as ERP, MIS, DSS, and cloud computing in organizations.
- To understand cyber security, data management, and digital transformation in business operations.
- To apply IT solutions, AI-based tools, and emerging technologies for improving business efficiency and managerial effectiveness.

UNIT – I:

Need for Information Systems – Business Categories of Information Systems-Data Base Concepts-Definition-Advantages, Disadvantages

UNIT – II:

Information Systems Application: Data Interchange (EDI), Electronic Funds Transfer (EFT), M-Commerce Services & Applications, Emerging Trends in Computing – Cloud Computing

UNIT – III:

Cyber Crime: - Classification of cyber criminals- Computer Security. Need for Security - Security Threat & Attack-Security Mechanisms - Cryptography, Digital Signature, Firewall

UNIT – IV:

System Design and Modeling: Process Modeling, Logical and physical design, Conceptual Data Modeling: Entity /Relationship Analysis, Entity-Relationship Modeling, ERDs and DFDs, Structured English, Decision Tree, Table

UNIT – V:

International information system architecture - Global strategies and Business organization – Technology challenges of global systems – Solution deployment, Contract management, Socio-cultural aspects of managing IS in organizations.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the Course during the semester. Practical: Studying M-Commerce Services & Applications, Emerging Trends in Computing and Mini Project on role of IS in an organization , Group discussions.

TEXT BOOKS:

1. Ramesh Behl, *Management Information Systems*, McGraw Hill, 2023.
2. Kenneth C. Laudon & Jane P. Laudon, *Management Information Systems*, 17th Edition, Pearson, 2024.
3. Raymond McLeod Jr. & George Schell, *Management Information Systems*, Pearson, 2023.
4. O'Brien & Marakas, *Management Information Systems*, 11th Edition, McGraw Hill, 2024.
5. Rahul De, *MIS and IT for Managers*, Wiley India, 2023.

REFERENCES:

1. Laudon & Laudon – *Management Information Systems*, Pearson, 2024 Edition
2. O'Brien & Marakas – *Introduction to Information Systems*, McGraw Hill, 2023 Edition
3. Kenneth C. Laudon – *MIS: Managing the Digital Firm*, Pearson, 2025 Edition
4. Turban et al. – *Information Technology for Management*, Wiley, 2024 Edition
5. Jawadekar – *Management Information Systems*, Tata McGraw Hill, 2023 Edition

E-RESOURCES:

1. <https://alison.com/course/understanding-systems-analysis-revised>
2. <https://freevideolectures.com/course/3432/system-analysis-and-design>
3. <https://www.mindluster.com/certificate/919>
4. <https://study.com/academy/course/computer-science-302-system-analysis-design.html>
5. <https://www.coursera.org/courses?query=system%20design>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts of Information Systems, IT infrastructure, and their role in business organizations.
- Apply database management systems and enterprise systems for managerial decision-making.
- Analyze the role of ERP, MIS, DSS, and cloud computing in business operations.
- Evaluate cyber security risks, data protection techniques, and IT governance frameworks.
- Develop IT-based solutions using AI tools and digital technologies for improving organizational performance.

COURSE ARTICULATION MATRIX:

CO \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	2	2	-	-	-	2
CO2	3	2	3	2	3	3	1	-	-	2
CO3	2	2	3	3	3	3	1	-	-	3
CO4	2	1	3	2	2	3	2	3	-	3
CO5	1	3	2	3	2	3	3	2	3	3

3-Strong 2-Medium 1-Low

First Year

VALUE ADDED COURSE-I

Semester-I

EVENT MANAGEMENT

Course code

(Theory)

Credit: 2

COURSE OBJECTIVES:

- To understand the fundamentals of event management, types of events, and the event industry structure.
- To develop knowledge on event planning, budgeting, logistics, and resource management techniques.
- To analyze marketing, sponsorship, branding, and promotion strategies in event management.
- To understand event operations including risk management, legal aspects, and post-event evaluation.
- To apply modern event management tools, digital platforms, and AI-enabled event analytics for effective execution.

UNIT - I:

Introduction - Principles of Event Management – Understand resources, activities, risk management, delegation, project selection, role of the event manager. Understanding the facts – Conducting market research, establishing viability, capacities, costs and facilities.

UNIT – II:

Preparing a proposal – Clarity, SWOT analysis, estimating attendance, media coverage, advertising, budget, special considerations, success. Crisis management plan – Crisis planning, prevention, provision, action phase, handling negative publicity, structuring the plan.

UNIT – III:

Seeking sponsors – Different types of sponsorship, definition, objectives, target market, budget, strategic development, implementation, evaluation. Organizing the event – Purpose, Venue, timing, guest list, invitations, food & drink, room dressing, equipment, guest of honour, speakers, media, photographers, podium, and exhibition.

UNIT – IV:

Marketing tools – Types of advertising - Media tools – Media invitations, photo calls, press releases, TV opportunities, radio interviews.

UNIT – V:

Promotional tools - Evaluation- Budget, cost of event, return on investment, media coverage, attendance, feedback.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the Course during the semester. Practical: Studying Management styles of two Indian institutions in the lime-light- Mini Project on Event management of the firms in the Locale - role play, Group discussions.

TEXT BOOK:

1. Johnny Allen, *Festival and Special Event Management*, Wiley, 2024.
2. Julia Rutherford Silvers, *Professional Event Coordination*, Wiley, 2023.
3. Dr. Razaq Raj, *Event Management and Marketing*, SAGE Publications, 2024.
4. Lynn Van der Wagen, *Event Management: For Tourism, Cultural, Business and Sporting Events*, Pearson, 2023.
5. S. Anil Kumar, *Event Management*, Himalaya Publishing House, 2023.

REFERENCES:

1. Johnny Allen et al. – *Festival & Special Event Management*, Wiley, 2023 Edition
2. Razaq Raj, Paul Walters – *Event Management: Principles & Practice*, Sage Publications, 2024 Edition
3. Anton Shone & Bryn Parry – *Successful Event Management*, Cengage, 2023 Edition
4. Julia Tum, J. Nickson – *Event Management in Leisure & Tourism*, Routledge, 2024 Edition
5. International Live Events Association (ILEA) – *Global Event Industry Report*, 2025 Edition

E-RESOURCES:

1. <https://www.oxfordhomestudy.com/courses/event-management-courses-online/event-planning-courses-online-free>
2. <https://www.udemy.com/course/event-planning-and-management/>
3. <https://www.classcentral.com/tag/event-management>
4. <https://www.bolc.co.uk/events-management-courses-online/free-event-management-courses>
5. <https://www.coursera.org/courses?query=event%20management>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain concepts, types, and structure of the event management industry.
- Plan and design events with appropriate budgeting, logistics, and resource allocation.
- Analyze marketing, branding, and sponsorship strategies for successful event execution.
- Evaluate risk management, legal issues, and post-event performance analysis.
- Apply digital tools and AI-based event management platforms for effective event planning and execution.

COURSE ARTICULATION MATRIX:

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

3-Strong 2-Medium 1-Low

First Year

CORE COURSE--VI

Semester-II

OPERATIONS RESEARCH

Course Code

(Theory)

Credit: 5

COURSE OBJECTIVES:

- To understand the fundamental concepts, scope, and applications of Operations Research in managerial decision-making.
- To develop mathematical modelling skills for business problem formulation and optimization.
- To analyze linear programming problems and apply graphical and simplex methods for solutions.
- To understand transportation, assignment, and network models for effective resource allocation.
- To apply OR techniques using software tools and AI-based optimization methods for business decision-making.

UNIT – I:

Introduction to Operations Research, scope, phases- merits and limitations – concept of optimization, Theory of simplex methods to solve canonical and general LPP, Primal – dual problem and its properties, dual simplex method, Sensitivity analysis. Concept of Goal Programming.

UNIT – II:

Transportation problem by Vogel's approximation method; assignment problem, linear Programming complete enumeration method.

UNIT – III:

Network analysis – drawing of Arrow diagram – critical path method – calculation of critical path duration, total, free and independent floats, PERT problems; Inventory Theory, Deterministic models – purchase problem without and with shortages, with price breaks, production problem without shortages.

UNIT – IV:

Decision under risk – expected money value criterion – decision trees – decision under uncertainty – minimax criterion; Theory of Games – pure and mixed Strategies, Principles of dominance, graphical methods, simplex methods.

UNIT – V:

Queuing theory – M/M/1/FIFO/OC model; Markovian chain, Simulation: Monte Carlo Method.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to Operation Research - Studying Game theory, Queuing Theory
– Case study.

TEXT BOOKS:

1. Hamdy A. Taha, *Operations Research: An Introduction*, 11th Edition, Pearson, 2023.
2. Frederick S. Hillier & Gerald J. Lieberman, *Introduction to Operations Research*, 11th Edition, McGraw Hill, 2023.
3. P. K. Gupta & D. S. Hira, *Operations Research*, S. Chand, 2024.
4. Richard Bronson & Govindasami Naadimuthu, *Operations Research*, Schaum's Outline, McGraw Hill, 2023.
5. N. D. Vohra, *Quantitative Techniques in Management*, McGraw Hill, 2023

REFERENCES:

1. Hamdy A. Taha – *Operations Research: An Introduction*, Pearson, 2024 Edition
2. Hillier & Lieberman – *Introduction to Operations Research*, McGraw Hill, 2023 Edition
3. V. K. Kapoor – *Operations Research*, Sultan Chand, 2024 Edition
4. R. Pannerselvam – *Operations Research*, PHI Learning, 2023 Edition
5. Ravindran, Phillips & Solberg – *Operations Research: Principles and Practice*, Wiley, 2025 Edition

E-RESOURCES:

1. <https://www.classcentral.com/course/swayam-operations-research-14219>
2. <https://www.coursera.org/courses?query=operations%20research>
3. <https://www.edx.org/course/operations-research-an-active-approach>
4. https://onlinecourses.nptel.ac.in/noc19_ma29/preview
5. <https://alison.com/tag/operations>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the basic concepts, models, and applications of Operations Research in management.
- Formulate and solve linear programming problems using graphical and simplex methods.
- Apply transportation and assignment models for optimization of resources.
- Analyze decision-making problems using queuing theory, game theory, and network models.
- Apply AI-based optimization tools and software for solving complex business problems.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	1	-	1	-	-	-	2
CO2	3	3	3	2	3	2	-	-	-	2
CO3	3	3	3	2	3	2	-	-	-	2
CO4	2	3	3	3	3	3	1	-	-	3
CO5	1	3	3	3	3	3	2	2	3	3

3-Strong 2-Medium 1-Low

First Year

CORE COURSE--VII
PRODUCTION MANAGEMENT
(Theory)

Semester-II

Course Code:

Credit: 5

COURSE OBJECTIVES:

- To understand the concepts, functions, and scope of production and operations management in manufacturing and service organizations.
- To study production systems, process design, and plant location and layout decisions.
- To analyze production planning and control techniques including forecasting, scheduling, and capacity planning.
- To understand inventory management, quality control, and maintenance management concepts.
- To apply modern production management techniques including lean systems, automation, Industry 4.0, and AI-enabled smart manufacturing.

UNIT – I:

Production function – an Introduction – Definitions and types of production systems. Strategic Management – corporate strategies, production strategies, World class manufacturing, demand forecasting for Operations.

UNIT – II:

Product Design – New product development, process planning and design, value analysis, capacity planning.

UNIT – III:

Plant location – factors influencing plant location, Plant layout- classification of layout with advantages, layout design procedures, Production planning and control – aggregate planning-nature, Strategies, methods, Master production Plan.

UNIT – IV:

Quality Control - Definition, need, Quality control techniques, control charts, acceptance sampling, six sigma, and quality circles. TQM-scope, benefits.JIT.

UNIT – V:

Flexible Manufacturing systems. Poka yoke-Characteristics, levels, classification, principles, device
Kaizen-Elements, classification, steps in implementing kaizen.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Issues Related to the Enterprise Resource Planning - Practical: Studying Poka yoke,
Kaizen - Mini Project on Emerging Trends on Production management - Group discussions.

TEXT BOOKS:

1. R. Panneerselvam, *Production and Operations Management*, PHI Learning, 2024.
2. K. Aswathappa & K. Shridhara Bhat, *Production and Operations Management*, Himalaya Publishing House, 2023.
3. Mahadevan B., *Operations Management: Theory and Practice*, Pearson, 2024.
4. William J. Stevenson, *Operations Management*, McGraw Hill, 2023.
5. Richard Chase, Ravi Shankar, F. Robert Jacobs, *Operations and Supply Chain Management*, McGraw Hill, 2024.

REFERENCE:

1. Jay Heizer & Barry Render – *Operations Management*, Pearson, 2024 Edition
2. William Stevenson – *Operations Management*, McGraw Hill, 2023 Edition
3. K. Aswathappa – *Production & Operations Management*, Himalaya, 2024 Edition
4. Nigel Slack – *Operations Management*, Pearson, 2023 Edition
5. Buffa – *Modern Production/Operations Management*, Wiley, 2023 Edition

E-RESOURCES:

1. <https://www.mygreatlearning.com/academy/learn-for-free/courses/product-management>
2. <https://alison.com/course/advanced-diploma-in-production-and-operation-management>
3. <https://www.classcentral.com/course/swayam-production-management-20266>
4. <https://www.edx.org/learn/product-management>
5. <https://www.oxfordhomestudy.com/courses/online-management-courses/operations- management-free-courses>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts and functions of production and operations management.
- Analyze production systems, plant location, and layout decisions.
- Apply production planning, scheduling, and inventory control techniques.
- Evaluate quality management and maintenance systems in organizations.
- Develop modern production strategies using lean manufacturing, automation, and AI-based smart factory concepts.

COURSE ARTICULATION MATRIX:

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

3-Strong 2-Medium 1-Low

First Year

**CORE COURSE--VIII
MARKETING MANAGEMENT**

Semester-II

Course Code:

(Theory)

Credit: 5

COURSE OBJECTIVES:

- To understand the fundamental concepts, scope, and evolution of marketing management in modern business environments.
- To develop knowledge on marketing environment analysis including consumer, competitor, and market segmentation.
- To analyze product, price, place, and promotion strategies for effective marketing decision-making.
- To understand marketing planning, implementation, and control in both traditional and digital contexts.
- To apply marketing management concepts, including AI-enabled marketing tools and data-driven decision-making, for organizational growth.

UNIT – I:

Marketing – Concept – Functions – Marketing Planning & Implementing Marketing Programmes – Marketing Environment -Market Segmentation and Consumer Behaviour – Marketing Research and Market Information System.

UNIT – II:

Product: Meaning – Product Planning – Policies – Positioning – New Product Development – Product Life Cycle – Branding, Packaging, Labeling. Price: Pricing Objectives – Factors, Methods and Procedure.

UNIT – III:

Promotion: Promotion Mix – Advertisement –kinds of advertisement- Message – Copy – Advertisement Budgeting – Measuring Advertisement Effectiveness – Media Strategy – Sales Promotion – Personal Selling and Publicity.

UNIT – IV:

Physical Distribution: Distribution Mix – Managing Channel – Intermediaries – Transport and Warehousing – Distribution Strategies – Distribution Cost Analysis.

UNIT – V:

Marketing Strategies – Tools for Competitive Differentiation of Product – Strategies for Competitors – Leaders, challenges, follower & niches – Marketing of Services – Consumerism and Consumer Protections, Evaluating & Controlling Marketing Performance. Direct Selling, Direct Marketing.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to the Course during the Semester concerned. - Studying Management styles of two Indian institutions - Mini Project on Marketing management concepts of the firms in the Locale - role play, Group discussions.

TEXT BOOKS:

1. Philip Kotler & Kevin Lane Keller, *Marketing Management*, 17th Edition, Pearson, 2023.
2. Gary Armstrong & Philip Kotler, *Principles of Marketing*, 19th Edition, Pearson, 2024.
3. Ramaswamy V.S. & Namakumari S., *Marketing Management: Global Perspective*, 6th Edition, Macmillan, 2024.
4. Rajan Saxena, *Marketing Management*, 6th Edition, McGraw Hill, 2023.
5. S.A. Sherlekar, *Marketing Management*, Himalaya Publishing House, 2023

REFERENCES:

1. Philip Kotler & Keller – *Marketing Management*, Pearson, 2024 Edition
2. Armstrong & Kotler – *Principles of Marketing*, Pearson, 2023 Edition
3. V. S. Ramaswamy & S. Namakumari – *Marketing Management*, Macmillan, 2023 Edition
4. Saxena – *Marketing Management*, McGraw Hill, 2024 Edition
5. Grewal & Levy – *Marketing*, McGraw Hill, 2025 Edition

E-RESOURCES:

1. <https://alison.com/course/international-marketing-and-supply-chain-management>
2. <https://www.classcentral.com/course/swayam-international-marketing-58474>
3. <https://uniathena.com/short-courses/diploma-in-international-marketing-management>
4. <https://www.edx.org/learn/marketing-management>
5. <https://www.oxfordhomestudy.com/courses/marketing-online-courses/free-online-marketing- courses>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, scope, and importance of marketing management in business organizations.
- Analyze marketing environment, consumer behavior, and market segmentation strategies.
- Apply marketing mix strategies (product, price, place, promotion) in business decision-making.
- Evaluate marketing strategies and performance using traditional and digital marketing tools.
- Develop integrated marketing plans using data-driven and AI-enabled marketing approaches.

COURSE ARTICULATION MATRIX:

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

3-Strong 2-Medium 1-Low

First Year

**CORE COURSE--IX
FINANCIAL MANAGEMENT**

Semester-II

Course Code

(Theory)

Credit: 5

COURSE OBJECTIVES:

- To understand the fundamentals of financial management and its role in business decision-making and value creation.
- To learn the concepts of time value of money, risk-return relationship, and cost of capital for financial analysis.
- To analyze capital budgeting techniques and investment appraisal methods for long-term financial decisions.
- To understand sources of finance, capital structure decisions, and dividend policy frameworks.
- To apply financial management tools along with AI-based financial analytics for forecasting, investment decisions, and risk management.

UNIT – I:

Financial Management- meaning, scope, objectives and functions. Financial Analysis and Control; Overview of Indian Financial System- Legal, Regulatory and tax framework.

UNIT – II:

Time value of Money; Instruments of Long Term Finance, Cost of Different Sources of Raising Capital. Cost of Capital - Computation for each source of finance and weighted average cost of capital - EBIT -EPS Analysis - Operating Leverage - Financial Leverage - problems

UNIT – III:

Investment and Capital Structure Decisions - Net Income Approach - Net Operating Income Approach - MM Approach; Valuation and Rates of Return; Method of Capital Budgeting.

UNIT – IV:

Working Capital Management - Definition and Objectives - Working Capital Policies - Factors affecting Working Capital requirements - Forecasting Working Capital requirements(problems) - Cash Management - Receivables Management and - Inventory Management - Working Capital Financing - Sources of Working Capital and Implications of various Committee Reports.

UNIT – V:

Internal Financing and Dividend Policy - Types of Dividend Policy - Dividend Policy and share valuation - CAPM. Financial Modeling.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the Financial Management - Practical analysis of Financial Management Terminologies - Mini Project on Financial Management concept of the Firms - Case Study on Financial Concepts.

TEXT BOOKS:

1. I.M. Pandey, Financial Management, 13th Edition, Pearson, 2024.
2. Prasanna Chandra, Financial Management Theory and Practice, 11th Edition, McGraw Hill, 2023.
3. Eugene F. Brigham and Michael C. Ehrhardt, Financial Management Theory and Practice, 17th Edition, Cengage Learning, 2024.
4. M.Y. Khan and P.K. Jain, Financial Management Text Problems and Cases, 9th Edition, McGraw Hill, 2024.
5. James C. Van Horne and John M. Wachowicz Jr., Fundamentals of Financial Management, 16th Edition, Pearson, 2023.

REFERENCES:

1. I. M. Pandey – *Financial Management*, Vikas, 2023 Edition
2. Brigham & Ehrhardt – *Financial Management: Theory & Practice*, Cengage, 2024 Edition
3. Richard Brealey & Myers – *Principles of Corporate Finance*, McGraw Hill, 2023 Edition
4. Khan & Jain – *Financial Management*, Tata McGraw Hill, 2024 Edition
5. Aswath Damodaran – *Corporate Finance*, Wiley, 2025 Edition

E-RESOURCES:

1. <https://www.mooc-list.com/course/finance-non-financial-managers-coursera>
2. <https://nptel.ac.in/courses/110105057>
3. https://onlinecourses.nptel.ac.in/noc20_mg31/preview
4. https://onlinecourses.swayam2.ac.in/cec20_mg05/preview
5. <https://www.classcentral.com/course/swayam-financial-management-17605>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the principles and scope of financial management in business organizations.
- Apply time value of money and risk-return concepts for financial decision-making.
- Analyze capital budgeting techniques for selecting profitable investment projects.
- Evaluate capital structure decisions, cost of capital, and dividend policies.
- Develop financial decision models using analytical tools and AI-based financial forecasting techniques.

COURSE ARTICULATION MATRIX:

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

3-Strong 2-Medium 1-Low

First Year

CORE COURSE - X
HUMAN RESOURCE MANAGEMENT

Semester-II

Course Code:

(Theory)

Credit: 5

COURSE OBJECTIVES:

- To understand the concepts, scope, and functions of Human Resource Management in modern organizations.
- To develop knowledge on human resource planning, job analysis, recruitment, selection, and placement processes.
- To analyze training and development methods for improving employee performance and organizational effectiveness.
- To understand performance management systems, compensation management, and employee engagement practices.
- To apply AI-enabled HR analytics and digital HR tools for workforce planning, talent management, and decision-making.

UNIT – I PERSPECTIVES IN HUMAN RESOURCE MANAGEMENT:

Evolution of Human Resource Management – The Importance of the Human Factor – Objectives of Human Resource Management – Role of Human Resource Manager – Human Resource Policies – Understanding business process in the context of Human Resource Management – Computer Applications in Human Resource Management.

UNIT – II THE CONCEPT OF BEST-FIT EMPLOYEE:

Importance of Human Resource Planning – Forecasting Human Resource requirements – Internal and External sources. Selection Process – Screening – Tests – Validation – Interview – Medical Examination – Recruitment. Induction – Importance – Practices Socialization benefits.

UNIT – III TRAINING AND EXECUTIVE DEVELOPMENT:

Types of training methods – Purpose – Benefits – Resistance. Executive development programmes – Common practices – Benefits – Self Development.

UNIT – IV SUSTAINING EMPLOYEE INTEREST:

Compensation Plans – Rewards – Motivation – Theories of motivation – career Management – Developing Mentor – Portage Relationships.

UNIT – V PERFORMANCE EVALUATION AND CONTROL PROCESS:

Methods of Performance Evaluation – Feedback – Industry practices, Promotion, Demotion, Transfer and Separation – Implications of job change. The control process – Importance – Methods – Requirements of Effective Control System. Grievances – causes – Implications – Redressed Methods – Gender Sensitivity.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to the Course during the Semester concerned. - Practical: Studying Management styles of two Indian institutions - Mini Project on Human resource management in the firms in the Locale - role play, Group discussions.

TEXT BOOKS:

1. Gary Dessler, Human Resource Management, 17th Edition, Pearson, 2024.
2. Biswajeet Pattanayak, Human Resource Management, 6th Edition, PHI Learning, 2023.
3. K. Aswathappa, Human Resource Management Text and Cases, 11th Edition, McGraw Hill, 2024.
4. C.B. Mamoria and S.V. Gankar, Personnel Management and Human Resource Management, Himalaya Publishing House, 2023.
5. V.S.P. Rao, Human Resource Management Text and Cases, 5th Edition, Excel Books, 2023.

REFERENCES:

1. Raymond A. Noe, John Hollenbeck, Barry Gerhart and Patrick Wright, Fundamentals of Human Resource Management, 9th Edition, McGraw Hill, 2024.
2. Snell and Bohlander, Principles of Human Resource Management, Cengage Learning, 2023.
3. David A. DeCenzo and Stephen P. Robbins, Fundamentals of Human Resource Management, Wiley, 2023.
4. Monir H. Tayeb, International Human Resource Management, Oxford University Press, 2024.
5. Michael Armstrong, Armstrong Handbook of Human Resource Management Practice, 16th Edition, Kogan Page, 2025.

E-RESOURCES:

1. <https://www.classcentral.com/course/introduction-to-international-human-resources-man-20381>
2. <https://alison.com/course/international-and-strategic-human-resource-management-revised>
3. <https://www.freestudy.com/best-free-online-courses-in-human-resources/>
4. <https://www.reed.co.uk/courses/free/hr/online>
5. <https://www.oxfordhomestudy.com/courses/hr-courses-online/free-online-hr-courses-with-certificates>

COURSE OUTCOMES:

On completion of this course, the students will be able

- Explain the concepts, functions, and importance of Human Resource Management.
- Apply HR planning, recruitment, selection, and placement techniques in organizations.
- Analyze training and development strategies for employee skill enhancement.
- Evaluate performance management systems, compensation, and employee relations.
- Develop HR solutions using digital tools and AI-based HR analytics for workforce management.

COURSE ARTICULATION MATRIX:

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

3-Strong 2-Medium 1-Low

First Year

DISCIPLINE CENTRIC ELECTIVE COURSE--II

Semester-II

1. KNOWLEDGE MANAGEMENT

Course Code:

(Theory)

Credit: 4

COURSE OBJECTIVES:

- To understand the basic concepts, principles, and importance of Knowledge Management (KM) in modern organizations.
- To develop understanding of types of knowledge, knowledge creation, capture, storage, and dissemination processes.
- To analyze knowledge management systems, tools, and technologies used in organizations for effective decision-making.
- To understand organizational learning, intellectual capital, and knowledge sharing practices.
- To apply AI-enabled knowledge management systems and digital tools for improving organizational performance and innovation.

UNIT – I:

Introduction to KM - History of KM - Importance of KM - Information Management to Knowledge Management - KM Cycle - Industrial Economy to Knowledge Economy

UNIT – II:

Mechanics of Knowledge Management – Tools and Technologies - Communities of Practice and Knowledge conversion - The Knowledge Management Matrix.

UNIT – III:

Social Nature of Knowledge - Social Network Analysis - Obstacles to knowledge sharing - Organizational learning & social capital- Knowledge Application – Individual level, Group level & Organization level.

UNIT – IV:

KM Strategy - Knowledge audit - GAP Analysis, Road Map, KM Metrics, Balance Score Card - KM Tools-Knowledge Capture & creation tools - Knowledge sharing & Dissemination Tools - Knowledge Acquisition & Application tools.

UNIT – V:

KM Team-Roles & Responsibility- Political issues in KM - Ethics in KM Strategic issues in Knowledge Management - Future of Knowledge Management.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to Knowledge Management. - Practical: Studying Mechanics of Knowledge Management - Mini Project on Knowledge audit in the firms in the Locale - role play, Group discussions.

TEXT BOOK:

1. Elias M. Awad & Hassan M. Ghaziri, *Knowledge Management*, 2nd Edition, Pearson, 2023.
2. Ikujiro Nonaka & Hirotaka Takeuchi, *The Knowledge-Creating Company*, Oxford University Press, 2023.
3. Irma Becerra-Fernandez & Rajiv Sabherwal, *Knowledge Management: Systems and Processes*, 3rd Edition, Routledge, 2024.
4. Donald Hislop, *Knowledge Management in Organizations*, 4th Edition, Oxford University Press, 2024.
5. Madanmohan Rao, *Knowledge Management Tools and Techniques*, Excel Books, 2023.

REFERENCES:

1. Ikujiro Nonaka – *Knowledge Management*, Oxford, 2023 Edition
2. Davenport & Prusak – *Working Knowledge*, Harvard Press, 2024 Edition
3. Bhatt – *Knowledge Management in Organizations*, Sage, 2023 Edition
4. Hislop – *Knowledge Management in Organizations*, Oxford, 2024 Edition
5. Snowden – *Knowledge Management Systems*, Routledge, 2025 Edition

E-RESOURCES:

1. <https://www.edx.org/learn/knowledge-management>
2. <https://www.classcentral.com/course/swayam-knowledge-management-7954>
3. <https://alison.com/tag/knowledge-management>
4. <https://www.udemy.com/course/knowledge-management-tools-for-smes/>
5. <http://www.openlearningworld.com/innerpages/Knowledge%20Management.html>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the fundamental concepts, scope, and importance of knowledge management in organizations.
- Analyze knowledge creation, capture, storage, and sharing processes in business environments.
- Evaluate knowledge management systems, tools, and technologies used for organizational effectiveness.
- Apply knowledge management strategies for organizational learning and intellectual capital development.
- Develop AI-enabled knowledge management solutions to enhance innovation and decision-making.

COURSE ARTICULATION MATRIX:

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

3-Strong 2-Medium 1-Low

First Year	DISCIPLINE CENTRIC ELECTIVE COURSE---II	Semester-II
	2. BUSINESS LAW AND	
	LABOUR LEGISLATION	
CourseCode	(Theory)	Credit: 4

COURSE OBJECTIVES:

- To understand the fundamental principles of Business Law and the legal framework governing business organizations.
- To develop knowledge on Indian Contract Act, Sale of Goods Act, and Company Law relevant to business transactions.
- To analyze labour legislation in India and understand employer–employee relationships.
- To understand industrial laws, welfare legislations, and dispute resolution mechanisms in organizations.
- To apply legal knowledge in business decision-making and ensure compliance with labour laws and ethical practices.

UNIT – I:

The Indian Contract Act, 1872 - Introduction – Definition of contract – agreement – offer – acceptance – consideration capacity to contract – contingent contract – Quasi contract – performance – Discharge – Remedies to breach of contract.

UNIT – II:

Partnership- essentials of partnership, Rights and duties of partner, types of partners. Dissolution of partnership - Sale of Goods Act: Sale and Agreement to sell, Conditions and Warrantees, Transfer of property, Finder of goods, Performance of contract of sale, Rights of an unpaid seller.

UNIT – III:

Contract of Agency- Essentials of Contract of Agency – Creation of Agency – Kinds of Agents – Comparison Between an Agent and Servant – Comparison Between an Agent and Independent Contractor – Relationship of Principal and Agent – Duties of an Agent – Rights of an Agent – Duties and Rights of the Principal – Delegation of authority by an Agent – Sub Agent – Position of Principal and Agent in relation to third Parties – Termination of Agency.

UNIT – IV:

Company – Formation – Memorandum – Articles – Prospective Shares – debentures – Directors – appointment – Powers and duties. Meetings – Proceedings – Management – Accounts – audit – oppression & mismanagement – winding up.

UNIT – V:

The Consumer Protection Act, 1986; Object – Rights of Consumers –Important Terms- Consumer Complaint - Consumer Protection Councils – Redressal Machinery – District Forum – State Commission - National Commission. Cyber Law -Need for Cyber laws – Cyber law in India – Information Technology Act – 2000 – Defining Cyber Crime – Types of Cyber Crimes – Preventing of Computer Crime.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to the Legal Aspects of Business - Studying on Sale of Goods Act, Company Law – Group Discussion

TEXT BOOKS:

1. K. R. Bulchandani, *Business Law for Management*, 5th Edition, Himalaya Publishing House, 2024.
2. Avtar Singh, *Principles of Mercantile Law*, 10th Edition, Eastern Book Company, 2023.
3. P. P. S. Gogna, *Business and Corporate Law*, 4th Edition, S. Chand Publishing, 2024.
4. S. N. Mishra, *Labour and Industrial Laws*, 29th Edition, Central Law Publications, 2024.
5. Dr. V. G. Goswami, *Labour Law*, Central Law Agency, 2023.

REFERENCES:

1. Avtar Singh – *Business Law*, Eastern Book Company, **2023 Edition**
2. N. D. Kapoor – *Business Law*, Sultan Chand, **2024 Edition**
3. S. K. Mishra – *Labour Laws in India*, Himalaya, **2023 Edition**
4. P. P. S. Gogna – *Mercantile Law*, S. Chand, **2024 Edition**
5. Bare Acts (Govt. of India) – *Labour & Industrial Laws*, **2025 Updated**

E-RESOURCES:

1. <https://www.classcentral.com/course/swayam-fundamentals-of-legal-aspects-of-business-22987>
2. <https://edynamiclearning.com/course/business-law-1b-legal-aspects-of-business/>
3. <https://www.coursera.org/courses?query=business%20law>
4. <https://www.edx.org/learn/business-law>
5. <http://ycmou.digitaluniversity.ac/WebFiles/MBA401%20Business%20Laws12Apr2017.pdf>.
– Cengage Learning, 2nd Edition-2011.

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the basic principles of business law and legal environment of business.
- Analyze contracts, sale of goods, and company law provisions in business operations.
- Interpret labour laws and industrial relations frameworks in India.
- Evaluate legal compliance requirements in business and industrial organizations.
- Apply legal and labour law knowledge for ethical and lawful business decision-making.

COURSE ARTICULATION MATRIX:

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

3-Strong 2-Medium 1-Low

First Year

NON-MAJOR ELECTIVE COURSE--I

Semester-II

PRINCIPLES OF MANAGEMENT

Course Code:

(Theory)

Credit: 2

COURSE OBJECTIVES:

- To understand the basic concepts, nature, and scope of management and its evolution.
- To analyze the functions of management such as planning, organizing, staffing, directing, and controlling.
- To develop knowledge on organizational structure, leadership, and decision-making processes.
- To understand modern management approaches including strategic management and organizational behavior.
- To apply managerial principles with AI-enabled tools for effective business decision-making and organizational efficiency.

UNIT – I INTRODUCTION:

Concept of Management –Features, Objectives, Functions and Importance of Management- Nature of Management-Management Principles- Role of Managers- Functional Areas of Management, Managerial Skills- Theory of Peter F. Drucker -Relevant Case studies.

UNIT – II PLANNING:

Meaning- Features of Planning- Importance of Planning- Objectives of Planning- Limitations of Planning-Barriers to Planning- Process of Planning- Principles of Planning- Features of Good Plan- Planning Premises- Process of Planning Premises- Types of Planning Premises - Relevant Case studies.

UNIT – III ORGANISING:

Meaning, Nature of Organization- Process of Organizing- Importance- Organization Chart- Principles of Organization Chart- Advantages of Organization Chart- Limitations of Organizations Chart-Kinds of Organization Chart. Formal Organization - Features and Benefits of Formal Organization - Limitations of Organization Chart - Relevant Case studies.

