KPR Institute of Engineering and Technology

Learn Beyond (Autonomous, NAAC "A")

Avinashi Road, Arasur, Coimbatore.

Great Place To Work. Certified MAR 2022 - MAR 2023 INDIA

Minor Degree Courses Syllabi
Regulations - 2021

KPRIET
Learn Beyond

VERTICALS FOR MINOR DEGREE

(Choice of courses for Minor degree is to be made from any one vertical of other programmes or from anyone of the following verticals)

VERTICAL 1: FINTECH AND BLOCK CHAIN

SI.NO.	COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	J	C
1	U21MDG01	Financial Management	MDC	3	0	0	0	3
2	U21MDG02	Investment Management	MDC	3	0	0	0	3
3	U21MDG03	Banking, Financial Services and Insurance	MDC	3	0	0	0	3
4	U21MDG04	Fintech Personal Finance and Payments	MDC	3	0	0	0	3
5	U21MDG05	Introduction to Blockchain and its Applications	MDC	3	0	0	0	3
6	U21MDG06	Fintech: Foundations & Applications of Financial Technology	MDC	3	0	0	0	3

VERTICAL 2: INNOVATION, ENTREPRENEURSHIP AND VENTURE DEVELOPMENT

SI.NO.	COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	J	C
1	U21MDG07	Foundation of Entrepreneurship	MDC	3	0	0	0	3
2	U21MDG08	Team Building and Leadership Management for Business	MDC	3	0	0	0	3
3	U21MDG09	Creativity and Innovation in Entrepreneurship	MDC	3	0	0	0	3
4	U21MDG10	Principles of Marketing Management For Business	MDC	3	0	0	0	3
5	U21MDG11	Financing New Business Ventures	MDC	3	0	0	0	3
6	U21MDG12	Innovation and New Product Development	MDC	3	0	0	0	3
7	U21MDG13	Startup Opportunities and Support	MDC	3	0	0	0	3

VERTICAL 3: POLITICS AND PUBLICADMINISTRATION

SI.NO.	COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	J	C
1	U21MDG14	Principles of Public Administration	MDC	3	0	0	0	3
2	U21MDG15	Citizen Journalism	MDC	3	0	0	0	3
3	U21MDG16	Public Personnel Administration	MDC	3	0	0	0	3
4	U21MDG17	Administrative Theories	MDC	3	0	0	0	3
5	U21MDG18	Indian Administrative System	MDC	3	0	0	0	3
6	U21MDG19	Public Policy Administration	MDC	3	0	0	0	3
7	U21MDG20	Political Leadership	MDC	3	0	0	0	3
8	U21MDG21	Introduction to Right to Information Act	MDC	3	0	0	0	3

VERTICAL 4: BUSINESS DATA ANALYTICS

SI.NO.	COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	J	C
1	U21MDG22	Statistics for Management	MDC	3	0	0	0	3
2	U21MDG23	Datamining for Business Intelligence	MDC	3	0	0	0	3
3	U21MDG24	Human Resource Analytics	MDC	3	0	0	0	3
4	U21MDG25	Marketing and Social Media Web Analytics	MDC	3	0	0	0	3
5	U21MDG26	Operation and Supply Chain Analytics	MDC	3	0	0	0	3
6	U21MDG27	Financial Analytics	MDC	3	0	0	0	3

VERTICAL 5: ENVIRONMENT AND SUSTAINABILITY

Sl.NO.	COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	J	C
1	U21MDG28	Sustainable Engineering	MDC	3	0	0	0	3
2	U21MDG29	NGOs and Sustainable Development	MDC	3	0	0	0	3
3	U21MDG30	Materials for Energy Sustainability	MDC	3	0	0	0	3
4	U21MDG31	Green Technology	MDC	3	0	0	0	3
5	U21MDG32	Environmental Quality Monitoring and Analysis	MDC	3	0	0	0	3
6	U21MDG33	Integrated Energy Planning for Sustainable Development	MDC	3	0	0	0	3
7	U21MDG34	Energy Efficiency for Sustainable Development	MDC	3	0	0	0	3

VERTICAL 6: ECONOMICS

Sl.NO.	COURSE CODE	COURSE TITLE	CATEGORY	L	T	P	J	C
1	U21MDG01	Financial Management	MDC	3	0	0	0	3
2	U21MDG35	Green Marketing	MDC	3	0	0	0	3
3	U21MDG36	Marketing Management	MDC	3	0	0	0	3
4	U21MDG37	Managerial Economics	MDC	3	0	0	0	3
5	U21MDG38	Operations Management	MDC	3	0	0	0	3
6	U21MDG39	Organizational Behavior	MDC	3	0	0	0	3

VERTICAL I
FINTECH AND BLOCK CHAIN

U21MDG01	FINANCIAL MANAGEMENT	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To equip the students to understand the fundamentals of financial management in the context of a corporate entity
- To acquaint them with different dimensions of financial management with a focus on the application of the relevant tools and techniques of financial decision making aimed at shareholder's wealth maximization

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Describe the importance of financial management from a strategic perspective (Understand)
CO2: Exemplify cost of capital and develop innovative financial strategies (Understand)
CO3: Comprehend the capital structure decisions through relevant models (Understand)
CO4: Examine the capital investment and dividend models (Understand)
CO5: Depict short term asset management techniques (Understand)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	1	1	1	-	1	-	-	-	-	3	-		
CO2	1	1	2	1	-	1	-	-	-	-	3	-		
CO3	1	1	2	1	-	1	-	-	-	-	3	-		
CO4	1	1	2	1	-	1	-	-	-	-	3	-		
CO5	1	1	2	1	-	1	-	-	-	-	3	-		
Correlation levels:		1: Slight (Low)			2: Moderate (Medium)					3: Substantial (High)				

SYLLABUS:

UNIT I INTRODUCTION TO FINANCIAL MANAGEMENT 9

Nature and Scope of Financial Management – Financial Goals – Conflict of interest between the stakeholders – Functions of Financial Manager – Changing Financial Environment – Emerging Challenges faced by the Finance Manager

UNIT II FINANCING DECISIONS 9

Sources of Long Term Capital Equity, Debt, Term Loan, Preference share, Hybrid Securities, Internal Funds – Issues relating Financing Decisions. Cost of Capital: Computation of Cost of Equity-cost of Debt-Cost of Preference Capital – Cost of Internal Reserve Weighted Average Cost of Capital

UNIT III LEVERAGE AND CAPITAL STRUCTURE ANALYSIS 9

Analysis of Operating Leverage and Financial Leverage – Combined Financial and Operating Leverage – Concept of Capital Structure: Determinants – Theories of Capital Structure – Relevance and Irrelevance – Problems of Optimal – Capital Structure

UNIT IV LONG TERM INVESTMENT ANALYSIS 9

Investment idea Generation – Tools and techniques of Analysis – Risk Analysis in Capital Investment Decisions. Dividend Decisions: Issues in Dividend Decisions – Models and Theories of Dividend – Forms of Dividend – Corporate Dividend Behaviour

UNIT V SHORT TERM ASSET MANAGEMENT 9

Strategic Planning and Estimation of Short-Term Funding. Need –Financing Sources – Computation of Cost of Short term Fund. Management of Cash, Inventory and Receivables

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total: 45 Periods

TEXT BOOKS:

1. Arnold, G.C: Corporate Financial Management, 6th Edition, Financial Times Pitmom Publishing, 2019
2. 2. Atrill, P; Financial Management for Non-Specialists, 3rd editlon, Prentice Hall, 2002.

REFERENCES:

1. Besant Raj. A: Corporate Financial Management, 2nd edition, Tata McGrow Hill, 1998.
2. Block & Hirt: Foundation of Financial Management, 16th edition, Irwin Homewood, 2006.
3. Boltmam & Conn: Essentials of Managerial Finance, 6th edition, Hongnton & Mifflin, 1982.
4. Brealy, R. A. and Myers, S: The principle of Corporate Finance, 11th edition, McGraw Hill Internal, 2013.

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		Assessment II (100 Marks)		Total Internal Assessments	End Semester Examinations
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	60	40	60	200	100
Total				40	60
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Designer can choose any one / two components based on the nature of the course.

U21MDG02	INVESTMENT MANAGEMENT	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE-REQUISITES:

- Nil

COURSE OBJECTIVES:

- To describe the investment environment in which investment decisions are taken
- To describe how to create efficient portfolios through diversification
- To discuss the mechanism of investor protection in India

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Describe various types of investment options available to individuals and organizations (Understand)
CO2: Illustrate the basic knowledge of fixed income securities, including their features, types, risks, and returns (Understand)
CO3: Outline the theoretical foundations of equity analysis and its importance in financial decision-making (Understand)
CO4: Exploring ethical considerations in portfolio management and derivatives trading (Understand)
CO5: Familiarize with the legal and regulatory frameworks that govern investor protection (Apply)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	-	-	1	-	-	-	-	-	2		
CO2	3	2	2	-	-	1	-	-	-	-	-	2		
CO3	3	2	2	-	-	1	-	-	-	-	-	2		
CO4	3	2	2	-	-	1	-	-	-	-	-	2		
CO5	3	2	2	-	-	1	-	-	-	-	-	2		
Correlation levels:		1: Slight (Low)			2: Moderate (Medium)					3: Substantial (High)				

SYLLABUS:

UNIT I THE INVESTMENT ENVIRONMENT 9

The investment decision process – Types of Investments – Commodities – Real Estate and Financial Assets – The Indian securities market – The market participants and trading of securities – Security market indices – Sources of financial information – Concept of return and risk – Impact of Taxes and Inflation on return

UNIT II FIXED INCOME SECURITIES 9

Bond features – Types of bonds – Estimating bond yields – Bond Valuation types of bond risks– Default risk and credit rating

UNIT III APPROACHES TO EQUITY ANALYSIS 9

Introduction to Fundamental Analysis – Technical Analysis and Efficient Market Hypothesis– Dividend capitalization models and price-earnings multiple approach to equity valuation

UNIT IV PORTFOLIO ANALYSIS AND FINANCIAL DERIVATIVES 9

Portfolio and Diversification – Portfolio Risk and Return – Mutual Funds – Introduction to Financial Derivatives – Financial Derivatives Markets in India

UNIT V INVESTOR PROTECTION 9

Role of SEBI and stock exchanges in investor protection – Investor grievances and their redressal system – Insider trading – Investors awareness and activism

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total: 45 Periods

TEXT BOOKS:

1. Charles P. Jones, Gerald R. Jensen, "Investments: analysis and management", 14th Edition, Wiley, 2019.
2. Chandra, Prasanna, "Investment analysis and portfolio management", 5th Edition, McGraw-hill education, 2017.

