University of Mumbai

वेबसाईट – mu.ac.in
ईमेल - आपडी - dr.aams@fort.mu.ac.in
aams3@mu.ac.in

विद्याविषयक प्राधिकरणे
सभा आणि सेवा विभाग(ए.ए.एम.एस)
रूम नं. १२८ एम.जी.रोड, फोर्ट,
मुंबई – ४०० ०३२
टेलिफोन नं - ०२२ - ६८३२००३३

(नॅक पुनर्मूल्यांकनाद्वारे ३.६५ (सी.जी.पी.ए.) सह अ++ श्रेणी
विद्यापीठ अनुदान आयोगाद्वारे श्रेणी १ विद्यापीठ वर्जा)

क.वि.प्रा.स.से./आयसीडी/२०२५-२६/३७ दिनांक : २७ मे, २०२५

परिपत्रक:-

सर्व प्राचार्य/संचालक, संलग्नित महाविद्यालये/संस्था, विद्यापीठ शैक्षणिक विभागांचे संचालक/ विभाग प्रमुख यांना कळविण्यात येते की, राष्ट्रीय शैक्षणिक धोरण २०२० च्या अमंलबजावणीच्या अनुषंगाने **शैक्षणिक वर्ष २०२५-२६** पासून **पदवी व पदव्युत्तर अभ्यासक्रम** विद्यापरिषदेच्या दिनांक २८ मार्च २०२५ व २० मे, २०२५ च्या बैठकीमध्ये मंजूर झालेले सर्व अभ्यासक्रम मुंबई विद्यापीठाच्या www.mu.ac.in या संकेत स्थळावर NEP २०२० या टॅब वर उपलब्ध करण्यात आलेले आहेत.

(डॉ. प्रसाद कारंडे)
कुलसचिव

मुंबई – ४०० ०३२
२७ मे, २०२५

Copy forwarded for information and necessary action to :-	
1	The Deputy Registrar, (Admissions, Enrolment, Eligibility and Migration Dept)(AEM), dr@eligi.mu.ac.in
2	The Deputy Registrar, Result unit, Vidyanagari drresults@exam.mu.ac.in
3	The Deputy Registrar, Marks and Certificate Unit,. Vidyanagari dr.verification@mu.ac.in
4	The Deputy Registrar, Appointment Unit, Vidyanagari dr.appointment@exam.mu.ac.in
5	The Deputy Registrar, CAP Unit, Vidyanagari cap.exam@mu.ac.in
6	The Deputy Registrar, College Affiliations & Development Department (CAD), deputyregistrar.uni@gmail.com
7	The Deputy Registrar, PRO, Fort, (Publication Section), Pro@mu.ac.in
8	The Deputy Registrar, Executive Authorities Section (EA) eau120@fort.mu.ac.in He is requested to treat this as action taken report on the concerned resolution adopted by the Academic Council referred to the above circular.
9	The Deputy Registrar, Research Administration & Promotion Cell (RAPC), rapc@mu.ac.in
10	The Deputy Registrar, Academic Appointments & Quality Assurance (AAQA) dy.registrar.tau.fort.mu.ac.in ar.tau@fort.mu.ac.in
11	The Deputy Registrar, College Teachers Approval Unit (CTA), concolsection@gmail.com
12	The Deputy Registrars, Finance & Accounts Section, fort draccounts@fort.mu.ac.in
13	The Deputy Registrar, Election Section, Fort drelection@election.mu.ac.in
14	The Assistant Registrar, Administrative Sub-Campus Thane, thanesubcampus@mu.ac.in
15	The Assistant Registrar, School of Engg. & Applied Sciences, Kalyan, ar.seask@mu.ac.in
16	The Assistant Registrar, Ratnagiri Sub-centre, Ratnagiri, ratnagirisubcentar@gmail.com
17	The Director, Centre for Distance and Online Education (CDOE), Vidyanagari, director@idol.mu.ac.in
18	Director, Innovation, Incubation and Linkages, Dr. Sachin Laddha pinkumanno@gmail.com
19	Director, Department of Lifelong Learning and Extension (DLLE), dlleuniversityofmumbai@gmail.com

Copy for information :-	
1	P.A to Hon'ble Vice-Chancellor, vice-chancellor@mu.ac.in
2	P.A to Pro-Vice-Chancellor pvc@fort.mu.ac.in
3	P.A to Registrar, registrar@fort.mu.ac.in
4	P.A to all Deans of all Faculties
5	P.A to Finance & Account Officers, (F & A.O), camu@accounts.mu.ac.in

To,

1	The Chairman, Board of Deans pvc@fort.mu.ac.in
2	**Faculty of Humanities,** **Offg. Dean** 1. Prof.Anil Singh Dranilsingh129@gmail.com **Offg. Associate Dean** 2. Prof.Manisha Karne mkarne@economics.mu.ac.in 3. Dr.Suchitra Naik Naiksuchitra27@gmail.com
	Faculty of Commerce & Management, **Offg. Dean,** 1 Prin.Ravindra Bambardekar principal@model-college.edu.in **Offg. Associate Dean** 2. Dr.Kavita Laghate kavitalaghate@jbims.mu.ac.in 3. Dr.Ravikant Balkrishna Sangurde Ravikant.s.@somaiya.edu 4. Prin.Kishori Bhagat kishoribhagat@rediffmail.com

	Faculty of Science & Technology **Offg. Dean** 1. Prof. Shivram Garje ssgarje@chem.mu.ac.in **Offg. Associate Dean** 2. Dr. Madhav R. Rajwade Madhavr64@gmail.com 3. Prin. Deven Shah sir.deven@gmail.com
	Faculty of Inter-Disciplinary Studies, **Offg. Dean** 1.Dr. Anil K. Singh aksingh@trcl.org.in **Offg. Associate Dean** 2.Prin.Chadrashekhar Ashok Chakradeo cachakradeo@gmail.com 3. Dr. Kunal Ingle drkunalingle@gmail.com
3	Chairman, Board of Studies,
4	The Director, Board of Examinations and Evaluation, dboee@exam.mu.ac.in
5	The Director, Board of Students Development, dsd@mu.ac.in DSW direcotr@dsw.mu.ac.in
6	The Director, Department of Information & Communication Technology, director.dict@mu.ac.in

AC – 20/05/2025
Item No. – 7.11 (N)

As Per NEP 2020

University of Mumbai

Title of the P.G. Program

Master of Management Studies
(Two Year)

Syllabus for
Semester III & IV

Ref: GR dated 16th May, 2023 for Credit Structure of PG

(With effect from the academic year 2025-26)

University of Mumbai

(As per NEP 2020)

Sr. No.	Heading	Particulars
1	Title of program O:_____	Master of Management Studies (Two Year)
2	Scheme of Examination R: _____	NEP 50% Internal 50% External, Semester End Examination Individual Passing in Internal and External Examination
3	Standards of Passing R: _____	30%
4	Credit Structure R: MP – 5 C R: MP – 5 D	Attached herewith
5	Semesters	Sem. III & IV
6	Program Academic Level	6.5
7	Pattern	Semester
8	Status	New
9	To be implemented from Academic Year	2025-26

Sd/-	Sd/-	Sd/-	Sd/-
Sign of the BOS Chairman Dr. Smita Shukla Chairman BOS in MMS	Sign of the Offg. Associate Dean Prof. Dr. Kishori J. Bhagat Department of Commerce and Management	Sign of the Offg. Associate Dean Dr. Kavita Laghate Department of Commerce and Management	Sign of the Offg. Dean Prin. Ravindra Bambardekar Faculty of Commerce & Management

Preamble

1) Introduction

Technological advancements, innovations, and socioeconomic shifts all become influencing factors in management education. In order to ensure that management students are able to attain necessary levels of industry relevant knowledge, skills and practical outlook, it is necessary to incorporate emerging industry practices in instructional process. The management students are also expected to benefit from short-term live projects, field projects, On-the-job training opportunities, industry internships and research projects as these can provide students an understanding of the industry environment and working methods. It is also increasingly expected to that management studies should be able to equip the management students to launch their own start-ups and to become entrepreneurs. Hence, in view of above, revision in curriculum of Masters in Management Studies becomes pertinent.

The AICTE Model Curriculum standards have been taken into account by integrating pertinent new topics into all of the program's specializations. Additionally, adherence to the National Higher Education Qualification Framework 2023 (NHEQF 2023) and National Education Policy 2020 (NEP 2020) principles, which place a strong emphasis on developing skills through projects and practical work that outlines the goals and learning outcomes for each topic also have been taken into consideration. The revised curriculum has incorporated the opportunity for multiple entry and exit based on NHEQF guidelines.

Revised curriculum places a high focus on quantitative and analytics techniques for aiding the students in comprehending corporate practical knowledge as well as the patterns and interpretation of massive amounts of data through business analytical tools.

2) Aims and Objectives

- Address the evolving aspects of enterprises and economies on a global scale.
- Integrate the impact of technological advancements and changing market dynamics into the curriculum.
- Explore the rise of new companies and innovative business models in the current economic landscape.
- Emphasize experiential learning and practical application of knowledge to enhance student engagement and real-world readiness.
- Align the curriculum with the expectations of various stakeholders, including compliance with NEP 2020 and NHEQF standards.
- Re-balance the curriculum to connect hard skills (technical knowledge) and soft skills (interpersonal abilities) essential for modern management.

- Weave transdisciplinary, pragmatic, and ethical issues into the curriculum to prepare students for contemporary business challenges.

3) Program Learning Outcomes

- PO1: Apply knowledge of management theories and practices to solve business problems
- PO2: Foster analytical and critical thinking abilities for data-based decision-making
- PO3: Ability to develop value based leadership ability
- PO4: Ability to analyse and communicate global, economic, legal, and ethical aspects of business
- PO5: Ability to lead themselves and others in the attainment of organizational goals contributing effectively to team environment

4) Any other point (if any)
No other point

Table of Contents

MMS Program Structure

Year	Level	Semester	Major		RM	OJT/FP	RP	Cum. Cre.	Degree / Diploma
			Mandatory (Sub.*Cr.)	Elective (Sub.*Cr.)					
First	6.0	Semester I	22 (3*4+5*2)	4 (2*2)	-	-	-	26	PG Diploma in Management after 3 year UG Degree
		Semester II	14 (2*4+3*2)	4 (2*2)	4	4	-	26	
Cumulative Credits FY			36	8	4	4	-	52	
R: MP – 5 C **R: MP – 5 D**									
Exit Option: PG Diploma with additional 4 credits of OJT									
Second	6.5	Semester III	8 (1*4+2*2) 1 Core UA (4 Credit) 1 Core IA (2 Credit) 1 Core Speci. (2 Credit)	10 (5*2) Electives	-	8	-	26	PG Degree after 3 year UG Degree
		Semester IV	10 (2*4 + 1 Seminar *2) 1 Core UA (4 Credit) 1 Core IA (4 Credit) 1 Seminar IA	8 (2*4) Electives			8 (2*4) Research Project	26	
Cumulative Credits SY			18	18	-	8	8	52	
Cumulative Credits FY+SY			54	26	4	12	8	104	

SYMMS Syllabus Outline

Outline of Semester III

Semester III					
Core Mandatory Courses					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
1	Mandatory - General Management	Corporate Strategy	4	40	UA
2	Mandatory - General Management	Project Management	2	20	IA
OJT/ Summer Internship					
3	Summer Internship	Summer Internship	8	-	IA

***IA – Internal Assessment; UA – University Assessment**

Semester III - Finance Specialization Outline

Finance Specialization					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
Mandatory					
1	Mandatory	Financial Markets and Institutions	2	20	**UA**
Electives (Any 5 including Open Elective)					
1	Elective	Corporate Valuation	2	20	**IA**
2	Elective	Financial Modelling	2	20	**IA**
3	Elective	Derivatives and Risk Management	2	20	**IA**
4	Elective	Security Analysis & Portfolio Management	2	20	**IA**
5	Elective	Global Financial Management and Markets	2	20	**IA**
6	Elective	Commercial Banking	2	20	**IA**
7	Elective	Mutual Funds and Insurance	2	20	**IA**
8	Elective	Emerging Technologies in Finance and Block-chain	2	20	**IA**
9	Elective	Corporate Restructuring and Mergers and Acquisition	2	20	**IA**
10	Elective	Direct and Indirect Taxes	2	20	**IA**
11	Elective	SWAYAM Course	2	-	**IA**

***IA – Internal Assessment; UA – University Assessment**

Semester III - Human Resource Specialization Outline

Human Resource Specialization					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
Mandatory					
1	Mandatory	Competency-based HRM & Performance Management System	2	20	**UA**
Electives (Any 5 including Open Elective)					
1	Elective	Artificial Intelligence (AI) in Human Resource Management	2	20	**IA**
2	Elective	Compensation and Benefits	2	20	**IA**
3	Elective	Employer Branding and Employee Value Proposition	2	20	**IA**
4	Elective	HR Analytics	2	20	**IA**
5	Elective	HR Planning and Application of Technology in HR	2	20	**IA**
6	Elective	Learning and Development	2	20	**IA**
7	Elective	Global HRM	2	20	**IA**
8	Elective	Organization Theory, Structure and Design	2	20	**IA**
9	Elective	SWAYAM Course	2	-	**IA**

***IA – Internal Assessment; UA – University Assessment**

Semester III - Marketing Specialization Outline

Marketing Specialization					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
Mandatory					
1	Mandatory	Marketing Strategy	2	20	**UA**
Electives (Any 5 including Open Elective)					
1	Elective	Consumer Buying Behaviour	2	20	**IA**
2	Elective	Sales Management	2	20	**IA**
3	Elective	Product Management	2	20	**IA**
4	Elective	Brand Management	2	20	**IA**
5	Elective	Digital Marketing	2	20	**IA**
6	Elective	Marketing Analytics	2	20	**IA**
7	Elective	Retail Management	2	20	**IA**
8	Elective	Rural Marketing	2	20	**IA**
9	Elective	Tourism Marketing	2	20	**IA**
10	Elective	SWAYAM Course	2	-	**IA**

***IA – Internal Assessment; UA – University Assessment**

Semester III - Operations and Supply Chain Specialization Outline

Operations and Supply Chain Specialization					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
Mandatory					
1	Mandatory	Supply Chain Management	2	20	**UA**
Electives (Any 5 including Open Elective)					
1	Elective	Logistics Management	2	20	**IA**
2	Elective	Warehouse Management	2	20	**IA**
3	Elective	Business Process Management for Risk & Performance Management	2	20	**IA**
4	Elective	Global Supply Chain Management	2	20	**IA**
5	Elective	Service Operations Management	2	20	**IA**
6	Elective	Operations Analytics	2	20	**IA**
7	Elective	Manufacturing Resource Planning & Control	2	20	**IA**
8	Elective	Production Planning & Control	2	20	**IA**
9	Elective	Purchase and Materials Management	2	20	**IA**
10	Elective	SWAYAM Course	2	-	**IA**

***IA – Internal Assessment; UA – University Assessment**

Semester III - System & Digital Business Specialization Outline

System & Digital Business Specialization					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
Mandatory					
1	Mandatory	Strategic Information Technology & Resource Management	2	20	**UA**
Electives (Any 5 including Open Elective)					
1	Elective	Digital Business	2	20	**IA**
2	Elective	Software Project Management	2	20	**IA**
3	Elective	Enterprise Systems for Business	2	20	**IA**
4	Elective	Big Data, Business Analytics & FinTech	2	20	**IA**
5	Elective	Advanced Database & Data Warehousing	2	20	**IA**
6	Elective	Knowledge Management	2	20	**IA**
7	Elective	Business Applications of Networking & Telecommunication	2	20	**IA**
8	Elective	Data Mining and Business Intelligence	2	20	**IA**
9	Elective	Block chain Technology for Business	2	20	**IA**
10	Elective	SWAYAM Course	2	-	**IA**

***IA – Internal Assessment; UA – University Assessment**

Semester III - Open Electives (Across Specializations) - Basket Outline

Open Electives (Across Specializations)					
1	Open Elective	Marketing of Financial Products and Services	2	20	**IA**
2	Open Elective	Climate Risk and Sustainable Finance	2	20	**IA**
3	Open Elective	Acquiring and Managing Talent	2	20	**IA**
4	Open Elective	Labour, Social Security and Welfare Law	2	20	**IA**
4	Open Elective	Services Management	2	20	**IA**
6	Open Elective	Events Management	2	20	**IA**
7	Open Elective	Quality Management	2	20	**IA**
8	Open Elective	Predictive Analytics	2	20	**IA**
9	Open Elective	Artificial Intelligence & Machine Learning (AI/ML) for Business	2	20	**IA**
10	Open Elective	Digital Innovation	2	20	**IA**
11	Open Elective	Enterprise Risk Management [Approved under OE Basket]	2	20	**Virtual** ***(By IRM)***
12	Open Elective	SWAYAM Course	2	20	***Through SWAYAM Process***

Outline of Semester IV

Semester IV - Mandatory Courses

Semester IV					
Mandatory Subjects					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
1	Mandatory - General Management	International Business	4	40	**UA**
2	Mandatory - General Management	Business Ethics and Corporate Governance	4	40	**IA**
Seminar					
3	Mandatory	Seminar Paper	2	-	**IA**
Research Project					
1	Mandatory	Research Project	8	-	**IA**

***IA – Internal Assessment; UA – University Assessment**

Semester IV - Finance Specialization Outline

Elective Courses - Finance Specialization (Any 2)					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
1	Elective	Financial Market Regulations	4	40	**IA**
2	Elective	Behavioural Finance	4	40	**IA**
3	Elective	Investment Banking and Alternate Investment Funds	4	40	**IA**
4	Elective	Fixed Income Securities	4	40	**IA**
5	Elective	Wealth Management	4	40	**IA**
6	Elective	SWAYAM Course	4	-	**IA**

***IA – Internal Assessment; UA – University Assessment**

Semester IV - Human Resource Specialization Outline

Elective Courses - HR Specialization (Any 2)					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
1	Elective	Human Resource Capital, Accounting and Audit	4	40	**IA**
2	Elective	Industrial Relations and Alternate Dispute Resolution	4	40	**IA**
3	Elective	OD and Change Management	4	40	**IA**
4	Elective	Strategic Human Resource Management	4	40	**IA**
5	Elective	SWAYAM Course	4	-	**IA**

***IA – Internal Assessment; UA – University Assessment**

Semester IV - Marketing Specialization Outline

Elective Courses - Marketing Specialization (Any 2)					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
1	Elective	Global Marketing	4	40	**IA**
2	Elective	Technology Strategy	4	40	**IA**
3	Elective	Business to Business Marketing	4	40	**IA**
4	Elective	Social Marketing	4	40	**IA**
5	Elective	SWAYAM Course	4	-	**IA**

***IA – Internal Assessment; UA – University Assessment**

Semester IV - Operations and Supply Chain Specialization Outline

Elective Courses - Operations and Supply Chain Specialization (Any 2)					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
1	Elective	Operations Strategies	4	40	**IA**
2	Elective	Operations Applications and Cases	4	40	**IA**
3	Elective	Lean Management	4	40	**IA**
4	Elective	Demand Forecasting and Inventory Management	4	40	**IA**
5	Elective	Productivity Enhancement in Operations Management	4	40	**IA**
6	Elective	SWAYAM Course	4	-	**IA**

***IA – Internal Assessment; UA – University Assessment**

Semester IV - System & Digital Business Specialization Outline

Elective Courses - System & Digital Business (Any 2)					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
1	Elective	Information System Security and Audit	4	40	**IA**
2	Elective	IT Governance, Compliance and Cyber Laws	4	40	**IA**
3	Elective	T Consulting & Managing for Business	4	40	**IA**
4	Elective	System Applications and Negotiations -Case Study	4	40	**IA**
5	Elective	IoT, Cloud Computing, and Virtualization for Business	4	40	**IA**
6	Elective	SWAYAM Course	4	-	**IA**

***IA – Internal Assessment; UA – University Assessment**

MMS – SEMESTER-III
(Detailed Syllabus)

Mandatory Core Course: Corporate Strategy

Credits: 4; Duration: 60 Hours

Course Objectives:

1. To introduce strategic frameworks and their relevance in organizational decision-making.
2. To equip students with analytical skills to assess competitive positioning using industry analysis tools.
3. To enable students to analyze the effectiveness of corporate strategies including mergers, acquisitions, vertical integration, and diversification.
4. To enhance student capabilities in evaluating organizational structure, resource allocation, and strategy execution.
5. To foster critical thinking on strategic interdependencies, innovation, and common pitfalls in corporate strategies.

Course Outcomes:

CO1: Understand the frameworks in strategy

CO2: Apply strategic frameworks to real-world strategic decisions.

CO3: Analyse the benefits and challenges of different corporate strategies, including M&A, vertical integration, and diversification.

CO4: Evaluate organization structure, process and boundaries for resource allocation decisions

CO5: Develop critiques about strategy execution, organizational structure, and managing interdependencies.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	Strategy – definition, 4P's of strategy, Corporate and SBU strategies- four levers – scope, assets, design, scale; three positioning outcomes – value proposition, Bargaining Power, Cost structure	CO1, CO2	4
2	Structural Analysis of Industries – Porter's Five Forces Model	CO1, CO2	5
3	Analysing Firm Competitiveness: Value Chain analysis; Resources Based View of Strategy (VRIS framework), core competencies	CO1, CO2	8
4	Business Models – Osterwalder and Pigneur Business Model canvas	CO1, CO2	3
5	Firm Networks	CO1, CO2	4
6	The scope of the firm – where to compete? Horizontal, vertical and geographic scope; value creation in a multi-business firm	CO3	4

7	Synergy and the Better-off tests – economies of scope, cost v/s revenue synergies	CO3	4
8	Asset Specificity and Corporate Strategy – deployment and fungibility of assets; relationship-specific investments	CO3	4
9	Ownership Test- Mergers & Acquisitions – backward and forward integration; post- acquisition integration strategies; value destruction in M&A	CO3, CO4	4
10	Alliances and Joint ventures – pooling complementary assets and resources, co-creating value with other firms	CO3, CO4	4
11	Organization Structure and Processes – resources allocation and decision making; balancing autonomy and collaboration	CO3, CO4	4
12	Managing Interdependencies amongst SBU's – shared resources for Competitive Advantage; incentive structures and execution challenges	CO3, CO4	4
12	Corporate Boundaries and Open Innovation – ecosystem-based strategies, digital technologies and AI - role in corporate strategy	CO3, CO4, CO5	4
13	Failure of Corporate Strategies – flaws in strategic logic; misplaced motives for diversification	CO3, CO4, CO5	4

Test Books:

1. Collis, D. J., & Montgomery, C. A. – Corporate Strategy: Resources and the Scope of the Firm
2. Porter, M. E. – Competitive Strategy
3. Goold, M., Campbell, A., & Alexander, M. – Corporate-Level Strategy
4. Christensen, C. M. – The Innovator's Dilemma
5. Khanna, T. & Palepu, K. – Winning in Emerging Markets
6. Prahalad, C. K., & Hamel, G. – Competing for the Future

Reference Books

1. Henry Chesbrough. Open Innovation. 2003
2. C.K. Prahalad, Gary Hamel. The Core Competence of the Corporation. 1990
3. Christopher Bartlett, Sumantra Ghoshal. Managing across Borders

Mandatory Core Course: Project Management

Course Credits: 2; Course Duration: 30 Hours

Course Objectives:

1. To familiarize students with fundamental project management concepts, methodologies, and industry terminologies.
2. To illustrate project lifecycle stages, highlighting the processes involved and stakeholder roles.
3. To enable application of project management tools including WBS, CPM, EVM, and risk assessment methodologies.
4. To develop students' analytical abilities to optimize project constraints like scope, time, cost, and quality.
5. To provide exposure to contemporary AI-driven project management tools and performance evaluation metrics for project success.

Course Outcomes:

CO1: Define fundamental project management concepts, terminologies, and frameworks

CO2: Explain the project lifecycle, key processes, and roles of stakeholders in project initiation, planning, execution, monitoring, and closure

CO3: Demonstrate project management techniques such as Work Breakdown Structure (WBS), Critical Path Method (CPM), Earned Value Management (EVM), and Risk Assessment in real-world scenarios

CO4: Analyze project constraints (scope, time, cost, quality, risk, and resources) and recommend optimization strategies for successful project execution

CO5: Evaluate project success using performance metrics and AI-driven project management tools, and develop innovative project management strategies for industry applications

CO6: Create innovative project management strategies, frameworks, and execution plans for successful project delivery

Unit/ Module	Content	CO Mapping	Hours Assigned
1	Introduction to Project Management: Definition, Evolution, Project Lifecycle, Stakeholders, PMBOK Overview	CO1	3
2	Project Initiation & Planning: Project Charter, Scope Definition, Work Breakdown Structure (WBS)	CO1, CO2	3
3	Project Scheduling & Time Management: Critical Path Method (CPM), PERT, Gantt Charts, Scheduling Tools	CO3, CO4, CO5	3

4	Agile Project Management: Agile vs. Traditional PM, Scrum, Kanban, Lean Principles	CO2, CO3	3
5	Cost Estimation & Budgeting: Earned Value Management (EVM), Budget Forecasting, Cost Control	CO3, CO4, CO5	3
6	Risk Management: Risk Identification, Risk Assessment, Mitigation Strategies	CO1, CO2	3
7	Quality Management in Projects: Quality Planning, Six Sigma, TQM, AI in Quality Control	CO2, CO3	3
8	Leadership, Communication & Stakeholder Management: Leadership Styles, Team Management, AI in Communication	CO1, CO2	3
9	Project Monitoring, Controlling & Change Management: Performance Tracking, Change Control, AI for Monitoring	CO1, CO2	3
10	Case Studies & Project Closure: Real-World Project Execution, Industry Best Practices, Project Closure (Lessons Learned, Final Reports, Post-Implementation Review)	CO4, CO5, CO6	3

Textbooks:

1. Highsmith, J. (2009). Agile project management: Creating innovative products (2nd ed.). Addison-Wesley
2. Hillson, D. (2016). Risk management in projects (3rd ed.). Routledge.
3. Kerzner, H. (2017). Project management: A systems approach to planning, scheduling, and controlling (12th ed.). Wiley
4. Larson, E. W., & Gray, C. F. (2020). Project management: The managerial process (8th ed.). McGraw-Hill Education
5. Portny, S. E. (2022). Project management for dummies (5th ed.). Wiley.
6. Verzuh, E. (2021). The fast forward MBA in project management (6th ed.). Wiley.

Reference Books:

1. PMBOK Guide (Project Management Body of Knowledge) – PMI
2. Nagarajan, K. (2004). Project management. New Age International.
3. Chitkara, K. K. (2014). Construction project management (3rd ed.). McGraw Hill Education India Pvt Ltd.

Mandatory: Summer Internship

Credits: 8; Duration: 2 Months

Course Objectives:

1. Enable interns to apply management theories in real-world business scenarios.
2. Develop critical thinking through problem-solving and data analysis tasks.
3. Improve professional communication via structured reporting and presentations.
4. Provide exposure to corporate culture and cross-functional team dynamics.
5. Cultivate accountability and time management through goal-based assignments.

Course Outcomes:

CO1: Recall key organizational structures, functions, and industry practices observed during the internship.

CO2: Explain how academic concepts relate to tasks performed in the workplace.

CO3: Apply domain-specific knowledge and skills to execute assigned professional responsibilities effectively.

CO4: Analyze the workflow or project management approach used in the organization to identify strengths and gaps.

CO5: Evaluate the effectiveness of organizational strategies and reflect on individual contributions and learnings.

CO6: Develop a structured internship report or project proposal based on insights gained during the internship.

Evaluation Criteria:

50% Internal Assessment based on Summer Internship Report

50% External Assessment based on Viva-voce Process

Semester III - Finance

Finance Specialization					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
Mandatory					
1	Mandatory	Financial Markets and Institutions	2	20	**UA**
Electives (Any 5 including Open Elective)					
1	Elective	Corporate Valuation	2	20	**IA**
2	Elective	Financial Modelling	2	20	**IA**
3	Elective	Derivatives and Risk Management	2	20	**IA**
4	Elective	Security Analysis & Portfolio Management	2	20	**IA**
5	Elective	Global Financial Management and Markets	2	20	**IA**
6	Elective	Commercial Banking	2	20	**IA**
7	Elective	Mutual Funds and Insurance	2	20	**IA**
8	Elective	Emerging Technologies in Finance and Block-chain	2	20	**IA**
9	Elective	Corporate Restructuring and Mergers and Acquisition	2	20	**IA**
10	Elective	Direct and Indirect Taxes	2	20	**IA**
11	Elective	SWAYAM Course	2	-	**IA**

Finance Group - Mandatory Course: Financial Markets and Institutions

Credits: 2; Hours: 30

Course Objectives:

1. To provide an understanding of the structure, functions, and regulatory environment of the Indian financial system.
2. To differentiate and critically assess the roles played by various financial intermediaries in capital mobilization.
3. To impart practical knowledge of primary and secondary markets, including financial instruments, IPO processes, and market mechanisms.
4. To develop the ability to evaluate fixed income securities, mutual funds, and insurance products for informed investment decision-making.
5. To illustrate practical usage of derivative instruments in hedging, speculation, and arbitrage activities within financial markets.

Course Outcomes:

CO1: Explain the structure and functioning of the Indian financial system, including the role of regulatory bodies like SEBI, RBI, IRDAI, and PFRDA.

CO2: Differentiate between various financial intermediaries and assess their roles in mobilizing savings and allocating capital.

CO3: Apply knowledge of primary and secondary markets to analyze financial instruments and processes such as IPOs, mutual funds, and insurance products.

CO4: Evaluate the characteristics and pricing of fixed income securities, and assess risk-return trade-offs in mutual fund and insurance products.

CO5: Demonstrate an understanding of derivative instruments and their application in speculation, hedging, and arbitrage across financial markets.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	**The Financial System of India:** Overview of Financial Markets in India; Financial Market Intermediaries; Financial Market Instruments; OTC and Exchange Markets; Introduction of Capital Markets (Equity, Debt markets) and Money market. Role of SEBI in Capital Market; RBI's monetary policy and role in Indian Financial System, IRDAI, PFRDA.	CO1	3
2	**Financial Intermediaries:** Commercial banks, investment / merchant bank, mutual funds, pension funds, insurance companies, NBFCs, Hire-purchase and leasing companies, Asset Reconstruction Companies, Primary Dealers	CO2	3
3	**Primary Market and Secondary Market:** IPO: Process of going public (Initial Public Offer),	CO1, CO2	6

	underwriting efforts to ensure price stability, stock offering, organized exchanges, Depositories, Clearing Houses, Role of Speculators /Hedgers, Order placing types market Limit stop loss orders, Circuit breakers Globalization of Indian stock market. Other Types of Issues: Right issues, Bonus Issue; share split, Buy back of shares, Private placement, preferential allotment.		
4	**Financial Services:** Classification of financial services including Banking Services, Factoring, Forfaiting, New financial products and services including financial technology-based services, CBDC, etc., challenges facing the financial service sector	CO2, CO3	6
5	**Fixed Income Securities, Mutual Fund and Insurance:** Bond characteristics, bond types, coupon types, Basic computation of different yields and bond price, relationship between yield and price, floaters and inverse floaters, zero coupon yield curve. Basics of Mutual Funds, types of Mutual Funds; NAV; Basics of Insurance; Types of Insurance Products.	CO2, CO3, CO4	6
6	**Derivatives:** Financial market activities – speculation, hedging and arbitrage in: Stock Markets; Forex Market; Commodity Markets; Interest Rates and Basics of Derivative Products-Forwards, futures, options and swaps	CO3, CO4, CO5	6

Text Books:

1. Indian Financial System, Markets, Institutions & Services 6th Edition,75 years of policy reforms, Government securities markets, banking sector, corporate bond market, insurance sector & mutual funds, Bharati V. Pathak, Pearson
2. Financial Markets and Institutions, by Frederic S. Mishkin, Stanley Eakins, Pearson
3. L M Bhole and Jitendra Mahakud, Financial Markets & Institutions.

Reference Books

1. Fabozzi, The Handbook of Fixed Income Securities.
2. Anthony Saunders, Financial Markets and Institutions.
3. Meir Kohn, Financial Institutions & Markets.
4. Gordon and Natrajan, Financial Markets and services
5. Jeff Madura, Financial Institutions and Markets
6. Bhole and Mahakud, Financial Institutions and Markets

Elective Course 1: Corporate Valuation

Credits: 2; Duration: 30 hours

Course Objectives:

1. To introduce the concept, objectives, and importance of business valuation in corporate finance decisions.
2. To familiarize students with different valuation methodologies, including asset, income, and market-based approaches.
3. To enable practical application of dividend discount models and discounted cash flow models in equity valuation.
4. To enhance analytical skills to assess valuations in special scenarios such as brand valuation, start-ups, and distressed firms.
5. To develop the ability to create and present professional corporate valuation reports and analyses.

Course Outcomes:

CO1: Describe the fundamental concepts of value and valuation, including the objectives, scope, and key principles that guide business valuation practices.

CO2: Explain and apply basic valuation techniques, including the selection of appropriate valuation approaches such as fair market value and relevant adjustments.

CO3: Demonstrate the use of Dividend Discount Models (DDM) such as the zero growth, constant growth, and multi-stage models in equity valuation.

CO4: Analyze corporate value using income and asset-based approaches, including DCF models, adjusted present value models, and economic profit models, while assessing their applicability and limitations.

CO5: Evaluate valuation in special contexts, such as brand valuation, startup valuation, and valuation of distressed firms, with appropriate method selection.

CO6: Develop and deliver professional valuation reports and presentations, synthesizing theoretical and practical insights acquired through assignments.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	**Valuation Basics:** What is Value? An understanding of 'Value', The nature and scope of Valuation, Objectives of Valuation, Importance of Business Valuation, Misconceptions about Valuation. Principles and Techniques of Valuation: Elements of Business Valuation, Conceptual Overview, Valuation Approaches, Choice of Approach, Fair Market Value, Adjustments for Valuation Purposes	CO1	2
2	Equity Valuation: Dividend Discount Models: Zero growth model, Constant growth model Two stage model, H model, Three stage model	CO2, CO3	6

3	Corporate Valuation (Asset and Income Approach) 3.1 Asset Approach Determining Book Value, Adjusting Book Value, Factors in Asset Valuation 3.2 Income Approach: Analysing historical performance-Estimating the cost of Capital- Forecasting Performance-Estimating the continuing value-Calculating and interpreting the results-Other DCF models: Equity DCF Model: Dividend discount model, free cash flow to Equity (FCFE) model-Adjusted present value model-Economic profit model-Applicability and Limitations of DCF analysis	CO4	10
3	Relative Valuation: Definition and description of Relative Valuation, Steps in Relative Valuation, Market Value, Market Multiples, Wide application of Relative Valuation Advantages and Limitations of Relative Valuation, when to use Relative Valuation, Relative valuation approaches, Trading multiples and their determinants, Transaction multiples and takeover premiums	CO4	4
4	Special cases of valuation - a. Brand valuation b. Valuation of start-ups c. Valuation of distressed firms	CO5	4
5	Assignment and Presentation	CO6	4

Textbooks:

1. Corporate Valuation & Value Creation, Prasanna Chandra. McGraw-Hill Education
2. Damodaran on Valuation: Security Analysis for Investment and Corporate Finance" – Aswath Damodaran, Wiley

Reference Books:

1. Financial Times Guide to Corporate Valuation – David Frykman & Jakob Tolleryd, FT publishing
2. Corporate Valuation: An Easy Guide to Measuring Value- Jakob Tolleryd, David Frykman, Prentice Hall.
3. Equity Asset Valuation: Jerald E. Pinto, Elaine Henry, Thomas R. Robinson, John D. Stowe. CFA Institute

Elective Course 2: Financial Modeling

Credits: 2; Duration: 30 Hours

Course Objectives:

1. To build proficiency in Excel-based financial modeling, including data management, analysis, and visualization.
2. To introduce the use of macros and VBA in automating and enhancing efficiency in financial models.
3. To provide hands-on experience in developing financial models for credit appraisal, including personal and housing loans.
4. To train students to construct comprehensive financial models for working capital assessment and project finance.
5. To equip students with the skills to prepare clear, precise, and professional financial model reports for business use.

Course Outcomes:

CO1: Demonstrate proficiency in Excel functions and tools including formatting, formulas, charts, pivot tables, and scenario analysis essential for building financial models.

CO2: Explain and utilize the Visual Basic Environment (VBE) to record and apply basic macros for automating financial modeling tasks.

CO3: Apply financial modeling techniques to credit appraisal scenarios, including personal and housing loans and credit scoring, using practical datasets.

CO4: Evaluate structured financial models for output based on user requirements and financial documentation.

CO5: Construct and analyze financial models for working capital and project finance, including financial statements, key ratios, repayment schedules, sensitivity analysis, and comprehensive reporting.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	Introduction to Financial Modeling, Introduction to financial modes - static vs dynamic models, need and applications; **Excel Proficiency** Formatting of excel sheets, use of excel formulae function, data filter and sort, charts and graphs, table formula and scenario building, lookups, pivot tables.	CO1	3
2	Visual Basic Environment (VBE): Understanding the basics of macros, recording of macros.	CO2	2
3	Combining the Tools and Theory into the model: Define and structure the problem, define the input and output variables of the model, decide users of the model, understand the financial and mathematical aspects of the model, design the model, create the Spread sheet, test the model, protect the model, document the model, maintain the model.	CO4	3

4	Credit Appraisal Techniques through Modeling Application of Modeling for: housing loan assessment; personal loan assessment; Credit Scoring Models (CIBIL) credit assessment.	CO3	4
5	Working Capital Assessment Model Projected Profit and Loss Statement, Balance Sheet, Cash Flow Statement, Key Ratios (including Current ratio & Interest Coverage), Sensitivity Analysis, Assessment of MPBF.	CO5	7
6	Project Finance Modeling Projected Profit and Loss Statement, Balance Sheet, Cash Flow Statement, Repayment Schedule, Key Ratios (Including ICR and DSCR), Break-even & Payback Period, Risk Assessment (Technical, Financial & Operational), sensitivity analysis	CO5	8
7	Report writing Report writing for project funding and working capital, Retail Loans.	CO5	3

Text Books:

1. C. Sengupta, Financial Modeling using Excel and VBA
2. Alastair L. Day, Mastering Financial Modeling in Microsoft Excel
3. Simon Beninga, Financial Modeling

Reference Books:

1. Alistair L. Day, Mastering Risk Modeling
2. Dr. Manu Sharma, Mergers and Acquisitions and Corporate Valuation- An Excel Based Approach
3. John D. Finnerty , Project Financing- Asset based financial Engineering
4. Daniele Stein Fairhust, Financial Modeling in Excel
5. Alastair L. Day, Mastering Financial Modelling in Microsoft® Excel
6. R.K. GUPTA & HIMANSHU GUPTA, Credit Appraisal & Analysis of Financial Statement: A Handbook for Bankers and Finance Managers
7. R.K. GUPTA & HIMANSHU GUPTA, Working Capital Management & Finance : A Handbook for Bankers and Finance Manager

Elective Course 3: Derivatives & Risk Management

Credits: 2, Duration: 30 Hours

Course Objectives:

1. To introduce the fundamentals and significance of derivatives in financial risk management.
2. To enable students to apply pricing models and arbitrage strategies for futures and forwards.
3. To develop proficiency in analyzing options, understanding their mechanics, and payoff structures.
4. To train students to effectively utilize option pricing models, such as Binomial and Black-Scholes, including the interpretation of Greeks.
5. To cultivate skills for designing and executing hedging, spread, and combination strategies using derivatives.

Course Outcomes:

CO1: Explain the fundamentals of derivatives, including forwards, futures, and options, along with their role in financial markets and risk management.

CO2: Apply valuation techniques for futures and forwards, including cost-of-carry models and currency derivatives, to determine fair pricing and arbitrage opportunities.

CO3: Analyze the mechanics and payoff structures of various options, including synthetic positions and arbitrage strategies like conversions and box spreads.

CO4: Evaluate option pricing models, including the Binomial and Black-Scholes models, and interpret the impact of key parameters using option Greeks.

CO5: Design and implement hedging, spread, and combination strategies using derivatives in different market conditions.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	Introduction to Derivatives and its application· Basics of Risk Management & properties of /Futures/Forwards (Equity & Commodity) Pricing & Valuation of Futures/Forwards. Equity Arbitrage (Cost of carry Model), Risk Management using Futures · Basis Risk · Introduction to Currencies Forward and Futures and its uses	CO1, CO2	9
2	Mechanics & Properties of Options: Option Terminology, Various types, Boundary Conditions for options and payoff from various options.	CO1, CO3	3
3	Put-call parity: Its applications and interpretation, Synthetic options using put-call parity. Option Arbitrage: Conversions, Reversals, Box Spread.	CO3, CO4	3

4	Option pricing models: Binomial Models (only European) (one period & two period) Black Scholes Model (Equity and Currencies)	CO3, CO4	6
5	Option sensitivities: Sensitivity to the - Underlying - Volatility - Strike price - Interest rate - Time to expiration. Option Sensitivities pricing and uses (Use of Greeks- Delta Gamma, Theta, Vega, Rho)	CO4, CO5	3
6	Option Strategies using Various Market Dynamics: (Use of Excel is recommended in this module) Hedging Strategies (Call hedge, put hedge, Covered Put and call) Spread Strategies (Bull Bear Spread, Butterfly, Condor and Calendar) Combination Strategies (Straddle, Strangle, Strip and Strap)	CO5	6

Textbooks:

1. Options, Future & other Derivatives – by John. C Hull and Shankarshan Basu, Pearson Education India
2. Derivatives and Risk Management by Rajiv Shrivastav, OUP India
3. Derivatives and Risk Management by R Madhumati Pearson Education India.
4. Derivatives and Risk Management by Dhanesh Kumar Khatri (PHI Publication)
5. NISM-Series-VIII: Equity Derivatives Certification Examination
6. National Stock Exchange of India Ltd: NCFM- Options Trading Strategies Module

Reference Books:

1. Applied Derivatives – Richard. J. Rendleman. J R
2. Option Volatility & Pricing – Sheldon Naten Berg
3. The New Options Market – Max Ansbacher

Elective Course 4: Security Analysis and Portfolio Management

Credits: 2; Duration: 30 hours

Course Objectives:

1. To introduce fundamental concepts of investments and distinguish among investment, speculation, and gambling.
2. To equip students with analytical tools to evaluate risk-return profiles of various securities.
3. To foster understanding of equity valuation using fundamental analysis, including economic, industry, and company-level assessments.
4. To familiarize students with indexing, benchmarking, and decision-making frameworks for portfolio construction.
5. To develop practical skills in portfolio management using modern portfolio theories, including asset allocation and performance measurement.

Course Outcomes:

CO1: Explain the fundamental concepts of investment, including its objectives, types, and how it differs from speculation and gambling.

CO2: Analyze risk and return characteristics of different securities, including the use of statistical tools, volatility measures, and capital market theories such as CAPM.

CO3: Evaluate investment opportunities through fundamental equity research, applying company, industry, and economic analysis, including the Fama-French Three-Factor Model.

CO4: Apply indexing, benchmarking, and investment decision theories to track indices and make informed asset allocation decisions.

CO5: Construct and evaluate portfolios using modern and post-modern portfolio theories, including factor models, arbitrage pricing theory, and portfolio performance measurement.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	Introduction to Investment & Securities- Meaning, Nature, Objectives and Process. Difference Between Investment and Speculation, Investment and Gambling. Various Investment Avenues / Alternatives.	CO1	2
2	Securities- Risk and Return Analysis-Types of Securities, Probability v/s absolute Loss in risk management, volatility in prices, statistical tools for risk calculation, Systematic, unsystematic risk	CO2	3
3	Efficient Market Hypothesis-Random Walk theory, Significance, usage	CO2	3
4	Equity research and Valuation-Sources of Financial Information, Economic Analysis Company analysis, Industry analysis, and valuation of equity shares, Fama-French Three-Factor Model	CO3	4
5	Indexing and Benchmarking-creation of Index, adjusting for corporate adjustments in the Index, tracking an index.	CO4	3

6	Technical Analysis-Dow theory, types of charts. Japanese candle stick pattern, chart patterns, technical indicators.	CO2	3
7	Capital market theories-Capital asset pricing model, portfolio risk and return	CO2, CO3	3
8	Factor models and arbitrage pricing theory-factor based valuation model, risk free arbitrage	CO5	3
9	Investment decision theory-Timing, buy, sell, short, hold, allocation.	CO4	2
10	Portfolio theory-Construction and analysis, portfolio optimization, portfolio management strategies, portfolio performance measurement, Post Modern Portfolio Theory	CO5	2
11	Case Studies and Presentation	CO5	2

Textbooks,

1. Prasanna Chandra, Security Analysis and Portfolio Management
2. Donald Fische and Ronald Jordan, Security Analysis and Portfolio Management.
3. Dr. Sudesh Kumar & Dr.Ravi Sidhu, Security Analysis and Portfolio Management.
4. "Best Practices for Equity Research Analysts: Essentials for Buy-Side and Sell-Side Analysts" by James J. Valentine
5. "Security Analysis" by Benjamin Graham and David Dodd - Whittlesey House, McGraw-Hill Book Company
6. The Intelligent Asset Allocator: How to Build Your Portfolio to Maximize Returns and Minimize Risk by William J. Bernstein:

Reference Books

1. Steven Achelis, Technical Analysis
2. John Murphy, Technical Analysis of Financial Markets
3. "The Intelligent Investor" by Benjamin Graham

Elective Course 5: Global Financial Management & Markets

Credits: 2; Duration: 30 Hours

Course Objectives:

1. To provide knowledge of international monetary systems and their implications on global finance.
2. To enable students to analyze India's position within global financial markets, focusing on balance of payments, FDI, and market integration.
3. To impart practical skills in interpreting exchange rates, currency mechanisms, and arbitrage through parity theories.
4. To educate students on international financial instruments, markets, and their regulatory considerations.
5. To train students in developing comprehensive risk management strategies using currency derivatives and addressing geopolitical risks.

Course Outcomes:

CO1: Explain the evolution of international monetary systems, including the gold standard, Bretton Woods, and modern currency systems, and assess their impact on global financial flows.

CO2: Analyze the structure and impact of the Balance of Payments (BoP), foreign investment types (FDI, FPI), and India's position in global financial markets, including GIFT City and INR internationalization.

CO3: Apply concepts of exchange rate mechanisms, including spot, forward, and cross rates, and evaluate parity theories (PPP, IRP) to interpret currency fluctuations and arbitrage opportunities.

CO4: Evaluate instruments and participants in international financial markets, such as Eurocurrency, foreign bonds, GDRs/ADRs/IDRs, and assess their risk-return profiles.