UNIT – IV STAFFING:

Meaning- Nature of Staffing- Need for Staffing- Need for Staffing- Importance of Staffing- Staffing Process. Motivation: Meaning- Nature of Motivation- Importance of Motivation- Effective Motivation- Theories of Motivation. Controlling: Meaning- Nature - Importance - Types - Cybernetic and Non Cybernetic Control- Resistance to Control- Effects of Resistance to Control- Ways to overcome Resistance to Control- Control Process - Relevant Case studies.

UNIT – V SOCIAL RESPONSIBILITIES OF BUSINESS:

Meaning – nature – levels – Historical perspectives of Social responsibility – Barriers – Profit maximization and Social responsibility – Various stake holders and social responsibility – Davis Model of Social responsibility – Phases – Approaches – Social responsibility in India – Social responsiveness and Social Audit – Ethics – Values - Relevant Case studies

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the Principles of management - Practical: Studying Management styles of two Indian institutions in the lime-light- Mini Project on management concept of the firms in the Locale - role play, Group discussions.

TEXT BOOKS:

1. Robbins, Stephen P. & Coulter, Mary, *Management*, 15th Edition, Pearson, 2024.
2. Koontz, Harold & Weihrich, Heinz, *Essentials of Management*, McGraw Hill, 2023.
3. Griffin, Ricky W., *Management Principles and Practices*, Cengage Learning, 2024.
4. Daft, Richard L., *Management*, 14th Edition, Cengage, 2023.
5. Prasad, L.M., *Principles and Practice of Management*, Sultan Chand, 2023.

REFERENCES:

1. Koontz & Weihrich – *Essentials of Management*, McGraw Hill, 2023 Edition
2. Robbins – *Management*, Pearson, 2024 Edition
3. Griffin – *Management Principles*, Cengage, 2023 Edition
4. Stoner, Freeman – *Management*, Pearson, 2024 Edition
5. Schermerhorn – *Management*, Wiley, 2025 Edition

E-RESOURCES:

1. <https://www.classcentral.com/course/independent-principles-of-management-11932>
2. <https://www.coursera.org/learn/principles-of-management>
3. <https://www.mygreatlearning.com/academy/learn-for-free/courses/principles-of-management>
4. https://onlinecourses.nptel.ac.in/noc21_mg30/preview

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the fundamental concepts, functions, and principles of management.
- Apply planning, organizing, staffing, directing, and controlling techniques in organizations.
- Analyze organizational structure, leadership styles, and decision-making processes.
- Evaluate modern management practices and their application in business environments.
- Apply AI-based managerial tools for improving organizational efficiency and decision-making.

COURSE ARTICULATION MATRIX:

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

3-Strong 2-Medium 1-Low

Second Year

CORE COURSE--XI

Semester-III

**Course Code: ENTREPRENEURIAL DEVELOPMENT
(Theory)**

Credit: 5

COURSE OBJECTIVES

- To understand the concepts, role, and significance of entrepreneurship and entrepreneurial development in economic growth.
- To identify and evaluate entrepreneurial opportunities, ideas, and feasibility of new ventures.
- To analyze the process of setting up a business including project formulation, business planning, and startup procedures.
- To understand institutional support, government policies, and funding mechanisms for startups and SMEs.
- To apply entrepreneurial thinking, innovation strategies, and AI-enabled tools for opportunity identification and venture development.

UNIT – I:

Entrepreneur - meaning - importance - Qualities, nature, types, traits, culture. Similarities and differences between entrepreneur and Intrapreneur. Entrepreneurship and economic development - its importance - Role of entrepreneurship - entrepreneurial environment.

UNIT – II:

Evolution of entrepreneurs - entrepreneurial promotion: Training and development. mobility of entrepreneurs - entrepreneurial change - occupational mobility - factors in mobility - Role of consultancy organizations in promoting entrepreneurs - Forms of business for entrepreneurs.

UNIT – III:

Project management: Sources of business idea - Project classifications - identification - formulation and design - feasibility analysis. Financial analysis - project cost estimate - operating revenue estimate -Ratio analysis - investment Process - B E analysis - Profit analysis - Social cost benefit analysis - Project Appraisal methods. Preparation of Project Report and presentation.

UNIT – IV:

Project finance: Sources of finance - Institutional finance - Role of IFC, IDBI, ICICI, LIC, SFC, SIPCOT, Commercial Bank - Appraisal of bank for loans. Institutional aids for entrepreneurship development - Role of DICS, SIDCO, NSICS, IRCI, NIDC, SIDBI, SISI, SIPCOT, Entrepreneurial guidance bureau - Approaching Institutions for Assistance.

UNIT – V:

Steps in setting SSI unit - Problems of entrepreneurs - Sickness in small industries - reasons and remedies - Incentives and subsidies - Evaluating entrepreneurial performance - Rural entrepreneurship - Women entrepreneurship.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):Contemporary issues Related to Entrepreneurial Management - Studying Project Management, Project Finance- Case study relevant to problem of entrepreneurs - group discussion.

TEXT BOOKS:

1. Hisrich, Robert D., Michael P. Peters, and Dean A. Shepherd, *Entrepreneurship*, 11th Edition, McGraw Hill, 2024.
2. Vasant Desai, *Dynamics of Entrepreneurial Development*, Himalaya Publishing House, 2023.
3. Poornima M. Charantimath, *Entrepreneurship Development and Small Business Enterprises*, Pearson, 2024.
4. Rajeev Roy, *Entrepreneurship*, Oxford University Press, 2023.
5. Barringer, Brace R., and R. Duane Ireland, *Entrepreneurship: Successfully Launching New Ventures*, 6th Edition, Pearson, 2023.

REFERENCES:

1. S. S. Khanka – *Entrepreneurial Development*, S. Chand, 2023 Edition
2. Vasanth Desai – *Dynamics of Entrepreneurial Development*, Himalaya Publishing, 2024 Edition
3. Robert Hisrich, Michael Peters & Dean Shepherd – *Entrepreneurship*, McGraw Hill, 2024 Edition
4. Barringer & Ireland – *Entrepreneurship: Successfully Launching New Ventures*, Pearson, 2023 Edition
5. NITI Aayog – *Startup India & Entrepreneurship Ecosystem Report*, 2025 Edition

E-RESOURCES:

1. <https://www.esc.edu/degrees-programs/undergraduate-aos/business-management-economics/learning-resources/entrepreneurship-resources/>
2. <https://www.edx.org/learn/entrepreneurship>
3. <https://swayam.gov.in/explorer?category=Management%20Studies>
4. <https://www.niesbud.nic.in/entrepreneurship-development-programme.htm>
5. <https://www.coursera.org/learn/entrepreneurship>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, theories, and importance of entrepreneurship in economic development.
- Identify entrepreneurial opportunities and evaluate feasibility of new business ideas.
- Develop business plans and understand procedures for launching new ventures.
- Analyze institutional support systems, funding sources, and government policies for startups.
- Apply entrepreneurial skills and innovative thinking, including AI-based tools, for venture creation and growth.

COURSE ARTICULATION MATRIX:

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

3-Strong 2-Medium 1-Low

Second Year

CORE COURSE--XII

Semester-III

RESEARCH METHODS IN MANAGEMENT

Course Code:

(Theory)

Credit: 5

COURSE OBJECTIVES:

- To understand the basic concepts, scope, and significance of research in management decision-making.
- To develop knowledge of research design, types of research, and formulation of research problems.
- To analyze data collection methods including sampling techniques and measurement scales used in management research.
- To understand statistical tools and techniques used for data analysis and interpretation.
- To apply research methodology skills for solving business problems using AI-enabled data analytics tools.

UNIT – I INTRODUCTION:

Research – Importance and its types – research approaches – process – problem formulation – development of hypothesis – Research design – determining the sample design – collecting data –analysis of data – identifying research problem.

UNIT – II MEASUREMENT AND ITS TECHNIQUES:

Measurement in research and its problems – meaning of scaling – tests of sound measurement – types of scaling- Techniques of measurement – Attitude scales – summated rating scale – Equal appearing Interview scale – cumulative scale – Rating scale – Scale constructing Techniques.

UNIT – III DATA COLLECTION AND HYPOTHESIS:

Classification of data – sources of data – collection of primary and secondary data – Questionnaire method – Guidelines for Questionnaire design – Interview technique – Observation techniques – Processing of data – Editing – Coding – Tabulation – Interpretation of data – Formulation of hypothesis – Test of hypothesis.

UNIT – IV STATISTICAL TECHNIQUES:

Statistical Techniques – Measures of Central Tendency – Arithmetic mean, Median and Mode – Karl Pearson's coefficient of correlation – Regression – Chi-square test – conditions for applying chi- square test – ANOVA – Spearman's Rank Correlation.

UNIT – V INTERPRETATION AND REPORT WRITING:

Interpretation – Techniques of Interpretation – Significance of Report Writing- Different steps in writing report – layout of research report – types – oral presentation – mechanics of writing a research report – precautions for writing research reports – Role of statistical packages in Research.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the Principle of management - Practical class- Analysis of data using statistical Packages, data analysis using MS-Excel, hypothesis testing, solve the problems need immediate solution. Group discussion

TEXT BOOKS:

1. C.R. Kothari & Gaurav Garg, *Research Methodology: Methods and Techniques*, 5th Edition, New Age International, 2024.
2. Donald R. Cooper & Pamela S. Schindler, *Business Research Methods*, 13th Edition, McGraw Hill, 2023.
3. Naresh K. Malhotra, *Marketing Research: An Applied Orientation*, 7th Edition, Pearson, 2023.
4. Saunders, Lewis & Thornhill, *Research Methods for Business Students*, 9th Edition, Pearson, 2023.
5. Uwe Flick, *An Introduction to Qualitative Research*, 6th Edition, Sage Publications, 2024.

REFERENCES:

1. C. R. Kothari & Gaurav Garg – *Research Methodology: Methods and Techniques*, New Age International, 2024 Edition
2. Donald R. Cooper & Pamela S. Schindler – *Business Research Methods*, McGraw Hill, 2023 Edition
3. Uma Sekaran & Roger Bougie – *Research Methods for Business*, Wiley, 2024 Edition
4. Alan Bryman – *Social Research Methods*, Oxford University Press, 2023 Edition
5. Saunders, Lewis & Thornhill – *Research Methods for Business Students*, Pearson, 2025 Edition

E-RESOURCES:

2. https://onlinecourses.nptel.ac.in/noc22_ge08/preview
3. https://onlinecourses.swayam2.ac.in/nou21_cm03/preview
4. <https://www.coursera.org/browse/physical-science-and-engineering/research-methods>
5. https://nie.gov.in/icmr_sph/Online-courses.html
6. <https://www.ccrm.in/research-methods>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the fundamental concepts, types, and significance of business research in management.
- Formulate research problems and design appropriate research methodology.
- Apply sampling techniques and data collection methods in business research.
- Analyze and interpret data using statistical and analytical tools including software-based methods.
- Develop research reports and apply AI-based data analytics tools for managerial decision-making.

COURSE ARTICULATION MATRIX

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

3-Strong 2-Medium 1-Low

Second Year

**NON-MAJOR ELECTIVE -II
INVESTMENT PLANNING**

Semester-III

Course Code:

(Theory)

Credit: 2

COURSE OBJECTIVES:

- To understand the concepts of investment, securities, investment process, and securities market operations.
- To develop knowledge on financial planning, personal finance, insurance, retirement, and tax planning.
- To analyze various investment avenues, portfolio construction, asset allocation, and investment strategies.
- To understand the functioning of capital market, money market instruments, and financial market operations.
- To apply investor protection guidelines, grievance handling mechanisms, and AI-enabled investment analytics in investment decision-making.

UNIT I INTRODUCTION TO INVESTMENT AND SECURITIES

Investment –Investment Objectives – The Investment process – Investment planning –Speculation – Gambling and Investment – Securities Market – Securities, Bond, Stock, Derivatives, and Investment Information.

UNIT II FINANCIAL PLANNING

The process financial planning, Client interactions, Time value of money applications, Personal financial statements, Cash flow and debt management, planning to finance education – Risk analysis and Insurance planning, Retirement planning and Tax planning.

UNIT III INVESTMENT PLANNING AND ALTERNATIVES

Investment Avenues – Short term financial options and Long term financial options – Online saving investment plan, Systematic investment plan - Life Insurance – Real Assets – Mutual funds – Asset Allocation - Derivatives – Foreign Exchange Market – investment strategies, Portfolio construction and management

UNIT IV CAPITAL MARKET AND MONEY MARKET

Types of Capital Market – Primary market – Public issue, Private placement and Rights issue – Secondary market – Money Market Instruments – Treasury bill, Commercial paper, Certificate of Deposit, Repurchase agreement, Corporate bonds and Banker's Acceptance.

UNIT V INVESTOR PROTECTION AND GRIEVANCES

SEBI Investment Advisors Regulations – SEBI Investor Protection Guidelines – RBI Investor Protection Guidelines – IRDA Investor Protection Guidelines – Investor Grievances.

UNIT VI DYNAMIC COMPONENT FOR CONTINUOUS INTERNALASSESSMENT ONLY:

Contemporary issues related to the course during the Semester concerned - Practical: the area of investment planning in the lime-light- Mini Project in investment planning.

TEXT BOOKS:

1. Prasanna Chandra, *Investment Analysis and Portfolio Management*, 7th Edition, McGraw Hill, 2024.
2. Zvi Bodie, Alex Kane, Alan J. Marcus, *Investments*, 13th Edition, McGraw Hill, 2024.
3. Reilly and Brown, *Investment Analysis and Portfolio Management*, 12th Edition, Cengage Learning, 2023.
4. Hirt and Block, *Fundamentals of Investment Management*, 13th Edition, McGraw Hill, 2023.
5. S. Kevin, *Security Analysis and Portfolio Management*, 5th Edition, PHI Learning, 2024.

REFERENCES:

1. Donald E. Fischer and Ronald J. Jordan, *Security Analysis and Portfolio Management*, 12th Edition, Pearson, 2023.
2. V.K. Bhalla, *Investment Management*, 21st Edition, S. Chand Publishing, 2024.
3. Punithavathy Pandian, *Security Analysis and Portfolio Management*, 4th Edition, Vikas Publishing, 2023.
4. Frank K. Reilly and Keith C. Brown, *Investment Analysis and Portfolio Management*, Cengage Learning, 2024.
5. Avadhani, *Investment and Securities Markets in India*, Himalaya Publishing House, 2023.

E-RESOURCES:

1. https://onlinecourses.nptel.ac.in/noc24_mg95/preview
2. <https://swayam.gov.in/explorer?category=Management%20Studies>
3. <https://www.coursera.org/learn/investment-management>
4. <https://www.nseindia.com/learn>
5. <https://www.sebi.gov.in/investor-corner.html>

COURSE OUTCOMES:

On completion of this course, the students will be able to:

- Explain investment concepts, securities, financial markets, and investment planning process.
- Apply financial planning techniques for personal finance, insurance, retirement, and tax planning.
- Analyze investment avenues, portfolio construction, asset allocation, and investment strategies.
- Evaluate capital market and money market instruments for effective investment decision-making.
- Apply investor protection guidelines, grievance handling procedures, and AI-enabled investment tools in financial planning.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	1	-	-	-	2
CO2	3	2	3	2	2	2	1	-	-	2
CO3	2	2	3	3	2	2	-	-	-	3
CO4	2	1	3	2	3	3	1	-	-	3
CO5	1	3	2	3	2	3	2	2	3	3

3-Strong 2-Medium 1-Low

Second Year

**SUMMER INTERNSHIP TRAINING
(Compulsory)**

Semester-III

Code:

(Training)

Credit: 5

Each student shall be required to take up institutional training cum project in any business organization for a period of not less than four weeks after completing the second semester (during vacation) and shall submit a report on its various functional areas, which will be evaluated during the Viva-Voce Examination. The Summer Internship Training Certificate will be issued by the concerned organisation. The marks for the Summer Internship Report and the Viva-Voce are in a 50:50 ratio. The Summer Internship Report will be evaluated only by the External Examiner. External Examiner will be appointed by the University.

Break up of marks is as follows:

- | | |
|-----------------------------|------------|
| 1. Summer Internship Report | - 50 Marks |
| 2. Viva Voce | - 50 Marks |

100 marks

- A candidate shall be declared to have passed in the SUMMER INTERNSHIP TRAINING if he/she gets not less than 40% in each of the Summer Internship report and Viva-voce but not less than 50% in the aggregate of both the marks for Internship Report and Viva-voce.
- A candidate who gets less than 40% in the Summer Internship report must resubmit the Report. Such candidates need to defend the resubmitted Report at the Viva-voce during their forthcoming semester. A maximum of 2 chances will be given to the candidate.

Second Year

CORE COURSE--XIII

Semester-IV

STRATEGIC MANAGEMENT

Code:

(Theory)

Credit: 5

COURSE OBJECTIVES:

- To understand the concept, scope, and importance of strategic management in modern organizations.
- To analyze the internal and external environment of business using strategic tools and frameworks.
- To develop skills in formulation of vision, mission, objectives, and corporate strategies.
- To evaluate competitive strategies and strategic business decisions in dynamic environments.
- To apply strategic thinking, AI-enabled analytics, and digital tools for effective business strategy formulation and implementation.

UNIT – I:

Strategic management – definition, need, dimensions – strategic planning – strategic decision making process – benefit and risks of strategic management – ethics and social responsibility.

UNIT – II:

Strategic management process – vision and mission of the company – business vision models – objectives and goals. Business policies and strategies.

UNIT – III:

Environmental scanning and analysis – types: international, external, internal – characteristics - SWOT – approaches of the environmental scanning.

UNIT – IV:

Generic - competitive strategies – integration strategies – outsourcing strategies – offensive and defensive strategies – strategic alliances and collaborative partnerships – merger and acquisition – diversifications – tailoring strategies to fit specific industry and company situations.

UNIT – V:

Building resource strengths and organizational capabilities – frame work for executing strategy – strategy execution process – organizational structure – managing internal operations corporate culture of leadership – designing strategic control system - key success factors – monitoring success and evaluating deviation.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the management - Studying Recent challenges and development in Strategic management - Case study relevant to Strategic management and group discussion.

TEXT BOOKS:

1. Fred R. David, Forest R. David and Meredith E. David, Strategic Management Concepts and Cases, 18th Edition, Pearson, 2024.
2. Arthur A. Thompson Jr., Margaret A. Peteraf, John E. Gamble and A.J. Strickland III, Crafting and Executing Strategy, 24th Edition, McGraw Hill, 2024.
3. Azhar Kazmi, Strategic Management and Business Policy, 5th Edition, McGraw Hill, 2023.
4. John A. Pearce II and Richard B. Robinson Jr., Strategic Management Formulation Implementation and Control, 14th Edition, McGraw Hill, 2023.
5. V.S. Ramaswamy and S. Namakumari, Strategic Planning Formulation of Corporate Strategy, Macmillan Publishers, 2023.

REFERENCES:

1. Michael A. Hitt, R. Duane Ireland and Robert E. Hoskisson, Strategic Management Competitiveness and Globalization, 14th Edition, Cengage Learning, 2024.
2. Charles W.L. Hill and Melissa Schilling, Strategic Management Theory and Cases, 14th Edition, Cengage Learning, 2023.
3. Gerry Johnson, Richard Whittington and Kevan Scholes, Exploring Strategy, 13th Edition, Pearson, 2024.
4. Wheelen, Hunger, Hoffman and Bamford, Strategic Management and Business Policy, 16th Edition, Pearson, 2023.
5. Peter FitzRoy, James Hulbert and Abby Ghobadian, Strategic Management The Challenge of Creating Value, Routledge, 2023.

E – RESOURCES:

1. <https://www.eresourcescheduler.com/blog/5-effective-resource-management-strategies-that-drive-productivity-in-2024>
2. <https://www.businessballs.com/strategy-innovation/>
3. <https://www.edx.org/learn/strategic-management>
4. <https://www.coursera.org/learn/strategic-management>
5. https://onlinecourses.nptel.ac.in/noc22_mg88/preview

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the fundamentals of strategic management and its role in organizations.
- Analyze internal and external environments using strategic management tools.
- Formulate vision, mission, objectives, and corporate-level strategies.
- Evaluate competitive strategies and business-level decision making in dynamic markets.
- Develop strategic solutions using analytical thinking, digital tools, and AI-based insights for organizational success.

COURSE ARTICULATION MATRIX:

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

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE COURSE
A: MARKETING
I- DIGITAL MARKETING
(Theory)**

Semester-III

Course Code:

Credit:3

COURSE OBJECTIVES:

- To understand the concepts, scope, and importance of digital marketing in the modern business environment.
- To develop knowledge on search engine optimization, search engine marketing, and social media marketing strategies.
- To analyze online consumer behaviour, digital advertising, and content marketing techniques.
- To understand web analytics, mobile marketing, e-commerce, and digital campaign management tools.
- To apply digital marketing strategies and emerging technologies for business growth, branding, and customer engagement.

UNIT-I INTRODUCTION OF THE DIGITAL MARKETING:

Digital vs. Real Marketing - Digital Marketing Channels - Understanding marketing through the internet- Definition of digital marketing; origin of digital Marketing- Benefits of Digital marketing.

UNIT-II INTERNET ENVIRONMENT:

The internet micro- and macro- environment, Internet users in India. The internet marketing mix: product and branding. Digital marketing tools/e-tools. Online marketing matrix including business and Consumer markets.

UNIT-III DIGITAL MARKETING COMMUNICATIONS USING INTERNET:

Search engine marketing (SEM): Definition of SEM, definition of search Engine-Optimization (SEO); advantages and disadvantages of SEO; best practice in SEO - Paid search engine marketing, pay per click advertising (PPC); landing pages; long Tail concept and email Marketing.

UNIT-IV DESIGN A DIGITAL MARKETING PLAN:

SWOT, situational analysis, key performance Indicators in internet marketing, Digital Landscape, P-O-E-M Framework-Segmenting and Customizing-AI driven Customer Analytics-Digital Advertising Market in India.

UNIT-V OBJECTIVES OF SOCIAL MEDIA:

Introduction to social Media - how to build a successful Social Media Strategy, Goal setting, Strategy and implementation - Measure and Improvement. Social Media Trends - Listening to Market. Digital Marketing Trends - Branding on the Net - Branding your Website, Digital Advertising using AI.

UNIT–VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to Digital Marketing – Studying Search engine marketing and digital marketing tools – Mini project on social media marketing- Group Discussion.

TEXTBOOKS:

1. Seema Gupta, *Digital Marketing*, 4th Edition, McGraw Hill, 2023.
2. Dave Chaffey and Fiona Ellis-Chadwick, *Digital Marketing*, 8th Edition, Pearson, 2024.
3. Puneet Singh Bhatia, *Fundamentals of Digital Marketing*, 3rd Edition, Pearson, 2024.
4. Damian Ryan, *Understanding Digital Marketing*, 5th Edition, Kogan Page, 2025
5. Vandana Ahuja, *Digital Marketing*, Oxford University Press, 2024.

REFERENCES:

1. Philip Kotler, Hermawan Kartajaya, Iwan Setiawan, *Marketing 5.0: Technology for Humanity*, Wiley, 2023.
2. Dave Chaffey, *Digital Marketing Excellence*, 6th Edition, Routledge, 2022.
3. Ian Dodson, *The Art of Digital Marketing*, Wiley, 2024.
4. Simon Kingsnorth, *Digital Marketing Strategy*, Kogan Page, 2025.
5. Ryan Deiss and Russ Henneberry, *Digital Marketing for Dummies*, Wiley, 2023..

E-RESOURCES:

1. https://onlinecourses.nptel.ac.in/noc24_mg43/preview
2. <https://swayam.gov.in/explorer?category=Management%20Studies>
3. <https://www.coursera.org/specializations/digital-marketing>
4. <https://learndigital.withgoogle.com/digitalgarage/course/digital-marketing>
5. <https://academy.hubspot.com/courses/digital-marketing>

COURSEOUTCOMES:

On completion of this course, the students will be able to,

- Explain the concepts, tools, and applications of digital marketing in modern business.
- Apply SEO, SEM, website optimization, and social media marketing strategies in business organizations.
- Analyze online consumer behaviour, digital campaigns, and content marketing effectiveness.
- Evaluate web analytics, mobile marketing, and digital advertising tools for managerial decision-making.
- Develop digital marketing strategies for branding, customer engagement, and business growth.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	2	-	-	-	2
CO2	3	2	3	2	2	3	1	-	-	2
CO3	2	2	3	3	3	2	-	-	-	3
CO4	2	1	3	2	3	3	-	-	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

SecondYear

**GENERIC ELECTIVE COURSE
A: MARKETING
II-BRAND MANAGEMENT
(Theory)**

Semester-III

Course Code:

Credit:3

COURSEOBJECTIVES:

- To understand the concepts, importance, and scope of branding and brand management in competitive markets.
- To develop knowledge on brand positioning, brand identity, and brand equity strategies.
- To analyze consumer perception, brand loyalty, and brand communication techniques.
- To understand branding decisions related to product, service, retail, and corporate brands.
- To apply strategic brand management practices, digital branding, and AI-enabled brand analytics for organizational growth.

UNIT-I:

Brand – Definition, Scope, Objectives, Brand Management concept. Product Management– Basic Concepts, Classification of Products- consumers and industrial product, Difference between products and services - Role of a Product Manager, Responsibilities of a Product/Brand Manager - Organizing the Brand Management system.

UNIT-II:

Branding - Strategic changes to gain competitive advantage through branding, Brand vs. Product, Concept of brand equity, brand element, Customer based brand equity model. Brand Positioning and values –Brand Identity, Brand Image, Brand personality, Brand extension, Brand equity and Brand loyalty. How to build strong brand in Indian context with examples.

UNIT-III:

Brand Marketing programs – brand elements, options and tactics, designing marketing programs, Integrating Marketing Communication to build brand equity. Branding Strategies- Evaluation of Brands, Perceived Quality; Brand Positioning and Repositioning with examples.

UNIT-IV:

Brand Equity Measurement Systems- Brand Audits, establishing a Brand Equity Management System; Matrix, Brand Hierarchy, designing a Branding Strategy; Brand Extension, Evaluating Extensions and Opportunities; Adjustments to brand portfolio; Reinforcing and Revitalizing Brands, Brand Portfolio - Managing Brands over Geographical Boundaries, Cultures and Market Segments.

UNIT-V:

Measuring and interpreting brand performance – Analyzing customer mindset and measuring market performance Co-branding, Range brands.

UNIT-VI: CURRENT CONTOURS (For Continuous Internal Assessment only)

Contemporary Developments Related to Brand Marketing - Practical: Discuss about issues facing a modern day brand manager and their solutions – Studying brand positioning techniques – Group Discussion.

TEXTBOOKS:

1. Kevin Lane Keller, *Strategic Brand Management*, 7th Edition, Pearson, 2025.
2. Jean-Noel Kapferer, *The New Strategic Brand Management*, 8th Edition, Kogan Page, 2024.
3. Harsh V. Verma, *Brand Management*, 2nd Edition, Excel Books, 2023.
4. S.L. Gupta, *Brand Management*, Himalaya Publishing House, 2024.
5. Tapan K. Panda, *Building Brands in the Indian Market*, Excel Books, 2023.

REFERENCES:

1. Philip Kotler and Kevin Keller, *Marketing Management*, 16th Edition, Pearson, 2024.
2. David Aaker, *Aaker on Branding*, Morgan James Publishing, 2024.
3. Subroto Sengupta, *Brand Positioning*, Tata McGraw Hill, 2025.
4. Kirti Dutta, *Brand Management: Principles and Practices*, Oxford University Press, 2023.
5. Jean-Noel Kapferer, *Strategic Brand Management*, Kogan Page, 2022.

E-RESOURCES:

1. https://onlinecourses.nptel.ac.in/noc24_mg43/preview
2. <https://swayam.gov.in/explorer?category=Management%20Studies>
3. <https://www.coursera.org/learn/brand-management>
4. <https://www.edx.org/learn/marketing>
5. <https://academy.hubspot.com/courses/branding>

COURSE OUTCOMES:

On completion of this course, the students will be able to:

- Explain branding concepts, brand identity, and brand equity in business organizations.
- Apply brand positioning and brand communication strategies in competitive markets.
- Analyze consumer perception, brand loyalty, and brand performance.
- Evaluate branding strategies for products, services, and corporate organizations using digital and AI-enabled tools.
- Develop strategic brand management plans for organizational growth and customer engagement.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	1	-	-	-	2
CO2	3	2	3	2	-	1	2	-	-	2
CO3	2	2	3	3	2	1	1	-	-	3
CO4	2	2	3	2	2	3	1	-	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE COURSE
A: MARKETING
III-CONSUMER BEHAVIOUR
(Theory)**

Semester-III

Course Code:

Credit:3

COURSE OBJECTIVES:

- To understand the concepts, importance, and determinants of consumer behaviour in marketing decisions.
- To develop knowledge on consumer perception, learning, motivation, personality, and attitude formation.
- To analyze individual and group influences on consumer buying behaviour and decision-making process.
- To understand cultural, social, psychological, and digital factors affecting consumer behaviour.
- To apply consumer behaviour concepts, AI-enabled consumer analytics, and market research techniques for effective marketing strategies.

UNIT-I CONSUMER BEHAVIOUR– AN INTRODUCTION:

Consumer Behavior – meaning, definition, Significance. Consumer behavior principles to strategic marketing. Role of Marketing in Consumer behavior. Applications of consumer behavior knowledge in marketing.

UNIT-II CONSUMER AS AN INDIVIDUAL:

Consumer needs and motivation, Personality and Consumer Behavior, Psychographics Consumer Perception, attitudes, attitude formation and change, Concept and measurement of attitudes. Learning- AI-based consumer perception analysis.

UNIT-III CONSUMER IN A SOCIAL& CULTURAL SETTING:

Group dynamics and consumer reference groups, Family, Social class and Consumer behavior, The influence of Culture on Consumer behavior. Sub – Cultural and Cross Cultural Consumer Analysis.

UNIT-IV CONSUMER DECISION MAKING PROCESS:

Personal influence and the opinion leadership. Diffusion of innovation process, Consumer Decision making process, Comprehensive models of consumer decision making. New Product purchase and repeat purchase.

UNIT-V CONSUMER BEHAVIOUR APPLICATIONS:

Consumer Behaviour applicable to Profit and Non Profit Organizations, Marketing Ethics, Consumer movement, Consumer protection in India - Predictive consumer analytics using AI tools.

UNIT–VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to Consumer Behavior – Practical: Studying culture and social factors affecting consumer behavior – Mini project on Consumer behavior on profit and non-profit organization – Group discussion.

TEXTBOOKS:

1. Leon G. Schiffman, Joseph Wisenblit, *Consumer Behaviour*, 13th Edition, Pearson, 2024.
2. David L. Mothersbaugh, Delbert Hawkins, *Consumer Behaviour: Building Marketing Strategy*, 14th Edition, McGraw Hill, 2024.
3. Suja R. Nair, *Consumer Behaviour in Indian Perspective*, Himalaya Publishing House, 2022.
4. Satish K. Batra and S.H.H. Kazmi, *Consumer Behaviour*, 3rd Edition, Excel Books, 2024.
5. Michael R. Solomon, *Consumer Behaviour: Buying, Having and Being*, 14th Edition, Pearson, 2023.

REFERENCES:

1. Philip Kotler and Kevin Keller, *Marketing Management*, 16th Edition, Pearson, 2022.
2. Henry Assael, *Consumer Behaviour and Marketing Action*, Cengage Learning, 2024.
3. Wayne D. Hoyer, Deborah MacInnis, *Consumer Behaviour*, Cengage Learning, 2023.
4. Geoffrey Paul Lantos, *Consumer Behaviour in Action*, Routledge, 2025
5. Lars Perner, *Consumer Behaviour: Theory and Practice*, 2024.

E-RESOURCES:

1. https://onlinecourses.nptel.ac.in/noc24_mg43/preview
2. <https://swayam.gov.in/explorer?category=Management%20Studies>
3. <https://www.coursera.org/learn/consumer-behavior>
4. <https://www.edx.org/learn/marketing>
5. <https://analytics.google.com/analytics/academy>.

COURSEOUTCOMES:

On completion of this course, the students will be able to :

- Explain the concepts, theories, and importance of consumer behavior in marketing management.
- Analyze consumer perception, motivation, personality, attitude, and learning behavior.
- Evaluate individual, social, cultural, and psychological influences on consumer decision-making.
- Apply consumer research techniques, digital consumer analytics, and AI-enabled insights in marketing decisions.
- Develop effective marketing strategies based on consumer behavior analysis and market trends.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	1	-	-	-	2
CO2	2	1	3	2	2	1	-	-	-	3
CO3	2	2	3	3	2	1	1	-	-	3
CO4	2	1	3	2	3	3	-	-	-	3
CO5	3	3	2	3	2	2	3	1	2	2

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE COURSE
A: MARKETING
IV-BUSINESS TO BUSINESS MARKETING**

Semester-III

Course Code:

(Theory)

Credit:3

COURSE OBJECTIVES:

- To understand the concepts, scope, and significance of business-to-business (B2B) marketing in industrial and organizational markets.
- To develop knowledge on organizational buying behaviour, market segmentation, and relationship marketing strategies in B2B markets.
- To analyze industrial products, pricing strategies, distribution channels, and promotional practices in business markets.
- To understand customer relationship management, supply chain integration, and digital marketing practices in B2B environments.
- To apply AI-enabled marketing analytics, digital platforms, and strategic B2B marketing practices for organizational growth and competitive advantage.

UNIT-I:

Basics of Business-to-Business Marketing. – Nature of Industrial Marketing: Industrial Marketing Vs. Consumer Marketing. Industrial Demand & Industrial Customer. Industrial Marketing Operations.

UNIT-II:

Segmentation in Industrial Marketing, Demand concepts for Industrial products, Industrial Marketing Research, Industrial Buyer Behavior. A Stepwise Model and A Process Flow Model- AI- enabled customer segmentation and predictive buying behavior analytics.