REFERENCES:

1. Rustagi, R. P., "Investment Management Theory and Practice", 2nd Edition, Sultan Chand & Sons, 2021.
2. ZviBodie, Alex Kane, Alan J Marcus, Pitabus Mohanty, "Investments", 11th Edition (SIE), McGraw Hill Education (India), 2019.

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		**Assessment II (100 Marks)**		**Total Internal Assessments**	**End Semester Examinations**
Individual Assignment / Case Study / Seminar / Project / MCQ	Written Test	Individual Assignment / Case Study / Seminar / Project / MCQ	Written Test		
40	**60**	**40**	**60**	200	**100**
Total				40	**60**
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Designer can choose any one / two components based on the nature of the course.

		Category: MDC				
U21MDG03	BANKING, FINANCIAL SERVICES AND INSURANCE	L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- Understand the Banking system in India
- Grasp how banks raise their sources and how they deploy it
- Understand the development in banking technology
- Understand the financial services in India
- Understand the insurance industry in India

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Understand various services offered, risks faced by banks (Understand)
CO2: Understand various principles, provisions that govern banking companies (Understand)
CO3: Understand various principles, provisions that govern insurance companies. (Understand)
CO4: Understand the Concept of Individual Behavior, importance of Group Dynamics, concept of Organizational Dynamics and organisational behaviour of banks and insurance companies (Understand)
CO5: Apply accounting concepts, principles and frameworks to analyse and effectively communicate information to a variety of audiences. (Apply)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	1	-	-	-	1	-	1	1	1	1	1		
CO2	1	-	-	-	-	1	-	1	-	1	1	1		
CO3	1	-	-	-	-	1	-	1	-	1	1	1		
CO4	1	1	-	-	-	1	-	1	1	1	1	1		
CO5	1	1	-	-	1	1	-	1	1	1	1	1		
Correlation levels:	1: Slight (Low)			2: Moderate (Medium)				3: Substantial (High)						

SYLLABUS:

UNIT I INTRODUCTION TO INDIAN BANKING SYSTEM 9

Overview of Banking system – Structure – Functions – Banking system in India –Key Regulations in Indian Banking sector – RBI. Relationship between Banker and Customer – Retail & Wholesale Banking – Types of Accounts – Opening and operation of Accounts

UNIT II MANAGING BANK FUNDS/ PRODUCTS 9

Liquid Assets – Investment in securities –Advances – Loans. Negotiable Instruments – Cheques, Bills of Exchange & Promissory Notes. Designing deposit schemes – Asset and Liability Management – NPA's – Current issues on NPA's – M&A's of banks into securities market

UNIT III DEVELOPMENT IN BANKING TECHNOLOGY 9

Payment system in India – Paper based – E payment – Electronic banking –plastic money – E-money – Forecasting of cash demand at ATM's – The Information Technology Act, 2000 in India – RBI's Financial Sector Technology vision document – Security threats in E-banking & RBI's Initiative

UNIT IV FINANCIAL SERVICES 9

Introduction – Need for Financial Services – Financial Services Market in India – NBFC – Leasing and Hire Purchase – mutual funds. Venture Capital Financing – Bill discounting – Factoring – Merchant Banking

UNIT V INSURANCE 9

Insurance – Concept – Need – History of Insurance industry in India. Insurance Act, 1938 – IRDA – Regulations – Life Insurance – Annuities and Unit Linked Policies – Lapse of the Policy – Revival – Settlement of claim

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total: 45 Periods

TEXT BOOKS:

1. Padmalatha Suresh and Justin Paul, "Management of Banking and Financial Services, 4th edition, Pearson, Delhi, 2017.
2. Peter S. Rose and Sylvia C. and Hudgins, "Bank Management and Financial Services", 8th edition, Tata McGraw Hill, New Delhi, 2017.

REFERENCES:

1. Meera Sharma, "Management of Financial Institutions – with emphasis on Bank and Risk Management", Kindle Edition, PHI Learning Pvt. Ltd., 2010.

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		Assessment II (100 Marks)		Total Internal Assessments	End Semester Examinations
Individual Assignment / Case Study / Seminar / Project / MCQ	Written Test	Individual Assignment / Case Study / Seminar / Project / MCQ	Written Test		
40	60	40	60	200	100
Total				40	60
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Designer can choose any one / two components based on the nature of the course.

U21MDG04	FINTECH PERSONAL FINANCE AND PAYMENTS	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To acquire the knowledge of the decision areas in finance
- To learn the various sources of Finance
- To describe about capital budgeting and cost of capital
- To discuss on how to construct a robust capital structure and dividend policy
- To develop an understanding of tools on Working Capital Management

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Understand the concept of cryptocurrency and micropayment along with the security related issues (Understand)
CO2: Familiarize with the Digitalization of the financial services (Understand)
CO3: Infer the knowledge of Insurtech to use technology in the insurance domain (Understand)
CO4: Understand the flow of Peer to Peer lending in Business organizations (Understand)
CO5: Awareness about the various regulations for FinTech along with its ecosystem (Understand)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	2	-	-	-	-	1	-		
CO2	-	-	-	-	-	2	-	-	-	-	2	-		
CO3	-	-	-	-	-	2	-	-	-	-	1	-		
CO4	-	-	-	-	-	2	-	-	-	-	1	-		
CO5	-	-	-	-	-	2	-	-	-	-	1	-		
Correlation levels:	1: Slight (Low)					2: Moderate (Medium)					3: Substantial (High)			

SYLLABUS:

UNIT I CURRENCY EXCHANGE AND PAYMENT 9

Understand the concept of Crypto currency – Bitcoin and Applications – Cryptocurrencies and Digital Crypto Wallets – Types of Cryptocurrencies – Cryptocurrencies and Applications, block chain – Artificial Intelligence, machine learning– Fintech users, Individual Payments– RTGS Systems– Immediate Payment Service (IMPS)– Unified Payments Interface (UPI)– Legal and Regulatory Implications of Crypto currencies– Payment systems and their regulations– Digital Payments Smart Cards, Stored – Value Cards, EC Micropayments– Payment Gateways– Mobile Payments– Digital and Virtual Currencies– Security, Ethical, Legal, Privacy, and Technology Issues

UNIT II DIGITAL FINANCE AND ALTERNATIVE FINANCE 9

A Brief History of Financial Innovation– Digitization of Financial Services– Crowd funding– Charity and Equity – Introduction to the concept of Initial Coin Offering

UNIT III INSURTECH 9

InsurTech Introduction – Business model disruption AI/ML inInsurTech – IoT and InsurTech–Risk Modeling–Fraud Detection Processing claims and Underwriting Innovations in Insurance Services

UNIT IV PEER TO PEER LENDING 9

P2P and Marketplace Lending– New Models and New Products in market place lending P2P Infrastructure and technologies – Concept of Crowdfunding – Crowdfunding Architecture and Technology–P2P and Crowdfunding unicorns and business models– SME/MSME Lending: Unique opportunities and Challenges– Solutions and Innovations

UNIT V REGULATORY ISSUES 9

FinTech Regulations: Global Regulations and Domestic Regulations– Evolution of RegTech– RegTech Ecosystem: Financial Institutions–RegTech Ecosystem: Startups RegTech– Startups: Challenges–RegTech Ecosystem: Regulators– Use of AI in regulation and Fraud detection

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total: 45 Periods

TEXT BOOKS:

1. Swanson Seth, Fintech for Beginners: Understanding and Utilizing the power of technology, Kindle Edition, Createspace Independent Publishing Platform, 2016.
2. Models AuTanda, Fintech Bigtech and Banks Digitalization and Its Impact On Banking Business, 1st edition, Springer, 2019.

REFERENCES:

1. Henning Diedrich, Ethereum: Blockchains, Digital Assets, Smart Contracts, Decentralized Autonomous Organizations, 1st edition, Wildfire Publishing, 2016
2. Jacob William, FinTech:TheBeginner's Guide to Financial Technology, 1st edition, Createspace Independent Publishing Platform, 2016.
3. IIBF, Digital Banking, 1st edition, Taxmann Publication, 2016
4. Jacob William, Financial Technology, 1st edition Create space Independent Pub, 2016
5. Luke Sutton, Financial Technology: Bitcoin & Blockchain, Createspace Independent Pub,2016

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		**Assessment II (100 Marks)**		**Total Internal Assessments**	**End Semester Examinations**
*Individual Assignment / Case Study / Seminar / Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Project / MCQ	Written Test		
40	**60**	**40**	**60**	**200**	**100**
Total				**40**	**60**
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Designer can choose any one / two components based on the nature of the course.