CO5: Develop risk management strategies using currency derivatives, including forwards, futures, options, and swaps to hedge against international financial exposures and geopolitical risks.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	Fundamentals of International Finance: International Monetary Systems - Classical Gold Standard, Bretton Wood System, SDRs and Smithsonian agreements, Fixed and Floating Rate Systems, European Monetary System; Determinants of demand for and supply of currency, exchange rate and factors affecting exchange rate Balance of Payment - current account, capital account and reserve account, Deficit in Balance of Payment and its impact Foreign direct investments and foreign portfolio investments, participatory notes, Off-shore banking, tax havens	CO1, CO2,	6

2	India and Global Financial Markets - International Finance Centres, GIFT City: Constituents and Benefits, Internationalization of INR, De-dollarization	CO2	3
3	Foreign Exchange Markets – Methods and Applications: Exchange rate quotations, direct and indirect rates, cross currency rates, vehicle currency, spreads and calculation of cross rates, settlements – cash, tom, spot and forward, arbitrage, speculation; Purchasing power parity, Interest rate parity and, covered interest rate parity and arbitrage; Calculation of forward rates through use of forward schedules, annualized forward margin, Calculation of swap points.	CO 3 CO 4	6
4	International Currency Markets: Eurocurrency Markets - Origin and reasons for growth of Eurocurrency markets, their characteristics and components, Euro currency deposits, loans, bonds and notes International Debt Markets - International bond markets, types of foreign bonds, FCCBs, ECBs, Risks in international bonds. International Equity Markets: - Mechanisms and systems - Global depository receipts, American Depository Receipts; Indian Depositary Receipts, Fungibility	CO 3 CO 4	3
6	Currency Forward and Futures: Currency Forward and Currency futures terminologies, pricing currency futures, Using Forward and Futures for hedging, speculation and arbitrage, Non deliverable Forwards (NDFs)	CO 4 CO 5	3
7	Currency Options and Swaps: Introduction, option terminologies, options pay-offs, hedging and speculation with currency options, Vanilla options, Exotic options; Swaps - Interest Rate Swaps and currency swap.	CO 4 CO 5	3
9	Risk & Exposure Management: Concept of Risk in International Finance, Management of risks including Geopolitical Risks in international trade / business operations - Case Discussion including discussion on Country Risk Analysis	CO 4 CO 5	6

Textbooks:

1. Apte P.G. & Sanjeevan Kapshe (2022). International Financial Management (8th Edition). Mcgraw Hill education
2. Shapiro A.C. & Hanouna Paul (2019). Multinational Financial Management (11th Edition., Wiley

Reference Books:

1. Madura J. (2021). International Financial Management (14th Edition) Cengage Learnings
2. Levy M.D. (2018). International Finance (6th Edition). Routledge

Elective Course 6: Commercial Banking & Operations

Credits: 2; Duration: 30 hours

Course Objectives:

1. To provide foundational knowledge of the structure, functions, and operations of commercial banks in India.
2. To equip students with an understanding of banking regulations, including RBI guidelines, KYC norms, and Basel III compliance.
3. To familiarize students with banking products, technological advancements, and contemporary practices in digital banking.
4. To develop students' abilities in credit management, loan processing, and handling NPAs.
5. To foster strategic thinking around risk management, treasury operations, customer relationship management, and sustainable banking practices.

Course Outcomes:

CO1: Explain the structure and functions of the Indian banking system, the role of commercial banks in the economy, and the importance of financial inclusion and rural banking.

CO2: Analyze the regulatory framework for commercial banks, including RBI guidelines, the Banking Regulation Act, AML/KYC norms, and Basel III implementation in India.

CO3: Evaluate the range of banking products, services, and technology-driven innovations, including digital banking, payment systems, treasury operations, forex markets, and emerging fintech trends.

CO4 Apply principles of credit management and loan processing, including risk assessment, credit scoring, NPA management, and customer relationship practices in real-world banking scenarios.

CO5: Assess and develop risk management strategies in banking, incorporating internal controls, audit mechanisms, cybersecurity, stress testing, and sustainable finance initiatives.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	Introduction to Commercial Banking: Definition, functions, and role of commercial banks in the economy. Types of banks: Public sector, private sector, foreign banks, and regional rural banks. Structure of the Indian banking system. Overview of the Reserve Bank of India (RBI) and its role in banking regulation.	CO1, CO2	2
2	Regulatory Framework for Commercial Bank - Banking Regulation Act, 1949. RBI guidelines for capital adequacy, liquidity, and asset classification. Basel III norms and their implementation in India. Anti-money laundering (AML) and Know Your Customer (KYC) norms.	CO2, CO3	2

3	Banking Products and Services Deposit products: Savings accounts, current accounts, fixed deposits, and recurring deposits. Loan products: Personal loans, home loans, vehicle loans, and business loans. Credit cards, debit cards, and prepaid instruments. Payment and settlement systems: NEFT, RTGS, IMPS, and UPI.	CO2, CO3	2
4	Credit Management and Loan Processing Principles of lending and credit appraisal. Loan documentation and security creation. Credit risk assessment and credit scoring models. Non-performing assets (NPAs) and their management.	CO3, CO4	3
5	Risk Management in Banking Types of risks in banking: Credit risk, market risk, operational risk, and liquidity risk. Risk mitigation techniques and tools. Role of internal and external audits in risk management. Stress testing and scenario analysis.	CO3, CO4	2
6	Technology in Banking Core banking solutions (CBS) and their importance. Digital banking: Internet banking, mobile banking, and digital wallets. Block chain, artificial intelligence, and machine learning in banking. Cybersecurity challenges and solutions in banking.	CO3, CO4	3
7	Customer Relationship Management (CRM) in Banking Importance of CRM in banking. Tools and techniques for effective customer engagement. Cross-selling and up-selling strategies. Handling customer grievances and dispute resolution.	CO3	3
8	Treasury and Forex Operations Functions of the treasury department in a bank. Forex operations: Spot transactions, forward contracts, and currency swaps. Managing foreign exchange risk. RBI guidelines on forex operations.	CO3, CO4, CO5	3
9	Emerging Trends in Banking. Fintech innovations and their impact on traditional banking. Open banking and API-based services. Green banking and sustainable finance. Role of commercial banks in financial inclusion	CO3, CO4	3
10	Financial Inclusion and Rural Banking Importance of financial inclusion in India. Role of regional rural banks (RRBs) and cooperative banks.	CO3, CO4	3

	Government schemes for financial inclusion (e.g., PMJDY). Challenges and opportunities in rural banking.		
11	International Banking Operations Overview of international banking. Correspondent banking and trade finance. Foreign currency loans and international payment systems. Regulatory challenges in international banking.	CO3, CO4	2
12	Case studies on successful and failed banking operations. Role-playing exercises for loan processing and customer interaction. Analysis of real-world banking scenarios and problem-solving. Guest lectures by industry experts on contemporary banking issues.	CO4, CO5	2

Textbooks:

1. Commercial Bank Management, by Singh & Dutta
2. Digital Banking, ByIIB, Publisher -Taxmann Publications Pvt. Ltd.

Reference Books:

1. Indian Financial System, M. Y. Khan, McGraw Hill Education, 11th Edition
2. Banking Theory and Practice – K.C. Shekhar & Lekshmy Shekhar, S. Chand Publishing, 23rd Revised Edition
3. Principles and Practices of Banking – Indian Institute of Banking and Finance, Macmillan Publishers India, 3rd Edition
4. Commercial Banking in India – Nitin Bhasin, New Century Publications

Elective Course 7: Mutual Funds and Insurance

Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce students to the structure, types, and regulatory environment of mutual funds and insurance in India.
2. To develop the capability to analyze and interpret mutual fund performance metrics and insurance product features.
3. To provide practical knowledge of taxation, risk-return trade-offs, and performance analysis of investment and insurance products.
4. To equip students with the skills to design tailored mutual fund and insurance solutions based on customer financial goals.
5. To familiarize students with innovative trends in digital insurance, micro-insurance, and AI-driven financial products.

Course Outcomes:

CO1: Explain the concept, classification, and structure of mutual funds and insurance in India, including their evolution, key stakeholders (AMCs, IRDAI, SEBI), and how they compare with other investment avenues like stocks and bonds.

CO2: Apply knowledge of the regulatory framework governing mutual funds and insurance, including SEBI guidelines, AMFI code of conduct, IRDAI rules, and tax implications under Section 80C, 80D, and 10(10D) of the Income Tax Act.

CO3: Analyze mutual fund performance and insurance products using metrics such as NAV, Total Expense Ratio, SIP vs. lump sum investment strategies, credit risk measures, and various policy features of term, ULIP, and endowment plans.

CO4: Evaluate risk-return trade-offs in mutual fund schemes and insurance portfolios, considering general and specific risk factors, credit risk provisions, asset-liability management, and financial ratios of insurance companies.

CO5: Design appropriate investment and insurance solutions tailored to diverse financial goals by proposing innovative digital insurance models, SIP strategies, and product comparisons aligned with investor needs and regulatory guidelines.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	Concept and Role of a Mutual Fund: Concept of a Mutual fund, Classification of Mutual Funds, Growth of the mutual fund industry in India, Comparing mutual funds with other investment options (Stocks, Bonds, ETFs)	CO1	3
2	Legal Structure of Mutual Funds in India: Structure of Mutual Funds in India, Key Constituents of a Mutual Fund, Organization Structure of Asset Management Company, Role and Support function of Service Providers, Role and Function of AMFI Legal and Regulatory Framework: Role of Regulators in India, Role of Securities and Exchange Board of India, Due Diligence Process by	CO1, CO2	3

	AMCs for Distributors of Mutual Funds, Investor Grievance Redress Mechanism, AMFI Code of Conduct for Intermediaries, evaluating taxation aspects: LTCG, STCG, ELSS tax benefits, Benchmarking mutual funds against indices like NIFTY 50, SENSEX		
3	Net Asset Value, Total Expense Ratio and Pricing of Units: Computation of Net Assets of Mutual Fund Scheme and NAV analysing the mutual fund, developing a SIP vs Lump Sum investment strategy for various financial needs, Concept of Entry and Exit Load and its impact on NAV, NAV, Total expense ratio and pricing of units for the Segregated Portfolio Taxation: Applicability of taxes in respect of mutual funds, Capital Gains, Dividend income, Stamp Duty on Mutual Fund Units, setting-off of Capital Gains and Losses under Income Tax Act, Securities Transaction Tax, Tax benefit under Section 80C of the Income Tax Act, Tax Deducted at Source, Applicability of GST	CO3, CO4, CO5	6
4	Risk, Return and Performance of Funds: General and Specific Risk Factors, Factors that affect mutual fund performance, Drivers of Returns and Risk in a Scheme, Measures of Returns, SEBI Norms regarding Representation of Returns by Mutual Funds in India, Risks in fund investing with a focus on investors, Measures of Risk, Certain Provisions with respect to Credit risk	CO3, CO4,	3
5	Life Insurance: Meaning, The Evolution and Growth of Life Insurance, Basic Principles of Insurance, Life Insurance Organizations in India, Competition and Regulation of Life Insurance, Current Legal Environment, Insurance Act 1938 as amended, Identifying different types of insurance: Life, Health, Motor, Fire, Marine, Liability, Market analysis: LIC, GIC, Private insurance players in India, An Overview, Insurance Sector Reforms: The Insurance Regulatory Development Authority (IRDA) Act and Guidelines for Insurance Brokers	CO1, CO2	3
6	Settlement of Claims: Claim procedure, TPAs, Claim forms, Investigation / Assessment, Essential Claim Documents, Settlement Limitation, Arbitration, Loss Minimization and Salvage. Financial Aspects of Insurance Companies: Financial objective of an insurance Company, Responsibilities off insurance manager, Performance measurement of insurance company, ALM, Ratio analysis of insurance company, Risk and Return trade off, valuation of assets and liabilities, technical provision. Risk Margin Reinsurance:	CO3, CO4	6

	Hedging, Role of Re-insurers, Techniques of reinsurance, Issues and challenges of Indian reinsurance, Investment by insurance company.		
7	Risk aversion and demand for Insurance By individuals, By corporations, Insurability of risk-contractual provisions, Legal doctrine, Loss control, Risk Retention and reduction decisions, Exchange Control Regulations as applicable to General Insurance, IRDA directions for protections of policy holders, Consumer Protection Act 1986, Arbitration, conciliation Act 1996 vigilance set up Insurance Ombudsman, evaluating taxation on insurance policies (80C, 80D, 10(10D)), Comparing term insurance, ULIPs, and endowment plans for different investment needs	CO2, CO3, CO4, CO5	3
8	Developing an innovative digital insurance product (Micro insurance, Insur-ech), Proposing AI-driven risk assessment models for better underwriting	CO5	3

Textbooks:

1. The Fundamentals of Insurance: Theories, Principles and practices by Hargovind Dayal
2. Digital Insurance: Business Innovation in the Post-Crisis Era" by Bernardo Nicoletti
3. Indian Mutual Funds Handbook: A guide for Industry Professionals and intelligent Investors by Mr.Sundar Sankaran
4. Business insurance, by Agarwal , O.P, Himalaya Publication
5. Principles and practices of insurance, by Periasamy , P. Himalaya Publication
6. The Complete Guide to Managing a Portfolio of Mutual Funds by Mr.Rutherford Ronald K.
7. Mutual Funds in India: Vehicle for Fixed Income Investments by Mr.Sen, Joydeep

Reference Books:

1. Common Sense on Mutual Funds" by John C. Bogle
2. NISM Series V A: Mutual Fund Distributors Certification by NISM Taxmann Publications
3. IRDAI publications and guidelines
4. Principles of Risk Management and Insurance" by George E. Rejda
5. Mutual Funds-Ladder To Wealth Creation by Mr.Vivek K Negi

Elective Course 8: Emerging Technologies in Finance and Blockchain

Credits:2; Duration:30 Hours

Course Objectives:

1. To provide foundational knowledge of emerging financial technologies, including AI, Machine Learning, Big Data, RPA, and IoT.
2. To familiarize students with blockchain fundamentals, cryptographic techniques, smart contracts, and blockchain types.
3. To analyze the practical applications of blockchain technology and cryptocurrencies in financial services.
4. To critically evaluate regulatory, ethical, and cybersecurity considerations associated with blockchain and digital assets.
5. To develop practical insights into real-world innovations through case studies involving blockchain, AI, and machine learning in finance.

Course Outcomes:

CO1: Explain and apply the core concepts of emerging technologies such as Artificial Intelligence (AI), Machine Learning (ML), Big Data, Robotic Process Automation (RPA), and Cloud Computing in banking and financial services.

CO2: Describe the structure, types, and technical foundations of Blockchain technology, including cryptographic techniques, smart contracts, and the distinction between public, private, and consortium blockchains.

CO3: Analyze the applications of blockchain and cryptocurrencies in finance, including decentralized finance (DeFi), NFTs, tokenization, trade finance, and cross-border transactions.

CO4: Evaluate regulatory frameworks, cybersecurity concerns, and ethical issues associated with the use of digital assets, AI, and blockchain technologies, including developments in CBDCs and Web3 innovations.

CO5: Develop insights into real-world financial innovations through case studies and practical applications of blockchain, AI, and ML in risk management, fraud detection, and financial operations.

Unit/ Module	Content	CO Mapping	Hours assigned
1	Introduction to Emerging Technologies in Finance Evolution of Financial Technologies (FinTech), Applications of Artificial Intelligence (AI), Machine Learning (ML), and Big Data in Finance, Robotic Process Automation (RPA) in Banking & Financial Services, Internet of Things (IoT) and Cloud Computing in Financial Services, Open Banking APIs and Embedded Finance**.** **Use Cases of FinTech Startups** (e.g., Cred, Paytm, Upstox) to demonstrate real-life applications.	CO1	6 Hours

2	Fundamentals of Blockchain Technology, Concept, Characteristics, and Key Components of Blockchain, Types of Blockchains: Public, Private, and Consortium, Smart Contracts: Features and Use Cases, Cryptographic Techniques and Hashing in Blockchain, Limitations of Blockchain (e.g., scalability, energy use)	CO2	6 Hours
3	Blockchain Applications in Finance, Cryptocurrencies: Bitcoin, Ethereum, and Beyond, Decentralized Finance (DeFi) and Peer-to-Peer Lending, Tokenization of Assets and Non-Fungible Tokens (NFTs), Blockchain in Trade Finance, Cross-Border Payments, and Supply Chain, Stablecoins and their role in CBDCs. *Suggested - Mock tokenization exercise (students create dummy NFTs or use platforms like OpenSea testnets).*	CO3	6 Hours
4	Regulatory and Ethical Considerations, Legal and Regulatory Framework for Blockchain and Digital Assets - **India-specific regulatory landscape** (e.g., RBI's stance on digital assets, DPDP Act 2023); **Comparative global regulatory practices** (EU's MiCA, US SEC/FinCEN updates) Data Security, Privacy, and Cybersecurity Challenges, Ethical Implications of AI and Blockchain in Finance -: fairness in credit scoring, algorithmic bias, explainability. Future Trends: Central Bank Digital Currencies (CBDCs) and Web3	CO4	6 Hours
5	Case Studies and Practical Applications - Successful Implementations of Blockchain in Banking & Financial Services; Hands-on Experience with Blockchain Transactions (e.g., Ethereum, Hyperledger), Use Cases of AI & ML in Risk Management and Fraud Detection, Discussion on Emerging Trends and Innovations in Financial Technology. *[Suggestion - mini-capstone projects where students prototype a financial solution (e.g., P2P lending DApp, fraud detection model using Python) OR Use Sandbox environments from fintech labs or platforms like Razorpay, Kaleido, or Azure Blockchain Workbench etc.]*	CO5	6 Hours

Text Books:

1. Bitcoin and Cryptocurrency Technologies: A Comprehensive Introduction, by Arvind Narayanan, Joseph Bonneau, Edward Felten, Andrew Miller & Steven Goldfeder, Publisher: Princeton University Press
2. Fintech: The New DNA of Financial Services, by Pranay Gupta & T. Mandy Tham, World Scientific

Reference Books:

1. Fintech Law in a Nutshell, by Chris Brummer, West Academic Publishing
2. Blockchain Babel: The Crypto-Craze and the Challenge to Business, by Igor Pejic, Kogan Page

Elective Course 9: Corporate Restructuring and Mergers and Acquisitions

Credits: 2; Duration 30 hours

Course Objectives:

1. To explain the strategic significance and forms of corporate restructuring, including mergers, acquisitions, divestitures, and alliances.
2. To impart detailed knowledge of the motives, classifications, and regulatory frameworks governing mergers and acquisitions.
3. To enable students to apply various financing and valuation techniques to mergers and acquisitions, including due diligence practices.
4. To develop skills in managing post-merger integration processes and evaluating performance outcomes.
5. To encourage practical application of restructuring strategies through case studies and experiential presentations.

Course Outcomes:

CO1: Explain the concept, types, and strategic relevance of corporate restructuring, including mergers, acquisitions, divestments, joint ventures, and strategic alliances, along with their operational and financial implications.

CO2: Analyze the motives, classification, and legal framework of mergers and acquisitions, including SEBI regulations, takeover tactics, and scheme of arrangement as per the Companies Act

CO3: Evaluate methods of financing mergers and the valuation of target firms, treating mergers as capital budgeting decisions and assessing due diligence procedures and their risks.

CO4: Assess post-merger integration challenges and growth strategies, including human resource integration, synergy realization, and performance evaluation tools in a merged entity.

CO5: Develop and present case-based restructuring strategies, demonstrating the ability to apply theoretical concepts to practical scenarios through assignments and presentations.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	Corporate Restructuring Basics: Meaning, operational and financial restructuring, forms such as Mergers and Acquisitions, divestments (Divestiture, Spin-Off, Carve-Out), joint ventures, strategic alliances) need and barriers to restructuring, Distinction between operational vs financial restructuring, with real company examples; Overview of value creation vs value destruction in restructuring Global trends in restructuring and their impact on Indian markets *(Suggested Caselets on Vodafone–Idea merger, Tata Group restructuring)*	CO1	6
2	Mergers and Acquisitions: Types of mergers (horizontal, vertical, conglomerate) with example; Distinction between	CO2	4

	mergers and acquisitions, classification, and motives behind mergers and acquisitions, merger process, identification of targets, takeover and defence tactics scheme of arrangement, company law and SEBI's Takeover Code, and Companies Act sections on Schemes of Arrangements ; Cross-border M&A and RBI's FDI regulations in M&A context Suggested Case Study discussion: Analyze Zee-Sony Merger or HDFC-HDFC Bank Merger		
3	Methods of financing mergers – Synergy valuation and impact on combined firm value; cash offer, share exchange ratio – mergers as a capital budgeting decision ; Valuation - DCF, Comparable Company Analysis (CCA), Precedent Transaction Method (PTM); Leveraged Buyouts (LBOs) as a financing tool for acquisition	CO3	8
4	Due Diligence: Concept, Need and steps in due diligence. Types of due diligence and reasons for failure of due diligence - Legal, financial, tax, HR, and ESG due diligence Due diligence red flags in failed acquisitions through discussion using due diligence checklist templates and cases where due diligence failure led to value loss (e.g., Jet-Etihad)	CO3	4
5	Post-Merger Issues: Concept of Integration in mergers, tools for integration, Post merger growth strategies. Human factors in integration; Performance tracking: Key metrics (ROIC, synergies realized)	CO4	4
6	Class Presentations - Case-based restructuring strategies, demonstrating the ability to apply theoretical concepts to practical scenarios OR simulated restructuring case (including valuation, legal compliance, and integration plan) [*Suggestion: Pitchbook creation and mock boardroom presentations]*	CO5	4

Textbooks

1. Godbole, P. (2013). Mergers, Acquisitions and Corporate Restructuring, Vikas Publishing House, New Delhi
2. Rajinder S Aurora, Kavita Shetty, Sharad R. Kale– Mergers & Acquisitions – Oxford University Press, New Delhi

Reference Books

1. B Rajesh Kumar, Mergers and Acquisitions, Text and Cases: Tata McGraw Hill Education Private Limited, New Delhi
2. Mergers, Restructuring and Corporate Control, Fred Weston, Kwang S Chung, Susan E Hoag, 4/e, Pearson Education.

Elective Course 10: Direct and Indirect Taxes

Credits: 2; Duration 30 hours

Course Objectives:

1. To introduce foundational concepts, definitions, and provisions of Indian Income Tax and Indirect Tax laws.
2. To enable practical computation of taxable income, GST liability, and customs duties for various entities.
3. To cultivate analytical skills for evaluating tax liabilities of individuals and corporations under current tax regulations.
4. To enhance awareness of ethical considerations in tax planning and strategies to differentiate avoidance, evasion, and compliance.
5. To familiarize students with recent reforms and trends in direct and indirect taxation, emphasizing their impact on economic governance.

Course Outcomes:

CO1: Understand the core concepts, provisions, and definitions under the Indian Income Tax Act and Indirect Tax Laws.

CO2: Apply provisions of Income Tax, GST, and Customs laws to compute taxable income and duties.

CO3: Analyze and compute tax liabilities for individuals, corporates, and indirect tax transactions

CO4: Evaluate ethical and legal dimensions of tax planning, avoidance, and evasion under both direct and indirect tax frameworks.

CO5: Assess the impact of recent reforms in direct and indirect taxation on compliance, administration, and economic governance.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	Indian Income Tax Act- • Concepts and definitions • Residential status • Heads of income (Salary, House property, profits and gains of business and profession, capital gains and income from other sources)	CO1	3
2	• Computation of Total Income and Determination of Tax Liability – Individuals	CO2, CO3	6
3	• Computation of Total Income and Determination of Tax Liability – Corporates • Other provisions like, PAN, TDS, Advance Tax, interest and penalty, assessment and appeals	CO2, CO3	6
4	• Indirect Taxes -	CO2, CO3	3

	○ GST – Supply as Basis of charge, Input Tax Credit, Types of GST – CGST, SGST and IGST		
5	• Indirect Taxes - ○ Custom Act – Basic provisions related to import and export	CO2, CO3	3
6	• Tax Planning, Tax Evasion, and Tax Reforms in India • Concept of tax planning vs tax avoidance vs tax evasion • Legitimate tax planning for individuals and corporates • GAAR (General Anti-Avoidance Rules) and its implications • Major tax reforms in India post-1991 (Direct and Indirect Taxes) • Recent trends: Faceless Assessment, Vivad Se Vishwas Scheme, Digital Taxation • Role of tax administration and policy in economic development	CO4, CO5	6
7	Case Discussions and Class Presentations	CO4, CO5	3

Textbooks

1. 'Students' Guide to Income Tax including GST', Singhania, V. K. & Singhania, Monica, Publisher: Taxmann Publications
2. '*Systematic Approach to Income Tax including GST',* Ahuja, Girish & Gupta, Ravi, Publisher: Wolters Kluwer

Reference Books

1. '*Income Tax Law and Accounts',* Mehrotra, H.C. & Goyal, S.P., Publisher: Sahitya Bhawan Publications
2. *'Indirect Taxes Law and Practice – GST & Customs',* Datey, V.S., Publisher: Taxmann Publications
3. Bare Acts & Circular Compilations - *Income Tax Act & GST Acts with Rules, Circulars, and Notifications,* Publisher: Commercial Law Publishers / Taxmann

Semester III - Human Resource

HR Specialization					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
Mandatory					
1	Mandatory - Specialization (HR)	Competency-based HRM & Performance Management System	2	20	**UA**
Electives (Any 5 including Open Elective)					
1	Elective	Artificial Intelligence (AI) in Human Resource Management	2	20	**IA**
2	Elective	Compensation and Benefits	2	20	**IA**
3	Elective	Employer Branding and Employee Value Proposition	2	20	**IA**
4	Elective	HR Analytics	2	20	**IA**
5	Elective	HR Planning and Application of Technology in HR	2	20	**IA**
6	Elective	Learning and Development	2	20	**IA**
7	Elective	Global HRM	2	20	**IA**
8	Elective	Organization Theory, Structure and Design	2	20	**IA**
9	Elective	SWAYAM Course	2	-	**IA**

***IA – Internal Assessment; UA – University Assessment**

Human Resource Group - Mandatory Course: Competency-based HRM & Performance Management System

Credits: 2: Duration: 30 Hours

Course Objectives:

1. To introduce the fundamentals and principles of competency-based human resource management systems.
2. To enable students to design and implement effective performance management frameworks aligned with organizational strategies.
3. To develop skills to critically evaluate performance appraisal methods, including contemporary and competency-based approaches.
4. To cultivate understanding of aligning employee competencies with organizational goals for performance enhancement.
5. To foster practical application of competency models for enhancing talent acquisition, retention, and development strategies.

Course Outcomes:

CO1: To understand history, concept, functions, and significant role of competency in the organization.
CO2: To analyse the competency mapping process and its application using various methods and tools in the organisation.
CO3: To create various approaches towards building a competency model and integrate the applications with HRM functions
CO4: To understand the conceptual framework of Performance Management System in the organisation
CO5: To apply and create methods of performance appraisal and evaluate the effectiveness of various performance appraisal methods in the organisation

Unit/ Module	Content	CO Mapping	Hours
1	**Introduction and Concept of Competency:** • Definition and history of competency • Difference between competence and competency • Types of Competencies – Generic, Behavioural and Functional • Key components of Competency Framework	CO2, CO1	2
2	**Competency Mapping Process:** • Meaning and Definition • Process of Mapping Competency for HR functions	CO2	3
3	**Developing Competency Framework and Models**: • Meaning of Competency Model • Development of competency framework	CO3	3

	• Five level of Competency Model, Mc Clelland's Competency Model & Lancester Model of Competency		
4	**Measurement and Metrics of Competency Mapping**: • Methods of Data Collection • Repertory Grid • Critical Incident Method • Expert Surveys • Job Analysis and Design • Behavioral Event Interview, etc.	CO3	3
5	**Assessment of Competency; Using Various Tools:** • Conducting various exercises in Assessment Centre- In Basket Exercise, Group Discussion, Role Play, Exercises, and Simulations • Psychometric Tools • Feedback and Report writing	CO2, CO3	4
6	**Foundation of Performance Management System** • Concept and Definition of Performance Management System • Objective and Scope of Performance Management Systems • Importance of Performance Management System	CO4	3
7	**Management of Performance:** • Components of Performance Management • Process for Managing Performance • Implications of Performance Management System	CO4	3
8	**Dimensions to measure Performance** • Setting Performance Standards • Job Analysis in Performance • Goal Setting: KPIs, KRAs, SMART goals	CO4	3
9	**Performance Appraisal System Implementation:** • Defining Performance Appraisal • Methods of Performance Appraisal • Biases and Errors in Performance Appraisal • Approaches to Performance Appraisal • Appraisal Interviews	CO5	3
10	**PMS Feedback and Ethics in Performance Management:** • Performance Feedback • Guidelines of Corrective Feedback • Need and Role of Performance Consulting • Ethical Issues and Dilemmas in Performance Management	CO4, CO5	3

Textbooks:

1. The handbook of Competency Mapping: Understanding, Designing and implementing Competency Models in organizations by Seema Sanghi Sage Publication
2. Competency Mapping and Assessment: A practitioner's Handbook: Seema Sanghi Routledge India Original.
3. Armstrong, M. & Baron, A., Performance Management and development, Jaico Publishing House, Mumbai
4. Bagchi, S. N., Performance management, Cengage Learning India
5. Bhattacharyya, D.K., Performance Management Systems and Strategies, Pearson Education

Reference Books:

1. Performance Management by Julie Freeman
2. Bringing out the best in people by Daniels.
3. Effective Performance Appraisal by James Neil
4. International Human Resource Management by Peter J Dowling, Device E Welch, 4th Edition.
5. International Human Resource Management by Hilary Harris, Chris Brewster and Paul Sparrow, VMP Publishers and Distributors

Recommended Pedagogy:

1. Lectures and Discussion
2. Case studies
3. Videos
4. Role Plays

Elective Course 1: Artificial Intelligence (AI) in Human Resource Management

Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce students to foundational concepts of artificial intelligence and its applications in human resource management.
2. To equip students with knowledge of AI-driven tools and platforms used for recruitment, on-boarding, and employee engagement.
3. To develop analytical skills for interpreting AI-driven HR analytics, predictive models, and decision-making processes.
4. To critically assess ethical and regulatory considerations related to AI integration in HR practices.
5. To provide practical exposure to AI technologies through hands-on projects, enhancing strategic HR decision-making capabilities.

Course Outcomes:

CO1: To develop an understanding of Artificial Intelligence (AI) and its applications in Human Resource Management (HRM).

CO2: To apply AI-driven tools and techniques in HR functions.

CO3: To analyse ethical and legal considerations in AI-powered HR decision-making and implementation.

CO4: To evaluate and develop practical expertise in AI-powered HR analytics and process automation.

CO5: To create and integrate AI Models in HRM.

Unit/ Module	Content	CO Mapping	Hours
1	**Introduction to AI in HRM** • Overview of Artificial Intelligence (AI) and Machine Learning (ML) • Evolution of AI in HRM • The Role of AI in Enhancing HR Functions	CO1	3

2	**AI in Talent Acquisition and Recruitment** • AI-Based Resume Screening & Applicant Tracking Systems (ATS) • Adoption of AI in Task automation, Recruitment, and Talent acquisition • Chatbots and Virtual Assistants for Candidate Engagement • Predictive Analytics for Hiring Decisions • AI in Diversity and Inclusion in Hiring • HR Metrics	CO1, CO2	4
3	**AI in Employee Engagement and Performance Management** • AI-Driven Employee Feedback Systems • Sentiment Analysis and Employee Experience Monitoring • AI for Performance Appraisals and 360-Degree Feedback • Personalized Learning & Development with AI	CO3	4
4	**Usage of AI in various functions of HR** • Using AI in Workforce Planning • Using AI in On-boarding • Using AI in Employee Training • Using AI in Performance Management • Using AI for Employee Retention	CO2, CO3	6
5	**AI in HR Analytics and Decision-Making** • Workforce Planning with AI • Predictive HR Analytics for Retention and Productivity • AI-Powered Compensation & Benefits Optimization • HR Metrics & Dashboards for Data-Driven Decisions	CO3, CO4	3
6	**Ethical, Legal, and Future Implications of AI in HRM** • Ethical Challenges of AI in HR (Bias, Privacy, and Transparency) • Legal & Compliance Aspects of AI in HR • The Future of AI in HRM – Trends and Innovations	CO3	3
7	**Challenges and Future Opportunities of AI in HRM** • Challenges of AI adoption in HRM • HRM digitalization Success and Future Opportunities. • AI in Career Succession Planning of Employees	CO4, CO5	3
8	**Emerging Trends of AI in HRM** • AI in Sustaining Green HRM • Emerging trends of AI based HRM • Benefits of Synergizing AI and HRM	CO5	4

	• AI in Compensation & Benefits • AI in Compliance		

Textbooks:

1. Artificial Intelligence for HR: Use AI to Support and Develop a Successful Workforce – Ben Eubanks
2. The Future Workplace Experience: 10 Rules for Managing Disruption in Recruiting and Engaging Employees – Jeanne C. Meister & Kevin Mulcahy
3. Human + Machine: Reimagining Work in the Age of AI – Paul R. Daugherty & H. James Wilson
4. Ben Eubanks (2018). Artificial Intelligence for HR: Use AI to Support and Develop a Successful Workforce. Kogan Page Publishers, 2018
5. Strohmeier, Stefan (2022). Handbook of Research on Artificial Intelligence in Human Resource Management. Edward Elgar Publishing, 2022

Reference Books:

1. Reports from Gartner, McKinsey, and Deloitte on AI in HR
2. Case studies from Harvard Business Review (HBR)
3. Articles from SHRM (Society for Human Resource Management)

Recommended Pedagogy:

1. Lectures and Discussion
2. Case studies
3. Videos
4. Application through Software

Elective Course 2: Compensation and Benefits

Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce students to compensation management principles and benefit administration practices.
2. To provide insights into various compensation strategies aligned with organizational goals and performance metrics.
3. To develop skills for designing and implementing comprehensive compensation plans and benefit packages.
4. To cultivate understanding of regulatory frameworks affecting compensation and benefit structures.
5. To enable critical evaluation of contemporary trends and ethical considerations in employee compensation.

Course Outcomes:

CO1: To understand the key concepts, components, and legal aspects of Compensation and benefits & the strategic role of Compensation.

CO2: To apply job evaluation methods and pay structures in real-world scenarios.

CO3: To analyse Compensation data to assess internal and external pay equity and various Compensation models

CO4: To evaluate the effectiveness of Compensation strategies in achieving organizational goals.

CO5: To create an innovative and competitive Compensation and benefits plan for an organization.

Unit/ Module	Content	CO Mapping	Hours
1	**Introduction to Compensation and Benefits** - Human Resources Philosophy and Perspectives on Compensation - Difference between Compensation and Benefits. - Approaches of organization for Compensation and Benefits - Global Compensation Approaches - Aligning Compensation Strategies with Business and HR Goals - Regulatory adherence	CO1	3

2	**Job Evaluation & Pay Structures** - Job Evaluation - Process & Methods (Ranking, Classification, Point Method, Factor Comparison, Hay Guide) - Designing Pay Structures - Grade Pay, Pay Band and Broadband - Internal & External Equity	CO2	3
3	**Reward Strategy & Elements of Reward Strategy** - Articulating and understanding business context for reward strategies - Total Rewards Models, Equity-Expectancy Model - Reward Management - Benefits & Perquisites - Flexible Benefits, Employee Stock Options (ESOPs) and Phantom Stock Option Plan (PSOPs) - Legal Compliance	CO1, CO2, CO 4	3
4	**Understanding Compensation Structure and Salary Framework** - Costing the CTC of each element - Compensation Structure-Wages and Salary - Fixed;Cash Benefits; Retirals; Social Security; Variable Pay/Incentives/Stock Options; Forms of Pay – Base Pay, Merit Pay, Cost of Living - Elements in different salary slips - Consolidated and Separated Pay structure. - Designing a salary offer template - Evaluating and Understanding salary ranges - Extending a Salary Offer	CO1, CO3, CO5	6
5	**Understanding Inflation** - Neutralization of Inflation - Dearness Allowance - Consumer Price Indices	CO1, CO5	3
6	**Employee Benefits and Social Security Schemes** - Calculation of PF, ESIC, Gratuity, Superannuation - Approaches to Ex-gratia & Bonus	CO1, CO2	3
7	**Income Tax and Its Impact on Salary Structure** - Understanding & Calculating Income Tax - Gross and Net Pay - Key Deductions	CO1, CO3, CO5	2

8	**Equity Compensation** - Meaning, Objectives - Types of Stock Plans - Valuing Stock Grants - SEBI Guidelines - Taxability of Stock Options **Performance-Based Pay Strategies** - Pay-for-Performance Models - Merit Pay, Bonuses and Incentives - Profit Sharing & Gainsharing - Executive Compensation - Competitive Pay Policy	CO4, CO5	4
9	**Emerging Trends in Compensation and Benefits** - Impact of Technology on Compensation Management - Gig Economy and its impact - Competitive Pay Policy Alternatives – Lead, Lag, Match - Pay Transparency - Ethics in Compensation Decisions	CO4, CO5	3

Textbooks:

1. Compensation Management, Dipak Kumar Bhattacharya, Oxford Publications
2. Compensation Management in a Knowledge Based World, Richard I Henderson, Pearson Publications
3. Human Resource Management-Text and Cases, K. Aswathappa, McGraw Hill Education, 8th Edition

Reference Books:

1. Managing Human Resources – Bohlander, Snell, Sherman
2. Berger, L. A., Berger, D. R., & Berger, L. A. The Compensation handbook. 6e, 2016. New York: McGraw-Hill

Recommended Pedagogy

1. Interactive Lectures
2. Case studies
3. Videos
4. Application through Excel

Elective Course 3: Employer Branding and Employee Value Proposition

Credits: 2; Duration: 30

Course Objectives:

1. To familiarize students with the concept and strategic significance of employer branding.
2. To enable students to analyze and formulate employee value propositions (EVPs) tailored to organizational contexts.
3. To equip students with the tools for assessing and enhancing organizational attractiveness to potential and current employees.
4. To provide practical strategies for integrating employer branding initiatives with overall HR and marketing functions.
5. To foster understanding of measuring the effectiveness and impact of employer branding campaigns.

Course Outcomes:

CO1: To understand employer branding and initiatives undertaken by different organizations.

CO2: To apply the concept of employee value proposition as an element of employer branding.

CO3: To analyse the impact of Employer Brand Management on organizations.

CO4: To evaluate the impact of employer branding on employee value proposition.

CO5: To create competitive advantage for an organization through Employer Branding Strategies.

Unit / Module	Content	CO Mapping	Hours Assigned
1	**Introduction to Employer Branding:** • Brand Definition, Management, and Development • Evolution and history of Employer Branding • Brand Consistency and Continuity	CO1	3
2	**Importance of Employer Branding** • Changing needs and aspirations of employees • Role of top management in employer branding • Manager's role in Employer Branding	CO1, CO2	3
3	**Employer Branding Process** • Diagnosing the Employer Brand • Creation and Operationalization of the Employer Brand	CO3	4

	• Integrating branding with organization's culture and values		
4	**Benefits of Employer Branding** • Functional, Emotional, Higher Order and Life Cycle Benefits	CO3	4
5	**Employee Value Proposition** • Definition and Importance • Link to Motivation Theories • Creating a Strong EVP: Identifying unique employer strengths • Customizing EVP for diverse workforce segments	CO4	6
6	**Employer Brand Management** • Policies: External Reputation, Internal Communication • Senior Leadership and CSR (Corporate Social Responsibility) • Local Picture: Recruitment, Induction, and Performance Management • CSR and Employer Brand Impact: Diversity, Equity, Inclusion and Belonging (DEIB) in Employer Branding • Sustainability and Employer Brand Positioning	CO4, CO5	6
7	**Process of Evaluation of Employer Branding & Employee Value Proposition** • Success Stories • Change Management • Measurement of Impact • Sustaining Long-term Employer Branding • Future trends in Employer Branding (AI, Gig Economy, Remote Work)	CO5	4

Textbooks:

1. The Employer Brand Bringing the Best of Brand Management to People at Work, Simon Barrow & Richard Mosley, Second Edition, Wiley
2. Employer Branding: Use your Brand to Attract the Employees you Need for your Business to Succeed, James Ellis, First Edition, Kogan Page

Reference Books:

1. The Talent Magnet - Employer Branding & Recruitment Marketing Strategies to Attract Millennial Talent, Richard Evans, , Create Space Independent Publishing Platform

Recommended Pedagogy:

1. Interactive Lectures
2. Case studies
3. Videos
4. Simulation

Elective Course 4: HR Analytics

Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce foundational concepts and methodologies in human resource analytics.
2. To equip students with analytical skills for interpreting HR data and metrics for informed decision-making.
3. To demonstrate practical applications of predictive analytics in workforce planning and talent management.
4. To train students in leveraging analytics tools for performance management and employee engagement.
5. To critically assess ethical and privacy concerns associated with HR analytics implementation.

Course Outcomes:

CO1: To understand the importance of Human Resource Analytics.

CO2: To apply HR Analytics to facilitate decision making in organizations.

CO3: To analyze the business environment and use HR Analytics for various HR functions.

CO4: To evaluate the impact of HR Analytics in resolving business challenges.

CO5: To create ethical ways to use AI and enhance organization effectiveness.

Unit / Module	Content	CO Mapping	Hours Assigned
1	**Introduction to Analytics:** • Evolution of Analytics • Need for Analytics in Business • Introduction to HR Analytics and link to organizational goals	CO1	2
2	**Matrices and Analytics** • Terminology of Matrices and Analytics • Descriptive Analytics • Prescriptive Analytics • Predictive Analytics • Models in HR Analytics.	CO2	7
3	**HR Information Systems and Data** • Information Sources • Analysis software options • Preparing data: Using Software Big Data	CO2	3
4	**Analysis Strategies** • Descriptive reports to predictive analytics • Statistical Significance: Types of data • Types of statistical tests: Factor Analysis, Reliability & Validity Analysis, SEM etc.	CO2	5

5	**Recruitment and Selection Analytics** • Reliability and validity of selection process • Human bias in recruitment and selection • Predicting Employee Performance • Indicators of Performance • Methods for Measuring Performance	CO3, CO4	3
6	**Employee Engagement and Workforce Perceptions** • Measuring Employee Engagement: Interrogating the measures • Conceptual Explanation of factor analysis	CO3, CO4	3
7	**Predicting Employee Turnover** • Relevance of employee turnover as an HR indicator • Descriptive Turnover Analysis: Measuring and exploring differences between turnover at an individual and team level • Equality, diversity and inclusion: Approaches to measuring and managing D&I	CO3, CO4	3
8	**Monitoring the Impact of Interventions** • Tracking the impact of various HR interventions	CO4	2
9	**Ethics in Analytics:** • Ethical Standards for HR Analytics • Limitations of AI	CO5	2

Textbooks:

1. The New HR Analytics: Predicting the economic value of your company's human capital investment: Jac Fitz-enz
2. HR Analytics: The Wat,Why and How: Tracey Smith
3. HR Analytics Understanding Theories and Applications Dipak Kumar Bhattacharya Sage
4. Practical Applications of HR Analytics Pratyush Banerjee,Jatin Pandey,Manish Gupta Sage

Reference Books:

1. Predictive HR Analytics: Mastering the HR Metric: Dr. Martin R. Edwards, Kirtsten Edwards

Recommended Pedagogy:

1. Lectures and Discussions
2. Case studies
3. Videos
4. Application through Software

Elective Course 5: HR Planning and Application of Technology in HR

Credits: 2; Duration: 30

Course Objectives:

1. To provide an overview of strategic human resource planning processes and methodologies.
2. To familiarize students with various technological solutions enhancing HR functions, including recruitment and training.
3. To equip students with skills to utilize HR information systems (HRIS) effectively for workforce management.
4. To develop analytical capabilities for forecasting human resource needs using technological tools.
5. To foster a critical understanding of challenges and best practices in technology-driven HR planning.

Course Outcomes:

CO1: To understand the importance of Human Resource Planning (HRP), Job Analysis, Job Design & Re-Design and its integration with Strategic HRM to enhance Organizational Effectiveness.

CO2: To apply HR Planning techniques to understand manpower requirements in the organization in the dynamic business environment.

CO3: To analyse HRP Strategies facilitating Workforce Diversity.

CO4: To evaluate the impact of HRP Strategies on Organizational Effectiveness.

CO5: To create ways to use technology as an enabler in improving HRP function.

Unit/ Module	Content	CO Mapping	Hours
1	**Introduction to HR Planning** • Concept & Importance of HR Planning • HRP Process • Forecasting Techniques: HR Demand Forecasting, HR Supply Forecasting, Managerial Judgment, Ratio Trend Analysis, Regression Analysis, Work Study Technique, Delphi Techniqu • Skills Inventories, Replacement Charts, Staffing Tables • Linking HRP to Strategic HRM	CO1	6
2	**Job Analysis** • Job Analysis - Process, Uses, Techniques of Data Collection, Methods • Job Description & Job Specification	CO1	4

3	**Job Design and Job Re-design** • Job Design - Benefits, Methods • Job Re-design - Process, Steps, Types, Methods	CO1	4
4	**HR Planning, Acquisition & Selection** • Recruitment & Selection • Linking of HRP to Recruitment & Selection	CO2	3
5	**Workforce Planning for Diversity** • Diversity Planning, • Dimensions of Diversity • Policies, Valuing Diversity in Organizations • Gender Diversity Legislation • Corporate initiatives on Gender Diversity • Organizational Strategies for Promoting Diversity • Diversity Awareness Training Programs • Systemic and Individual Diversity • Change Initiatives, • The Future of Diversity – A Global Perspective	CO3	4
6	**Employee Engagement, Retention & Succession Planning** • Employee Engagement: Conceptual Framework, Antecedents of Engagement, Outcomes of Employee Engagement, • Employee Retention • Succession Planning	CO4	3
7	**Use of HRIS in HR Planning** • Introduction to HRIS • HRIS & Automation in HRP Processes • Privacy & Security in Information Systems	CO5	3
8	**Emerging Trends & The Future of HR Tech** • Virtual Reality (VR), Augmented Reality (AR) & Blockchain in HR • The Gig Economy and Flexible Hybrid Work Arrangements	CO5	3

Textbooks:

1. Human Resource Planning, James W Walker
2. Human Resource Management-Text and Cases– K. Aswathappa, McGraw Hill Education, 8th Edition
3. Human Resource Development – Uday Kumar Haldar – Oxford Publications
4. Managing Diversity: Toward a Globally Inclusive Workplace Book by Michalle E. Mor Barak
5. HR Analytics: The What, Why and How: Tracey Smith
6. Managing Human Resources -Snell & Morris Cengage Learning
7. HR -Denisi, Griffin, Sarkar - Cengage Learning: A South-Asian Perspective

Reference Books:

1. Human Resource Planning – D.K Bhattacharya
2. Human Resource Planning – M.S Reddy
3. Planning & Managing Human Resources – William J Rothwell, H.C Kazanas

4. Reinventing Jobs: A 4-Step Approach for Applying Automation to Work by Ravin Jesuthasan and John Boudreau
5. HR Here and Now – The Making of the Quintessential People Champion Sage

Recommended Pedagogy:

1. Interactive Lectures
2. Case studies
3. Videos

Elective Course 6: Learning and Development

Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce concepts, theories, and frameworks of employee learning and development.
2. To develop practical skills in designing, implementing, and evaluating training programs.
3. To equip students with methods to identify organizational training needs and performance gaps.
4. To familiarize students with contemporary e-learning technologies and blended learning approaches.
5. To enhance understanding of measuring the effectiveness and ROI of learning and development interventions.