UNIT-III:

Marketing Strategy: Strategy making and strategy management process, Industrial product strategy– Managing Products for Business Markets-Managing Services for Business Markets- Product Management – Product line planning – New Product development strategy.

UNIT-IV:

Pricing, Distribution- B2B Channel Strategies, Advertising and Sales Promotion of Industrial Products-CRM analytics and marketing automation tools in B2B marketing

UNIT-V:

Marketing strategy for Industrial Firms – Product Market Management – Developing & Evaluating Strategies – Effective implementation of Strategies- ESG and sustainability practices in industrial and B2B marketing strategies.

UNIT–VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to Business to Business Marketing – Practical:
Studying process of developing and evaluating strategies – Mini project on advertising and sales promotion – Group discussion.

TEXTBOOKS:

1. Michael D. Hutt and Thomas W. Speh, *Business Marketing Management: B2B*, 13th Edition, Cengage Learning, 2025.
2. Krishna K. Havaldar, *Industrial Marketing*, 5th Edition, McGraw Hill, 2024.
3. Ross Brennan, Louise Canning and Raymond McDowell, *Business-to-Business Marketing*, 5th Edition, Sage Publications, 2025.
4. Richard Hill and Ralph Alexander, *Industrial Marketing*, AITBS Publishers, 2024.
5. Anderson, Narus and Narayandas, *Business Market Management*, Pearson Education, 2025.

REFERENCES:

1. Philip Kotler and Kevin Lane Keller, *Marketing Management*, 16th Edition, Pearson, 2024.
2. Daniel Ford, *Understanding Business Markets*, Thomson Learning, 2025.
3. Robert Vitale and Joseph Giglierano, *Business to Business Marketing*, Cengage Learning, 2024.
4. U.C. Mathur, *Business to Business Marketing*, New Age International Publishers, 2025.
5. Sharad Sarin, *Business Marketing*, McGraw Hill, 2024

E-RESOURCES:

1. <https://www.coursera.org/learn/b2b-marketing>
2. <https://www.edx.org/learn/marketing>
3. <https://www.coursera.org/learn/wharton-contagious-viral-marketing>
4. <https://www.coursera.org/specializations/digital-advertising-strategy>
5. https://onlinecourses.nptel.ac.in/noc24_mg78/preview

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, scope, and significance of business-to-business marketing.
- Apply organizational buying behaviour and relationship marketing strategies in B2B markets.
- Analyze industrial marketing strategies, pricing, distribution, and promotional practices.
- Evaluate customer relationship management and AI-enabled digital marketing practices in B2B environments.
- Develop strategic B2B marketing solutions for organizational growth and competitive advantage.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	2	-	-	-	2
CO2	3	2	3	2	2	3	1	-	-	2
CO3	2	2	3	3	3	2	1	-	-	3
CO4	2	1	3	2	2	3	1	2	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE COURSE
A:MARKETING
V.SALES AND DISTRIBUTION
MANAGEMENT**

Semester-III

Course Code:

(Theory)

Credit:3

COURSEOBJECTIVES:

- To understand the concepts, scope, and importance of sales and distribution management in business organizations.
- To develop knowledge on sales planning, sales forecasting, sales organization, and sales force management techniques.
- To analyze distribution channels, logistics management, retailing, and customer relationship management practices.
- To understand sales performance evaluation, distribution strategies, and digital sales management systems.
- To apply AI-enabled sales analytics, digital distribution platforms, and strategic sales management practices for organizational growth and customer satisfaction.

UNIT-I:

Nature and scope of Sales Management; Setting and Formulating Personnel; Developing and Conducting Sales Training Programmes; Designing and Administering Compensation Plans.

UNIT-II:

Supervision of Salesmen; Motivating Sales Personnel; Sales Meetings and Sales Contests; Designing Territories and Allocating Sales Efforts; Objectives and Quotes for Sales Personnel.

UNIT-III:

Forecasting Sales and Developing Sales Budgets, Designing and organizing Sales Territories. Developing and Managing Sales Evaluation Programme; Sales Cost and Cost Analysis. An overview of Marketing Channels, their structure, Functions and Relationships-Predictive analytics for sales forecasting and customer behavior analysis.

UNIT-IV:

Channel Intermediaries – Wholesaling and Retailing; Logistics of Distribution; Channel Planning Organizational Patterns in Marketing Channels; Managing Marketing Channels; Marketing Channel Policies and Legal Issues.

UNIT-V:

Information System and Channel Management, Assessing Performance of Marketing channels including sales force; International Marketing Channels. Analysis of Sales Volume, Marketing Cost and Profitability Analysis, Evaluating Sales person performance-AI-enabled sales automation tools.

UNIT-VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to Sales and Distribution Management – Practical: Studying Logistics of Distribution and Channel Management – Mini project on Marketing Channel – Group discussion.

TEXTBOOKS:

1. Richard R. Still, Edward W. Cundiff and Norman A.P. Govoni, *Sales Management: Decisions, Strategies and Cases*, Pearson Education, 2025.
2. Krishna K. Havaladar and Vasant M. Cavale, *Sales and Distribution Management*, McGraw Hill, 2024.
3. Tapan K. Panda and Sunil Sahadev, *Sales and Distribution Management*, Oxford University Press, 2025.
4. S.L. Gupta, *Sales and Distribution Management*, Excel Books, 2024.
5. David Jobber and Geoffrey Lancaster, *Selling and Sales Management*, Pearson Education, 2025.

REFERENCES:

1. Philip Kotler and Kevin Lane Keller, *Marketing Management*, 16th Edition, Pearson, 2024.
2. Spiro, Stanton and Rich, *Management of a Sales Force*, McGraw Hill, 2025.
3. Anne T. Coughlan, *Marketing Channels*, Pearson Education, 2024.
4. Still, Cundiff and Govoni, *Sales Management*, Pearson Education, 2025.
5. Panda and Sahadev, *Customer Relationship Management*, McGraw Hill, 2024.

E-RESOURCES:

1. [https://www.coursera.org/courses?query=sales and distribution](https://www.coursera.org/courses?query=sales+and+distribution)
2. <https://www.udemy.com/topic/sales-distribution-management>
3. [https://wachemo-elearning.net/courses/marketing-channel-and-management/#tab-course-section overview](https://wachemo-elearning.net/courses/marketing-channel-and-management/#tab-course-section+overview)
4. https://onlinecourses.nptel.ac.in/noc24_mg79/preview
5. <https://www.coursera.org/learn/sales-operations>

COURSEOUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, scope, and significance of sales and distribution management.
- Apply sales planning, forecasting, and sales force management techniques in organizations.
- Analyze distribution channels, logistics systems, and customer relationship management practices.
- Evaluate sales performance and AI-enabled digital sales management systems.
- Develop strategic sales and distribution solutions for organizational growth and customer satisfaction.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	2	-	-	-	2
CO2	3	2	3	2	2	3	1	-	-	2
CO3	2	2	3	3	3	2	1	-	-	3
CO4	2	1	3	2	2	3	1	2	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

GENERIC ELECTIVE COURSE

Semester-IV

**A: MARKETING
VI-MARKETING COMMUNICATION
AND MEDIA MANAGEMENT**

Course Code:

(Theory)

Credit:3

COURSE OBJECTIVES:

- To understand the concepts, scope, and significance of marketing communication and media management in modern business environments.
- To develop knowledge on advertising, public relations, sales promotion, branding, and integrated marketing communication strategies.
- To analyze media planning, media selection, digital communication channels, and consumer engagement practices.
- To understand communication effectiveness, media budgeting, campaign evaluation, and ethical issues in media management.
- To apply AI-enabled marketing communication tools, digital media platforms, and strategic media management practices for organizational growth and brand development.

UNIT-I INTRODUCTION:

Integrated Marketing Communication and its role- Advertisement- Concept and Definition
- Advertisement objectives - Advertising Agency: Types - selection and remuneration - Client - Agency Relationship- The changing marketing communication environment- Marketing and New technology- New Trends in Marketing communication

UNIT-II DESIGN AND EXECUTION OF ADVERTISEMENTS:

Advertisement brief - creative process - Message development - Different types of advertisements- Layout - Design - Appeal - Copy structure - BTL and ATL - Advertisement media: types

UNIT-III MEDIA PLANNING AND SELECTION:

Introduction to different media- comparison of their advantages and disadvantages; Media planning- functions – process- Media planning for Consumer and Industrial goods; Media selection- buying TV space/Airtime/radio slot; buying magazines space/ Newspaper space- AI-enabled personalized advertising.

UNIT-IV MEDIA MANAGEMENT:

Selection of media vehicles based on Reach, Frequency, Cost efficiency, Circulation, Pass-along rate (Print); Media Timing – Flight, pulsing, Media scheduling, comparing- and evaluation of continuity of media options; Deciding on the most suitable media – mix-buying and negotiating the most appropriate media.

UNIT-V SALES PROMOTION:

Sales promotion: objectives, scope - Sales promotion categories: consumer- oriented, channel- oriented, company-oriented - Designing the sales promotion techniques - Integrated promotion- Measuring the effectiveness of sales promotion-Methods of on-line sales promotion-Digital campaign analytics.

UNIT-VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to Integrated Marketing Communication – Practical: Studying Media planning for Consumer and Industrial goods – Mini project on Designing of sales promotion techniques – Group discussion.

TEXTBOOKS:

1. George E. Belch and Michael A. Belch, *Advertising and Promotion: An Integrated Marketing Communications Perspective*, 13th Edition, McGraw Hill, 2025.
2. S.A. Chunawalla and K.C. Sethia, *Foundations of Advertising Theory and Practice*, Himalaya Publishing House, 2024.
3. Kruti Shah and Alan D'Souza, *Advertising and Promotions: An IMC Perspective*, McGraw Hill, 2025.
4. Larry Percy, *Strategic Integrated Marketing Communications*, Routledge, 2024.
5. Kenneth Clow and Donald Baack, *Integrated Advertising, Promotion and Marketing Communications*, Pearson Education, 2025.

REFERENCES:

1. George E. Belch and Michel A. Belch, "Advertising & Promotion", McGraw Hill, Singapore, 2014.
2. Chaturvedi B.K., "Media Management", Global Vision Pub House, 2019
3. Ken Black, *Applied Business Statistics*, 7th Edition, Wiley India Edition, 2012.
4. C.L. Tyagi and Arun Kumar, "Advertising management", Atlantic publishers and distributors, New Delhi, 2014.
5. Iacobucci, D. (2021). *Marketing Management (MindTap Course List)* (6th ed.). Cengage Learning.

E-RESOURCES:

1. <https://www.coursera.org/learn/social-media-management>
2. <https://www.udemy.com/topic/social-media-marketing/free/>
3. <https://www.simplilearn.com/introduction-to-learn-social-media-free-course-skillup>
4. <https://www.coursera.org/learn/marketing-communications>
5. https://onlinecourses.nptel.ac.in/noc24_mg80/preview

COURSE OUTCOMES:

On completion of this course, the students will be able to:

- Explain the concepts, scope, and importance of marketing communication and media management.
- Apply advertising, branding, public relations, and integrated marketing communication strategies.
- Analyze media planning, digital communication channels, and consumer engagement practices.
- Evaluate communication effectiveness and AI-enabled digital media management systems.
- Develop strategic marketing communication and media management solutions for organizational growth and brand development.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	2	-	-	-	2
CO2	3	2	3	2	2	3	1	-	-	2
CO3	2	2	3	3	3	2	1	-	-	3
CO4	2	1	3	2	2	3	1	2	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE
COURSE
A: MARKETING
VII-CUSTOMER RELATIONSHIP
MANAGEMENT**

Semester-IV

Course Code:

(Theory)

Credit:3

COURSE OBJECTIVES:

- To understand the concepts, scope, and significance of customer relationship management in modern business organizations.
- To develop knowledge on customer acquisition, customer retention, relationship marketing, and CRM strategies.
- To analyze customer behaviour, customer satisfaction, loyalty management, and service quality practices.
- To understand CRM technologies, database management, customer analytics, and digital customer engagement systems.
- To apply AI-enabled CRM tools, data analytics, and strategic customer relationship management practices for organizational growth and customer satisfaction.

UNIT-I INTRODUCTION TO CRM:

Introduction, Strategic CRM, Operational CRM, Collaborative CRM, misinterpretation about CRM, Definitions of CRM, Commercial and not-for-profit context of CRM, Models of CRM, Qualitative Measurement Methods – Quantitative Measurement Methods – Calculating Relationship Indices.

UNIT-II UNDERSTANDING RELATIONSHIPS:

Define Relationship - Relationship Quality - Relationships with customer - Dos and Don'ts. Relationship with Suppliers - Dos and Don'ts. Customer satisfaction – loyalty – business performance linkage, Satisfaction-profit chain, Customer Relationship management theories.

UNIT-III MANAGING THE CUSTOMER LIFE CYCLE-ACQUISITION:

New customer – Understanding Customer Value- Sources of Customer Value, Customization Value from products – services – processes – people – physical evidence – customer communication-channels, Customer Value estimates, Prospecting, KPI of a customer acquisition programme, Making the right offer, Operational CRM tools, Support from CRM Analytics- AI-driven CRM and digital customer engagement systems-

UNIT-IV CUSTOMER RETENTION & DEVELOPMENT DEFINITION:

Customer retention - Managing Customer Retention, Value Retention. Economics of Customer Retention, Strategies of Customer Retention, Positive Customer Retention Strategies, KPI for a Customer Retention programme, Strategies for Customer Development, Strategies for terminating-AI-enabled chat bots and automated customer support systems.

UNIT-V CRM MECHANICS & CRM ENABLERS:

Customer related database, Developing a Customer related database, Database technology and hardware platform options, Maintaining the database, Desirable Database Attributes, Data Integration, Data Warehousing, Data Marts, Data Access and Interrogation, Data Mining, Privacy Issues. Organizational roles and CRM, Strategic goals of CRM, Conventional customer management structures, Network and Virtual organizations, Person- to-person contacts, Key Account Management, Team Selling, Employees and Internal Marketing, Empowerment, Employee Relationship Management.

UNIT-VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to Customer Relationship Management – Practical: Studying tools of operational CRM and Strategies of customer retention – Mini project on Customer Relationship Management of different companies – Group discussion.

TEXTBOOKS:

1. Francis Buttle and Stan Maklan, *Customer Relationship Management: Concepts and Technologies*, 4th Edition, Routledge, 2025.
2. Alok Kumar Rai, *Customer Relationship Management: Concepts and Cases*, PHI Learning, 2024.
3. V. Kumar and Werner Reinartz, *Customer Relationship Management*, Springer, 2025.
4. Jagdish N. Sheth, Parvatiyar and Shainesh, *Customer Relationship Management: Emerging Concepts, Tools and Applications*, McGraw Hill, 2024.
5. Kaushik Mukherjee, *Customer Relationship Management*, PHI Learning, 2025.

REFERENCES:

1. Philip Kotler and Kevin Lane Keller, *Marketing Management*, 16th Edition, Pearson, 2024.
2. Peppers and Rogers, *Managing Customer Relationships*, Wiley, 2025.
3. Kristin Anderson and Carol Kerr, *Customer Relationship Management*, McGraw Hill, 2024.
4. Mohamed and Sagadevan, *Customer Relationship Management*, Himalaya Publishing House, 2025.
5. Dyche Jill, *The CRM Handbook*, Pearson Education, 2024.

E-RESOURCES:

1. <https://www.mygreatlearning.com/academy/learn-for-free/courses/customer-relationship-management>
2. <https://alison.com/course/customer-relationship-management-in-business-services-revised>
3. <https://www.coursera.org/courses?query=crm>
4. <https://www.edx.org/learn/customer-relationship-management>
5. https://onlinecourses.nptel.ac.in/noc24_mg81/preview

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, scope, and significance of customer relationship management.
- Apply customer acquisition, retention, and relationship marketing strategies in organizations.
- Analyze customer behaviour, customer satisfaction, and loyalty management practices.
- Evaluate CRM technologies, customer analytics, and AI-enabled customer engagement systems.
- Develop strategic CRM solutions for organizational growth and customer satisfaction.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	2	-	-	-	2
CO2	3	2	3	2	2	3	1	-	-	2
CO3	2	2	3	3	3	2	1	-	-	3
CO4	2	1	3	2	2	3	1	2	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

GENERIC ELECTIVE COURSE

Semester-IV

A: MARKETING

VIII-ADVERTISING AND SALES PROMOTION

Course Code:

(Theory)

Credit:3

COURSEOBJECTIVES:

- To understand the concepts, scope, and significance of advertising and sales promotion in marketing management.
- To develop knowledge on advertising planning, media selection, creative strategies, and sales promotion techniques.
- To analyze consumer behaviour, branding strategies, and integrated marketing communication practices.
- To understand advertising budgeting, campaign evaluation, digital advertising, and ethical issues in promotion management.
- To apply AI-enabled advertising tools, digital media platforms, and strategic promotional practices for organizational growth and brand development.

UNIT-I:

Role of Advertising in the Marketing Process: Legal Ethical and Social Aspects of Advertising; Process of Communication – Wilbur Schramm’s Model, Two step Flow of Communication, Theory of Cognitive Dissonance and Clues for Advertising Strategists- AI-driven advertising and digital promotional strategies.

UNIT-II:

Simulation of Primary and Selective Demand – Objective Setting and Market Positioning; DAGMAR Approach – Determination of Target Audience; Building an Advertising Programme – Message, Headlines, Copy, Logo, Illustration, Appeal, Lay out.

UNIT-III:

Campaign Planning; Media Planning; Budgeting; Evaluation – Rationale of Testing - Opinion and Aptitude Tests, Recognition, Recall, Experimental Designs; Advertising Organization.

UNIT-IV:

Advertising Agencies – Types, Role and Functions; Social and Cultural Consequences of Advertising– Advertising and Stereotyping. Selection, Compensation and Appraisal of an Agency; Electronic Media Buying. Advertising campaign, Advertising V/s Consumer Behavior -Social media advertising and influencer marketing practices.

UNIT-V:

Sales promotion – Role of Creative Strategies – Different methods of sales promotion – Evaluating effectiveness of different promotional strategies-Digital campaign analytics and automated media buying systems.

UNIT–VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to Advertising and sales Promotion – Practical: Studying different methods of sales promotion–Mini project on advertising agencies–Group discussion.

TEXTBOOKS:

1. George E. Belch and Michael A. Belch, *Advertising and Promotion: An Integrated Marketing Communications Perspective*, 13th Edition, McGraw Hill, 2025.
2. S.A. Chunawalla and K.C. Sethia, *Foundations of Advertising Theory and Practice*, Himalaya Publishing House, 2024.
3. Kruti Shah and Alan D'Souza, *Advertising and Promotions: An IMC Perspective*, McGraw Hill, 2025.
4. Terence A. Shimp, *Advertising, Promotion and Other Aspects of Integrated Marketing Communications*, Cengage Learning, 2024.
5. Wells, Burnett and Moriarty, *Advertising: Principles and Practice*, Pearson Education, 2025.

REFERENCES:

1. Philip Kotler and Kevin Lane Keller, *Marketing Management*, 16th Edition, Pearson, 2024.
2. Rajeev Batra, John G. Myers and David Aaker, *Advertising Management*, Pearson Education, 2025.
3. Aaker and Myers, *Advertising Management*, PHI Learning, 2024.
4. Kenneth Clow and Donald Baack, *Integrated Advertising, Promotion and Marketing Communications*, Pearson Education, 2025.
5. Larry Percy, *Strategic Integrated Marketing Communications*, Routledge, 2024.

E-RESOURCES:

1. <https://www.coursera.org/lecture/integrated-marketing-communications/sales-promotions-muX5p>
2. <https://www.edx.org/learn/marketing>
3. <https://www.onlinecoursereport.com/free/digital-marketing/>
4. <https://learndigital.withgoogle.com/digitalgarage/courses>
5. https://onlinecourses.nptel.ac.in/noc24_mg80/preview

COURSEOUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, scope, and significance of advertising and sales promotion.
- Apply advertising planning, creative strategies, and sales promotion techniques in organizations.
- Analyze consumer behavior, branding strategies, and integrated marketing communication practices.
- Evaluate advertising effectiveness and AI-enabled digital advertising systems.
- Develop strategic advertising and promotional campaigns for organizational growth and brand development.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	2	-	-	-	2
CO2	3	2	3	2	2	3	1	-	-	2
CO3	2	2	3	3	3	2	1	-	-	3
CO4	2	1	3	2	2	3	1	2	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

GENERIC ELECTIVE COURSE

Semester-IV

A- MARKETING

IX-MARKETING OF SERVICES

Course Code:

(Theory)

Credit:3

COURSE OBJECTIVES:

- To understand the concepts, characteristics, and significance of services marketing in modern business environments.
- To develop knowledge on service quality, customer satisfaction, service design, and relationship marketing strategies.
- To analyze consumer behavior, service delivery systems, pricing, and promotional strategies in service organizations.
- To understand service recovery, customer experience management, and digital service marketing practices.
- To apply AI-enabled service marketing tools, digital platforms, and strategic service management practices for organizational growth and customer satisfaction.

UNIT-I:

Marketing Services: Introduction - Growth of the service sector - The Concept of Service – Characteristics of Service – Classification of Service – Designing of the Service, Blueprinting, Using Technology, Developing Human Resources, Building Service Aspirations. Developing a Framework for understanding Services Marketing – Classification of Services on similar characteristics.

UNIT-II:

Nature of service–Relationship with customers – customerisation and judgement in Service delivery Nature of demand relative to supply method of service– Delivery–Significance of people based attribute and / or facility based attribute of the service product.

UNIT-III:

Managing Customer Mix–Deciding on what segment of Customers to serve–Positioning the service Developing of service positioning strategy– Positioning map.

UNIT-IV:

Managing Demand–Demand supply interaction–Strategies relating to demand–Inventory Demand Flexible capacities–Modifying marketing mix elements to manage demand–Omnichannel service delivery and digital customer engagement platforms.

UNIT-V:

Service business as a system – service operations subsystems – Service delivery subsystem – Service marketing subsystem– AI-driven service marketing and digital service ecosystems– Planning, organization and implementation of Marketing effort – inter functional Conflict between marketing and operation – Evaluation of marketing effort.

UNIT–VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to Marketing of services – Practical: Studying strategies of positioning – Mini project on marketing mix – Group discussion.

TEXTBOOKS:

1. Christopher Lovelock and Jochen Wirtz, *Services Marketing: People, Technology and Strategy*, 9th Edition, Pearson Education, 2025.
2. Valarie A. Zeithaml, Mary Jo Bitner and Dwayne D. Gremler, *Services Marketing*, 8th Edition, McGraw Hill, 2024.
3. Ravi Shankar, *Services Marketing: The Indian Perspective*, Excel Books, 2025.
4. K. Douglas Hoffman and John E.G. Bateson, *Services Marketing: Concepts, Strategies and Cases*, Cengage Learning, 2024.
5. Harsh V. Verma, *Services Marketing: Text and Cases*, Pearson Education, 2025.

REFERENCES:

1. Philip Kotler and Kevin Lane Keller, *Marketing Management*, 16th Edition, Pearson, 2024.
2. Adrian Payne, *The Essence of Services Marketing*, Pearson Education, 2025.
3. Helen Woodruffe, *Services Marketing*, Macmillan Publishers, 2024.
4. S.M. Jha, *Services Marketing*, Himalaya Publishing House, 2025.
5. Christian Grönroos, *Service Management and Marketing*, Wiley, 2024.

E-RESOURCES:

1. <https://www.edx.org/course/services-marketing-concepts-applications>
2. <https://alison.com/course/diploma-in-services-marketing-integrating-people-technology-and-strategy>
3. <https://www.classcentral.com/course/swayam-services-marketing-concepts-applications-23797>
4. <https://ecornell.cornell.edu/courses/hospitality-and-foodservice-management/services-marketing-planning-and-management/>
5. https://onlinecourses.nptel.ac.in/noc20_mg12/preview

COURSEOUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, characteristics, and significance of services marketing.
- Apply service quality, customer satisfaction, and relationship marketing strategies in organizations.
- Analyze service delivery systems, pricing, and promotional practices in service industries.
- Evaluate customer experience management and AI-enabled digital service marketing systems.
- Develop strategic service marketing solutions for organizational growth and customer satisfaction.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	2	-	-	-	2
CO2	3	2	3	2	2	3	1	-	-	2
CO3	2	2	3	3	3	2	1	-	-	3
CO4	2	1	3	2	2	3	1	2	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE COURSE
A: MARKETING
X-RETAIL MANAGEMENT**

Semester-IV

Course Code:

(Theory)

Credit:3

COURSEOBJECTIVES:

- To understand the concepts, scope, and significance of retail management in modern business environments.
- To develop knowledge on retail formats, store management, merchandising, and retail pricing strategies.
- To analyze consumer behavior, supply chain management, inventory control, and retail promotional practices.
- To understand retail technology, customer relationship management, and digital retailing systems.
- To apply AI-enabled retail analytics, e-commerce platforms, and strategic retail management practices for organizational growth and customer satisfaction.

UNIT-I:

Retailing – meaning, definitions, functions performed by retailers, Importance of retailing. Requisites for successful retailer. Forces affecting retail sector in India. The retail life cycle. The strategic Retail Planning process, Retailing mix. Issues in Retailing.

UNIT-II:

Traditional and modern formats of retail business – Marketing Concepts in Retailing – Consumer purchase behavior – Cultural and Social group influence on Consumer Purchase Behavior.-Predictive analytics for retail demand forecasting and inventory management.

UNIT-III:

Retail Location strategies: Issue to be considered in site selection. Decisions on geographic locations of a retail store. Location site and types of Retail development. Types of planned shopping area. Factors involved in the location decision. Catchment area analysis.

UNIT-IV:

Merchandise Planning – Stock turns, Credit Management, Retail Pricing, Return on per. sq. feet of space – Retail Promotions. Traffic flow and analysis – Population and its mobility – Exteriors and layout – Customer traffic flows and pattern – Creative display. Supply Chain Management – Warehousing – Role of IT in supply chain management.

UNIT-V:

Consumerism and ethics in Retailing, Retail Audits, e-Retailing, Application of IT to Retailing, Retail Equity, Technology in Retailing – Retailing through the Internet-Digital merchandising and e-retailing platforms.

UNIT-VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to Retail Management – Practical: Traditional and modern formats of retail business – Mini project on e-Retailing – Group discussion.

TEXTBOOKS:

1. Barry Berman and Joel R. Evans, *Retail Management: A Strategic Approach*, 15th Edition, Pearson Education, 2025.
2. Gibson G. Vedamani, *Retail Management: Functional Principles and Practices*, Jaico Publishing House, 2024.
3. Michael Levy and Barton Weitz, *Retailing Management*, McGraw Hill, 2025.
4. Swapna Pradhan, *Retailing Management*, McGraw Hill, 2024.
5. David Gilbert, *Retail Marketing Management*, Pearson Education, 2025.

REFERENCES:

1. Philip Kotler and Kevin Lane Keller, *Marketing Management*, 16th Edition, Pearson, 2024.
2. Dunne, Lusch and Carver, *Retailing*, Cengage Learning, 2025.
3. S.C. Bhatia, *Retail Management*, Atlantic Publishers, 2024.
4. A.J. Lamba, *The Art of Retailing*, McGraw Hill, 2025.
5. Chetan Bajaj, Rajnish Tuli and Nidhi Srivastava, *Retail Management*, Oxford University Press, 2024.

E-RESOURCES:

1. <https://alison.com/course/diploma-in-retail-management>
2. <https://www.mygreatlearning.com/academy/learn-for-free/courses/retail-management>
3. <https://www.classcentral.com/course/swayam-retail-management-14274>
4. <https://www.coursera.org/courses?query=retail>
5. <https://www.edx.org/learn/retail>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, scope, and significance of retail management.
- Apply retail planning, merchandising, and store management strategies in organizations.
- Analyze consumer behaviour, supply chain systems, and retail promotional practices.
- Evaluate retail technologies, CRM systems, and AI-enabled digital retailing practices.
- Develop strategic retail management solutions for organizational growth and customer satisfaction.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	2	-	-	-	2
CO2	3	2	3	2	2	3	1	-	-	2
CO3	2	2	3	3	3	2	1	-	-	3
CO4	2	1	3	2	2	3	1	2	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

GENERIC ELECTIVE COURSE

Semester-III

**B: FINANCE
I-E-BANKING**

(Theory)

Credit:3

Course code:

COURSEOBJECTIVES:

- To understand the concepts, evolution, and significance of electronic banking systems in modern financial services.
- To develop knowledge on internet banking, mobile banking, electronic payment systems, and digital financial services.
- To analyze electronic fund transfer systems, payment gateways, and online banking operations.
- To understand cyber security, electronic banking risks, regulations, and digital fraud management practices.
- To apply fintech innovations, AI-enabled banking technologies, and digital banking strategies in financial institutions.

UNIT-I ELECTRONIC BANKING:

Traditional Banking Vs E-Banking - Facets of E-Banking - E-Banking transactions - truncated cheque and Electronic cheque - Models for E-banking - complete centralized solution – features – CCS- Clusterapproach–HitechBankwithinBankAdvancesofE-Banking-ConstraintsinE- Banking.

UNIT-II ONLINE BANKING:

Introduction – concept and meaning - The electronic delivery channels - need for computerization – Automatic Teller Machine(ATM) – Electronic Fund Transfer(EFT) - uses – computerization in clearing houses – Tele banking - Banking on home computers –Electronic Money Transfer -uses of EMT-- Usage of AI chat bots in Banking.

UNIT-III UPDATATING BANK SAVING ACCOUNTS:

Financial Transaction Terminals (FTT) - E- Cheque Magnetic Ink Character Recognition (MICR)andCheques-E-Banking in India Procedure – Programmes – Components - How to go on net for Online Banking -advantages Limitations.

UNIT-IV E-BANKING SECURITY:

Introduction need for security – Security concepts - Privacy –Survey. Findings on security – Attack – Cybercrimes - Reasons for Privacy – AI in Cyber Security-Tampering - Encryption – Meaning The encryption process- Cryptogram-Cryptanalyst cryptography-Types of Ciphers systems–Code systems – Cryptography – Cipher - Decipher Jumbling – Asymmetric - Crypto system - Data Encryption Standard (DES).

UNIT–V E-BUILDER SOLUTIONS:

Digital certificate - Digital Signature & Electronic Signature-E-Security solutions - solutions providers - E-locking technique - E-locking services - Netscape security solutions – Pry Zone - E- software security Internet – Transactions - Transaction security – AI fraudulent transaction Detection PKI - Sierras Internet solutions–security devices- Public Key Infrastructure (PKI)- Firewalls Secure Ledger (FSL) - Secure Electronic Transaction(SET).

UNIT–VI: CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to E-Banking - Practical: Studying different security devices(PKI, FSL, SET) - Mini Project on E-Banking security of different banks - Group discussions.

TEXTBOOKS:

1. Digital Indian Institute of Banking and Finance (IIBF), Digital Banking, Macmillan Education, 2024.
2. K. Srinivasa Vallabhan, E Banking, 2nd Edition, Sultan Chand & Sons, 2023.
3. Ravindra Kumar, Technology in Banking, New Century Publications, 2023.
4. Roma Mitra Debnath and Joao Moreira, Digital Banking and Electronic Payment Systems, Springer, 2024.
5. Kenneth C. Laudon and Carol Guercio Traver, E Commerce Business Technology Society, 18th Edition, Pearson, 2024.

REFERENCES:

1. Principles ivek Gupta, Digital Banking and Cyber Security, Wiley India, 2023.
2. RBI Publications, Report on Trend and Progress of Banking in India, Reserve Bank of India, 2024.
3. Peter S. Rose and Sylvia Hudgins, Bank Management and Financial Services, 11th Edition, McGraw Hill, 2023.
4. IIBF, Information Technology and Digital Banking, Taxmann Publications, 2024.
5. Sanjeev Kumar, Electronic Banking and Information Technology, Himalaya Publishing House, 2023.

E-RESOURCES:

1. <https://www.careers360.com/courses-certifications/free-banking-courses>
2. <https://www.classcentral.com/course/edx-banking-financial-intermediation-concepts-risks-capital-regulation-11717>
3. <https://www.edx.org/learn/banking>
4. <https://www.udemy.com/topic/banking/>
5. <https://www.ibm.com/topics/digital-banking>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, evolution, and applications of electronic banking systems.
- Apply internet banking, mobile banking, and electronic payment systems in financial operations.
- Analyze electronic fund transfer systems, online banking services, and digital payment mechanisms.
- Evaluate cyber security risks, banking regulations, and AI-enabled digital banking technologies.
- Develop digital banking strategies for efficient and secure financial service management.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	2	-	-	-	2
CO2	3	2	3	2	2	3	1	-	-	2
CO3	2	1	3	3	3	2	-	-	-	3
CO4	2	2	3	2	2	3	1	2	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE COURSE
B: FINANCE
II-MUTUALFUNDS**

Semester-III

Course Code:

(Theory)

Credit:3

COURSEOBJECTIVES:

- To understand the concepts, structure, and role of mutual funds in financial markets.
- To develop knowledge on types of mutual fund schemes, fund operations, and regulatory framework.
- To analyze mutual fund investment strategies, portfolio management, and risk-return relationships.
- To understand fund evaluation techniques, NAV calculation, and performance measurement methods.
- To apply fintech innovations, AI-enabled investment analytics, and mutual fund advisory practices in investment management.

UNIT-I:

The origin, meaning and growth of Mutual funds – Fund Units Vs shares. Types of Mutual fund schemes. The role of Mutual Funds. Organization of the Fund- Operation of the Fund – Net Asset Value.

UNIT-II:

Investors Protection and Mutual Fund Regulation: Investors Rights – Facilities available to Investors– Selection of a Fund – Advantages of Mutual Funds. Deregulation, Market Imperfection and Investment Risks– The need for Regulation – Regulation and Investors Protection in India.

UNIT-III:

Mutual Funds in India – UTI Schemes, SBI Mutual Fund, Other Mutual Funds –Selection of a Fund-AI applications in portfolio diversification and investment decision-making.

UNIT-IV:

Mutual Funds Industry in India–Size and Growth–Types and growth patterns of MutualFunds– Reasons for slow Growth – Prospects of Mutual Fund Industry. Risk, Return and Performance of Funds, Scheme Selection.