U21MDG05	INTRODUCTION TO BLOCKCHAIN AND ITS APPLICATIONS	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- Impart strong technical understanding of Blockchain technologies
- Develop familiarity of current technologies, tools, and implementation strategies
- Introduce application areas, current practices, and research activity

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Explain the fundamental characteristics of blockchain technology (Understand)
CO2: Understand the cryptographic primitive concepts (Understand)
CO3: Differentiate the various types of consensus algorithms (Understand)
CO4: Apply the mining process in the blockchain network (Understand)
CO5: Demonstrate the blockchain concepts for different applications (Apply)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	-	-	-	-	-	-	-	-	-	-	-		
CO2	3	2	2	-	-	-	-	-	-	-	-	2		
CO3	3	2	2	-	-	-	-	-	-	-	-	2		
CO4	3	2	2	-	-	-	-	-	-	-	-	2		
CO5	3	3	2	3	-	-	-	-	-	-	-	2		
Correlation levels:		1: Slight (Low)			2: Moderate (Medium)					3: Substantial (High)				

SYLLABUS:

UNIT I INTRODUCTION TO BLOCKCHAIN 9

Centralized Vs Decentralized Systems – Limitations of Centralized Systems – Components of Blockchain – Layers of Blockchain – Blockchain Functionality – Tiers of Blockchain Technology: Blockchain 1.0, 2.0 and 3.0 – Types of Blockchain: Public Blockchain – Private Blockchain – Semi-Private Blockchain – Sidechains – Blockchain Wallets

UNIT II CRYPTO PRIMITIVES 9

Cryptographic Hash Functions – Attacks on Hash Functions – Hash Pointers and Data Structures – Public Key Cryptography – Digital Signatures using Public Key Cryptography – Elliptic Curve Cryptography

UNIT III CONSENSUS 9

Distributed Consensus – Types of Consensus Algorithms: Proof of Work– Proof of Stake– Delegated Proof of Stake– Proof Elapsed Time– Proof of Burn – Byzantine Fault Tolerance –Practical Byzantine Fault Tolerance – Blockchain Forks – Soft Fork – Hard Fork

UNIT IV MINING 9

Mining Hardware – CPU Mining – GPU Mining – FPGA Mining – ASIC Mining-Mining Pools – Solo Mining – Pool Mining – Mining incentives and strategies – Mining puzzles

UNIT V CASE STUDIES AND APPLICATIONS 9

Application of blockchain in privacy and security – IoT and smart cities – Global Market and Global Economy – Business and Industry – Data management – e-Governance.

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total: 45 Periods

TEXT BOOKS:

1. Arvind Narayanan, Joseph Bonneau, Edward Felten, Andrew Miller and Steven Goldfeder, "Bitcoin and Cryptocurrency Technologies: A Comprehensive Introduction", 1st Edition, Princeton University Press, 2016.
2. Imran Bashir, "Mastering Blockchain: Deeper insights into decentralization, cryptography, Bitcoin, and popular Blockchain frameworks", 1st Edition, Packt Publisher, 2017.

REFERENCES:

1. Koshik Raj, "Foundations of Blockchain", 1st Edition, Packt Publishers, 2019.
2. Michael J. Casey, Paul Vigna," The Truth Machine: The Blockchain and the Future of Everything", 1st Edition, St. Martin's Press Publication, 2018
3. Josh Thompson, "Blockchain: The Blockchain for Beginners Guide to Blockchain Technology and Leveraging Blockchain Programming", 1st Edition, Create Space Independent Publishing Platform, 2017.
4. Tiana Laurence, "Blockchain for Dummies", 2nd Edition, John Wiley & Sons, 2019.

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		**Assessment II (100 Marks)**		**Total Internal Assessments**	**End Semester Examinations**
Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	**60**	**40**	**60**	**200**	**100**
Total				**40**	**60**
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Designer can choose any one / two components based on the nature of the course.

		Category: MDC				
U21MDG06	FINTECH:FOUNDATIONS & APPLICATIONS OF FINANCIAL TECHNOLOGY	L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To learn about history, importance and evolution of Fintech
- To acquire the knowledge of Fintech in payment industry
- To acquire the knowledge of Fintech in insurance industry
- To learn the Fintech developments around the world
- To know about the future of Fintech

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Explain the need and evolution of Fintech Technology (Understand)
CO2: Discuss on various types of lending available in Fintech industry (Understand)
CO3: Describe the role of technology in the insurance industry and how Fintech is disrupting traditional insurance policies. (Understand)
CO4: Identify the major Fintech developments and business models in different regions of globe (Understand)
CO5: Understand the future of financial services including the role of technology and changing customer behavior (Understand)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	-	-	-	-	-	-	-		
CO2	-	-	-	-	-	3	-	-	-	-	-	-		
CO3	-	-	-	-	3	3	-	-	-	-	-	-		
CO4	-	-	-	-	-	-	-	-	-	-	-	-		
CO5	-	-	-	-	3	-	-	-	-	-	-	-		
Correlation levels:	1: Slight (Low)			2: Moderate (Medium)				3: Substantial (High)						

SYLLABUS:

UNIT I INTRODUCTION **9**

Fintech – Definition, History, concept, meaning, architecture, significance, Goals, key areas in Fintech– Importance of Fintech– role of Fintech in economic development– opportunities and challenges in Fintech– Evolution of Fintech in different sectors of the industry – Infrastructure, Banking Industry–Startups and Emerging Markets– recent developments in FinTech– future prospects and potential Issues with Fintech

UNIT II PAYMENT INDUSTRY **9**

FinTech in Payment Industry–Multichannel digital wallets– applications supporting wallets– onboarding and KYC application– FinTech in Lending Industry– Formal lending– Informal lending– P2P lending– POS lending– Online lending– Payday lending– Microfinance– Crowdfunding

UNIT III INSURANCE INDUSTRY 9

FinTech in Wealth Management Industry–Financial Advice– Automated investing– Socially responsible investing– Fractional Investing– Social Investing. FinTech in Insurance Industry – P2P insurance– On-Demand Insurance– On-Demand Consultation– Customer engagement through Quote to sell– policy servicing– Claims Management– Investment linked health insurance

UNIT IV FINTECH AROUND THE GLOBE 9

FinTech developments – US, Europe and UK, Germany, Sweden, France, China, India, Africa, Australia, New Zealand, Brazil and Middle East– Regulatory and Policy Assessment for Growth of FinTech– FinTech as disruptors– Financial institutions collaborating with FinTech companies– The new financial world

UNIT V FUTURE OF FINTECH 9

How emerging technologies will change financial services– the future of financial services– banking on innovation through data– why FinTech banks will rule the world– The FinTech Supermarket– Banks partnering with FinTech start-ups–The rise of BankTech–Fintech impact on Retail Banking– A future without money– Ethics in Fintech

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project – Periods

Total 45 Periods

TEXT BOOKS:

1. Arner D., Barbers J., Buckley R, The evolution of FinTech: a new post crisis paradigm, 1st edition, University of New South Wales Research Series, 2015
2. Susanne Chishti, Janos Barberis, The FINTECH Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries, 1st edition, Wiley Publications, 2016

REFERENCES:

1. Richard Hayen, FinTech: The Impact and Influence of Financial Technology on Banking and the Finance Industry, 2nd edition, 2016
2. Parag Y Arjunwadkar, FinTech: The Technology Driving Disruption in the financial service industry, 1st edition, CRC Press, 2018
3. Sanjay Phadke, Fintech Future: The Digital DNA of Finance Paperback. 1st edition, Sage Publications, 2020
4. Pranay Gupta, T. Mandy Tham, Fintech: The New DNA of Financial Services Paperback, 2018

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		Assessment II (100 Marks)		Total Internal Assessments	End Semester Examinations
Individual Assignment / Case Study / Seminar / Project / MCQ	Written Test	Individual Assignment / Case Study / Seminar / Project / MCQ	Written Test		
40	60	40	60	200	100
Total				40	60
				100	

VERTICAL II

INNOVATION, ENTREPRENEURSHIP AND VENTURE DEVELOPMENT

		Category: MDC			
U21MDG07	FOUNDATION OF ENTREPRENEURSHIP	L	T	P	C
		3	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To impart the fundamental rights of entrepreneurship
- To apply the principles and theories of entrepreneurship and management in business
- To empower the learners to run a technology driven business successfully

COURSE OUTCOMES:

Upon completion of this course, the student will be able to:

CO1: Comment the basics of Entrepreneurship (Understand)
CO2: Discuss the business ownership patterns and environment (Understand)
CO3: Identify the Job opportunities in Industries relating to Technopreneurship (Understand)
CO4: Explain about applications of tehnopreneurship and successful technopreneurs (Understand)
CO5: Acquaint with the recent and emerging trends in entrepreneurship (Understand)

CO – PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	2	1	-	-	2	2	-	-	-	2	3		
CO2	-	2	1	-	-	2	2	-	-	-	2	3		
CO3	-	2	1	-	-	2	2	-	-	-	2	3		
CO4	-	2	1	-	-	2	2	-	-	-	2	3		
CO5	-	2	1	-	-	2	2	-	-	-	2	3		

SYLLABUS:

UNIT I INTRODUCTION TO ENTREPRENEURSHIP 9

Entrepreneurship – Definition, Need and Scope – Entrepreneurial Skill and Traits – Entrepreneur vs. Intrapreneur – Classification of entrepreneurs, Types of entrepreneurs – Factors affecting entrepreneurial development – Achievement Motivation – Contributions of entrepreneurship to Economic Development

UNIT II BUSINESS OWNERSHIP AND ENVRIONMENT 9

Types of Business Ownership – Business Environmental Factors – Political, Economic, Sociological, Technological Environmental, Legal aspects – Human Resources Mobilization – Basics of Managing Finance – Essentials of Marketing Management – Production and Operations Planning – Systems Management and Administration

UNIT III FUNDAMENTALS OF TECHNOPRENEURSHIP 9

Introduction to Technopreneurship – Definition, Need, Scope – Emerging Concepts – Principles – Characteristics of a technopreneur – Impacts of Technopreneurship on Society – Economy – Job Opportunities in Technopreneurship – Recent trends