Course Outcomes:

CO1: To understand the importance of Learning & Development (L&D) in Human Resource Management.

CO2: To discover and apply various L&D models, frameworks, and industry best practices to enhance employee growth and organizational performance.

CO3: To develop the ability to design, implement, and evaluate effective training programs tailored to business needs.

CO4: To examine the role of technology and AI in transforming Learning and creating suitable Learning & Development strategies.

CO5: To analyse and interpret real-world case studies of successful L&D initiatives and create effective L&D strategies.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	**Introduction to Learning & Development** • Importance of L&D in Organizational Growth • Difference Between Training, Learning, and Development • Aligning L&D Strategy with Business Goals • The Role of HR in Learning & Development	CO1	3
2	**Learning Theories and Models** • Adult Learning Theories (Andragogy, Experiential Learning, Constructivism)	CO2	6

	• ADDIE Model (Analysis, Design, Development, Implementation, Evaluation) • Bloom's Taxonomy of Learning Objectives • 70:20:10 Model for Workplace Learning		
3	**Training Needs Assessment & Program Design** • Identifying Skill Gaps & Training Needs • Designing the training module • Competency Mapping & Career Development Plans • Designing Effective Training Programs • Instructional Design Principles & Learning Styles	CO3	6
4	**Training Administration** • Training Budget • Designing Training Calendar	CO 3	2
5	**Learning Methods & Emerging Trends** • Traditional vs. Digital Learning Approaches • E-Learning, Gamification, and Micro-learning • AI and Learning Analytics in Corporate Training • Virtual Reality (VR) & Augmented Reality (AR) in Training	CO3, CO4	5
6	**Evaluation of Training Effectiveness** • Kirkpatrick's Four Levels of Evaluation • ROI of Training & Development Programs • Employee Engagement and Post-Training Performance Analysis • Continuous Learning & Upskilling Strategies	CO3	5
7	**Future of Learning & Development** • Reskilling & Upskilling in the Future of Work • Learning Culture & Knowledge Management • Leadership Development Programs • Diversity, Equity, Inclusion and Belonging (DEIB) in L&D	CO5	3

Textbooks:

1. Employee Training and Development, Raymond A. Noe and Amitabh Deo Kodwani ,9th Edition, McGraw Hill
2. The New Leadership Literacies: Thriving in a Future of Extreme Disruption and Distributed Everything, Bob Johansen, Berrett-Koehler Publishers
3. Make It Stick: The Science of Successful Learning , Peter C. Brown, Henry L. Roediger III, Mark A. McDaniel, Harvard University Press

Reference Books:

1. Training and Development: Theories and Practices , S. K. Bhatia, Deep & Deep Publications
2. Fundamentals of Human Resource Management, Gary Dessler, Pearson Education
3. Harvard Business Review (HBR) Articles on L&D
4. Research Reports from McKinsey, Deloitte, and ATD (Association for Talent Development)
5. SHRM Learning & Development Resources

Recommended Pedagogy:

1. Interactive Lectures
2. Case Studies
3. Role Plays
4. Videos
5. Simulation
6. Gamification

Elective Course 7: Global HRM

Credits: 2; Duration: 30 Hours

Course Objectives:

1. To provide insights into the strategic role and complexities of global human resource management.
2. To familiarize students with cross-cultural management practices and global talent acquisition strategies.
3. To enable analysis of international HR policies, expatriate management, and global workforce planning.
4. To cultivate skills for addressing legal, ethical, and compliance challenges in global HRM contexts.
5. To develop capabilities in designing HR strategies for multinational corporations operating in diverse regions.

Course Outcomes:

CO1: To understand the key concepts, functions and importance of human resource management across different countries.

CO2: To apply recruitment, selection and staffing strategies that align with global business objectives.

CO3: To analyze HR policies in a global context by examining legal frameworks, cultural influences and labour relations.

CO4: To evaluate the impact of global HR practices on employees' performance, engagement, and compliance.

CO5: To create and implement compensation frameworks and performance-based pay systems in accordance with the country of workplace.

Unit/ Module	Content	CO Mapping	Hours
1	**Introduction to Global HRM** • Key Drivers of Globalization in HRM • Differences between Domestic & Global HRM • Challenges in Managing an International Workforce • Ethics in International Business	CO1	3
2	**Understanding Human Behaviour in a Global Perspective** • The Influences of Cross-Cultural Issues on Organisations • Motivation, Communication and Cross-Cultural Leadership • Cultural Diversity and Multicultural Teams	CO3	3
3	**Global Workforce Recruitment & Selection**	CO2	4

	• International Recruitment – Appropriate Methods & Techniques • International Selection – Appropriate Methods & Techniques • Issues in Selection • Talent Management in a Global Context • Diversity & Inclusion in Global HR		
4	**Global Workforce Learning & Development:** • Cross-Cultural Sensitivity Training • Learning and Developing International Management Teams • Developing Staff through International Assignments and its relation to International Career Paths • Role of Expatriate Learning in Global Workforce Development	CO3	4
5	**International Performance Management System** • Types and Criteria for Performance Management System • Performance Biases • Global Performance Management Evaluation Standards	CO4	3
6	**Legislation and the International Workforce & Employee Relations** • Issues in International Industrial Relations • Conflict Resolution in a Multicultural Workplace • Hofstede's Cultural Dimensions • International Labour Standards and Employment Laws • Global Unions, Negotiations and Regional Integration	CO3	4
7	**Global Compensation and Benefits** • Objectives of International Compensation • Compensation Structures in a Global Setting • Managing Executive Compensation and Expatriate Pay and Benefits • Motivation and Reward Systems • Problems with Global Compensation	CO4, CO5	3
8	**Strategic HRM in Cross-Border Mergers & Acquisitions** • Strategies for Global HRM • HRM in Cross-Border Mergers, Acquisitions and Global Expansion • HR Interventions	CO3, CO4	3
9	**Emerging Trends in Global HRM** • Technology and Global HRM • Emerging Trends in Employee Relations and Employee Involvement • Future Trends in Global HRM Practices	CO5	3

Textbooks:

1. International Human Resource Management, K. Aswathappa and Sadhna Dash, Second Edition (2012) , Tata McGraw Hill Education Private Limited
2. International Human Resource Management. Peter J. Dowling, Eighth Edition (2024), Marion Festing, and Allen D. Engle, Cengage Learning EMEA Publishing
3. Essentials of International Human Resource Management: Managing People Globally, David C. Thomas and Mila B. Lazarova, Second Edition (2024) Edward Elgar Publishing
4. Managing a Global Workforce: Challenges and Opportunities in International Human Resource Management, Charles M. Vance and Yongsun Paik, Second Edition (2014), Routledge Publishing
5. Human Resources Management A South Asian Perspective, Scott Snell, George Bohlander, Veena Vohra, Cengage Learning India Pvt Ltd (Publisher)

Reference Books:

1. International Human Resource Management: Policies and Practices for Multinational Enterprises, Ibraiz Tarique, Dennis R. Briscoe, Randall S. Schuler, Fourth Edition (2015), Routledge Publishing
2. Globalizing Human Resource Management, Paul Sparrow, Chris Brewster, and Hilary Harris, Second Edition (2016), Routledge Publishing

Recommended Pedagogy:

1. Interactive Lectures
2. Case Studies
3. Role Plays
4. Videos

Elective Course 8: Organization Theory, Structure and Design

Credits: 2; Duration 30 Hours

Course Objectives:

1. To introduce foundational concepts and theories underlying organizational structures and designs.
2. To enable critical analysis of various organizational structures and their impacts on business performance.
3. To develop skills in evaluating and designing effective organizational processes and systems.
4. To cultivate understanding of contemporary trends in organizational theory, including agile and flat structures.
5. To foster practical insights into managing organizational change and structural realignment.

Course Outcomes:

CO1: To understand the fundamental principles, theories, and models of organizational design and structure.

CO2: To analyze and apply organizational design theories to create effective and efficient organizational structures.

CO3: To evaluate the impact of different organizational structures on business performance, strategy, and HR practices.

CO4: To analyse the influence of technology, culture, and external environments on organizational design and structure.

CO5: To create and implement organizational structures that align with strategic objectives and enhance organizational performance.

Unit/ Module	Content	CO Mapping	Hours
1	**Introduction to Organization Design and Structure** • Key concepts in organizational design and structure • Relationship between organizational structure, performance, and strategy • Role of organization design in HR practices • Introduction to Classical and Modern Organizational Design Theories	CO1	2
2	**Theoretical Foundations of Organization Design** • Classical organizational theory: Taylor, Weber, and Fayol	CO1	3

	• Neoclassical theories: Human Relations, Contingency Theory • Modern organizational theories: Systems Theory, Chaos Theory • Debate on the relevance of Classical vs. Modern theories • Application of these theories in current organizational settings		
3	**Organizational Structure Fundamentals and Types** • Types of organizational structures: Functional, Divisional, Matrix, Virtual, Ad hoc and Network Structures • Design of Organizational Structures: Key considerations and strategic alignment • Relationship between Organizational Structure and HR Functions • Comparative Analysis of Structure Types and their Impact on Organizational Outcomes	CO1, CO3	3
4	**Strategic Alignment of Organization Structure** • Mintzberg's Configurations of Organizational Structures • Chandler's Strategy-Structure Relationship • Organizational Design and Structural Transformations in National and International Contexts • Role of HR to align Organizational Structure with Organizational Strategy	CO3	3
5	**Organizational Design and Performance** • Linking Organizational Design with Organizational Performance • Continuous Improvement through Organizational Design • Impact of Design on Innovation, Productivity, and Employee Engagement • Role of HR in improving Organizational Design and Performance	CO3	4
6	**Technology and Organizational Design** • Role of Technology in shaping Organizational Design • Impact of Digital Transformation, AI, and Automation on Organizational Structures • Rise of Platform-based Organizations and Remote Work Models • Influence of Technology on HR Processes and Structures • Future Trends in Technology - driven Organizational Design	CO4	3

7	**The Role of Organizational Culture in Design** • Role of Culture in Organizational Design Decisions • Aligning Organizational Culture with Structure and Strategic Objectives • Schein's Culture Model and Hofstede's Dimensions of Culture • Shaping Organizational Culture to support Business and HR Objectives	CO4	3
8	**Managing Organizational Change and Structural Adaptation** • Types of Organizational Change: Transformational Vs. Incremental • Managing Resistance to Change in the context of Organizational Design • Models of Organizational Change: Lewin's Change Model, Kotter's 8-step process, ADKAR • Importance of Organizational Agility in adapting Organizational Design to changing Environments	CO2, CO4	4
9	**Leadership, Power, and Decision-Making in Organizational Design** • Impact of Leadership Styles on Organizational Structure and Design • Role of Power, Politics, and Authority in shaping Structures • Interplay between Leadership, Decision-Making, and Organizational Design	CO2	2
10	**Contemporary Trends in Organizational Design** • Agile Organizations and Holacracy • Gig economy and its impact on Organizational Structures • Trends in Remote Work, Virtual Teams, and Decentralized Structures • AI-driven Organizational Structures and Technology-Enabled Design • Future challenges and opportunities in Organizational Design	CO3, CO4	3

Textbooks:

1. Gareth R. Jones - Organizational Theory, Design, and Change
2. Richard L. Daft and Nishant Uppal - Understanding the Theory and Design of Organizations, 11th Edition
3. Stephen P. Robbins & Timothy A. Judge - Organizational Behavior
4. Jay R. Galbraith - Strategic Organizational Design
5. Kates, A., & Galbraith, J.R. - Designing Your Organization: Using the Star Model to Solve 5 Critical Design Challenges

Reference Books:

1. Organization Development and Change by Thomas G. Cummings & Christopher G. Worley
2. The Theory and Practice of Change Management by John Hayes

Recommended Pedagogy:

1. Interactive Lectures
2. Group Projects
3. Role Plays
4. Presentations and Case Study Analysis
5. Guest Speakers

Semester III - Marketing

Marketing Specialization					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
Mandatory					
1	Mandatory	Marketing Strategy	2	20	**UA**
Electives (Any 5 including Open Elective)					
1	Elective	Consumer Buying Behaviour	2	20	**IA**
2	Elective	Sales Management	2	20	**IA**
3	Elective	Product Management	2	20	**IA**
4	Elective	Brand Management	2	20	**IA**
5	Elective	Digital Marketing	2	20	**IA**
6	Elective	Marketing Analytics	2	20	**IA**
7	Elective	Retail Management	2	20	**IA**
8	Elective	Rural Marketing	2	20	**IA**
9	Elective	Tourism Marketing	2	20	**IA**
10	Elective	SWAYAM Course	2	-	**IA**

***IA – Internal Assessment; UA – University Assessment**

Marketing Group - Mandatory Course: Marketing Strategy

Credits: 2; Duration: 30 Hours

Course Objectives:

1. To provide foundational knowledge of strategic marketing concepts and frameworks.
2. To equip students with analytical tools to evaluate market opportunities and competitive positioning.
3. To enable formulation and execution of comprehensive marketing strategies aligned with organizational goals.
4. To cultivate skills in integrating strategic decision-making with marketing functions and resources.
5. To foster the ability to critically evaluate marketing strategy effectiveness and adapt to market dynamics.

Course Outcomes:

CO1: Understand the fundamentals of strategy formulation

CO2: Apply concepts learnt to create meaningful differentiation for customers

CO3: Analyze the market position and opportunities using frameworks learnt

CO4: Evaluate alternative strategies keeping in mind customer differences, their trade-offs etc.

CO5: Create a marketing strategy based on concepts.

Unit / Module	Content	CO Mapping	Hours
1	Segmentation, Targeting and Positioning – brief overview; marketing segments to strategic segments	CO1, CO2,	3
2	5C's analysis – customer/consumer analysis, competitor strategies and strategic moves, collaborator- value net, company- capabilities, competitor capabilities matrix, context	CO1, CO2	5
3	Formulate the Product policy – elements of value creation for the customer; product mix, line decisions; modifications of product lines; product testing – become the voice of the customer – go/no go decisions	CO2, CO3, CO4	6
4	Formulate the Promotions policy – role of moments of truth, customer reviews, 6 M's model of communication – market, mission, message, media, money, measurement; one-way v/s two-	CO2, CO3, CO4	4

	way communication; mass v/s customized communication; use of social media		
5	Formulate the Distribution Policy – types of channels, channel selection based on product characteristic; consumer behaviour impact on channel decisions; extent of control and resources available and choice of channel; strategic channel management – role conflict, goal conflict, communication failure, incentives and penalties in channel management	CO2, CO3, CO4	6
6	Decide on Pricing Decisions – value-based pricing, designing a price band; pricing strategy and tactics; linkage between managing the price band width and types of promotions, competitive responses to pricing strategies	CO2, CO3, CO4	6

It is recommended that the course be instructed through cases.

Textbooks:

1. What is Marketing? Alvin Salk, HBS Press
2. Marketing Strategy. Orville Walker, Harper Boyd Jr, John Mullins. McGraw Hill Education.

Reference Books:

1. Harvard Business Essentials: Marketer's Toolkit. Harvard Business Review Press.
2. Tilt: Shifting your Strategy from Products to Customers. Niraj Dawar. Harvard Business Review Press.
3. Marketing as Strategy: Understanding the CEO's agenda for Driving Growth and Innovation. Nirmalya Kumar. Harvard Business School Press. Boston, MA.

Elective Course 1: Consumer Buying Behaviour

Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce students to concepts, theories, and models of consumer behaviour.
2. To equip students with analytical skills to understand factors influencing consumer purchase decisions.
3. To develop capabilities to apply consumer behaviour insights to marketing strategies and campaigns.
4. To enhance students' skills in conducting consumer research and behavioural analysis.
5. To cultivate understanding of contemporary trends in consumer psychology, including digital and social influences.

Course Outcomes:

CO1: Understand how consumers differ in their behaviours across categories, situations

CO2: Apply consumer's decision-making process (DMP) at various stages of the buying process to make appropriate decision

CO3: Analyze the consumer decision making process based on above frameworks and make optimal decisions

CO4: Evaluate different forces shaping consumer behaviour and their impact on marketing strategies

CO5: Create a marketing plan based on the frameworks learnt in this course.

Unit / Module	Content	CO Mapping	Hours Assigned
1	Psychology of Buying Process: Frameworks- High involvement v/s low involvement; Cognitive v/s Emotional, optimizing v/s Satisficing; compensatory v/s non-compensatory decision making	CO1, CO2, CO3	4
2	Motivation, attitudes, perception, learning and role in consumer buying decision	CO1, CO2	3
3	Consumer decision making process – Pre-purchase – triggers for need recognition; search and consideration of alternatives, evaluation of alternatives; role of above frameworks in this stage of buying process	CO1, CO2, CO3	2
4	Purchase Process – which brand, from which sell, when to buy, how to pay?	CO2, CO3, CO4	2

5	Post-purchase decisions- after sales care, end of life recycle, Net Promoter score, loyalty programmes for customer retention	CO2, CO3, CO4	2
6	Prospect Theory, endowment effect and impact on consumer psychology, influence on diffusion of innovation, 9X effect, capturing value from Innovation	CO2. CO3, CO4	3
7	Forces impacting consumer behaviour – ageing of society, women in the workforce, declining middle-class; social media – role in every stage of the buying process, reasons for usage of social media by consumers	CO2, CO3, CO4	3
8	Impact of AI Platforms and digital assistants on Consumer behaviour – navigate consumer choices, control access to companies, reduced role of brand recognition; understanding algorithms used to choose and identify brands for each customer; promotion of branding outside AI platforms; acquisition of consumer data from platforms to inhibit brand switching.	CO3, CO4	2
9	CO-creating value with consumers – crowdsourcing, lead user research; fringe customers – lovers, haters, opt-outers of the brand/category, role of empathy, online ethnography (Netnography) to analyze conversations of consumers in brand communities	CO2, CO3, CO4	2
10	Brand culture – material markers v/s brand culture, authors of a brand culture – company, popular culture, customers, influencers, role of stories, images, and associations in creating brands a cultural artefacts, brand values – reputational, relationship, experiential, symbolic	CO2, CO3, CO4	3
11	Brand Storytelling -emotional connect, elements of a good story – strong ideological message, unforgettable characters for affiliation, conflict as a driving force, dynamic plots; use of humour, fear, romance, irony as storytelling devices to resonate with consumers	CO2, CO3, CO4	2
12	Conscience Marketing – socially and environmentally responsible products, carbon footprint of supply chains,	CO2, CO3, CO4	2

Text Books:

1. Consumer Behavior. Hawkins, Best and Coney. Irwin/McGraw Hill
2. Consumer Behaviour. Leon Schiffman, Joseph Wisenblit, Ramesh Kumar, 12e, Pearson

Reference Books:

1. Why we buy: The Science of shopping. Paco Underhill. Pearson
2. Thinking Fast and Slow. Daniel Kahneman. Penguin
3. Customer Behavior: A Managerial Perspective. Jagdish Sheth, Banwari Mittal. Thomson/South Western

Elective Course 2: Sales Management

Credits: 2; Duration: 30

Course Objectives:

1. To provide students with foundational concepts of sales management and personal selling.
2. To develop practical skills in planning, organizing, and managing sales force activities.
3. To familiarize students with methods and tools for sales forecasting, budgeting, and performance measurement.
4. To equip students with techniques for effective recruitment, training, and motivation of sales personnel.
5. To enable critical evaluation of contemporary sales management practices, including digital sales strategies.

Course Outcomes:

CO1: Understand the changing nature of the salesforce and complexity of selling situations

CO2: Analyse the impact of the quality of salesforce on revenue growth

CO3: Evaluate the movement from general to specialised selling; shift from product selling to deep customer understanding and impact on sales force

CO4: Apply the concepts learnt to increase customer retention through managing the sales force

CO5: Develop a sales force plan from concepts learnt in the course

Unit / Module	Content	CO Mapping	Hours Assigned
1	The new sales force approach – retain existing accounts, manage for profitability, manage accounts for long-term profitability	CO1, CO2	4
2	The sales task – focus on company/customer interface; identify accounts to serve, specific activities to accomplish, interactions with other functions to achieve the tasks,	CO1, CO2, CO3	4
3	Types of salespersons – missionary, delivery, order taker, technical salesperson; design of sales territories – workload, sales potential, territory changes	CO1, CO2	3
3	Designing the sales organization – movement from geography/product to type of account; account v/s product specialization; define salesperson activity based on product/account complexity	CO3, CO4	3
4	Salesforce tasks- define the salesforce tasks; impact on supplier-customer relationship; impact of changes in customer priorities, new competitive offerings, changes in	CO3, CO4	4

	customer needs; managing sales transactions to numerous accounts; building, managing, and protecting long-term business relationships;		
5	Salesforce Architecture – based on defined salesforce tasks, structure of sales force, staffing and specialised skills required, mix of in-house and outsourced sales activities, resource allocation to each sales force, determinants of boundaries between sales forces	CO2, CO3, CO4	4
6	Relationship between Marketing and Sales Organizations – joint decisions on product mix, price band, sales support, private label strategies, complementary social media, digital marketing, advertising strategies, joint execution strategies	CO3, CO4, CO5	4
7	Sales Management systems – motivation system- incentives, contests, personal acknowledgement and feedback, sales task clarity as motivator; measurement system- competitor/customer intelligence, links to key variables in Corporate strategy, internal and external metrics; competency creation systems- recruitment and selection of salesforce, training, coaching	CO4, CO5	4

Textbooks:

1. Sales Management That Works: How to Sell in a World That Never Stops Changing. Frank V. Cespedes. Harvard Business Review Press
2. Aligning Strategy and Sales. The Choices, Systems, and Behaviours That Drive Effective Selling. Frank V. Cespedes. Harvard Business Review Press.
3. Harvard Business Review Sales Management Handbook: How to Lead High Performance Sales Teams. Prabhakant Sinha, Arun Shastri, Sally Lorimer.
4. Sales and Distribution Management: Decisions, Strategies and Cases. 7e, Richard R. Still, Cundiff W. Edward et al.

Elective Course 3: Product Management

Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce students to the principles and strategic importance of product management.
2. To equip students with practical skills in product development, lifecycle management, and portfolio analysis.
3. To foster understanding of consumer insights, market research, and competitive analysis in product strategy formulation.
4. To develop capabilities in product pricing, positioning, and go-to-market strategies.
5. To cultivate analytical skills for measuring and enhancing product performance and profitability.

Course Outcomes:

CO1: Understand the roles and responsibilities of product management function withi the marketing organization

CO2: Apply the concepts and frameworks to identify opportunities for new products

CO3: Analyze competitive scenarios and consumer wants to develop product mix decisions

CO4: Evaluate product policies based on frameworks to arrive at a decision based on Product / company fit, corporate mission and objectives

CO5: Create a strategic plan for a new product launch

Unit / Module	Content	CO Mapping	Hours Assigned
1	Introduction to product management – roles and responsibilities of product managers, the product team and marketing organization	CO1	2
2	Product Policy decisions – product items, product line, dimensions of the product mix – breadth, depth, consistency of the product mix	CO1, CO2, CO3	4
3	Adjustments to the product mix – product abandonment, product modification, new product introduction, product positioning/repositioning, evaluating the product/company fit, fit with corporate mission and objectives	CO1, CO2, CO3	3

4	New Product Development Process – opportunity identification, concept generation, concept evaluation, product development, launch; New product spectrum – incremental improvements, expansion of existing product lines, new to the world products	CO2, CO3, CO4	4
5	Product requirement Document (PRD) – functionality and use cases, create stories, PRD coordination with engineering, customer service, sales, marketing functions	CO2, CO3	3
6	Product Portfolio Planning – assumptions – product definition, experience curve effects, link between market share and profitability; Ansoff Product-Market Matrix, BCG growth share matrix, GE/McKinsey Business Assessment array, Arthur D. Little Business Profit matrix for strategies at different stages of PLC	CO3, CO4	6
7	Launch Planning – demand, competition analysis, types of market testing	CO3, CO4	3
8	Disruptive Innovation – from low-end and high-end products, achieving scale, Christensen's disruptive innovation process	CO3, CO4	2
9	AI products – changing role of product managers in the AI era; understanding of data science and machine learning, integration of AI into customer experiences; evaluate technology capabilities and limitations; AI product development cycle – Ideation, Opportunity assessment, concept/prototype, testing and analysis, roll-out	CO3, CO4	3

Textbooks:

1. New Products Management. Merle Crawford, Anthony Di Benedetto. Tata McGraw Hill, 9e.
2. Product Management. Donald Lehmann, Russel Winer, 4e, McGraw Hill education Indian Edition

Reference Books

1. The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail. Clayton Christensen, Marc Benioff. Harvard Business Review Press. 2024

2. Product and New Product Management. Yoram (Jerry) Wind. Vibrant Publishers. Vijay Mahajan (ed).

Elective Course 4: Brand Management

Credits: 2; Duration: 30 Hours

Course Objectives:

1. To familiarize students with foundational concepts, theories, and strategies of brand management.
2. To develop analytical skills for evaluating brand equity, brand positioning, and brand architecture.
3. To enable practical application of branding strategies including brand extension, co-branding, and brand revitalization.
4. To cultivate understanding of consumer-brand relationships, including loyalty, advocacy, and brand perception.
5. To equip students with tools to measure, manage, and enhance brand value and performance.

Course Outcomes:

CO1: To develop a thorough understanding of building, measuring, and managing Brand equity

CO2: Apply the concepts and frameworks to building brands across all types of organizations

CO3: Analyze brand strategies through theories, models and other tools

CO4: Evaluate Brand Architectures and valuations

CO5: Create branding strategies to maximize brand equity

Unit / Module	Content	CO Mapping	Hours Assigned
1	Definition and evolution of brands, role of brands, distinction between product and brands, roles of brand managers	CO1	3
2	Strategic brand management – developing brand plans, designing and implementing brand marketing programmes, growing and measuring brand equity – qualitative and quantitative techniques, brand audits	CO1, CO2, CO3	6
3	Customer Based Brand Equity (CBBE) – Keller's Brand equity Model; Kapferer's Brand pyramid, building blocks of brand equity – salience, performance, imagery, judgments, feelings, resonance	CO2, CO3, CO4	4

4	Brand Identity and Positioning- dimensions of brand identity, brand positioning – points of parity/difference, positioning strategies, competitor analysis, emotional and cultural branding principles	CO3, CO4, CO5	3
5	Brand extensions - strategies, managing brand portfolio, challenges in brand revitalization	CO3, CO4, CO5	6
6	Measures of branding success – perceptual mapping, BAV (Brand Asset Valuator Model); Inter- brand method, BrandZ strategies, Brand Finance method, brand tracking studies	CO3, CO4, CO5	4
7	Contemporary issues – impact of digital marketing and social media on branding, ethical issues in branding, sustainability and CSR in branding	CO3, CO4	4

Textbooks:

1. Strategic Brand Management. Kevin Lane Keller, M.G. Parameswaran, Isaac Jacob. 3e. Pearson
2. Marketing and Branding. The Indian Scenario. S. Ramesh Kumar. Pearson Education

Reference Books:

1. Strategic Brand Management. New Approaches to creating and Evaluating Brand equity. Jean-Noel Kapferer. Kogan Page.
2. How Brands Become Icons. The Principles of Cultural Branding. Douglas Holt. HBS Press
3. How customers Think. Gerald Zaltman. HBS Press.
4. Emotional Branding. The New Paradigm for Connecting Brands to People. Marc Gobe

Elective Course 5: Digital Marketing Strategy

Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce foundational concepts, strategies, and tools of digital marketing.
2. To equip students with practical skills for managing digital marketing channels including SEO, SEM, social media, and email marketing.
3. To enable analytical evaluation of digital marketing campaigns, including web analytics and conversion optimization.
4. To develop strategic thinking around content marketing, online reputation management, and digital branding.
5. To foster understanding of ethical, legal, and privacy considerations in digital marketing practices.

Course Outcomes:

CO1: Understand the issues in transitioning from traditional marketing to digital marketing

CO2: Analyse outbound and inbound marketing programmes and impact on consumer behaviour through frameworks

CO3: Apply the learnings to critique F2C and D2C communications and its effectiveness on company revenues and profits

CO4: Evaluate digital marketing programmes across channels using and frameworks learnt in the course

CO5: Design a comprehensive digital marketing strategy integrating multiple channels to achieve business objectives

Unit / Module	Content	CO Mapping	Hours Assigned
1	Fundamentals of digital marketing – challenges for traditional firms to go digital; consumer adoption and radical changes in consumer behaviour online; new tools for consumer research – micro-blogging, blog posts to monitor social chatter and buzz online; measure of consumer exposure, interest, reactions to advertising messages, offers, purchases across a variety of contexts	CO1, CO2,	3
2	Frameworks for Digital Marketing – Outbound (Firm initiated) marketing – traditional: print, radio, TV advertising; digital: search, display, video advertising. Inbound (Consumer Initiated) marketing – firm websites aligned with consumer's search process, search engine algorithms, search engine optimization process; Social Media – digital platforms where consumers actively create content on X, Facebook; Native Advertising - preview of	CO1, CO2	3

	websites, influence on other consumers' buying behaviour; role of mobile phones in consumer search and purchase process; alternative to online/offline ads, emulate voice of unsponsored editorials by third party writers, reporters on website		
3	Search Engine Optimization – On page, Off page SEO, bidding on keywords, budgeting for search advertisements, Metric – Cost per Click, Click Through Rate (CTR), Impressions, Conversion rate, Profit Margin, quality of landing page, Relevance to Consumers; keyword portfolio, keyword proliferation, Branded versus generic keywords; impact on consideration set of buyers, repositioning of keywords to auction ; respond to competitor tactics; generalized Second Place auction; bids v/s Willingness to Pay	CO2, CO3	4
4	Digital Advertising and Promotions – bi-directional communication, gathering attitudinal and behavioral feedback in real time, real time market research - online tools to talk with and listen to consumer to consumer conversations; role of social networks like X, Facebook; purpose of online communication – understand what customers value, communicate value to them, provide value; advertising v/s promotions – display ads, viral ads; benefits of online ads – interactive, finer selection of audience, D2C access, speed of updating; Objectives of consumer promotions – product trial, repeat purchase, brand switching	CO2, CO3, CO4	4
5	Firm – to Consumer (F2C) and Consumer – to – Consumer Advertising (C2C): F2C – firm creates, consumers consume content, C2C- consumers propagate and others consume content; use of text, static messages, audio/video content, use influencers to talk with other consumers through viral marketing or modified content through electronic Word of Mouth (e WOM)	CO3, CO4	3
6	Framework for Selection of Digital and Social Media – purpose of the medium – listen/talk?; persuasion element – deals/arguments?; ; who initiates contact – firm/consumer? content provider – frim/ consumer? ; select from a broad class of tools; identify precise tools; importance of high-involvement versus low-involvement products in deciding tools	CO3, CO4	3
7	Transition from 4P's to Digital 3 P's- for traditional companies, issues are - speed of transition, change in business model; Gupta & Deighton Framework for transition; Digital 3P's (Wagonfield & Deighton, 2012) – delivery of product/service, Market Research, Posting and testing prices; Digital Product – digital content, hybrid products (Digital + Physical); problem of copying/piracy in digital products/services; crowd sourcing of products;	CO1, CO3, CO4	5

	Digital Distribution – choice of channels, stratification of online channels – own channels, retailer website, auction websites; evaluation of channel options – coverage, channel conflicts, cost of channel, control over offering to end consumer; managing different channels with different cost structures, usage of mobile phone and channel decisions; Digital Pricing – by individual, discounts, schedule of payments, impact on revenues, profits, cash flows, non-financials- brand image, customer profile, distributor relations; price discrimination, dynamic pricing, cross-subsidization of consumers.		
8	Digital Storytelling – blogging, video podcasts, visual storytelling, user generated content and interactive content; content distribution and promotion strategies	CO3	3
9	Web analytics and performance management – Google analytics and UTM tracking; attribution models and conversion funnel analysis	CO4	2

Textbooks:

1. Digital Marketing for Dummies – Ryan Deiss & Russ Henneberry
2. Marketing 4.0: Moving from Traditional to Digital – Philip Kotler, Hermawan Kartajaya, Iwan Setiawan
3. The Art of Digital Marketing – Ian Dodson
4. Social Media Marketing: A Strategic Approach – Melissa Barker, Donald Barker, Nicholas Bormann, Krista Neher
5. Google Analytics Demystified – Joel Davis

Reference Books

1. Driving Digital Strategy. A Guide to Reimaging Your Business. Sunil Gupta. Harvard Business Review Press
2. Starting Small to Winning Big: The Definitive Digital Marketing Guide for Startup Entrepreneurs. Shishir Mishra. Business Expert Press

Elective Course 6: Marketing Analytics

Credits: 2, Duration: 30

Course Objectives:

1. To provide students with foundational knowledge of analytics techniques and tools applied to marketing.
2. To equip students with skills to analyze marketing data for strategic decision-making and performance measurement.
3. To enable application of predictive modeling, segmentation analysis, and customer lifetime value calculation.
4. To familiarize students with analytical tools and software commonly used in marketing analytics.
5. To cultivate critical understanding of data-driven decision-making processes in contemporary marketing practices.

Course Outcomes:

CO1: Explain the Role of Analytics in Modern Marketing Decision-Making.

CO2: Differentiate between Predictive, Classification, Clustering, and Segmentation Models in Marketing Analytics.

CO3: Apply Statistical and Machine Learning Techniques such as Regression, Classification, and Clustering to Marketing problems.

CO4: Evaluate Customer Lifetime Value (CLV) and its impact on Marketing Strategies.

CO5: Develop Data-Driven Marketing Performance measurement frameworks.

Unit / Module	Content	CO Mapping	Hours Assigned
1	Introduction to Marketing Analytics - Definition, Scope, and Importance; Types of Data in Marketing- Structured vs. Unstructured, First-party, Second-party, Third-party Data; Role of Data in Customer Segmentation and Personalization; Overview of Analytical Tools and Platforms (Google Analytics, Power BI, Python/R Basics for Marketing)	CO1	4
2	Prediction and Classification in Marketing Analytics Basics of Predictive Analytics; Regression Models and their Applications in Forecasting; Decision Trees & Random Forest for Customer Response Prediction; Classification Techniques (Naïve Bayes, SVM) for Lead Scoring and Customer Intent Analysis	CO2, CO3	10
3	Clustering, Segmentation, and Text Analytics in Marketing- Basics of Clustering in Marketing Analytics; K-Means Clustering and Hierarchical Clustering for Customer Segmentation; Market	CO2, CO3	6

	Basket Analysis and Association Rule Mining for Consumer Behavior Insights; Text and Sentiment Analytics		
4	Customer Lifetime Value (CLV) and Retention Analytics-Concept and Importance of Customer Lifetime Value (CLV); Methods to Calculate CLV (Historical vs. Predictive CLV); Retention Analysis and Churn Prediction Models; Personalization Strategies and Customer Engagement Based on CLV Insights	CO4	6
5	Measuring Marketing Performance - Key Marketing Performance Metrics (ROI, CAC, Conversion Rates, Churn Rate); A/B Testing and Experimental Design in Marketing Analytics; Attribution Modelling: First-Touch, Last-Touch, Multi-Touch Attribution; Dashboarding and Reporting for Marketing Metrics (Using Excel, Tableau, or Power BI	CO5	4

Textbooks:

1. Marketing Analytics: A Practical Guide to Improving Consumer Insights Using Data Techniques – Mike Grigsby
2. Marketing Data Science: Modeling Techniques in Predictive Analytics with R and Python – Thomas W. Miller
3. Predictive Analytics: The Power to Predict Who Will Click, Buy, Lie, or Die – Eric Siegel
4. Applied Predictive Analytics: Principles and Techniques for the Professional Data Analyst – Dean Abbott

Reference Books:

1. Customer Segmentation and Clustering Using SAS Enterprise Miner – Randall S. Collica
2. Text Mining and Analysis: Practical Methods, Examples, and Case Studies Using SAS – Gokhan S. Yildirim, Gary A. Koppenhaver
3. Sentiment Analysis: Mining Opinions, Sentiments, and Emotions – Bing Liu
4. Managing Customers for Profit: Strategies to Increase Profits and Build Loyalty – V. Kumar & Werner Reinartz
5. Customer Analytics for Dummies – Jeffrey Strickland
6. Marketing Metrics: The Manager's Guide to Measuring Marketing Performance – Paul W. Farris, Neil T. Bendle, Phillip E. Pfeifer, David J. Reibstein
7. Cutting-Edge Marketing Analytics: Real-World Cases and Data Sets for Hands-On Learning – Rajkumar Venkatesan, Paul Farris, Ron T. Wilcox

Elective Course 7: Retail Management

Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce students to foundational principles, strategies, and operations of retail management.
2. To equip students with practical skills in store management, merchandising, and inventory control.
3. To develop analytical capabilities for evaluating retail performance metrics, sales forecasting, and profitability.
4. To enable students to apply customer relationship management and retail marketing strategies.
5. To foster understanding of contemporary retailing trends, including e-commerce, omnichannel strategies, and technology integration.

Course Outcomes:

CO1: Understanding the basics of shopper marketing, shopper behaviour and retail management.

CO2: Apply the concepts and frameworks to different retail environments

CO3: Analyze data and identify relationships and retailing models

CO4: Evaluate different channel and retail models for developing optimum solutions

CO5: Create an integrated plan based on the learnings and observations made for a channel to reach shoppers, based on course work done

Unit / Module	Content	CO Mapping	Hours Assigned
1	Basics of Retailing: consumers / Shoppers / Introduction to supply chain / Marketing / Behaviour / Habit; how retailing emerged	CO1, CO2, CO3	2
2	Value chain and consumers; catchments and how these impact retail; building and understanding catchments	CO1, CO2	2
3	Channels of distribution; types of retailing and the impact of the type of store on different processes in retail - Traditional trade / Grocers / Convenience stores / Supermarkets / Hypermarkets / Department stores / Super centres / EBOs and MBOs / Chain stores	CO1, CO2, CO3	2
4	Customer and shopper behaviour; Segmentation in retailing	CO2, CO3,	2
5	Elements of Store design; Space allocation and space planning	CO1, CO2, CO3	2
6	Store Operations , Finance, HR, Marketing; Functions: Category, Buying and merchandising	CO1, CO2, CO3	4

7	Merchandising and sourcing	CO3, CO4	3
8	Shopper marketing concepts	CO2, CO3	2
9	Movement of products and services, Types of Buying & Merchandising, Supply chain and distribution in offline retail	CO2, CO3, CO4	3
10	How online works: Internet , Smart phones, data costs, digitization	CO2, CO3, CO4	2
11	Loyalty programmes, CRM; Strategic Retail Model for measuring retail productivity	CO3, CO4	1
12	Private labels and their roe in retailing, meeting the private label challenge	CO3, CO4	2
13	Omnichannel; multi-channel	CO3, CO4, CO5	3

Textbooks:

1. Managing Retail. Piyush K. Sinha & Dwarika P. Uniyal

Reference Books/ Reading Suggestions:

1. Why we buy: The Science of shopping. Paco Underhill. Pearson
2. Marketers guide to behavioral economics: Ned West, McKinsey Quarterly (February 2010)
3. Rigged: Supermarket shelves for sale:Centre for Science in the public interest
4. Please touch the merchandise: Sensory marketing goes tactile: HBR, December 2011
5. Thinking Fast and Slow. Daniel Kahneman. Penguin
6. Slaves to the algorithm: INTELLIGENT LIFE magazine, May/June 2013

Elective Course 8: Rural Marketing

Credits: 2; Duration: 30 Hours

Course Objectives:

1. To familiarize students with unique characteristics, challenges, and opportunities in rural markets.
2. To develop analytical skills to assess rural consumer behaviour and segment rural markets effectively.
3. To equip students with strategies for product design, pricing, distribution, and communication specific to rural consumers.
4. To foster understanding of social, economic, and cultural factors influencing rural buying decisions.
5. To cultivate strategic thinking for implementing sustainable and inclusive marketing practices in rural areas.

Course Outcomes:

CO1: To understand the scope and opportunities in Rural Marketing in current scenario.

CO2: To know applications of rural marketing in context of Product, pricing, distribution and communication among rural segments.

CO3: To analyse Rural economy, rural marketing environment and rural consumer behaviour.

CO4: To assess role of financing and cooperative institutions in rural markets.

CO5: To develop marketing strategies for marketing of agricultural & cottage industry produce.

Unit / Module	Content	CO Mapping	Hours Assigned
1	**Rural Marketing Opportunities** • Taxonomy of Rural markets • Rural Marketing Model • Bottom of the pyramid approach • Rural versus Urban Marketing • Innovative and Inclusive Growth	CO1	3
2	**Understanding Rural Economy** • Rural Marketing environment and its implications on marketers • Social environment • Economic environment • Technological environment • Innovations • Political Environment	CO3	3
3	**Rural Consumer Behaviour** • Buying behaviour and decision process	CO3	5

	• Opinion Leaders • Environmental factors affecting buying process • Buyer Characteristics • Buying behaviour patterns • Brand Loyalty		
4	**Segmentation, Targeting and Positioning in rural markets** • Basis of segmenting rural markets • Evaluation and selection of Target Market segments, Coverage of Markets • Identifying and Selecting Positioning Concepts for rural markets	CO2	3
5	**Product and Pricing Strategy in Rural Markets** • Product concept and classification of Rural products • Packaging for rural markets, The Sachet Revolution • Branding and problems of fake brands • Price setting strategies for Rural markets • Credit in rural markets – need, sources, innovative strategies	CO2	4
6	**Rural distribution and communication** • Challenges in rural distribution • Channel behaviour and Distribution models in rural markets • Challenges in rural communication • Developing an Effective Rural Communication message • Emerging models eg: Amul, e-Choupal, Project Shakti	CO2	3
8	**Marketing of agricultural produce and rural and cottage industry products** • Marketing of agricultural produce Regulated markets • Formation of cooperative organizations • Contract farming • Agricultural exports zone (AEZ)	CO5	4
9	**Role of financial institutions in rural marketing** • Agricultural credit situation • Types of credit • Rural credit institutions – NABARD – commercial banks – state cooperative banks (SCB) – state cooperative agricultural and rural development banks (SCARDB) – regional rural banks RRB – local area banks – flow of institutional	CO4	3

	credit to agriculture – kisan credit card scheme – impact on rural market		
10	**Role of cooperative institutions in rural marketing** • Cooperatives as organizations Structure of cooperative organizations – types – share of cooperatives in national economy • Impact of cooperatives on rural marketing	CO4	2

Text Books:

1. Rural Marketing – Pradeep Kashyap, Pearson
2. Rural Marketing – T P Gopalaswamy – Vikas Publishing House
3. Rural Marketing – Habeeb Ur Rahman Himalaya
4. Cases in Rural Marketing: An Integrated approach – Lalitha Ramakrishnan, CSG Krishnamacharyulu – Pearson Education
5. Rural Marketing : Text and Cases – U.C. Mathur (2008) Excel books

Reference Books:

1. Agricultural Marketing In India – Acharya – Oxford I B H
2. Rural Marketing – C G Krishnamacharyulu, Lalitha Ramakrishnan – Pearson Education
3. A New Approach to Rural Marketing by Kaushik Sircar

Elective Course 9: Tourism Marketing

Credits: 2; Duration: 30

Course Objectives:

1. To introduce foundational concepts, principles, and strategies specific to tourism marketing.
2. To equip students with skills for market segmentation, targeting, and positioning in tourism contexts.
3. To develop practical abilities in designing effective promotional strategies for tourism destinations and services.
4. To foster analytical understanding of consumer behaviour, trends, and competition in the tourism sector.
5. To cultivate strategic insight into managing tourism marketing campaigns, including digital and experiential marketing approaches.

Course Outcomes:

CO1: Understand the fundamentals and types of tourism

CO2: Apply concepts learnt to evaluate the tourism industry

CO3: Analyze country – specific tourism strategies using Ghemavat's AAA framework

CO4: Evaluate various country brands in tourism based on Anholt-GfK brand Indices

CO5: Create tourism strategies for different countries based on concepts learnt in the course

Unit / Module	Content	CO Mapping	Hours Assigned
1	Types of tourism – medical tourism, place tourism, gaming tourism – spas, parks, beaches, etc.	CO1	3
2	Ghemavat's AAA framework – application to comparative advantages of countries in tourism	CO1, CO2	4
3	Healthcare tourism – classification, drivers of success in Asia; success stories – Thailand, Singapore, Malaysia, India; Wildlife tourism and success stories in Southern Africa, co- opting of local communities in wildlife conservation, revenue sharing model with local communities.	CO2, CO3	4
4	Medical Travel – value proposition, product, quality, availability, timeliness; patient concerns of follow up treatments in home countries	CO2, CO3	4
5	Brand Management of Places- communication based and policy-based models of branding places; Anholt-GfK Nation Brand Index – people, tourism, exports, governance, political leadership investments, immigration, culture, heritage, country of origin	CO3, CO4	4
6	Role of social media in place branding: information, advertising targeting to audiences based on tourist activities promoted by nations, two-way	CO3, CO4	4

	communication with prospective tourists, role of social media influencers, social media role in perceptions of national governance, public diplomacy and impact on tourism		
7	Gaming tourism: legalization of gaming, Macau Concept, positioning as an attractive gaming destination, gaming as a destination entertainment, design of family entertainment, creation of convention centres to promote gaming destinations, role of giant shopping malls in gaming destinations, Las Vegas model	CO3, CO4	4
8	Technology and tourism: AI as virtual travel agent, changing roles of airlines, hotels, online travel agencies due to AI, partnering with Amazon, Google in customer retention, control of customer data and use of loyalty programmes for customer leverage	CO4	3

Textbooks:

1. Tourism Operations Management. Archana Biwal and Sunetra Roday. Oxford University Press
2. Marketing for Hospitality and Tourism. Philip Kotler, John Bowen et al. 7e. Pearson

Reference Books:

1. Marketing in Travel and Tourism. Mike Morgan. 4e. Butterworth Heinman

Semester III – Operations and Supply Chain

Operations and Supply Chain Specialization					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
Mandatory					
1	Mandatory - Specialization	Supply Chain Management	2	20	**UA**
Electives (Any 5 including Open Elective)					
1	Elective	Logistics Management	2	20	**IA**
2	Elective	Warehouse Management	2	20	**IA**
3	Elective	Business Process Management for Risk & Performance Management	2	20	**IA**
4	Elective	Global Supply Chain Management	2	20	**IA**
5	Elective	Service Operations Management	2	20	**IA**
6	Elective	Operations Analytics	2	20	**IA**
7	Elective	Manufacturing Resource Planning & Control	2	20	**IA**
8	Elective	Production Planning & Control	2	20	**IA**
9	Elective	Purchase and Materials Management	2	20	**IA**
10	Elective	SWAYAM Course	2	-	**IA**

***IA – Internal Assessment; UA – University Assessment**

Operations and Supply Chain Group - Mandatory Course: Supply Chain Management

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce core principles and strategic significance of supply chain management.
2. To equip students with practical knowledge of supply chain processes, including procurement, logistics, and inventory management.
3. To develop analytical skills for optimizing supply chain efficiency, responsiveness, and sustainability.
4. To familiarize students with technological solutions and innovations enhancing supply chain operations.
5. To foster critical understanding of global supply chain challenges, risk management, and regulatory compliance.