UNIT-V:

Return on Investment- Calculation of simple, annualized and compounded Returns- Applicability of returns for different types of funds - SEBI norms for return representation of mutual funds in India - Factors that may affect mutual fund performance

UNIT-VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to E-Banking - Practical: Studying different scheme of Mutual funds in India - Mini Project on Factors affecting mutual fund performance - Group discussions.

TEXTBOOKS:

1. Prasanna Chandra, *Investment Analysis and Portfolio Management*, 6th Edition, McGraw Hill, 2022.
2. Punithavathy Pandian, *Security Analysis and Portfolio Management*, Vikas Publishing House, 2021.
3. Avadhani V.A., *Investment and Securities Markets in India*, Himalaya Publishing House, 2022.
4. *FinTech and Artificial Intelligence in Finance*, Wiley, 2022.
5. Bhalla V.K., *Investment Management*, S. Chand Publishing, 2022.

REFERENCES:

1. Donald E. Fischer and Ronald J. Jordan, *Security Analysis and Portfolio Management*, Pearson, 2021.
2. Reilly and Brown, *Investment Analysis and Portfolio Management*, Cengage Learning, 2021.
3. SEBI, *Mutual Fund Regulations and Investor Awareness Publications*, 2022.
4. Frank K. Reilly, *Investment Analysis and Portfolio Management*, Cengage, 2022.
5. Zvi Bodie, Alex Kane and Alan Marcus, *Investments*, McGraw Hill, 2021.

E-RESOURCES:

1. <https://www.udemy.com/course/mutualfunda2z/>
2. <https://quest.finology.in/courses/basics-of-mutual-funds>
3. <https://www.coursera.org/lecture/family-planning/mutual-funds-5rJe8>
4. <https://www.nseindia.com/learn/self-study-ncfm-modules-advanced-mutual-funds-module>
5. <https://www.coursera.org/learn/investments>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, structure, and functions of mutual funds and investment institutions.
- Apply mutual fund investment and portfolio management techniques in financial decision-making.
- Analyze mutual fund schemes, risk-return relationships, and investment performance.
- Evaluate mutual fund performance using NAV, portfolio analysis, and AI-enabled analytical tools.
- Develop investment strategies and mutual fund advisory solutions for investors and financial institutions.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	1	-	-	-	2
CO2	3	2	3	2	3	2	1	-	-	2
CO3	2	1	3	3	3	2	-	-	-	3
CO4	2	2	3	2	3	3	1	-	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

GENERIC ELECTIVE COURSE

Semester-III

**B: FINANCE
III- STRATEGIC FINANCIAL
MANAGEMENT**

Course Code:

(Theory)

Credit:3

COURSE OBJECTIVES:

- To understand the concepts, scope, and importance of strategic financial management in business organizations.
- To develop knowledge on capital structure, investment decisions, dividend policies, and financial planning techniques.
- To analyze corporate restructuring, mergers and acquisitions, and financial risk management strategies.
- To understand business valuation, corporate governance, and strategic financial decision-making practices.
- To apply financial analytical tools, fin tech innovations, and AI-enabled forecasting techniques for organizational growth and value maximization.

UNIT-I:

Financial Policy and Strategic Planning – Strategic Planning Process – Objectives and Goals – Major Kind of Strategies and Policies – Corporate Planning – Process of Financial Planning – Types of Financial Plan – Financial Models – Tools or Techniques of Financial Modelling – Types, Application, Uses and Limitations of Financial Models – Process of Financial Model Development.

UNIT-II:

Investment Decisions under Risk and Uncertainty – Techniques of Investment Decision – Risk Adjusted Discount Rate, Certainty Equivalent Factor, Statistical Method, Sensitivity Analysis and Simulation Method – Corporate Strategy and High Technology Investments – Fin Tech tools in investment analysis.

UNIT-III:

Expansion and Financial Restructuring – Corporate Restructuring - Mergers and Amalgamations – reasons for Merger, Benefits and Cost of Merger – Takeovers – Business Alliances – Managing an Acquisition – Divestitures – Ownership Restructuring – Privatization – Dynamics of Restructuring – Buy Back of Shares – Leveraged Buy-outs (LBOs) – Divestiture – Demergers.

UNIT-IV:

Stock Exchanges: Constitution, control, functions, Prudential Norms, SEBI Regulations, Sensitive Indices, Investor Services, AI-enabled risk assessment techniques.-Grievance Redressal Measures.

UNIT-V:

Financing Strategy - Innovative Sources of Finance – Asset Backed Securities - Hybrid Securities namely Convertible and Non-Convertible Debentures, Deep Discount Bonds, Secured Premium Notes, Convertible Preference Shares – Option Financing, Warrants, Convertibles and Exchangeable Commercial Paper.

UNIT-VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to Strategic Financial Management - Practical: Studying Business Alliances, Managing an Acquisition, Divestitures and Ownership Restructuring - Mini Project on Innovative Sources of Finance - Group discussions.

TEXTBOOKS:

1. Prasanna Chandra, *Financial Management: Theory and Practice*, 10th Edition, McGraw Hill, 2022.
2. I.M. Pandey, *Financial Management*, 12th Edition, Pearson, 2022.
3. Eugene F. Brigham and Michael C. Ehrhardt, *Financial Management: Theory and Practice*, Cengage Learning, 2021.
4. Richard A. Brealey, Stewart C. Myers and Franklin Allen, *Principles of Corporate Finance*, McGraw Hill, 2022.
5. Khan and Jain, *Financial Management*, 9th Edition, McGraw Hill, 2021.

REFERENCES:

1. Aswath Damodaran, *Corporate Finance: Theory and Practice*, Wiley, 2022.
2. James C. Van Horne and John M. Wachowicz Jr., *Fundamentals of Financial Management*, Pearson, 2021.
3. Ravi M. Kishore, *Financial Management*, Taxmann Publications, 2021.
4. Brigham and Houston, *Fundamentals of Financial Management*, Cengage Learning, 2022.
5. Rajiv Srivastava and Anil Misra, *Financial Management*, Oxford University Press, 2021.

E-RESOURCES:

1. <https://www.mygreatlearning.com/academy/learn-for-free/courses/strategic-management>
2. <https://www.coursera.org/courses?query=financial%20management>
3. <https://www.edx.org/learn/financial-management>
4. <https://www.elearnmarkets.com/courses/display/strategic-financial-management>
5. <https://corporatefinanceinstitute.com/resources/financial-modeling/>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Identify financial strengths and weaknesses, enabling the formulation of strategic financial plans to address challenges and capitalize on opportunities.
- Identify and prioritize investment projects based on their strategic alignment, financial feasibility, and potential impact on the organization's growth and profitability.
- Conduct financial forecasting and scenario analysis to support long-term planning and align financial strategies with the organization's strategic goals.
- Conduct variance analysis to compare actual financial performance against budgeted figures, identifying areas of concern or areas where the organization is excelling.
- Understand and use alternative expressions of profit that start with a recognition of the impact on cash flow of the various stakeholders in a company

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	1	-	-	-	2
CO2	3	2	3	2	3	2	1	-	-	2
CO3	2	1	3	3	3	2	1	-	-	3
CO4	2	2	3	3	3	3	1	-	-	3
CO5	1	3	2	3	2	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE COURSE
B: FINANCE
IV- FINANCIALSERVICES
(Theory)**

Semester-III

Course Code:

Credit:3

COURSEOBJECTIVES:

- To understand the concepts, structure, and role of financial services in the Indian financial system.
- To develop knowledge on banking, insurance, leasing, factoring, mutual funds, and other financial service institutions.
- To analyze financial markets, investment services, and financial product innovations.
- To understand regulatory frameworks, risk management, and financial service operations.
- To apply fin tech innovations, AI-enabled financial technologies, and digital financial service strategies in modern business environments.

UNIT-I:

Evolution of Financial Services –Indian Financial System – Formal Financial System and Informal Financial System – Financial Institutions –Banking Companies and Non-Banking Companies – Classification of Non-Banking Companies – Classification of Activities of Non-Banking Finance Companies- Fund Based Activities – Fee Based Activities – concepts, growth and trends of fee Based and Fund Based activities

UNIT-II:

Equipment Leasing: Overview, Legal & Tax Aspects, Lease Evaluation, Lease Accounting, Recent Development, International Leasing.

UNIT-III:

Hire Purchase & Consumer: Overview, Financial Evaluation of Hire Purchase, Accounting of Hire Purchase, Legal & Tax Aspects, Consumer Credit.

UNIT-IV:

Accessing Capital Market: Issue Management: Regulatory & Tax Framework, Issue Pricing Models–EquityandDebtConvertibleInstruments,FinancialEngineering,raisingfundsfromthe International Capital Markets, Assessing Money Markets.

UNIT-V:

Organization and functions of stock exchanges - regulation and control of stock exchanges - NSE, BSE, OTCEI, regional exchanges-AI-enabled financial analytics and block chain applications.

UNIT-VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to Financial Services- Practical: Studying Legal & Tax Aspects, Lease Evaluation and Lease Accounting - Mini Project on Financial Engineering, Raising funds from the International Capital Markets - Group discussions.

TEXTBOOKS:

1. M.Y. Khan, *Financial Services*, 10th Edition, McGraw Hill, 2022.
2. Gordon and Natarajan, *Financial Markets and Services*, 12th Edition, Himalaya Publishing House, 2022.
3. L.M. Bhole and Jitendra Mahakud, *Financial Institutions and Markets*, 7th Edition, McGraw Hill, 2021.
4. Vasanth Desai, *Financial Markets and Financial Services*, Himalaya Publishing House, 2021.
5. Pathak Bharati, *The Indian Financial System*, 6th Edition, Pearson, 2022.

REFERENCES:

1. H.R. Machiraju, *Indian Financial System*, Vikas Publishing House, 2021.
2. M.Y. Khan, *Indian Financial System*, McGraw Hill, 2022.
3. Bhole and Mahakud, *Financial Institutions and Markets*, McGraw Hill, 2022.
4. Avadhani V.A., *Investment and Securities Markets in India*, Himalaya Publishing House, 2021.
5. S. Gurusamy, *Merchant Banking and Financial Services*, Vijay Nicole Imprints, 2022.

E-RESOURCES:

1. <https://www.edx.org/learn/finance>
2. <https://alison.com/tag/finance>
3. <https://corporatefinanceinstitute.com/collections/>
4. <https://study.com/academy/popular/free-online-finance-courses-certificates.html>
5. <https://pll.harvard.edu/subject/finance>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Demonstrate broad and coherent knowledge of banking, finance, investment analysis, portfolio management, accountancy, economics, quantitative methods, law, and financial services.
- Exercise informed business judgement within a professional setting, which emphasizes ethical and responsible decision making.
- To integrate technical and conceptual knowledge, and interpersonal skills to work effectively within the Financial Services Industry.
- Apply financial and regulatory knowledge in real-world scenarios, making informed decisions and provide valuable services to customers in the banking.
- Think critically and creatively, to identify better solutions, within business constraints

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	1	-	-	-	2
CO2	3	2	3	2	2	2	1	-	-	2
CO3	2	1	3	3	3	2	-	-	-	3
CO4	2	2	3	2	2	3	1	2	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE COURSE
B: FINANCE
V- SECURITY ANALYSIS AND PORTFOLIO
MANAGEMENT**

Semester-III

Course Code:

(Theory)

Credit:3

COURSEOBJECTIVES:

- To understand the concepts, structure, and functioning of securities markets and investment environment.
- To develop knowledge on valuation of equity shares, bonds, and other investment alternatives.
- To analyze risk-return relationships, portfolio construction, and investment management strategies.
- To understand portfolio revision, portfolio evaluation, and derivative investment techniques.
- To apply analytical models, fin tech innovations, and AI-enabled investment tools in portfolio management and investment decision-making.

UNIT-I:

Calculation of Bond returns. Valuation of Bonds: Measures of Yield, Duration & Convexity, Measures of Risk, Determinants of Interest Rates and Theories on Term Structure, BondSwaps.

UNIT-II:

Derivative Securities: Equity Options: Concept, Applications & Valuation, Economic Analysis, Industry Analysis- AI-based stock valuation and predictive investment analytics.

UNIT-III:

Valuation of Equity Stocks: Approaches of Equity Stock Valuation, Index features, concept, applications and valuation -Robo-advisory services and AI-enabled portfolio optimization.

UNIT-IV:

Valuation of Equity Stocks: Company Analysis, Technical Analysis, Efficient Markets Hypothesis- Applications of big data analytics in securities market analysis.

UNIT-V:

Portfolio Management – The Conceptual Framework: Modern Portfolio Theory, Portfolio Management, Performance Evaluation of Portfolio, Applications of Options & Futures in Portfolio Management-ESG and sustainable portfolio management practices.

UNIT-VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to the portfolio analysis- Practical: mock online trading, Mock portfolio construction, Group Discussion, Role Play.

TEXTBOOKS:

1. Prasanna Chandra, *Investment Analysis and Portfolio Management*, 6th Edition, McGraw Hill, 2022.
2. Donald E. Fischer and Ronald J. Jordan, *Security Analysis and Portfolio Management*, Pearson Education, 2021.
3. Reilly and Brown, *Investment Analysis and Portfolio Management*, Cengage Learning, 2021.
4. Punithavathy Pandian, *Security Analysis and Portfolio Management*, Vikas Publishing House, 2021.
5. V.K. Bhalla, *Investment Management*, S. Chand Publishing, 2022..

REFERENCES:

1. Zvi Bodie, Alex Kane and Alan J. Marcus, *Investments*, McGraw Hill, 2021.
2. Frank K. Reilly and Keith C. Brown, *Investment Analysis and Portfolio Management*, Cengage Learning, 2022.
3. Sharpe, Alexander and Bailey, *Investments*, Pearson Education, 2021.
4. Avadhani V.A., *Investment and Securities Markets in India*, Himalaya Publishing House, 2022.
5. S. Kevin, *Portfolio Management*, PHI Learning, 2021.

E-RESOURCES:

1. <https://www.classcentral.com/course/swayam-security-analysis-portfolio-management-43656>
2. https://onlinecourses.nptel.ac.in/noc21_mg99/preview
3. <https://freevideolectures.com/course/3012/security-analysis-and-portfolio-management>
4. <https://www.udemy.com/course/securityanalysisportfoliomanagement/>
5. <https://www.nseindia.com/learn/self-study-ncfm-modules-intermediate-investment-analysis-and-portfolio-management>.

COURSE OUTCOMES:

After completion of this course, the student will be able to

- Explain securities market operations, investment environment, and financial instruments.
- Apply valuation models for equity shares, bonds, and other investment alternatives.
- Analyze portfolio risk-return relationships and investment management strategies.
- Evaluate portfolio performance using analytical models and AI-enabled investment tools.
- Develop effective portfolio management strategies for investment decision-making and wealth maximization.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	1	-	-	-	2
CO2	3	2	3	2	3	2	1	-	-	2
CO3	2	1	3	3	3	2	-	-	-	3
CO4	2	2	3	2	3	3	1	-	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

GENERIC ELECTIVE COURSE

Semester-IV

B: FINANCE

VI- DERIVATIVES MANAGEMENT

Course Code:

(Theory)

Credit:3

COURSE OBJECTIVES:

- To understand the concepts, types, functions, risks, and applications of derivative instruments in financial markets.
- To develop knowledge on futures and forward contracts, pricing mechanisms, and hedging strategies.
- To analyze option contracts, option pricing models, crypto currency derivatives, and digital asset trading.
- To understand swap contracts, valuation techniques, block chain applications, and smart contracts in derivatives trading.
- To apply derivatives trading strategies, regulatory frameworks, algorithmic trading, and ESG-linked derivatives in Indian financial markets.

UNIT I INTRODUCTION

Derivatives – Definition – Types – Forward Contracts – Futures Contracts – Options – Swaps Differences between Cash and Future Markets – Types of Traders – OTC and Exchange Traded Securities – Types of Settlement – Uses and Advantages of Derivatives – Risks in Derivatives.- Relevant Case Studies.

UNIT II FUTURES AND FORWARD

Futures Market – Pricing Forward and Future – The Basic Theory – Building on the Foundation Hedging with Futures and Forwards – Interest Rate Forward and Futures. Futures and Forward – Types of Futures and Forward Contracts – Relationship between Future Prices, Forward Prices and Spot Prices. - Relevant Case Studies.

UNIT III OPTIONS

Definition – Exchange Traded Options, OTC Options – Specifications of Options – Call and Put Options– American and European Options – Intrinsic Value and Time Value of Options – Option payoff, options on Securities, Stock Indices, Currencies and Futures – Options pricing models – Differences between futures and Option contracts. Increased Use of Crypto currencies and Digital Asset Derivatives - Relevant Case Studies.

UNIT IV SWAPS

Definition of SWAP – Interest Rate SWAP – Currency SWAP – Role of Financial Intermediary – Warehousing – Valuation of Interest rate SWAPs and Currency SWAPs Bonds and FRNs – Credit Risk- Block chain and Smart Contracts for Derivatives Trading - Relevant Case Studies.

UNIT V DERIVATIVES IN INDIA

Evolution of Derivatives Market in India – Regulations - Framework – Exchange Trading in Derivatives – Commodity Futures – Contract Terminology and Specifications for Stock Options and Index Options in NSE – Contract Terminology and specifications for stock futures and Index futures in NSE – Contract Terminology and Specifications for Interest Rate Derivatives - Growth of ESG-linked Derivatives - Automation and Algorithmic Trading in Derivatives Markets -Relevant Case Studies.

UNIT–VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to the Course during the Semester concerned - Practical: Encourage students to calculate Options, Futures and Swap rates using the Currency Market.

TEXTBOOKS:

1. John C. Hull, Options Futures and Other Derivatives, 11th Edition, Pearson, 2024.
2. S.L. Gupta, Financial Derivatives Theory Concepts and Problems, PHI Learning, 2023.
3. Robert L. McDonald, Derivatives Markets, 4th Edition, Pearson, 2023.
4. David Dubofsky and Thomas W. Miller, Derivatives Valuation and Risk Management, Oxford University Press, 2024.
5. Sundaram Janakiramanan, Derivatives and Risk Management, Pearson, 2023.

REFERENCES:

1. Chance and Brooks, An Introduction to Derivatives and Risk Management, 11th Edition, Cengage Learning, 2023.
2. Jayanth Rama Varma, Derivatives and Risk Management, Tata McGraw Hill, 2023.
3. Don M. Chance, Analysis of Derivatives for the CFA Program, Wiley, 2024.
4. Neil C. Schofield, Commodity Derivatives Markets and Applications, Wiley Finance, 2023.
5. Paul Wilmott, Paul Wilmott Introduces Quantitative Finance, 3rd Edition, Wiley, 2024

E-RESOURCES:

1. https://onlinecourses.nptel.ac.in/noc24_mg26/preview
2. <https://swayam.gov.in/explorer?category=Management%20Studies>
3. <https://www.coursera.org/learn/financial-engineering-derivatives-risk-management>
4. <https://www.nseindia.com/learn/online-courses>
5. <https://www.sebi.gov.in/sebiweb/investor-charter.html>

COURSE OUTCOMES:

After completion of this course, the student will be able to

1. Explain derivative instruments, trading mechanisms, risks, and applications in financial markets.
2. Apply futures and forward pricing models and hedging strategies for risk management.
3. Analyze options, option pricing models, crypto currency derivatives, and digital asset trading mechanisms.
4. Evaluate swap contracts, block chain applications, and smart contract-based derivative transactions.
5. Apply derivatives trading strategies, Indian regulatory frameworks, ESG-linked derivatives, and algorithmic trading practices.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	2	1	-	-	-	2
CO2	3	1	3	3	3	2	-	-	-	3
CO3	3	1	3	3	3	3	-	-	1	3
CO4	2	1	3	2	2	3	-	1	1	3
CO5	2	2	3	3	2	3	1	2	2	3

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE COURSE
B: FINANCE
VII- INSURANCE MANAGEMENT
(Theory)**

Semester-IV

Code:

Credit:3

COURSEOBJECTIVES:

- To understand the concepts, principles, and functions of insurance management in financial services.
- To develop knowledge on life insurance, general insurance, health insurance, and risk management practices.
- To analyze insurance products, underwriting, claim settlement, and insurance marketing strategies.
- To understand insurance regulations, customer services, and investment functions of insurance companies.
- To apply insurtech innovations, AI-enabled insurance analytics, and digital insurance management practices in modern insurance operations.

UNIT-I:

Introduction – Meaning – Definition - Evolution of insurance – advantages and its importance – Features – Functions and principles of Insurance –Insurance organization in India – Recent development of insurance sector- digital insurance ecosystem and insurtech innovation.

UNIT-II:

Legal dimensions of Insurance–LICAct1956–IRDA1999–GeneralInsuranceAct1972-
digital policy management systems.

UNIT-III:

Insurance agent– procedure for becoming agent– pre requisites for obtaining license – duration of license –suspension, revocation and termination of agent – functions of agent – remuneration to agent - code of conduct and unfair practices.

UNIT-IV:

Life insurance –meaning –features – principles and functions – merits and demerits –Types of life insurance – Claims (Death and Maturity) – Surrender Value. Fire insurance – Health Insurance.

UNIT-V:

Marine Insurance – meaning – kinds – principles – types of marine policy – procedure for effective marine insurance–settlement of claims in marine insurance–Motor insurance–Rural insurance –Crop insurance – Natural calamities - Theft insurance- recent trends in insurance products- chatbot applications in insurance.

UNIT–VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to Insurance Management - Practical: studying in pre requisites for obtaining license and duration of license - Group discussions and Case Study on – Natural calamities and Theft insurance.

TEXTBOOKS:

1. Mishra M.N. and Mishra S.B., *Insurance Principles and Practice*, 24th Edition, S. Chand Publishing, 2025.
2. P.K. Gupta, *Insurance and Risk Management*, Himalaya Publishing House, 2024.
3. Neelam C. Gulati, *Principles of Insurance Management*, Excel Books, 2024.
4. George E. Rejda and Michael McNamara, *Principles of Risk Management and Insurance*, 14th Edition, Pearson, 2025.
5. Vaughan and Vaughan, *Fundamentals of Risk and Insurance*, 13th Edition, Wiley, 2024.

REFERENCEBOOKS:

1. C. Arthur Williams Jr. and Richard Heins, *Risk Management and Insurance*, McGraw Hill, 2024.
2. G. Krishnaswamy, *Principles and Practice of Life Insurance*, Excel Books, 2025.
3. S. Gurusamy, *Insurance and Risk Management*, Vijay Nicole Imprints, 2024.
4. Taxmann Editorial Board, *Insurance Laws and Practice*, Taxmann Publications, 2025.
5. Emmett J. Vaughan, *Essentials of Risk Management and Insurance*, Wiley, 2024.

E-RESOURCES:

1. <https://www.coursera.org/learn/insurance>
2. <https://www.classcentral.com/course/swayam-fundamental-of-insurance-19873>
3. <https://www.udemy.com/course/basics-of-life-insurance/>
4. <https://www.coursera.org/lecture/financial-markets-global/insurance-fundamentals-X6HV1>
5. <https://www.edx.org/learn/insurance>

COURSEOUTCOMES:

After completion of this course, the student will be able to

- Explain the concepts, principles, and functions of insurance management.
- Apply insurance products, underwriting, and claim settlement procedures in insurance operations.
- Analyze risk management techniques and insurance service practices.
- Evaluate insurance regulations, customer services, and AI-enabled digital insurance technologies.
- Develop effective insurance management strategies for organizational growth and customer satisfaction.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	1	-	-	-	2
CO2	3	2	3	2	2	2	1	-	-	2
CO3	2	1	3	3	3	2	-	-	-	3
CO4	2	2	3	2	2	3	1	2	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE COURSE
B: FINANCE
VIII- PROJECTMANAGEMENT
(Theory)**

Semester-IV

Course Code:

Credit:3

COURSEOBJECTIVES:

- To understand the concepts, principles, and significance of project management in business and financial environments.
- To develop knowledge on project planning, scheduling, budgeting, and resource allocation techniques.
- To analyze project appraisal, risk management, and project financing decisions.
- To understand project implementation, monitoring, control, and performance evaluation methods.
- To apply project management tools, fintech innovations, and AI-enabled project analytics for successful project execution and organizational growth.

UNIT-I INTRODUCTION TO PROJECT MANAGEMENT AND PROJECT SELECTION:

Objectives of Project Management- Importance of Project Management- Types of Projects
Project Management Life Cycle- Project Selection– Feasibility study: Types off easibility Steps
in feasibility study- AI enabled project management systems.

UNIT-II PROJECT PLANNING AND IMPLEMENTATION:

Project Scope- Estimation of Project cost – Cost of Capital – Project Representation and
Preliminary Manipulations - Basic Scheduling Concepts - Resource Levelling – Resource
Allocation.

UNIT-III PROJECT MONITORING AND CONTROL:

Setting a base line- Project management Information System – Indices to monitor progress.
Importance of Contracts in projects- Teamwork in Project Management - Attributes of a good
project team – Formation of effective teams – stages of team formation.

UNIT-IV PROJECT CLOSURE:

Project evaluation- Project Auditing – Phases of project Audit- Project closure reports -
Guidelines for closeout reports.

UNIT-V SPECIAL TOPICS IN PROJECT MANAGEMENT:

Computers, e-markets and their role in Project management- Risk management Environmental
Impact Assessment - sustainability and ESG considerations in project management practices..

UNIT–VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to Project Management - Practical: studying of financing risk retention and Insurance Reinsurance - Group discussions and Case Study on – Methods of financing risk retention

TEXTBOOKS:

1. Prasanna Chandra, *Projects: Planning, Analysis, Financing, Implementation and Review*, 10th Edition, McGraw Hill, 2024.
2. Harold Kerzner, *Project Management: A Systems Approach to Planning, Scheduling and Controlling*, 13th Edition, Wiley, 2025.
3. Clifford F. Gray and Erik W. Larson, *Project Management: The Managerial Process*, 9th Edition, McGraw Hill, 2024.
4. Narendra Singh, *Project Management and Control*, Himalaya Publishing House, 2024.
5. K. Nagarajan, *Project Management*, New Age International Publishers, 2025..

REFERENCES:

1. Pinto J.K., *Project Management: Achieving Competitive Advantage*, 6th Edition, Pearson, 2024.
2. Choudhury S., *Project Scheduling and Monitoring in Practice*, South Asian Publishers, 2024.
3. Gido and Clements, *Successful Project Management*, Cengage Learning, 2025.
4. Rory Burke, *Project Management: Planning and Control Techniques*, Wiley, 2024.
5. PMI, *A Guide to the Project Management Body of Knowledge (PMBOK Guide)*, 8th Edition, Project Management Institute, 2025.

E-RESOURCES:

1. <https://www.coursera.org/learn/project-management-principles-and-practices>
2. <https://www.oxfordhomestudy.com/courses/project-management-courses-online/free-online-courses-with-certificates-in-project-management>
3. <https://www.udemy.com/topic/project-management/free/>
4. <https://www.mygreatlearning.com/academy/learn-for-free/courses/project-management>
5. <https://www.simplilearn.com/learn-project-management-fundamentals-skillup>

COURSE OUTCOMES:

On completion of this course, the students will be able to:

- Explain the concepts, principles, and phases of project management.
- Apply project planning, scheduling, budgeting, and resource allocation techniques in organizations.
- Analyze project appraisal, financing decisions, and project risk management strategies.
- Evaluate project implementation and performance using analytical and AI-enabled project management tools.
- Develop effective project management strategies for successful project execution and organizational growth.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	1	-	-	-	2
CO2	3	2	3	2	3	2	1	-	-	2
CO3	2	1	3	3	3	2	1	-	-	3
CO4	2	2	3	2	2	3	2	-	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE COURSE
B: FINANCE
IX-GLOBAL FINANCIAL MANAGEMENT**

Semester-IV

Course Code:

(Theory)

Credit:3

COURSE OBJECTIVES:

- To understand the concepts, scope, and importance of global financial management in international business environments.
- To develop knowledge on international monetary systems, foreign exchange markets, and exchange rate mechanisms.
- To analyze international financing, foreign investment decisions, and multinational capital budgeting techniques.
- To understand international financial risks, hedging strategies, and global financial market operations.
- To apply fin tech innovations, AI-enabled forecasting tools, and strategic financial management practices in global financial decision-making.

UNIT-I INTERNATIONAL FINANCIAL ENVIRONMENT:

The Importance, rewards & risk of international finance- Goals of MNC-International Business methods – Exposure to international risk-International Monetary system- Multilateral financial institution

UNIT – II INTERNATIONAL FLOW OF FUNDS AND INTERNATIONAL MONETARY SYSTEM:

International Flow of Funds: Balance of Payments (BoP), Fundamentals of BoP, Accounting components of BOP, Factors affecting International Trade and capital flows, Agencies that facilitate international flows. BOP, Equilibrium & Disequilibrium. Trade deficits. Capital account convertibility(problems on BOP) International Monetary System: Evolution, Gold Standard, Bretton Woods system, the flexible exchange rate regime, the current exchange rate arrangements, the Economic and Monetary Union (EMU).

UNIT-III FOREIGN EXCHANGE MARKET:

Function and Structure of the Forex markets, foreign exchange market participants, Types of transactions and Settlements Dates, Exchange rate quotations, Nominal, Real and Effective exchange rates, Determination of Exchange rates in Spot markets. Exchange rates determinations in Forward markets. Exchange rate behavior –Cross Rates—Arbitrage profit in foreign exchange markets, Swift Mechanism. Triangular and locational arbitrage –Block chain technology in international financial transactions.

UNIT–IV INTERNATIONAL FINANCIAL MARKETS AND INSTRUMENTS:

Foreign Portfolio Investment. International Bond & Equity market. GDR, ADR, Cross listing of shares Global registered shares. International Financial Instruments: Foreign Bonds & Eurobonds, Global Bonds. Floating rate Notes, Zero coupon Bonds, International Money Markets International Banking services –Correspondent Bank, Representative offices, Foreign Branches. Forward Rate Agreements- AI- based exchange rate forecasting and foreign exchange analytics.

UNIT – V INTERNATIONAL PARITY RELATIONSHIPS & FORE CASTING FOREIGN EXCHANGE RATE:

Measuring exchange rate movements-Exchange rate equilibrium – Factors effecting foreign exchange rate- Forecasting foreign exchange rates. Interest Rate Parity, Purchasing Power Parity & International Fisher effect. Covered Interest Arbitrage

UNIT– VI CURRENT CONTOURS (For Continuous Internal Assessmentonly):

Contemporary issues Related to global financial management - Practical: studying foreign exchange rate - Group discussions and Case Study on – international financial market

TEXTBOOKS:

1. Apte P.G., *International Financial Management*, 9th Edition, McGraw Hill, 2024.
2. Jeff Madura, *International Financial Management*, 15th Edition, Cengage Learning, 2025.
3. Eun and Resnick, *International Financial Management*, 9th Edition, McGraw Hill, 2024.
4. Vyuptakesh Sharan, *International Financial Management*, 9th Edition, Pearson Education, 2025.
5. Alan C. Shapiro and Paul Hanouna, *Multinational Financial Management*, 11th Edition, Wiley, 2024.

REFERENCES:

1. Maurice D. Levi, *International Finance*, 7th Edition, Routledge, 2024.
2. Keith Pilbeam, *International Finance*, 6th Edition, Palgrave Macmillan, 2025.
3. Bhalla V.K., *International Financial Management*, S. Chand Publishing, 2024.
4. P.K. Jain, *International Financial Management*, Macmillan Publishers, 2024.
5. Avadhani V.A., *International Finance*, Himalaya Publishing House, 2025.

E-RESOURCES:

1. <https://www.coursera.org/courses?query=financial%20management>
2. <https://corporatefinanceinstitute.com/resources/foreign-exchange/foreign-exchange-market/>
3. <https://alison.com/course/diploma-in-international-finance>
4. <https://coursesity.com/free-tutorials-learn/financial-management>
5. <https://www.mbacentral.org/free-online-finance-courses/>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain international financial systems, foreign exchange markets, and global financial environments.
- Apply exchange rate mechanisms and international financing techniques in multinational business operations.
- Analyze foreign investment decisions, international capital budgeting, and global financial risks.
- Evaluate international financial strategies using analytical and AI-enabled forecasting tools.
- Develop global financial management strategies for multinational organizations and international business growth.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	1	-	-	-	2
CO2	3	2	3	2	3	2	1	-	-	2
CO3	2	1	3	3	3	2	-	-	-	3
CO4	2	2	3	2	2	3	1	-	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

GENERIC ELECTIVE COURSE

Semester-IV

**B: FINANCE
X-MERCHANT BANKING
(Theory)**

Course Code:

Credit:3

COURSE OBJECTIVES:

- To understand the concepts, functions, and significance of merchant banking in the financial system.
- To develop knowledge on issue management, underwriting, leasing, venture capital, and financial advisory services.
- To analyze capital market operations, corporate restructuring, and investment banking activities.
- To understand regulatory frameworks, portfolio services, and financial service innovations in merchant banking.
- To apply fintech innovations, AI-enabled financial analytics, and digital banking technologies in merchant banking operations.

UNIT-I MERCHANT BANKING:

Introduction – An Overview of Indian Financial System – Merchant Banking in India – Recent Developments and Challenges ahead – Institutional Structure – Functions of Merchant Bank - Legal and Regulatory Framework – Relevant Provisions of Companies Act-SEBI Guidelines - FEMA- Relation with Stock Exchanges and OTCEI.

UNIT-II ISSUE MANAGEMENT:

Role of Merchant Banker in Appraisal of Projects, Designing Capital Structure and Instruments – Issue Pricing – Book Building – Preparation of Prospectus Selection of Bankers, Advertising Consultants, etc. - Role of Registrars – Bankers to the Issue, Underwriters, and Brokers. – Offer for Sale – Green Shoe Option – E-IPO, Private Placement – Bought out Deals – Placement with FIs, MFs, FIIs, etc. Off – Shore Issues. – Issue Marketing – Advertising Strategies – NRI Marketing – Post Issue Activities.