UNIT IV APPLICATIONS OF TECHNOPRENEURSHIP 9

Technology Entrepreneurship – Local, National and Global practices – Intrapreneurship and Technology interactions, networking of entrepreneurial activities – Launching – Managing Technology based Product / Service entrepreneurship – Success Stories of Technopreneurs – Case Studies

UNIT V EMERGING TRENDS IN ENTREPRENERUSHIP 9

Effective Business Management Strategies for Franchising – Sub Contracting – Leasing – Technopreneurs – Agripreneurs – Netpreneurs– Portfolio entrepreneurship – NGO Entrepreneurship – Recent Entrepreneurial Developments – Local – National – Global perspectives

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project – Periods

Total 45 Periods

TEXT BOOKS:

1. S.S. Khanka, "Entrepreneurial Development", 11th edition, S. Chand & Company,2007
2. Donal F Kuratko," Theory, Process, Cengage Learning", 11th edition, South Western College Publishing, 2019

REFERENCES:

1. Daniel Mankani, Technopreneurship: "The successful Entrepreneur in the new Economy", 1st edition, Pearson Ed Asia,2003
2. Gupta C B, Srinivasan N P, "Entrepreneurship development in India", revised edition, Sultan Chand &Sons, 2013
3. Anil kumar, S C Poornima, Mini K Abraham, "Entrepreneurship development", 1st edition, New Age International Pvt Ltd,2021

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		**Assessment II (100 Marks)**		**Total Internal Assessments**	**End Semester Examinations**
*Individual Assignment / Case Study / Seminar / Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Project / MCQ	Written Test		
40	**60**	**40**	**60**	**200**	**100**
Total				**40**	**60**
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Designer can choose any one / two components based on the nature of the course.

U21MDG08	TEAM BUILDING AND LEADERSHIP MANAGEMENT FOR BUSINESS	Category: MDC			
		L	T	P	C
		3	0	0	3

PRE–REQUISITES:

- NIL

COURSE OBJECTIVES:

- To impart the Leadership skills and traits essential to become successful entrepreneurs
- To apply the principles and theories of Team Building in business
- To empower the learners to build robust teams for a business

COURSE OUTCOMES:

Upon completion of this course, the student will be able to:

CO1: Discuss the basics of managing teams for business (Understand)
CO2: Developing effective teams for business management (Understand)
CO3: Explain the fundamentals of leadership for running a business (Understand)
CO4: Discuss about the importance of leadership for business development (Understand)
CO5: Acquaint with emerging trends in leadership effectiveness for entrepreneurs (Understand)

CO – PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	2	2	-	2	-	2	3		
CO2	-	-	-	-	-	2	2	-	2	-	2	3		
CO3	-	-	-	-	-	2	2	-	2	-	2	3		
CO4	-	-	-	-	-	2	2	-	2	-	2	3		
CO5	-	-	-	-	-	2	2	-	2	-	2	3		

SYLLABUS:

UNIT I INTRODUCTION TO MANAGING TEAMS 9

Introduction to Team – Team Dynamics – Team Formation – Stages of Team Development – Enhancing teamwork within a group – Team Coaching – Team Decision Making – Virtual Teams – Self Directed Work Teams (SDWTs) – Multicultural Teams

UNIT II MANAGING AND DEVELOPING EFFECTIVE TEAMS 9

Team based Organizations – Leadership roles in team-based organizations – Offsite training and team development – Experiential Learning – Coaching and Mentoring in team building – Building High Performance Teams – Building Credibility and Trust – Skills for Developing Others Team Building at the Top – Leadership in Teamwork Effectiveness

UNIT III INTRODUCTION TO LEADERSHIP 9

Introduction to Leadership – Leadership Myths – Characteristics of Leader, Follower and Situation – Leadership Attributes – Personality Traits and Leadership Intelligence – Types and Leadership Power and Leadership – Delegation and Empowerment

UNIT IV LEADERSHIP IN ORGANISATIONS 9

Leadership Styles – LMX Theory– Leadership Theory and Normative Decision Model – Situational Leadership Model – Contingency Model and Path Goal Theory – Transactional and Transformational Leadership – Charismatic Leadership – Role of Ethics and Values in Organizational Leadership

UNIT V LEADERSHIP EFFECTIVENESS 9

Leadership Behavior – Assessment of Leadership Behaviors – Destructive Leadership – Motivation and Leadership – Managerial Incompetence and Derailment Conflict Management – Negotiation and Leadership – Culture and Leadership – Global Leadership – Recent Trends in Leadership

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project – Periods

Total 45 Periods

TEXT BOOKS:

1. Jameel Ahmed, "Business Management and Leadership Strategies", How to lead and succeed in the competitive market paperback., 1st edition, Notation Press., 2021
2. Dr. Carrie Picardi, "Leadership Essentials You Always Wanted to Know", Self–Learning Management Series, 1st edition, Vibrant Publishers,2021

REFERENCES:

1. Hughes, R.L., Ginnett, R.C., &Curphy, G.J., Leadership: "Enhancing the lessons of experience", 9th edition, McGraw Hill Education,2019
2. Katzenback, J.R., Smith, D.K., The Wisdom of Teams: "Creating the High-Performance Organisations", 13th edition, Harvard Business Review Press,2015
3. Daniel Levi, "Group Dynamics for Teams",4th edition, Sage Publications. 2014

EVALUATION PATTERN:

Continuous Internal Assessments					End Semester Examinations
Assessment I (100 Marks)		Assessment II (100 Marks)		Total Internal Assessments	
*Individual Assignment / Case Study / Seminar / Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Project / MCQ	Written Test		
40	60	40	60	200	100
Total				40	60
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Designer can choose any one / two components based on the nature of the course.

		Category: MDC			
U21MDG09	CREATIVITY AND INNOVATION IN ENTREPRENEURSHIP	L	T	P	C
		3	0	0	3

PRE–REQUISITES:

- NIL

COURSE OBJECTIVES:

- To impart the knowledge of creative intelligence essential for entrepreneurs
- To know the applications of innovation in entrepreneurship
- To develop innovative business models for business

COURSE OUTCOMES:

Upon completion of this course, the student will be able to:

CO1: Comment on the basics of creativity for developing Entrepreneurship (Understand)
CO2: Explain the importance of creative intelligence for business growth (Understand)
CO3: Discuss the advances through Innovation in Industries (Understand)
CO4: Identify about applications of innovation in building successful ventures (Understand)
CO5: Acquaint with developing innovative business models to run the business successfully (Understand)

CO – PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	-	-	-	2	2	-	-	-	2	3		
CO2	2	2	-	-	-	2	2	-	-	-	2	3		
CO3	2	2	-	-	-	2	2	-	-	-	2	3		
CO4	2	2	-	-	-	2	2	-	-	-	2	3		
CO5	-	-	-	-	-	2	2	-	-	-	2	3		

SYLLABUS:

UNIT I CREATIVITY **9**

Creativity – Definition – Forms of Creativity – Essence, Elaborative and Expressive Creativities – Quality of Creativity – Existential, Entrepreneurial and Empowerment Creativities – Creative Environment – Creative Technology– Creative Personality and Motivation

UNIT II CREATIVE INTELLIGENCE **9**

Creative Intelligence – Convergent thinking ability – Traits Congenial to creativity – Creativity Training – Criteria for evaluating Creativity – Credible Evaluation – Improving the quality of our creativity – Creative Tools and Techniques – Blocks to creativity – Fears and Disabilities – Strategies for Unblocking – Designing Creativity Enabling Environment

UNIT III INNOVATION **9**

Innovation – Definition – Levels of Innovation – Incremental Vs Radical Innovation – Product Innovation and Process – Technological, Organizational Innovation – Indicators– Characteristics of Innovation in Different Sectors. Theories in Innovation and Creativity – Design Thinking and Innovation – Innovation as Collective Change – Innovation as a system

UNIT IV INNOVATION AND ENTREPRENEURSHIP 9

Innovation and Entrepreneurship – Entrepreneurial Mindset – Motivations and Behaviors – Opportunity Analysis and Decision Making – Industry Understanding – Entrepreneurial Opportunities – Entrepreneurial Strategies – Technology Pull/Market Push – Product – Market fit

UNIT V INNOVATIVE BUSINESS MODELS 9

Innovative Business Models – Customer Discovery – Customer Segments – Prospect Theory and Developing Value Propositions – Developing Business Models – Elements of Business Models – Innovative Business Models – Elements, Designing Innovative Business Models – Responsible Innovation and Creativity

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project – Periods

Total 45 Periods

TEXT BOOKS:

1. S.S. Khanka, "Creativity and Innovation in Entrepreneurship", 1st edition, Sultan Chand & Sons,2021
2. C.S.G. Krishnamacharyulu, R. Lalitha, "Innovation Management", 1st edition, Himalaya Publishing House, 2016

REFERENCES:

1. Pradip N Khandwalla, "Lifelong Creativity, An Unending Quest", Tata Mc Graw Hill, 2004
2. Paul Trott, "Innovation Management and New Product Development", 6th edition, Pearson Education, 2018
3. Vinnie Jauhari, Sudanshu Bhushan, "Innovation Management", 1st edition, Oxford University Press India,2014
4. U. Jerinabi, P. Santhi, Creativity, "Innovation and Entrepreneurship", 1st edition, Allied Publisher Pvt Ltd,2016

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		**Assessment II (100 Marks)**		**Total Internal Assessments**	**End Semester Examinations**
*Individual Assignment / Case Study / Seminar / Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Project / MCQ	Written Test		
40	**60**	**40**	**60**	**200**	**100**
Total				**40**	**60**
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Designer can choose any one / two components based on the nature of the course.