Course Outcomes:

CO1: Recall basic concepts of supply chain management for business improvement

CO2: Associate the concepts of supply chain management and connect with business scenarios

CO3: Apply basic principles of supply chain management for streamlining business processes

CO4: Analyse the performance of supply chain for all the stakeholders of the business

CO5: Evaluate supply chain networks and optimize solutions to have competitive edge in management

CO6: Design supply chain network for creating business value

Unit / Module	Content	CO Mapping	Hours
1	Introduction to the Supply chain: Decision phases in a supply chain. Supply Chain Models: Continuous Flow, Fast Chain, Efficient Chain, Responsive Supply chain and Agile Models. Supply Chain and Demand chain, Value creation Evolution of SCM, SCM integration, Linkages and Decisions in SCM, Difference of Supply Chains in Product (Mfg.) Industry and Service-based Industry. Delivery and Value addition through supply chain. Process	CO1, CO2	3

	view of a supply chain. The importance of supply chain flows. Achieving strategic fit.		
2	Logistics and Shipping: A concept, Logistics and Shipping, functions. Objectives, Goals, Decisions. Reverse Logistics. Inbound and Outbound Logistics, 1st Party, 2nd Party, 3rd Party, 4th Party Logistics, Introduction to Shipping Line Companies and Freight Forwarders, Introduction to shipping documents, Ports and customs	CO1, CO2	3
3	Warehousing and Distribution: Role of warehouse, Warehousing functions, Types of Warehouses, Warehouse site selection, Layout design, Warehouse automation, Hub and Spoke Model, WMS Distribution, Role, Importance, Levels, Channels, Structure, Functions. Channel partners, functions. Importance of Smart Transportation Distribution Center Concept , Modern DC's , Robotics Usage for pick and pack Factors influencing distribution network design.	CO2, CO3	3
4	Order Processing and Logistics Information system, Order Preparation, Transmittal, Order entry, Order filling, Order status reporting, Industrial order processing and Retail order processing. Web based order processing. Processing priorities, Understanding Tenders and Bidding	CO3, CO4	3
5	Performance Measurement and Controls in Supply Chain Management Pre- transaction, Transaction, Post transaction elements, Service attributes, Objective, Levels, Parameters of performance measures- Cycle time, Fill Rate. Inventory Turnover, On-time Shipping and Delivery, Perfect Order, Stock out. Transportation measurements, Customer perception measure, Audit. Gap Analysis, Best Practices SCOR and DCOR	CO4, CO5, CO6	3
6	Transportation Infrastructure, road, rail, air water, pipeline. Freight Management, Freight cost. Transportation Network Route planning, Containerization, Packing. Effective / Cost Optimizing strategies- Direct shipment, Cross-docking, Milk run, transshipment.	CO2, CO3	3
7	Supply Chain Integration Design option for a distribution network. Distribution network in practice. The value of Information Bullwhip effect. Effective forecasts. Information for the coordination of systems. Collaborative Planning Forecasting Replenishment (CPRF) concept. Inventory Management and Risk pooling, Logistics Information system, Strategic	CO5, CO6	3

	Alliances, Retailer supplier partnership. Types ofRSP, Requirements of RSP Inventory ownership in RSP, Outsourcing and related decisions		
8	Designing Global Supply Chain Networks, Global market / Technological/ Cost/ Political and Economic Forces. Risks and advantages of international supply chain. International versus Regional products. Local autonomy versus central control. Regional differences in Logistics- Cultural differences/ infrastructure/ performance expectation and evaluation Information systems availability, human resources. Global business logistics**.**	CO5, CO6	3
9	Ethical issues in SCM Supply chain vulnerability. Conformance to applicable laws such as Contract and commercial laws, Trade regulation, government procurement regulations, patents Copyrights, trademark laws, transportation and logistics laws and regulations Environmental laws. International practices. Confidentiality and proprietary information.	CO1, CO2	3
10	Trends and Technology in Supply Chain: Block Chain Technology, AI in Supply Chain, Machine Learning and IOT based Supply Chain, RFID Applications in Supply Chain, Goldratt Supply Chains, Sustainable Supply Chain, Resilient supply chains Green Supply chain, Lean supply chain.	CO1, CO2	3

Textbooks:

1. Supply Chain Management - Strategy, Planning and Operation Sunil Chopra, Peter Meindl, D V Kalra
2. Designing and Managing Supply Chain David Simchi Levi, Phillip Kaminsky

Reference Books:

1. Logistics and Supply Chain Management Martin Christopher
2. Supply Chian Management Vinod Sople
3. Supply Chain Logistics Management Donald J Bowersox, David j Closs, M Bixby Cooper
4. Supply Chain Analytics T.A.S Vijayraghavan
5. Strategic Supply Chain Management, Shoshanah Cohen and Joseph Roussel

Elective Course 1: Logistics Management

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce foundational concepts, principles, and strategies in logistics management.
2. To equip students with practical skills in transportation management, warehousing, and inventory control.
3. To enable analytical evaluation of logistics performance, including cost analysis and service quality metrics.
4. To develop understanding of logistics network design, routing optimization, and distribution strategies.
5. To cultivate strategic insight into managing contemporary logistics issues, including sustainability and digitalization.

Course Outcomes:

CO1: Remember / Recall fundamental concepts of logistics, transportation, warehousing and supply chain management

CO2: Understand logistics strategies, distribution models and cost structures in supply chains

CO3: Apply the principles of transportation, warehousing and inventory management in real-world scenarios

CO4: Analyse logistics performance metrics and evaluate cost-effectiveness

CO5: Evaluate risk, sustainability and technology integration in logistics

CO6: Create an effective logistics plan, incorporating modern technologies and best practices for efficient movement of inventory

Unit / Module	Content	CO Mapping	Hours
1	Introduction to Logistics Management: Definition & Scope of Logistics, Evolution of Logistics & Supply Chain, Key Logistics Functions & Objectives, Role of Logistics in Business Performance	CO1, CO2	3
2	Logistics & Supply Chain Strategy: Strategic Logistics Planning, Supply Chain Drivers & Metrics, Competitive Advantage through Logistics	CO2, CO3	3
3	Transportation & Distribution Management: Modes of Transport: Road, Rail, Air & Sea, Freight Management & Carrier Selection, Transportation Costing Models	CO3, CO4	3

4	Warehousing & Inventory Management: Warehouse Design & Layout, Inventory Planning & Demand Forecasting, Just-in-Time (JIT) & Lean Warehousing	CO3, CO4	3
5	Logistics Costing & Performance Measurement: Cost Drivers in Logistics, Activity-Based Costing (ABC), Logistics Performance Metrics & Benchmarking (Suggested Case Study: Logistics Costing & Performance Measurement at Flipkart)	CO4, CO5	3
6	Supply Chain Technology & Automation: Role of IT in Logistics, ERP & Digital Supply Chains, AI, IoT & Blockchain in Logistics (Suggested Case Study: Reliance Retail's Digital Transformation in Supply Chain)	CO3, CO5	3
7	Global Logistics & International Trade: Global Trade Regulations & Incoterms, International Logistics Network Design, Customs & Documentation (Suggested Case Study: Tata Motors' Global Logistics Strategy)	CO3, CO4, CO4	3
8	Risk Management in Logistics: Identifying & Mitigating Supply Chain Risks, Logistics Security & Compliance, Disaster Recovery Planning in Logistics (Suggested Case Study: Risk Management in Logistics – Maruti Suzuki's Supply Chain Resilience)	CO3, CO5	3
9	Sustainable & Reverse Logistics: Green Logistics & Sustainable Practices, Reverse Logistics Models, Carbon Footprint Reduction in Logistics (Suggested Case Study: Dabur India's Sustainable & Reverse Logistics Strategy)	CO4, CO5	3
10	Future Trends & Innovations in Logistics: Digital Supply Chains & Smart Logistics, Predictive Analytics & AI-driven Logistics, Role of 3D Printing & Automation in Logistics (Suggested Case Study: Mahindra Logistics' Smart & AI-Driven Supply Chain Transformation)	CO4, CO5	3

Textbooks:

1. "Logistics & Supply Chain Management" by *D.K. Agrawal.*
2. "Blockchain in Supply Chain Management" by *Babita Bhatt.*

Reference Books:

1. "International Logistics & Supply Chain Management" by *R. Panneerselvam.*
2. "Managing Supply Chain Risk & Vulnerability" by *Teresa Wu & Jennifer Blackhurst*
3. "Cost and Management Accounting" by *M.Y. Khan & P.K. Jain.*

Elective Course 2: Warehouse Management

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To familiarize students with fundamental concepts, practices, and operations of warehouse management.
2. To equip students with practical skills in warehouse layout design, space utilization, and inventory management.
3. To develop analytical capabilities for optimizing warehouse processes, including receiving, storage, picking, and dispatch.
4. To enable application of technology solutions, such as WMS and automated warehousing systems.
5. To cultivate understanding of contemporary warehouse management challenges, including safety, security, and efficiency improvements.

Course Outcomes:

CO1: Remember the fundamental concepts of warehouse management and retain the basic

CO2: Understand role of warehouse management in supply chain operations

CO3: Apply safety, security, and sustainability practices in warehouse management

CO4: Analyse warehouse layout and design principles to optimize efficiency and cost-effectiveness

CO5: Evaluate inventory management strategies and warehouse performance metrics

CO6: Create an effective warehouse design plan, incorporating modern technologies and best practices for inventory and storage management

Unit / Module	Content	CO Mapping	Hours
1	Introduction to Warehouse Management: Role of Warehouses in business Types of warehouses (public, private, bonded, fulfilment centres, etc.) Functions of a warehouse Key challenges in warehouse management Warehousing Strategies, Operations, Lean & Agile Warehousing Strategies	CO1	3
2	Receiving, Storing, and Dispatching Performance Metrics in Warehousing	CO1	3
3	Warehouse Operations & Processes: Receiving, put-away, and storage operations Picking, packing, and shipping processes Cross-docking and trans-shipment Reverse logistics and returns management	CO2	3

4	Warehouse Layout and Design: Factors Affecting Warehouse Layout Principles of Warehouse Design Warehouse Location Selection Space Utilization & Storage System Material handling equipment (conveyors, forklifts, AS/RS, etc.)	CO2	3
5	Warehousing Inventory Management Inventory control techniques (FIFO, LIFO, JIT, EOQ, etc.) Demand forecasting and stock replenishment Role of barcoding & RFID in inventory tracking Cycle counting vs. annual inventory audits	CO2, CO3	3
6	Technology & Automation in Warehousing Warehouse Management Systems (WMS) Use of Barcoding, RFID, and IoT in Warehousing Role of Robotics and AI in Warehouse Automation ERP Integration for Warehouse Operations	CO1, CO4	3
7	Warehouse Safety, Security, and Sustainability Warehouse Safety Standards & OSHA Guidelines Security Measures: Theft Prevention & Risk Management	CO5	3
8	Green Warehousing & Sustainability Practices Reverse Logistics and Waste Management	CO2	3
9	Emerging Trends Global Best Practices in Warehousing Omnichannel Warehousing and E-commerce Trends	CO1, CO2	3
10	Resilience in Warehouse Management (Post-COVID Adaptations)	CO1, CO6	3

Textbooks:

1. Logistics and supply chain management by Christopher, M. (2016). (5th ed.). Pearson
2. Operations and supply chain management by Jacobs, F. R., & Chase, R. B. (2022). (16th ed.). McGraw-Hill.
3. Designing and managing the supply chain: Concepts, strategies, and case studies by Simchi-Levi, D., Kaminsky, P., & Simchi-Levi, McGraw-Hill

Reference Books:

1. The warehouse: How robots, AI, and blockchain are redefining a world of work and supply chains by Schenker, J. Prestige Professional Publishing

Elective Course 3: Business Process Management for Risk & Performance Management

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce students to core concepts and methodologies in business process management.
2. To equip students with practical skills for identifying, analyzing, and optimizing business processes.
3. To cultivate understanding of risk assessment methodologies within process management frameworks.
4. To enable students to apply performance management techniques to business processes.
5. To foster critical analysis of the role of technology and innovation in enhancing process efficiency and effectiveness.

Course Outcomes:

CO1: Define key concepts, principles, and frameworks in Business Process Management (BPM), Risk Management, and Performance Management.

CO2: Explain the relationship between BPM, risk mitigation, and organizational performance, and their role in achieving business objectives.

CO3: Utilize process mapping, risk assessment techniques, and performance measurement tools to analyze and improve business operations.

CO4: Evaluate risks and inefficiencies in business processes and recommend strategies for risk mitigation and performance enhancement.

CO5: Assess the impact of BPM initiatives on risk reduction and overall business performance using industry benchmarks and best practices.

CO6: Design business process improvement strategies, integrating risk management and performance optimization frameworks to enhance organizational efficiency.

Unit / Module	Content	CO Mapping	Hours
1	Introduction to Business Process Management: Definition of BPM Importance in organizations Key BPM concepts and lifecycle	CO1	3
2	Business Process Modeling: Introduction to process modelling Flowcharts & BPMN Process mapping tools & software	CO2	3

3	Business Process Analysis: Identifying bottlenecks Root cause analysis techniques Process efficiency metrics	CO3	3
4	Business Process Design: Process redesign approaches Lean & Six Sigma principles Optimization strategies	CO4	3
5	BPM Technologies: Overview of BPM technologies Automation & AI in BPM Integrating BPM with IT systems	CO5	3
6	Business Process Implementation: Change management in BPM Stakeholder engagement techniques Case study on BPM implementation	CO6	3
7	Performance Measurement in BPM: Importance of measuring BPM performance Key performance indicators (KPIs) Process metrics & dashboards Risk and Performance Management Frameworks	CO5	3
8	Continuous Improvement: Continuous improvement methodologies (Lean, Six Sigma etc.) Agile and iterative BPM approaches Data-driven decision-making	CO6	3
9	Case Studies and Applications of BPM in Various Industries: Kodak, Ford Motor, IBM Credit etc Case study analysis of BPM applications Industry best practices Challenges & success factors	CO4	3
10	Project Work & Presentation: End-to-End Business Process Analysis: Business process project analysis Group presentations Review & feedback	CO6	3

Textbooks:

1. Dumas, M., La Rosa, M., Mendling, J., & Reijers, H. A. (2018) Fundamentals of Business Process Management (2nd Edition, Springer)
2. Harmon, P. (2019) Business Process Change: A Business Process Management Guide for Managers and Process Professionals (4th Edition, Morgan Kaufmann)
3. Aguinis, H. (2019) Performance Management (4th Edition, Chicago Business Press)

4. Armstrong, M. (2021) Armstrong's Handbook of Performance Management: An Evidence-Based Guide to Delivering High Performance (6th Edition, Kogan Page)

Reference Books:

1. Michael Hammer and James Champy, Reengineering the Corporation, Nicholas Brealey Publishing, (1995). Jeffrey N. Lowenthal, Reengineering the Organizations

Elective Course 4: Global Supply Chain Management

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To familiarize students with complexities, strategies, and dynamics of global supply chains.
2. To equip students with analytical skills for managing global logistics, procurement, and inventory operations.
3. To develop strategic insights into cross-border supply chain risk assessment and mitigation strategies.
4. To foster understanding of regulatory, cultural, and ethical considerations in international supply chains.
5. To enable practical application of technology and innovation for optimizing global supply chain networks.

Course Outcomes:

CO1: Recall the concepts of global supply chain management for solving business related problems

CO2: Explain principles of global supply chain for decision making

CO3: Develop solutions for global supply chain improvement

CO4: Analyse the data and classify the issue regarding challenges and opportunities in global supply chain

CO5: Assess the business environment and take a leading role in providing multiple opportunities for decision making

CO6: Generate innovation approaches with technology and plan growth of the global supply chain business

Unit / Module	Content	CO Mapping	Hours
1	Global supply chain Management: Introduction and Function: Steps, Objectives and Framework Establishment of global supply chain management Global supply chain network and design Comparison between National (Domestic) and International Logistics	CO1, CO2	3
2	Factors and challenges driving logistics and supply chain management: Customs and Global Supply Chain Management Management of the Inventory in the Supply Chain Analysis Including Vendor Management Factors Contributing to the Development of Logistics	CO1, CO2	3

	Understanding the geopolitical, economic, and technological factors, Challenges for global supply chain management		
3	Global Sourcing: Global sourcing & strategy Business process outsourcing (BPO) Procurement sourcing software	CO3, CO4	3
4	Selecting the international logistics operators: Criteria of Selecting the Third-Party Logistics Operator The Key Factors in the Development of a Successful 3PL Six Core Products: Supply Chain Management, Warehousing, Customs Clearance, Air Freight, Consolidation and Project Cargo	CO3, CO4	3
5	International transport: Introduction and importance Understanding the transport Local v/s Global Types of transport: Road, maritime, air and rail, Trade-Offs Inherent in International Logistics – Multi-Modalism Key Factors in a Transport Mode(s) Trade-Off	CO4, CO5	3
6	Operations management of global supply chain: Steps in the Global Supply Chain Benchmarking of Global Supply Chain Management Challenges in Implementing Global Supply Chain Management Supply Chain Cycle Time Management Reduction Global Supply Chain Strategy	CO4, CO5	3
7	Supply chain connective technologies: Supply chain connectivity framework action plan Development of a connectivity map for measurement of total supply chain value Flexible design-planning of supply chain networks	CO3, CO4	3
8	Specialised software in the supply chain process: Need for Specialised Systems Use of technology in Global Supply Chain The Software-Driven Process Profitability Analysis	CO3, CO4	3
9	Global trade: Introduction, its Definition and benefits to the society Types of trade - external trade and internal trade. International trade and its importance Logistic and Supply Chain Strategic Environment	CO3, CO4, CO5	3
10	Issues, Challenges, Opportunities and Dynamics of Global Supply Chain Management: Key Implementation Issues, Challenges and the Opportunities Dynamics of global supply chain	CO4	3

	Importance of developing global strategy Efforts for development of global brand recognition		

Textbooks:

1. Global Supply Chain Management and International Logistics by Alan E. Branch
2. Essentials of Logistics and Management- The Global Supply Chain by Philippe Wieser, Francis- Lue Perret
3. Global Sourcing Logistics by Thomas Cook
4. International logistics by Reji Ismail

Reference Books:

1. Supply Chain Finance Integrating Operations and Finance in Global Supply Chains by Zhao, Lima and Huchzermeier, Arnd

Elective Course 5: Service Operations Management

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce foundational concepts, theories, and practices specific to service operations management.
2. To equip students with skills to design and manage efficient service delivery systems.
3. To cultivate analytical capabilities for evaluating service performance, quality, and customer satisfaction metrics.
4. To enable students to apply process optimization techniques and lean principles in service contexts.
5. To foster strategic thinking around contemporary issues in service operations, including digitization and customer experience management.

Course Outcomes:

CO1: Recall the concepts of service operations management for solving business related problems

CO2: Explain service operations principles for decision making

CO3: Develop solutions for service operations business improvement

CO4: Analyse the data and classify the issue regarding challenges and opportunities

CO5: Assess the business environment and take a leading role in providing multiple opportunities

CO6: Generate innovation approaches with technology and plan growth of the service business

Unit/ Module	Content	CO Mapping	Assigned Hours
1	Services: Introduction Characteristics of Services Importance of Service Sector Classification framework Service Delivery System – Process Flow Diagrams, blue printing Process Simulation	CO1, CO2	3
2	Service Strategy: Introduction to Service Strategy Strategic Positioning Service as Competitive Advantage Service Concept and Operating Strategy Turning Performance Objectives into Operations Priorities	CO3, CO4	3

3	Site Selection for Services: Types of Service Firms Site Selection for Demand Sensitive Services, Delivered Services and Quasi Management Services	CO1, CO2, CO5	3
4	Managing Service Quality: Defining, Measuring, Identifying Gaps in Service Quality Service Quality Design Achieving Service quality, Cost of Service Quality SERVEQUAL Model	CO1, CO2, CO3	3
5	Yield Management: Introduction to Yield Management, Capacity Strategies, Overbooking, Allocating Capacity and Implementation issues	CO4, CO5, CO6	3
6	Inventory Management in Services: Services versus Manufacturing Inventory Need for Inventory Science The Newsvendor Model, Uncertain Sales Multiple Products and Shelf Space Limitations Practical methods to reduce stock outs, shrinkage and inventory inaccuracy	CO2, CO3, CO4	3
7	Offshoring and Outsourcing: Outsourcing: Contract risk, Outsource Firm Risk, Pricing Risk, Competitive Advantage, Information Privacy Risk, Firm Specific Risks Offshoring: Offshoring and Competitive Capabilities: Cost Issues Offshoring and Competitive Capabilities: Non-cost Issues	CO2, CO3, CO4	3
8	Service Processes: Introduction Service Processes and their importance Understanding the nature of service processes Service Blue Printing	CO1, CO2, CO3	3
9	Performance measurement of Service Operations: Purpose of performance measurement, a balance of measures, benchmarking, the relationship between operational decision and business performance The service performance network	CO3, CO4, CO5	3
10	Driving Operational Improvement: Approached to operational improvement, Service recovery, service guarantees	CO3, CO4, CO5	3

Textbooks:

1. Metters, King-Metters, Pulliman and Walton "*Successful Service Operations Management 2e*", Sengage Learning India Pvt. Ltd. 2006
2. "*Services Operations Management : Improving Services Delivery*" by Robert Johnson Graham, Clark, Prentice Hall, Pearson Education, 2008

Reference Books:

1. James A. Fitzsimmons & Mono J. Fitzsimmons "*Service Management*" Tata McGraw-Hill, sPublishing Co. Ltd. New Delhi
2. Bill Hollins and Sadie Shinkins "*Managing Service Operations –Design and implementation*" Sage Publication New Delhi 2006
3. Roger G. Schroeder, "*Operations Management*" Tata McGraw-Hill, New Delhi 2009
4. B Mahadevan "*Operations Management (Theory & Practice)*

Elective Course 6: Operations Analytics

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce analytical techniques and tools applied in operational decision-making.
2. To equip students with practical skills in predictive modeling, optimization, and forecasting within operations.
3. To develop capabilities for analyzing operational data to enhance process efficiency and performance.
4. To foster understanding of analytical software and technology solutions widely used in operations management.
5. To cultivate strategic insight into data-driven operational improvements and innovation.

Course Outcomes:

CO1: Recall fundamental concepts of data-driven decision-making in operations

CO2: Understand key analytical techniques used in operations

CO3: Implement data analytics in real-world operational scenario

CO4: Analyse & assess the impact of operational efficiency using quantitative models and optimization techniques

CO5: Evaluate the impact of operational efficiency using appropriate data and optimization techniques for decision making

CO6: Design innovative data-driven solutions for operations challenges

Unit / Module	Content	CO Mapping	Hours
1	Introduction to Analytics Gaining data insights and Predictive Analytics Demand analytics-Qualitative forecasting	CO1, CO2	3
2	Demand Analytics Forecasting and time series analysis. Regression Analysis for Operations	CO2, CO3	3
3	Demand Analytics Regression Analysis for Operations	CO2, CO3	3
4	Quality Control Statistical Quality Control Various types of Control Charts (Mean Chart, Variation Charts …)	CO3, CO4	3
5	Machine Learning Block chain in operations. Predictive Maintenance & Failure Analysis	CO3, CO4	3

6	Performance Metrics Inventory, Fulfillment, Alerts, and Flagging etc. Dashboard Designing, Balanced Scorecard Kaplan and Norton Framework, Strategy Map	CO4, CO6	3
7	Introduction to Probabilistic Inventory Control Models. Instantaneous and Continuous demand.	CO4, CO5	3
8	Introduction to Probabilistic Inventory Control Models. Inventory Control Models with and without set-up cost	CO4, CO5	3
9	Introduction to Non-Linear Programming. Lagrange Multiplier	CO4, CO5	3
10	Introduction to Non-Linear Programming. Graphical Method	CO4, CO5	3

Textbooks:

1. "Operations Research: Theory and Applications" by *J.K Sharma*
2. "Machine Learning for Business Analytics" by *Shmueli*

Reference Books:

1. "Business Analytics: Practitioner's Guide" by *Rahul Saxena & Anand Srinivasan*
2. "Manufacturing Planning and Control" by *Volmann, Berry, Whybark*
3. "Quantitative Techniques in Management" by *N.D Vohra*

Elective Course 7: Manufacturing Resource Planning & Control

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To familiarize students with core concepts, techniques, and systems in manufacturing resource planning.
2. To equip students with practical skills in material requirements planning (MRP), scheduling, and inventory control.
3. To develop analytical capabilities for evaluating production capacity, demand forecasting, and resource utilization.
4. To enable students to apply lean manufacturing principles and quality control methodologies.
5. To foster understanding of contemporary trends and technological advancements in manufacturing planning.

Course Outcomes:

CO1: Choose appropriate Production planning to achieve business plan

CO2: Compare manufacturing resources available and select right ones to optimize cost

CO3: Identify ways to manage demand and capacity planning

CO4: Analys best practices followed for Material Requirement Planning

CO5: Evaluate how implementing ERP system can help organizations to operate and monitor

CO6: Create manufacturing resource plan based on understanding of concepts

Unit / Module	Content	CO Mapping	Hours
1	Overview of operations planning and control, challenges in securing a competitive edge, understanding Enterprise Resource Planning and its linkage with functional units, Customised Software, data integration; integrating MPC with ERP; performance metrics to evaluate effectiveness	CO1, CO2	3
2	Demand management and the MPC environment (MTS, ATO, MTO); communicating with other modules like Sales & Operations Planning, Master Production Scheduling; information use in demand management; CRM; balancing supply and demand; Collaborative Planning, Forecasting and Replenishment (CPFR); 9-step CPFR process model	CO2, CO3	3
3	Sales and Operations Planning: S&OP fundamentals, planning and management; payoffs; S&OP process, displays, basic trade-offs, economic evaluation of alternate plans; new management obligations, functional roles, integrating strategic planning, controlling the Operations Plan; Lawn King Inc case	CO2, CO3	3

4	Master Production Scheduling; MPS activity, statement of future output, business environment for MPS, other linkages; MPS techniques – time-phased, rolling through time, Order Planning and ATP; planning in an ATO environment; 2-level MPS; MPS stability-freezing and time-fencing; managing MPS	CO2, CO3	3
5	Material Requirements Planning; MRP in MPC; record processing – basic MRP record, linking records; technical issues-processing frequency, bucketless systems, lot sizing, pegging, FPOs, service parts, planning horizon; Scheduled Receipts vs Planned Order Releases; using the MRP system; system dynamics	CO2, CO3	3
6	Capacity Planning and Management; role in MPC systems, hierarchy of decisions, links to other MPC modules; capacity planning and control techniques – CPOF, Capacity Bills, Resource Profiles, Capacity Requirements Planning (CRP); finite capacity scheduling, using APS systems; management and capacity planning utilisation. Managing bottleneck capacity, choosing measure of capacity, choice of technique, using the capacity plan	CO3, CO4, CO5	3
7	Production Activity Control; framework, MPC system linkages, linkages between MRP and PAC, JIT effect on PAC; Production Activity Control techniques, concepts, lead-time management, Gantt Charts, Priority Sequencing Rules, Theory of Constraints (TOC), Vendor Scheduling and follow-up, influence of internet	CO3, CO4, CO5	3
8	Advanced Scheduling and Just-in-Time; basic scheduling research, 1-machine, 2-machine, dispatching and sequencing rules; advanced procedures-due date setting, dynamic due dates, labour-limited systems group scheduling and transfer batches: major elements of JIT its impact on MPC and applications, hidden factory; levelling production, pull system introduction, product and process design	CO3, CO4, CO5	3
9	Distribution Requirements Planning; DRP in the Supply Chain, MPC system linkages, marketplace, demand management, MPS; DRP techniques – basic DRP record, TPOP, linking multiple warehouse records, managing day-to-day variations from plan, safety stock; management issues – data integrity, organisational support, problem-solving	CO3, CO4, CO5	3
10	Management of Supply Chain Logistics; framework for supply chain logistics, breadth of supply chain logistics, total cost concept; design, operation and control decisions; supply chain logistical elements – transportation, warehouses, inventory; warehouse replenishment systems; warehouse location analysis;	CO3, CO4, CO5	3

	vehicle scheduling analysis; customer service measurement MTS, MTO		

Textbooks:

1. Manufacturing Planning and Control for Supply Chain Management, 6e; F Robert Jabobs, William Berry, D Clay Whybark, Thomas Vollmann; Mc Graw Hill

Reference books:

1. Designing and Managing the Supply Chain – Concepts, Strategies and Case Studies, 4e; David Simchi-Levi, Philip Kaminski, Edith Simchi-Levi, Ravi Shankar; Mc Graw Hill

Elective Course 8: Production Planning & Control (PPC)

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce foundational concepts and methodologies in production planning and control.
2. To equip students with skills in scheduling, capacity planning, and workflow management.
3. To develop analytical abilities for optimizing production processes and resource allocation.
4. To enable application of technology-driven solutions and software for efficient production control.
5. To cultivate strategic insights into addressing contemporary challenges in production management.

Course Outcomes:

CO1: Remember / Recall fundamental concepts of PPC

CO2: Understand role of PPC in business management

CO3: Apply the principles of PPC in manufacturing

CO4: Analyse the pros and cons while decision making in manufacturing

CO5: Evaluate risk, material and capacity while decision making

CO6: Create effective processes for performance improvement and sustainable business

Unit / Module	Content	CO Mapping	Hours
1	Production / Operations Planning and Control (PPC): Nature, Objectives, Factors Determining Production Planning, Production Planning and Systems, Production Controls, Benefits of Production Control, Factors Determining Production Control, Role and Scope of PPC	CO1, CO2	3
2	Production / Operations Planning and Control (PPC): Functions of PPC, Benefits of PPC, Limitations of PPC, Measuring Effectiveness of PPC, PPC in Different Production Systems and Make or Buy Analysis	CO1, CO2	3
3	Aggregate Planning and Master Production Scheduling: Nature and Objectives, Operations Planning and Scheduling Systems, Aggregate Capacity Planning, Steps in Aggregate Planning, Capacity Requirement Planning, Capacity Planning Decisions	CO3, CO4	3

4	Aggregate Planning and Master Production Scheduling: Determination of Capacity, Factors Affecting Determination of Plant Capacity, Interrelationship between Capacity and Other Factors (Location, Layout, Process Design, Equipment Selection), Aggregate Capacity Planning Strategies	CO3, CO4	3
5	Master Production Scheduling (MPS): Objectives, Functions of MPS, Time Fences in MPS, Procedure for Developing MPS and Symptoms of Poorly Designed MPS	CO3, CO4	3
6	Resource Requirement Planning: Introduction, Resource Requirement Planning System, General Overview of MRP, Issues in MRP, Potential Benefits of MRP	CO2, CO3	3
7	Shop Floor Planning and Control: Introduction, Objectives of Production Activity and Control, Scheduling Techniques, Stages in Scheduling and Line of Balance Technique	CO3, CO4	3
8	Inventory Management: Inventory Cost, Inventory Management and Control, Inventory Control Techniques and Measurement of Effectiveness of Inventory Management	CO4, CO5	3
9	ERP: Key Functions and Features, Production Planning, Capacity Planning, MRP and Scheduling	CO4, CO5	3
10	ERP: Production Control: Inventory, Work Order Management, Resource Allocation, Production Monitoring, Routing and Process Management, Process Management, Reporting and Analytics, Benefits of ERP Module for PPC	CO4, CO5	3

Textbooks:

1. "Elements of Production, Planning and Control" by Samuel Eilon, Published by Macmillian
2. "Operations Management" by Joseph Monks, Published by McGraw Hill Ryerson
3. “Fundamentals of Production Planning and Control” by Stephen N. Chapman, Published by Pearson

Reference Books:

1. " Production Planning and Control – Text and Cases" by Mukhopadhyay S. K. Published by PHI Learning

Elective Course 9: Purchase and Materials Management

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To provide foundational knowledge of procurement processes, sourcing strategies, and materials management.
2. To equip students with practical skills in supplier evaluation, negotiation, and relationship management.
3. To foster analytical capabilities for inventory optimization, cost reduction, and quality management.
4. To develop strategic insights into risk assessment and sustainability considerations in procurement.
5. To enable effective use of technology solutions in managing purchasing and materials operations.

Course Outcomes:

CO1: Remember important aspects of materials management

CO2: Understanding the importance and worth of Materials Management with respect to business operations

CO3: Apply concepts of materials management in business operations

CO4: Analyse data for tenders, vendor selection, material purchase and cost analysis

CO5: Evaluation of suppliers, materials, vendors and business proposals

CO6: Create an optimized procurement and inventory management system to enhance efficiency and sustainability

Unit / Module	Content	CO Mapping	Hours
1	Introduction to Purchase & Materials Management Definition, Scope & Importance Objectives & Functions Role in Business & Industry	CO1	3
2	Purchasing Management Purchasing Cycle & Methods Vendor Selection & Negotiation Legal Aspects of Procurement	CO2, CO3	3
3	Inventory Management Types of Inventory Inventory Control Techniques (ABC, VED, FSN) Economic Order Quantity (EOQ) Model Just-in-Time (JIT)	CO3	3
4	Warehouse & Storage Management Functions of Warehousing	CO1, CO2	3

	Warehouse Layout & Design Material Handling Systems Safety & Security Measures		
5	Supply Chain Management (SCM) Overview of SCM Logistics & Distribution in SCM Supplier Relationship Management Performance Metrics in SCM	CO4, CO5	3
6	Materials Requirement Planning (MRP) & ERP MRP Process & Elements Bill of Materials (BOM) MRP vs. ERP Capacity Planning	CO2, CO3	3
7	Vendor Management & Development Vendor Rating & Performance Evaluation Supplier Development Strategies E-Procurement & Digitalization Global Sourcing	CO4, CO5	3
8	Cost & Value Analysis Cost Reduction Strategies Value Engineering & Value Analysis Make or Buy Decisions Total Cost of Ownership (TCO)	CO3, CO4, CO5	3
9	Sustainable & Green Procurement Environmental & Social Impact Circular Economy in Supply Chain Ethical Sourcing & Corporate Social Responsibility (CSR) Green Logistics	CO4, CO5	3
10	Industry 4.0 & Smart Procurement AI & Blockchain in Supply Chain Digital Procurement Systems Future Trends in Procurement	CO2, CO3	3

Textbooks:

1. Chopra, S., & Meindl, P. (2021). Supply chain management: Strategy, planning, and operation (8th ed.). Pearson.
2. Gopalakrishnan, P., & Sundaresan, M. (2015). Introduction to materials management (7th ed.). Pearson Education.
3. Monczka, R. M., Handfield, R. B., Giunipero, L. C., & Patterson, J. L. (2020). Purchasing and supply chain management (7th ed.). Cengage Learning.
4. Schnellbächer, W., & Weise, D. (2022). Digital procurement transformation: Rethinking buying in the digital age. Springer.

Reference Books:

1. Datta, A. K. (2009). Materials management: Procedures, text and cases (2nd ed.). PHI Learning.
2. Sharma, S. C. (2018). Materials management and materials handling (1st ed.). Khanna Book Publishing.

Semester III - System & Digital Business

System & Digital Business Specialization					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
Mandatory					
1	Mandatory	Strategic Information Technology & Resource Management	2	20	**UA**
Electives (Any 5 including Open Elective)					
1	Elective	Digital Business	2	20	**IA**
2	Elective	Software Project Management	2	20	**IA**
3	Elective	Enterprise Systems for Business	2	20	**IA**
4	Elective	Big Data, Business Analytics & FinTech	2	20	**IA**
5	Elective	Advanced Database & Data Warehousing	2	20	**IA**
6	Elective	Knowledge Management	2	20	**IA**
7	Elective	Business Applications of Networking & Telecommunication	2	20	**IA**
8	Elective	Data Mining & Business Intelligence	2	20	**IA**
9	Elective	Blockchain Technology for Business	2	20	**IA**
10	Elective	SWAYAM Course	2	-	**IA**

***IA – Internal Assessment; UA – University Assessment**

System & Digital Business - Mandatory Course: Strategic Information Technology and Resource Management

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To familiarize students with strategic implications of information technology within business contexts.
2. To equip students with practical skills for managing IT resources, infrastructure, and services.
3. To cultivate analytical capabilities to align IT strategy with organizational objectives.
4. To foster understanding of IT governance, compliance, and cybersecurity issues.
5. To develop strategic insight into leveraging emerging technologies for competitive advantage.

Course Outcomes:

CO1: To understand how Information Technology used for competitive advantage. The five forces and the value chain to derive value

CO2: To analyze the process perspective and how business process reengineering and its application for competitive advantage

CO3: To apply Data, Information and technology integration for effective decision making and for competitive strategy and advantage across the sector,

CO4: To evaluate which sourcing is a better option from insourcing and outsourcing, in-shoring and offshoring, and near- shoring and far-shoring for IT integration and business strategy.

CO5: To design an effective technology strategy using the emerging trends of technology, business strategic web related technologies, World Wide Web, and mobile technology for business.

Unit / Module	Content	CO Mapping	Assigned Hours
1	Information Technology and Competitive advantage. Role of Information Systems in organization, Key concepts related to strategy, such as value chain, five forces, information asymmetry, and Technology investment. Information Technology vs Information systems.	CO1, CO2	3
2	Approaches of competitive advantage - Market based approach and Resource based approach. Strategic Role of IT in gaining Competitive Advantages	CO1, CO2	3

3	Strategic Use of ERP in Business, Process Perspective, Business Process Reengineering.	CO2, CO3	3
4	Strategic role of information, sue of information for decision making process, How organisation leverage data and information for strategic and competitive advantage.	CO2, CO3	3
5	Research on Internet use. Marketing Online, Online Advertising, social media and Digital Marketing	CO3	3
6	Sourcing Information Systems around the world. Sourcing Decision cycle Framework. Explain the differences between - insourcing and outsourcing, in-shoring and offshoring, and near-shoring and far-shoring. Major drivers for outsourcing. How offshoring must be managed	CO4	3
7	Creating a Technology Strategy. Technology Trends. Emerging trends of information technology to device Business model & business strategy; Web related technologies, web media, how to use world wide web for business and marketing purpose; Mobile technology impact of mobile technologies on business and mobile strategy for a business	CO4, CO5	3
8	Emerging Trends in Strategic IT and IT Resource Management with related case studies	CO4, CO5	3
9	Sourcing Information Systems around the world. Sourcing Decision cycle Framework. Explain the differences between - insourcing and outsourcing, in-shoring and offshoring, and near-shoring and far-shoring. Major drivers for outsourcing. How offshoring must be managed	CO3	3

Text Books:

1. Kerri Pearlson and Carol Saunders, *Strategic Management of Information Systems*, Wiley
2. Wendy Robson, *Strategic Management and Information Systems*, FT Publishing International; 2nd edition
3. Samarjeet Borah, Bhushankumar Nemade, Dharmesh Dhabliya, Nitin Sakhare,
4. *Tech-Driven Strategies: Leveraging Information Technology in Business Management*, Nova Science Publishers

Reference Books:

1. Raymond Papp, *Strategic Information Technology: Opportunities For Competitive Advantage,* IGI Publishing
2. Robert D. Galliers, Dorothy E Leidner, *Strategic Information Management*, Routledge 3rd Edition
3. Donald Waterman, *A Guide to Expert Systems*, Pearson India

Elective Course 1: Digital Business

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce foundational concepts, strategies, and models of digital business.
2. To equip students with analytical skills to evaluate digital transformation opportunities.To foster understanding of digital innovation, business models, and technology-driven business strategies.
3. To develop practical capabilities in managing online platforms, e-commerce, and digital customer experiences.
4. To cultivate awareness of ethical, regulatory, and cybersecurity considerations in digital business operations.

Course Outcomes:

CO1: To understand the introduction to digital business, framework of drivers of digital business-, mobile, cloud computing, social media;

CO2: To Analyze Retailing in e- business-products and services, consumer behavior

CO3: To Evaluate the digital business support services- e-CRM, e-SCM, e- banking, ERP, mobile computing

CO4: To compare digital business applications and infrastructure, IAAS, SAAS, PAAS, information super highway, collaboration tools and Legal, Ethics and Societal impacts of E- Business, for value creation.

CO5: To Design the E-Business Strategy for effective Implementation of digital business and E - Business project

Unit / Module	Content	CO Mapping	Hours Assigned
1	Introduction to Digital Business. Background and current status, E-market places, structures, mechanisms, economics and impacts Difference between physical economy and digital economy.	CO1, CO2	3
2	Drivers of digital business- Big Data & Analytics, Mobile, Cloud Computing, social media, BYOD, and Internet of Things (digitally intelligent machines/services) Opportunities and Challenges in Digital Business.	CO1, CO2	3
3	Overview of E- Business. E-Business-Meaning, retailing in e- Business-products and services, consumer behaviour, market research and advertisement B2B-E-Business- selling and buying in private e-	CO1, CO2	3

	markets, public B2B exchanges and support services, e-supply chains, Collaborative Commerce, mobile commerce and pervasive computing.		
4	Digital Business Support services- e-CRM, e-SCM, e-banking, ERP as e –business backbone, Mobile Computing	CO3	3
5	Understanding -Building Digital business Applications and Infrastructure, IAAS, SAAS, PAAS, information superhighway, collaboration tools	CO4	3
6	Managing E-Business-Managing Knowledge, Management skills for e-business, Technology integration, Launching a successful digital and online business and E - Business project,	CO5	3
7	Legal, Ethics and Societal impacts of E-Business, Managing Risks in e –business Security Threats to e-business -Security Threats, Encryption, Cryptography, Digital Signatures, Digital Certificates	CO4	3
8	E-Business Strategy- E- Business Strategy and Implementation, E Business Models, E Business strategy and global E- Business, Economics and Justification of E-business, Strategic formulation- Analysis of Company's Internal and external environment, Selection of strategy, E-business strategy into Action, challenges and E-Transition	CO4, CO5	5
9	Emerging Trends in Digital Business and Model with related case studies	CO4, CO5	4

Text Books:

1. David Rogers, " The Digital Transformation Playbook-Rethink your Business for the Digital Age, Colombia Business School Publishing 2016

Reference Books:

1. Sunil Gupta, Driving Digital Strategy, A Guide to Reimagining Your Business".
2. Aaron Brooke, "Digital Transformation with data verse", bpb,2022

Elective Course 2: Software Project Management

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To familiarize students with principles, methodologies, and tools for managing software projects effectively.
2. To equip students with practical skills in project scheduling, budgeting, and risk management specific to software projects.
3. To develop capabilities in agile project management methodologies and software lifecycle management.
4. To cultivate analytical skills for quality assurance, performance measurement, and process improvement in software development.
5. To foster understanding of contemporary challenges and innovations in software project management.

Course Outcomes:

CO1: To understand the foundational concepts of IT Project Management including project goals, life cycle models, methodologies (ITPM), and various software development processes

CO2: To analyze key project initiation elements like Requests for Proposal (RFP), business cases, feasibility studies, and use of structured analysis tools

CO3: To apply appropriate project management tools for scheduling, resource allocation, and budgeting including Work Breakdown Structures (WBS), Gantt Charts, Responsibility Matrices, and estimation models.

CO4: To evaluate IT project quality and risk by examining testing methodologies (black box, white box, stress/load testing) and applying risk management processes including identification, analysis, mitigation strategies, and control mechanisms.

CO5: To design an effective IT project plan addressing leadership, communication, procurement, implementation, change management, ethics, multicultural team handling, and Project closure procedure

Unit / Module	Content	CO Mapping	Hours Assigned
1	Overview of IT Project Management – Introduction, state of IT project management, need for project management, project goals, life cycle and IT development, extreme project management, PMBOK, ITPM, software development processes (Waterfall, Spiral, etc.), project feasibility	CO1	5
2	RFP, Proposal, Business Case, Project Selection and Approval, Contracting, IT Governance,	CO2	5

	System Analysis and Design, Feasibility Study, Requirements Gathering, DFD, ERD, SRS, Project Charter, Project Planning Framework, Master Plan		
3	Work Breakdown Structure (WBS), Responsibility Matrix, Gantt Chart, Calendar Scheduling, Project Management Tools, Budgeting, Software Estimation (LOC, Function Point, COCOMO, COCOMO II), Finalizing Schedule and Budget	CO3	5
4	Testing Techniques – Black box vs White box, Functional Tests, Code Reviews, Stress & Load Tests, IT Project Risk Management – Planning, Identification, Analysis, Strategies, Monitoring, Evaluation	CO4	5
5	Human Side of Project Management – Organization, Team, Environment, Communication, Monitoring, Reporting, Leadership, Ethics, Multicultural Teams, Change Management, Resistance, Conflict Handling	CO5	3
6	Project Procurement & Outsourcing, Project Implementation, Administrative Closure, Project Evaluation, Audit	CO5	3
7	Emerging Trends in Software Project Management with related case studies	CO5	4

Text Books:

1. Roger S. Pressman and Bruce R. Maxim, Software Engineering: A Practitioner's Approach, McGraw-Hill
2. Information Technology Project Management by Jack T. Marchewka, Wiley India, 2009.
3. Software Project Management by Hughes and Cornell. Tata McGraw-Hill
4. Harold Kerzner, Project Management: A Systems Approach to Planning, Scheduling, and Controlling, Wiley, 12th Edition
5. Dr. Satish R. Billewar, Software Project Management: Includes Practicals, Dreamtech Press
6. Kathy Schwalbe, Information Technology Project Management, Cengage Learning, 7th Edition
7. IT Project Management by Joseph Phillips. Tata McGraw-Hill
8. Software Project Management by Joel Henry. Pearson Education, 2008

Reference Books:

1. Pankaj Jalote, Software Project Management in Practice, Pearson Education
2. Hughes & Cotterell, Software Project Management, Tata McGraw-Hill, 5th Edition
3. Bob Hughes, Mike Cotterell, Rajib Mall, Software Project Management, Tata McGraw-Hill
4. Jack T. Marchewka, Information Technology Project Management, Wiley India, 5th Edition

5. PMI – Project Management Institute, A Guide to the Project Management Body of Knowledge (PMBOK® Guide), 6th Edition
6. Project Management by S. J. Mantel, J. R. Meredith. Wiley India, 2009
7. Project Management for Business and Technology by John M. Nicholas. Pearson Education.
8. Effective Project Management by Robert K. Wyzocki and Rudd McGary. Wiley.
9. Project Management byBrown, K.A. McGraw Hill, 2002.