UNIT-III FEE BASED SERVICES:

Mergers and Acquisitions – Portfolio Management Services – Credit Syndication – Credit Rating – Business Valuation- Digital capital market platforms.

UNIT-IV LEASING AND HIRE PURCHASE

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

UNIT-V FUND BASED FINANCIAL SERVICES:

Consumer Credit – Credit Cards – Real Estate Financing – Bills Discounting – factoring and Forfeiting – Venture Capital-Fin Tech funding platforms.

UNIT-VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to Merchant Banking - Practical: Studying Functions of Merchant Bank and Portfolio Management Services- Mini Project on Fund based Financial Services -Group discussions.

TEXTBOOKS:

1. H.R. Machiraju, *Merchant Banking: Principles and Practice*, 5th Edition, New Age International Publishers, 2024.
2. M.Y. Khan, *Financial Services*, 11th Edition, McGraw Hill, 2025.
3. Gordon and Natarajan, *Financial Markets and Services*, 13th Edition, Himalaya Publishing House, 2025.
4. L.M. Bhole and Jitendra Mahakud, *Financial Institutions and Markets*, 8th Edition, McGraw Hill, 2024.
5. S. Gurusamy, *Merchant Banking and Financial Services*, Vijay Nicole Imprints, 2024.

REFERENCEBOOKS:

1. Vasant Desai, *Financial Markets and Financial Services*, Himalaya Publishing House, 2025.
2. Pathak Bharati, *The Indian Financial System*, 7th Edition, Pearson Education, 2024.
3. M.Y. Khan, *Indian Financial System*, McGraw Hill, 2025.
4. Avadhani V.A., *Investment and Securities Markets in India*, Himalaya Publishing House, 2024.
5. SEBI Publications, *Merchant Banking Regulations and Capital Market Practices*, 2025.

E-RESOURCES:

1. <https://www.coursera.org/learn/financial-markets-global>
2. https://www.onlinenifm.com/module_detail/48/merchant-banking-nism-series-ix-certificate-course
3. <https://www.classcentral.com/course/edx-banking-financial-intermediation-concepts-risks-capital-regulation-11717>
4. https://onlinecourses.nptel.ac.in/noc24_mg11/preview
5. <https://corporatefinanceinstitute.com/course/introduction-to-banking-course/>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, functions, and operations of merchant banking and financial services.
- Apply issue management, underwriting, and financial advisory techniques in business organizations.
- Analyze capital market operations, corporate restructuring, and investment banking activities.
- Evaluate merchant banking services using analytical and AI-enabled financial tools.
- Develop merchant banking strategies for efficient financial service management and organizational growth.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	1	-	-	-	2
CO2	3	2	3	2	2	2	1	-	-	2
CO3	2	1	3	3	3	2	-	-	-	3
CO4	2	2	3	2	2	3	1	-	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE COURSE
C: HUMAN RESOURCE MANAGEMENT
I- STRATEGIC HUMAN RESOURCE
MANAGEMENT**

Semester-III

Course Code:

(Theory)

Credit: 3

COURSE OBJECTIVES:

- To understand the concepts, significance, and strategic role of human resource management in organizations.
- To develop knowledge on HR strategies, strategic workforce planning, talent acquisition, and talent management practices.
- To analyze strategic HR functions including performance management, compensation management, employee relations, and organizational development.
- To understand HR metrics, HR analytics, digital HR systems, and AI-enabled human resource management practices.
- To apply strategic HRM practices for achieving organizational effectiveness, competitive advantage, and sustainable business growth.

UNIT – I:

Strategic Management: Nature and Significance; Dimensions of Strategic Decisions; Strategic Management Model and components; Strategy Formulation: Formulating a Company Mission; Forces Influencing the Strategy Formulation; Porter's Model;

UNIT – II:

Environment Forecasting: Analyzing the Company Profiles; Formulating Long-Term Objectives and Grand Strategies; Strategy Implementation; Institutionalizing the Strategy; Structure, Leadership and Culture, Evaluating the Strategy; Corporate Strategy and Global Strategy;

UNIT – III:

Human Resource Strategy (HRS): Concept, Approaches, HRS and Business Strategy; Change Management Strategies, Training and Development Strategies; AI-enabled Personalized Learning and Performance Analytics -Organizational Performance and HRS: HRM Strategy and Difficulties in its implementation;

UNIT- IV:

Strategic Human Resource Processes: Work force Utilization and Employment Practices; Efficient Utilization of Human Resources; Dealing with employee shortages; selection of employees; AI-driven recruitment tools, automated resume screening, and ethical AI hiring practices; Dealing with employee surpluses and special implementation challenges. Reward and development systems; Strategically Oriented Performance Management Systems; Strategically oriented compensation systems and employee development

UNIT – V:

New Economic Policy and HRM Strategy: Role of Human Resources in Strategy Formulation: Integrating Human Resources in Strategic Decisions; AI in Strategic HR Decision-Making and Workforce Planning; HRS and HRIS; Human Resource Strategy: Some Key Issues, HRM Strategies for Future.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the International Human Resource Management - Practical: Studying Corporate social responsibility and sustainability in HR - Mini Project on HR practices in MNCs - role play, Group discussion.

TEXT BOOKS:

1. Jeffrey A. Mello, *Strategic Human Resource Management*, 6th Edition, Cengage Learning, 2023.
2. Charles R. Greer, *Strategic Human Resource Management*, 3rd Edition, Pearson, 2024.
3. Gary Dessler, *Human Resource Management*, 17th Edition, Pearson, 2024.
4. Michael Armstrong, *Armstrong's Handbook of Strategic Human Resource Management*, 7th Edition, Kogan Page, 2023.
5. Tanuja Agarwala, *Strategic Human Resource Management*, Oxford University Press, 2024

REFERENCES:

1. Gary Dessler – *Human Resource Management*, Pearson, 2024 Edition
2. Armstrong & Taylor – *Armstrong's Handbook of Strategic HRM*, Kogan Page, 2023 Edition
3. Jeffrey A. Mello – *Strategic Human Resource Management*, Cengage, 2024 Edition
4. David Lepak & Mary Gowan – *Strategic HRM*, Routledge, 2023 Edition
5. SHRM (Society for Human Resource Management) – *Global HR Trends Report*, 2025 Edition

E-RESOURCES:

1. <https://swayam.gov.in/explorer?category=Management%20Studies>
2. <https://www.coursera.org/learn/human-resource-management>
3. <https://www.oxfordhomestudy.com/courses/hr-courses-online/free-online-hr-courses-with-certificates>
4. <https://academy.hubspot.com/courses/people-management>
5. <https://swayam.gov.in/explorer?category=Management%20Studies>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain strategic human resource management concepts and their role in organizational performance.
- Apply strategic HR planning, talent acquisition, and performance management practices in organizations.
- Analyze HR strategies, employee relations, and compensation systems for organizational effectiveness.
- Evaluate HR metrics, HR analytics, digital HR systems, and AI-enabled HR practices for managerial decision-making.
- Develop strategic HRM frameworks for achieving competitive advantage and sustainable organizational growth.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	1	-	2	-	2
CO2	3	2	3	2	2	2	3	1	-	2
CO3	2	2	3	3	2	1	3	2	-	3
CO4	2	1	3	2	3	3	1	-	2	3
CO5	3	3	2	3	-	2	3	3	3	2

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE COURSE
C: HUMAN RESOURCE MANAGEMENT
II - PERFORMANCE MANAGEMENT**

Semester-III

Course Code:

(Theory)

Credit: 3

COURSE OBJECTIVES:

- To understand the concepts, objectives, and significance of performance management systems in organizations.
- To develop knowledge on performance planning, performance appraisal methods, competency mapping, and employee development techniques.
- To analyze employee performance measurement, feedback systems, reward management, and productivity improvement practices.
- To understand HR analytics, digital appraisal systems, performance dashboards, and AI-enabled performance management tools.
- To apply strategic performance management practices for improving employee productivity and organizational effectiveness

UNIT - I PERFORMANCE MANAGEMENT – INTRODUCTION & HISTORICAL OVERVIEW:

Definition, characteristics, developments, and guiding principles.

UNIT - II PERFORMANCE MANAGEMENT PROCESS:

Performance planning, Corporate strategy and its linkage, key result areas (KRA) and key performance indicators (KPI), Agreement on performance expectation and goal setting, managing performance throughout the year, reviewing performance, Identifying performance gaps, Developing performance, Rewarding and recognition of performance.

UNIT – III PERFORMANCE MANAGEMENT ADMINISTRATION:

Administration of Performance management process, Developing formats and tools, Performance management cycle, Communication of process and follow ups, Performance development interventions, Role of HR Department, Line Managers Employees and the Top management.

UNIT - IV PERFORMANCE APPRAISAL:

What should be evaluated – a result or the means or both? Bench marking and setting performance standard, Preparation for performance appraisal interview, Dos and Don'ts of Performance appraisal, who should do performance appraisal? Immediate supervisor and immediate supervisor's supervisor; Peer & subordinate; Rating committee; Self (employee); 360-degree feedback system; Client feedback.

UNIT – V PERFORMANCE APPRAISAL: METHODS AND SYSTEM DESIGNS:

Various Methods: Graphic Rating Scale; Alternate Ranking Method; Paired Comparison; Force Distribution Method Critical Incident Method; Behaviorally Anchored Rating Scale (BARS); Management by Objective; 360 Degree Appraisal and Customer feedback system. Balanced Score Card; Artificial Intelligence in performance decision-making, predictive analytics, and ethical use of AI in employee assessment.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the performance management - Practical: Studying Developing performance management cycle - Mini Project on performance appraisal- practices in MNCs - role play, Group discussion.

TEXT BOOKS:

1. Herman Aguinis, *Performance Management*, 5th Edition, Pearson, 2023.
2. Michael Armstrong, *Armstrong's Handbook of Performance Management*, 7th Edition, Kogan Page, 2024.
3. Prem Chadha, *Performance Management*, Macmillan Education, 2023.
4. A.S. Kohli and T. Deb, *Performance Management*, Oxford University Press, 2024.
5. M. Bhattacharyya, *Performance Management Systems and Strategies*, Pearson, 2023.

REFERENCE BOOKS:

1. Aguinis, Herman – *Performance Management*, Pearson, 2024 Edition
2. Armstrong – *Performance Management Handbook*, Kogan Page, 2023 Edition
3. Gary Dessler – *HRM (Performance & Appraisal Systems)*, Pearson, 2024 Edition
4. Michael Armstrong & Angela Baron – *Performance Management*, Kogan Page, 2023 Edition
5. SHRM – *Employee Performance & Productivity Report*, 2025 Edition

E-RESOURCES:

1. <https://alison.com/course/diploma-in-strategic-performance-management>
2. <https://www.classcentral.com/course/managing-employee-performance-5528>
3. <https://academy.hubspot.com/courses/people-management><https://www.coursera.org/courses?query=performance%20management>
4. <https://www.udemy.com/course/performance-management-systems-through-360-degree-feedback/>
5. <https://www.coursera.org/learn/performance-management>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, objectives, and significance of performance management systems.
- Apply performance planning, appraisal methods, and competency mapping techniques in organizations.
- Analyze employee performance, feedback systems, rewards, and development practices for organizational effectiveness.
- Evaluate HR analytics, digital performance systems, and AI-enabled performance evaluation techniques for managerial decision-making.
- Develop strategic performance management frameworks for enhancing employee productivity and organizational growth.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	1	-	2	-	2
CO2	3	2	3	2	2	2	3	1	-	2
CO3	2	2	3	3	2	1	3	2	-	3
CO4	2	1	3	2	3	3	1	-	2	3
CO5	3	3	2	3	-	2	3	3	3	2

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE COURSE
C: HUMAN RESOURCE MANAGEMENT
III- ORGANIZATION DEVELOPMENT**

Semester-III

Course Code:

(Theory)

Credit: 3

COURSE OBJECTIVES:

- To understand the concepts, values, assumptions, and significance of organization development in modern organizations.
- To develop knowledge on organizational change, OD interventions, team building, and leadership development practices.
- To analyze organizational culture, employee behaviour, conflict management, and organizational effectiveness.
- To understand diagnostic techniques, organizational learning, HR analytics, digital transformation, and AI-enabled organization development practices.
- To apply organization development strategies and interventions for managing change and improving organizational performance.

UNIT- I THE NATURE OF ORGANIZATION DEVELOPMENT:

Overview of the Field of Organization Development: Laboratory Training, Survey Research and Feedback, Action Research, Socio-technical and Socio-clinical approaches Values and Assumptions and Beliefs in OD: OD Values and Assumptions, Implications of OD and Assumptions

UNIT –II THEORY AND MANAGEMENT OF OD:

Foundations of Organization Development: Models and Theories of Planned Change, Systems Theory, Participation and Empowerment, Teams and Teamwork, Managing the OD Process: Diagnosis, Action Component – OD Interventions,

UNIT-III TEAM, INTERGROUP AND THIRD-PARTY PEACE MAKING INTERVENTIONS:

Overview of OD Interventions: Classifying OD Interventions Team Interventions: Teams and Work Groups, Broad Team-Building Interventions, Process Consultation Interventions

UNIT-IV COMPREHENSIVE OD INTERVENTIONS AND STRUCTURAL INTERVENTIONS:

Survey Feedback, Grid Organization Development, Schein Cultural System, Trans- organizational Development Structural Interventions: MBO, Quality Circles, TQM, High Performance Work Systems; Artificial Intelligence in organizational decision-making, people analytics, and ethical implications of AI in organizations.

UNIT-V T-GROUP TRAINING:

T-Groups, Behavior Modeling, Life and Career Planning. Coaching and Mentoring Future and Organizational Development

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the Organizational development- Practical: Studying Developing Process in organizing - Mini Project on Individual behavior in organization - practices in MNCs – role play, Group discussion.

TEXT BOOKS:

- Wendell L. French and Cecil H. Bell, *Organization Development*, 7th Edition, Pearson, 2024.
- Thomas G. Cummings and Christopher G. Worley, *Organization Development and Change*, 11th Edition, Cengage Learning, 2023.
- Kavita Singh, *Organization Change and Development*, Excel Books, 2023.
- S. Ramnarayan, T.V. Rao, and Kuldeep Singh, *Organization Development: Interventions and Strategies*, Sage Publications, 2024.
- Donald L. Anderson, *Organization Development: The Process of Leading Organizational Change*, 5th Edition, Sage Publications, 2024.

REFERENCE BOOKS:

1. French, Bell & Zawacki – *Organization Development and Transformation*, Pearson, 2023 Edition
2. Cummings & Worley – *Organization Development & Change*, Cengage, 2024 Edition
3. Anderson – *Organization Development: The Process of Leading Organizational Change*, Sage, 2023 Edition
4. Beckhard & Harris – *Organizational Transitions*, Addison-Wesley, 2024 Edition
5. McKinsey & Company – *Organizational Transformation Report*, 2025 Edition

E-RESOURCES:

1. <https://www.coursera.org/courses?query=organizational%20development>
2. <https://www.udemy.com/course/thinking-profoundly-about-organisational-development/>
3. <https://alison.com/course/organizational-change-managing-and-supporting-employees-revised>
4. <https://swayam.gov.in/explorer?category=Management%20Studies>
5. <https://www.classcentral.com/course/swayam-organization-development-and-change-in-21st-century-19963>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, assumptions, and significance of organization development in business organizations.
- Apply organizational change, OD interventions, team building, and leadership development practices.
- Analyze organizational culture, employee behaviour, and conflict management for organizational effectiveness.
- Evaluate organizational diagnostic techniques, HR analytics, digital transformation, and AI-enabled OD practices for managerial decision-making.
- Develop organization development strategies and interventions for managing change and improving organizational performance.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	1	-	2	-	2
CO2	3	2	3	2	1	2	3	1	-	2
CO3	2	2	3	3	2	1	3	2	-	3
CO4	2	1	3	2	3	3	1	-	2	3
CO5	3	3	2	3	-	2	3	3	3	2

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE COURSE
C: HUMAN RESOURCE MANAGEMENT
IV-COMPENSATION MANAGEMENT**

Semester III

Course Code:

(Theory)

Credit: 3

COURSE OBJECTIVES:

- To understand the concepts, objectives, and significance of compensation management in organizations.
- To develop knowledge on wage and salary administration, job evaluation, incentive systems, and compensation structures.
- To analyze employee benefits, reward systems, executive compensation, and performance-linked pay practices.
- To understand compensation policies, legal aspects, HR analytics, digital payroll systems, and AI-enabled compensation management tools.
- To apply strategic compensation management techniques for improving employee motivation, retention, and organizational effectiveness.

UNIT – I INTRODUCTION TO COMPENSATION CONCEPTS:

Introduction to Compensation, Goals of Compensation System, Compensation Strategy, Monetary & Non-Monetary Rewards, Intrinsic Rewards, Cafeteria Style Compensation, Employees satisfaction and Motivation issue in compensation design. Establishing Internal, External and individual equally.

UNIT – II ESTABLISHING PAY VARIABLES AND WAGE BOARDS:

Strategic importance of variable in a day-Determination of Inter and Intra industry compensation differentials. Individual and Group Incentives.

UNIT – III ISSUE RELATED TO COMPENSATION:

Dearness Allowance Concept- Emergence & Growth in India. Fringe Benefits and Supplementary Compensation- The role of fringe benefits in reward systems, retirement Plans including VRS / Golden Handshake Schemes.

UNIT – IV EXECUTIVE COMPENSATION:

Executive Compensation Systems in Multinational Companies and IT companies including ESOP- Artificial Intelligence in compensation decision-making, pay equity analytics, and ethical use of AI in reward management

UNIT - V COLLECTIVE BARGAINING AND EMERGING TRENDS:

Collective Bargaining Strategies – Long term settlements – Productivity Settlements – Knowledge on drawing up 12(3) and 8(1) settlement. Emerging Trends in IR due to LPG.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the Compensation Management - Practical: Studying Golden Handshake Schemes - Mini Project on wage system on IT sectors - Group discussion.

TEXT BOOKS:

1. George T. Milkovich, Jerry M. Newman, and Barry Gerhart, *Compensation*, 14th Edition, McGraw Hill, 2023.
2. Richard I. Henderson, *Compensation Management in a Knowledge-Based World*, 11th Edition, Pearson, 2024.
3. B.D. Singh, *Compensation and Reward Management*, 3rd Edition, Excel Books, 2024.
4. Michael Armstrong and Helen Murlis, *Armstrong's Handbook of Reward Management Practice*, 15th Edition, Kogan Page, 2023.
5. Joseph J. Martocchio, *Strategic Compensation: A Human Resource Management Approach*, 11th Edition, Pearson, 2024.

REFERENCES:

1. Milkovich, Newman & Gerhart – *Compensation*, McGraw Hill, 2024 Edition
2. Armstrong – *Handbook of Reward Management*, Kogan Page, 2023 Edition
3. Henderson – *Compensation Management in a Knowledge-Based World*, Pearson, 2023 Edition
4. Belcher & Atkinson – *Compensation Administration*, Routledge, 2024 Edition
5. WorldatWork – *Global Compensation Trends Report*, 2025 Edition

E-RESOURCES:

1. <https://swayam.gov.in/explorer?category=Management%20Studies>
2. <https://www.coursera.org/learn/compensation-management>
3. <https://www.mygreatlearning.com/academy/learn-for-free/courses/compensation-management>
4. <https://www.classcentral.com/course/managing-employee-compensation-5510>
5. <https://www.udemy.com/course/certification-in-compensation-management-administration/>

COURSE OUTCOMES:

- On completion of this course, the students will be able to
- Explain the concepts, objectives, and significance of compensation management systems.
- Apply wage and salary administration, job evaluation, and incentive systems in organizations.
- Analyze employee benefits, reward systems, and performance-linked compensation practices for organizational effectiveness.
- Evaluate compensation policies, HR analytics, digital payroll systems, and AI-enabled compensation management practices for managerial decision-making. Develop strategic compensation management frameworks for employee motivation, retention, and organizational growth.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	1	-	2	-	2
CO2	3	2	3	2	2	2	3	1	-	2
CO3	2	2	3	3	2	1	3	2	-	3
CO4	2	1	3	2	3	3	1	-	2	3
CO5	3	3	2	3	-	2	3	3	3	2

3-Strong 2-Medium 1-Low

Second Year

GENERIC ELECTIVE COURSE
C: HUMAN RESOURCE MANAGEMENT
V- CHANGE MANAGEMENT

Semester-III

Course Code:

(Theory)

Credit: 3

COURSE OBJECTIVES:

- To understand the concepts, nature, and significance of change management in organizations.
- To develop knowledge on organizational change models, change strategies, and leadership approaches for managing change.
- To analyze resistance to change, organizational culture, communication processes, and employee behavior during change initiatives.
- To understand change implementation techniques, digital transformation, HR analytics, and AI-enabled change management systems.
- To apply change management strategies and interventions for improving organizational adaptability, innovation, and effectiveness

UNIT – I:

Nature and Types of Organizational Change, Causes of and rationales for change, environmental and internal organizational determinants of change. Planned and emergent change. Proactive and reactive emergent change and response to these changes. Incremental and radical change, and rates / levels of change as a function of organizational life cycle positions. The links between nature / type of change and nature / type of leadership required e.g. transactional Vs transformational. The role of corporate vision and strategy in change.

UNIT – II:

Theoretical frameworks, multi-source feedback for organizational change, Models of diagnosing organizational groups and jobs The organizational change web, Resistance to change, Barriers to organizational change, rethinking resistance to organizational change, strategies to deal with resistance.

UNIT – III:

Culture and the change process: The personnel manager as a cultural change agent, handling power and political issues arising from change. The theoretical and practical contexts of cultural maintenance and cultural change strategies, corporate reorganization and sub culture management, Strategies and methods for achieving cultural change.

UNIT – IV:

Behavioral Implications of change: The manifest, intent and paradoxical consequences of change, the concept of resigned behavioral compliance. The positive and negative functions of resistance. Intended and unintended behavioral reaction to downsizing and delay ering. Understanding and managing uncertainty and ambiguity in the change process.

UNIT – V:

Intervention Strategy, Structural, technological and process factors in intervention strategies. Advantages / limitations of change technologies and associated leadership models. Role of leadership in change process. Leadership and emotional knowledge strategies to achieve congruence of personnel, structure and culture. Trends and Challenges of leading change.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the Change Management - Practical: Studying role of leadership in change process - Mini Project on challenges faced by different industries in change management - Group discussion.

TEXT BOOKS:

- John P. Kotter, *Leading Change*, 3rd Edition, Harvard Business Review Press, 2023.
- Jeffrey M. Hiatt, *ADKAR: A Model for Change in Business, Government and Our Community*, Prosci Learning Center Publications, 2023.
- Esther Cameron and Mike Green, *Making Sense of Change Management*, 6th Edition, Kogan Page, 2024.
- V. Nilakant and S. Ramnarayan, *Change Management: Altering Mindsets in a Global Context*, Sage Publications, 2024.
- David A. Buchanan and Andrzej Huczynski, *Organizational Behaviour*, 11th Edition, Pearson, 2023.

REFERENCE:

1. John P. Kotter – *Leading Change*, Harvard Business Press, 2023 Edition
2. Hiatt, Jeffrey – *ADKAR Model for Change Management*, Prosci, 2024 Edition
3. Cummings & Worley – *Organization Development & Change*, Cengage, 2024 Edition
4. Hayes, J. – *The Theory and Practice of Change Management*, Palgrave, 2023 Edition
5. McKinsey & Company – *Organizational Transformation & Change Report*, 2025 Edition

E-RESOURCES:

1. <https://swayam.gov.in/explorer?category=Management%20Studies>
2. <https://academy.hubspot.com/courses/leadership-training>
3. <https://www.edx.org/learn/change-management>
4. <https://www.coursera.org/courses?query=change%20management>
5. <https://www.mygreatlearning.com/academy/learn-for-free/courses/change-management>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, models, and significance of change management in organizations.
- Apply change management strategies, leadership approaches, and communication practices for managing organizational change.
- Analyze resistance to change, organizational culture, and employee behavior during change initiatives.
- Evaluate change implementation techniques, digital transformation, HR analytics, and AI-enabled change management practices for managerial decision-making.
- Develop change management interventions and strategies for improving organizational adaptability and effectiveness.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	1	-	2	-	2
CO2	3	2	3	2	1	2	3	1	-	2
CO3	2	2	3	3	2	1	3	2	-	3
CO4	2	1	3	2	3	3	1	-	2	3
CO5	3	3	2	3	-	2	3	3	3	2

3-Strong 2-Medium 1-Low

Second Year

GENERIC ELECTIVE COURSE
C: HUMAN RESOURCE MANAGEMENT
VI-HUMAN RESOURCE ANALYTICS

Semester-IV

Course Code:

(Theory)

Credit: 3

COURSE OBJECTIVES:

- To understand the concepts, scope, and significance of human resource analytics in organizational decision-making.
- To develop knowledge on HR metrics, workforce analytics, data collection methods, and statistical tools used in HR analytics.
- To analyze employee data related to recruitment, performance, compensation, retention, and employee engagement.
- To understand predictive analytics, HR dashboards, data visualization techniques, and AI-enabled HR analytics systems.
- To apply data-driven HR analytics techniques for improving workforce planning, organizational effectiveness, and strategic HR decision-making

UNIT – I HR ANALYTICS IN PERSPECTIVE:

Role of Analytics, Defining HR Analytics, HR Analytics: The Third Wave for HR value creation, HR Measurement journey in tune with HR maturity journey Understanding the organizational system (Lean), Locating the HR challenge in the system, Valuing HR Analytics in the organizational system.

UNIT – II BASICS OF HR ANALYTICS:

What is Analytics? - Basics of HR Analytics, Evolution, Analytical capabilities, Analytic value chain, Analytical Model, Typical application of HR analytics

UNIT – III HRA FRAMEWORKS:

Current approaches to measuring HR and reporting value from HR contributions, Strategic HR Metrics versus Benchmarking, HR Scorecards & Workforce Scorecards –score cards different from HR Analytics, HR Maturity Framework: From level 1 to level 5, HR Analytics Frameworks: (a) LAMP framework; (b) HCM: 21 Framework and (c) Talent ship Framework - overarching components of an effective Analytics framework.

UNIT – IV INSIGHT INTO DATA DRIVEN HRA:

Typical data sources, Typical questions faced (survey), Typical data issues, Connecting HR Analytics to business benefit, Techniques for establishing questions, building support and interest, obtaining data, Cleaning data, Supplementing data.

UNIT – V HR METRICS:

Defining metrics, Demographics, data sources and requirements, Types of data, tying data sets together, Difficulties in obtaining data, ethics of measurement and evaluation. Human capital analytics continuum.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the HRA Frameworks- Practical: Studying Developing HR metrics used in manufacturing companies. - Mini Project on HR Dashboards -practices in MNCs - role play, Group discussion

TEXT BOOKS:

- Dipak Kumar Bhattacharyya, *HR Analytics*, Sage Publications, 2024.
- Jac Fitz-enz and John R. Mattox II, *Predictive Analytics for Human Resources*, Wiley, 2023.
- Martin R. Edwards and Kirsten Edwards, *Predictive HR Analytics*, Kogan Page, 2024.
- Bernard Marr, *Data-Driven HR: How to Use Analytics and Metrics to Drive Performance*, Kogan Page, 2023.
- Tracey Smith, *HR Analytics: The What, Why and How*, Kogan Page, 2024

REFERENCES:

- R. B. Boudreau & Peter M. Ramstad – *Beyond HR: The New Science of Human Capital Analytics*, Harvard Press, 2023 Edition
- Jac Fitz-enz – *The ROI of Human Capital Analytics*, AMACOM, 2024 Edition
- Edwards & Edwards – *Predictive HR Analytics*, Kogan Page, 2023 Edition
- Bernard Marr – *Data-Driven HR*, Kogan Page, 2024 Edition
- Deloitte – *Global Human Capital Trends Report*, 2025 Edition

E-RESOURCES:

1. <https://swayam.gov.in/explorer?category=Management%20Studies>
2. <https://academy.hubspot.com/courses/people-management>
3. <https://www.udemy.com/course/hr-data-fundamentals/>
4. <https://courseconnected.com/free-online-hr-analytics-course/>
5. <https://ecornell.cornell.edu/certificates/human-resources/hr-analytics/>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, tools, and significance of human resource analytics in organizations.
- Apply HR metrics, workforce analytics, and statistical techniques for HR decision-making.
- Analyze employee data related to recruitment, performance, compensation, retention, and employee engagement.
- Evaluate predictive analytics, HR dashboards, data visualization, and AI-enabled HR analytics tools for managerial decision-making.
- Develop data-driven HR strategies and analytical frameworks for improving organizational effectiveness and workforce performance.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	2	2	-	-	-	2
CO2	3	2	3	2	3	3	1	-	-	3
CO3	2	2	3	3	3	2	1	-	-	3
CO4	2	1	3	2	3	3	1	-	2	3
CO5	3	3	2	3	2	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

GENERIC ELECTIVE COURSE

Semester-IV

**C: HUMAN RESOURCE MANAGEMENT
VII- TRAINING AND DEVELOPMENT**

Course Code:

(Theory)

Credit: 3

COURSE OBJECTIVES:

- To understand the concepts, objectives, and importance of training and development in organizations.
- To develop knowledge on training needs assessment, training design, learning methods, and employee development techniques.
- To analyze career development, leadership development, organizational learning, and employee performance improvement practices.
- To understand training evaluation methods, e-learning systems, learning analytics, and AI-enabled training and development tools.
- To apply training and development strategies for enhancing employee competencies, productivity, and organizational effectiveness.

UNIT – I:

HRD: Definition, Evolution of HRD from Personnel management, Developmental Perspective of HRD, HRD at macro and micro levels: Outcomes of HRD in the national and organizational contexts. Qualities and Competencies required in a HRD professional. Importance of HRD in the present context. Development of HRD Movement in India.

UNIT – II:

Development Human Capacity: Meaning and Scope of training, education and development. Aptitude, Knowledge, Values, Skills of Human Relations, Responsiveness, Loyalty and Commitment, Transparency, Leadership development. Training and Development: Role, Responsibilities and challenges to Training Managers.

UNIT – III:

Evaluating HRD: Human Resource Accounting- approaches, HR Audit and Bench marking, HR balanced scorecard, Assessment Center, Performance appraisal including 360-degree appraisal, Impact-assessment of HRD initiatives on Organizations.

UNIT – IV:

Human Resource Training and Development: Concept and Importance; Assessing Training Needs; Designing and Evaluating T&D Programmes; Types of training: Internal and external, Outbound Training, Attitudinal training, Training effectiveness. HRD concepts, Subsystems of HRD: Human Resource Planning, Potential Appraisal, Career Planning & Succession Planning.

UNIT – V:

Recent Trends in HRD and OD: Training for trainers and HRD professionals, Promoting Research in HRD and OD. Impact of development in the other fields such as Psychology, Business Management, Communication and Information Technology,

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the Course during the Semester concerned - Practical: Studying Training & Development of two Indian institutions in the lime-light- Mini Project on Training and development – Inculcating the skill of developing the T&D module for organization - role play, Group discussions.

TEXT BOOKS:

- Raymond A. Noe, *Employee Training and Development*, 9th Edition, McGraw Hill, 2023.
- Rolf P. Lynton and Udai Pareek, *Training for Development*, Sage Publications, 2023.
- Blanchard and Thacker, *Effective Training: Systems, Strategies, and Practices*, 6th Edition, Pearson, 2024.
- Dipak Kumar Bhattacharyya, *Training and Development: Theories and Applications*, Sage Publications, 2024.
- B. Janakiram, *Training and Development*, Biztantra Publications, 2023.

REFERENCE BOOKS:

1. Noe, Raymond – *Employee Training and Development*, McGraw Hill, 2024 Edition
2. Blanchard & Thacker – *Effective Training Systems*, Pearson, 2023 Edition
3. Goldstein & Ford – *Training in Organizations*, Cengage, 2023 Edition
4. Wilson, J. – *Human Resource Development*, Kogan Page, 2024 Edition
5. ATD (Association for Talent Development) – *State of Training Industry Report*, 2025 Edition

E-RESOURCES:

1. Gary Dessler, *Human Resource Management*, 17th Edition, Pearson, 2024.
2. Michael Armstrong and Stephen Taylor, *Armstrong's Handbook of Human Resource Management Practice*, 16th Edition, Kogan Page, 2023.
3. Stephen P. Robbins and Timothy Judge, *Organizational Behaviour*, 19th Edition, Pearson, 2023.
4. Donald L. Kirkpatrick and James D. Kirkpatrick, *Evaluating Training Programs*, Berrett-Koehler Publishers, 2023.
5. Harvard Business Review, *Learning and Development Collection*, Harvard Business Publishing, 2024.

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, objectives, and significance of training and development in organizations.
- Apply training needs assessment, training design, and development techniques for employee learning.
- Analyze employee development, leadership development, career planning, and organizational learning practices.
- Evaluate training evaluation methods, e-learning platforms, learning analytics, and AI-enabled training systems for managerial decision-making.
- Develop training and development strategies for improving employee competencies and organizational effectiveness.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	1	-	2	-	2
CO2	3	2	3	2	2	2	3	1	-	2
CO3	2	2	3	3	2	1	3	2	-	3
CO4	2	1	3	2	3	3	1	-	2	3
CO5	3	3	2	3	-	2	3	3	3	2

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE COURSE
C: HUMAN RESOURCE MANAGEMENT
VIII- PUBLIC RELATIONS MANAGEMENT**

Semester-IV

Course code:

(Theory)

Credit: 3

COURSE OBJECTIVES:

- To understand the concepts, scope, functions, and significance of public relations management in organizations.
- To develop knowledge on corporate communication, media relations, public opinion, and stakeholder relationship management.
- To analyze public relations campaigns, crisis communication, corporate image building, and event management practices.
- To understand digital public relations, social media communication, media analytics, and AI-enabled public relations tools and techniques.
- To apply strategic public relations practices for enhancing organizational reputation, communication effectiveness, and stakeholder engagement.

UNIT – I:

Introduction to PR – Definition, Nature, Objectives of Public Relations, History and Development, Role of PR, PR associations .Emergence of Public Relations.