U21MDG10	PRINCIPLES OF MARKETING MANAGEMENT FOR BUSINESS	Category: MDC			
		L	T	P	C
		3	0	0	3

PRE–REQUISITES:

- NIL

COURSE OBJECTIVES:

- To provide basic principles of marketing for entrepreneurs
- To provide an exposure on the scope of marketing for industries
- To give them an understanding of fundamental premise underlying market driven strategies

COURSE OUTCOMES:

Upon completion of this course, the student will be able to:

CO1: Comment on the marketing management process (Understand)
CO2: Explain the marketing environment for business (Understand)
CO3: Acquaint about product and pricing strategies (Understand)
CO4: Share the Knowledge on promotion and distribution in marketing management (Understand)
CO5: Comprehend the contemporary marketing situations and offer solutions to issues (Understand)

CO – PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	2	2	-	-	-	2	3		
CO2	-	-	-	-	-	2	2	-	-	-	2	3		
CO3	-	-	-	-	-	2	2	-	-	-	2	3		
CO4	-	-	-	-	-	2	2	-	-	-	2	3		
CO5	-	-	-	-	-	2	2	-	-	-	2	3		

SYLLABUS:

UNIT I INTRODUCTION TO MARKETING MANAGEMENT 9

Introduction – Market and Marketing – Concepts – Functions of Marketing – Importance of Marketing – Marketing Orientations – Marketing Mix –The Traditional 4Ps – The Modern Components of the Mix – The Additional 3Ps – Developing an Effective Marketing Mix

UNIT II MARKETING ENVIRONMENT 9

Introduction – Environmental Scanning – Analyzing the Organization's Micro Environment and Macro Environment – Differences between Micro and Macro Environment – Techniques of Environment Scanning – Marketing organization – Marketing Research and the Marketing Information System – Types and Components

UNIT III PRODUCT AND PRICING MANAGEMENT 9

Product – Meaning, Classification, Levels of Products – Product Life Cycle (PLC) – Product Strategies – Product Mix – Packaging and Labelling – New Product Development – Brand and Branding – Advantages and disadvantages of branding Pricing – Factors Affecting Price Decisions – Cost Based Pricing – Value Based and Competition Based Pricing – Pricing Strategies – National and Global Pricing

UNIT IV PROMOTION AND DISTRIBTUION MANAGEMENT 9

Introduction to Promotion – Marketing Channels – Integrated Marketing Communications (IMC) – Introduction to Advertising and Sales Promotion – Basics of Public Relations and Publicity – Personal Selling – Process – Direct Marketing – Segmentation, Targeting and Positioning (STP) – Logistics Management – Introduction to Retailing and Wholesaling

UNIT V CONTEMPORARY ISSUES IN MARKETING MANAGEMENT 9

Introduction – Relationship Marketing Vs. Relationship Management – Customer Relationship Management (CRM) – Forms of Relationship Management – CRM practices – Managing Customer Loyalty and Development – Buyer – Seller Relationships – Buying Situations in Industrial Business Market – Buying Roles in Industrial Marketing – Factors that Influence Business – Services Marketing – E– Marketing or Online Marketing

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project – Periods

Total 45 Periods

TEXT BOOKS:

1. Philip Kortler and Kevin Lane Keller, "Marketing Management", 16th edition, Pearson Education, 2018
2. Vijay Prakash Anand, Biztantra, "Marketing Management, An Indian perspective", 2nd edition, Dreamtech Press,2016

REFERENCES:

1. SherlekarS.A, "Marketing Management", 14th edition, Himalaya Publishing House, 2016
2. V.S.Ramaswamy & S.Namakumari, "Marketing Management Global Perspective", 5th edition, Indian Context, Macmillan Publishers India,2015
3. C.B.Gupta & N.Rajan Nair, "Marketing Management– text and Cases", 17th edition, Sultan Chand & Sons,2016

EVALUATION PATTERN:

Continuous Internal Assessments					End Semester Examinations
Assessment I (100 Marks)		Assessment II (100 Marks)		Total Internal Assessments	
*Individual Assignment / Case Study / Seminar / Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Project / MCQ	Written Test		
40	60	40	60	200	100
Total				40	60
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Designer can choose any one / two components based on the nature of the course.

U21MDG11	FINANCING NEW BUSINESS VENTURES	Category: MDC			
		L	T	P	C
		3	0	0	3

PRE–REQUISITES:

- NIL

COURSE OBJECTIVES:

- To develop the basics of business venture financing.
- To acquaint the learners with the sources of debt and equity financing.
- To empower the learners towards fund raising for new ventures effectively

COURSE OUTCOMES:

Upon completion of this course, the student will be able to:

CO1: Discuss the basics of starting a new business venture (Understand)
CO2: Discuss the basics of venture financing (Understand)
CO3: Comment on the sources of debt financing (Understand)
CO4: Explain the sources of equity financing (Understand)
CO5: Acquaint with the methods of fund raising for new business ventures (Understand)

CO – PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	2	-	-	-	-	2	3		
CO2	-	-	-	-	-	2	-	-	-	-	2	3		
CO3	-	-	-	-	-	2	-	-	-	-	2	3		
CO4	-	-	-	-	-	2	-	-	-	-	2	3		
CO5	-	-	-	-	-	2	-	-	-	-	2	3		

SYLLABUS:

UNIT I ESSENTIALS OF NEW BUSINES VENTURE 9

Setting up new Business Ventures – Need – Scope – Franchising – Location Strategy – Registration Process – State Directorate of Industries – Financing for New Ventures – Central and State Government Agencies – Types of loans – Financial Institutions – SFC, IDBI, NSIC and SIDCO

UNIT II INTRODUCTION TO VENTURE FINANCING 9

Venture Finance – Definition – Historic Background – Funding New Ventures– Need – Scope – Types – Cost of Project – Means of Financing – Estimation of Working Capital – Requirement of funds – Mix of Dent and Equity – Challenges and Opportunities

UNIT III SOURCES OF DEBT FINANCING 9

Fund for Capital Assets – Term Loans – Leasing and Hire – Purchase – Money Market instruments – Bonds – Corporate Papers – Preference Capital – Working Capital Management – Fund based Credit Facilities – Cash Credit – Over Draft

UNIT IV SOURCES OF EQUITY FINANCING 9

Own Capital – Unsecured Loan – Government Subsidies –, Margin Money – Equity Funding – Private Equity Fund – Schemes of Commercial banks – Angel Funding – Crowd funding – Venture Capital

UNIT V METHODS OF FUND RAISING FOR NEW VENTURES 9

Investor Decision Process – Identifying the appropriate investors– Targeting investors – Developing Relationships with investors – Investor Selection Criteria – Company Creation – Raising Funds – Seed Funding – VC Selection Criteria – Process – Methods – Recent Trends

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project – Periods

Total 45 Periods

TEXT BOOKS:

1. Brealey, and Myerset al., "Principles of Corporate Finance", 12th edition, McGraw Hill Education Pvt Ltd, 2018
2. Prasanna Chandra, Projects: "Planning Analysis, Selection Financing, Implementation and Review", 9th edition, McGraw Hill Education Pvt Ltd,2019

REFERENCES:

1. Metrick, Andrew; Yasuda, Ayako, "Venture Capital and The Finance of Innovation", Venture Capital and The Finance of Innovation, 2nd edition, John Wiley and Sons,2010
2. Byers, Thomas. Technology Ventures: From Idea to Enterprise. McGraw Hill Higher Education, 2014.
3. Camp, Justin J. Venture Capital Due Diligence: A Guide to Making Smart Investment Choices and Increasing Your Portfolio Returns. John Wiley & Sons, 2002

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		**Assessment II (100 Marks)**		**Total Internal Assessments**	**End Semester Examinations**
*Individual Assignment / Case Study / Seminar / Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Project / MCQ	Written Test		
40	**60**	**40**	**60**	**200**	**100**
Total				**40**	**60**
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Designer can choose any one / two components based on the nature of the course.

U21MDG12	INNOVATION AND NEW PRODUCT DEVELOPMENT	Category: MDC			
		L	T	P	C
		3	0	0	3

PRE–REQUISITES:

- NIL

COURSE OBJECTIVES:

- To understand the innovation related issues for successful development of a business model
- To expose the students to the basis of innovation and its processes
- To create awareness on the new venture creation for startup

COURSE OUTCOMES:

Upon completion of this course, the student will be able to:

CO1: Explain the fundamentals of design thinking process (Understand)
CO2: Discuss about the attributes, rate of innovation and process of evaluation (Understand)
CO3: Describe the characteristics used for product design and development (Understand)
CO4: Assess the customer requirements in product design (Apply)
CO5: Apply structural approach to concept generation, selection and testing (Apply)

CO – PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	-	-	-	-	-	-	-	2	2		
CO2	3	3	2	-	-	-	-	-	-	-	2	2		
CO3	3	3	2	-	-	-	-	-	-	-	2	2		
CO4	3	3	2	-	-	-	-	-	-	-	2	2		
CO5	3	3	2	-	-	-	-	-	-	-	2	2		

SYLLABUS:

UNIT I ESSENTIALS OF NEW BUSINES VENTURE 9

Stages of thinking – The Design Process – Define, Research, Ideate, Prototype, Select, Implement, learn – Idea generation – Basic design directions– Themes of thinking– Inspiration and references– Brainstorming, Value, Inclusion, Sketching, Presenting idea

UNIT II INNOVATION ATTRIBUTES AND EVALUATION 9

Lead Users – Strategies for Leveraging user innovation– creating new products – Key attributes of innovation– Innovation Diffusion– Rate of adoption of an innovation – Innovation activities of business entities –Measurement of Innovation – Types of evaluation – Innovation Indicator

UNIT III PRODUCT DEVELOPMENT AND PROCESSES 9

Introduction to Product development – Characteristics of successful product development – Design and development of products – Duration and cost of product development – Generic development process – Concept development – Front end process – Adopting the generic product development process