Elective Course 3: Enterprise Systems for Business

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce foundational concepts and strategic importance of enterprise systems.
2. To equip students with practical skills for implementing and managing ERP systems within organizations.
3. To develop analytical capabilities for evaluating enterprise systems' effectiveness and integration.
4. To foster understanding of business process automation, resource optimization, and operational efficiency.
5. To cultivate strategic insights into emerging trends and challenges in enterprise system management.

Course Outcomes:

CO1: Understand the enterprise resource planning (ERP) and its integration for effective business.

CO2: Describing the Enterprise Content Management in organisational workflow

CO3: Analyse the various business application of enterprise system across the functions and verticals of the organisation

CO4: Evaluate the emerging technologies available for building enterprise systems and portals and implementation strategies.

CO5: Design Application Areas of ERP in SCM, and CRM to Business and value creation

Unit / Module	Content	CO Mapping	Hours Assigned
1	Application areas of Enterprise Systems for Business, in various industry verticals and business such as service Industry like Banking and Finance, Retail, Telecom, Healthcare, Hospitality, Education, in a common manufacturing, FMCG, Government etc. and various functions of management Marking, Finance, Operations, Human Resources and as per business processes of the organisation	CO1, CO2, CO3	6
2	Enterprise Content Management – Role of content management – ERP and other transaction related records, web content, and other unstructured content. Integrating Content management in organizational workflows and ERP systems etc Examples of content management tools.	CO1, CO2	4

3	Enterprise Portals – Concept of an enterprise portal, benefits to an organization, Emerging Technologies available for building enterprise portals for business	CO4, CO5	4
4	Enterprise Application Integration and Implementations strategies - Challenges in integrating various enterprise applications. Emerging technologies for application and system integration its merits and demerits and strategies for Enterprise system implementations	CO4, CO5	4
5	Application Areas of ERP in SCM, and CRM. Supply Chain Management (SCM) and Customer Relationship Management CRM– Need for Supply chain and Customer Relationship integration, Application overview of supply chain and Customer relationship solution, advanced SCM and CRM and ERP integration to Business and value creation	CO4, CO5	6
6	Emerging Trends in Enterprise systems with related case studies	CO4, CO5	6

Textbooks:

1. Enterprise Systems for Management by Motiwala. Pearson (2008).
2. ERP Systems and Organisational Change by Bernard Grabot, Anne Mayère, and Isabelle Bazet. Springer (2008).

Reference Books:

1. Management Information Systems for the Information Age (9e) by Maeve Cummings. McGraw-Hill/Irwin (2012).
2. Management Information System- Managing the Digital Firm by Laudon and Laudon.
3. A Management Information Systems by O'Brien, James. Tata McGraw Hill, New Delhi,
4. Elements of Systems Analysis and Design by Marvin Gore. Galgota Publications.
5. Management Information Systems by Jaiswal and Mittal. Oxford University Press.

Elective Course 4 : Big Data , Business Analytics & FinTech

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce foundational concepts and applications of big data and business analytics in finance.
2. To equip students with skills to utilize analytical tools and techniques for financial decision-making.
3. To develop practical abilities to harness big data for strategic advantage and customer insights in financial services.
4. To foster critical understanding of fintech innovations, digital payment systems, and technology-driven financial solutions.
5. To cultivate analytical capabilities to evaluate the impact of fintech trends on traditional financial services.

Course Outcomes:

CO1: Understand the fundamental concepts and importance of big data and business analytics and FinTech.

CO2: Analyse big data architectures, tools, and technologies for data processing.

CO3: Evaluate data analytics techniques, predictive modelling, and machine learning applications and FinTech.

CO4: Apply big data analytics and FinTech in decision-making and business intelligence.

CO5: Explore emerging trends and challenges in big data, FinTech, analytics-driven businesses.

Unit / Module	Content	CO Mapping	Hours Assigned
1	Introduction to Big Data and Business Analytics - Basics of big data and Business Analytics its ecosystem. - Data processing frameworks. - Industry trends and challenges.	CO1, CO2	4
2	Big Data & Data Management - Data collection and pre-processing. - NoSQL databases and data warehousing. - Data visualization techniques. -Predictive and Business analytics concepts and its applications	CO2, CO3, CO4	4

3	Big Data Implementation and Business Analytics - Big data strategy and governance. - Security and privacy in big data, -Real-time processing and streaming Business analytics -Emerging trends and Case Studies of Big Data and Business Analytics	CO3, CO4, CO5	5
5	Introduction & Applications of Financial Technology, FinTech: Technology enablers - Blockchain Technology Digital Payments FinTech in Banking FinTech in Lending Emerging trend and case studies	CO1, CO2, CO4, CO5	7
6	Introduction & Applications of Financial Technology, FinTech: FinTech in Wealth Management & Capital Markets and Other Types of FinTech – Property, Insurance and across the sectors of the industry with their case studies etc.	CO1, CO2, CO4, CO5	7
7	Emerging Trends in Business analytics and FinTech with their related case studies	CO4, CO5	3

Textbook:

1. Big Data and Business Analytics by Jay Liebowitz, Pearson Education India
2. Big Data Analytics by Seema Acharya & Subhashini Chellappan, Wiley India
3. Business Analytics: The Science of Data-Driven Decision Making by U. Dinesh Kumar, Wiley India
4. Data Science and Big Data Analytics by EMC Education Services, Wiley India

Reference Books:

1. *Data Analytics* by V. P. Jain, Khanna Publishing House
2. *Business Analytics* by Sanjiv Jaggia, Alison Kelly, and R. A. Sharma (Indian adaptation), Cengage India
3. *Fundamentals of Business Analytics* by R. N. Prasad & Seema Acharya, Wiley India
4. *Business Intelligence and Analytics* by Ramesh Sharda, Dursun Delen & Efraim Turban, Pearson India
5. *Big Data: Concepts, Technology and Architecture* by Thomas Erl, Pearson India

Elective Course 5: Advanced Database and Data Warehousing

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To provide comprehensive knowledge of advanced database concepts, models, and architectures.
2. To equip students with skills in designing, implementing, and managing data warehousing solutions.
3. To develop practical abilities in data integration, ETL processes, and business intelligence applications.
4. To foster analytical capabilities for evaluating database performance, security, and compliance.
5. To cultivate strategic insights into emerging database technologies and big data management practices.

Course Outcomes:

CO1: Understand the data warehousing components –building a data warehouse.

CO2: Describe the framework of the structure of the data warehouse, granularity.

CO3: Apply normalization and denormalization for operational access of data warehouse.

CO4: Analyze the distributed data warehouse, the local and global data warehouse, undistributed data warehouse and development.

CO5: Develop the multidimensional data model

Unit / Module	Content	CO Mapping	Hours Assigned
1	Data warehousing components –Building a data warehouse, DBMS schemas for decision support – data extraction, clean-up, and transformation tools, monitoring the data warehousing environment.	CO1, CO2	5
2	The structure of the data warehouse, Granularity, partitioning as a design approach, structuring data in data warehouse, data homogeneity and heterogeneity, incorrect data in data warehouse	CO2, CO3	5
3	Normalization and de normalization, Triggering the data warehouse record, managing volume, direct operational access of data warehouse data, levels of granularity.	CO3	4
4	Data warehouse technology: Managing multiple media, interface to emerging technologies, and management of metadata, multidimensional DBMS and data warehouse.	CO4, CO5	4

5	Types of data warehouse: The distributed data warehouse, the local and global data warehouse, undistributed data warehouse and development.	CO3, CO4	4
6	Management analysis: Cost justification and return on investments for a data warehouse, corporate information compliance and data ware housing, data warehousing, design review checklist and relevance.	CO4 CO5	4
7	Application areas of data warehousing and business issues and challenges with case studies	CO4, CO5	4

Textbooks:

1. Data Warehousing, Data Mining and OLAP by Alex Berson and Stephen J. Smith. Tata McGraw–Hill Edition, 2007
2. Data Mining Concepts and Techniques by Jiawei Han and Micheline Kamber. Elsevier, 2007
3. Introduction to Data Mining by Pang-Ning Tan, Michael Steinbach and Vipin Kumar. Pearson Education, 2007
4. Data Mining Concepts and Techniques by Jiawei Han and Micheline Kamber. Elsevier, 2007.

Reference Books:

1. Introduction to Data Mining with Case Studies by G. K. Gupta. Prentice Hall of India, 2006.
2. Data Mining Methods and Models by Daniel T. Larose. Wiley-Interscience, 2006.
3. Insight into Data Mining Theory and Practice by K. P. Soman, Shyam Diwakar and V. Ajay. Prentice Hall of India, 2006
4. Data Warehousing, Data Mining and OLAP by Alex Berson and Stephen J. Smith. Tata McGraw–Hill Edition, 2007

Elective Course 6: Knowledge Management

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce foundational theories, practices, and strategic importance of knowledge management.
2. To equip students with practical skills for implementing effective knowledge management systems.
3. To develop analytical capabilities to assess organizational knowledge assets and knowledge flow.
4. To foster understanding of knowledge sharing, collaboration tools, and organizational learning.
5. To cultivate strategic insight into addressing knowledge management challenges and opportunities.

Course Outcomes:

CO1: Explain the fundamental concepts of knowledge management, including the distinction between data, information, and knowledge, and the importance of KM in business.

CO2: Analyze knowledge creation models, sources, and acquisition techniques to enhance organizational knowledge processes.

CO3: Evaluate knowledge sharing mechanisms, technological tools, and organizational strategies to overcome barriers in KM.

CO4: Compare different types of Knowledge Management Systems (KMS) and propose effective implementation and evaluation strategies.

CO5: Design knowledge retention strategies and organizational learning practices to sustain competitive advantage.

CO6: Assess the role of KM in fostering innovation through technology, collaboration, and performance measurement.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	Definition and Scope of KM: Understanding knowledge vs. data vs. information, Types of Knowledge: Tacit vs. explicit knowledge, Importance of KM in business: How KM improves efficiency, decision-making, and innovation, KM Lifecycle: Knowledge creation, storage, sharing, and utilization, Challenges in	CO1, CO2	5

	KM: Barriers to effective knowledge management.		
2	Knowledge Creation Models: Nonaka-Takeuchi SECI Model (Socialization, Externalization, Combination, And Internalization), Sources of Knowledge: Internal (employees, documents) vs. external (partners, customers, competitors), Techniques for Knowledge Acquisition: Market research, R&D, benchmarking, collaboration, Knowledge Transfer Mechanisms: Communities of practice, mentorship, cross-functional teams, Role of Leadership in Knowledge Creation: Fostering a knowledge-sharing culture. & Organisational Impact KM management Dimensions, Barrier to KM and IT Dimensions.	CO2, CO3	5
3	Knowledge Sharing Processes: How knowledge is communicated across departments, Barriers to Knowledge Sharing: Cultural, technological, and organizational challenges, Role of Technology in Knowledge Sharing: Intranets, knowledge management systems (KMS), and social media tools, Collaboration Tools: Wikis, collaborative platforms, video conferencing, and cloud-based systems, Communities of Practice (CoPs): Facilitating informal knowledge sharing networks within organizations.	CO4	4
4	Overview of KMS: Types of KMS (Document Management Systems, Content Management Systems, Enterprise Social Networks), Implementing KMS: Steps to successfully implement and manage KMS, Evaluating KMS: Metrics to measure the effectiveness of KMS, Enterprise Resource Planning (ERP) and KM Integration: How ERPs facilitate knowledge management, Best Practices in KMS Implementation: Case studies of successful KMS implementations in businesses.	CO5, CO6	4
5	Knowledge Retention Strategies: Succession planning, mentorship programs, documentation of processes, Knowledge Loss: Managing knowledge loss due to employee turnover, retirements, or organizational changes, Organizational Learning: Creating a culture of	CO4, CO5	4

	learning through training, development, and reflective practices, Learning Organizations: Key features of learning organizations (e.g., continuous improvement, shared vision), Knowledge-Based Competitive Advantage: Leveraging knowledge for strategic advantage in the marketplace.		
6	Role of KM in Innovation: How effective KM fosters creativity and innovation in products, services, and processes, Innovation and Knowledge Sharing: Mechanisms that link KM and innovation (e.g., crowdsourcing, open innovation),	CO4, CO5	4
	Emerging trends and Case Studies of KM-Driven Innovation: Examining real-world examples where KM has enhanced innovation, Technology and Innovation: Role of AI, Big Data, and other emerging technologies in KM and innovation, Measuring the Impact of KM on Innovation: Key performance indicators and success metrics for KM-driven innovation.	CO5, CO6	4

Text Books:

1. Knowledge Management, Mruthyunjaya H.C., Prentice Hall.
2. Knowledge Management Systems and Processes in the AI Era by Irma Becerra-Fernandez & Rajiv Sabherwal, Richard Kumi, Routledge 3rd Edition.
3. Knowledge Management by Ganesh Natarajan and Sandhya Shekhar, Tata McGraw-Hill.
4. Knowledge Management in Organizations by Donald Hislop, Oxford 2nd Edition.
5. Knowledge Management in Theory and Practice, Kimiz Dalkir, MIT Press 3rd Edition.
6. Knowledge Management Challenges, Solutions, and Technologies by Irma Becerra- Fernandez, Avelino Gonzalez, Rajiv Sabherwal. Prentice Hall, 2004.
7. Knowledge Management by Elias M. Awad, Hassan M. Ghaziri. Prentice Hall, 2004.
8. Knowledge Management in Organizations by Donald Hislop. Oxford University Press.
9. Knowledge Management Tools and Techniques by Madanmohan Rao. Butterworth- Heinemann

Reference Books:

1. Knowledge Management Tools and Techniques: Practitioners and Experts Evaluate KM Solutions by Madanmohan Rao, Butterworth-Heinemann.
2. Organisational Learning and Knowledge Management by William R. King, Springer.

3. Knowledge Management Challenges, Solutions, and Technologies by Irma Becerra-Fernandez, Avelino Gonzalez, Rajiv Sabherwal, Prentice Hall.
4. Working Knowledge: How Organizations Manage What They Know by Thomas H. Davenport & Laurence Prusak, Harvard Business Press.
5. The Knowledge-Creating Company by Ikujiro Nonaka & Hirotaka Takeuchi, Oxford University Press.

Elective Course 7: Business Application of Networking and Telecommunication

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To familiarize students with foundational concepts, architectures, and technologies of networking and telecommunication.
2. To equip students with practical skills for managing and optimizing network resources.
3. To develop analytical capabilities to assess network security, performance, and reliability.
4. To foster understanding of telecommunication services and their strategic role in business operations.
5. To cultivate insights into emerging trends and innovations in networking and telecommunications.

Course Outcomes:

CO1: Understand the fundamental concepts of networking and communication models for Business.

CO2: Identify and compare different network devices and transmission media used in networking.

CO3: Analyse data communication processes and network access mechanisms in modern networks for Business.

CO4: Apply the role of telecommunications and wireless technologies in business environments.

CO5: Evaluate network security mechanisms and their role in cyber security management.

CO6: Propose emerging networking technologies for business innovation and competitive advantage.

Unit / Module	Content	CO Mapping	Hours Assigned
1	Fundamentals of Networking for digital Business: Types of networks (LAN, WAN, MAN, PAN), Network topologies, OSI and TCP/IP models, IP addressing, DNS	CO1	5
2	Network Devices and Transmission Media: Routers, Switches, Hubs, Modems, Firewalls, Wired and wireless media, Bandwidth and latency	CO2	5
3	Application of Data Communication and Network Access to Business: Signal transmission, Multiplexing, encoding techniques, Ethernet, Switching techniques, Protocols (HTTP, FTP, TCP/IP) its application to integrate the business with case studies.	CO3	5

4	Business Applications of Telecommunications system and Wireless Networks . Mobile networks (3G, 4G, 5G), Bluetooth, Satellite communication, VoIP, IoT connectivity, Business telecom infrastructure its Application to Business with case studies	CO4	5
5	Network Security and Cyber security Management for business : Firewalls, VPNs, IDS/IPS, Encryption, Authentication protocols, Cyber threats and countermeasures and its significance to business with case studies	CO5	5
6	Emerging Trends of Networking and Telecommunication system and its strategic significance with case studies: Cloud computing, SDN, Edge computing, AI in networks, green networking with emerging case studies	CO6	5

Textbook:

1. Behrouz A. Forouzan, *Data Communications and Networking*, McGraw-Hill Education, 5th Edition.

Reference Books:

1. Andrew S. Tanenbaum and David J. Wetherall, *Computer Networks*, Pearson, 5th Edition.
2. William Stallings, *Data and Computer Communications*, Pearson, 10th Edition.
3. Curt White, *Data Communications and Computer Networks: A Business User's Approach*, Cengage, 8th Edition.
4. James F. Kurose and Keith W. Ross, *Computer Networking: A Top-Down Approach*, Pearson, 7th Edition.

Elective Course 8: Data Mining and Business Intelligence

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce core concepts, methodologies, and tools in data mining and business intelligence.
2. To equip students with practical skills in predictive analytics, classification, clustering, and data visualization.
3. To develop analytical capabilities for leveraging data insights for strategic business decision-making.
4. To foster understanding of ethical and privacy considerations in data mining practices.
5. To cultivate practical knowledge of contemporary tools and platforms used in business intelligence.

Course Outcomes:

CO1: Understand the introduction to data mining: introduction, definition of data mining, data mining parameters, how data mining works?

CO2: Identify the data mining techniques, statistical perspective on data mining, statistics-need and algorithms focused on business intelligence

CO3: Analyze the business intelligence essentials.

CO4: Apply the Business Intelligence and Data Mining tools and its application for Business

CO5: Design Data mining and BI Strategy for effective business,

Unit / Module	Content	CO Mapping	Hours Assigned
1	Introduction to Data Mining: Introduction, Definition of Data Mining, Data mining parameters, How Data Mining works? Types of relationships, Architecture of Data	CO1	3
2	Classification on Data Mining system, Various risks in Data Mining, Advantages and disadvantages of Data Mining, Ethical issues in Data Mining, Ethical issues	CO1	3
3	Data Mining Techniques: Introduction, Statistical Perspective on Data Mining, Statistics-need and algorithms	CO1, CO2	3
4	Business Intelligence an Introduction: Introduction, Definition, History and Evolution, BI Segments, Difference between Information and Intelligence, Defining Business Intelligence Value Chain, Factors of BI System, Real time Business Intelligence, BI Applications.	CO1, CO2	4

5	Business Intelligence Essentials: Introduction, Creating BI Environment, BI Landscape, Types of BI, BI Platform, Dynamic roles in BI, Roles of Business Intelligence in Modern Business- Challenges of BI.	CO3	4
6	Multiplicity of BI Tools, Types of BI Tools, Modern BI, the Enterprise BI, Information Workers and its applications	CO4	3
	Business Intelligence Life Cycle: Introduction, Business Intelligence Lifecycle, Enterprise Performance Life Cycle Framework, Life Cycle Phases, Human Factors in BI Implementation, BI Strategy, Business Intelligence Issues and Challenges: Introduction, Critical Challenges for Business Intelligence success. Application of Business Intelligence and Data Mining for Business.	CO4, CO5	5
7	Emerging Trends of Data Mining and Business Intelligence with case studies	CO4, CO5	5

Textbooks:

1. Introduction to Data Mining with Case Studies by G K Gupta.
2. Introduction to Data Mining by Pang-Ning Tan, Michael Steinbach and Vipin Kumar. Pearson Education, 2007
3. Insight into Data Mining Theory and Practice by K. P. Soman, Shyam Diwakar and V. Ajay. Prentice Hall of India, 2006.
4. Introduction to Data Mining with Case Studies by G. K. Gupta. Prentice Hall of India, 2006.
5. Data Mining Methods and Models by Daniel T. Larose. Wiley-Interscience, 2006

Reference Books:

1. E-commerce from Vision to Fulfilment by Elias M. Awad. PHI, 2002.
2. Digital Business and E-Commerce Management by Dave Chaffey, 2014.
3. Introduction to E-Business-Management and Strategy by Colin Combe. ELSVIER, 2006.
4. Digital Business Concepts and Strategy by Eloise Coupey. Pearson.
5. Trend and Challenges in Digital Business Innovation by Vinocenzo Morabito. Springer.
6. Digital Business Discourse by Erika Darics. Palgrave Macmillan, 2015.

Semester III - Open Electives Across Specializations

Semester III - Open Electives (Across Specializations) - Basket Outline

Open Electives (Across Specializations)					
1	Open Elective	Marketing of Financial Products and Services	2	20	**IA**
2	Open Elective	Climate Risk and Sustainable Finance	2	20	**IA**
3	Open Elective	Acquiring and Managing Talent	2	20	**IA**
4	Open Elective	Labour, Social Security and Welfare Law	2	20	**IA**
4	Open Elective	Services Management	2	20	**IA**
6	Open Elective	Events Management	2	20	**IA**
7	Open Elective	Quality Management	2	20	**IA**
8	Open Elective	Predictive Analytics	2	20	**IA**
9	Open Elective	Artificial Intelligence & Machine Learning (AI/ML) for Business	2	20	**IA**
10	Open Elective	Digital Innovation	2	20	**IA**
11	Open Elective	Enterprise Risk Management Course [Approved under OE Basket - University of Mumbai]	2	20	**Virtual** ***(By IRM)***
12	Open Elective	SWAYAM Course	2	20	***Through Swayam Process***

*** IA - Internal Assessment; UA - University Assessment**

Open Elective 1: Marketing of Financial Products and Services

Course Credits: 2; Duration 30 hours

Course Objectives:

1. To introduce students to foundational marketing principles specific to financial products and services.
2. To equip students with practical skills for segmenting, targeting, and positioning financial offerings.
3. To develop analytical abilities to assess consumer behavior and preferences in financial markets.
4. To foster understanding of strategic pricing, branding, and promotional tactics for financial products.
5. To cultivate insights into contemporary trends, digital marketing strategies, and compliance considerations in financial marketing.

Course Outcomes:

CO1: Explain the role, scope, and significance of marketing in financial services, including an overview of key products such as banking, insurance, and investment services.

CO2: Apply segmentation, targeting, and positioning (STP) strategies, and design marketing mixes for diverse financial products including banking, NBFCs, insurance, and mutual funds.

CO3: Analyze customer behavior and marketing strategies in digital financial services, including fintech, mobile marketing, and CRM tools.

CO4: Evaluate legal and ethical frameworks governing financial marketing in India, and assess their role in ensuring transparency and consumer protection.

CO5: Design and present a field-based marketing strategy for a financial product using experiential insights, CRM, and digital tools.

Unit / Module	Content	CO Mapping	Hours Assigned
1	**Introduction to Financial Services Marketing:** Overview of financial products and services; The role and importance of marketing in the financial services industry; Types of financial services (banking, insurance, investment products, etc.)	CO1	3
2	**Marketing of Banking products and services:** - Features of banking products - STP (Segmentation, Targeting, Positioning) for banks - Buying behavior of banking customers - Marketing strategies in banking	CO2, CO3	3

3	**Marketing of NBFC products and services** - Product structure of NBFCs - Consumer behavior - STP and marketing mix for NBFCs - Marketing strategy insights through actual market case studies	CO2, CO3	3
4	**Marketing of Insurance products and services** - Types of insurance (life, health, general) - Consumer behavior in insurance - STP and promotional strategies - Marketing strategy insights through actual market case studies	CO2, CO3	3
5	**Marketing of Mutual funds and services** - Mutual fund types and schemes - STP and customer profiles; Consumer behavior in Mutual Funds - Marketing channels and promotional tactics through actual market case studies	CO2, CO3	3
6	**Marketing of Portfolio management services and investment advisory services** - PMS and investment advisory models - Target market analysis and client profiling; Buying Behaviour analysis - Marketing techniques including Marketing to high-net-worth clients	CO2, CO3	3
7	**Customer Relationship Management** - CRM tools and technology - Customer retention and satisfaction - Role of feedback and service personalization - CRM tools and techniques used by financial institutions	CO2, CO3	3
8	**Digital Marketing and Technology in Financial Services** - Role of digital marketing in financial services - Mobile marketing, social media & online tools - Introduction to Fintech and their marketing strategies - Suggested Case study - Zerodha or Any other	CO3, CO4	3
9	**Legal and Ethical Aspects of Marketing Financial Products** - Regulatory framework governing financial services marketing (e.g., SEBI, RBI) - Ethical concerns and consumer protection - Legal requirements for advertising and disclosures in financial services	CO4	3

10	**Presentation of Field projects** - On-ground sales experience with a retail financial product (insurance, credit card, loan, etc.) - Strategy presentation and reflection *(Suggestion of Student immersing in 6-10 hours for project on the field)*	CO5	3

Text Books:

1. Financial Services in India, Concepts and application- Rajesh Kothari
2. Financial Services- M Y Khan
3. Marketing of Financial Services- V. A. Avadhani

Reference Books:

1. **"**Principles of Marketing**"** by Philip Kotler & Gary Armstrong (Chapter on Services Marketing)
2. **"**Marketing of Financial Products" by Dr. Prafulla Ranjan

Open Elective 2: Climate Risk and Sustainable Finance

Credits: 4; Total Hours: 60

Course Objectives:

1. To familiarize students with foundational concepts and strategic implications of climate risk.
2. To equip students with analytical skills to assess and manage climate-related financial risks.
3. To foster understanding of sustainable finance practices, ESG criteria, and impact investing.
4. To develop practical abilities to integrate climate risk assessment into financial decision-making.
5. To cultivate insights into regulatory frameworks, global standards, and innovative approaches to sustainable finance

Course Outcomes:

CO1: Understand the fundamentals of climate change, its economic impact, and the financial risks it poses

CO2: Analyze the role of financial institutions and global policies in climate mitigation and sustainable development

CO3: Evaluate ESG frameworks, investment strategies, and the regulatory landscape influencing sustainable finance

CO4: Apply tools and instruments such as green bonds, carbon pricing, and climate risk management in financial decision-making

CO5: Assess real-world cases, innovations, and emerging trends in climate risk and sustainable finance with relevance to India

Unit / Module	Content	CO Mapping	Hours Assigned
1	**Introduction to Climate Change and Financial Implications** ● Basics of Climate Change and Global Warming ● Impact of Climate Change on the Economy and Financial Markets ● Climate-Related Financial Risks: Physical and Transition Risks	CO1	3
2	**Role of Financial Institutions in Climate Action** ● Financial Institutions in Climate Mitigation and Adaptation ● Climate Change Policy Landscape: National and International Perspectives	CO2	3

	● Key Global Agreements: The Paris Agreement, SDGs, and COP Summits		
3	**Evolution of Sustainable Finance** ● Sustainable Finance: From CSR to ESG ● Understanding ESG (Environmental, Social, Governance) in Finance ● ESG Integration in Financial Decision-Making	CO3	3
4	**ESG Reporting and Regulatory Frameworks** ● ESG Metrics, Reporting, and Disclosure Standards (TCFD, GRI, SASB) ● Regulatory and Policy Developments: SEBI, RBI, EU Taxonomy, and IFRS Sustainability Standards ● Corporate Governance and Climate-Related Disclosures	CO3	3
5	**ESG Investment Strategies and Risk Assessment** ● ESG Investment Approaches: Screening, Thematic Investing, and Impact Investing ● Role of Central Banks and Supervisory Authorities in Sustainable Finance ● ESG Risk Analysis and Due Diligence in Financial Institutions	CO3	3
6	Financial Instruments for Sustainable Finance ● Green Bonds, Social Bonds, and Blue Bonds: Market Trends and Case Studies ● Carbon Markets and Carbon Pricing Mechanisms ● Blended Finance and Public-Private Partnerships (PPPs)	CO4	3
7	**Role of Development Banks and Risk Management in Climate Finance** ● Role of Development Banks and Multilateral Agencies in Climate Finance ● Risk Assessment Tools for Climate Finance ● Sustainable Lending and Green Credit Policies	CO4	3
8	**Climate Risk Management in Financial Institutions** ● Climate Stress Testing and Scenario Analysis ● Incorporating Climate-Related Financial Risks into Risk Management Frameworks	CO4	3

	• Portfolio Alignment with Net-Zero Goals: Strategies for Banks and Investors		
9	**Case Studies and Practical Insights on Climate Risk** • Climate Risk Assessment in Asset Pricing and Valuation • Case Studies on Climate Risk in Banking and Investment Management • Role of Insurance and Reinsurance in Managing Climate Risks	CO5	3
10	**Emerging Trends and Innovations in Sustainable Finance** • Technological Innovations in Green Finance: Blockchain, AI, and IoT • Natural Capital and Biodiversity Finance • The Future of Climate Finance in Emerging Markets • India's Green Finance Roadmap and Net-Zero Commitments • Transition Finance and Just Energy Transition Strategies	CO5	3

Textbooks:

1. Sustainable Finance: Using the Power of Money to Change the World, Hermann Falk, Springer, 1st Edition (2022)
2. Sustainable Finance and ESG Investing, A. Arjaliès, J.-P. Reiter, Routledge, 1st Edition (2020)

Reference Books / Texts:

1. Climate Finance: Theory and Practice, Anil Markandya, Ibon Galarraga, Mikel González-Eguino, World Scientific, 1st Edition (2017)
2. Handbook of Green Finance: Energy Security and Sustainable Development, Jeffrey Sachs, Wing Thye Woo, Naoyuki Yoshino, Springer, 1st Edition (2019)
3. Greening India's Financial System, FICCI and Climate Policy Initiative (CPI India), Industry Reports

Open Elective 3: Acquiring and Managing Talent

Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce foundational principles, strategies, and practices in talent acquisition and management.
2. To equip students with practical skills in recruitment, selection, onboarding, and employee retention.
3. To develop analytical capabilities for assessing talent management effectiveness and workforce planning.
4. To foster understanding of employer branding and employee value proposition in talent acquisition.
5. To cultivate strategic insight into contemporary talent management challenges and best practices.

Course Outcomes:

CO1: To recognize the role of talent acquisition and selection.

CO2: To identify the methods of acquisition and management of talent for a given position.

CO3: To apply different interview techniques and demonstrate required interviewing skills for a given position.

CO4: To analyse the requirements of the measures used in employee talent acquisition and selection to evaluate applicants fairly and in an unbiased manner.

CO5: To create effective ways of acquiring, managing and retaining talent and evaluate the impact of talent management through the HR function.

Unit / Module	Content	CO Mapping	Hours Assigned
1	**Conceptual and modern approaches** of Talent Management and Acquisition	CO1	2
2	**Competency based Job Analysis** – • Contents of Job Description & Job Specification, Job Design.	CO1, CO2	3
3	**Acquiring Talent:** • Recruiting Talent Externally, Recruiting Talent Internally, Developing Talent Over Time, Developing a Diverse Talent Pool, • Use of technology for talent acquisition	CO2, CO4 & CO5	6
4	**Selection Process** – Matching People and Job, Sources of Information about Job Candidates, Use of various contemporary tools for selection, Assessment Center, Interview Techniques.	CO2, CO3, & CO5	5

5	**Employee Testing and Selection** • Profiling Techniques: Personality, Aptitude, Competency • Documentation for Acquiring Talent, Statutory and legal requirements affecting the talent acquisition policies.	CO3, CO4 & CO5	5
6	**Talent Development** Contemporary techniques of training, PCMM model, Analysis and evaluation of Learning and development needs. **Talent Retention:** Strategies for talent retention. Employee engagement practices for retention. **Compensation as a tool for retention:** Concept and objective of compensation as a retention tool. **Talent Acquisition**: Measuring the impact and use of various matrices for Talent Acquisition.	CO4, CO5	9

Textbooks:

1. Effective Acquiring Talent and Selection Practices, Alan Nankervis, Robert Compton, Bill Morrissey.
2. Acquiring Talent and Selection (Developing Practice), Chartered Institute of Personnel and Development
3. Successful Interviewing and Acquiring Talent, Rob Yeung, Kogan, Page Publishers
4. Human Resource Management – A South Asian Perspective by Snell, Bohlander & Vora Fourth Edition 2011
5. Gary Dessler & Biju Varkey. Human Resource Management 16th Edition, Pearson Publication.
6. Fred Luthans. Organisational Behavior: An Evidence-Based Approach 12th Edition, McGraw Hill Education

Reference Books:

1. Aswathappa K.. Human Resource Management-Text and Cases 8th Edition, McGraw Hill Education

Recommended Pedagogy:

1. Interactive Lectures
2. Case studies
3. Gamification
4. Simulation
5. Psychometric tools

Open Elective 4: Labour, Social Security and Welfare Law

Credits:2; Duration 30 Hours

Course Objectives:

1. To introduce students to foundational concepts and legal frameworks governing labour, social security, and welfare.
2. To equip students with practical understanding of compliance requirements under various labour legislations.
3. To develop analytical skills for evaluating employee welfare measures and social security schemes.
4. To foster understanding of dispute resolution mechanisms in labour management relations.
5. To cultivate insights into contemporary trends, amendments, and challenges in labour law and employee welfare.

Course Outcomes:

CO1: To understand the labour Laws implemented in Organizations

CO2: To analyse the social security legislation relevant in the given scenario.

CO3: To apply the laws related to Labour Laws and Labour Welfare Laws in organizational situations.

CO4: To analyse and evaluate the role of governing bodies in security and welfare of employees.

CO5: To create and develop a framework of social security and welfare laws for smooth functioning of an organization.

Unit / Module	Content	CO Mapping	Hours Assigned
1	**Introduction: Labour Laws:** Concept, Evolution Government of India Structure, Constitutional provisions for labour Principles of Labour Laws Classification of Labour Laws viz: Regulative, Employment, Wage, Social Security & IR	CO1, CO2	3
2	**Regulative Laws:** Factory Act 1948, prohibition of employment of young children and woman. The Bombay Shop and Establishment Act, 1948	CO2, CO3	3
3	**Industrial Relations Legislations:** Industrial Disputes Act, 1947, Authorities, Awards, Settlements, Strikes Lockouts, Lay Offs, Retrenchment and Closure	CO2, CO3	6

	The Trade Union Act, 1926 MRTUP & PULP 1971 (only unions politics & recognition provision) Industrial Employment (Standing Order) Act 1946		
4	**Laws Related to Compensation:** The Payment of wages Act 1936: Maintenance of register and records, penalty for offences like Delayed Payment, non – payment of wages and failure to maintain records. The Minimum Wages Act 1948 - Minimum rate of wages, Procedure for fixing and revising minimum Wages, Advisory Board, Maintenance of Registers and records. The Payment of Bonus Act 1965 - Rate of Bonus, Calculation of Amount Payable as Bonus, Eligibility for bonus and its payment, set –on and set off of Allocable surplus. Deductions and Recovery of Bonus.	CO2, CO3, CO4	6
5	**Social Welfare and Security Laws I:** The Employee Provident Fund & Miscellaneous Provision Act 1952 -Basic wages contribution and superannuation. Provident Fund, Pension fund, Employee deposit linked insurance fund. Payment of contribution, Benefit under the scheme, Penal provision. The Payment of Gratuity Act 1972**:** Scope & Coverage calculation of Gratuity, Gratuity not payable, obligation of the employer, Process of receiving payment.	CO2, CO4, CO 5	6
6	**Social Welfare and Security Laws II:** The Workmen's Compensation Act 1923: Definition – wages, workman, Disablement –partial /Total Employer's liability for compensation, Occupational disease. Quantum of Compensation, Commissioners Power. Maternity Benefit Act 1961-Coverage, condition & Eligibility. Benefits as per latest amendments. The Employer State Insurance Act 1948 - scope, coverage, Disablement, ESI Corporation, Contribution & Benefit period, Benefits in Detail, Obligations of employers. Child Labour (Prohibition & Regulation) Act, 1986 Sexual Harassment at the	CO2, CO4, CO5	6

	Workplace (Prevention, Prohibition and Redressal) Act, 2013, Occupational Safety, Health and Working Conditions Act		

Textbooks:

1. Mamoria, C. B. & Mamoria, S., Dynamics of Industrial Relations in India, 16th Edition, 2019, Himalaya Publishing House
2. Sharma, A. M. Industrial Relations: Conceptual & Legal Framework. Himalaya Publishing House

Reference Books:

1. Sharma, A. M. Industrial Relations: Conceptual & Legal Framework. Himalaya Publishing House

Recommended Pedagogy:

1. Lectures and discussions
2. Case studies
3. Law presentations with Industrial Application Examples

Open Elective 5: Service Management

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To provide foundational knowledge and strategic understanding of service management principles.
2. To equip students with practical skills in designing and delivering quality service experiences.
3. To develop analytical capabilities for managing service operations, performance metrics, and customer satisfaction.
4. To foster understanding of service quality frameworks, customer relationship management, and complaint handling.
5. To cultivate strategic insights into contemporary trends, technology integration, and innovations in service management.

Course Outcomes:

CO1: Understand the various aspects of service at all customer touch points to enrich the lives of customers.

CO2: Apply the various concepts and frameworks in the course to leverage service as a source of competitive advantage

CO3: Analyze service quality, various metrics, and service design to leverage information flows and enhance customer value

CO4: Evaluate value provided, customer behaviour, gaps in competitor offerings to create new, innovative services

CO5: Devise a comprehensive service plan considering the company and competitive situation to complement marketing strategy

Unit / Module	Content	CO Mapping	Hours Assigned
1	Service management – introduction; Taguchi's Robust Design Methodology and service outcomes; customer service requests and unexpected service variability; robust people/robust process matrix	CO1, CO2	3
2	Customer Relations- core purpose – enrich lives of customers; customer needs v/s desire; map customer touchpoints – pre-purchase, purchase, post-purchase; role of staff in exceeding customer expectations	CO1, CO2	2
3	Service Quality – managing the customer mix; Customer to Customer Interactions (CCI), Customer to Employee Interactions (CEI); Hoffman and Bateson's (2011) Servuction Model – visible and invisible factors influencing service experience,	CO1, CO2, CO3	5

	Parasuraman, Zeithaml and Berry's SERVQUAL model		
4	Service Metrics - Net Promoter Score (NPS), leveraging the power of customer recommendations; Customer Lifetime Value (CLV) – Historic and future lifetime values; Acquisition Customer Lifetime Value, Existing Customer Lifetime Value	CO2, CO3, CO4	2
5	Service Systems design – service as a source of competitive advantage; role of technology in changing nature of service processes; leveraging information flows from service provider to customer and vice versa; role of Augmented Reality, AI in helping customers make specific transactions	CO2, CO3, CO4	3
6	Service Operations – queue management-reduce/eliminate waiting times; using technology to eliminate waiting times, virtual queuing, internet ordering, using AI to enhance waiting experience; increased brand engagement, subliminal messaging during wait times	CO2, CO3, CO4	3
7	Value Co-creation in service process – dimensions of customer benefits – price, speed of delivery, service quality, frictionless services and social media, trade-offs – online security and vulnerability; design service process to meet emotional and psychological customer needs	CO3, CO4	3
8	Customer Behaviour in Service Operations – organization culture and employee behaviour; customer reviews on social media as insights into customer behaviour, instrumental controls to induce desired behaviour – self-service; normative approach – social approval/disapproval, pride/belongingness, shame/rejection, creating customer communities	CO2. CO3, CO4	3
9	Creating New Services – external and internal perspectives on firm capabilities and customer interactions; criteria for creating new services – type of service desired, management of customer expectations; categories of new services – Firm's operational expertise and customer needs matrix; service as a platform for innovation, types of service innovations – changing role of customers, change processes, fill an unsatisfied need, dis- aggregate the value chain, create new business models	CO3, CO4, CO5	3
10	Consolidation of Fragmented Service industries – benefits of size, shared assets reduce costs, high bargaining power with	CO3, CO4, CO5	3

	suppliers, national brand presence, cross-selling opportunities; drawbacks – lengthy process, poor service quality; decisions in consolidation – post acquisition integration and cultural issues; hub and spoke v/s spoke models of operations		

Textbooks:

1. Service Marketing – People, technology, strategy. 8e. Christopher Lovelock, Jochem Wirtz, Jayanta Chatterjee. Pearson Indian Subcontinent Edition
2. Services marketing – Integrating Customer Focus Across the Firm. 7e. Valarie A. Zeithaml, Mary Jo Bitner et al. McGraw Hill

Reference Books:

1. From Designing Service Processes to Unlock Value. 3e. Joy M. Field. Business Expert Press
2. Winning on Purpose- The Unbeatable Strategy of Loving Customers. Fred Reichheld. Bain & Company. Harvard Business review Press. Boston. MA
3. Highly Effective Marketing Analytics. A Practical Guide to Improving Marketing ROI with Analytics. Mu Hu. Business Expert Press

Open Elective 6: Events Management

Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce students to core concepts, planning methodologies, and strategic importance of event management.
2. To equip students with practical skills in organizing, managing, and executing events.
3. To develop analytical capabilities for budgeting, logistics, risk management, and vendor negotiations in events.
4. To foster understanding of promotional strategies, audience engagement, and post-event evaluation.
5. To cultivate insights into emerging trends, sustainability practices, and technology utilization in event management.

Course Outcomes:

CO1: Understand the structure and scope of the event management industry.

CO2: Apply the concepts learnt to Plan and design events aligned with client or organizational goals.

CO3: Analyze the scheduling, logistics, risk mitigation and budgeting requirements for an event

CO4: Evaluate integrated marketing communication strategies, and event execution including vendors and talent

CO5: Plan an event and evaluate its success suing metrics and concepts learnt in the course

Unit / Module	Content	CO Mapping	Hours Assigned
1	Introduction to Event Management & Industry Overview - Scope, History, and Evolution of Event Management; Classifications: Corporate, Social, Cultural, Sports, MICE; Structure of the Event Industry: Organizers, Agencies, Clients, Vendors; Careers in Event Management	CO1	3
2	Event Planning and Conceptualization Event Lifecycle & Process; Setting Objectives and Target Audience Identification; Theme and Content Development; Feasibility Analysis	CO1, CO2	3
3	Budgeting & Financial Management Budget Components: Fixed & Variable Costs; Estimating Revenues and Break-Even Analysis; Cost Control, Contingency Funds, and Financial Reporting; Sponsor Engagement: ROI, Packages, and Negotiation	CO2, CO3	3

4	Event Marketing and Communication Marketing Mix for Events (7Ps); Branding and Positioning of Events; Integrated Marketing Communication Plan; Media Planning: Traditional, Digital & social media.	CO3, CO4	3
5	Venue Selection and Site Management Resource Allocation: Equipment, Catering, Décor; Technical Management: Lighting, AV, Stage Setup; Guest Management and Registration	CO3, CO4	3
6	Vendor & Stakeholder Management Vendor Selection, Contracts, and Deliverables; Coordination with Sponsors, Clients, Artists, Government Bodies; Team Management: Roles, Timelines, and Briefings; Communication Matrix & Escalation Planning	CO3, CO4	3
7	Legal, Ethical & Risk Management Permissions, Licenses, and Regulatory Compliance; Risk Identification and Mitigation Strategies; Insurance Policies and Liability; Ethical Codes: Data Privacy, Cultural Sensitivity	CO4	3
8	Sustainability & Technology in Events Green Events: Sustainable Practices and Certifications; Waste Management, Carbon Footprint, Local Sourcing; Event Technology: AR/VR, AI, RFID, Event Apps; Managing Hybrid and Virtual Events	CO4	3
9	Program Flow, Entertainment & Talent Management- Designing the Run of Show (ROS); Engaging Performers, Speakers, and Artists; Technical Riders, Hospitality, and Coordination; Time Management on Event Day	CO4, CO5	3
10	Post-Event Activities- Evaluation: KPIs, ROO, ROI, Feedback Mechanisms; Post-Event Reporting and Closure	CO4, CO5	3

Textbooks:

1. Event Management and Marketing: Theory, Practical Approaches and Planning by Dr. Anukrati Sharma and Dr. Shruti Arora
2. The Business of Events Management by John Beech, Robert Kaspar, et al.
3. The Art of Building Experiential Events: An Event Designer's Almanac by Dr. Deepak Swaminathan

Reference Books:

1. Events Management by Glenn Bowdin, Johnny Allen, William O'Toole, Rob Harris, Ian McDonnel

2. Successful Event Management: A Practical Handbook by Anton Shone & Bryn Parry
3. The Event Manager's Bible by D.G. Conway

Suggested Cases:

1. Corporate Event – Product Launch (Apple Event)
2. Cultural Event – Jaipur Lit Fest
3. Virtual Event – CES Tech Conference

Open Elective 7: Quality Management

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To provide comprehensive knowledge of quality management principles, tools, and methodologies.
2. To equip students with practical skills in implementing and maintaining quality management systems.
3. To develop analytical capabilities to conduct quality audits, measure performance, and drive continuous improvement.
4. To foster understanding of quality standards and certifications such as ISO and Six Sigma.
5. To cultivate strategic insights into contemporary challenges, innovation, and best practices in quality management.

Course Outcomes:

CO1: Define fundamental concepts, principles, and historical developments in quality management, including key contributions from Deming, Juran, and Crosby.

CO2: Explain various quality management tools, techniques, and methodologies such as Six Sigma, Total Quality Management (TQM), and Statistical Process Control (SPC).

CO3: Demonstrate the implementation of quality control and assurance strategies in real-world scenarios, using tools like Pareto Analysis, Cause-and-Effect Diagrams, and Failure Mode and Effects Analysis (FMEA).

CO4: Examine international quality standards (ISO 9001, ISO 14001) and their impact on organizational performance, compliance, and continuous improvement.

CO5: Assess different business excellence models and continuous improvement strategies like Lean and Kaizen for enhancing operational efficiency.

CO6: Create and implement innovative quality management strategies to enhance organizational performance and sustainability.