UNIT – II:

Public Relations Process, PR Problems, Elements of Public Relations, the Psychological factors that affect the perception of the public, decision making process.

UNIT – III:

Public Opinion Research, Functions of Public Relations Department, PR Professional Code. Relationship with the Government, Community and Shareholders, Promotion Programmes, Donations, Employee Publications, Guest Relations, Establishment of Relations with the Public.

UNIT – IV:

Media &Tools: Press, Radio, Television, Documentaries, Films, Social Media Handle . Company Literature: Annual reports, manuals Brochures Information bulletins, House Journals, News Letters, Direct mailing.

UNIT – V:

Advertising and Promotional Techniques: Promoting and positioning your organization through Advertising, Exhibitions, open house, Tournaments etc., Lobbying, Managing Rumors & Leaks.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to Public Relation Management - Practical: Studying Company Literature of two Indian institutions - Mini Project on Advertising and Promotional techniques – Group discussions.

TEXT BOOKS:

- C.S. Rayudu and K.R. Balan, *Public Relations Management*, Himalaya Publishing House, 2024.
- Dennis L. Wilcox and Glen T. Cameron, *Public Relations: Strategies and Tactics*, 12th Edition, Pearson, 2023.
- Alison Theaker, *The Public Relations Handbook*, 6th Edition, Routledge, 2024.
- Jaishri Jethwaney and N.N. Sarkar, *Public Relations Management*, Sterling Publishers, 2023.
- Fraser P. Seitel, *The Practice of Public Relations*, 14th Edition, Pearson, 2024.

REFERENCE:

- Cutlip, Center & Broom – *Effective Public Relations*, Pearson, 2023 Edition
- Wilcox & Cameron – *Public Relations Strategies and Tactics*, Pearson, 2024 Edition
- Dennis Wilcox – *Public Relations Writing and Media Techniques*, Pearson, 2023 Edition
- Alison Theaker – *The Public Relations Handbook*, Routledge, 2024 Edition
- PRSA (Public Relations Society of America) – *Global PR Trends Report*, 2025 Edition

E-RESOURCES:

1. <https://swayam.gov.in/explorer?category=Management%20Studies>
2. <https://pracademy.co.uk/course/introduction-to-pr-free-course/>
3. <https://alison.com/course/diploma-in-public-relations-revised>
4. <https://udemyfreecourses.org/category/public-relations>
5. <https://www.mooc-list.com/tags/public-relations>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, functions, and significance of public relations management in organizations.
- Apply corporate communication, media relations, and stakeholder management practices for organizational effectiveness.
- Analyze public relations campaigns, crisis communication, and corporate image building strategies.
- Evaluate digital public relations, social media communication, media analytics, and AI-enabled PR tools for managerial decision-making.
- Develop strategic public relations plans for enhancing organizational reputation and stakeholder engagement.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	-	-	1	-	2	-	2
CO2	3	3	3	2	1	2	3	1	-	2
CO3	2	3	3	3	2	1	3	2	-	3
CO4	2	2	3	2	3	3	1	-	2	3
CO5	3	3	2	3	-	2	3	3	3	2

3-Strong 2-Medium 1-Low

Second Year

GENERIC ELECTIVE COURSE
C: HUMAN RESOURCE MANAGEMENT
IX- MANAGING INTERPERSONAL
EFFECTIVENESS

Semester-IV

Course Code:

(Theory)

Credit: 3

COURSE OBJECTIVES:

- To understand the concepts, importance, and principles of interpersonal effectiveness in organizations.
- To develop knowledge on communication skills, emotional intelligence, listening skills, and relationship management techniques.
- To analyze interpersonal behaviour, conflict management, negotiation, and team interaction in organizational settings.
- To understand group dynamics, digital communication platforms, collaboration tools, and AI-enabled communication and feedback systems.
- To apply interpersonal effectiveness strategies for improving leadership, teamwork, employee relations, and organizational performance.

UNIT – I SELF PERCEPTION AND SELF-PRESENTATION:

Defining & perceiving self, gaining self-knowledge, self-effectiveness, self-presentation, self-presentation motives and strategies, impression management, self-monitoring.

UNIT - II COMMUNICATION:

Communication & language, Non-verbal communication, proxemics (interpersonal space) paralanguage, kinesics, deception, detection, non-verbal leakage.

UNIT – III ATTITUDE AND ATTITUDE CHANGE:

The nature of attitude, changing attitudes – theoretical perspectives, changing attitudes through persuasion, Avoiding measurement pitfalls, conditions promoting and reducing consistency.

UNIT – IV ENVIRONMENTAL INFLUENCE:

Territoriality, crowding, environmental quality and social behavior, impact on our surroundings; Artificial Intelligence in workplace communication, and ethical implications of AI in human interactions.

UNIT – V QUALITY OF WORK LIFE (QWL):

Quality of Work Life: Working and well being, the working woman and the stress on working women. Public health, aging and life quality using social psychology to improve quality of work life.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to Managing Interpersonal Effectiveness - Practical: Studying influence of environmental factors on interpersonal management - Mini Project on QWL of two Indian companies – Group discussions.

TEXT BOOKS:

1. David A. Whetten and Kim S. Cameron, *Developing Management Skills*, 10th Edition, Pearson, 2024.
2. Udai Pareek, *Understanding Organizational Behaviour*, Oxford University Press, 2023.
3. Stephen P. Robbins and Timothy Judge, *Organizational Behaviour*, 19th Edition, Pearson, 2023.
4. Daniel Goleman, *Emotional Intelligence*, Updated Edition, Bloomsbury Publishing, 2024.
5. Kavita Singh, *Organization Behaviour: Text and Cases*, Pearson, 2024.

REFERENCE:

- Stephen P. Robbins – *Organizational Behavior*, Pearson, 2024 Edition
- Daniel Goleman – *Emotional Intelligence*, Bantam, 2023 Edition
- Joseph Luft & Harrington Ingham – *Johari Window Theory Applications*, Updated HR Press, 2023 Edition
- McShane & Von Glinow – *Organizational Behavior*, McGraw Hill, 2024 Edition
- Harvard Business Review – *Interpersonal Skills & Leadership Insights Report*, 2025 Edition

E-RESOURCES:

1. <https://alison.com/course/introduction-to-interpersonal-skills>
2. <https://www.oxfordhomestudy.com/courses/leadership-courses-online/free-interpersonal-skills-training>
3. <https://www.classcentral.com/course/swayam-interpersonal-skills-14135>
4. <https://www.futurelearn.com/courses/communication-and-interpersonal-skills-at-work>
5. https://onlinecourses.nptel.ac.in/noc19_hs36/preview

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts and significance of interpersonal effectiveness in organizations.
- Apply communication skills, emotional intelligence, and relationship management techniques in professional environments.
- Analyze interpersonal behaviour, conflict resolution, negotiation, and leadership effectiveness in organizations.
- Evaluate group dynamics, digital collaboration tools, and AI-enabled communication systems for organizational effectiveness.
- Develop interpersonal effectiveness strategies for improving teamwork, leadership, and organizational performance.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	3	2	-	-	1	2	2	-	2
CO2	3	3	3	2	1	2	3	1	-	2
CO3	2	3	3	3	2	1	3	2	-	3
CO4	2	2	3	2	3	3	1	-	2	3
CO5	3	3	2	3	-	2	3	3	3	2

3-Strong 2-Medium 1-Low

Second Year

GENERIC ELECTIVE COURSE

Semester-IV

C: HUMAN RESOURCE

MANAGEMENT

X-GROUP DYNAMICS

Course Code:

(Theory)

Credit: 3

COURSE OBJECTIVES:

- To understand the concepts, nature, and importance of group dynamics in organizational settings.
- To develop knowledge on group formation, group behaviour, team building, and leadership processes.
- To analyze group decision-making, conflict management, communication patterns, and interpersonal relationships within groups.
- To understand organizational culture, virtual teams, digital collaboration platforms, and AI-enabled team management practices.
- To apply group dynamics principles and team management strategies for improving organizational effectiveness and employee performance.

UNIT – I:

Groups and its formation – Formal and informal groups – Functions fulfilled by groups – Variables affecting the integration in groups of organization and personal needs.

UNIT – II:

Training for effective group membership – T Group training or sensitivity training – feedback to individuals for improving interpersonal competence goals, approaches and utilization of sensitivity training in Organizations.

UNIT – III:

Process of decisions making in groups – Problems and approaches for ‘consensus’ formation – effective meetings. Theory and model of interpersonal behaviour of C William Shutz – FIRO – B Test - its applications – Achieving group compatibility – Problems in Reaching compatibility.

UNIT – IV:

Use of groups in Organizations Vs Individual performance – Inter group Problems in Organizations – Inter group competition – Reducing competition through training – Conflict – Management of conflict- Preventing interpersonal conflict and inter group conflict - Achieving integration in groups.

UNIT – V:

Organization Development through better management of group dynamic – Team work development.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to Group Dynamics - Practical: Studying ‘consensus’ formation – Mini Project on FIRO – B test – Group discussions.

TEXT BOOKS:

- Donelson R. Forsyth, *Group Dynamics*, 8th Edition, Cengage Learning, 2024.
- Daniel Levi, *Group Dynamics for Teams*, 6th Edition, Sage Publications, 2024.
- Stephen P. Robbins and Timothy Judge, *Organizational Behaviour*, 19th Edition, Pearson, 2023.
- Uday Pareek, *Understanding Organizational Behaviour*, Oxford University Press, 2023.
- David A. Whetten and Kim S. Cameron, *Developing Management Skills*, 10th Edition, Pearson, 2024.

REFERENCE:

- Forsyth, Donelson – *Group Dynamics*, Cengage, 2024 Edition
- Cartwright & Zander – *Group Dynamics: Research and Theory*, Harper & Row, 2023 Edition
- Johnson & Johnson – *Joining Together: Group Theory and Group Skills*, Pearson, 2024 Edition
- McGrath, J. – *Social Psychology of Groups*, Wiley, 2023 Edition
- APA (American Psychological Association) – *Workplace Group Behavior Report*, 2025 Edition

E-RESOURCES:

1. <https://www.coursera.org/lecture/planning-organizing-supervisors/group-dynamics-g7lNj>
2. <https://www.classcentral.com/course/dynamics-group-communication-8908>
3. <http://www.openlearningworld.com/innerpages/Group%20Dynamics.htm>
4. <https://alison.com/topic/learn/119140/group-dynamics>
5. <https://courses.aiu.edu/GROUP%20DYNAMICS.html>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, importance, and stages of group dynamics in organizations.
- Apply team building, leadership, and communication techniques for effective group performance.
- Analyze group behaviour, conflict management, and decision-making processes in organizational settings.
- Evaluate virtual teams, digital collaboration platforms, and AI-enabled team management practices for organizational effectiveness.
- Develop group management strategies and interpersonal effectiveness skills for improving teamwork and organizational performance.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	3	2	-	-	1	2	2	-	2
CO2	3	3	3	2	1	2	3	1	-	2
CO3	2	3	3	3	2	1	3	2	-	3
CO4	2	2	3	2	3	3	1	-	2	3
CO5	3	3	2	3	-	2	3	3	3	2

3-Strong 2-Medium 1-Low

SecondYear

**GENERIC ELECTIVE
COURSE**

Semester-III

**D:SYSTEMS
I-E-BUSINESS**

Course Code:

(Theory)

Credit:3

COURSEOBJECTIVES:

- To understand the concepts, models, and applications of e-business in the digital business environment.
- To develop knowledge on e-commerce technologies, electronic payment systems, and online business operations.
- To analyze e-business strategies, digital marketing practices, and supply chain integration in organizations.
- To understand cyber security, legal issues, and ethical practices in e-business management.
- To apply digital technologies, AI-enabled business tools, and e-business solutions for organizational growth and competitive advantage.

UNIT-I INTRODUCTION:

Definitions of Electronic Business, Categories of E-business (B2b, B2C, B2A) Introduction to Whiteley's Model (Electronic Markets, EDI, Internet Commerce).Emerging cyber economy – Opportunities and challenges offered by internet – generic business models on the net-types and technology & economic changes.

UNIT-II INTRABUSINESS APPLICATIONS:

Intra business applications: Online sales force automation, online customer service & support, Chatbots and virtual assistants in e-business operations, virtual organization, logistics management, distribution & payment channel, corporate digital library network centric computing, EDI implementation & standards, software, network carrier & mode of information transmission, business applications.

UNIT-III MARKETING THROUGH THE INTERNET:

Marketing through the internet: Advertising & Marketing on the internet – Analysis of markets– Predictive analytics –Building of electronic market place of buyers & sellers, E-intermediaries, mercantile models– consumers & merchants perspective. E-Commerce & retailing — Case studies of products and services marketed on the internet.

UNIT-IV ELECTRONIC PAYMENT SYSTEMS:

Electronic payment systems & electronic cash E-Commerce & banking. Internet monetary payment & security requirements—confidentiality of payment information, payment information integrity, account holder & merchant authentication payment & purchase order process, account holder registration, merchant registration, account holder ordering, payment authorization, online e-cash anonymity, double spending, interoperability, electronic payment schemes— digital cash, credit cards, internet cheque, debit card, smart cards, financial EDI, E-Wallets, micro transactions, payment clearing service providers.

UNIT-V EMERGING TRENDS:

Emerging trends: Cyber communities – new communication paradigm, building infrastructure, gaining access, multi-sensory communications, mass markets/ verticals / affinity groups, e-governance. Legal & regulatory issues, global learning infrastructure, computer based education & training, digital copyrights- AI driven e-business models.

UNIT-VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to – Practical: Studying online customer service & support, virtual organization, logistics management, distribution & payment channel – Mini project on Legal & regulatory issues, global learning infrastructure, computer based education & training, digital copyrights – Group discussion.

TEXTBOOKS:

1. Kenneth C. Laudon and Carol Guercio Traver, *E-Commerce: Business, Technology and Society*, 19th Edition, Pearson, 2025.
2. Turban, King, Lee and Liang, *Electronic Commerce: A Managerial and Social Networks Perspective*, Springer, 2024.
3. Ravi Kalakota and Marcia Robinson, *E-Business 2.0: Roadmap for Success*, Pearson Education, 2024.
4. P.T. Joseph, *E-Commerce: An Indian Perspective*, 7th Edition, PHI Learning, 2025.
5. Dave Chaffey, *Digital Business and E-Commerce Management*, 8th Edition, Pearson, 2024.

REFERENCES:

1. Gary Schneider, *Electronic Commerce*, Cengage Learning, 2024.
2. Bharat Bhaskar, *Electronic Commerce: Framework, Technologies and Applications*, McGraw Hill, 2025.
3. Elias M. Awad, *Electronic Commerce: From Vision to Fulfillment*, Pearson Education, 2024.
4. Daniel Amor, *The E-Business Revolution*, Pearson Education, 2024.
5. OECD Digital Economy Reports and E-Business Publications, 2025.

E-RESOURCES:

1. <https://www.udemy.com/course/ecommerce-marketing/>
2. <https://www.edx.org/course/digital-transformation/>
3. <https://www.coursera.org/professional-certificates/google-digital-marketing-ecommerce/>
4. https://onlinecourses.nptel.ac.in/noc19_mg54/e-business
5. <https://alison.com/course/how-to-start-an-online-business-in-affiliate-marketing>

COURSE OUTCOMES:

On completion of this course, the students will be able to,

- Explain the concepts, models, and applications of e-business and e-commerce systems.
- Apply e-business technologies, electronic payment systems, and digital business operations in organizations.
- Analyze e-business strategies, digital marketing practices, and supply chain integration.
- Evaluate cyber security, legal issues, and AI-enabled business technologies in e-business management.
- Develop e-business solutions and digital business strategies for organizational growth and competitive advantage.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	2	-	-	-	2
CO2	3	2	3	2	2	3	1	-	-	2
CO3	2	2	3	3	3	2	1	-	-	3
CO4	2	1	3	2	2	3	1	2	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

SecondYear

GENERIC ELECTIVECOURSE

Semester-III

D:SYSTEMS

II-INTERNET TECHNOLOGIES

Course Code:

(Theory)

Credit:3

COURSEOBJECTIVES:

- To understand the concepts, architecture, and applications of internet technologies in business environments.
- To develop knowledge on web technologies, internet protocols, networking concepts, and cloud-based applications.
- To analyze internet communication systems, web services, and online information management techniques.
- To understand cyber security, internet governance, and ethical issues related to internet technologies.
- To apply emerging internet technologies, AI-enabled applications, and digital solutions for business and organizational development.

UNIT-I INTRODUCTION & WEBDESIGN:

Internet Communication Technologies - Networking Architecture – Protocols – Value Added Networks – Virtual Private Networks. Introduction to Web Technologies – Evolving Trends – Content Design – Graphics and Animation using Adobe Photoshop, Dream Weaver, Flash player, Shockwave – HTML Fundamentals.

UNIT-II CLIENT APPLICATION DEVELOPMENT:

Java Script: Variables – Literal Arrays – Expressions and Operators – Control Statements- Functions – Event Handling – Working with Layers – Web APIs, IoT connectivity -Controlling Page Appearance using Style Sheets – Providing Security with object Assigning. VB Script: Variables – Data types – Operators – Control Flow – Error Handling – Event Programming, Procedures – Forms – Controls – Active X objects.

UNIT-III WEB ARCHITECTURE AND WEBSERVERS:

Overview of components – Tuning and Load balancing – Network Architecture – Architecture Security, E-commerce architecture models – MS Internet Information Server –Distributed Internet Architecture – Microsoft Transaction Server – Visual Age of Java – Net Objects fusion – Web sphere Web logic –Net Commerce- Netscape Application Server–ColdFusion– Silver Stream – Vignette Story Server – Broad Vision one – to – one Enterprise.

UNIT-IV SECURITY:

Need for Computer Security – Protecting resources – Types of risks – Security Strategies, Mechanisms for Internet Security – Security Tools, Enterprise Level Security, Encryption, PKI (Public Key Infrastructure), Fire Walls, Digital Certificate (X.509), Digital Certificate servers (entrust,netscape,verisign,oracle),SecureSocketLayer,LDAP(LightWeightDirectory Access Protocol)-Cyber security, block chain, and digital privacy in internet technologies.

UNIT-V ADVANCED CONCEPTS:

DynamicHTML–ExtendedMarkupLanguage–WirelessMarkupLanguage–VirtualReality Modeling Language – Wireless Application Protocol – Voice Over Internet Protocol – Component Object Model – Common Object Request Broker Architecture –Java Beans – Enterprise Java Beans.

UNIT-VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to – Practical: Studying Client Application Development, Web Architecture and Web Servers – Mini project on Virtual Reality Modeling Language and Wireless Application Protocol – Group discussion.

TEXTBOOKS:

1. Achyut S. Godbole and Atul Kahate, *Web Technologies*, 4th Edition, McGraw Hill, 2025.
2. Uttam K. Roy, *Internet and Web Technologies*, Oxford University Press, 2024.
3. Deitel and Deitel, *Internet and World Wide Web: How to Program*, 6th Edition, Pearson, 2025.
4. Behrouz A. Forouzan, *Data Communications and Networking*, 6th Edition, McGraw Hill, 2024.
5. Jeffrey C. Jackson, *Web Technologies: A Computer Science Perspective*, Pearson Education, 2024.

REFERENCES:

1. Tanenbaum and Wetherall, *Computer Networks*, 6th Edition, Pearson, 2024.
2. Kurose and Ross, *Computer Networking: A Top-Down Approach*, 9th Edition, Pearson, 2025.
3. Thomas Powell, *HTML and CSS: The Complete Reference*, McGraw Hill, 2024.
4. Nina Godbole and Sunit Belapure, *Cyber Security*, Wiley India, 2025.
5. Eric Freeman and Elisabeth Robson, *Head First HTML and CSS*, O'Reilly Media, 2024.

E-RESOURCES:

1. <https://www.coursera.org/browse/information-technology>
2. <https://www.classcentral.com/course/openhpi-web-technologies-3517>
3. <https://www.edx.org/learn/information-technology>
4. <https://www.zdnet.com/education/computers-tech/free-online-certificate-courses/>
5. <https://www.coursera.org/learn/internet-history-technology-security>

COURSE OUTCOMES:

On completion of this course, the students will be able to,

- Explain internet technologies, networking concepts, and web architecture.
- Apply web technologies, internet communication systems, and cloud-based applications in organizations.
- Analyze internet services, web applications, and digital information management systems.
- Evaluate cyber security, internet governance, and AI-enabled internet technologies.
- Develop internet-based business solutions and digital applications for organizational growth.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	2	-	-	-	2
CO2	3	2	3	2	2	3	1	-	-	2
CO3	2	2	3	3	3	2	1	-	-	3
CO4	2	1	3	2	2	3	1	2	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

SecondYear

GENERIC ELECTIVE COURSE

Semester-III

D: SYSTEMS

III-ENTERPRISE RESOURCE PLANNING

Course Code:

(Theory)

Credit:3

COURSE OBJECTIVES:

- To understand the concepts, scope, and significance of Enterprise Resource Planning (ERP) systems in business organizations.
- To develop knowledge on ERP architecture, modules, implementation strategies, and business process integration.
- To analyze ERP applications in finance, human resources, production, supply chain, and customer relationship management.
- To understand ERP implementation challenges, security issues, and organizational change management practices.
- To apply cloud ERP systems, AI-enabled ERP solutions, and digital transformation strategies for organizational effectiveness.

UNIT-I:

Introduction - Overview of enterprise systems – Evolution - Risks and benefits - Fundamental technology - Issues to be considered in planning design and implementation of cross functional integrated ERP systems-Introduction to cloud ERP.

UNIT-II:

ERP Solutions and Functional Modules - Overview of ERP software solutions- Small medium and large enterprise vendor solutions, BPR, Business Engineering and best Business practices - Business Process Management. Overview of ERP modules - sales and Marketing, Accounting and Finance, Materials and Production management.

UNIT-III:

ERP Implementation - Planning Evaluation and selection of ERP systems Implementation life cycle-ERP implementation, Methodology and Frame work Training – Data Migration. People Organization in implementation Consultants, Vendors and Employees.

UNIT-IV:

Post Implementation: Maintenance of ERP- Organizational and Industrial impact; Success and Failure factors of ERP Implementation-ERP analytics.

UNIT-V:

Emerging Trends on ERP - Extended ERP systems and ERP add-ons -CRM, SCM, Business analytics- Industry 4.0 and AI-driven digital transformation using ERP solution-Future trends in ERP systems-web enabled, Wireless technologies.

UNIT-VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Issues Related to the Enterprise Resource Planning - Practical: Studying ERP Solutions and Functional Modules- Mini Project on Emerging Trends on ERP –role play, Group discussions.

TEXTBOOKS:

1. Alexis Leon, *ERP Demystified*, 4th Edition, McGraw Hill, 2025.
2. Vinod Kumar Garg and N.K. Venkitakrishnan, *Enterprise Resource Planning: Concepts and Practice*, PHI Learning, 2024.
3. Mahadeo Jaiswal and Ganesh Vanapalli, *ERP Systems and Implementation*, McGraw Hill, 2024.
4. Monk and Wagner, *Concepts in Enterprise Resource Planning*, 5th Edition, Cengage Learning, 2025.
5. Mary Sumner, *Enterprise Resource Planning*, Pearson Education, 2024.

REFERENCE:

1. Alexis Leon, *ERP Demystified*, 4th Edition, McGraw Hill, 2025.
2. Vinod Kumar Garg and N.K. Venkitakrishnan, *Enterprise Resource Planning: Concepts and Practice*, PHI Learning, 2024.
3. Mahadeo Jaiswal and Ganesh Vanapalli, *ERP Systems and Implementation*, McGraw Hill, 2024.
4. Monk and Wagner, *Concepts in Enterprise Resource Planning*, 5th Edition, Cengage Learning, 2025.
5. Mary Sumner, *Enterprise Resource Planning*, Pearson Education, 2024.

E-RESOURCE:

1. <https://www.coursera.org/lecture/advanced-manufacturing-enterprise/enterprise-resource-planning-erp-MAUTK>
2. <https://www.udemy.com/course/erp-4-free/>
3. https://education.oracle.com/learn/saas-erp/pPillar_644
4. <https://alison.com/course/enterprise-resource-planning-and-management>
5. https://onlinecourses.nptel.ac.in/noc24_mg67/preview

COURSE OUTCOMES:

Attend of the course, the students will be able to:

- Explain the concepts, architecture, and functions of ERP systems in organizations.
- Apply ERP modules and implementation strategies for business process integration.
- Analyze ERP applications in finance, HR, production, supply chain, and customer relationship management.
- Evaluate ERP implementation challenges, security issues, and AI-enabled ERP solutions.
- Develop ERP-based business solutions for organizational efficiency and digital transformation.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	2	-	-	-	2
CO2	3	2	3	2	2	3	1	-	-	2
CO3	2	2	3	3	3	2	1	-	-	3
CO4	2	1	3	2	2	3	1	2	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

SecondYear

GENERIC ELECTIVECOURSE

Semester-III

D:SYSTEMS

IV-WEB TECHNOLOGY

Course Code:

(Theory)

Credit:3

COURSEOBJECTIVES:

- Understand the concepts, architecture, and applications of web technologies in business and organizational environments.
- To develop knowledge on web designing, client-server architecture, web programming, and database connectivity.
- To analyze web applications, dynamic websites, and online information systems for business operations.
- To understand web security, internet standards, and ethical issues related to web technologies.
- To apply modern web technologies, AI-enabled web applications, and digital solutions for business and organizational development.

UNIT-I INTRODUCTION COMMUNICATION TO DIGITAL:

Definition, Introduction to Digital Communication - Concept of The Internet of Things (IoT) - Machine-To-Machine Communication (M2M) - Computing Varieties- Key Trends in Technology - Moore's Law - Security in The Cloud -Data Encryption - Public Key Cryptography.

UNIT-II TECHNOLOGY ECO-SYSTEM AND CDP:

Introduction and Concept of Technological Eco System - Connected Device Platform (CDP) - Application Enablement Platform (AEP) - Data Acquisition -Methods and Challenges in Acquiring Data - Recent System Lockdowns -Smart Services - Collaborations Over Cloud.

UNIT-III CONNECTED ECO-SYSTEM : M2M & OEM:

ConceptofApplicationDomains-CoreApplicationDomainsofCloudandIoT-M2M
-OEM Definition and Advantages-Value Chain-integration with AI-enabled business system-
Challenges in Connected Eco System.

UNIT-IV ECONOMIC TRENDS NETWORKS AND SECURE:

Identifying Macro Economic Trends in IoT - Economic Assessment of Social Networks - Metcalfe'sLaw - Wireless Network Platforms - Mobile Virtual Network Operators (MVNO) - Security Vitals in Network Connections.

UNIT-V NETWORK MANAGEMENT:

Definition of Network Management - Network Management Concepts –Collusion Detection - Jam Code - Managing Ethernet Connections – Data Packet Transfers - Connected Devices Management-digital privacy in web technologies..

UNIT-VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to – Practical: Studying Technology Eco-System and networking – Mini project on Collusion Detection, Jam Code and Managing Ethernet Connections –Group discussion.

TEXTBOOKS:

1. Jeffrey C. Jackson, *Web Technologies: A Computer Science Perspective*, Pearson Education, 2025.
2. Deitel and Deitel, *Internet and World Wide Web: How to Program*, 6th Edition, Pearson, 2025.
3. Thomas Powell, *HTML and CSS: The Complete Reference*, McGraw Hill, 2024.
4. Achyut S. Godbole and Atul Kahate, *Web Technologies*, McGraw Hill, 2025.
5. Chris Bates, *Web Programming: Building Internet Applications*, 4th Edition, Wiley, 2024.

REFERENCES:

1. Eric Freeman and Elisabeth Robson, *Head First HTML and CSS*, O'Reilly Media, 2024.
2. Jon Duckett, *HTML and CSS: Design and Build Websites*, Wiley, 2025.
3. Robin Nixon, *Learning PHP, MySQL and JavaScript*, O'Reilly Media, 2024.
4. Nina Godbole and Sunit Belapure, *Cyber Security*, Wiley India, 2025.
5. Kogent Learning Solutions, *Web Technologies Black Book*, Dreamtech Press, 2024.
- 6.

E-RESOURCES:

1. <https://www.udemy.com/course/web-development/>
2. <https://www.coursera.org/learn/html-css-javascript-for-web-developers>
3. https://onlinecourses.nptel.ac.in/noc24_cs118/preview
4. <https://www.edx.org/learn/web-development>
5. https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array

COURSEOUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, architecture, and applications of web technologies.
- Apply web designing, web programming, and database connectivity techniques in organizations.
- Analyze web applications and dynamic websites for business operations.
- Evaluate web security, internet standards, and AI-enabled web technologies.
- Develop web-based business solutions and digital applications for organizational growth.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	2	-	-	-	2
CO2	3	2	3	2	2	3	1	-	-	2
CO3	2	2	3	3	3	2	1	-	-	3
CO4	2	1	3	2	2	3	1	2	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

SecondYear

GENERIC ELECTIVECOURSE

Semester-III

D:SYSTEMS

V-DECISION SUPPORT SYSTEM

Course Code:

(Theory)

Credit:3

COURSEOBJECTIVES:

- To understand the concepts, components, and significance of Decision Support Systems (DSS) in managerial decision-making.
- To develop knowledge on data management, model management, and information systems used in DSS.
- To analyze decision-making processes, business intelligence techniques, and analytical models in organizations.
- To understand group decision support systems, executive information systems, and knowledge-based systems.
- To apply AI-enabled decision support tools, data analytics, and digital technologies for effective managerial decision-making.

UNIT-I DECISION SUPPORT SYSTEM:

Decision concept – Steps – Decision Support System – Components – Characteristics – Clarifications and applications- Basics of AI-enabled decision support systems and intelligent business applications.

UNIT-II MODEL MANAGEMENT:

Modeling process – types of models – optimization simulation – Heuristic Descriptive – Predictive model case – modeling languages – model directory – model base management system model execution – integration and command processing – model package.

UNIT-III DATA MANAGEMENT SYSTEM:

Data Base – Sources of Data – Data directory – Data Structure and Data Base Language –Query Facility Data Management System – DBMS as DSS development Tool.

UNIT-IV DIALOG MANAGEMENT:

User Interface – Graphics – Multimedia – visual interactive modeling – natural language processing –speech recognition and understanding – Issues in user interface-AI-powered executive information systems and business intelligence tools.

UNIT-V DEVELOPMENT OF DECISION SUPPORT SYSTEM:

Development process – software and hardware – data Acquisition – Model acquisition – dialog development – Integration – Testing and validation – Training and Implementation.

UNIT-VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to – Practical: Studying Model Management and Data Management System – Mini project on dialog development, Integration, Testing and validation, Training and Implementation – Group discussion.

TEXTBOOKS:

1. Efraim Turban, Ramesh Sharda and Dursun Delen, *Decision Support and Business Intelligence Systems*, 11th Edition, Pearson, 2025.
2. George M. Marakas, *Decision Support Systems in the 21st Century*, Pearson Education, 2024.
3. S. Jain, *Management Information Systems and Decision Support Systems*, BPB Publications, 2024.
4. C.S.V. Murthy, *Management Information Systems*, Himalaya Publishing House, 2025.
5. Daniel J. Power, *Decision Support, Analytics and Business Intelligence*, Business Expert Press, 2024.

REFERENCES:

1. Laudon and Laudon, *Management Information Systems: Managing the Digital Firm*, Pearson, 2025.
2. Kenneth E. Kendall and Julie E. Kendall, *Systems Analysis and Design*, Pearson Education, 2024.
3. S. Sadagopan, *Management Information Systems*, PHI Learning, 2024.
4. Ralph Stair and George Reynolds, *Principles of Information Systems*, Cengage Learning, 2025.
5. Hossein Bidgoli, *Management Information Systems*, Cengage Learning, 2024.

E-RESOURCES:

1. <https://alison.com/course/models-for-decision-support-systems>
2. <https://www.coursera.org/lecture/business-intelligence-tools/decision-support-systems-video-lecture-E8P9x>
3. <https://www.classcentral.com/course/swayam-decision-support-system-for-managers-19837>
4. https://onlinecourses.nptel.ac.in/noc20_mg59/preview
5. <https://www.edx.org/learn/decision-making>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, components, and applications of Decision Support Systems.
- Apply data management and analytical models for managerial decision-making.
- Analyze business intelligence systems and organizational decision-making processes.
- Evaluate group decision support systems and AI-enabled decision-making technologies.
- Develop decision support solutions using analytics and digital information systems for business organizations.

COURSE ARTICULATION MATRIX

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	2	-	-	-	2
CO2	3	2	3	2	3	2	1	-	-	2
CO3	2	2	3	3	3	2	1	-	-	3
CO4	2	1	3	2	2	3	1	2	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

SecondYear

GENERIC ELECTIVECOURSE

Semester-IV

D:SYSTEMS

VI-SOFTWARE PROJECT MANAGEMENT

Course Code:

(Theory)

Credit:3

COURSEOBJECTIVES:

- To understand the concepts, principles, and importance of software project management in IT and business environments.
- To develop knowledge on software project planning, scheduling, budgeting, and resource management techniques.
- To analyze software development life cycle models, project risks, quality management, and team coordination practices.
- To understand software project monitoring, control mechanisms, and software maintenance strategies.
- To apply agile methodologies, AI-enabled project management tools, and digital technologies for successful software project execution.

UNIT-I SYSTEM ANALYSIS & DESIGN:

Overview of system analysis & Design: Introduction to different methodologies & Structured system analysis – Details of SDLC approach – E.R. diagrams – DFD concepts – Data dictionary concepts. Structure charts – modular programming – I/O & file design consideration - Entity Life histories (ELH).

UNIT-II SYSTEM IMPLEMENTATION:

System implementation & maintenance: Implementation Strategies–SW/ HW selection & procurement – Control & security – issues of designing & implementing on-line systems – data communication requirements – system conservation approaches & selection issues.

UNIT-III PROJECT DEVELOPMENT & DATA BASE DESIGN:

Introduction to Database technologies & CASE tools with specific packages – over view of relational model – Database creation – SQL command – Normalization – designing forms & reports – using CASE tools for system analysis & design-case studies–Cost/ benefit analysis – project & resource planning – design & development testing & documentation.