UNIT IV PRODUCT PLANNING AND CUSTOMER NEEDS 9

Product planning process – Identify opportunities – Evaluation and prioritize projects – Allocate resources and plan timing – Complete pre project planning–Reflect all the results and process –Gather

raw data from customer – Interpret raw data in terms of customer needs – Organize the needs into a hierarchy – Establish the relative importance of the needs and reflect on the results and the process

UNIT V CONCEPT GENERATION, SELECTION AND TESTING 9

Activities of concept generation – Need for system level thinking – TRIZ and its comparison with brainstorming and lateral thinking – TRIZ tools –Ideality and IFR – Problem formulation and functional analysis – Use of 40 principles to solve contradiction – Use of S curves and technology evolution trends – Concept Selection: Overview of methodology – Concept screening and scoring – Pugh matrix and its application – Concept Testing: Purpose of concept test – Choose a survey population – Choose a survey format – Communicate the concept – measure customer response – Interpret the result – Reflect on the results and the process – Failure mode effect analysis

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project – Periods

Total 45 Periods

TEXT BOOKS:

1. Kelley, Tom, Jonathan Littman, and Tom Peters, "The Art of Innovation: Lessons in Creativity from IDEO, America's Leading Design Firm". 1st edition, Currency,2001
2. Karl.T. Ulrich and Steven D Eppinger Irwin, "Product Design and Development", 5th edition, McGraw Hill, 2011

REFERENCES:

1. N.P. Srinivasan and G.P. Gupta," Entrepreneurial Development ", revised edition, Sultan Chand & Sons,2020
2. Anil Kumar. S, "Entrepreneurship Development", 1st edition, New Age Publisher, 2021
3. Aurangabadkar P, Singh S, "Startup and New Venture Management", 7th edition, Nirali Prakashan, 2018
4. Altshuller G, Altov H, Lev Shulyak, "And Suddenly the Inventor Appeared: TRIZ, The theory of Inventive Problem Solving", 2nd edition, Technical Innovation Centre,1996

EVALUATION PATTERN:

<table>
<tr><th colspan="4">Continuous Internal Assessments</th><th rowspan="3">Total Internal Assessments</th><th rowspan="3">End Semester Examinations</th></tr>
<tr><th colspan="2">Assessment I (100 Marks)</th><th colspan="2">Assessment II (100 Marks)</th></tr>
<tr><td>*Individual Assignment / Case Study / Seminar / Project / MCQ</td><td>Written Test</td><td>*Individual Assignment / Case Study / Seminar / Project / MCQ</td><td>Written Test</td></tr>
<tr><td>40</td><td>60</td><td>40</td><td>60</td><td>200</td><td>100</td></tr>
<tr><td colspan="4" rowspan="2">Total</td><td>40</td><td>60</td></tr>
<tr><td colspan="2">100</td></tr>
</table>

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Designer can choose any one / two components based on the nature of the course.

U21MDG13	STARTUP OPPORTUNITIES AND SUPPORT	Category: MDC			
		L	T	P	C
		3	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To know the basic concepts in the area of startups
- To identify startup opportunities
- To create awareness on the new venture creation for startup

COURSE OUTCOMES:

Upon completion of this course, the student will be able to:

CO1: Discuss the opportunities for a startup (Understand)
CO2: Suggest different forms of new venture development (Understand)
CO3: Assess business plan, business pitch as an entrepreneurial tool (Understand)
CO4: Explain the methodology to start an enterprise in a systematic manner (Understand)
CO5: Make use of the different Government initiatives and support organizations for starting new venture (Understand)

CO – PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	-	-	-	-	-	3	3		
CO2	-	-	-	-	-	-	-	-	-	-	3	3		
CO3	-	-	-	-	-	-	-	-	-	-	3	3		
CO4	-	-	-	-	-	-	-	-	-	-	3	3		
CO5	-	-	-	-	-	-	-	-	-	-	3	3		

SYLLABUS:

UNIT I STARTUP OPPORTUNITIES 9

The New Industrial Revolution – The Big Idea – Business Startup – Ideation – Venture Choices – The Rise of the startup Economy – The Six Forces of Change – The Startup Equation – The Entrepreneurial Ecosystem – Entrepreneurship In India

UNIT II CREATING ENTREPRENEURIAL VENTURE 9

Creating and Starting the Venture: Sources of new Ideas – Methods of generating ideas – creating, problem solving – product planning and development process – Various forms of business organizations – Sole proprietorship – Partnership – Limited liability partnership firms – Corporation – Franchising – Setup process of smallscale enterprise– procedures for Registration of smallscale industry

UNIT III BUSINESS PLAN AND PITCH 9

Nature of Business plan – Writing business plan – Evaluating business plan, implementing business plan – Marketing plan – Financial plan – Organizational plan – Business pitch – Preparing investor presentation – Element of the perfect investment pitch –delivering of investor pitch to panel of investors

UNIT IV START–UP OPPORTUNITIES AND PROCESS 9

New industrial revolution – Business startup – Ideation – Venture choices – Startup policy – Startup opportunities– Registration and Legal process of startups – Startup Ecosystem – Business startups – Legal environment – Approval for new ventures – Taxes or duties payable for new ventures

UNIT V GOVERNMENT INITIATIVES AND INSTITUTIONAL SUPPORT 9

Role of Central Government and State Government in promoting entrepreneurship with various incentives, subsidies, grants, programs, schemes and challenges – Government initiatives and inclusive entrepreneurial Growth – Startup India Scheme – MSME Act – MSME policy in India – TN Startup schemes – Source of entrepreneurial finance – Commercial banks – Venture capital, angel investors – Funding startups with bootstrapping – Crowd funding – Strategic alliances

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project – Periods

Total 45 Periods

TEXT BOOKS:

1. Khanna, S. S., "Entrepreneurial Development", 1st edition, Sultan Chand & Sons, 1999
2. Charantimath, P.M, "Entrepreneurship Development and Small Business Enterprises", 10th edition, Pearson Education,2006

REFERENCES:

1. Anil Kumar.S, "Entrepreneurship Development", 1stedition, New Age Publisher, 2021
2. Aurangabadkar P, Singh S, "Startup and New Venture Management", 7th edition, Nirali Prakashan, 2018
3. Kathleen R Allen, "Launching New Ventures – An Entrepreneurial Approach", 7th edition, South Western College Publisher,2015

EVALUATION PATTERN:

<table>
<tr><th colspan="4">Continuous Internal Assessments</th><th rowspan="2">Total Internal Assessments</th><th rowspan="3">End Semester Examinations</th></tr>
<tr><th colspan="2">Assessment I (100 Marks)</th><th colspan="2">Assessment II (100 Marks)</th></tr>
<tr><td>*Individual Assignment / Case Study / Seminar / Project / MCQ</td><td>Written Test</td><td>*Individual Assignment / Case Study / Seminar / Project / MCQ</td><td>Written Test</td><td></td></tr>
<tr><td>40</td><td>60</td><td>40</td><td>60</td><td>200</td><td>100</td></tr>
<tr><td colspan="4" rowspan="2">Total</td><td>40</td><td>60</td></tr>
<tr><td colspan="2">100</td></tr>
</table>

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Designer can choose any one / two components based on the nature of the course.

VERTICAL III

POLITICS AND PUBLICADMINISTRATION

U21MDG14	PRINCIPLES OF PUBLIC ADMINISTRATION	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To understand the nature and scope of Public Administration
- To appreciate the methodological pluralism and synthesizing nature of knowledge in Public Administration
- To comprehend the changing paradigms of Public Administration

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Understand the synthesizing nature of knowledge of public administration from public perspective (Understand)
CO2: Apply the administrative theories, concepts and principles to make sense of administrative practices with emerging trends (Apply)
CO3: Understand the world of public administration from the public perspective and provide foundation for further studies in Public Administration (Understand)
CO4: Analyse with the theories, approaches, concepts and principles of Public Administration(Analyse)
CO5: Understand the administrative theories and concepts to make sense of administrative practices(Understand)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	-	-	2	-	-	2	-		
CO2	-	-	-	-	-	-	-	2	-	-	2	-		
CO3	-	-	-	-	-	-	-	2	-	-	2	-		
CO4	-	-	-	-	-	-	-	2	-	-	2	-		
CO5	-	-	-	-	-	-	-	2	-	-	2	-		
Correlation levels:	1: Slight (Low)			2: Moderate (Medium)				3: Substantial (High)						

SYLLABUS:

UNIT I INTRODUCTION **9**

Meaning, Nature and Scope of Public Administration – Importance of Public Administration – Evolution of Public Administration

UNIT II PRINCIPLES OF ADMINISTRATION **9**

New Public Administration – New Public Management – Public and Private Administration

UNIT III PRINCIPLES OF APPROACHES 9

Relationships with Political Science– History and Sociology – Classical Approach – Scientific Management Approach

UNIT IV TYPES OF APPROACHES 9

Bureaucratic Approach: Max Weber – Human Relations Approach: Elton Mayo – Ecological Approach: Riggs

UNIT V LEADERSHIP TECHNIQUES 9

Leadership: Leadership –Styles – Approaches – Communication: Communication Types –Process – Barriers – Decision Making: Decision Making – Types, Techniques and Processes

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Avasthi and Maheswari, "Public Administration in India", Agra: Lakshmi Narain Agarwal, 2013.
2. Ramesh K Arora, "Indian Public Administration", New Delhi: Wishwa Prakashan, 2012.

REFERENCES:

1. Jain, R., B., "Public Administration in India, 21st Century Challenges for Good Governance", New Delhi: Deep and Deep, 2002.
2. Rumki Basu, "Public Administration: Concept and Theories", New Delhi: Sterling,2013.
3. Tyagi, R., "Public Administration", Atma Ram & Sons, New Delhi,1983.