Unit / Module	Content	CO Mapping	Hours Assigned
1	Introduction to Quality Management: Definition of Quality Evolution of Quality Dimensions of Quality Quality Philosophies (Deming, Juran, Crosby, Taguchi, Feigenbaum, Ishikawa) Quality and Competitive Advantage	CO1	3

2	Total Quality Management (TQM): Principles of TQM Continuous Improvement (Kaizen) Customer Focus and Satisfaction Leadership and Strategic Planning in Quality Quality Culture	CO2	3
3	Quality Management Systems (QMS): ISO 9000 Standards & Certification Implementation of QMS Documentation and Auditing Environmental Management Systems (ISO 14000)	CO3, CO4	3
4	Statistical Process Control (SPC): Basics of Statistics in Quality Process Capability Analysis Acceptance Sampling Plans	CO3	3
5	Six Sigma and Lean Manufacturing: Six Sigma Concept and DMAIC Lean Principles & Tools (5S, Kanban, Value Stream Mapping)	CO4, CO5	3
6	Six Sigma and Lean Manufacturing: Integration of Lean and Six Sigma (Lean Six Sigma) Case Studies of Six Sigma Implementation	CO4, CO5	3
7	Quality Improvement Tools and Techniques: Cause-and-Effect Diagram (Ishikawa) Pareto Analysis Failure Mode and Effects Analysis (FMEA) Benchmarking Poka-Yoke (Mistake-Proofing)	CO4, CO5	3
8	Malcolm Baldrige Quality & Reliability and Quality Costs: Malcolm Baldrige National Quality Award (MBNQA) Definition and Importance of Reliability Reliability Measures (MTBF, MTTR, Availability) Quality Cost Categories (Prevention, Appraisal, Internal & External Failure Costs)	CO3	3
9	Emerging Trends in Quality Management: Industry 4.0 and Quality	CO3, CO4	3
10	Emerging Trends in Quality Management: Digital Quality Management AI in Quality Control Sustainable Quality Management	CO3, CO4	3

*CO6 to be covered in Internal Assessment component

Textbooks:

1. Bedi, K. (2006). Quality management. Oxford University Press.
2. Besterfield, D. H. (2018). Total quality management (5th ed.). Pearson
3. Juran, J. M., & Godfrey, A. B. (1999). Juran's quality handbook (5th ed.). McGraw-Hill.
4. Montgomery, D. C. (2020). Introduction to statistical quality control (8th ed.). Wiley.

Reference Books:

1. Mitra, A. (2021). Fundamentals of quality control and improvement (5th ed.). Wiley
2. Gupta, B. C. (2021). Statistical quality control: Using MINITAB, R, JMP and Python (1st ed.). CRC Press

Open Elective 8: Predictive Analytics

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce foundational concepts, tools, and techniques of predictive analytics.
2. To equip students with practical skills in data modeling, forecasting, and statistical analysis.
3. To develop analytical abilities for applying predictive analytics in decision-making across various business functions.
4. To foster understanding of predictive models such as regression, classification, and time-series forecasting.
5. To cultivate insights into ethical considerations and challenges associated with predictive analytics implementation.

Course Outcomes:

CO1: The basic concepts of predictive analytics, including types of analytics and their applications in business decision-making.

CO2: The use of regression models for prediction and estimation in real-world business scenarios.

CO3: Logistic regression and classification techniques to solve business problems, including customer segmentation and event prediction.

CO4: Data using forecasting methods to make accurate predictions based on business data.

CO5: The performance of predictive models and assess their relevance to business outcomes.

CO6: Actionable insights and predictive models using software tools to address real-world business challenges

Unit / Module	Content	CO Mapping	Hours Assigned
1	**Introduction to Predictive Analytics and Types of Analytics** - Types of analytics: Descriptive, Predictive, and Prescriptive. - Real-life examples of predictive analytics in various industries (finance, marketing, healthcare). - Benefits of using analytics for decision-making.	CO1, CO2	3
2	**Understanding Analytics in Business Decision-Making** - How predictive analytics helps in forecasting future events and behaviours.	CO1, CO2	3

	- Case studies of successful businesses using predictive analytics.		
3	**Regression Analysis: Simple vs. Multiple Linear Regression** - Explanation of Simple Linear Regression: Concept, assumptions, and applications. - Moving to Multiple Linear Regression (MLR): How multiple variables influence the dependent variable. - Model fitting, residuals, and interpretation of coefficients. - Hands-on practice: Fitting a regression model using sample data.	CO2, CO3	3
4	**Applying Multiple Linear Regression to Predict Business Outcomes** - Identifying and handling multicollinearity, outliers, and model diagnostics. - Assumptions of MLR and how to check for violations. - Interpreting model outputs and making data-driven decisions. - Hands-on practice: Solving a real-world problem using MLR.	CO3, CO4	3
5	**Introduction to Logistic Regression and Classification Problems** - Introduction to classification problems and the need for logistic regression. - Difference between continuous and categorical outcomes. - Concept of odds ratio and logit function in logistic regression. - Applications of logistic regression (e.g., customer churn, fraud detection). - Hands-on practice: Building a logistic regression model for classification.	CO3, CO4	3
6	**Using Logistic Regression for Customer Segmentation and Event Prediction** - Using logistic regression for binary classification (e.g., predicting customer churn). - Multinomial logistic regression for multi-class classification. - Building a customer segmentation model based on demographic and behavioral data. - Evaluating model performance using metrics like Accuracy, AUC, Precision, and Recall.	CO4, CO5	3

	- Hands-on practice: Solving a customer prediction problem using logistic regression.		
7	**Decision Trees and Classification Methods** - Introduction to decision trees: Concept, structure, and splitting criteria (e.g., Gini index, entropy). - Building a decision tree for classification. - Pruning and avoiding overfitting in decision trees. - Comparison with other classification methods like SVMs and k-NN. - Hands-on practice: Creating a decision tree model for classifying customers.	CO4, CO5	3
8	**Forecasting Methods and Time Series Analysis** - Introduction to time series data and its components: Trend, Seasonality, Noise. - Forecasting methods: ARIMA, Exponential Smoothing, and Moving Averages. - Evaluation of forecast accuracy: Mean Absolute Error (MAE), Root Mean Squared Error (RMSE). - Case study: Predicting sales or demand for a business using time series methods. - Hands-on practice: Applying ARIMA for sales forecasting.	CO2, CO4	3
9	**Analyzing Structured vs. Unstructured Data, Sentiment Analysis** - Difference between structured and unstructured data (e.g., text, images, social media). - Introduction to sentiment analysis and text mining. - Using natural language processing (NLP) techniques for sentiment analysis. - Hands-on practice: Creating word cloud	CO5, CO6	3
10	**Hands-on Practical Applications and Case Studies in Predictive Analytics** - Review of key concepts learned: Regression, Logistic Regression, Decision Trees, Forecasting. - Real-world business case studies: Predicting customer behaviour, sales forecasting, and market trends. - Group activity: Working on a predictive analytics case study in a team, applying multiple techniques. - Final project work: Developing a predictive	CO3, CO5, CO6	3

	model for a business problem using software tools (SPSS, SAS, Excel).		

Textbooks:

1. Essentials of Business Analytics - Descriptive, Predictive and Prescriptive Analytics, Jeffrey D. Camm, James J. Cochran, Michael J. Fry, Jeffrey W. Ohlmann, David R. Anderson, Cengage Learning, 2nd Edition, 2017
2. Business Analytics, Albright & Winston, Cengage Learning, 5th Edition
3. Data Science for Business: What you need to know about data mining and data-analytic thinking, Provost, F., & Fawcett, T., O`Reilly Media, Inc., 2013.

Reference Books:

1. Applied Simulation Modeling: Andrew F. Seila, V. Ceric and P. Tadikamalia,Cengage Learning, 2004
2. Decision Making under Uncertainty with RISK Optimizer: Wayne Winston,Kelley School of Business, Indian University, Palisade Corporation, 2010.
3. Data Mining for Business Analytics: Concepts, techniques, and applications inR. Shmueli, G., Bruce, P. C., Yahav, I., Patel, N. R., & Lichtendahl Jr, K. C.,John Wiley & Sons., 2017
4. Uncertainty & Risk Analysis - Chris Rodger and Jason Petch, Business Dynamics, PricewaterhouseCoopers United Kingdom firm, 1999.

Open Elective 9: Data Mining and Business Intelligence

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To introduce core concepts, methodologies, and tools in data mining and business intelligence.
2. To equip students with practical skills in predictive analytics, classification, clustering, and data visualization.
3. To develop analytical capabilities for leveraging data insights for strategic business decision-making.
4. To foster understanding of ethical and privacy considerations in data mining practices.
5. To cultivate practical knowledge of contemporary tools and platforms used in business intelligence.

Course Outcomes:

CO1: the introduction to data mining: introduction, definition of data mining, data mining parameters, how data mining works.

CO2: the data mining techniques, statistical perspective on data mining, statistics-need and algorithms focused on business intelligence

CO3: the business intelligence essentials.

CO4: the Business Intelligence and Data Mining tools and its application for Business

CO5: Data mining and BI Strategy for effective business,

Unit / Module	Content	CO Mapping	Hours Assigned
1	**Introduction to Data Mining**: Introduction, Definition of Data Mining, Data mining parameters, How Data Mining works? Types of relationships, Architecture of Data	CO1	3
2	**Classification on Data Mining system**, Various risks in Data Mining, Advantages and disadvantages of Data Mining, Ethical issues in Data Mining, Ethical issues	CO1	3
3	**Data Mining Techniques**: Introduction, Statistical Perspective on Data Mining, Statistics-need and algorithms	CO1, CO2	3
4	**Business Intelligence an Introduction:** Introduction, Definition, History and Evolution, BI Segments, Difference between Information and Intelligence, Defining	CO1, CO2	4

	Business Intelligence Value Chain, Factors of BI System, Real time Business Intelligence, BI Applications.		
5	**Business Intelligence Essentials**: Introduction, Creating BI Environment, BI Landscape, Types of BI, BI Platform, Dynamic roles in BI, Roles of Business Intelligence in Modern Business-Challenges of BI.	CO3	4
6	**Multiplicity of BI Tools**, Types of BI Tools, Modern BI, the Enterprise BI, Information Workers and its applications	CO4	3
7	**Business Intelligence Life Cycle:** Introduction, Business Intelligence Lifecycle, Enterprise Performance Life Cycle Framework, Life Cycle Phases, Human Factors in BI Implementation, BI Strategy, Business Intelligence Issues and Challenges: Introduction, Critical Challenges for Business Intelligence success. Application of Business Intelligence and Data Mining for Business.	CO4, CO5	5
8	**Emerging Trends** of Data Mining and Business Intelligence **with case studies**	CO4, CO5	5

Textbooks:

1. Introduction to Data Mining with Case Studies by G K Gupta.
2. Introduction to Data Mining by Pang-Ning Tan, Michael Steinbach and Vipin Kumar. Pearson Education, 2007
3. Insight into Data Mining Theory and Practice by K. P. Soman, Shyam Diwakar and V. Ajay. Prentice Hall of India, 2006.
4. Introduction to Data Mining with Case Studies by G. K. Gupta. Prentice Hall of India, 2006.
5. Data Mining Methods and Models by Daniel T. Larose. Wiley-Interscience, 2006

Reference Books:

1. E-commerce from Vision to Fulfilment by Elias M. Awad. PHI, 2002.
2. Digital Business and E-Commerce Management by Dave Chaffey, 2014.
3. Introduction to E-Business-Management and Strategy by Colin Combe. ELSVIER, 2006.
4. Digital Business Concepts and Strategy by Eloise Coupey. Pearson.
5. Trend and Challenges in Digital Business Innovation by Vinocenzo Morabito. Springer.
6. Digital Business Discourse by Erika Darics. Palgrave Macmillan, 2015.

Open Elective 10: Blockchain Technology for Business

Course Credits: 2; Duration: 30 Hours

Course Objectives:

1. To familiarize students with foundational concepts, architectures, and applications of blockchain technology.
2. To equip students with skills to implement blockchain solutions in business contexts.
3. To develop analytical capabilities to evaluate blockchain's impact on transparency, security, and efficiency.
4. To foster understanding of regulatory, ethical, and practical challenges associated with blockchain adoption.
5. To cultivate strategic insights into leveraging blockchain technology for innovation and competitive advantage.

Course Outcomes:

CO1: To understand the fundamental principles, architecture, and working of block chain technology.

CO2: To analyse the role of block chain in transforming business operations across industries.

CO3: To explore various block chain platforms, smart contracts, and their applications in business.

CO4: To assess security, legal, regulatory, and ethical considerations in block chain adoption.

CO5: To evaluate emerging trends and future opportunities in block chain technology for business innovation.

Unit / Module	Content	CO Mapping	Assigned Hours
1	Introduction to Block chain Technology – Basics, architecture, types, and case studies.	CO1, CO2	5
2	Block chain Applications in Business – Supply chain, finance, identity management, tokenization.	CO2, CO3	5
3	Block chain Platforms and Smart Contracts – Ethereum, Hyperledger, smart contract development, DApps.	CO3, CO4	6
4	Security, Governance, and Compliance in Block chain – Security threats, legal aspects, and governance models.	CO4	4
5	Emerging Trends and Future of Block chain – AI, IoT integration, sustainability, Web3, and Metaverse.	CO5	4

6	Block chain Strategy and Implementation in Business – Business strategy, implementation challenges, evaluation. Emerging Trends with case studies	CO2, CO3, CO4, CO5	6

Textbooks:

1. Sustainable Digital Transformation: Trends, Business Models, and Best Practices | Stefan Henningsson, Magnus Mähring | Springer India
2. Digital Transformation: Survive and Thrive in an Era of Mass Extinction | Thomas M. Siebel | RosettaBooks
3. Digital Transformation: A Model to Master Digital Disruption | Jo Caudron, Dado Van Peteghem | Lannoo Publishers
4. Managing Digital Transformation | Peter Weill, Stephanie L. Woerner | MIT Press (available via Amazon India and other academic platforms)

Reference Books:

1. Green IT: Technologies and Applications | Jyrki Tulokas | Springer India
2. Sustainable Digital Innovation and Transformation | Stefan Gold, Nils Urbach, Maximilian Röglinger | Routledge India
3. Digital Sustainability: Why Digital Transformation is the Key to Sustainable Business Models | Markus Linder | Palgrave Macmillan
4. Ethics of Digital Innovation: AI, Data Privacy, and Responsible Tech | Luciano Floridi | Oxford University Press
5. Innovating with Impact: How Sustainability Drives Digital Transformation | Nikki Greenberg | Wiley India

Open Elective 11: Enterprise Risk Management

1. Offered by Institute of Risk Management and Approved by University of Mumbai under the Open Elective Basket - University of Mumbai - link:

https://mu.ac.in/wp-content/uploads/2025/04/IRMs-Global-Level-1-Enterprise-Risk-Management-2-Credits-Open-Elective-Course-ERM-A.C.-9.8.pdf

2. Course can be accessed through following link:

https://www.gicededu.co.in/irm-mumbai-university-global-enterprise-risk-management-2-credit-course.php

3. Offered in Virtual Mode by 'Institute of Risk Management'
4. Evaluation by IRM

Open Elective 12: SWAYAM Course

Open Elective Course - Guidelines

- ***Students can opt for maximum 5 Elective Courses in Semester III***
- ***Either all Five opted Elective courses can be from the 'Selected Specialization' Group (Finance/ Human Resource/ Marketing/Operations/Systems)***

  OR

  Minimum Four Elective courses can be from the 'Selected Specialization' Group (Finance/ Human Resource/ Marketing/Operations/Systems) and One can be from Open Elective Basket

- ***In case, the course*** **'Enterprise Risk Management' (offered by** ***IRM) OR 'SWAYAM' Course is opted as an open Elective, then the concerned Institute/College would have to ensure that the students complete the selected course and appear for the respective examination processes within the stipulated semester deadlines. The marks so-obtained through IRM / SWAYAM Examination (as the case may be), would be recorded as the 'SWAYAM' course score.***

MMS Semester IV
(Detailed Syllabus)

Semester IV - Mandatory Courses

Semester IV					
Mandatory Subjects					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
1	Mandatory - General Management	International Business	4	40	**UA**
2	Mandatory - General Management	Business Ethics and Corporate Governance	4	40	**IA**
Seminar					
3	Mandatory	Seminar Paper	2	-	**IA**
Research Project					
1	Mandatory	Research Project	8	-	**IA**

***IA – Internal Assessment; UA – University Assessment**

Mandatory Core Course: International Business

Credits: 4; Duration: 60 Hours

Course Objectives:

1. To familiarize students with foundational concepts, frameworks, and dynamics of international business.
2. To equip students with practical skills for managing cross-border operations, trade, and market entry strategies.
3. To develop analytical capabilities to evaluate global business environments, opportunities, and risks.
4. To foster understanding of international business regulations, trade agreements, and economic integration.
5. To cultivate strategic insights into managing cultural diversity, ethical considerations, and global competitive strategies.

Course Outcomes:

CO1: Understand key concepts and global contexts driving international business strategies.

CO2: Apply analytical frameworks to evaluate countries, markets, and global value chains.

CO3: Formulate strategic decisions on entry modes, market selection, and subsidiary structuring.

CO4: Assess financial, legal, cultural, and operational challenges in cross-border operations.

CO5: Design comprehensive country entry strategies considering institutional, cultural, and competitive factors.

Unit / Module	Content	CO Mapping	Hours Assigned
1	Global Business Landscape: Understanding globalization, political-economic dynamics, Thucydides' Trap, and the Clash of Civilizations and their implications for firms.	CO1	5
2	Theories of International Trade: Mercantilism, Absolute and Comparative Advantage, Heckscher-Ohlin, and Product Lifecycle Theory.	CO1	5
3	Drivers and Process of Internationalization: Strategic intent, global pressures, and common pitfalls.	CO1, CO2	4
4	Country Analysis Frameworks: PESTEL, CAGE, and Economic Complexity Atlas; Quantitative and qualitative methods to assess market attractiveness.	CO2	6

5	Market Entry Strategy Design: Ghemawat's AAA framework; designing entry strategies based on institutional and cultural differences.	CO2, CO5	7
6	Modes of Entry: Exporting, Licensing, Franchising, Joint Ventures, Strategic Alliances, and M&As – strategic fit, risk, and control.	CO3, CO5	5
7	Subsidiary Management and MNE Structures: Types, autonomy, performance evaluation, and mandate assignment in MNE networks.	CO3	4
8	Competitive Advantage of Nations: Porter's Diamond, industry clusters, and implications for firm location and innovation.	CO3	4
9	Bottom-of-the-Pyramid Markets: Institutional voids, product/service innovation for emerging markets, and alternate operating models.	CO3, CO4	4
10	Cross-Cultural Management and HRM: Hofstede dimensions, Meyer's cultural map, expatriate management, and the EPRG framework.	CO4	5
11	International Trade Mechanics: INCO terms, trade documentation, letters of credit, and global logistics.	CO4	3
12	Global Finance and Risk Management: Currency structures, capital sourcing, fund transfer, multilateral netting, and exposure management.	CO4	4
13	Regulatory Institutions and Trade Agreements: WTO, FTAs, MFN principles, and impact on national policy and corporate decisions.	CO4	4

It is recommended that the course be instructed through cases.

Textbooks:

1. International Business Strategy, Management, and the New Realities – S. Tamer Cavusgil, Gary Knight, John Riesenberger. Pearson
2. Transnational Management Text, Cases, and Readings in Cross- Border Management. Christopher Bartlett, Sumantra Ghoshal, Paul Beamish. McGraw Hill International Edition.
3. International Management. Arvind V. Phatak, Rabi S. Bhagat, Roger. J. Kashlak. Tata McGraw Hill.

Reference Books:

1. The Future of the Multinational Company. Julian Birkinshaw, Sumantra Ghoshal, Constantinos Markides, John Stopford, George Yip (Eds) John Wiley & sons
2. Multinational Management. A Strategic Approach. John Cullen. South Western Thomson Learning.
3. Global Business Strategy. Cornelis A. de Kluyver and John Pearce II. Business Expert Press

Mandatory Core Course: Corporate Governance and Ethics

Credits: 4; Duration: 60 Hours

Course Objectives:

1. To introduce students to foundational concepts, principles, and frameworks of corporate governance.
2. To equip students with practical skills for implementing ethical governance practices and compliance programs.
3. To develop analytical capabilities for assessing corporate governance effectiveness and stakeholder management.
4. To foster understanding of regulatory frameworks, responsibilities of boards, and executive accountability.
5. To cultivate strategic insights into contemporary governance challenges, sustainability, and ethical decision-making.

Course Outcomes:

CO1: Demonstrate an understanding of corporate governance principles, board roles, and regulatory frameworks in the Indian context.

CO2: Apply governance and ethical frameworks to business practices in compliance with Indian corporate laws and SEBI regulations.

CO3: Analyze governance, CSR, and ESG practices of Indian companies using real-world disclosures and case examples.

CO4: Evaluate corporate decisions and leadership approaches through ethical and governance perspectives for accountability and sustainability.

CO5: Design strategic initiatives for CSR and ESG integration in alignment with Indian statutory requirements and stakeholder expectations.

Unit / Module	Content	CO Mapping	Hours Assigned
1	Introduction to Corporate Governance: Concept, evolution, and global principles (including OECD principles of corporate governance) with emphasis on SEBI LODR and Companies Act 2013 provisions applicable in India.	CO1	6
2	Board Structures and Responsibilities in India: Roles of independent directors, board diversity, D&O insurance, DEI initiatives, and the Nomination & Remuneration Committee.	CO1	6
3	Strategic Role of Boards: Oversight on business strategy, M&A, capital allocation,	CO1, CO2	6

	financial approvals, and safeguarding interests of minority shareholders.		
4	Risk and Financial Oversight: Board role in financial policies, capital structure, emerging risk evaluation (climate, AI, cyber) and governance mechanisms.	CO2, CO3	6
5	Board Committees in Indian Corporates: Composition and functioning of statutory committees like Audit, CSR, ESG, Risk Management, and their reporting structures.	CO2, CO3	4
6	Corporate Social Responsibility (CSR): Section 135 mandates, Schedule VII, CSR strategies, impact assessments, and best practices from Indian corporates.	CO3, CO5	6
7	Environmental, Social, and Governance (ESG): ESG metrics, SEBI's BRSR framework, ESG risks and compliance in Indian listed companies.	CO3, CO5	6
8	Ethical Leadership and Culture: Role of top management in fostering ethics, aligning business values, building a culture of trust and integrity.	CO3, CO4	4
9	Managing Ethical Dilemmas: Frameworks to resolve conflicts between goals and processes, legal obligations vs ethical conscience in Indian corporations.	CO4	4
10	Stakeholder Governance: From shareholder primacy to stakeholder responsibility; ethical aspects and CSR-ESG alignment in Indian business context.	CO4, CO5	4
11	Incentives, Accountability, and Governance: Designing responsible incentive structures, promoting transparency, and aligning individual goals with ethical outcomes.	CO4, CO5	4
12	Case Discussion and Presentations	CO5	4
13	Role of culture in attracting and retaining right individuals, theories of business ethics – moral principles and norms; human good at state; education of character for a good life; moral dilemma and business ethics; social responsibility of managers-shareholders v/s stakeholders, psychological level of ethics – actions, habits, character, role models	CO3, CO4, CO5	5

Textbooks:

1. A Primer on Corporate Governance. Cornelis A. de Kluyver. Business Expert Press
2. Ethics Without the Sermons. Laura L Nash. Harvard Business Review.
3. A Strategic and Tactical Approach to Global Business Ethics, 2e. Lawrence A. Beer, Business Expert Press
4. Entrepreneur's Handbook: Independent Directors, Corporate Governance, and Leadership. 3 Vols. Institute of Directors

Mandatory Core Course: Seminar Paper

Course Credits: 2

Course Objectives:

1. To enable students to identify and select relevant contemporary business topics for research.
2. To equip students with skills to effectively research, analyze, and synthesize information.
3. To develop capabilities in academic writing, critical thinking, and coherent presentation of research findings.
4. To foster understanding of ethical research practices and academic integrity.
5. To cultivate confidence and proficiency in presenting research insights in an academic and professional setting.

Course Outcomes:

CO1: Demonstrate the ability to identify and define a relevant research problem within a selected functional area (Finance, Marketing, HR, Operations, or Systems).

CO2: Apply appropriate research methodology, including the design of tools for collecting primary and secondary data, in line with academic standards.

CO3: Analyze and interpret data using relevant analytical techniques to derive meaningful insights.

CO4: Critically evaluate existing literature and integrate theoretical and conceptual frameworks to support the research study.

CO5: Create and communicate research findings effectively through a structured report and oral presentation, demonstrating academic writing, critical thinking, and presentation skills.

Guidelines:

- The Seminar work should be undertaken in the selected functional area (Finance / Marketing / Human Resource / Operations / Systems)
- The topic selected and research work conducted for the Seminar Paper should incorporate both primary and secondary data components.
- The Seminar work completed by students should be submitted as a written Seminar report of minimum 6000 words, Times New Roman, Text Font:12, Title Font: 14, Line Spacing: 1.5
- Structure of the report to include following components:
  - Introduction
  - Literature review
  - Theoretical / conceptual framework of Research and Research Methodology
  - Data analysis and interpretation
  - Result discussions, findings, managerial implications and recommendations.

- The evaluation of the report to be based on following parameters: (a) 50% of the marks based on evaluation by internal guide and (b) remaining 50% of marks based on presentation and viva-voce by external panel.

Mandatory Core Course: Research Project

Course Credits: 8

Course Objectives:

1. To guide students in identifying and formulating relevant and feasible research questions.
2. To equip students with methodological skills for designing and conducting rigorous research.
3. To develop analytical abilities for data collection, interpretation, and reporting research outcomes.
4. To foster understanding of ethical considerations, academic standards, and publication practices.
5. To cultivate critical thinking, problem-solving skills, and scholarly rigor in academic research.

Course Outcomes:

CO1: Identify and define research problems by recognizing gaps in existing literature and industry practice, demonstrating comprehension of foundational research concepts.

CO2: Design a research framework with clearly stated objectives, research questions, hypotheses, and suitable methodology for data collection.

CO3: Apply statistical, analytical, or thematic methods depending on research type.

CO4: Critically assess research findings, interpret results in context, and formulate evidence-based conclusions and practical recommendations.

CO5: Communicate research outcomes effectively through a structured research report and oral presentation, synthesizing insights and demonstrating originality.

Course Details:

As part of completion of MMS Program, **students in the Semester IV are expected to work on two (2) projects (each project of 4 credit)** in areas as follows:

1. **Project Report on topic of General Management (4 credits – 100 Marks)**
2. **Project Report on topic of Social Relevance (4 credits – 100 Marks)**

The National Education Policy (NEP) 2020 emphasizes the importance of research at the postgraduate level as a way to enhance the quality of higher education in India. Research projects are vital for advancing knowledge and fostering innovation across various fields. They enhance critical thinking and problem-solving skills, allowing individuals to analyze complex issues and develop effective solutions. Engaging in research cultivates essential skills such as data analysis, scientific writing, and project management, while also providing opportunities for collaboration and networking with peers and experts. Furthermore, research projects address societal challenges by generating evidence-based

solutions that inform public policy and improve community well-being. Ultimately, they contribute not only to personal growth and employability but also to the collective understanding of pressing issues, making them indispensable in both academic and professional contexts.

I. Role and responsibilities of Various Entities in Project Work Process:

The successful execution of a postgraduate research project requires the involvement of various entities, each playing a distinct role in overseeing, guiding, and supporting the research process. These entities ensure that the research is conducted with integrity, follows academic standards, and produces meaningful results.

Institute Level Research Committee/Board

1. Ensuring that the research adheres to ethical guidelines, such as those related to human/animal subjects, confidentiality, and data integrity.
2. Reviewing and research proposals to ensure they are aligned with academic and ethical standards.
3. To oversee that research is conducted in adherence to the university's policies on academic integrity, plagiarism, and intellectual property.

Research Supervisor/Guide

1. Providing academic and technical guidance in formulating the research question, methodology, and data analysis.
2. Offering feedback on the research progress and draft submissions.
3. Ensuring that the student adheres to ethical standards in conducting research.
4. Supporting the student in identifying relevant resources, literature, and tools.
5. Helping the student develop research skills and fostering independent thought.

External Reviewers/Examiner

1. Assessing the quality, originality, and academic rigor of the research.
2. Providing constructive feedback to ensure that the research meets academic standards.
3. Offering suggestions for improvement or further research.

4. Conducting a fair and impartial evaluation of the thesis or dissertation.

II. Process of Research Project Implementation:

Project Initiation and Proposal Submission

1. The Research Project Committee assigns faculty members as the supervisor to guide and monitor the research.
2. The student identifies a relevant research topic in consultation with a supervisor, considering its feasibility, academic significance, and alignment with available resources.

3. The student prepares a detailed research proposal, including the research question, objectives, methodology, timeline, and expected outcomes and in consultation with supervisor
4. The student, with the guidance of the supervisor, selects appropriate research methods (qualitative, quantitative, or mixed methods) that align with the research question.
5. A comprehensive review of existing literature is conducted to identify gaps, theoretical frameworks, and existing research on the topic.
6. The research design outlines how data will be collected (e.g., surveys, experiments, archival research, interviews), and ethical guidelines are incorporated.
7. The student collects data according to the chosen methodology, ensuring adherence to ethical standards (e.g., informed consent, data confidentiality).
8. The collected data is analyzed using appropriate statistical or qualitative analysis tools, with the interpretation of results aligning with the research objectives.

Regular Supervision and Progress Monitoring

1. The student meets regularly with the supervisor to discuss progress, challenges, and receive feedback on drafts and findings.
2. Record of attendance and continuous performance of the student is required to be monitored by the mentor.
3. The student may be required to submit periodic progress reports detailing completed tasks, data analysis, and adjustments to the research plan.
4. The supervisor helps the student address challenges such as data issues, methodological concerns, or theoretical gaps.

Writing and Documenting the Research

1. The student writes the project based on guidelines (typically including an introduction, literature review, methodology, results, discussion, and conclusion).
2. The student submits drafts to the supervisor for review and makes necessary revisions based on feedback.
3. The student ensures proper citation of sources using a recognized academic citation style.

III. Final Review and Viva-voce

1. Upon completion, the student submits the final version of the project to the academic department.
2. The student will defend the research before a panel of examiners, (including external reviewers), to assess the quality and significance of the research.
3. The student may be asked to make final revisions based on feedback from the defense panel before submitting the final version.

IV. Publication and Dissemination

1. The student may be encouraged to publish research papers based on the thesis in peer-reviewed journals or present findings at academic conferences.

2. Depending on the nature of the research, findings may be shared with industry professionals, policy-makers, or the general public through reports, workshops, or community events.

V. Project Report Submission:

1. Students are required to submit a report of the research project at the end of the semester in following suggested format.
2. A project dissertation should be typed on A4 sheets, Font Size 12, Times New Roman, one and a half spacing on executive bond paper.
3. The project report shall have an appropriate chapter scheme and be presented in a minimum of 30-40 pages (minimum 5000 words)
4. The report should be arranged in the following manner.

- Title Page

  Title of the Report (Font size 14)

  Name of the Student

  Roll number/Seat number

  Project Title

  Name of the Mentor

  Month of Submission

- Certificate by the Institute
- Certificate by Mentor
- Student's Declaration and Acknowledgement
- Executive Summary - A brief summary of the Project, key observations, and main conclusions (200-300 words).
- Table of Contents - Include headings and subheadings with page numbers.
- List of Figures and Tables - List all figures and tables included in the report with corresponding page numbers.

VI. Project Report Structure Details:

- ***Chapter 1: Introduction***

Purpose of the research project: Outline the objectives and expected outcomes of the project.

Background Information: Provide context about the project work and its significance.

Scope of the Report: Define the boundaries of what the report will cover.

- ***Chapter 2: Literature Review***

Review relevant literature on previous studies, and critical analyses of the literary significance.

- ***Chapter 3: Methodology***

Describes the approach and methods used for data collection during the work. Discuss the rationale behind the chosen methods.

- ***Chapter 4: Research Work Descriptions, Observations, and Analysis***

Provide detailed descriptions of work carried out. Include observations related to the work relevance to the topic selected. Use photographs, diagrams, reactions, etc. to support the descriptions. Analyze the data collected in relation to the study objectives.

- ***Chapter 5: Conclusion and Recommendations***

Discuss how the findings from the work contribute to the understanding of subject area. Summarize the key findings and their significance. Offer recommendations based on the research findings for further study or preservation efforts.

- ***References*** **-** List all sources cited in the report in a consistent format.
- ***Appendices*** **-** Include additional data, notes, or documents that are relevant to the report but not integral to its main text.

VII. Evaluation Pattern

Evaluation during the research project involves two key components: External Evaluation (50%) and Internal Evaluation (50%) for both the semesters.

A. Internal Evaluation (CONTINUOUS ASSESSMENT) - 50%

Sr. No.	Evaluation Type	Marks
1	Attendance (Based on Record of Guide Interaction)	**10**
2	Research Methodology and Research Process	**10**
3	Data Analysis and Interpretation	**20**
4	Conclusion/output	**10**
	Total	**50**

B. SEMESTER END EXAMINATION - 50%

Sr. No.	Evaluation Type - Description	Marks
1	Subject Knowledge - Depth of understanding, conceptual clarity, and relevance to the topic	**10**
2	Application of Knowledge - Ability to apply theoretical concepts to practical or real-life situations	**10**
3	Communication Skills - Clarity, coherence, confidence, articulation, and use of technical vocabulary.	**10**
4	Analytical and Critical Thinking - Ability to analyze, evaluate, and provide insights; originality of thought.	**10**
5	Presentation & Response Handling - Structure of answers, logical sequencing, and handling of follow-up questions.	**10**
	Total	**50**

Semester IV - Finance

Semester IV - Finance Specialization Outline

Elective Courses - Finance Specialization (Any 2)					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
1	Elective	Financial Market Regulations	4	40	**IA**
2	Elective	Behavioural Finance	4	40	**IA**
3	Elective	Investment Banking and Alternate Investment Funds	4	40	**IA**
4	Elective	Fixed Income Securities	4	40	**IA**
5	Elective	Wealth Management	4	40	**IA**
6	Elective	SWAYAM Course	4	-	**IA**

***IA – Internal Assessment; UA – University Assessment**

Elective Course 1: Financial Market Regulations

Credits: 4; Total Hours: 60

Course Objectives:

1. To familiarize students with regulatory frameworks governing financial markets and institutions.
2. To equip students with practical knowledge of compliance requirements and regulatory reporting.
3. To develop analytical capabilities for assessing the impact of regulatory policies on financial markets.
4. To foster understanding of roles and responsibilities of regulatory bodies such as SEBI, RBI, and IRDAI.
5. To cultivate strategic insight into managing regulatory risk and ethical compliance in financial markets.

Course Outcomes:

CO1: Describe the structure, evolution, and role of financial regulations in India in the context of global financial developments

CO2: Analyze the regulatory powers and responsibilities of Indian financial institutions including RBI, SEBI, IRDA, and CCI

CO3: Interpret SEBI regulations and assess their implications on capital markets, mutual funds, and investor protection

CO4: Evaluate the effectiveness of legal frameworks concerning foreign exchange, money laundering, and international funds.

CO5: Assess and critique regulatory frameworks governing credit rating agencies and foreign investments under Indian law.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	Introduction to Financial Regulations Need and significance of Indian financial system regulations structure of financial regulations in India global financial crisis – response of the Indian regulations.	CO1	6
2	Reserve Bank of India (RBI) Functions of RBI, credit control measures, qualitative credit control and quantitative credit control, regulatory measures taken by RBI to facilitate financial inclusion. Securities and Exchange Board of India (SEBI): Introduction to SEBI Act (1992) – powers and functions of SEBI.	CO2	10

3	Introduction to important SEBI Regulations pertaining to Capital Market: Issue of Capital and Disclosure Regulations (2009). SEBI (Prohibition of Insider Trading) Regulations – 2015. SEBI (Prohibition of Fraudulent and Unfair Trade Practices Related to Securities Market) Regulations – 2003. SEBI Substantial Acquisition and Takeover Regulations – (2011). Mutual Fund: SEBI (Mutual Funds) Regulations – 1996.	CO3	10
4	Insurance Regulatory and Development Authority (IRDA) IRDA Act: Salient features of the IRDA Act, 1999, IRDA (protection of policy holder interests) Regulations 2002, its duties, power and functions of authority. Competition Commission of India Concept of competition , development of Competition Law, Competition Policy - Competition Act, 2002 - Anti Competitive Agreements, abuse of dominant position, combination, regulation of combinations, competition commission of India, appearance before commission and Appellate Tribunal, compliance of Competition Law.	CO2	8
5	Foreign Exchange Management and Regulations Objectives and definitions under FEMA, 1999, current account transactions and capital account transactions, establishment of branch, office etc. in India, realization and repatriation of foreign exchange, authorized person, penalties and enforcement, foreign contribution (Regulation)Act, 2010.	CO4	8
6	Prevention of Money Laundering Genesis Prevention of Money Laundering Act, 2002, concept and definitions, various transactions, etc., obligations of banks and financial institution, KYC.	CO4	6
7	Regulatory framework for International Funds: Regulations framework for rising fund through: Global Depository Receipts (GDRs) and American Depository Receipts (ADRs), External Commercial Borrowings. Foreign Direct Investment Regulations:	CO4	6

	Foreign Direct Investment (FDI) Policy. SEBI (Foreign Portfolio Investors) Regulations -2014, SEBI (Alternate Investment Fund) Regulations – 2012.		
8	Regulatory framework related to Credit Rating Agencies: SEBI (Credit Rating Agencies Regulations) – 1999.	CO5	6

Textbooks:

1. Financial Institutions and Markets, L.M. Bhole & Jitendra Mahakud, McGraw Hill Education
2. Indian Financial System, Bharati V. Pathak, Pearson Education

Reference Books

1. Financial Market Operations, S. Gurusamy, Tata McGraw Hill
2. Law and Practice of Banking, G.S. Gill, Macmillan India
3. The Indian Financial System: Markets, Institutions and Services, E. Gordon & K. Natarajan, Himalaya Publishing House

Elective Course 2: Behavioural Finance

Credits: 4; Duration: 60 hours

Course Objectives:

1. To introduce students to foundational concepts and theories of behavioural finance.
2. To equip students with analytical skills for understanding psychological biases affecting financial decisions.
3. To develop capabilities for applying behavioural finance insights to investment and financial management practices.
4. To foster understanding of investor psychology, market anomalies, and behavioural biases.
5. To cultivate strategic insights into leveraging behavioural finance for improved decision-making and market predictions.

Course Outcomes:

CO1: Recall key psychological principles and biases influencing financial decisions.

CO2: Explain common psychological obstacles that hinder rational financial decision-making.

CO3: Analyze risks and outcomes associated with biased decision-making in financial contexts.

CO4: Apply behavioural finance theories, including Expected Utility Theory, to real-world financial scenarios

CO5: Evaluate the Efficient Market Hypothesis and construct reasoned arguments using behavioural case studies.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	**Introduction** Introduction to Behavioural finance – Nature, scope, objectives and application; Investment Decision Cycle: Judgment under Uncertainty: Cognitive information perception - Peculiarities (biases) of quantitative and numerical information perception - Representativeness – Anchoring - Exponential discounting - Hyperbolic discounting	CO1, CO2, CO3	10
2	**Utility/ Preference Functions** Expected Utility Theory [EUT] and Rational Thought: Decision making under risk and uncertainty - Expected utility as a basis for decision-making – Theories based on Expected Utility Concept - Investor rationality and market efficiency.	CO2, CO3, CO4	12
3	**Behavioural Factors and Financial Markets**	CO3, CO4, CO5	16

	The Efficient Markets Hypothesis- Fundamental Information and Financial Markets-Behavioural factors and Corporate Decisions on Capital Structure and Dividend Policy - Capital Structure dependence on Market Timing -. Systematic approach to using behavioural factors in corporate decision making. External Factors and Investor Behaviour: Mechanisms of the External Factor influence on risk perception and attitudes - Connection to human psychophysiology and emotional regulation Active portfolio management – the source of the systematic underperformance.		
4	**Behavioural Corporate Finance & Neuro Finance** Behavioural factors and Corporate Decisions on Capital Structure and Dividend Policy - Capital Structure dependence on Market Timing -. Systematic approach to using behavioural factors in corporate decision making. External Factors and Investor Behaviour: Mechanisms of the External Factor influence on risk perception and attitudes - Connection to human psychophysiology and emotional regulation Active portfolio management – the source of the systematic underperformance. Overview of Neuro-scientific Methods in studying financial decision making	CO3, CO4, CO5	16
5	**Discussion and Analysis of Cases Studies on** Behavioural finance in Markets - Examples "Manias, Panics and Crashes", by Charles Kindleberger; "The Great Crash 1929", by John Galbraith; "When Genius Failed" & "Origins of the Crash", by Roger Lowenstein; "The Big Short", by Michael Lewis; "Too Big To Fail", by Andrew Ross Sorkin	CO4, CO5	6

Textbooks

1. Chandra, P. (2020), Behavioural Finance, Tata Mc Graw Hill Education, Chennai (India).7th Edition
2. Ketan Vira (2024), Behavioural Finance, AG Publishing House (AGPH Books), India

Reference Suggested:

1. Shleifer, Andrei (2000). Inefficient Markets: An Introduction to Behavioral Finance. Oxford, UK: Oxford University Press

2. Kahneman, D. and Tversky, A. (2000). Choices, values and frames. New York : Cambridge Univ. Press
3. Forbes, William (2009), Behavioural Finance, Wiley.
4. Ackert, Lucy, Richard Deaves (2010), Behavioural Finance; Psychology, Decision Making and Markets, Cengage Learning
5. Thaler, R. (1993). Advances in Behavioral Finance. Vol. I. New York, Russell Sage Foundation.

Elective Course 3: Investment Banking and Alternate Investment Funds

Credits: 4; Duration: 60 hours

Course Objectives:

1. To provide comprehensive knowledge of investment banking operations, services, and financial instruments.
2. To equip students with practical skills in deal structuring, valuation, and execution of investment banking transactions.
3. To develop analytical capabilities for evaluating alternate investment funds, private equity, and venture capital.
4. To foster understanding of regulatory environment and compliance practices for investment banking.
5. To cultivate strategic insights into contemporary trends and opportunities within the alternate investment sector.

Course Outcomes:

CO1: Explain the fundamentals of Investment Banking and Alternative Investment Funds (AIFs), including their roles and structures.

CO2: Describe and outline the processes of capital raising, issue management, and due diligence in financial transactions.

CO3: Critically assess various services in project finance and structured finance to evaluate feasibility and structure of funding models.

CO4: Analyze the characteristics and management strategies of alternative investment products and their use in investment portfolios.

CO5: Apply AIF models in assessing risk scenarios and Evaluate overall AIF formats and structures.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	**Introduction to Financial System-**An Overview of Indian Financial System, Investment Banking in India, Recent Developments and Challenges ahead, Institutional structure and Functions of Investment / Merchant Banking; SEBI guidelines for Merchant Bankers, Registration, obligations and responsibilities of Lead Managers, Regulations regarding Continuance of association of lead manager with an issue.	CO1	6
2	**Introduction to Investment Banking-** Introduction to investment banking and corporate finance careers, What is an investment bank? What is the structure of an investment bank?,What do investment banks do?, What are the types of groups within the investment banking division?,What is the hierarchy within the investment bank?,What kind of work do investment	CO1	6

	bankers do?,Overview of private equity, venture capital and hedge funds		
3	**Types of Investment Banking** - Corporate Finance - Raising Capital. Equity Capital market as well as Debt Capital market	CO1	4
4	**Issue Management**- Public Issue: classification of companies, eligibility, issue pricing, minimum public offer, prospectus, allotment, preferential allotment, private placement, Book Building process, designing and pricing, Green Shoe Option; Right document, Bought out Deals, Post issue work & obligations, Investor protection, Broker, sub broker and underwriters.	CO2	6
5	**Due Diligence**: Concept, Need and steps in due diligence especially in Mergers and Acquisitions	CO2	4
6	**Project Finance:** Infrastructure projects, Large-Scale Industrial Developments, Energy and Renewable Energy Projects and Complex Long-Term Financing Arrangements	CO3	6
7	**Structured Finance:** Create Financial Instruments-Collateralized Debt Obligations (CDOs), Asset-Backed Securities (ABS), Credit Default Swaps (CDS). Develop Innovative Financing Solutions-Structured Leasing, Project-Linked Bonds, Hybrid Instruments. Manage Risk Through Financial Engineering-Credit Enhancement, Interest Rate Hedging, Liquidity Management. Designing Securitization Strategies - Asset Pooling, Trenching, Issuance of Securities	CO3	8
8	**Overview of Alternative Investments:** Introduction, Different Avenues, Alternative Investments – Antecedents and Growth, Alternative Assets, Role of Alternative Investments in Portfolio Management	CO4	3
9	**Growth of Alternative Investment Funds in India and Suitability of Category III AIFs: Evolution and growth of Category III** Alternative Investment Funds in India and their types, Different categories of AIFs as per SEBI (AIF) Regulations, 2012 • Suitability of Category III AIF products to different class of investors • Current market status of Category III AIFs in India	CO4	3
10	**Introduction to Category III AIF Ecosystem:** Investments and characteristics of funds under Category III AIFs • Category III AIF ecosystem) • Various Concepts of Category III AIF& Comparison of Category III AIF with PMS and Mutual Funds Role of Category III AIF in portfolio diversification • Use of Category III AIF as a risk management tool (Alpha/ Beta management)	CO5	5

11	**Category III AIF: Fund Structures and Service Providers** Fund structures of Category III AIFs Roles of various service providers in Category III AIF industry Documentations done for Category III AIFs at On-shore and Off-shore Levels Various Investment Strategies (Equity market strategies, Convertible arbitrage strategy, Event-driven strategies)	CO5	5
12	**Presentations and Assignments**	CO5	4

Textbooks

1. Investment Banking- Concept, Analysis and Cases by Pratap Giri, 4th Edition, McGraw Hill; Forth edition (29 October 2021), New Delhi
2. Workbook for NISM-Series-XIX-B: Alternative Investment Funds (Category III) Distributors Certification Examination - Taxmann Publication

Reference Books

1. Investment Banking: Valuation, LBOs, M&A, And IPOs by Joshua Rosenbaum and Joshua Pearl, John Wiley & Sons Inc; Updated edition (23 February 2022)
2. NISM's Alternative Investment Funds (Category I and II) Distributors, by NISM (An Educational Initiative of SEBI), 3 November 2022

Elective Course 4: Fixed Income Securities

Course Credits: 4; Duration: 60 Hours

Course Objectives:

1. To introduce foundational concepts, instruments, and markets related to fixed income securities.
2. To equip students with practical skills for analyzing, pricing, and managing fixed income investments.
3. To develop analytical capabilities for assessing interest rate risk, credit risk, and yield management.
4. To foster understanding of fixed income portfolio construction and risk mitigation strategies.
5. To cultivate strategic insights into current market trends, regulatory changes, and investment strategies.

Course Outcomes:

CO1: Students will be able to discuss the various products and operations in bond and money markets and explain the recent developments in the money and bond markets.