UNIT-IV SOFTWARE PROJECT MANAGEMENT:

Software project management: challenges & opportunities – changing technologies & approaches – choice development of methodologies & technical platforms, project management techniques – Agile and DevOps practices in software project development -monitoring the measurement of progress-Cloud-based collaboration tools and automated project tracking system.

UNIT-V SOFTWARE PROJECT MANAGEMENT:

Software project management – elements, cost estimation, manpower planning, Software & Product Metrics – Quality assurance & control – standards’& documentation – testing – implementation –training –technology management– quality standards –certificate –handling multiple projects, issues of share development- cyber security and ethical considerations in software project management.

UNIT-VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to – Practical: Studying System Analysis and Implementation–Mini project on Quality assurance & control, standards’& documentation – Group discussion.

TEXTBOOKS:

1. Bob Hughes, Mike Cotterell and Rajib Mall, *Software Project Management*, 7th Edition, McGraw Hill, 2025.
2. Walker Royce, *Software Project Management: A Unified Framework*, Pearson Education, 2024.
3. Pankaj Jalote, *Software Project Management in Practice*, Springer, 2025.
4. Kathy Schwalbe, *Information Technology Project Management*, 10th Edition, Cengage Learning, 2024.
5. Roger S. Pressman and Bruce R. Maxim, *Software Engineering: A Practitioner’s Approach*, McGraw Hill, 2025.

REFERENCES:

1. Hughes and Cotterell, *Software Project Management*, Tata McGraw Hill, 2024.
2. Joel Henry, *Software Project Management: A Real-World Guide to Success*, Pearson, 2025.
3. Clifford F. Gray and Erik W. Larson, *Project Management: The Managerial Process*, McGraw Hill, 2024.
4. PMI, *A Guide to the Project Management Body of Knowledge (PMBOK Guide)*, 8th Edition, Project Management Institute, 2025.
5. Ian Sommerville, *Software Engineering*, 11th Edition, Pearson Education, 2024.

E-RESOURCES:

1. <https://alison.com/course/introduction-to-software-project-management>
2. <https://www.classcentral.com/course/swayam-software-project-management-14294>
3. <https://www.edx.org/learn/project-management>
4. <https://www.coursera.org/courses?query=software%20project%20management>
5. <https://www.mygreatlearning.com/academy/learn-for-free/courses/project-management>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, phases, and methodologies of software project management.
- Apply software project planning, scheduling, budgeting, and resource management techniques.
- Analyze software project risks, quality management, and software development processes.
- Evaluate software project performance using agile methodologies and AI-enabled project management tools.
- Develop effective software project management strategies for successful project execution and organizational growth.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	2	-	-	-	2
CO2	3	2	3	2	3	2	1	-	-	2
CO3	2	2	3	3	3	2	1	-	-	3
CO4	2	1	3	2	2	3	1	2	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

SecondYear

**GENERIC ELECTIVECOURSE
D:SYSTEMS
VII-RELATIONAL DATABASE
MANAGEMENT SYSTEM**

Semester-IV

Course Code:

(Theory)

Credit:3

COURSEOBJECTIVES:

- To understand the concepts, structure, and significance of relational database systems in organizational information management.
- To develop knowledge on database design, normalization, SQL, and relational data models.
- To analyze database management techniques, transaction processing, and data integrity mechanisms.
- To understand database security, backup systems, recovery methods, and distributed database concepts.
- To apply modern database technologies, AI-enabled data management tools, and cloud database solutions for organizational decision-making

UNIT-I INTRODUCTION TO RDBMS AND ORACLE:

BasicconceptsofRelationalDataModel–IntroductiontoSQL–Normalization.Creatingtables – datatypes–datafunctions–conservationandtransformationfunctions–queriesand subqueries.

UNIT-II ADVANCED CONCEPTS OF ORACLE:

Changing data – advanced use of functions and variables – creating, dropping, altering tables and views –SQL(Structured Query Language) plus–accessing remote data–building reports – authority allocation – triggers and procedures. Data dictionary – design and performance issues-cloud databases and AI-enabled database systems.

UNIT-III INTRODUCTION TO VISUAL BASIC:

Introduction to basics – variable and values – drawing on the screen – building programs– adding menu bar – using array variable – building clock programs.

UNIT-IV BUILDING LARGER PROGRAMS:

Designing and building larger programs – address – book interfacing – working with multiple records-searching, printing, sorting and deleting–data management and control tool box for controls, forms, drawing fonts, and miscellaneous- AI assistant tools for building programs.

UNIT-V PROJECT DEVELOPMENT:

Selection of a Client / Server based application – design the project and tools – development using Oracle and Visual Basic – demo and review-Cyber security, block chain, and data privacy in database systems.

UNIT–VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to – Practical: Studying Designing and building larger programs - Mini project on development using Oracle and Visual Basic–Group discussion.

TEXTBOOKS:

1. Elmasri and Navathe, *Fundamentals of Database Systems*, 8th Edition, Pearson Education, 2025.
2. Abraham Silberschatz, Henry F. Korth and S. Sudarshan, *Database System Concepts*, 8th Edition, McGraw Hill, 2024.
3. C.J. Date, *An Introduction to Database Systems*, 9th Edition, Pearson, 2025.
4. Raghu Ramakrishnan and Johannes Gehrke, *Database Management Systems*, McGraw Hill, 2024.
5. Ivan Bayross, *SQL, PL/SQL: The Programming Language of Oracle*, BPB Publications, 2025.

REFERENCES:

1. Peter Rob and Carlos Coronel, *Database Systems: Design, Implementation and Management*, Cengage Learning, 2024.
2. Hector Garcia-Molina, Jeffrey Ullman and Jennifer Widom, *Database Systems: The Complete Book*, Pearson, 2025.
3. Ramez Elmasri and Shamkant Navathe, *Database Management Systems*, Pearson Education, 2024.
4. Thomas Connolly and Carolyn Begg, *Database Systems: A Practical Approach to Design, Implementation and Management*, Pearson, 2025.
5. Coronel and Morris, *Database Principles: Fundamentals of Design, Implementation and Management*, Cengage Learning, 2024.

E-RESOURCES:

1. <https://www.edx.org/learn/relational-databases>
2. <https://www.classcentral.com/course/relational-database-12430>
3. <https://www.coursera.org/learn/introduction-to-relational-databases>
4. <https://www.udacity.com/course/intro-to-relational-databases--ud197>
5. <https://www.mygreatlearning.com/academy/learn-for-free/courses/database-management-systems-dbms>

COURSE OUTCOMES:

On completion of this course, the students will be able to,

- Explain the concepts, structure, and applications of relational database systems.
- Apply database design, normalization, and SQL techniques in organizational data management.
- Analyze database transactions, integrity constraints, and database management processes.
- Evaluate database security, distributed databases, and AI-enabled database technologies.
- Develop database solutions and cloud-based data management systems for business applications.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	2	-	-	-	2
CO2	3	2	3	2	3	2	1	-	-	2
CO3	2	2	3	3	3	2	1	-	-	3
CO4	2	1	3	2	2	3	1	2	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

GENERIC ELECTIVE COURSE

Semester-IV

**D: SYSTEMS
VI- OBJECT ORIENTED PROGRAMMING
AND C++**

Course Code:

(Theory)

Credit:3

COURSE OBJECTIVES:

- To understand the concepts, principles, and applications of object-oriented programming using C++.
- To develop knowledge on classes, objects, inheritance, polymorphism, encapsulation, and abstraction techniques.
- To analyze program design, exception handling, file handling, and modular programming concepts in C++.
- To understand advanced object-oriented programming concepts and software development practices.
- To apply modern programming techniques, AI-assisted coding tools, and object-oriented solutions for software development and business applications.

UNIT-I INTRODUCTION:

Traditional Programming approaches –Straight– Run Programming & structured Programming techniques – Limitations of Traditional Approaches – Object Oriented Approach – Objects – Classes – Data encapsulation – Data abstraction – Inheritance – Code Reusability – Polymorphism – Object Oriented Languages.

UNIT-II OBJECT ORIENTED ANALYSIS AND DATA MODELING:

Object Oriented Analysis & Data Modeling – Object Oriented Concepts, Object Oriented Analysis Modeling – Object Oriented design concepts, object oriented design methods, class & object definition, refining operations, program components & interfaces.

UNIT-III DESIGNING OF OODS SYSTEMS:

Notation for OOD, Implementation detailed design, An Alternative Object Oriented Design strategy, integrating OOD with SA/SD-AI-assisted coding and intelligent programming environments.

UNIT-IV C++BASICS:

C++ Programming basics – classes & objects, constructor & destruction, Overloaded constructors, Access specifiers, static class data, Inheritance, Base Class & Derived class constructors, overriding member functions, class hierarchies, abstract base class, public & private inheritance, levels of inheritance, multiple inheritance.

UNIT-V ADVANCED CONCEPTS:

Polymorphism, operator overloading, Virtual functions, Dynamic or Late binding, abstract classes, virtual base classes, friend functions static functions, Templates classes, Programming development in C++ demonstration & presentation-Integration of APIs and cloud-based programming concepts in C++.

UNIT-VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to – Practical: Studying Object Oriented Analysis and Data Modeling – Mini project on Programming development in C++ demonstration & presentation – Group discussion.

TEXTBOOKS:

1. E. Balagurusamy, *Object Oriented Programming with C++*, 9th Edition, McGraw Hill, 2025.
2. Herbert Schildt, *C++: The Complete Reference*, 5th Edition, McGraw Hill, 2024.
3. Bjarne Stroustrup, *Programming: Principles and Practice Using C++*, 3rd Edition, Pearson Education, 2025.
4. Robert Lafore, *Object Oriented Programming in C++*, Pearson Education, 2024.
5. Yashavant Kanetkar, *Let Us C++*, BPB Publications, 2025.

REFERENCES:

1. Stanley B. Lippman, Josée Lajoie and Barbara Moo, *C++ Primer*, 6th Edition, Pearson, 2024.
2. Ashok N. Kamthane, *Object Oriented Programming with ANSI and Turbo C++*, Pearson Education, 2025.
3. Deitel and Deitel, *C++ How to Program*, Pearson Education, 2024.
4. John R. Hubbard, *Programming with C++*, Schaum's Outline Series, McGraw Hill, 2025.
5. Bjarne Stroustrup, *The C++ Programming Language*, 4th Edition, Addison-Wesley, 2024.

E-RESOURCES:

1. <https://www.udemy.com/course/object-oriented-programming-in-c-m/>
2. <https://www.freecodecamp.org/news/learn-object-oriented-programming-oop-in-c-full-video-course/>
3. <https://www.edx.org/course/object-oriented-programming>
4. <https://www.classcentral.com/course/c-object-oriented-design-59004>
5. <https://www.mygreatlearning.com/academy/learn-for-free/courses/oops-concepts-in-c>

COURSE OUTCOMES:

On completion of this course, the students will be able to,

- Explain the concepts, architecture, and applications of web technologies.
- Apply web designing, web programming, and database connectivity techniques in organizations.
- Analyze web applications and dynamic websites for business operations.
- Evaluate web security, internet standards, and AI-enabled web technologies.
- Develop web-based business solutions and digital applications for organizational growth.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	2	-	-	-	2
CO2	3	2	3	2	2	3	1	-	-	2
CO3	2	2	3	3	3	2	1	-	-	3
CO4	2	1	3	2	2	3	1	2	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

SecondYear

GENERIC ELECTIVECOURSE

Semester-IV

D:SYSTEMS

IX-BIG DATA ANALYTICS

Course Code:

(Theory)

Credit:3

COURSEOBJECTIVES:

- To understand the concepts, characteristics, and significance of big data analytics in business and organizational environments.
- To develop knowledge on big data technologies, data processing frameworks, and data management techniques.
- To analyze structured and unstructured data using analytical tools and visualization techniques.
- To understand predictive analytics, data mining, cloud computing, and business intelligence applications.
- To apply AI-enabled analytics tools, machine learning concepts, and big data solutions for organizational decision-making and digital transformation.

UNIT-I INTRODUCTION TO BIG DATA ANALYTICS & DATA SCIENCE:

What is big data-Why big data matters- Big data and business - Big data sources- Machine data Vs Human generated data -drivers of big data-Analytic data sets- Big data dimensions-Volume, variety and velocity- Industry examples of big data- impact of cloud computing- Evolving concept of Data Science-learning from knowing-agility- multidisciplinary focus- scale & convergence leading to Data Science-Data Scientist-How is a data scientist different from a Statistician

UNIT-II THEORIES AND METHODS:

The evolution of big data analytics- Look (Search, Indexing and Memory) - Listen (Streams, Information and Language, Analyzing Sentiment and Intent) –Learn(Classification, Clustering, and Mining, Information Extraction) - Connect (Reasoning: Logic and its Limits, Dealing with Uncertainty)- Predict: Forecasting, Neural Models, Deep Learning- Collaborative filtering- Large graph analysis-Text mining- Volume Trending- Influencer Identification- In-Memory Analytics

UNIT-III TECHNOLOGY AND TOOLS:

Big data storage and computation- Massive Data Analytics: parallel algorithms-online learning algorithms-locality sensitive hashing- Hadoop & Map Reduce Paradigms-CAP Theorem-Introduction to No SQL persistence layer and its importance to handle massive data- Types of No SQL databases -Column family, Graph, Name value pairs etc-H base / Cassandra/ Neo4js- Basic introduction to tools like R / Mahout / Giraffe-Building the big data capabilities- Security, compliance and auditing- data privacy and ethics

UNIT-IV BIG DATA ANALYTICS COMPONENTS:

Unsupervised feature learning and deep learning, Ontology, Similarity measures, Shingles and min hashing, Locality sensitive hashing, Dimension reduction, Streaming, Clustering in high Dimensional Space, Web link analysis, Graph search.

UNIT–V APPLICATIONS OF BIGDATA ANALYTICS:

Big data use in Digital Decoding consumer intent- decoding customer sentiments from comments- Big data use in Telecom and location based intelligence marketing- Applications in CPG-Big data use in Utility-banking and financial services- healthcare- Internet retail.

UNIT–VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the Course-Practical : Studying big data of two Indian corporate in the lime-light- Mini Project on big data- Group Discussions

TEXTBOOKS:

1. Seema Acharya and Subhasini Chellappan, *Big Data Analytics*, 3rd Edition, Wiley India, 2025.
2. Raj Kamal and Preeti Saxena, *Big Data Analytics: Introduction to Hadoop, Spark and Machine Learning*, McGraw Hill, 2024.
3. Anand Rajaraman and Jeffrey Ullman, *Mining of Massive Datasets*, Cambridge University Press, 2025.
4. Tom White, *Hadoop: The Definitive Guide*, 5th Edition, O'Reilly Media, 2024.
5. Jiawei Han, Micheline Kamber and Jian Pei, *Data Mining: Concepts and Techniques*, 4th Edition, Morgan Kaufmann, 2025.

REFERENCES:

1. Viktor Mayer-Schönberger and Kenneth Cukier, *Big Data: A Revolution That Will Transform How We Live, Work and Think*, Eamon Dolan Books, 2024.
2. EMC Education Services, *Data Science and Big Data Analytics*, Wiley, 2025.
3. Bill Franks, *Taming the Big Data Tidal Wave*, Wiley India, 2024.
4. Pete Warden, *Big Data Glossary*, O'Reilly Media, 2025.
5. David Loshin, *Big Data Analytics: From Strategic Planning to Enterprise Integration*, Morgan Kaufmann, 2024.

E-RESOURCES:

1. <https://www.mooc-list.com/course/introduction-big-data-coursera>
2. <https://www.coursera.org/projects/business-analysis-using-spreadsheets>
3. <https://www.coursera.org/learn/big-data-management?specialization=big-data>
4. https://onlinecourses.nptel.ac.in/noc24_cs95/preview
5. <https://www.edx.org/learn/data-science>

COURSEOUTCOMES:

On completion of this course, the students will be able to,

- Explain the concepts, characteristics, and applications of big data analytics.
- Apply big data technologies, data processing frameworks, and analytical tools in organizations.
- Analyze structured and unstructured data using visualization and business intelligence techniques.
- Evaluate predictive analytics, cloud computing, and AI-enabled big data technologies.
- Develop big data analytics solutions for organizational decision-making and digital transformation.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	2	-	-	-	2
CO2	3	2	3	2	3	2	1	-	-	2
CO3	2	2	3	3	3	2	1	-	-	3
CO4	2	1	3	2	2	3	1	2	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

GENERIC ELECTIVE COURSE

Semester-IV

D:SYSTEMS

**X -DATA WAREHOUSING AND DATA
MINING**

Course Code:

(Theory)

Credit:3

COURSEOBJECTIVES:

- To understand the concepts, architecture, and significance of data warehousing and data mining in organizational decision-making.
- To develop knowledge on data warehouse design, ETL processes, OLAP systems, and multidimensional data models.
- To analyze data mining techniques, classification, clustering, association rules, and pattern discovery methods.
- To understand business intelligence systems, predictive analytics, and data visualization techniques.
- To apply AI-enabled data mining tools, machine learning concepts, and data analytics solutions for business intelligence and organizational growth.

**UNIT – I DATA WAREHOUSING, BUSINESS ANALYSIS AND ON-LINE
ANALYTICAL PROCESSING (OLAP):**

Basic Concepts - Data Warehousing Components – Building a Data Warehouse – Database Architectures for Parallel Processing – Parallel DBMS Vendors- Multidimensional Data Model – Data Warehouse Schemas for Decision Support, Concept Hierarchies -Characteristics of OLAP Systems – Typical OLAP Operations, OLAP and OLTP.

UNIT–II DATA MINING–INTRODUCTION:

Introduction to Data Mining Systems – Knowledge Discovery Process – Data Mining Techniques – Issues – applications- Data Objects and attribute types, Statistical description of data, Data Pre- processing – Cleaning, Integration, Reduction, Transformation and discretization, Data Visualization, Data similarity and dissimilarity measures- Real-time ETL processing and big data integration techniques.

UNIT–III DATA MINING – FREQUENT PATTERN ANALYSIS:

Mining Frequent Patterns, Associations and Correlations – Mining Methods- Pattern Evaluation Method – Pattern Mining in Multilevel, Multi-Dimensional Space – Constraint Based Frequent Pattern Mining, Classification using Frequent Patterns-Machine learning applications in data mining

UNIT–IV CLASSIFICATION AND CLUSTERING:

Decision Tree Induction - Bayesian Classification – Rule Based Classification – Classification by Back Propagation – Support Vector Machines — Lazy Learners – Model Evaluation and Selection- Techniques to improve Classification Accuracy. Clustering Techniques – Cluster Analysis- Partitioning Methods - Hierarchical Methods – Density Based Methods - Grid Based Methods – Evaluation of clustering – Clustering high dimensional data- Clustering with constraints, Outlier analysis-outlier detection methods.

UNIT-V WEKATOOL:

Datasets –Introduction, Irisplants database ,Breast cancer database,Autoimports database-Introduction to WEKA, The Explorer – Getting started, Exploring the explorer, Learning algorithms, Clustering algorithms, Association–rule learners.

UNIT-VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to – Practical : Studying on Data Mining, Frequent Pattern Analysis and Frequent Pattern Analysis – Mini project on Learning algorithms and Clustering algorithms – Group discussion.

TEXTBOOKS:

1. Jiawei Han, Micheline Kamber and Jian Pei, *Data Mining: Concepts and Techniques*, 4th Edition, Morgan Kaufmann, 2025.
2. Alex Berson and Stephen J. Smith, *Data Warehousing, Data Mining and OLAP*, McGraw Hill, 2024.
3. Sam Anahory and Dennis Murray, *Data Warehousing in the Real World*, Pearson Education, 2025.
4. Paulraj Ponniah, *Data Warehousing Fundamentals*, Wiley India, 2024.
5. Arun K. Pujari, *Data Mining Techniques*, Universities Press, 2025.

REFERENCES:

1. Pang-Ning Tan, Michael Steinbach and Vipin Kumar, *Introduction to Data Mining*, Pearson Education, 2024.
2. Ralph Kimball and Margy Ross, *The Data Warehouse Toolkit*, Wiley, 2025.
3. K.P. Soman, Shyam Diwakar and V. Ajay, *Insight into Data Mining Theory and Practice*, PHI Learning, 2024.
4. Ian H. Witten, Eibe Frank and Mark Hall, *Data Mining: Practical Machine Learning Tools and Techniques*, Morgan Kaufmann, 2025.
5. Reema Thareja, *Data Warehousing and Data Mining*, Oxford University Press, 2024.

E-RESOURCES:

1. <https://www.edx.org/learn/data-warehouse>
2. https://www.vssut.ac.in/lecture_notes/lecture1428550844.pdf
3. <https://www.skillrary.com/data-warehousing-and-data-mining>
4. <https://www.coursera.org/courses?query=data%20warehouse>.
5. <https://www.udemy.com/topic/data-warehouse/>

COURSE OUTCOMES:

On completion of this course, the students will be able to,

- Explain the concepts, architecture, and applications of data warehousing and data mining systems.
- Apply data warehouse design, ETL processes, and OLAP techniques in organizational data management.
- Analyze data mining techniques such as classification, clustering, and association rule mining.
- Evaluate predictive analytics and AI-enabled data mining tools for business intelligence applications.
- Develop data analytics solutions for organizational decision-making and digital transformation.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	-	2	-	-	-	2
CO2	3	2	3	2	3	2	1	-	-	2
CO3	2	2	3	3	3	2	1	-	-	3
CO4	2	1	3	2	2	3	1	2	-	3
CO5	1	3	2	3	-	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

GENERIC ELECTIVE COURSE

Semester-III

E: OPERATIONS

I - SUPPLY CHAIN MANAGEMENT

Course Code:

(Theory)

Credit: 3

COURSE OBJECTIVES:

- To understand the concepts, scope, and significance of supply chain management in business organizations.
- To develop knowledge on supply chain design, logistics management, inventory management, procurement, and distribution systems.
- To analyze supplier relationships, transportation systems, warehouse management, and global supply chain operations.
- To understand supply chain analytics, digital supply chain systems, IoT applications, and AI-enabled supply chain management practices.
- To apply strategic supply chain management techniques for improving operational efficiency, customer satisfaction, and organizational competitiveness.

UNIT – I:

Supply Chain Management: Introduction and Development- Nature and Concept - Importance of Supply Chain - Value Chain - Components of Supply Chain - The Need for Supply Chain - Understanding the Supply Chain Management - Participants in Supply Chain – Global Applications- Introduction to Artificial Intelligence (AI) in Supply Chain Management; AI-enabled decision making and intelligent supply chain systems.

UNIT – II:

Flow Management and its importance-Management of material flow in the supply chain, Management of information flow, Management of cash flow and value flows, Customer Service strategy, Bench marking, best practices.

UNIT – III:

Customer relationship Management, Out-bound logistics resources planning and management, Quick response systems in Manufacturing.

UNIT – IV:

Management of in-bound logistics, E-supply chain, Role of a Manager in Supply Chain - Supply Chain Performance Drivers - Key Enablers in Supply Chain Improvement - Values of Supply Chain.

UNIT – V:

Bull Whip Effect and Supply Chain – Supply Chain Relationships – Conflict Resolution Strategies. Supply chain cost analysis. Supply chain performance measures. Issues in Global supply chain-AI applications in SCM documentation and reporting; Future trends in intelligent and autonomous supply chain

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the Supply Chain Management - Practical: Key Enablers in Supply Chain Improvement - Values of Supply Chain. - Group discussions and Case Study on E- supply chain

TEXT BOOKS:

1. Sunil Chopra and Peter Meindl, *Supply Chain Management: Strategy, Planning, and Operation*, 8th Edition, Pearson, 2023.
2. Donald J. Bowersox, David J. Closs, and M. Bixby Cooper, *Supply Chain Logistics Management*, 6th Edition, McGraw Hill, 2024.
3. Janat Shah, *Supply Chain Management: Text and Cases*, Pearson, 2024.
4. David Simchi-Levi, Philip Kaminsky, and Edith Simchi-Levi, *Designing and Managing the Supply Chain*, 4th Edition, McGraw Hill, 2023.
5. Sople Vinod V., *Logistics and Supply Chain Management*, Pearson, 2023.

REFERENCES:

1. Chopra, S. & Meindl, P. – *Supply Chain Management: Strategy, Planning and Operation*, Pearson, 2024 Edition
2. Sunil Chopra – *Supply Chain Management*, Pearson, 2023 Edition
3. Simchi-Levi et al. – *Designing and Managing the Supply Chain*, McGraw Hill, 2023 Edition
4. Ballou, Ronald – *Business Logistics/Supply Chain Management*, Pearson, 2024 Edition
5. Deloitte – *Global Supply Chain Trends Report*, 2025 Edition

E-RESOURCES:

1. <https://alison.com/courses/supply-chain-management>
2. <https://www.oxfordhomestudy.com/courses/supply-chain-courses-online/free-online-courses-in-logistics-and-supply-chain>
3. <https://www.oxfordhomestudy.com/courses/supply-chain-courses-online/free-online-courses-in-logistics-and-supply-chain>
4. <https://www.coursera.org/courses?query=supply%20chain>
5. <https://www.udemy.com/course/supply-chain-management-for-beginners/>

COURSE OUTCOMES:

On completion of this course, the students will be able to:

- Explain the concepts, scope, and significance of supply chain management in organizations.
- Apply logistics, procurement, inventory management, and distribution techniques in supply chain operations.
- Analyze supplier relationships, transportation systems, warehouse management, and global supply chain practices.
- Evaluate supply chain analytics, digital supply chain systems, Io T applications, and AI-enabled supply chain management tools for operational decision-making.
- Develop strategic supply chain management frameworks for improving operational efficiency and organizational competitiveness.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	1	1	-	-	-	2
CO2	3	2	3	2	2	2	2	-	-	2
CO3	2	2	3	3	2	2	2	1	-	3
CO4	2	1	3	2	3	3	1	-	2	3
CO5	3	3	2	3	2	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

GENERIC ELECTIVE COURSE

Semester-III

E: OPERATIONS

II- ADVANCED OPERATION RESEARCH

Course Code:

(Theory)

Credit: 3

COURSE OBJECTIVES:

- To understand the concepts, scope, and applications of advanced operations research techniques in managerial decision-making.
- To develop knowledge on linear programming, transportation models, assignment models, and network optimization techniques.
- To analyze inventory models, queuing theory, game theory, simulation models, and decision-making under uncertainty.
- To understand optimization software, business analytics tools, predictive modeling, and AI-enabled operations research applications.
- To apply advanced operations research techniques for solving complex business and operational problems effectively.

UNIT – I:

Non Linear Programming – Nonlinear programming problems of general nature – one variable unconstrained optimization Multi variable unconstrained optimization – Karush Kuhn Tucker (KKT) conditions for constrained optimization – its Applications in Management. Separable programming and its Applications in Management. Quadratic Programming – convex programming – geometric programming – Fractional programming and its Application in Management.

UNIT – II:

Markov chains – Formulation – Kolmogorov Equation – steady state conditions – Markov chain modelling through Graphs – communication networks – weighted diagraphs – classification of states of Markov chain – Long Run properties of Markov chains.

UNIT – III:

Integer Programming – Formulation – Branch and Bound Technique and its applications to Binary Integer Programming and Mixed Integer Programming – Branch and Cut Approach to solve Binary Integer Programming (BIP). Applications of BIP in the Areas of Investment Analysis, site selection, Designing a production and Distribution network, Dispatching shipments, scheduling and its interrelated activities.

UNIT – IV:

Dynamic Programming (DP) – Applications of DP in capital budgeting, Reliability Improvements, stage-coach, cargo loading, single machine scheduling, optimal sub – dividing – solving LPP using Dynamic programming Technique-Simulation using AI-driven operational scenarios and digital twins.

UNIT – V:

Network Models – Terminologies – shortest path model – minimum spanning tree problem - Maximal flow problem – Minimum cost flow problem. Replacement and maintenance Analysis – Types of Maintenance – Types of Replacement problem and decisions – Determination and problems of Economic life of an Asset-Industry 4.0 and AI-integrated operational research applications.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the Replacement and maintenance Analysis - Practical: Determination and problems of Economic life of an Asset.

TEXT BOOKS:

1. Hamdy A. Taha, *Operations Research: An Introduction*, 11th Edition, Pearson, 2023.
2. Frederick S. Hillier and Gerald J. Lieberman, *Introduction to Operations Research*, 11th Edition, McGraw Hill, 2023.
3. J.K. Sharma, *Operations Research: Theory and Applications*, 7th Edition, Macmillan Education, 2024.
4. Ravindran, Phillips, and Solberg, *Operations Research: Principles and Practice*, Wiley India, 2023.
5. Kanti Swarup, P.K. Gupta, and Man Mohan, *Operations Research*, Sultan Chand & Sons, 2024.

REFERENCES:

1. Hamdy A. Taha – *Operations Research: An Introduction*, Pearson, 2024 Edition
2. Hillier & Lieberman – *Introduction to Operations Research*, McGraw Hill, 2023 Edition
3. R. Pannerselvam – *Operations Research*, PHI, 2023 Edition
4. V. K. Kapoor – *Operations Research Techniques*, Sultan Chand, 2024 Edition
5. INFORMS – *Analytics & Optimization Report*, 2025 Edition

E-RESOURCES:

1. <https://www.coursera.org/learn/operations-research-modeling>
2. <https://www.edx.org/course/operations-research-an-active-approach>
3. <https://www.classcentral.com/course/swayam-operations-research-14219>
4. <https://www.mooc-list.com/tags/operations-research>
5. <https://freevideolectures.com/course/2678/advanced-operations-research>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, models, and applications of advanced operations research techniques in business decision-making.
- Apply linear programming, transportation, assignment, and network models for solving operational problems.
- Analyze inventory models, queuing systems, game theory, and simulation models under business uncertainty.
- Evaluate optimization software, predictive analytics, and AI-enabled operations research tools for managerial decision-making.
- Develop operations research models and optimization strategies for improving organizational efficiency and effectiveness.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	1	2	1	-	-	-	2
CO2	3	3	3	2	3	2	1	-	-	2
CO3	2	3	3	3	3	2	1	-	-	3
CO4	2	2	3	2	3	3	1	-	2	3
CO5	3	3	2	3	2	2	2	2	3	2

3-Strong 2-Medium 1-Low

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GENERIC ELECTIVE COURSE

Semester-III

E: OPERATIONS

III- MANAGEMENT CONTROL SYSTEMS

Course code:

(Theory)

Credit: 3

COURSE OBJECTIVES:

- To understand the concepts, scope, and significance of management control systems in organizations.
- To develop knowledge on planning and control processes, budgeting systems, responsibility accounting, and performance measurement techniques.
- To analyze financial controls, behavioural aspects of control systems, strategic control, and organizational performance management.
- To understand management information systems, business analytics, digital dashboards, and AI-enabled management control systems.
- To apply management control techniques for improving organizational efficiency, decision-making, and strategic performance.

UNIT – I:

Nature of Management control – Control in organisations – phases of management control system – Management control Vs Task control-Introduction to AI-enabled management control systems and intelligent business monitoring.

UNIT – II:

Control and organizational Behaviour – Types of organizations and their implications – Types of control and variations in controls based on organizational structure and design.

UNIT – III:

Goals and strategies – Key variables in Management control Design and their types – key Results
Areas-ERP systems and integrated reporting; Business analytics and data visualization;

UNIT – IV:

Management control structure – Expense control – profit centers – Transfer pricing –Investment centers – Management control process – Programming and budgeting – Analysing reporting – Performance evaluation-Block chain-enabled audit systems; Future of intelligent and autonomous management control systems.

UNIT – V:

M.I.S. for management control – Systems theory and management control – Installation of Management Information & Control System – Structured and unstructured decision – Implication for control .Special management control situations – Multinational companies – Service organization – Non-profit organizations – Multi–Project organization.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the Management Control Systems - Practical: Installation of Management Information & Control System - Group discussions and Case Study on Special management control situations.

TEXT BOOKS:

1. Robert N. Anthony, Vijay Govindarajan, Frank G. H. Hartmann, and Karel V. Peeters, *Management Control Systems*, 14th Edition, McGraw Hill, 2024.
2. Kenneth A. Merchant and Wim A. Van der Stede, *Management Control Systems: Performance Measurement, Evaluation and Incentives*, 5th Edition, Pearson, 2023.
3. D. Maciariello and Calvin Kirby, *Management Control Systems*, Pearson, 2023.
4. S.P. Gupta, *Management Control Systems*, Sultan Chand & Sons, 2024.
5. R.K. Sharma and Shashi K. Gupta, *Management Accounting and Control Systems*, Kalyani Publishers, 2023

REFERENCE BOOKS:

1. Robert N. Anthony & Vijay Govindarajan – *Management Control Systems*, McGraw Hill, 2024 Edition
2. Simons, Robert – *Levers of Control*, Harvard Business Press, 2023 Edition
3. Merchant & Van der Stede – *Management Control Systems*, Pearson, 2024 Edition
4. K. N. Shank & Govindarajan – *Strategic Cost Management*, Free Press, 2023 Edition
5. Harvard Business Review – *Performance Control & Strategy Execution Report*, 2025 Edition

E-RESOURCES:

1. <https://iversity.org/en/courses/controlling-a-critical-success-factor-in-a-globalised-world>
2. <https://www.edx.org/learn/operations-management>
3. <https://www.youtube.com/watch?v=Nxm91PWSkwI>
4. <https://www.gla.ac.uk/coursecatalogue/course/?code=ACCFIN4004>
5. <https://alison.com/tag/quality-management>

COURSE OUTCOMES:

On completion of this course, the students will be able to:

- Explain the concepts, principles, and significance of management control systems in organizations.
- Apply budgeting, responsibility accounting, and performance measurement techniques for managerial control.
- Analyze financial controls, behavioural aspects, and strategic control systems for organizational performance improvement.
- Evaluate management information systems, business analytics, digital dashboards, and AI-enabled control systems for decision-making.
- Develop effective management control frameworks for improving organizational efficiency and strategic performance.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	1	1	1	-	-	-	2
CO2	3	3	3	2	2	2	1	-	-	2
CO3	2	3	3	3	2	2	2	1	-	3
CO4	2	2	3	2	3	3	1	-	2	3
CO5	3	3	2	3	2	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE
COURSE**

Semester-III

**E: OPERATIONS
IV- MATERIALS MANAGEMENT**

Code:

(Theory)

Credit: 3

COURSE OBJECTIVES:

- To understand the concepts, scope, and significance of materials management in organizations.
- To develop knowledge on purchasing, inventory control, stores management, logistics, and material handling systems.
- To analyze vendor management, procurement strategies, warehousing practices, and supply chain coordination.
- To understand materials requirement planning, ERP systems, inventory analytics, and AI-enabled materials management practices.
- To apply materials management techniques for improving operational efficiency, cost control, and organizational productivity.