EVALUATION PATTERN:

Continuous Internal Assessments					End Semester Examinations
Assessment I (100 Marks)		Assessment II (100 Marks)		Total Internal Assessments	
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	60	40	60	200	100
Total				40	60
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

U21MDG15	CITIZEN JOURNALISM	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- NIL

COURSE OBJECTIVES:

- To make news content digitally available with the national outreach
- To create digital news for digital generations with an emphasis on stories of special interest to audiences across the country
- To provide expertise in developing and monetizing content, producing original programming and custom branded content, as well as managing talent and creating multi-platform distribution strategies

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Understand the difference between journalism and other types of information, including publicity, advertisement, propaganda, entertainment, and unfiltered information (Understand)
CO2: Deconstruct news reports based on evidence and reliability of sources, and apply those principles across all media platforms (Apply)
CO3: Analyze the difference between assertion and verification, and between evidence and inference (Analyse)
CO4: Analyse the difference between news and opinion (Analyse)
CO5: Understand the difference between news media bias and audience bias (Understand)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	-	-	2	-	-	2	-		
CO2	-	-	-	-	-	-	-	2	-	-	2	-		
CO3	-	-	-	-	-	-	-	2	-	-	2	-		
CO4	-	-	-	-	-	-	-	2	-	-	2	-		
CO5	-	-	-	-	-	-	-	2	-	-	2	-		
Correlation levels:	1: Slight (Low)			2: Moderate (Medium)				3: Substantial (High)						

SYLLABUS:

UNIT I CITIZEN JOURNALISM 9

Citizen Journalism – concept and definitions – Characteristics of citizen journalism – Types of citizen journalism – Significance and demerits of citizen journalism – Citizen journalism vs. mainstream journalism – Role of information and communication technologies in proliferating citizen journalism

UNIT II EVOLUTION OF JOURNALISM 9

Evolution of citizen journalism – Old and modern citizen journalism – Citizen journalism in India – Television citizen journalism – Online citizen journalism in India- State of citizen journalism in Tamil Nadu

UNIT III ROLES OF JOURNALISM 9

Citizens as journalists – Skills and roles – Blogging and Bloggers as journalists – Citizen Journalism and Gate keeping – Citizen Journalism vs Mainstream Journalism

UNIT IV TYPES OF CITIZEN JOURNALISM 9

Citizen Journalism – concept and definitions – Parameters of citizen journalism – Noted citizen journalism organizations – Types of citizen journalism

UNIT V ACTIVISM AND ETHICS 9

Activism And Citizen Journalism – Tools of activism – Citizen Journalism And Various Media – Citizen journalism ethics – Citizen Journalism and Data verification

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Allan, S., & Thorsen, E. (Eds.). (2009). Citizen Journalism: Global Perspectives. New York: Peter Lang Publishing, Inc.
2. Tremayne, M. (Ed.). (2007). Blogging, Citizenship, and the Future of Media. London, New York: Rutledge.

REFERENCES:

1. Prasad, K. (Ed.). (2009). e-Journalism: New Media and News Media. Delhi: BR Publishing.
2. Campbell, W. J. (2001). Yellow Journalism: Puncturing the Myths, Defining the Legacies. USA: Praeger Publishers

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		**Assessment II (100 Marks)**		**Total Internal Assessments**	**End Semester Examinations**
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	**60**	**40**	**60**	**200**	**100**
Total				**40**	**60**
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

KPRIET
Learn Beyond

U21MDG16	PUBLIC PERSONNEL ADMINISTRATION	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To understand the concepts of public and personnel administration which will enable them to model and analyze physical phenomena administration
- To understand the methodologies involved in solving problems related to fundamental principles of administration
- To develop confidence to model public and personnel administration and give appropriate solutions

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Understand the institutional, political and legal processes of India, and articulate the functions of public administration in terms of structure, and contemporary issues (Understand)
CO2: Comprehend the politics, legal aspects, and policies of public personnel administration(Understand)
CO3: Apply the techniques of public personnel administration (Apply)
CO4: Develop the ability to interact with human resource professionals (Apply)
CO5: Better appreciate and understand human resource techniques and functions in public organizations (Understand)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	-	-	2	-	-	2	-		
CO2	-	-	-	-	-	-	-	2	-	-	2	-		
CO3	-	-	-	-	-	-	-	2	-	-	2	-		
CO4	-	-	-	-	-	-	-	2	-	-	2	-		
CO5	-	-	-	-	-	-	-	2	-	-	2	-		
Correlation levels:		1: Slight (Low)			2: Moderate (Medium)				3: Substantial (High)					

SYLLABUS:

UNIT I PERSONNEL ADMINISTRATION **9**

Meaning, Scope and Importance of Personnel Administration – Types of Personnel Systems – Bureaucratic, Democratic and Representative systems

UNIT II DEVELOMENT ADMINISTRATION **9**

Generalist Vs Specialist – Civil Servants' Relationship with Political Executive – Integrity in Administration

UNIT III RECRUITMENT AND TRAINING 9

Recruitment – Direct Recruitment – Recruitment from Within – Training – Kinds of Training – Promotion

UNIT IV SERVICE COMMISSION 9

All India Services – Service Conditions – State Public Service Commission

UNIT V EMPLOYER EMPLOYEE POLICIES 9

Employer Employee Relations – Wage and Salary Administration – Allowances and Benefits

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Oscar Glenn Stahl, "Public Personnel Administration", 6th edition, Harper & Row, 1971.
2. Pai Panandiker, V., A., "Personnel System for Development Administration", Popular Prakashan, 1966.

REFERENCES:

1. Dwivedi, O.P., and Jain, R.B. "India's Administrative State." Gitanjali Publ. House, New Delhi, 1985.
2. Muttalis, M.A., "The Union Public Service Commission", Indian Institute of Public Administration, New Delhi, 1967.

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		**Assessment II (100 Marks)**		**Total Internal Assessments**	**End Semester Examinations**
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	**60**	**40**	**60**	**200**	**100**
Total				**40**	**60**
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

U21MDG17	ADMINISTRATIVE THEORIES	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To understand the nature and scope of Administrative theory and to appreciate the methodological pluralism and synthesizing nature of knowledge in Public Administration
- To acquaint with the theories, approaches, concepts and principles of Administration
- To understand the administrative theories and concepts to make sense of administrative practices

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Understand, and appreciate theories, issues, and problems from more than one theoreticalperspective (Understand)

CO2: Understand core descriptive, normative, and predictive theories of administrative structure,systems, and processes to apply public organizations from a theoretically informed point ofview (Understand)

CO3: Analyze public non-profit organizations to improve effectiveness through theories and topractically think in sorting out critical elements or facts in a complex situation (Analyze)

CO4: Apply the administrative theories, concepts and principles to make sense of administrative practices with emerging trends integrals (Apply)

CO5: Solve the multi-dimensionality of problems and processes of Indian Administration(Understand)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	-	-	2	-	-	2	-		
CO2	-	-	-	-	-	-	-	2	-	-	2	-		
CO3	-	-	-	-	-	-	-	2	-	-	2	-		
CO4	-	-	-	-	-	-	-	2	-	-	2	-		
CO5	-	-	-	-	-	-	-	2	-	-	2	-		
Correlation levels:		1: Slight (Low)		2: Moderate (Medium)				3: Substantial (High)						

SYLLABUS:

UNIT I INTRODUCTION TO PUBLIC ADMINISTRATION 9

Meaning, Scope and significance of Public Administration – Evolution of Public Administration as a discipline and Identity of Public Administration

UNIT II THEORIES OF ORGANIZATION 9

Theories of Organization – Scientific Management Theory – Classical Model – Human Relations Theory

UNIT III ORGANISATIONAL DYNAMICS 9

Organization goals and Behaviour – Groups in organization – Group Dynamics – Organizational Design

UNIT IV LEADERSHIP AND DECISION MAKING 9

Motivation Theories – content, process and contemporary – Theories of Leadership – Traditional and Modern theories of leadership – Process and techniques of decision making

UNIT V ADMINISTRATIVE THINKING 9

Administrative thinkers –Kautilya, Woodrow Willson– C.I. Barnard – Peter Drucker

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Crozier, M., "The Bureaucratic Phenomenon", 1st Edition, Routledge, 2017.
2. Blau, P. M., and Scott, W. R., "Formal Organizations: A Comparative Approach", Routledge & Kegan Paul, 1966.

REFERENCES:

1. Presthus, R. V., "The Organizational Society: An Analysis and theory", Knopf, 1962.
2. Nisa Ali, S. S., "Eminent Administrative Thinkers," Associated Publishing House, New Delhi, 1977.

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		Assessment II (100 Marks)		Total Internal Assessments	End Semester Examinations
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	60	40	60	200	100
Total				40	60
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

U21MDG18	INDIAN ADMINISTRATIVE SYSTEM	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To understand the nature and scope of administration
- To develop knowledge of the Indian constitution and governance
- To become familiar with government policies and programmes

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Develop the knowledge and skills required to effectively manage and implement government policies and programmes (Apply)
CO2: Develop an understanding of the political, economic and social factors that influence policy-making and implementation (Understand)
CO3: Develop an awareness of the historical and contemporary context of the Indian administrative system (Understand)
CO4: Develop the ability to analyse and interpret data and use evidence-based approach to decision making (Analyse)
CO5: Promote ethical and professional conduct and uphold the principles of transparency, accountability and good governance (Apply)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	-	-	2	-	-	2	-		
CO2	-	-	-	-	-	-	-	2	-	-	2	-		
CO3	-	-	-	-	-	-	-	2	-	-	2	-		
CO4	-	-	-	-	-	-	-	2	-	-	2	-		
CO5	-	-	-	-	-	-	-	2	-	-	2	-		
Correlation levels:			1: Slight (Low)			2: Moderate (Medium)					3: Substantial (High)			

SYLLABUS:

UNIT I ADMINISTRATIVE BODIES **9**

Evolution and Constitutional Context of Indian Administration– Constitutional Authorities: Finance Commission – Union Public Services Commission – Election Commission – Comptroller and Auditor General of India – Attorney General of India

UNIT II ROLES & FUNCTIONS OF ADMINISTRATORS **9**

Role and Functions of the District Collector – Relationship between the District Collector and Superintendent of Police – Role of Block Development Officer in development programmes – Local Government

UNIT III AMENDMENTS IN CONSTITUTION 9

Main Features of 73rdConstitutional Amendment Act 1992 – Salient Features of 74th Constitutional Amendment Act 1992

UNIT IV ROLE OF POLITICS 9

Coalition politics in India – Integrity and Vigilance in Indian Administration

UNIT V ANTI-CORRUPTION ACTS 9

Corruption – Ombudsman– Lok Pal and Lok Ayuktha

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Maheshwari, S. R.,"Indian Administration", 6th edition, Orient Blackswan, 2001.
2. Khera, S. S., "District Administration in India", Asia Publishing House, 1964.