CO2: Students will be able to calculate the various parameters of bond markets accurately using the established approaches and framework and solve problems in various areas of bond and money market

CO3: Students will be able to critically apply various tools and techniques for effective risk management in bond markets and will formulate key strategies using various frameworks of bond portfolio management in well-defined contexts.

CO4: Students will be able to determine the various risks inherent to bond and money market and decide the various instruments of financial derivatives available for managing such risk.

CO5: Students will be able to Defend the learnings about the structure of debt market, role of regulators, government, Banks, Global bond market and other stake holders in crisis and failures of debt market during case study discussions and presentation.

Unit / Module	Content	CO Mapping	Hours Assigned
1	Overview of The Indian Debt Market • Role of the Debt Market • Importance of Debt Markets • The Bond Market Ecosystem • Role of Regulators • Role of Monetary Policy in Debt Markets • Evolution of Debt Markets • Market Dynamics	CO1	3
2	Types of Fixed Income Securities • Classification of fixed income securities based on the Type of Issuer	CO1	3

	• Classification of fixed income securities based on Maturity • Classification of fixed income securities based on Coupon • Classification of fixed income securities based on Currencies • Classification of fixed income securities based on Embedded Options • Classification of fixed income securities based on Security • Other fixed income securities in India		
3	Pricing of Bonds • Concept of "Par Value" • Time Value of Money • Determining Cash Flow, Yield and Price of Bonds • Pricing of Different Bonds • Price-Yield Relationship • Price Time Path of a Bond • Pricing of a Floating Rate Bond	CO2	3
4	Yield Measures and Total Return • Understand the Sources of Return • Traditional Yield Measures	CO2	3
5	Risks Associated with Investing in Fixed Income Securities • Risks associated with fixed income securities • Risk Mitigation Tools	CO1, CO3	3
6	Measuring Interest Rate Risk • Price Volatility Characteristics of Option Free Bonds and Bonds with Embedded Options • Understand the Concept of Duration • Difference between Modified Duration and Effective Duration • Price Value of Basis Point (PV01) • Convexity Measure • Modified Convexity and Effective Convexity • Taylor's Expansion and Its Application in Approximating Bond Price Changes	CO3	6
7	Term Structure of Interest Rates • Yield Curve and Term Structure • Relationship between Spot and Forward Rates • Determinants of the Shape of the Term Structure	CO3	3
8	Indian Money Market • Introduction to Money Market • Types of Instruments in Money Market • Trends in the Indian Money Market • Importance of the Call Money Market	CO1, CO2	3

	• Important Rates in the Indian Interbank Call Market -MIBOR/LIBOR		
9	Government Debt Market • Introduction to Government Debt Market • Types of Instruments in Government Debt Market • Trends in the Indian G-Sec Market • The Issuance Mechanism • Secondary Market Infrastructure for G-Secs in India • Clearing and Settlement of Secondary Market Trades • G-sec Valuation in India • Key Regulatory Guidelines for the Indian G-Sec Market • I.10-year Benchmark bond Yield India	CO1, CO2,	3
10	Corporate Debt Market • The Indian Corporate Debt Market • Types of Instruments in Corporate Debt Market • Trends in Indian Corporate Debt Market • Issuance Mechanism • Secondary Market Mechanism • Key Regulatory Guidelines for Corporate Debt Market • Corporate Bond Valuation • Indian Govt Bond market index inclusion at Global Level 9 (J.P. Morgan)	CO1, CO2	3
11	Bond Portfolio Management: Passive strategies: (Buy & Hold, Indexing) Immunisation (Quasi Active) Other Active Strategies.	CO3, CO2	3
12	Role of Regulatory and Rating Agencies: Credit rating process, CIBIL Score, CRISIL, CARE, ICRA etc.	CO1, CO2	3
13	Case study related to bond markets like Subprime crisis/ Case study of Signature bank/ Silicon Valley bank -sale of treasury bond portfolio in 2023 (Credit default Swap)	CO4, CO5	3
14	Bond Market Futures: Forward rate agreement concept, mechanics and uses Interest rate futures and its prices Interest Rate Swaps: Definition features and its uses, design and valuations of interest rate swaps.	CO5	3
15	Interest Rate Swaps: Definition features and its uses, design and valuations of interest rate swaps.	CO5	3
16	Presentation	CO4, CO5	6

Textbooks:

1. Sunil Parameswaran, Sankarshan Basu, Fixed Income Securities: Wiley
2. NISM-Series-XXII: Fixed Income Securities, e-book, NISM Website
3. Gupta S L, Financial Derivatives: Theory, Concepts and Problems, Prentice Hall of India, New Delhi.
4. M. Kannadhasan: Fixed Income Securities: Valuation and Risk Management, Cengage
5. Sundaresan, Suresh: Fixed Income Markets and Their Derivatives
6. Fabozzi, Frankj, Mann, Steven V., The Handbook of Fixed Income Securities: New York, McGraw-Hill Companies

Reference Books:

1. Frank J Fabozzi, Fixed Income Securities, Wiley
2. John C Hull: Options, Futures and Other Derivatives, Prentice Hall of India
3. Redhead: Financial Derivatives: An Introduction to Futures, Forwards, Options, Prentice Hall of India

Elective Course 5: Wealth Management

Credits: 4; Duration: 60 Hours

Course Objectives:

1. To familiarize students with core concepts, principles, and strategies of wealth management.
2. To equip students with practical skills in portfolio management, financial planning, and advisory services.
3. To develop analytical capabilities for managing high net-worth clients and wealth preservation strategies.
4. To foster understanding of regulatory compliance, tax planning, and estate management.
5. To cultivate strategic insights into contemporary trends, digital tools, and innovations in wealth management.

Course Outcomes:

CO1: Define key concepts and principles of Wealth Management.

CO2: Explain the role of different asset classes in Portfolio Management and their Risk return characteristics.

CO3: Financial planning principles for individual and institutional wealth.

CO4: Investment portfolios and asset allocation strategies.

CO5: Assess risk management techniques in wealth planning.

CO6: Comprehensive wealth management plans incorporating tax and estate planning.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	**Introduction to Wealth Management**: Definition, Importance, Scope and Process of Wealth Management, Evolution of Wealth Management Industry, Role of a Wealth Manager, Investment Advisor – Functions, Code of Ethics of Wealth Manager, Different Client Segments & Needs	CO1, CO2	6
2	**Financial Markets & Instruments:** Overview of Equity, Debt and Alternative Investments, Market Trends & Economic Indicators, Role of Mutual Funds, ETFs, and REITs, Financial Derivatives and Structured Products, Global Investment strategies, Time Value of Money for investment.	CO1, CO2, CO3	6

3	**Portfolio Management Theories:** Portfolio Modelling and Rebalancing Strategies, Portfolio Performance Measurement, Modern Portfolio Theory (MPT), Capital Asset Pricing Model (CAPM), Asset Allocation & Diversification Strategies, Smart Beta Strategies & Factor Investing	CO3, CO4	4
4	**Risk Management in Wealth Planning:** Risk Meaning, Types and Categories of Risk, Risk Profiling & Risk-Return Trade-off, Behavioural Aspects of Risk Management, Hedging Techniques & Stress Testing, Portfolio Risk Management	CO3, CO4 CO5	6
5	**Investment Planning & Strategies:** Active vs. Passive Investing, Fundamental & Technical Analysis, Alternative Investments: Private Equity, Hedge Funds, Commodities, Quantitative Investment Strategies, Concept of Benchmarking, Fee Structures and costs involved in investing	CO2 CO3, CO4 CO5	6
6	**Taxation & Wealth Preservation Strategies:** Taxation of Various Investment Vehicles and Products, Estate Planning & Succession Planning, Tax-efficient Investment Strategies, Global Taxation Aspects & Cross-border Wealth Management	CO4 CO5 CO6	5
7	**Retirement & Estate Planning:** Succession Laws, Wealth Transfer Strategies, Types of Retirement Plan, Pension fund and retirement fund, Trusts, Wills, and Power of Attorney, Intergenerational Wealth Transfer, Financial Planning for Different Life Stages, Wealth Creation Factors and Principle Pre and Post Retirement Strategies	CO4 CO5 CO6	6
8	**Behavioural Finance & Wealth Psychology:** Behavioural Finance – Meaning and relevance in Investment Decision, Psychological Biases in Investment Decisions, Emotional Aspects of Wealth Management, Strategies to Overcome Behavioural Biases, Investor Profiling & Decision-Making Patterns	CO3, CO4, CO6	4
9	**Financial Planning & Advisory Process:** Client and Risk Profiling, Goal Setting and Budgeting, Steps in Financial Planning, Financial Advisory Business Models	CO3, CO4, CO5	3
10	**Alternative Investments & ESG Investing:** Investment Products and Alternative – Meaning, Types, Evaluation Criteria of Investment Alternative, ESG (Environmental, Social, and Governance) Investments, Sustainable and Impact Investing, Green	CO1, CO2, CO3, CO4	6

	Investment Strategies, Private Market Investments & Real Assets		
11	**Regulatory & Compliance Framework:** Role of SEBI, RBI and other statutory Bodies, Anti-Money Laundering (AML) and KYC Norms, Ethical & Legal Considerations in Wealth Management, Global Compliance & Fiduciary Responsibilities	CO3, CO4, CO5	4
12	**Role of Technology in Wealth Management:** Financial Modelling & Decision-making Frameworks, Fin-Tech – Innovation and their Impact, ROBO Advisor, Artificial Intelligence and Machine Learning in Digital Asset, Block Chain and Crypto Currencies	CO4, CO5 CO6	4

Textbooks:

1. Kapoor, J. R., Dlabay, L. R., & Hughes, R. J. **–** Personal Finance (McGraw Hill)
2. Hallman, G. V., & Rosenbloom, J. S. – Personal Financial Planning **(**McGraw Hill)
3. Hiriyappa, B. **–** Wealth Management (New Age International)
4. Suyash Bhatt – Wealth Management – Excel Books
5. S.K.Bagchi, Wealth Management- Jaico Publishing House

Reference Books:

1. Prasanna Chandra – Investment Analysis and Portfolio Management (McGraw Hill)
2. Kevin, S. – Security Analysis and Portfolio Management (PHI)
3. Bodie, Kane, & Marcus – Investments (McGraw Hill)

Semester IV - Human Resource

Semester IV - Human Resource Specialization Outline

Elective Courses - HR Specialization (Any 2)					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
1	Elective	Human Resource Capital, Accounting and Audit	4	40	**IA**
2	Elective	Industrial Relations and Alternate Dispute Resolution	4	40	**IA**
3	Elective	OD and Change Management	4	40	**IA**
4	Elective	Strategic Human Resource Management	4	40	**IA**
5	Elective	SWAYAM Course	4	-	**IA**

***IA – Internal Assessment; UA – University Assessment**

Elective Course 1: Human Resource Capital, Accounting and Audit

Credits: 4; Duration 60 Hours

Course Objectives:

1. To introduce students to foundational concepts of human resource capital valuation, accounting, and audit.
2. To equip students with practical skills for quantifying, reporting, and auditing human resource capital.
3. To develop analytical capabilities for evaluating the strategic value and impact of human capital.
4. To foster understanding of accounting standards and regulatory compliance related to human resources.
5. To cultivate insights into ethical considerations, transparency, and reporting practices in human resource accounting.

Course Outcomes:

CO1: To understand HR Accounting & Audit and its importance.

CO2: To analyse the HR Accounting and Auditing methods.

CO3: To apply HR Accounting methods.

CO4: To evaluate the effectiveness of HR Accounting and Audit practices in organisations.

CO5: To create Human Accounting Systems in organisations.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	**Introduction to HR Capital and HR Accounting:** - HR Accounting and HR as an Asset - Definition of Human Resource Accounting - HRA – concepts, methods and applications - Human Resource Accounting vs. Other Accounting - Employee and Labour Costing	CO 1	6
2	**HR Audit** - Objectives, Concepts, Components, Need, Benefits, Importance - Methodology and instruments of HR Audit - HR Audit Process and Issues in HR Audit - Role of HR Audit in business environment	CO 1	6
3	**Human Resource Costs / Investment**	CO1, CO2	6

	- Human Resource Costs – the Monetary Value Approach, Non-Monetary value Based Approaches - Investment in employees -HRD		
4	**Return on Investments** - HR Budget - Development of HR - ROI through High Performance Employees - Measurement of Group Value – The Likert and Bowers Model, Herman son's Unpurchased Goodwill Model	CO2, CO3	6
5	**Human Resource Accounting System** - Developing Human Resource Accounting System - Implementation of Human resource Accounting system - Integration with other accounting system	CO 3, CO 4	9
6	**Human Resource Scorecard** - HR Scorecard, Constituents of HR Scorecard - HR Scorecard as an instrument in HR Audit	CO 4	6
7	**Human Resource Audit Report** - HR Audit Report – purpose - Report Design – Preparation of report - Use of HR Audit report for business improvement	CO 4	12
8	**Recent Advancements in Human Resource** Audit and Accounting	CO 5	9

Text and Reference Books:

1. Human Resource Management Text and Cases by K. Aswathappa
2. Personnel & Human Resource Management – P. Subba Rao
3. Human Resource Audit T.V. Rao

Recommended Pedagogy:

1. Lectures and Discussions
2. Case Studies
3. Role Play
4. Workshops

Elective course 2: Industrial Relations and Alternate Dispute Resolution

Credits: 4; Duration 60 Hours

Course Objectives:

1. To provide comprehensive knowledge of industrial relations frameworks, theories, and practices.
2. To equip students with practical skills in negotiating, mediating, and resolving labour disputes.
3. To develop analytical capabilities to manage and improve employer-employee relationships.
4. To foster understanding of legal, ethical, and regulatory considerations in dispute resolution.
5. To cultivate strategic insights into contemporary challenges, negotiation strategies, and best practices in industrial relations.

Course Outcomes:

CO1: To understand Evolution and Approaches of IR.

CO2: To analyse the social security legislations laws cases relevant in the given scenario

CO3: To understand and apply conflict prevention & resolution methods under IR

CO4: To evaluate various methods to solve the conflict and to draft settlement agreements.

CO5: To create models of adapting to changes in the dynamics of IR in changing Industry Employee Relations.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	**IR Issues in Organizations:** - IR Evolution and Definitions - Different approaches to IR: - o Functional approach - o Systems Approach & Dunlop's Contribution - o Oxford Model - o HR Approach o Comprehensive IR Model of Internalist & Externalist Approach	CO 1	9
2	**Prevention, Machinery of Conflict in IR:** - Issues & Levels of Conflict in IR, The State & Industrial Relations Policy, Tripartite & Bipartite Bodies, Ethical Codes & IR	CO 3	12

	- Industrial Employment (Standing Orders) Act,1946, Model Grievance Procedure & Disciplinary Proceedings - Overview of Trade Union Movement, Union Politics, Difference between Trade union registration & recognition. Trade Union Registration Act 1926. Union recognition under MRTUP & PULP & Code of Discipline - Conditions for effective Collective Bargaining and its process		
3	**Alternate Dispute Resolution (ADR):** - Meaning and Importance of ADR - Discuss cases using ADR to settle cross cultural, environment, healthcare business disputes - ADR Clause Drafting	CO 2, CO 3	9
4	**Industrial Disputes:** - Meaning of Industrial Dispute, Causes, Forms/Types, Consequences/Effects, Methods of Settling Industrial Disputes (Arbitration, Joint Consultations, Works Committee, Conciliation, Adjudication, etc.) - Concepts Related to Industrial Disputes (Relevant Examples): Strike, Layoff, Lockout, Retrenchment	CO 2, CO 3, CO 4	12
5	**Labour Welfare:** - Concept of Labour Welfare, Approaches to Labour Welfare, Statutory and Non-Statutory Welfare, Occupational Safety, Health and Working Conditions in the organisations, Workers Participation in Management Practiced in Germany, France & Britain. - Indian Cases, Suggestion Schemes, Kaizen, Quality Circles, TQM, ISO, Productivity Bargaining	CO 1, CO 3, CO 4	9
6	**New Trends in IR & Future of IR in India:** - The changing demographics of Indian Industry, manufacturing to service sector, from formal to informal, digitisation, etc. - Expected changes in the dynamics of IR in this changing Industrial Scenario - Ways to cope up with IR Issues - Collaboration - A new Perspective to IR	CO 5	9

Textbooks:

1. Mamoria, C. B. & Mamoria, S., Dynamics of Industrial Relations in India, 16th Edition, 2019, Himalaya Publishing House
2. Sharma, A. M. Industrial Relations: Conceptual & Legal Framework. Himalaya Publishing House
3. Mamoria, C. B., Mamoria, S. & S. V. Gankar. Dynamics of Industrial Relations in India. Himalaya Publishing House
4. Venkata Ratnam, C. S. Industrial Relations. Oxford University Press
5. Industrial Relations – Late C.S Venkata Ratnam – Oxford Publications
6. Industrial Relations, Trade Unions and Labour Legislation – P.R.N Sinha, Indu Bala Sinha, Seema Priyadarshini Shekhar – Pearson Publications
7. Alternative Methods of Dispute Resolution by Martin A. Frey
8. ADR principles and practice By Henry J. Brown
9. Human Resource Management Gary Dessler and Biju Varkkey

Reference Books:

1. Getting to Yes: Negotiating Agreement Without Giving in By Roger Fisher and William Ury
2. Dispute resolution: negotiation, mediation, arbitration, and other processes By Stephen B. Goldberg
3. Sharma, A. M. Industrial Relations: Industrial Jurisprudence and Labour Legislation. Himalaya Publishing House

Recommended Pedagogy:

1. Lectures and discussions
2. Case studies
3. Law presentations with Industrial Application Examples

Elective Course 3: OD and Change Management

Credits: 4; Duration 60 Hours

Course Objectives:

1. To introduce foundational concepts, methodologies, and practices of organizational development (OD).
2. To equip students with practical skills to manage organizational change initiatives effectively.
3. To develop analytical capabilities to diagnose organizational problems and implement OD interventions.
4. To foster understanding of human factors, resistance management, and leadership roles in change processes.
5. To cultivate strategic insights into sustaining organizational growth, innovation, and adaptation through change management.

Course Outcomes:

CO1: To understand the fundamental concepts, theories, and importance of Organizational Development and Change Management.

CO2: To apply the Concepts and Frameworks of OD Approaches, OD Interventions and Change Management Models.

CO3: To analyze various diagnostic tools and assess the impact of OD and Change Management in Organizational Performance.

CO4: To evaluate the role of Leadership and Culture in Implementing and Sustaining Change Initiatives.

CO5: To create change strategies for Organizational Transformation using OD Approaches.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	**Introduction to Change Management**: - Definition, Nature and Types of Change: Individual, Group and Organizational Change - Understanding Organization Development and Change Management - Need for Change - Process of Organizational Change	CO 1	3
2	**Introduction to Organizational Development**: - Overview of the field of OD - Concept, Definitions and Importance of OD - Underlying Assumptions, Values and Goals of Organization Development	CO 1	3

3.	**Approaches to Organizational Development:** - Action Research as a Process - Action Research Model - Action Research as an Approach - History of Action Research - Examples of Action Research in OD - Systems Theory - The Nature of Systems - Systems Approach - Socio-Technical Systems Theory and Open Systems Planning	CO 2	6
4	**Organizational Diagnosis and Diagnostic Models:** - Managing the OD Process - Diagnosing the System, its Subunits and Processes - Organizational Diagnostic Models and their Relevance- A. Kurt Lewin Model B. Seven Stage Model C. Beyond the "Quick Fix" D. Force Field Analysis E. Open Systems Theory F. Weisbord's Six-Box Model G. The Congruence Model H. McKinsey 7S Framework I. The Burke-Litwin Model of Organizational Change - Porras and Robertson Model of Organizational Change	CO 3	9
5	**Data Collection and Analysis using Climate Survey:** - Methods of Data Collection - Tools of Data Collection - Climate Survey - Research Design - Research Process	CO 3	3
6	**OD Interventions Theories & Methods:** - Meaning and Definition - Factors Required to Plan and Implement OD - Goals of OD Intervention - Types of OD Interventions - Major "Families" of OD Interventions - Interventions Designed to improve Effectiveness- - Individual Interventions- - Team Intervention - Large System Intervention - Inter group interventions - Measuring the Effectiveness of OD Interventions	CO 3, CO 4	9

7	**Execution of Change:** - Guidelines for Effective Implementation to Change - Environment Factors for Organizational Change- Internal and External Factors - Models of Planned Change - Approaches to Planned Change - Organizational Change and Process Consultation - Work Redesign Model	CO 3, CO 4	6
8	**Resistance to Change and Monitoring Change in Organizations:** - Meaning and Definition - Sources of Resistance to Change- - Individual Sources - Organizational Sources - Impact of Change on Employees - Dealing with Resistance to Change - Role of Communication in Managing Change - Effective Organizational Change Management - Methodologies for Measuring Change - Cummings and Worley's Model for Managing Change - Managing Organizational Change - Challenges in Managing Change	CO 3, CO 4	6
9	**Leadership in Change Management:** - Role of HR in Leading Change - Emotional Intelligence in Change - Leadership and Change Management - Organizational Learning and Change- - Power - Politics - Organizational Conflicts	CO 3, CO 4	6
10	**Organizational Culture and Development** - Understanding Organizational Culture - Culture Change Initiatives - Models of Culture in Organizations - Values Alignment and Ethical Considerations	CO 3	3
11	**Implementation and Assessment of OD:** - Implementation Conditions for Failure and Success in OD efforts - Assessment of OD and Change in Organizational Performance - The Impact of OD on Organization Performance - Developing OD Strategies - Role of OD Practitioners	CO 4, CO 5	3

12	**Emerging Trends in OD and Change Management:** - Systemic Approach towards OD and Change Management - Galbraith Star Model of Organizational Design - Mechanistic & Organic System and Contingency Approach - Emerging Trends in OD and Change Management - Learning Organization - The Future of OD	CO 3, CO 4	3

Textbooks:

1. Organization Development and Change (11th ed.). Cummings, T. G., & Worley, C. G. (2019), Cengage Learning
2. Organization Development: Behavioral Science Interventions for Organization Improvement, French, W. L., & Bell, C. H., (6th ed.), Prentice-Hall
3. Organizational Change and Development, Dipak Kumar Bhattacharya, Oxford University Press
4. Organization Development: Principles, Processes, and Performance, Gary McLean, (1st Ed), Berrett-Koehler Publishers

Reference Books:

1. Management of Change and Organizational Development: Innovative Strategies and Approaches, S.K. Bhatia, Deep & Deep Publications
2. Organizational Change and Development, Kavitha Singh, Excel Books
3. Practicing Organization Development: Leading Transformation and Change, William J. Rothwell, Jacqueline M. Stavros, Roland L. Sullivan, (4th Ed.), Wiley's Publication

Recommended Pedagogy:

1. Interactive Lectures
2. Case Studies
3. Role Plays
4. Videos

Elective course 4: Strategic Human Resource Management

Credits: 4; Duration: 60 Hours

Course Objectives:

1. To introduce foundational concepts, frameworks, and strategic perspectives in human resource management.
2. To equip students with practical skills for aligning HR strategies with organizational goals and competitive advantage.
3. To develop analytical capabilities for assessing the strategic impact of HR policies and practices.
4. To foster understanding of workforce planning, talent management, and succession planning.
5. To cultivate strategic insights into contemporary trends, challenges, and innovations in strategic HR management.

Course Outcomes:

CO1: To understand concepts, principles, and frameworks of Strategic HRM.

CO2: To apply HR strategies, models and techniques to solve business and workforce challenges

CO3: To analyze and differentiate various SHRM approaches in diverse business environments.

CO4: To evaluate the HR policies and practices in alignment with corporate strategies.

CO5: To design and create strategic HR plans and innovative solutions to contemporary HR issues.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	- Introduction to Strategic HRM - Concept and Evolution of SHRM - Traditional HRM vs. Strategic HRM - Aligning HRM with Business Strategy - Models of SHRM (Best Fit, Best Practice, RBV0 - Challenges faced in implementation of SHRM	CO1	9
2	- HR Strategy and Business Performance - Linkage Between HR Strategy and Organizational Goal - Workforce Planning and Talent Management Strategies - High-Performance Work Systems (HPWS - HR Strategic Models - HR Metrics and Analytics - HC Bridge Framework Model	CO2	9

	- HR Scorecard		
3	**Talent Acquisition & Retention Strategies** - Strategic Recruitment and Selection - Employer Branding and Employee Value Proposition - Retention Strategies and Employee Engagement. - Succession Planning and Leadership Development	CO1, CO2, CO3	6
4	**Performance and Reward Strategies** - Strategic Performance Management Systems - Compensation and Benefits Strategies - Pay for Performance and Incentive System - Non-monetary Rewards and Employee Motivation	CO4, CO5	6
5	**Learning, Development & Change Management** - Strategic Learning and Development - Training ROI and Impact Assessment - Change Management and HR's Role in Organisational Transformation - Organisational Culture and HR Strategies	CO4, CO5	6
6	**Employee Relations & Legal Aspects in SHRM** - Industrial Relations and HR's Strategic Role - Labour Laws and Compliance Strategies - Diversity, Equity, Inclusion and Belongingness (DEIB) Strategies - Ethical Issues in SHRM	CO1, CO2	6
7	**Strategic HRM Culture and Climate** - Understanding Organization Culture and Climate - Culture and Climate in HR Strategy - Role of AI and HR Technology in shaping Culture - Agile HR and Adapting to SHRM	CO3, CO4, CO5	6
8	**Global SHRM & Future Trends** - Global HR Strategies and Cross-Cultural Challenges - Digital Transformation in HR (AI, HR Tech, Remote Work) - Gig Economy and Strategic HR Adjustments - Nomics and Power Upside Down - Outsourcing and its HR Implications - Sustainability and Corporate Social Responsibility (CSR) in HRM	CO4, CO5	12

Textbooks:

1. Strategic Human Resource Management – Jeffrey A. Mell
2. HR Strategy: Creating Business Strategy with Human Capital – Paul Kear

3. Human Resource Management – Aswathaa
4. Human Resources Management A South Asian Perspective, Scott Snell, George
5. Bohlander, Veena Vohra, Cengage Learning India Pvt Ltd (Publisher)

Reference books

1. The New HR Leader's First 100 Days – Alan Collins
2. HBR's 10 Must Reads on Strategic HRM – Harvard Business Review

Recommended Pedagogy

1. Lectures and Discussions
2. Case studies
3. Videos

Semester IV - Marketing

Semester IV - Marketing Specialization Outline

Elective Courses - Marketing Specialization (Any 2)					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
1	Elective	Global Marketing	4	40	**IA**
2	Elective	Technology Strategy	4	40	**IA**
3	Elective	Business to Business Marketing	4	40	**IA**
4	Elective	Social Marketing	4	40	**IA**
5	Elective	SWAYAM Course	4	-	**IA**

***IA – Internal Assessment; UA – University Assessment**

Elective 1: Business to Business Marketing

Credits: 4; Duration: 60 Hours

Course Objectives:

1. To familiarize students with unique principles and strategies of business-to-business (B2B) marketing.
2. To equip students with practical skills for segmentation, targeting, and relationship management in B2B markets.
3. To develop analytical capabilities for assessing industrial buying behaviour and decision-making processes.
4. To foster understanding of strategic pricing, sales processes, and supply chain dynamics in B2B contexts.
5. To cultivate insights into contemporary trends, digital innovations, and effective communication strategies in B2B marketing.

Course Outcomes:

CO1: Understand the key factors in B2B segmentation, role of DMU's in organisation purchases, and value creation in B2B markets

CO2: Apply the concepts learnt in the course to develop an appealing value- proposition for business customers

CO3: Analyse the buyer value system to identify opportunities

CO4: Evaluate the competitor's strategies, position in the ecosystem / network and identify the most suitable position for the firm.

CO5: Create a business plan for launch of a product/solution from theories learnt in the course

Unit/ Module	Content	CO Mapping	Hours Assigned
1	Nature of Business markets, key differences between B2B and B2C markets; Global or cross- border B2B contexts - export/import.	CO1, CO2	4
2	Assessing market opportunities, industrial market segmentation, targeting, and positioning; fit between product variables and target segment; account-based marketing; segmentation and hyper- focused targeting on high-value accounts; refining B2B segmentation and positioning; Coordinating marketing and sales for customized pitches.	CO1, CO2	6
3	Decision Making Units – roles in purchase decision, composition,	CO1, CO2 CO3	5

	priorities and interests, size and formal organization, power structure, Global teams and virtual DMU's, cultural issues		
4	Types of products – straight rebuy, modified rebuy, new tasks, B2B benefits typology – economic, tangible benefits; non-economic, tangible benefits; economic, intangible benefits, non-economic intangible benefits; Industrial Product Lifecycle Analysis; solutions marketing v/s product marketing; product/service bundling	CO1, CO2, CO3	6
5	New Product Development Process, impact of technology, diffusion of innovation; AI role in product/solutions innovation, predictive analytics, personalization, big data analytics	CO2, CO3	5
6	Value Proposition in B2B markets – resonating focus, deep understanding of customer and priorities; B2B branding, sustainability and ESG as emerging consideration in purchase decisions	CO2, CO3, CO4	6
7.	Business ecosystems – network of independent niches; co-evolving roles and responsibilities, shape co-evolution of innovation; keystone, Landlord and nicher strategies in the business ecosystem	CO3, CO4	6
8.	Platform Business Model – network effects, role of platforms, platform decisions, coring of platform,	CO3, CO4	6
9	Pricing strategies – determinants of price, competitive bidding, price negotiations; value-based pricing and subscription models; linking price to ROI and outcome metrics	CO3, CO4	4
10	Managing Logistics, channels of distribution, channel design decisions, identification of cost centres; digital channels and e-commerce, B2B procurement online portals, self- serve SaaS signups.	CO3, CO4	4
11	Managing the sales force – design, structure – product, market, geography, key account management, planning the sales organization; use Martech to track and monitor sales	CO3, CO4	4
12	Promotions – trade fairs and exhibitions; social media in B2B markets, use in various stages of the sales cycle, use in customer service to create positive feedback loops, sales funnel and social media tactics	CO3, CO4	4

It is recommended that the course be instructed through cases.

Text Books:

1. Industrial Marketing: Analysis, Planning and Control. Robert Reeder, Edward Brierty, Betty Reeder. 2e. Prentice- Hall India Edition
2. Business to Business Marketing. Ross Brennan, Louise Canning. 3e, Sage

Reference Book

1. Business to Business Marketing Management. A Global Perspective. Alan Zimmerman, Jim Blythe. Routledge.

Elective 2: Global Marketing

Credits: 4; Duration: 60 Hours

Course Objectives:

1. To introduce foundational concepts, strategies, and challenges in global marketing.
2. To equip students with practical skills for market entry, segmentation, and positioning in international markets.
3. To develop analytical capabilities for evaluating cross-cultural consumer behaviour and global market dynamics.
4. To foster understanding of international marketing regulations, trade practices, and competitive strategies.
5. To cultivate strategic insights into managing global brands, marketing campaigns, and distribution networks.

Course Outcomes:

CO1: Understand the application of marketing principles in the global Context

CO2: Apply glocal strategy concepts to international contexts

CO3: Analyse international marketing strategies considering cultural, political, geographic and other differences, as well as standardization v/s localization etc

CO4: Evaluate Global marketing strategies using frameworks taught in the course

CO5: Create a global marketing plan for a product/category to be launched in selected countries

Unit/ Module	Content	CO Mapping	Hours Assigned
1	Global marketing environment – WTO, country competitiveness, Balance of payments, international trade in goods and services	CO1, CO2	4
2	Competing in Global Markets – company influences – economies of scale, demand in other countries, differences in consumer behaviour	CO1, CO2	3
3	Understanding consumer behaviour in global context – Hofstede's dimensions; Meyer's cultural map; country of origin effect on consumer behaviour; High and Low context cultures; World Values Survey (WVS); impact of culture on marketing mix	CO2, CO3	6
4	Country influences on global strategies – political systems, importance of Free Trade Agreements and Preferential Trade Agreements, regulatory issues such as protection of intellectual property rights	CO2, CO3	4

5	Global Market Research – primary and secondary data sources, estimate market size – chain ratio method	CO2, CO3	3
6	Global Segmentation- bases for segmentation; approaches to segmentation in international markets, positioning - Global Consumer Culture Positioning (GCCP), Global branding	CO2, CO3, CO4	6
7	Marketing strategy – cross-subsidization of markets, lead market concept, strategies in Emerging Markets	CO3, CO4, CO5	6
8	Country Entry strategies – indirect exports, direct exports, licensing, franchising, contract manufacturing, Joint Ventures, FDI mode, wholly owned foreign entities (WOFE); impact of International Product life cycle on entry modes	CO3, CO4, CO5	8
9	Product Policy – adaptation v/s standardization; diffusion of innovation, Global Product Platforms, packaging and labelling norms; managing multinational product lines; counterfeit and piracy; global services	CO2, CO3, CO4	5
10	Pricing Policy – impact of currency movements on price, transfer pricing, role of gray channels, pricing corridor, consideration of anti- dumping duties, counter-vailing duties; price harmonization, counter trade; ethnocentric, polycentric, geo-centric pricing	CO2, CO3, CO4	6
11	Logistics – 3rd party logistics, theatre warehousing, free trade zones, distribution agreements,	CO3, CO4	2
12	Promotion – advertising, personal selling, trade fairs and exhibitions,	CO3, CO4	3
13	Internet and marketing – structural barriers to e-commerce, integrated v/s locally responsive web marketing strategies, mass customization	CO3, CO4	4

It is recommended that the course be instructed through cases.

Text Books:

1. Masaaki Kotabe, Kristiaan Helsen. Global Marketing Management. John Wiley.
2. Warren Keegan, Gautam Dutta. Global Marketing Management. Pearson
3. Vern Terpstra, Ravi Sarathy. International Marketing. Thomson South-Western

Elective 3: Technology Strategy

Credits: 4; Duration: 60 Hours

Course Objectives:

1. To familiarize students with foundational concepts and strategic management of technology within business.
2. To equip students with practical skills for assessing technological innovations and their strategic implications.
3. To develop analytical capabilities to formulate and execute effective technology-driven strategies.
4. To foster understanding of intellectual property management, technology transfer, and innovation management.
5. To cultivate insights into emerging technology trends, digital transformation, and competitive technology positioning.

Course Outcomes:

CO1: Understand issues in using new technology to compete successfully

CO2: Develop strategies to manage technology risks, identify market needs, commercialize new technologies, and compete successfully in the market

CO3: Analyze timing of entry of new technology, issues in collaboration v/s Competition

CO4: Evaluate different positions to exploit new technologies

CO5: Create a business plan for a hypothetical start-up targeting an unmet need.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	Technology: definition; impact of technological change on strategy; the Technology Life Cycle; Schumpeterian competition;	CO1, CO2	4
2	Technology Strategy – enables firms to create new value by targeting unmet needs; achieve lower costs than previously possible, possibility of new competitive positions and sources of competitive advantage	CO1, CO2	6
3	Factors impacting technology strategy – risks and uncertainty; choices to commercialize new technology; approaches to driving technology growth and adoption; potential threats with maturing of technology	CO1, CO2	6
4	Importance of complementary assets and ecosystems; choice of collaborating with competitors or fighting competitors for	CO2, CO3, CO4	8

	introducing new technology; importance of timing and question of first mover advantage; Network effects and switching costs; multi-homing costs		
5	Technology Strategy for Innovators – managing across the technology S-curve; alternative strategies to commercialize innovation; role of licensing, JV, strategic alliances, M&A; Joshua Gans & Scott Stern Framework – strength of intellectual property protection and relevance of complementary assets; alternative revenue model development and testing for innovators;	CO2, CO3, CO4	6
6	Growth and Adoption of new innovation – challenges in the technology adoption life cycle; sustaining competitive advantage and bargaining power as technology evolves; methods of shaping the competitive environment	CO2. CO3, CO4	6
7	Managing technological maturity – decision on transitioning to a new industry or exit the business	CO2, CO3, CO4	6
8	Leader v/s Follower Strategy- first mover or wait and follow - role of customer lock-in, pre-empting scarce assets, sustaining technology advantage, achieving scale, rate of change of technology, control of valuable complementary assets	CO3, CO4	6
9	Strategy for Existing Markets: strategies for incumbent and new entrants affected by new technology; role of incumbents - develop strategy road map, assess strategic implications of new technology, awareness of disruptive technologies, build entry barriers, develop complementary assets, respond to industry convergence; role of new entrants – create technological gap, build an installed base, sell complementary goods, shape customer perceptions about future installed base,	CO2, CO3, CO4	6
10	Riding the new technology base – be ready for uncertainties, establish dominant design, commoditize elements of the ecosystem, create tech platforms	CO2, CO3, CO4	6

Text Books:

1. Winning at New Product: Accelerating the Process from idea to Launch. 3e. Robert G. Cooper
2. Harvard Business Review on Aligning Technology with Strategy. Harvard Business School Publishing Corporation.

Reference Books:

1. Everyday Chaos. Technology, Complexity, and How we're Thriving in a New World of Possibility. David Weinberger. Harvard Business Review Press
2. The Keystone Advantage: What New Dynamics of Business Ecosystems Mean for Strategy, Innovation, and Sustainability. Marco Iansiti, Rod Levien. Harvard Business Review Press

Elective 4: Social Marketing

Credits: 4; Duration: 60 Hours

Course Objectives:

1. To introduce foundational concepts, principles, and strategies specific to social marketing.
2. To equip students with practical skills in designing and implementing social marketing campaigns.
3. To develop analytical capabilities for evaluating societal needs, behaviour change strategies, and campaign effectiveness.
4. To foster understanding of ethical considerations, stakeholder engagement, and social responsibility.
5. To cultivate strategic insights into contemporary challenges and opportunities in social marketing initiatives.

Course Outcomes:

CO1: Understand the importance of social marketing in influencing Behaviours

CO2: Apply concepts learnt to real life plans

CO3: Analyse social marketing campaigns

CO4: Evaluate the plan on Objectives, behaviours, cost, and ethical aspects

CO5: Create a social marketing campaign based on concepts learnt

Unit/ Module	Content	CO Mapping	Hours Assigned
1	Definition, difference from commercial marketing, non-profit marketing, value proposition of social marketing, impact on social issues	CO1	4
2	Steps in developing a social marketing plan, marketing mix strategies, monetary and non-monetary costs,	CO1, CO2	6
3	Analyzing the social marketing environment, purpose and focus of the plan, situations audit	CO2, CO3	6
4	Segmentation, evaluation and selecting target audiences, variables for segmentation, criteria for evaluating segments, ethical issues in selecting target audiences	CO2, CO3	6
5	Behavioural objectives, knowledge and belief objectives, campaign evaluation	CO2, CO4	5
6	Target audience barriers, revision of target audiences, researching target audiences	CO2, CO3	4
7.	Developing a positioning statement, positioning focused on behaviour, barriers, benefits, competition; repositioning, branding	CO3, CO4	6

8.	Product platform, branding issues	CO2, CO3	5
9	Pricing – monetary and non-monetary incentives and dis-incentives, pricing of tangible objects and services	CO2, CO3	4
10	Managing distribution channels	CO2, CO3	4
11	Promotion – creative brief, pretesting, messenger strategy	CO3	4
12	Plan for monitoring and implementation, metrics to measure, cost, ethical evaluation of the plan; budgets and funding sources	CO3, CO4, CO5	6

Text Books:

1. Nancy Lee, Philip Kotler. Social Marketing: Influencing Behaviours for Good. 4e. Sage Publications
2. Philip Kotler, Ned Roberto, Nancy Lee. Social Marketing: Improving the Quality of Life.2e. Sage Publications

Semester IV – Operations and Supply Chain

Semester IV - Operations and Supply Chain Specialization Outline

Elective Courses - Operations and Supply Chain Specialization (Any 2)					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
1	Elective	Operations Strategies	4	40	**IA**
2	Elective	Operations Applications and Cases	4	40	**IA**
3	Elective	Lean Management	4	40	**IA**
4	Elective	Demand Forecasting and Inventory Management	4	40	**IA**
5	Elective	Productivity Enhancement in Operations Management	4	40	**IA**
6	Elective	SWAYAM Course	4	-	**IA**

***IA – Internal Assessment; UA – University Assessment**

Elective Course 1: Operations Strategies

Course Credits: 4; Duration: 60 Hours

Course Objectives:

1. To provide comprehensive knowledge of strategic frameworks and practices in operations management.
2. To equip students with practical skills for aligning operational strategies with business objectives.
3. To develop analytical capabilities to optimize operations performance, efficiency, and competitive advantage.
4. To foster understanding of process improvement, resource allocation, and risk management in operations.
5. To cultivate strategic insights into contemporary operational challenges and innovations.

Course Outcomes:

CO1: Remember / Recall fundamental principles of operations strategy and competitive advantage

CO2: Understand frameworks for formulating and implementing operations strategies

CO3: Apply operations strategy tools in real-world business scenarios

CO4: Analyse the impact of strategic decisions on operational performance

CO5: Critically evaluate operations strategies for various industries

CO6: Create new relevant strategies in evolving business environment

Unit/ Module	Content	CO Mapping	Hours Assigned
1	Foundations of Operations Strategy Definition & Scope of Operations Strategy, Competitive Priorities in Operations, Role of Operations in Corporate Strategy	CO1, CO2	3
2	Strategic Alignment & Value Chain Analysis Integrating Operations & Business Strategy, Value Chain Analysis & Competitive Advantage (Suggested Case Study: Amul's Value Chain Excellence)	CO2, CO3	3
3	Capacity Strategy & Long-Term Planning Capacity Planning: Long-Term & Short-Term, Economies of Scale & Scope (Suggested Case Study: Reliance Jio's Telecom Expansion Strategy)	CO2, CO3	3

4	Process Design & Continuous Improvement Process Choice & Layout Strategies,	CO3, CO4	3
5	Process Design & Continuous Improvement Lean Systems & Continuous Improvement (Suggested Case Study: Toyota Kirloskar's Lean Manufacturing in India)	CO3, CO4	3
6	Manufacturing & Service Strategies Make-to-Stock vs. Make-to-Order, Agile & Flexible Manufacturing (Suggested Case Study: Tata Steel's Agile Manufacturing Approach)	CO3, CO4	3
7	Customer Value Models, its components, concept, and strategy	CO3, CO4	3
8	Technology & Innovation in Operations Strategy Role of Technology in Operations Strategy, Industry 4.0 & Smart Manufacturing (Suggested Case Study: L&T's Digital Transformation in Manufacturing)	CO3, CO4	3
9	Risk & Resilience in Operations Managing Disruptions in Operations	CO4, CO5	3
10	Risk & Resilience in Operations Risk Mitigation Frameworks (Suggested Case Study: Tata Motors' Risk Management during Supply Chain Disruptions)	CO4, CO5	3
11	Sustainable Operations Strategy Green Supply Chains, Circular Economy in Operations (Suggested Case Study: ITC's Sustainability Initiatives)	CO5	3
12	Value Strategies and Value Operations	CO4, CO5	3
13	Performance & Productivity Metrics in Operations Balanced Scorecard & Productivity KPIs, Overall Equipment Effectiveness (OEE) (Suggested Case Study: Infosys' Balanced Scorecard Approach)	CO4, CO5	3
14	Value Chain in Global Operations, Framework for Operations Measurement		3
15	Industry-Specific Operations Strategies Strategies in Retail, Healthcare, and	CO3, CO4	3

	Manufacturing industries Case Studies from Leading Companies (Suggested Case Study: Apollo Hospitals' Healthcare Operations Strategy.)		
16	Behavioural & Cultural Aspects of Operations Strategy Change Management in Operations	CO3, CO4	3
17	Behavioural & Cultural Aspects of Operations Strategy Organizational Culture & Strategy (Suggested Case Study: Hindustan Unilever's Change Management Strategy.)	CO3, CO4	3
18	Global Operations Strategy Offshoring & Nearshoring Strategies, Global Sourcing & Expansion (Suggested Case Study: Mahindra's Global Sourcing Strategy)	CO3, CO5	3
19	Implementing Operations Strategy Performance Metrics & KPIs, Balanced Scorecard & Strategy Execution (Suggested Case Study: Hindustan Unilever's Execution of Operations Strategy)	CO5	3
20	Project & Case Studies Projects to be prepared by students - based on the modules discussed. Presentations of Projects / Case Studies by Students	CO4, CO5	3

Textbooks:

1. "Productivity Techniques" by *Uday Salunkhe & Gondhalekar*
2. "Production & Operations Management" by *K. Aswathappa & Shridhara Bhat*
3. "Smart Manufacturing & Industry 4.0" by *Vikram Sharma*

Reference Books:

1. "Operations Strategy & Business Performance" by *Rajesh Kumar*
2. "Global Supply Chain Strategies" by *P. Gopalakrishnan*
3. "Organizational Behavior & Performance" by *Udai Pareek*
4. "Retail Operations Management" by *Pradhan*
5. "Service Operations Management" by *Johnston & Clark*
6. Operations, Strategy and Technology: Pursuing competitive Edge: Robert Hayes, Gary Pisano, David Upton and Steven C (Wiely)
7. Operations Strategy: Nigel Slack and Micheal Lewis (Prentice Hall)
8. Operations Strategy and management: Jan A. Van Mieghe
9. Operations Strategy by David Wilters published by Palgrave Macmillan.

Elective Course 2: Operations Applications and Cases

Course Credits: 4; Duration: 60 Hours

Course Objectives:

1. To introduce students to practical applications and real-world cases in operations management.
2. To equip students with analytical skills for identifying, diagnosing, and solving operational issues.
3. To develop capabilities to apply operational frameworks and tools to case-based scenarios.
4. To foster understanding of cross-functional integration and operational decision-making processes.
5. To cultivate strategic insights into best practices and effective problem-solving techniques in operations management.