UNIT – I:

Material management-meaning, advantages. Codification. Purchase management- Objectives, Functions, responsibilities and duties of purchase department .8R's of Purchasing. Kardex system. Methods of purchasing. Buying procedure.

UNIT – II:

Scope of vendor development, stages in source selection, vendor rating- criteria, methods of rating.

UNIT – III:

Spare parts management- definition, classification of spares, problems and issues in spares management. Store keeping – types of stores, benefits, store location, store layout, principles in stores management.

UNIT – IV:

Definition, objectives of material handling, Importance, principles of material handling. symptoms of poor material handling, Material handling equipment, symbols, costs-AI-based demand forecasting and inventory optimization; Robotics in warehouse management.

UNIT – V:

Out sourcing, Make or buy decisions. Value engineering. Stores material accounting-Bin card, stores related ledgers. Recent development in material handling-AI and machine learning applications in materials planning and control;

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the Materials management - Practical: poor material handling, principles of material handling - Group discussions and Case Study on Store keeping.

TEXT BOOKS:

1. P. Gopalakrishnan and M. Sundaresan, *Materials Management: An Integrated Approach*, PHI Learning, 2024.
2. A.K. Datta, *Materials Management: Procedures, Text and Cases*, 3rd Edition, PHI Learning, 2023.
3. J.R. Tony Arnold, Stephen N. Chapman, and Lloyd M. Clive, *Introduction to Materials Management*, 9th Edition, Pearson, 2024.
4. S.A. Chunawalla and D.R. Patel, *Materials and Logistics Management*, Himalaya Publishing House, 2023.
5. K. Shridhara Bhat, *Materials Management*, Himalaya Publishing House, 2024.

REFERENCE BOOKS:

1. Chitale & Gupta – *Materials Management*, PHI Learning, 2023 Edition
2. A. K. Dutta – *Materials Management*, Pearson, 2024 Edition
3. S. N. Chary – *Production and Operations Management*, McGraw Hill, 2023 Edition
4. Tony Arnold et al. – *Introduction to Materials Management*, Pearson, 2024 Edition
5. NACM (National Association of Materials Management) – *Industry Report*, 2025 Edition

E-RESOURCES:

1. <https://www.udemy.com/course/materials-management-inventory-control/>
2. <https://www.classcentral.com/course/swayam-management-of-inventory-systems-17681>
3. <https://www.mygreatlearning.com/academy/learn-for-free/courses/inventory-management>
4. <https://www.materialsmanagement.info/materials-management-courses/index.htm>
5. <https://alison.com/course/applied-operations-management-inventory-models-revised>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, objectives, and significance of materials management in organizations.
- Apply purchasing, inventory control, stores management, and logistics techniques in business operations.
- Analyze vendor management, warehousing practices, procurement strategies, and supply chain coordination systems.
- Evaluate materials requirement planning, ERP systems, inventory analytics, and AI-enabled materials management practices for operational decision-making.
- Develop effective materials management strategies for improving cost control, operational efficiency, and organizational productivity.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	1	1	-	-	-	2
CO2	3	2	3	2	2	2	2	-	-	2
CO3	2	2	3	3	2	2	2	1	-	3
CO4	2	1	3	2	3	3	1	-	2	3
CO5	3	3	2	3	2	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE COURSE
E: OPERATIONS
V- MAINTENANCE MANAGEMENT**

Semester-III

Course Code:

(Theory)

Credit: 3

COURSE OBJECTIVES:

- To understand the concepts, objectives, and significance of maintenance management in industrial and service organizations.
- To develop knowledge on preventive maintenance, predictive maintenance, breakdown maintenance, and maintenance planning systems.
- To analyze maintenance scheduling, equipment reliability, replacement decisions, and maintenance cost control techniques.
- To understand computerized maintenance management systems (CMMS), IoT applications, maintenance analytics, and AI-enabled maintenance management practices.
- To apply maintenance management strategies for improving equipment efficiency, operational productivity, and organizational performance.

UNIT – I MAINTENANCE CONCEPTS:

Objectives and functions of Maintenance – Maintenance Strategies – Organization for Maintenance – Five Zero Concept

UNIT – II FAILURE DATA ANALYSIS:

MTBF, MTTF, Useful Life – Survival Curves – Failure Time distributions (Poisson, Exponential and Normal) - Repair Time Distribution – Maintainability Prediction – Design for Maintainability – Availability- predicting failure using data analytics.

UNIT – III MAINTENANCE PLANNING AND REPLACEMENT DECISION:

Overhaul and repair – meaning and difference – Optimal overhaul – Repair policies for equipment subject to break down – Spare parts management. Optimal interval between preventive replacement of equipment subject to break down, group replacement.

UNIT – IV MAINTENANCE POLICIES:

Fixed Time Maintenance – Condition based Maintenance. Operate to failure – Opportunity Maintenance – Design out maintenance.

UNIT – V RECENT TECHNIQUES:

Reliability Centered Maintenance (RCM) – Total Productive Maintenance (TPM) – Philosophy and implementation – Signature Analysis – CMMS – Concept of Tero technology – Reengineering Maintenance process.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the Maintenance Concepts - Practical: Total productive maintenance
-Group discussions on maintenance policies and Case Study on Emerging Trends.

TEXT BOOKS:

1. R.C. Mishra and K. Pathak, *Maintenance Engineering and Management*, PHI Learning, 2024.
2. B.S. Dhillon, *Engineering Maintenance: A Modern Approach*, CRC Press, 2023.
3. P. Gopalakrishnan and A.K. Banerji, *Maintenance and Spare Parts Management*, PHI Learning, 2024.
4. Kelly Anthony, *Maintenance Systems and Documentation*, Butterworth-Heinemann, 2023.
5. Srinath L.S., *Reliability Engineering*, East West Press, 2023.

REFERENCE BOOKS:

1. Mobley, R. K. – *Maintenance Engineering Handbook*, McGraw Hill, 2024 Edition
2. Duffuaa, Raouf & Campbell – *Planning and Control of Maintenance Systems*, Wiley, 2023 Edition
3. Wireman, Terry – *Total Productive Maintenance*, Industrial Press, 2023 Edition
4. Kelly, A. – *Maintenance Planning and Control*, Butterworth-Heinemann, 2024 Edition
5. World Economic Forum – *Smart Manufacturing & Maintenance Report*, 2025 Edition

E-RESOURCES:

1. <https://alison.com/course/facility-management-maintenance-and-repairs>
2. <https://www.oxfordhomestudy.com/courses/facilities-management-courses/free-facilities-management-courses-online>
3. <https://www.classcentral.com/course/swayam-bme-025-condition-monitoring-and-maintenance-management-32802>
4. <https://www.pemac.org/education/mmp-program>
5. <https://www.mooc-list.com/tags/maintenance>

COURSE OUTCOMES:

On completion of this course, the students will be able to:

- Explain the concepts, objectives, and significance of maintenance management in organizations.
- Apply preventive, predictive, and breakdown maintenance techniques for equipment management.
- Analyze maintenance scheduling, reliability systems, replacement decisions, and maintenance cost control methods.
- Evaluate computerized maintenance management systems, IoT applications, maintenance analytics, and AI-enabled maintenance practices for operational decision-making.
- Develop maintenance management strategies for improving equipment efficiency, operational productivity, and organizational effectiveness.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	2	-	1	1	-	-	-	2
CO2	3	2	3	2	2	2	2	-	-	2
CO3	2	2	3	3	2	2	2	1	-	3
CO4	2	1	3	2	3	3	1	-	2	3
CO5	3	3	2	3	2	2	3	2	3	2

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE
COURSE
E: OPERATIONS
VI- ROBUST DESIGN**

Semester-IV

Course Code:

(Theory)

Credit: 3

COURSE OBJECTIVES:

- To understand the concepts, principles, and significance of robust design in quality and operations management.
- To develop knowledge on quality engineering, parameter design, tolerance design, and experimental design techniques.
- To analyze process variability, product reliability, quality improvement methods, and Taguchi techniques for process optimization.
- To understand statistical quality control tools, design optimization software, data analytics, and AI-enabled robust design practices.
- To apply robust design techniques for improving product quality, process efficiency, and organizational performance.

UNIT – I INTRODUCTION:

Introduction to robust design - Robust Design and Experiments - Planning of experiments - Overview of quality by design - Quality loss function - ANOVA rationale -Single Factor Experiments.

UNIT – II FACTORIAL EXPERIMENTS:

Basic Definition and Principles - Two factor factorial design - tests on means - EMS rule - 2^K and 3^K factorial designs -Fractional factorial design.

UNIT – III SPECIAL EXPERIMENTAL DESIGNS:

Randomized blocks - Latin square design - Blocking and confounding - Response Surface Method - Nested designs.

UNIT – IV ORTHOGONAL EXPERIMENTS:

Comparison of classical and Taguchi' s approach - Selection and application of orthogonal arrays for design - Conduct of experiments -collection and analysis of simple experiments - modifying orthogonal arrays - multi-response data analysis.

UNIT – V MAKING THE DESIGN ROBUST:

Variability due to noise factors - classification of quality characteristics and parameters - objective functions - Parameter design - optimization using S/N ratios - attribute data analysis-Cyber-physical systems and intelligent manufacturing; Future trends in adaptive and autonomous design systems.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the Global Business Environment - Practical: Studying robust design methods followed in different Countries - Group discussions and Case Study on Emerging Trends of robust design.

TEXT BOOKS:

1. Genichi Taguchi, *Taguchi's Quality Engineering Handbook*, Wiley, 2023.
2. Madhav S. Phadke, *Quality Engineering Using Robust Design*, Pearson, 2023.
3. D.H. Stamatis, *Six Sigma and Beyond: Design for Six Sigma*, CRC Press, 2024.
4. Douglas C. Montgomery, *Design and Analysis of Experiments*, 11th Edition, Wiley, 2023.
5. Raymond H. Myers, Douglas C. Montgomery, and Christine M. Anderson-Cook, *Response Surface Methodology*, Wiley, 2023.

REFERENCE BOOKS:

1. Genichi Taguchi – *Taguchi Methods for Quality Engineering*, McGraw Hill, 2023 Edition
2. Phadke, Madhav – *Quality Engineering Using Robust Design*, Prentice Hall, 2024 Edition
3. Roy, Ranjit – *Design of Experiments Using Taguchi Approach*, Wiley, 2023 Edition
4. Montgomery, Douglas – *Design and Analysis of Experiments*, Wiley, 2024 Edition
5. ASQ (American Society for Quality) – *Quality Engineering Report*, 2025 Edition

E-RESOURCES:

1. <https://alison.com/course/six-sigma-introduction-to-taguchi-methods-and-robust-design-revised-2018>
2. <https://www.coursera.org/lecture/response-surfaces-mixtures-model-building/robust-design-iZlxB>
3. <https://www.classcentral.com/course/swayam-quality-design-and-control-10034>
4. <https://www.edx.org/course/product-design-prototyping-testing>
5. https://www.researchgate.net/publication/347858318_Taguchi_Method_as_a_Robust_Design_Tool

COURSE OUTCOMES:

On completion of this course, the students will be able to:

- Explain the concepts, principles, and significance of robust design in quality management.
- Apply quality engineering, parameter design, and experimental design techniques for process improvement.
- Analyze process variability, reliability systems, and Taguchi methods for quality optimization.
- Evaluate statistical quality control tools, data analytics, and AI-enabled robust design practices for operational decision-making.
- Develop robust design strategies for improving product quality, operational efficiency, and organizational performance.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	1	1	1	-	-	-	2
CO2	3	3	3	2	3	2	1	-	-	2
CO3	2	3	3	3	3	2	1	-	-	3
CO4	2	2	3	2	3	3	1	-	2	3
CO5	3	3	2	3	2	2	2	2	3	2

3-Strong 2-Medium 1-Low

Second Year

GENERIC ELECTIVE COURSE

Semester-IV

E: OPERATIONS

VII- LEAN MANUFACTURING

Code:

(Theory)

Credit: 3

COURSE OBJECTIVES:

- To understand the concepts, principles, and significance of lean manufacturing in modern production systems.
- To develop knowledge on waste elimination, continuous improvement, Just-in-Time (JIT), Kaizen, and value stream mapping techniques.
- To analyze lean tools, production flow systems, quality improvement methods, and operational efficiency practices.
- To understand lean analytics, Industry 4.0 technologies, digital manufacturing systems, and AI-enabled lean manufacturing practices.
- To apply lean manufacturing techniques for improving productivity, quality, cost reduction, and organizational competitiveness.

UNIT – I:

Evolution of lean thinking – Craftsman era, Mass Production era and Lean thinking.

UNIT – II:

Lean Principles: The value - Value stream mapping – Flow – Pull - Perfection-AI-assisted workflow optimization; Intelligent automation and smart process mapping tools.

UNIT – III:

From thinking to action: Lean Leap Tool – Kit - TQM Concepts and Tools – QFD, FMEA Robust Design concepts; SPC, QC circles and KAIZEN approaches Six – Sigma philosophy and Methodologies - Cellular Layouts.

UNIT – IV:

Creating Lean Enterprise – Organization and Implementation steps. - Examples from Manufacturing Industries. - Examples from service Industries and Software Industry.

UNIT – V:

The Future – Lean Network, 5-S, Workplace organization, Total Productive Maintenance, Process mapping/ Value stream mapping, Work cell. Objective and benefits of Secondary lean tool, Cause and Effect diagram, Pareto chart, Spider chart, Poka yoke, Kanban, Automation, Single minute exchange of die (SMED), Design for manufacturing and assembly, Just in time (JIT), Visual workplace, OEE

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the lean manufacturing - Practical: Studying total quality management- Group discussions and Case Study on Emerging Trends of Manufacturing Industries.

TEXT BOOKS:

1. James P. Womack and Daniel T. Jones, *Lean Thinking*, 2nd Edition, Simon & Schuster, 2023.
2. Jeffrey K. Liker, *The Toyota Way*, 3rd Edition, McGraw Hill, 2024.
3. Dennis P. Hobbs, *Lean Manufacturing Implementation*, J. Ross Publishing, 2023.
4. Michael L. George, *Lean Six Sigma*, McGraw Hill, 2023.
5. William M. Feld, *Lean Manufacturing: Tools, Techniques and How to Use Them*, CRC Press, 2024.

REFERENCE BOOKS:

1. Womack & Jones – *Lean Thinking*, Free Press, 2023 Edition
2. Jeffrey Liker – *The Toyota Way*, McGraw Hill, 2024 Edition
3. Mike Rother – *Toyota Kata*, McGraw Hill, 2023 Edition
4. James Womack – *Lean Solutions*, Simon & Schuster, 2024 Edition
5. Lean Enterprise Institute – *Global Lean Report*, 2025 Edition

E-RESOURCES:

1. <https://www.coursera.org/courses?query=lean%20manufacturing>
2. <https://www.edx.org/course/lean-production>
3. <https://www.classcentral.com/course/edx-lean-production-8447>
4. <https://leanscape.io/courses/lean-six-sigma-certification-free/>
5. <https://www.mooc-list.com/tags/lean-manufacturing>

COURSE OUTCOMES:

On completion of this course, the students will be able to

- Explain the concepts, principles, and significance of lean manufacturing systems.
- Apply lean tools, Kaizen, Just-in-Time, and value stream mapping techniques for process improvement.
- Analyze waste elimination methods, production flow systems, and quality improvement practices in manufacturing operations.
- Evaluate lean analytics, digital manufacturing systems, Industry 4.0 technologies, and AI-enabled lean manufacturing practices for operational decision-making.
- Develop lean manufacturing strategies for improving productivity, quality, cost efficiency, and organizational competitiveness.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	1	1	1	-	-	-	2
CO2	3	3	3	2	3	2	1	-	-	2
CO3	2	3	3	3	3	2	1	-	-	3
CO4	2	2	3	2	3	3	1	-	2	3
CO5	3	3	2	3	2	2	2	2	3	2

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE
COURSE**

Semester-IV

E: OPERATIONS

VIII- WORLD CLASS MANUFACTURING

Course Code:

(Theory)

Credit: 3

COURSE OBJECTIVES:

- To understand the concepts, principles, and significance of world class manufacturing in global business environments.
- To develop knowledge on advanced manufacturing systems, quality management, lean production, Just-in-Time (JIT), and total productive maintenance practices.
- To analyze productivity improvement techniques, supply chain integration, benchmarking, and continuous improvement practices.
- To understand Industry 4.0 technologies, smart manufacturing systems, manufacturing analytics, and AI-enabled world class manufacturing practices.
- To apply world class manufacturing strategies for achieving operational excellence, global competitiveness, and sustainable organizational growth.

UNIT – I STRATEGIC DECISIONS IN MANUFACTURING MANAGEMENT:

Choice of Technology, Capacity - Layout / Automation in Material handling systems - Emerging trends

UNIT – II AGGREGATE PLANNING AND MASTER PRODUCTION SCHEDULING

Materials Requirement Planning (MRP) - Manufacturing Resources Planning (MRP – II) - Implementation Problems / Indian experience

UNIT – III REVIEW OF OPERATIONS SCHEDULING PROCESS:

Job Shop Scheduling - Batch Production Scheduling - Flow Production Line Balancing

UNIT – IV JUST-IN-TIME SYSTEMS:

Pull System – Use of Kanban - JIT Purchase – Source Development, Buyer – seller relations - Indian Experience

UNIT – V TOTAL PRODUCTIVE MAINTENANCE:

Objective of TPM – Total System effectiveness- Break-down maintenance- Preventive Maintenance -Productive Maintenance Predictive Maintenance - Condition Monitoring System - Maintenance Prevention - Maintainability Improvement - Reliability Improvement - Total Employee Involvement and Small Group Activities.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the Global manufacturing management - Practical: Studying Materials Requirement Planning in different Countries - Group discussions and Case Study on Emerging Trends.

TEXT BOOKS:

1. Richard J. Schonberger, *World Class Manufacturing: The Next Decade*, Free Press, 2023.
2. K.C. Arora and Shinde, *World Class Manufacturing Systems*, Lakshmi Publications, 2024.
3. Sahay B.S., Saxena K.B.C., and Ashish Kumar, *World Class Manufacturing Practices*, Macmillan Education, 2023.
4. S. Anil Kumar and N. Suresh, *Production and Operations Management*, New Age International Publishers, 2024.
5. Mikell P. Groover, *Automation, Production Systems, and Computer-Integrated Manufacturing*, 5th Edition, Pearson, 2023.

REFERENCES:

1. Schonberger, Richard – *World Class Manufacturing*, Free Press, 2023 Edition
2. Hayes & Wheelwright – *Restoring Our Competitive Edge*, Wiley, 2024 Edition
3. CIM (Chartered Institute of Manufacturing) – *Industry 4.0 & WCM Report*, 2025 Edition
4. JIT & Manufacturing Excellence Reports, McKinsey, 2024 Edition
5. Slack, Nigel – *Operations Management*, Pearson, 2024 Edition

E-RESOURCES:

1. <https://alison.com/course/manufacturing-strategy-achieving-world-class-manufacturing>
2. <https://www.udemy.com/course/world-class-manufacturing-lean-thinking/>
3. <https://www.ed.youth4work.com/Course/288-World-Class-Manufacturing-Online-Course>
4. <https://www.careers360.com/courses-certifications/vskills-certified-world-class-manufacturing-practices-manager-course>
5. <https://www.toolingu.com/training/online>

COURSE OUTCOMES:

On completion of this course, the students will be able to:

- Explain the concepts, principles, and significance of world class manufacturing systems.
- Apply advanced manufacturing practices, lean systems, quality management, and Just-in-Time techniques for operational improvement.
- Analyze productivity improvement methods, supply chain integration, benchmarking, and continuous improvement practices.
- Evaluate Industry 4.0 technologies, smart manufacturing systems, manufacturing analytics, and AI-enabled manufacturing practices for operational decision-making.
- Develop world class manufacturing strategies for achieving operational excellence and global competitiveness

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	1	1	1	-	-	-	2
CO2	3	3	3	2	3	2	1	-	-	2
CO3	2	3	3	3	3	2	1	-	-	3
CO4	2	2	3	2	3	3	1	-	2	3
CO5	3	3	2	3	2	2	2	2	3	2

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE COURSE
E: OPERATIONS
IX- TOTAL QUALITY MANAGEMENT**

Semester-IV

Course Code:

(Theory)

Credit: 3

COURSE OBJECTIVES:

- To understand the concepts, principles, and significance of Total Quality Management (TQM) in organizations.
- To develop knowledge on quality planning, quality assurance, quality control, continuous improvement, and customer satisfaction practices.
- To analyze quality tools, statistical process control, benchmarking, Six Sigma, and quality improvement techniques.
- To understand quality information systems, quality analytics, Industry 4.0 technologies, and AI-enabled total quality management practices.
- To apply TQM principles and quality management strategies for improving organizational performance, productivity, and customer satisfaction.

UNIT – I:

Total quality Management – Definition – Scope of TQM. Dimensions and ingredients of quality, Dimensions of product quality, Dimensions of service quality. TQM Framework - Contributions of Deming, Juran and Crosby.

UNIT – II:

Steps in implementing TQM. Advantages, Limitations and barriers to TQM Implementation. TQC-Meaning, factors affecting TQC.

UNIT – III:

Strategic tools for TQM – Bench Marking, Business Process Reengineering, Six sigma, JIT, QFD, Taguchi's quality engineering, Failure mode and Effect analysis. Poka yoke.

UNIT – IV:

Quality Education, process, quality system – quality objectives and quality policy – quality planning – quality information feedback. TQM Culture. Quality circles. Quality audits.

UNIT – V:

The ISO 9000 SERIES, Need for ISO 9000- ISO 9000-2000, Process of obtaining ISO Certification, Advantages of ISO certification, New version of ISO standards. Documentation, ISO 14000 – Concepts, Requirements and Benefits.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the quality system of different countries- Practical: Studying TQM Culture in different Countries - Group discussions and Case Study on Quality audits.

TEXT BOOKS:

1. Dale H. Besterfield, *Total Quality Management*, 4th Edition, Pearson, 2024.
2. Poornima M. Charantimath, *Total Quality Management*, 4th Edition, Pearson, 2023.
3. John S. Oakland, *Total Quality Management and Operational Excellence*, 5th Edition, Routledge, 2024.
4. Subburaj Ramasamy, *Total Quality Management*, McGraw Hill, 2023.
5. James R. Evans and William M. Lindsay, *Managing for Quality and Performance Excellence*, 12th Edition, Cengage Learning, 2023.

REFERENCES:

1. Juran, Joseph – *Juran's Quality Handbook*, McGraw Hill, 2024 Edition
2. Deming, W. Edwards – *Out of the Crisis*, MIT Press, 2023 Edition
3. Besterfield, Dale – *Total Quality Management*, Pearson, 2024 Edition
4. Oakland, John – *TQM: Text with Cases*, Routledge, 2023 Edition
5. ISO (International Organization for Standardization) – *Quality Management Standards Report*, 2025 Edition

E-RESOURCES:

1. <https://alison.com/course/understanding-cost-of-quality-and-tqm-tools-revised-2018>
2. <https://www.coursera.org/lecture/supply-chain-management/total-quality-management-wLrvy>
3. https://onlinecourses.nptel.ac.in/noc20_mg34/preview
4. <https://www.udemy.com/course/total-quality-management-tqm-certification/>
5. <https://www.mygreatlearning.com/academy/learn-for-free/courses/quality-management>

COURSE OUTCOMES:

On completion of this course, the students will be able to:

- Explain the principles, concepts, and importance of Total Quality Management in organizational performance.
- Apply quality improvement tools, techniques, and statistical methods for process improvement and problem-solving.
- Analyze customer satisfaction, quality costs, benchmarking, and continuous improvement practices in business organizations.
- Evaluate quality management systems, ISO standards, Six Sigma, Lean practices, and AI-enabled quality monitoring techniques.
- Develop effective quality management strategies for operational excellence, sustainability, and organizational competitiveness.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	1	1	1	-	-	-	2
CO2	3	3	3	2	3	2	1	-	-	2
CO3	2	3	3	3	3	2	1	-	-	3
CO4	2	2	3	2	3	3	1	-	2	3
CO5	3	3	2	3	2	2	2	2	3	2

3-Strong 2-Medium 1-Low

Second Year

**GENERIC ELECTIVE COURSE
E: OPERATIONS
X- BUSINESS PROCESS MANAGEMENT**

Semester-IV

Course Code:

(Theory)

Credit: 3

COURSE OBJECTIVES:

- To understand the concepts, scope, and significance of business process management in organizations.
- To develop knowledge on process design, process mapping, workflow analysis, and process improvement techniques.
- To analyze business process reengineering, operational efficiency, quality management, and organizational performance improvement practices.
- To understand process automation, ERP systems, business analytics, robotic process automation (RPA), and AI-enabled business process management practices.
- To apply business process management strategies for improving organizational productivity, efficiency, and customer satisfaction.

UNIT – I INTRODUCTION:

Definition, need and importance of business process management - Scope and evolution – core elements of business process management – Business process lifecycle – Business process classification – evolution of process architecture – work flow management.

UNIT – II: PROCESS MODELLING:

Concepts and terminologies –six sigma and business process management - business process model abstraction – activity models, process models, process – models, instances and interactions, process orchestrations – control flow patterns – Petri Nets - event process chains – workflow nets – work flow languages – graph based – semantic business process management – business process modeling notation-AI-assisted process mapping and intelligent workflow design; Automation opportunities in business processes.

UNIT –III PROCESS CHOREOGRAPHY & QUALITY MANAGEMENT:

Terminologies – development phases – design – implementation – choreography modeling in BPMN – properties of business process – data dependencies – object life cycle conformance – soundness – structural – relaxed – weak – lazy – soundness criteria – business process quality management.

UNIT – IV ARCHITECTURES AND METHODOLOGIES:

Workflow management – flexible workflow – resource driven workflow – service enabled process management – service oriented architecture – BPM and semantic interoperability – dependencies between processes – methodology – phases.

UNIT – V BPM AND GOVERNANCE:

Business process governance – BPM governance – process of BPM – business process standardization – expertise in BPM – BPM curriculum - dealing human driven process – knowledge engineering in BPM -cultural change in process management.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary issues Related to the Global Business Environment - Practical: Studying Business process management of Different Countries - Group discussions and Case Study on Emerging Trends.

TEXT BOOKS:

1. Mathias Weske, *Business Process Management: Concepts, Languages, Architectures*, 3rd Edition, Springer, 2023.
2. Marlon Dumas, Marcello La Rosa, Jan Mendling, and Hajo A. Reijers, *Fundamentals of Business Process Management*, 3rd Edition, Springer, 2024.
3. Paul Harmon, *Business Process Change*, 4th Edition, Morgan Kaufmann, 2023.
4. Jeston John and Johan Nelis, *Business Process Management: Practical Guidelines to Successful Implementations*, 4th Edition, Routledge, 2024.
5. S. Parthasarathy, *Business Process Management*, Wiley India, 2023.

REFERENCES:

1. Dumas, La Rosa, Mendling & Reijers – *Fundamentals of Business Process Management*, Springer, 2024 Edition
2. Hammer, Michael – *Reengineering the Corporation*, Harper Business, 2023 Edition
3. Jeston & Nelis – *Business Process Management*, Routledge, 2023 Edition
4. Harmon, Paul – *Business Process Change*, Morgan Kaufmann, 2024 Edition
5. Gartner Research – *Business Process Automation & AI Report*, 2025 Edition

E-RESOURCES:

1. <https://alison.com/course/diploma-in-business-process-management-revised>
2. <https://www.mygreatlearning.com/academy/learn-for-free/courses/business-process-management>
3. <https://www.udemy.com/course/business-process-management-course-by-flokzu/>
4. <https://www.coursera.org/lecture/organization/introduction-to-business-process-management-mVpmo>
5. <https://www.mooc-list.com/tags/business-process-management>

COURSE OUTCOMES:

On completion of this course, the students will be able to:

- Explain the concepts, principles, and significance of business process management in organizations.
- Apply process mapping, workflow analysis, and process improvement techniques in business operations.
- Analyze business process reengineering, quality management, and operational efficiency practices for organizational improvement.
- Evaluate process automation systems, ERP applications, business analytics, robotic process automation, and AI-enabled BPM practices for managerial decision-making.
- Develop business process management strategies for improving organizational productivity, efficiency, and customer satisfaction.

COURSE ARTICULATION MATRIX:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	1	1	1	-	-	-	2
CO2	3	3	3	2	3	2	1	-	-	2
CO3	2	3	3	3	3	2	1	-	-	3
CO4	2	2	3	2	3	3	1	-	2	3
CO5	3	3	2	3	2	2	2	2	3	2

3-Strong 2-Medium 1-Low

Second Year

PROJECT WORK

Semester-IV

Course Code:

Credit: 6

Project Work

Each student must undertake a project in the final semester and submit a report. The authenticity of the work must be certified by the Supervisor, Director/Coordinator of the Centre, or Head of the Department. The final report will be evaluated jointly by the Supervisor and an External Examiner appointed by the University specifically for this purpose. Finally, a Viva Voce examination will be conducted jointly by the Supervisor and the External Examiner. The marks will be awarded, carrying a weightage of 25 marks for Viva Voce performance and 75 marks for the Project report.

Second Year

VALUE ADDED COURSE—II
AI FOR BUSINESS DECISION MAKING

Semester-IV

Code:

(Theory)

Credit: 2*

COURSE OBJECTIVES:

- To understand the concepts, fundamentals and significance of Artificial Intelligence in business decision-making processes.
- To examine AI tools, machine learning applications and data-driven systems used in business organizations.
- To analyze AI applications in marketing, finance, human resource management and operations management.
- To evaluate AI-enabled business analytics, decision support systems and automation technologies for organizational effectiveness.
- To understand ethical issues, emerging AI technologies and future trends in AI-driven business environments.

UNIT I – Introduction to Artificial Intelligence in Business

Concept, meaning, scope and significance of Artificial Intelligence – Evolution of AI – Types of AI – AI technologies in business organizations – AI-enabled business transformation – Role of AI in healthcare management – Applications of AI in managerial decision-making.

UNIT II – AI Tools and Data-driven Decision Making

Machine Learning concepts for managers – Generative AI tools (ChatGPT, Gemini, Copilot) – AI-powered business applications – Data collection and business intelligence – Data-driven decision-making systems – AI and predictive analytics – AI-based customer insights and forecasting techniques.

UNIT III – Functional Applications of AI in Business

AI applications in Marketing Management – AI in Financial Management and forecasting – AI applications in Human Resource Management – AI in Operations and Supply Chain Management – AI-enabled customer relationship management – Healthcare AI applications in hospital administration and patient services.

UNIT IV – AI-enabled Business Analytics and Automation

Business analytics and visualization tools – AI dashboards and decision support systems – Robotic Process Automation (RPA) – Intelligent process automation – AI in strategic business decision-making – Cloud-based AI systems – AI-driven operational efficiency and productivity enhancement.

UNIT V – Ethical AI and Emerging Trends

Ethical issues in Artificial Intelligence – Responsible AI practices – AI governance and cyber security – Social and legal implications of AI – AI for sustainable business practices – Emerging trends in AI technologies – Future of AI in healthcare and business organizations

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment only):

Contemporary Developments Related to Stock Market – Studying Different trading systems and stock market indices – Mini project on IPOs - Group Discussion.

TEXT BOOKS:

1. Kapoor, A. & Kaufman, J., *Practical Artificial Intelligence for Business*, 2nd Edition, Wiley, 2024.
2. Marr, B., *Artificial Intelligence in Practice*, 2nd Edition, Wiley, 2024.
3. Shalev-Shwartz, S. & Ben-David, S., *Understanding Machine Learning: From Theory to Algorithms*, Updated Edition, Cambridge University Press, 2025.
4. Russell, S. & Norvig, P., *Artificial Intelligence: A Modern Approach*, 5th Edition, Pearson Education, 2025.
5. Davenport, T. & Ronanki, R., *AI for Business: A Roadmap for Executives*, Harvard Business Review Press, 2024.

REFERENCES:

1. Mollick, E., *Co-Intelligence: Living and Working with AI*, Portfolio Publications, 2024.
2. Agrawal, A., Gans, J. & Goldfarb, A., *Prediction Machines: The Simple Economics of Artificial Intelligence*, Updated Edition, Harvard Business Review Press, 2024.
3. Brynjolfsson, E. & McAfee, A., *The Business of Artificial Intelligence*, W.W. Norton, 2023.
4. Nilsson, N., *The Quest for Artificial Intelligence*, Updated Edition, Cambridge University Press, 2023.
5. Boucher, P., *Artificial Intelligence: How Does It Work, Why Does It Matter, and What Can We Do About It?*, Oxford University Press, 2024.

E-RESOURCES:

1. <https://www.coursera.org/learn/ai-for-everyone>
2. <https://www.udemy.com/topic/artificial-intelligence>
3. <https://www.coursera.org/specializations/business-analytics>
4. <https://onlinecourses.swayam2.ac.in>
5. <https://www.edx.org/learn/artificial-intelligence>

COURSE OUTCOMES:

On completion of this course, the students will be able to:

- Explain the concepts, significance and applications of Artificial Intelligence in business decision-making.
- Apply AI tools, machine learning concepts and data-driven systems for managerial decision-making.
- Analyze AI applications in marketing, finance, HR and operations for improving organizational performance.
- Evaluate AI-enabled business analytics, automation and decision support systems in organizations.
- Examine ethical issues, sustainability aspects and emerging trends in AI-driven business environments.

COURSE ARTICULATION MATRIX:

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

3-Strong 2-Medium 1-Low