Course Outcomes:

CO1: Recall key concepts of Operations Management, including resource planning and process analysis

CO2: Understand Manufacturing Resource Planning (MRP-I & II) and inventory management techniques using excel

CO3: Apply workforce planning, aggregate planning, and scheduling techniques to optimize resource utilization

CO4: Analyze investment decisions, plant operations, maintenance, and asset replacement strategies through financial modeling on Excel

CO5: Evaluate cost estimation models for tendering, bidding, and financial feasibility in procurement and project management

CO6: Design and create operations management frameworks for service industries (insurance, BPO/KPO, entertainment) to enhance efficiency and reduce costs

Unit/ Module	Content	CO Mapping	Hours Assigned
1	Operations Management in Complex Situations Introduction to operations management in volatile, uncertain, complex, and ambiguous (VUCA) environments.	CO1, CO2	3
2	Introduction to Resource Planning: Resource allocation. Types of resource Optimising resource in Lean Manufacturing set up.	CO3	3

3	Workforce Planning Workforce allocation model. Labor optimization and shift planning. Case study: Workforce planning in service & manufacturing industries	CO4	3
4	Aggregate Planning: Level and Chase Planning, Production smoothing, Backordering and stockout	CO3	3
5	Production & Retail Applications: Manufacturing Resource Planning (MRP-I & II) concepts. Practical implementation of MRP on Excel	CO4	3
6	Demand forecasting lead time calculations. Retail operations: Inventory management, SKU optimization.	CO4	3
7	Supply Chain: Sustainability and Resilience Demand Driven supply Chain Circular Supply Chains Implementing reuse, recycling, and remanufacturing strategies. Carbon Footprint Reduction Measuring and minimizing emissions across the supply chain.	CO3, CO4	3
8	Sustainable Logistics and Transportation Optimizing routes and adopting green transport modes. Reducing waste through eco-friendly packaging. Handling product returns and end-of-life management sustainably. Tracking sustainability KPIs and preparing reports. Adhering to global sustainability frameworks (e.g., ISO 14001, E SG).	CO5, CO6	3
9	Quality Management: Identifying and mitigating risk (cases of healthcare, Construction and financial firms can be discussed) Implementing cloud based QMS for real time monitoring (Success stories of pharmaceutical and food industries may be discussed)	CO5	3
10	Maintenance Strategies Predictive Maintenance (PdM) Using sensors and data analytics to predict failures before they happen Preventive Maintenance (PM) Scheduled maintenance to avoid unexpected	CO1, CO2, CO3	3

	breakdowns. Condition-Based Maintenance (CBM) Reliability-Centered Maintenance (RCM)		
11	Breakdown Analysis: Advanced Failure Prediction Techniques Failure Trend Analysis Identifying long-term patterns in equipment breakdown. Breakdown Cost Analysis Evaluating the financial impact of downtime and repair.	CO4	3
12	Plant Operations Investment planning & asset replacement strategies. Maintenance & Robotic Process Automation (RPA) in operations	CO2, CO3	3
13	Financial evaluation of operations: Cost-benefit analysis & optimal replacement periods (Excel models)	CO4, CO5	3
14	Tendering Importance of Tendering in Operations Tender Lifecycle: From Invitation to Contract Award E-Tendering Platforms and Digital Procurement Case Study: Implementation of E-Tendering in Public Sector Projects may be taken	CO3, CO4	3
15	Bidding Bidding Process in procurement and projects. Bid Evaluation Criteria: Technical, Financial, and Compliance Scores Case Study: Bid preparation using Excel for cost evaluation	CO5, CO6	3
16	Contract Management Contract Management in Procurement Exploring the processes involved in managing contracts within procurement, Focusing on contract life cycle, performance metrics, and compliance monitoring.	CO3, CO4	3
17	Negotiation: Understanding the role of negotiation in procurement, from supplier selection to finalizing contracts. Techniques for achieving win-win outcomes, managing vendor relationships, and handling price negotiations.	CO2, CO3	3

18	Risk Management in Procurement and Contract Identifying Risks in Supplier Selection and Contracts Contingency Planning for Supplier Failures Case Study: Managing Supplier Risks During Global Disruptions	CO4, CO5	3
19	Applications in Service Industries Operations in insurance, BPO/KPO, and entertainment sectors. Application of operations principles in service sector digital transformation. Case study: Process optimization in a BPO/KPO environment.	CO3, CO4	3
20	Digital Transformation in Operations Integrating AI, IoT, and RPA for Smart Operations. Digital Twin Technology for Operations Optimization	CO3	3

Textbooks:

1. Operations Management" by Nigel Slack, Alistair Brandon-Jones, and Robert Johnston
2. Operations Management: Processes and Supply Chains" by Lee J. Krajewski, Manoj K. Malhotra, and Larry P. Edition: 12th (Pearson)
3. Operations and Supply Chain Management" by F. Robert Jacobs and Richard B. Chase
4. Edition: 15th (McGraw Hill)

Reference Books:

1. Production and Operations Analysis" by Steven Nahmias and Tava Lennon Olsen
2. Supply Chain Management: Strategy, Planning, and Operation" by Sunil Chopra and Peter Meindl
3. Service Operations Management: Improving Service Delivery" by Robert Johnston and Graham Clark

Elective Course 3: Lean Management

Course Credits: 4; Duration: 60 Hours

Course Objectives:

1. To introduce foundational concepts, principles, and tools of lean management.
2. To equip students with practical skills in implementing lean practices and continuous improvement initiatives.
3. To develop analytical capabilities to identify waste, enhance efficiency, and streamline processes.
4. To foster understanding of lean philosophy, methodologies, and organizational culture change.
5. To cultivate strategic insights into contemporary trends, challenges, and successes in lean implementation.

Course Outcomes:

CO1: Define and recall fundamental concepts of Lean Management.

CO2: Explain key principles and philosophies of Lean.

CO3: Utilize Lean tools and techniques in practical scenarios.

CO4: Examine waste reduction strategies and process improvements.

CO5: Assess Lean implementation effectiveness in organizations.

CO6: Develop Lean-based solutions for operational efficiency.

Unit/ Module	Content	CO Mapping	Hours Assigned
1	Introduction to Lean Management: History, Principles, and Benefits	CO1, CO2	3
2	The Five Lean Principles: Value, Value Stream, Flow, Pull, Perfection	CO2, CO3	3
3	The Toyota Production System (TPS)	CO1, CO2	3
4	Types of Waste (Muda, Mura, Muri) and Waste Elimination Techniques	CO3, CO4	3
5	Lean Tools: 5S, Kaizen, Kanban, Andon, Heijunka	CO3, CO4	3
6	Value Stream Mapping (VSM) and Process Flow Analysis	CO3, CO4	3

7	Lean Metrics and Performance Measurement	CO4, CO5	3
8	Lean in Manufacturing vs. Lean in Services	CO2, CO4	3
9	Just-in-Time (JIT) Production and Inventory Management	CO3, CO4	3
10	Lean and Six Sigma Integration	CO3, CO5	3
11	Gemba Walks and Continuous Improvement (PDCA Cycle)	CO3, CO4	3
12	Lean Leadership and Organizational Culture	CO4, CO5	3
13	Lean Implementation Challenges and Case Studies	CO5	3
14	Lean in Supply Chain and Logistics	CO3, CO4	3
15	Lean Startups and Lean Thinking in Business	CO3, CO5	3
16	Digital Transformation and Lean 4.0	CO4, CO5	3
17	Sustainability and Green Lean	CO4, CO5	3
18	Lean in Healthcare and Service Industries	CO4, CO5	3
19	Lean Project Management and Agile Methodologies	CO3, CO5	3
20	Future of Lean Management and Emerging Trends	CO5, CO6	3

Textbooks:

1. Liker, J. K. (2004). The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer (1st ed.). McGraw-Hill.
2. Womack, J. P., & Jones, D. T. (2003). Lean Thinking: Banish Waste and Create Wealth in Your Corporation (2nd ed.). Free Press.
3. Rother, M., & Shook, J. (1999). Learning to See: Value Stream Mapping to Add Value and Eliminate MUDA (1st ed.). Lean Enterprise Institute.

Reference Books:

1. Dennis, P. (2007). Lean Production Simplified: A Plain-Language Guide to the World's Most Powerful Production System (2nd ed.). CRC Press.
2. Modig, N., & Åhlström, P. (2012). This Is Lean: Resolving the Efficiency Paradox (1st ed.). Rheologica Publishing.
3. Black, J. T. (2008). Lean Manufacturing Systems and Cell Design (1st ed.). CRC Press
4. Bicheno, J., & Holweg, M. (2016). The Lean Toolbox: The Essential Guide to Lean Transformation (5th ed.). PICSIE Books.

Elective Course 4: Demand Forecasting and Inventory Management

Course Credits: 4; Duration: 60 Hours

Course Objectives:

1. To familiarize students with concepts, methods, and techniques of demand forecasting.
2. To equip students with practical skills for managing and optimizing inventory levels effectively.
3. To develop analytical capabilities for evaluating forecasting accuracy, inventory costs, and service levels.
4. To foster understanding of technology-driven inventory management systems and forecasting tools.
5. To cultivate strategic insights into contemporary challenges and innovations in demand and inventory management.

Course Outcomes:

CO1: Remember the importance of demand forecasting in businesses

CO2: Understand key concepts and techniques of demand forecasting

CO3: Apply forecasting models to real-world business scenarios

CO4: Analyze different inventory management techniques and models

CO5: Evaluate the impact of demand forecasting on supply chain efficiency

CO6: Develop and implement inventory management strategies to optimize stock levels, minimize costs, and prevent stockouts or overstocking

Unit/ Module	Content	CO Mapping	Hours Assigned
1	Introduction to Demand Forecasting: Concept & Importance of Demand Forecasting, Qualitative vs. Quantitative Forecasting, Factors affecting forecasting accuracy	CO1	3
2	Case studies on demand planning	CO4, CO5	3
3	Forecasting Techniques, Time Series Analysis, Moving Averages, weighted Averages, Exponential Smoothing	CO1, CO2	3
4	Regression Analysis & ARIMA Models	CO1, CO2	3

5	Measurement of Forecasting Accuracy with different parameters like MAD, MSE, MAPE and Tracking signal	CO1, CO2	3
6	Inventory Management Basics, Types of Inventory, Functions & Costs of Inventory, Just-in-Time (JIT) and Lean Inventory Practices	CO3	3
7	Inventory Control Techniques, ABC, VED, FSN, and HML Analysis, Numerical on ABC analysis, Case study	CO3, CO4	3
8	Safety Stock & Service Level Determination Continuous vs. Periodic Review Systems	CO1, CO2	3
9	Fixed order interval system, Inventory problem formulation and solution under constraints, Numerical problems.	CO3, CO4	3
10	Dynamic Inventory Problems under Certainty: Fixed Order Size System (EOQ and its variants)	CO1	3
11	Economic Production Quantity (EPQ)	CO2, CO4	3
12	Dynamic Inventory Problems under Risk: Types of inventory control systems with known stock-out costs and service levels	CO3, CO4	3
13	Approximate and exact methods for safety stock determination, Numerical problems	CO3, CO4	3
14	Probabilistic models and safety stock Numerical on the same	CO3, CO4	3
15	Demand-Supply Coordination & Technology Demand-Supply Matching Strategies	CO4, CO5	3
16	Role of ERP and Supply Chain Analytics	CO2	3
17	Technology Adoption: IoT, Blockchain, AI in Inventory & Forecasting	CO4, CO5	3
18	Industry Applications & Case Studies Inventory Strategies in Retail, Manufacturing, and E-commerce	CO5	3
19	Demand Forecasting Failures & Lessons Learned	CO5	3
20	Sustainability in Inventory Management Case study on sustainable practices	CO5	3

Textbooks:

1. Operations management by B. Mahadevan
2. Production and Operations Management – Norman Gaither

3. Production & Operations Management – Kanishka Bedi (Oxford Publications)

Reference Books:

1. Tersine, R J, Principles of Inventory and Materials Management, PTR Prentice Hall.
2. Modern Production Management – William Smith McGrawHill
3. Starr, M K and Miller,D W, Inventory Control: Theory and Practice, Prentice Hall.
4. Silver, E A, Pyke, D F and Peterson, R, Inventory Management and Production Planning and Scheduling, John Wiley.

Elective Course 5: Productivity Enhancement in Operations Management

Course Credits: 4; Duration: 60 Hours

Course Objectives:

1. To introduce foundational concepts, strategies, and techniques for productivity enhancement.
2. To equip students with practical skills for identifying productivity bottlenecks and implementing improvements.
3. To develop analytical capabilities for measuring productivity and assessing operational effectiveness.
4. To foster understanding of productivity improvement methodologies such as TQM, Six Sigma, and Kaizen.
5. To cultivate strategic insights into fostering a culture of continuous productivity improvement in operations.

Course Outcomes:

CO1: Remember / Recall the fundamental concepts and principles of productivity in operations.

CO2: Understand various frameworks and models for productivity enhancement.

CO3: Apply productivity improvement techniques in real-world operational scenarios.

CO4: Analyse the impact of different productivity enhancement strategies on operations.

CO5: Critically evaluate productivity measurement tools and their effectiveness.

CO6: Create new approaches towards improving processes, materials and overall productivity

Unit/ Module	Content	CO Mapping	Hours Assigned
1	Introduction to Productivity & Measurement Definition, Scope & Importance of Productivity in Operations, Key Drivers of Productivity, Productivity Metrics & KPIs, Benchmarking Best Practices.	CO1, CO2	3
2	Lean Thinking, Waste Elimination & Process Improvement Principles of Lean Management & 7 Wastes, Tools for Process Improvement (Suggested Case Study: Lean Implementation at	CO2, CO3	3

	Tata Motors – Reducing Waste & Improving Efficiency)		
3	Six Sigma: DMAIC & DMADV Frameworks,	CO2, CO3	3
4	Total Quality Management (TQM) & Continuous Improvement Principles of TQM & Kaizen, PDCA Cycle (Suggested Case Study: TQM & Kaizen at Maruti Suzuki – Driving Quality Excellence)	CO2, CO4	3
5	Statistical Process Control (SPC)	CO2, CO4	3
6	Industrial Engineering & Ergonomics Role of Industrial Engineering in Productivity, Job & Work System Design, Organizational structure and morphology Work Design & Ergonomic Considerations (Suggested Case Study: Ergonomic Work System Design at Tata Steel – Enhancing Worker Productivity & Safety)	CO3, CO5	3
7	Work Study and Time and Motion Study – Method Engineering and Process Flow	CO3, CO4	3
8	Smart Manufacturing, Automation & Industry 4.0 Automation & AI in Productivity Enhancement, Digital Twins & IoT in Manufacturing	CO3, CO4	3
9	Smart Manufacturing, Automation & Industry 4.0 – its Application using a Case Study Suggested Case Study: Smart Manufacturing & Industry 4.0 at Mahindra & Mahindra – Enhancing Productivity through Automation & AI	CO3, CO4	3
10	Sustainable Productivity & Green Manufacturing Green Manufacturing & Sustainable Operations, Carbon Footprint Reduction in Operations (Suggested Case Study: Green Manufacturing at Tata Motors – Reducing Carbon Footprint through Sustainable Operations)	CO4, CO5	3
11	Supply Chain, Logistics & Productivity Productivity in Warehousing & Transportation,	CO3, CO4	3
12	Supply Chain, Logistics & Productivity Logistics Optimization Techniques (Suggested Case Study: Logistics Optimization at Flipkart – Enhancing Warehouse & Transportation Productivity)	CO3, CO4	3

13	IT, Digital Tools & Data-Driven Productivity ERP, MES & Other Digital Productivity Tools, Data-Driven Decision Making for Productivity (Suggested Case Study: IT-Driven Productivity Enhancement at Marico – Implementing ERP & Data Analytics for Operational Efficiency)	CO3, CO5	3
14	Operation Strategy and Competitiveness Strategy Design Process, Service Strategy Capacity Capabilities, Productivity Measures (Suggested Case Study: Southwest Airlines)	CO3, CO5	3
15	Agile & Flexible Operations Agile Manufacturing & Lean-Agnostic Approaches, Flexibility & Responsiveness in Operations	CO4, CO5	3
16	Behavioural Aspects & Organizational Productivity Employee Motivation & Productivity, Organizational Culture & Performance (Suggested Case Study: Employee Motivation & Productivity at Infosys)	CO2, CO3	3
17	Productivity in Service Operations Service Blueprinting & Efficiency Improvement,	CO3, CO5	3
18	Productivity in Service Operations Strategies for Service Excellence (Suggested Case Study: Service Efficiency Improvement at Apollo Hospitals)	CO3, CO5	3
19	Productivity & Performance Metrics Balanced Scorecard & Productivity KPIs, OEE (Overall Equipment Effectiveness)	CO2, CO5	3
20	Project & Case Studies Projects to be prepared by students based on the modules discussed. Presentations of Projects / Case Studies by Students	CO4, CO5	3

Textbooks:

1. "Production & Operations Management" by K. Aswathappa
2. "Productivity Techniques" by Uday Salunkhe & Gondhalekar

Reference Books:

1. "Performance Management Systems" by A. Sahay
2. "Agile Manufacturing" by Gunasekaran
3. "ERP Systems & Productivity" by Vinod Garg

Semester IV - System & Digital Business

Semester IV - System and Digital Business Specialization Outline

Elective Courses – System and Digital Business Specialization (Any 2)					
Sr. No.	**Course Type**	**Course**	**Number of Credits**	**Number of 90 minutes sessions**	**IA / UA***
1	Elective	Information System Security and Audit	4	40	**IA**
2	Elective	IT Governance, Compliance and Cyber Laws	4	40	**IA**
3	Elective	IT Consulting & Managing for Business	4	40	**IA**
4	Elective	System Applications and Negotiations - Case Study	4	40	**IA**
5	Elective	IoT, Cloud Computing, and Virtualization for Business	4	40	**IA**
6	Elective	SWAYAM Course	4	-	**IA**

***IA – Internal Assessment; UA – University Assessment**

Elective Course 1: Information System Security and Audit

Course Credits: 4; Duration: 60 Hours

Course Objectives:

1. To introduce foundational concepts, standards, and frameworks in information system security and auditing.
2. To equip students with practical skills for identifying, assessing, and mitigating security threats.
3. To develop analytical capabilities in planning and conducting IT audits and compliance checks.
4. To foster understanding of security governance, risk assessment, and incident response planning.
5. To cultivate strategic insights into evolving cybersecurity threats, tools, and regulatory frameworks.

Course Outcomes:

CO1: Identify the need for information security and audit, and classify organizational information assets.

CO2: Explain systems audit concepts and apply knowledge of auditor roles and ERP integration.

CO3: Analyse system maintenance processes, including data flow, access control, and confidentiality.

CO4: Evaluate security threats, disaster recovery plans, and internal controls.

CO5: Compare audit certifications and assess the impact of systems audit on organizational integrity.

CO6: Design audit approaches using emerging technologies and evaluate their effectiveness.

Unit / Module	Content	CO Mapping	Hours Assigned
1	**Introduction to Information Security and Audit** Need and importance of Information Security in organizations, Role and significance of Information Audit, Identification and classification of Information Assets, Overview of Information Security Risks, Strategies for managing Information Security risks	CO1	10

2	**Systems Audit – Concepts and Practices** Concept and objectives of Systems Audit, Emerging trends in Systems Audit, Time and cost effectiveness of audit processes, Competent authorities and legal framework, Roles and responsibilities of Systems Auditors viz Internal Systems Auditor and External Systems Auditor. Prerequisites and planning for Systems Audit, Role of ERP systems in enabling Systems Audit	CO2	12
3	**System and Infrastructure Maintenance** Review of information flow: inputs, processing, validation, and outputs, Review and management of systems in the organization, Change and modification controls, Authorization and approval mechanisms, Maintenance and disposal processes, Master file review and update procedures, Logical vs physical access controls, ensuring confidentiality and data protection, Differentiating physical records vs system records	CO3	10
4	**Security Administration and Operations Audit** Types of information security threats, Physical threats, System-based threats. Disaster Recovery Planning (DRP) and Business Continuity, Information integrity and validation controls, Role of management in Information Security Operations, Ensuring secure and compliant information processing, Internal checks and controls within Information Systems, Auditing of system operations and administration	CO4, C05	10
5	**Global and Indian Perspectives on Systems Audit** Overview of global and Indian certifications in Systems Audit, CISA, DISA, ISO 27001, CISSP, CIA, etc. Institutions and organizations providing certifications, Linkages between traditional and systems audits, Adoption of systems audits across industries, Case studies: Successful audits and failure stories, the role of systems audit in improving transparency.	CO4, CO5	8
6	**Emerging Trends and Professional Opportunities** Growing demand and skill gaps in systems auditing, Link between systems audit and fraud reduction, Use of advanced IT (AI, Blockchain, Cloud) in audits, Automation in audit and continuous auditing techniques, Future trends in Information Systems Security and Audit, Career pathways in Information Security and Auditing	CO5, CO6	5

7	**Emerging Trends in Information System Security and Audit with related case studies**	CO4, CO5, CO6	5

Textbooks

1. Auditing in a Computerized Environment by Mohan Bhatia. Tata McGraw-Hill.
2. Contemporary Auditing by Kamal Gupta. Tata McGraw-Hill.
3. Analysis and Design of Information Systems by V. Rajaraman. Prentice Hall of India

Elective Course 2: IT Governance, Compliance and Cyber Laws

Course Credits: 4; Duration: 60 Hours

Course Objectives:

1. To familiarize students with principles of IT governance, compliance standards, and cybersecurity regulations.
2. To equip students with practical skills in implementing governance frameworks such as COBIT and ISO standards.
3. To develop analytical capabilities for aligning IT governance with business strategy and legal compliance.
4. To foster understanding of Indian and global cyber laws, data privacy, and intellectual property rights.
5. To cultivate strategic insights into risk management, accountability, and ethical IT practices.

Course Outcomes:

CO1: Explain the purpose and structure of IT Governance frameworks like COBIT and ITIL

CO2: Analyze and compare different governance standards and compliance frameworks.

CO3: Apply IT governance principles to organizational scenarios.

CO4: Evaluate legal and regulatory compliance requirements, including SOX and IT Act.

CO5: Interpret key components of cyber laws including data privacy, IPR, and cybersecurity.

CO6: Develop IT governance and compliance strategies that align with cyber laws.

Unit / Module	Content	CO Mapping	Hours Assigned
1	Introduction to IT Governance and COBIT Framework- Need for IT Governance- COBIT as an umbrella framework- COBIT Domains and KPAs- Implementing COBIT- COBIT from an audit perspective	CO1, CO3	8
2	Governance Frameworks and Standards- Importance of IT governance and compliance- Overview of standards: COBIT, ISO 27000, ITIL/ITSM- Comparison of frameworks	CO1, CO2	8
3	Compliance Regulations and Acts- Indian IT Act- Sarbanes-Oxley (SOX)- Graham-Leach-Bliley Act (GLBA)- RBI & Banking regulations- Basel III (for banks)	CO2, CO4	8

4	Cybersecurity Standards and Best Practices- BS 7799 / ISO 27001- ITIL/ITSM revisited- NIST Framework- Industry-specific regulations and guidelines	CO2, CO3	8
5	Cyber Laws – Key Areas- Cybercrime Laws (Hacking, Identity Theft)- Data Protection and Privacy (GDPR, CCPA)- Intellectual Property Laws- Electronic Transaction Laws with case studies	CO4, CO5, CO6	8
6	Cyber Laws – Important Global Regulations- GDPR (EU)- CCPA (California)- CFAA & DMCA (USA)- EU Cybersecurity Act- Compliance strategy development	CO4, CO5, CO6	8
7	Emerging Trends in IT Governance, Compliance and Cyber Laws with related case studies	CO4, CO5, CO6	12

Textbooks

1. Enterprise Governance of Information Technology: Achieving Alignment and Value, Featuring COBIT 5 by Steven De Haes and Wim Van Grembergen. Springer, 2015.
2. Strategies for Information Technology Governance by Wim Van Grembergen. IGI Publishing, 2003
3. “COBIT 2019 Framework: Introduction and Methodology” ISACA, Core textbook for understanding COBIT Framework
4. “Information Security Governance: Guidance for Information Security Managers” by W. Krag Brotby, Auerbach Publications
5. “IT Governance: How Top Performers Manage IT Decision Rights for Superior Results” by Peter Weill & Jeanne W. Ross, Harvard Business Review Press
6. “Cyber Law: The Indian Perspective” by Pavan Duggal, Universal Law Publishing
7. “Information Technology Law and Practice” by Vakul Sharma, Universal Law Publishing

Reference Books

1. “The Law of Cyber Crimes and Information Technology Law” by S.V. Joga Rao, Wadhwa & Co.
2. “Managing Information Security” by John R. Vacca, Syngress
3. “The Complete Guide to IT Service Management” by Addie Schwartz, IT Governance Publishing
4. “Understanding SOX and Internal Controls for the IT Professional” by Chris Davis & Mike Schiller, Syngress
5. “GDPR: A Practical Guide” by Suzanne Dibble, Suzanne Dibble Publishing

Elective Course 3: IT Consulting & Managing for Business

Course Credits: 4; Duration: 60 Hours

Course Objectives:

1. To introduce the role and scope of IT consulting in business transformation and value creation.
2. To equip students with practical tools and methodologies used in IT consulting engagements.
3. To develop capabilities for managing client relationships, project scoping, and technology adoption.
4. To foster understanding of IT-business alignment, ROI evaluation, and solution architecture design.
5. To cultivate insights into consulting ethics, client dynamics, and success factors in IT advisory services.

Course Outcomes:

CO1: To Understand the role, scope, and fundamental principles of IT consulting in business.

CO2: To Analyse and apply IT consulting frameworks, methodologies, and best practices.

CO3: To Develop strategies for managing and scaling a technology business effectively.

CO4: To Assess governance, risk, compliance, and ethical considerations in IT consulting.

CO5: To Explore emerging technologies and their impact on IT consulting and digital business transformation.

Unit / Module	Content	CO Mapping	Hours Assigned
1	Fundamentals of IT Consulting – Overview, engagement models, skills, challenges with examples and case studies.	CO1, CO2	8
2	IT Consulting Frameworks and Methodologies – ITIL, Agile, project management, software advisory.	CO2, CO3	8
3	Managing and Scaling a Technology Business – Business models, finance, innovation, CRM.	CO3	8
4	Governance, Risk, and Compliance in IT Consulting – IT governance, risk management, legal compliance.	CO4, CO5	8

5	Emerging Technologies and Digital Business Transformation – AI, Block chain, cloud computing, digital transformation with case studies	CO4, CO5	8
6	IT Consulting Project and Strategy Execution – Proposal development, execution, success measurement.	CO2, CO3, CO4	8
7	Emerging Trends in IT Consulting & Managing for Business with related case studies	CO4, CO5, CO6	12

Textbook:

1. R. P. S. Sengar, IT Consulting and Management, Laxmi Publications
2. V. K. Jain, Managing Information Technology in Business, PHI Learning
3. Amit Bhatnagar, IT Consulting: Managing IT for Business Success, Pearson Education India
4. M. K. Gupta, Information Technology for Managers, McGraw-Hill Education India

Reference Books:

1. Amit Tiwari, IT Consulting: Strategies, Models, and Business Solutions, Wiley India
2. S. K. Gupta, IT Governance and Management, PHI Learning
3. V. K. Jain, Information Technology and Management, Tata McGraw-Hill Education
4. Shailendra Singh, Essentials of IT for Managers, Oxford University Press India
5. P.K Suri, IT AND Digital Transformation for Business Managers, S Chand Publishing

Elective Course 4: System Applications and Negotiations - Case Study

Course Credits: 4; Duration: 60 Hours

Course Objectives:

1. To provide practical exposure to real-world system application and negotiation scenarios through case-based learning.
2. To equip students with critical thinking and problem-solving skills in system implementation and vendor negotiations.
3. To develop capabilities to analyze, design, and evaluate system application strategies in complex business environments.
4. To foster understanding of conflict resolution, stakeholder management, and communication in tech projects.
5. To cultivate strategic insights into decision-making processes and negotiation outcomes in enterprise systems.

Course Outcomes:

CO1: Understand the importance, scope and applications areas of information systems for business

CO2: Explore the applications areas of information technology/information system for business

CO3: Analyze the applications areas of information system across the functions and sector

CO4: Assess the various techniques of negotiations for successful technology implementation.

CO5: Evaluate the practical applications areas of information technology & information system across the various functions and sectors of the industry

Unit / Module	Content	CO Mapping	Hours Assigned
1	**Importance, scope and need of case study and applications** areas of information technology and information systems for business	CO1, CO2, CO3	8
2	**Applications areas of System across the various functions** of management: Marketing, Finance, Human Resource, Manufacturing and Operations, Supply Chain Management, Logistic, Customer Relationship Management and also as per various different functions of the organizations.	CO2, CO3	8
3	**Significance, need, scope, techniques of negotiations**	CO4	8
4	**Applications areas of Systems across the various sectors of the industry:** Manufacturing, Pharmaceuticals and Fine Chemicals, Chemicals & Petro – chemicals, FMCG – home appliances, Food	CO3, CO4, CO5	16

	processing, Dairy and dairy products, Mills - paper, pulp, board, textile, Leather - Tanning of leather to making of finished goods, Agricultural Products – grains, jute, cotton, oil seeds, plantation of vegetables, fruits, Heavy industries - automobiles, aircraft, ship building & maintenance, cranes, Constructions – bridges, dams, roads, Power industries – thermal, nuclear, hydro power stations, Merchandising, stockiest, Trading, etc. Insurance, Banking and Finance, Service industry – Hospitals, hotels, Travel and Tourism, transport, Film – manufacturing, distribution, production units, laboratories, editing, exhibitors, Gem and Jewellery – Import of raw export of finished diamond, artificial diamonds, gems and stones.		
5	**Application areas of systems in Governmen**t **Sector** - Ministries, Departments like defence, police, RTO, passport, visa, customs, central excise, railways, health and other sectors and the IT industry with case studies.	CO4, CO5	8
6	**Emerging Trend**s of System Applications and Negotiations -with related Case Study	CO4, CO5	12

Textbooks

1. **Strategic Management of Information Systems** by Keri Pearlson and Carol Saunders.

Elective Course 5: IoT, Cloud Computing, and Virtualization for Business

Course Credits: 4; Duration: 60 Hours

Course Objectives:

1. To introduce emerging technologies such as IoT, cloud computing, and virtualization and their business applications.
2. To equip students with conceptual and technical knowledge to evaluate digital infrastructure solutions.
3. To develop analytical capabilities for designing scalable, secure, and cost-effective digital ecosystems.
4. To foster understanding of integration challenges, data management, and service deployment models.
5. To cultivate strategic insights into the competitive advantages offered by these technologies across industries.

Course Outcomes:

CO1: To provide an in-depth understanding of IoT, cloud computing, and virtualization with a business perspective.

CO2: To analyse real-world applications of these technologies across different industries.

CO3: To identify business opportunities and challenges in implementing IoT and cloud-based solutions.

CO4: To evaluate cost, security, and efficiency factors in adopting these technologies.

CO5: To develop strategic insights into leveraging IoT, cloud, and virtualization for competitive business advantages.

Unit / Module	Content	CO Mapping	Hours Assigned
1	**Introduction to IoT and Cloud Computing -** Definition and evolution of IoT & cloud computing, Key characteristics & differences from traditional computing, Business drivers behind IoT & cloud adoption, IoT Ecosystem: Sensors, actuators, networks, cloud platforms, IoT network protocols (Wi-Fi, LPWAN, 5G, Bluetooth, Zigbee), Cloud models: IaaS, PaaS, SaaS & deployment strategies	CO1	12
2	**IoT for Business and Industry Applications -** IoT in Industry 4.0 & Smart Manufacturing, IoT in Retail & Customer Engagement, IoT in Healthcare & Smart Cities, IOT use in across the sector	CO2, CO5	10

3	**Cloud Computing for Business Transformation** - Cloud adoption strategies & challenges, Cloud-based business applications (ERP, CRM, HRMS), Hybrid & multi-cloud strategies	CO3, CO4	10
4	**Virtualization Technologies & Business Efficiency -** Fundamentals of virtualization (VMs, containers, hypervisors), Virtualization in cloud computing & VDI, Cost & performance benefits of virtualization, Virtualization challenges & best practices with case studies	CO2, CO3	10
5	**IoT and Cloud Integration for Smart Business -** IoT-Cloud convergence & cloud IoT platforms, Edge & Fog computing for business applications, AI-driven IoT solutions & predictive analytics, IoT & Cloud in supply chains & logistics with case studies	CO3, CO5	10
6	**Emerging Trends, Risks & Future with related case studies-** Future trends: 5G IoT, blockchain, quantum computing, Business risks & security challenges, Sustainability & green computing in IoT & cloud	CO4, CO5	08

Textbooks:

1. Internet of Things: Principles and Paradigms | Rajkumar Buyya, Amir Vahid Dastjerdi | Morgan Kaufmann
2. Internet of Things: A Hands-on Approach | Arshdeep Bahga, Vijay Madisetti | Universities Press
3. Cloud Computing: Concepts, Technology & Architecture | Thomas Erl, Zaigham Mahmood, Ricardo Puttini | Prentice Hall
4. Cloud Computing | Dr. Kumar Saurabh | Wiley India

Reference Books:

1. Virtualization Technologies: A Complete Guide | Gerardus Blokdyk | Emereo Publishing
2. Cloud Computing Bible | Barrie Sosinsky | Wiley
3. Mastering Cloud Computing: Foundations and Applications Programming | Rajkumar Buyya, Christian Vecchiola, S. Thamarai Selvi | McGraw Hill Education India
4. Architecting the Internet of Things | Dieter Uckelmann, Mark Harrison, Florian Michahelles | Springer
5. IoT Fundamentals: Networking Technologies, Protocols, and Use Cases for the Internet of Things | David Hanes, Gonzalo Salgueiro, Patrick Grossetete, Rob Barton, Jerome Henry | Cisco Press

I. Some Suggested Workshops

A. Application of Generative AI in Finance

Expected Outcomes:

1. Understand how generative AI is transforming finance
2. Gain hands-on exposure to AI tools for financial use cases
3. Learn ethical considerations in deploying AI in finance
4. Apply knowledge to real-world scenarios via case studies

Suggested Topics for Workshop Discussion:

- Introduction to Generative AI in Finance: What is Generative AI? , Overview of popular tools: Chat-GPT, Bard, Claude, etc., Opportunities and challenges in financial services, Industry use cases - Applications in Banking & Investment (Example Personalized Wealth Management Suggestion, Fraud Detection with Synthetic Data Simulation)
- Hands-on Demonstration - Using Chat-GPT for generating financial content (e.g., summaries, product explanations, Q&A, Prompt engineering for financial tasks, Excel + AI: Automating spreadsheet-based financial analysis, APIs and platforms for integrating AI in finance.
- Ethical, Legal & Risk Considerations - Responsible AI use in finance, Data privacy and regulatory concerns
- Limitations of generative AI models

B. Technical Analysis for Financial Markets

Expected Outcomes:

1. Understand the fundamentals of technical analysis and its role in financial decision-making
2. Learn how to interpret charts, trends, and market indicators effectively
3. Gain hands-on experience using technical tools and software platforms
4. Apply technical analysis strategies in real-time trading or investment decisions

Suggested Topics for Workshop Discussion:

- Introduction to Technical Analysis: Technical Vs Fundamental Analysis Importance and relevance in stock, forex, and crypto markets; Types of charts: Line, Bar, Candlestick
- Understanding Price Trends and Patterns: Dow Theory and Trend Identification, Support & Resistance levels, Common chart patterns: Head & Shoulders, Double Top/Bottom, Triangles, Price Action Trading Techniques

- Technical Indicators & Oscillators: Moving Averages (SMA, EMA), MACD, RSI, Bollinger Bands, Volume and Momentum indicators, Combining indicators for effective signals
- Hands-on Demonstration: Using charting platforms like Trading-View, Zerodha Kite, Meta-Trader or any other, Real-time analysis of market charts, drawing trend lines, patterns, and applying indicators, setting up trading strategies based on signals, Case studies of trades using technical analysis

C. Emotional Intelligence and Workplace

Expected Outcomes:

1. Understanding of our Emotions and triggers to such emotions
2. Understanding of Disruptive emotions
3. Understanding emotions of others
4. Display of empathy skills
5. Creating healthy interpersonal relationships
6. Collaborate and communicate effectively
7. Ability to create resonant leadership

Suggested Topics for Workshop Discussion:

- Components of Emotional Intelligence
- Building Self-Awareness through Self-Assessment
- Self-Management
- Social Awareness
- How to channelize one's Emotions
- Influencing Others' Emotions
- Building Healthy Relationships
- How to Have an Influential Conversation
- Responding to Opposition

D. Role of Diversity, Equity, Inclusion and Belongingness (DEIB) in an Organizational Set-up

Expected Outcomes:

1. Understanding the concepts of DEIB and its role in the growth of the organization
2. Developing sensitivity towards inclusive work culture
3. Learning the dynamics of handling and promoting the DEIB at workplace
4. Application of the concepts thus learnt at the place of employment

Suggested Topics for Workshop Discussion:

- DEIB Concept: Understanding diversity, equity, inclusion, and belonging.

- Exploring Diversity: Types of diversity including race, gender, age, sexual orientation, ability, etc.
- Equity at the Workplace: Difference between equity vs. equality., identifying and addressing systemic barriers, strategies for promoting equity in hiring, promotions, and compensation.
- Inclusion: Creating an inclusive work culture, inclusive leadership and decision-making.
- Belonging: Significance of belonging for employee engagement and retention, creating a culture of belongingness.
- DEIB Strategies and Best Practices
- Overcoming Resistance and Challenges: Addressing unconscious biases, strategies to handle resistance to DEIB initiatives, conflict resolution and mediation in DEIB contexts.

E. Drone Management and Applications in Business

Expected Outcomes:

1. Understand the role of drones in business operations across multiple industries.
2. Explore regulatory, financial, and operational aspects of drone management.
3. Analyse how drones optimize logistics, supply chains, and surveillance.
4. Develop strategies for integrating drone solutions into business models.

Suggested Topics for Workshop Discussion:

- Evolution of Drones in Business: From military to commercial and industrial applications and Current Trends
- Market Overview & Business Potential: Investment opportunities, competitive landscape, and startup ecosystem
- How Drones Optimize Logistics: Applications in warehouse management, inventory tracking, and distribution. Last-Mile Delivery Solutions: Case studies of companies like Amazon, Zipline, and Swiggy's drone trials.
- Agriculture & Rural Development: Precision farming, pesticide spraying, and crop health assessment.
- Event & Media Industry: Live event coverage, aerial cinematography, and marketing applications.
- Introduction to analysing Drone data; Analysing and applying insights effectively
- Government Policies on Drone Usage: India's Drone Rules 2021, DGCA compliance, and global regulations.
- Airspace Management & Legal Considerations: No-fly zones, licensing, and permissions.
- Investment & Business Models: Understanding CAPEX vs OPEX for drone-based businesses.
- Insurance & Liability: Understanding drone insurance policies and risk mitigation strategies

- Building a Drone-Enabled Business Strategy: How companies can adopt drones effectively.
- Funding & Government Incentives: Subsidies, grants, and venture capital for drone startups.
- Hands-on Training in Drone Flying including safety regulations

F. Enhancing Problem Solving Skills

Expected Outcomes:

1. Equip students with practical techniques and tools for identifying and solving operations problems.
2. Stimulate creative thinking and generation of innovative solutions.

Suggested Topics for Workshop Discussion:

- What is Problem Solving
- Types of Problems
- Problem Solving Process
- Problem Identification Techniques
- Problem Statement Formulation
- Root Cause Analysis
- Solution Evaluation Criteria
- Decision Making

G. The Future of Operations – Navigating the Digital Transformation

Expected Outcomes:

1. Understanding improvement of business process with the help of technology
2. Gain experience on development of new business models by leveraging digital technology
3. Understand digital technologies such as artificial intelligence, cloud computing in operations management

Suggested Topics for Workshop Discussion:

- Introduction to digital transformation
- Impact of emerging technologies on operations
- Key technologies for operational transformation
- Strategies for navigating digital transformation
- Challenges and opportunities
- Future trends

II. Additional Requirements for Lateral Entry Students

A. Subject in lieu of internship course in SYMMS (Semester III) for Lateral Entry cases (Admitted directly in Semester III of MMS program)

In lieu of Summer internship (Subject for Evaluation in Semester III based on the Summer Internship completed by students in month of May and June), a **Seminar paper** to be considered with following essential components:

1. The Seminar work should be undertaken in the selected functional area (Finance / Marketing / Human Resource / Operations / Systems)
2. The topic selected and research work conducted for the Seminar Paper should incorporate both primary and secondary data components.
3. The Seminar work completed by students should be submitted as a written Seminar report of minimum 8000 words.
4. Suggested structure of the report to include following components: Introduction; Literature review; Theoretical / conceptual framework of Research and Research Methodology; Data analysis; Result discussion, findings and recommendations.
5. The evaluation of the report to be based on following parameters: (a) 50% of the marks based on evaluation by internal guide and (b) remaining 50% of marks based on presentation and viva-voce by external panel.

B. Necessary subjects to be completed and passed by lateral the entry students (directly admitted to the Second Year of MMS program):

1. Passing the below listed Seven (7) courses in an institute level exam will be a prerequisite for the completion of the MMS Degree program, though no credits would be assigned.
2. Colleges / Institutes offering MMS program would issue course completion certificates for record.
3. The course content of the subjects will be the same as NEP 2020 MMS syllabus.

Necessary Courses:

1. Fundamentals of Management Theory and Practice
2. Financial Accounting for Business
3. Fundamentals of Marketing
4. Operations Management
5. Corporate Finance
6. Human Resource Management
7. Information Systems and Digital Transformation

III. Selection of Open Elective Course - Guidelines (Semester III)

1. Students can opt for maximum 5 Elective Courses in Semester III
2. Either all Five opted Elective courses can be from the 'Selected Specialization' Group (Finance/Human Resource/Marketing/Operations and Supply-Chain/Systems and Digital Business)

   OR

   Minimum Four Elective courses can be from the 'Selected Specialization' Group (Finance/ Human Resource/ Marketing/Operations and Supply-Chain/Systems and Digital Business) and One can be from Open Elective Basket
3. In case, the course 'Enterprise Risk Management' (offered by IRM) OR 'SWAYAM' Course is opted as an open Elective, then the concerned Institute/College would have to ensure that the students complete the selected course and appear for the respective examination processes within the stipulated semester deadlines. The marks so-obtained through IRM / SWAYAM Examination (as the case may be) would be proportionately recorded as the IRM / 'SWAYAM' course score in line with the marks assigned for 2 credit course.

IV. Selection of SWAYAM as an Elective - Guidelines (Semester IV)

1. In Semester IV, any one SWAYAM Course in the functional area of Specialization with matching credits can also be opted as an Elective.
2. In such case, the concerned Institute/College would ensure that the students complete the selected course and appear for the respective examination processes within the stipulated semester deadlines.
3. The marks so-obtained for the SWAYAM Examination, would be proportionately recorded as the 'SWAYAM' course score in line with the marks assigned for 4 credit courses.

V. Evaluation of Summer Internship - Guidelines (Semester III)

The evaluation of Summer Internship is a crucial component of the academic curriculum, enabling students to integrate theoretical knowledge with practical application. The evaluation process must ensure a balanced assessment from both internal and external perspectives. Institute will assign an internal mentor/guide along with industry mentor for Summer Internship.

Evaluation Ratio

The evaluation of the Summer Internship shall be conducted in the following ratio:

- Internal Assessment (Guide/Mentor): 50%
- External Assessment (Panel of Examiners): 50%

Internal Assessment (50%) - By Guide/Mentor

The internal assessment shall be based on the following criteria:

1. Regularity and punctuality during internship
2. Initiative and learning attitude
3. Weekly reports/logbooks
4. Quality of work done and contribution to the organization
5. Final project report submitted

External Assessment (50%) - By Panel of Examiners

The external evaluation shall be conducted by a panel comprising academic faculty and/or industry experts. The criteria include:

1. Presentation skills and articulation
2. Clarity of project objectives and outcomes
3. Innovation and problem-solving approach
4. Understanding of concepts and application
5. Response to questions during viva-voce

Documentation to be Submitted by Learner related to Summer Internship:

1. Internship Completion Certificate from the organization
2. Final Project Report

VI. Evaluation of Research Project Work - Guidelines (Semester IV)

Evaluation during the research project involves two key components: External Evaluation (50%) and Internal Evaluation (50%) for both the semesters.

A. Internal Evaluation (CONTINUOUS ASSESSMENT) - 50%

Sr. No.	Evaluation Type	Marks
1	Attendance (Based on Record of Guide Interaction)	**10**
2	Research Methodology and Research Process	**10**
3	Data Analysis and Interpretation	**20**
4	Conclusion/output	**10**
Total		**50**

B. SEMESTER END EXAMINATION - 50%

Sr.	Evaluation Type – Description	Marks
1	Subject Knowledge - Depth of understanding, conceptual clarity, and relevance to the topic	**10**
2	Application of Knowledge - Ability to apply theoretical concepts to practical or real-life situations	**10**
3	Communication Skills - Clarity, coherence, confidence, articulation, and use of technical vocabulary.	**10**
4	Analytical and Critical Thinking - Ability to analyze, evaluate, and provide insights; originality of thought.	**10**
5	Presentation & Response Handling - Structure of answers, logical sequencing, and handling of follow-up questions.	**10**
Total		**50**

VII. Question Paper Format

Suggested Question Paper Format

(i) Question Paper of 60 Marks (4 Credit Course) – 2 Hours Written Examination:

Total Questions – 6 Questions Question 1 - Compulsory (10 Marks) Question 2 to Question 6 of 10 marks each with two internal options (a) OR (b)	
Q1: Case Study	10 Marks
Q2 to Q 6 • With internal option (a) and (b), covering important of topics / concepts across syllabus • Mix of theoretical and quantitative questions based on requirement of the subject content. • COs to be mentioned against each question in the Question paper	Each Question 10 Marks

(ii) *Question Paper of 30 Marks (2 Credit Course) - 1 Hour Written Examination:*

• Total Questions – 3 Questions • Question 1 - Compulsory (10 Marks) • Question 2 and Question 3 of 10 marks each with two internal options (a) OR (b)	
Q1: Case Study	10 Marks
Q2 and Q3 • With internal option (a) and (b), covering important of topics / concepts across syllabus • Mix of theoretical and quantitative questions based on requirement of the subject content. • COs to be mentioned against each question in Question paper	Each Question 10 Marks

*Wherever CO level (Create) related to Designing, Constructing, Developing, Formulating is mentioned, such CO may ideally be covered in Internal Assessment component

Letter Grades and Grade Points Under NEP 2020 Curriculum

Letter Grades and Grade points			
Semester GPA/ Programme CGPA	**% of Marks**	**Letter Grade**	**Grade Point**
9.00 - 10.00	90.0 - 100	O (Outstanding)	10
8.00 - < 9.00	80.0 - < 90.0	A+ (Excellent)	9
7.00 - < 8.00	70.0 - < 80.0	A (Very Good)	8
6.00 - < 7.00	60.0 - < 70.0	B+ (Good)	7
5.50 - < 6.00	55.0 - < 60.0	B (Above Average)	6
5.00 - < 5.50	50.0 - < 55.0	C (Average)	5
Below 5.00	Below 50	F (Fail)	0

Sd/-

Sign of the BOS Chairman
Dr. Smita Shukla
Chairman
BOS in MMS

Sd/-

Sign of the Offg. Associate Dean
Prof. Dr. Kishori J. Bhagat
Department of Commerce and Management

Sd/-

Sign of the Offg. Associate Dean
Dr. Kavita Laghate
Department of Commerce and Management

Sd/-

Sign of the Offg. Dean
Prin. Ravindra Bambardekar
Faculty of Commerce & Management