REFERENCES:

1. Ramesh K Arora, "Indian Public Administration: Institutions and Issues", 3rd edition, New Age International Publishers, 2012.
2. Basu, D. D., "Introduction to the Constitution of India", 24th edition, Lexis Nexis, 2019.

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		**Assessment II (100 Marks)**		**Total Internal Assessments**	**End Semester Examinations**
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	**60**	**40**	**60**	**200**	**100**
Total				**40**	**60**
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

U21MDG19	PUBLIC POLICY ADMINISTRATION	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To understand the nature and scope of public policy
- To analyze policy issues
- To comprehend legal and regulatory framework

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Appreciate the methodological pluralism and synthesizing nature of knowledge in public administration (Understand)
CO2: Comprehend the changing paradigms of Public Administration (Understand)
CO3: Acquaint with the theories, approaches, concepts and principles of Public Administration(Understand)
CO4: Analyse the administrative theories and concepts to make sense of administrative practices(Analyse)
CO5: Analyse public administration theory and concepts from multiple perspectives (Analyse)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	-	-	2	-	-	2	-		
CO2	-	-	-	-	-	-	-	2	-	-	2	-		
CO3	-	-	-	-	-	-	-	2	-	-	2	-		
CO4	-	-	-	-	-	-	-	2	-	-	2	-		
CO5	-	-	-	-	-	-	-	2	-	-	2	-		
Correlation levels:	1: Slight (Low)			2: Moderate (Medium)				3: Substantial (High)						

SYLLABUS:

UNIT I IMPORTANCE OF PUBLIC POLICY **9**

Meaning and Definition of Public Policy – Nature, Scope and Importance of public policy – Public policy relationship with social sciences especially with political science and Public Administration

UNIT II APPROACHES IN POLICY ANALYSIS **9**

Approaches in Policy Analysis – Institutional Approach – Incremental Approach and System's Approach – Dror's Optimal Model

UNIT III STAGES INVOLVED IN POLICY MAKING **9**

Major stages involved in Policy making Process – Policy Formulation – Policy Implementation Policy Evaluation

UNIT IV POLICY MAKING 9

Institutional Framework of Policy making – Role of Bureaucracy – Role of Interest Groups and Role of Political Parties

UNIT V TYPES OF PUBLIC POLICIES 9

Introduction to the Public Policies: New Economic Policy – Population Policy – Agriculture policy – Information Technology Policy

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Chakrabarti, R., and Sanyal, K., "Public policy in India", Oxford University Press, 2016.
2. Mathur, K., "Public policy and politics in India", Oxford University Press, 2015.

REFERENCES:

1. Chakrabarty, B., "Public policy: Concept, Theory and Practice", Sage Publications India Pvt Ltd., 2016.
2. Saxena, P., "Public policy, administration, and development", Rupa Books, 1988.

EVALUATION PATTERN:

<table>
<tr><th colspan="4">Continuous Internal Assessments</th><th rowspan="3">Total Internal Assessments</th><th rowspan="3">End Semester Examinations</th></tr>
<tr><th colspan="2">Assessment I (100 Marks)</th><th colspan="2">Assessment II (100 Marks)</th></tr>
<tr><th>*Individual Assignment / Case Study / Seminar / Mini Project / MCQ</th><th>Written Test</th><th>*Individual Assignment / Case Study / Seminar / Mini Project / MCQ</th><th>Written Test</th></tr>
<tr><td>40</td><td>60</td><td>40</td><td>60</td><td>200</td><td>100</td></tr>
<tr><td colspan="4" rowspan="2">Total</td><td>40</td><td>60</td></tr>
<tr><td colspan="2">100</td></tr>
</table>

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

		Category: MDC				
U21MDG20	POLITICAL LEADERSHIP	L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To understand the various theories of political leadership and their implications for politics and society
- To analyze the role of leadership in shaping political outcomes
- To evaluate the effectiveness of different leadership styles and strategies
- To discuss the relationship between leadership and democracy
- To examine the role of leadership in social and political movements

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Develop a nuanced understanding of political leadership and its role in shaping society(Understand)
CO2: Evaluate the role of leadership in social and political movements, including the dark side of leadership (Apply)
CO3: Analyze the role of leadership in international relations and conflict resolution (Analyse)
CO4: Analyse the difference between news and opinion (Analyse)
CO5: Assess the relationship between leadership and democratic institutions (Understand)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	-	-	2	-	-	2	-		
CO2	-	-	-	-	-	-	-	2	-	-	2	-		
CO3	-	-	-	-	-	-	-	2	-	-	2	-		
CO4	-	-	-	-	-	-	-	2	-	-	2	-		
CO5	-	-	-	-	-	-	-	2	-	-	2	-		
Correlation levels:	1: Slight (Low)			2: Moderate (Medium)				3: Substantial (High)						

SYLLABUS:

UNIT I INTRODUCTION TO POLITICAL LEADERSHIP 9

Political leadership – Theories of political leadership – Leadership and power – Leadership and authority – Case studies in political leadership

UNIT II LEADERSHIP STYLES AND STRATEGIES 9

Leadership styles – Charismatic leadership – Transformational leadership – Situational leadership – Gender and leadership – Political rhetoric and leadership

UNIT III POLITICAL LEADERSHIP IN DEMOCRACIES 9

Leadership and democracy – The role of leadership in democratic institutions – Leadership and political parties – Leadership and public opinion – Presidential leadership – Prime ministerial leadership

UNIT IV LEADERSHIP IN INTERNATIONAL RELATIONS 9

Leadership in international relations – International organizations and leadership – Leadership in crisis management – The role of leadership in conflict resolution – Leadership and foreign policy

UNIT V LEADERSHIP IN POLITICAL AND SOCIAL MOVEMENTS 9

Leadership and social movements – The role of leadership in civil rights movements – The role of leadership in environmental movements – Leadership and nonviolent resistance – The dark side of leadership

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Bagchi, S., "On Leadership and Innovation", Hachette India, 2014.
2. Gardner, H. E., "Leading Minds: An Anatomy of Leadership", Basic Books, 2011.
3. Blondel, J., and Thiebault, J. L., "Political Leadership, Parties and Citizens: The personalisation of leadership", Routledge, 2013.

REFERENCES:

1. Kapoor, A. C., "Principles of political science", S. Chand Publishing", 1997.
2. Mahajan, V. D., "Political theory", S. Chand Publishing, 2006.

EVALUATION PATTERN:

Continuous Internal Assessments					End Semester Examinations
Assessment I (100 Marks)		Assessment II (100 Marks)		Total Internal Assessments	
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	60	40	60	200	100
Total				40	60
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

U21MDG21	INTRODUCTION TO RIGHT TO INFORMATION ACT	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To understand the objectives and scope of the Right to Information Act
- To analyze the role of Information Commissions in enforcing the Act
- To evaluate the impact of the RTI Act on transparency and accountability in governance
- To identify challenges in the implementation of the Act and suggest ways to overcome them

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Demonstrate an understanding of the RTI Act and its objectives (Understand)
CO2: Apply the procedure for accessing information under the Act (Apply)
CO3: Analyse decisions of Information Commissions and their impact on governance (Analyse)
CO4: Analyse the effectiveness of the RTI Act in promoting transparency and accountability (Analyse)
CO5: Develop strategies for addressing challenges in the implementation of the Act. (Understand)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	-	-	2	-	-	2	-		
CO2	-	-	-	-	-	-	-	2	-	-	2	-		
CO3	-	-	-	-	-	-	-	2	-	-	2	-		
CO4	-	-	-	-	-	-	-	2	-	-	2	-		
CO5	-	-	-	-	-	-	-	2	-	-	2	-		
CO	-	-	-	-	-	-	-	2	-	-	2	-		
Correlation levels:	1: Slight (Low)			2: Moderate (Medium)				3: Substantial (High)						

SYLLABUS:

UNIT I INTRODUCTION TO RIGHT TO INFORMATION ACT 9

Historical background of the Right to Information Act – Objectives and scope of the Act – Key provisions of the Act – The role of the Central Information Commission and State Information Commissions

UNIT II ACCESSING INFORMATION UNDER THE RIGHT TO INFORMATION 9

The procedure for making an application for information – Grounds for refusal of information – The role of public authorities in providing information – The role of citizens in enforcing the Act

UNIT III ROLE OF INFORMATION COMMISSIONS 9

Composition of Information Commissions – Powers and functions of Information Commissions – Appeals and complaints before Information Commissions – Decisions of Information Commissions and their enforcement

UNIT IV TRANSPARENCY AND ACCOUNTABILITY IN GOVERNANCE 9

Role of RTI in promoting transparency and accountability – The relationship between the RTI Act and other accountability mechanisms – RTI and corruption – RTI and Good Governance

UNIT V CHALLENGES AND WAY FORWARD 9

Challenges in implementation of the Act – Role of civil society and media in promoting the RTI Act – Future of the RTI Act in India – Comparative study of RTI laws in other countries

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Jain, N. K., and Khurana, M. L., "Right to information: Concept, law and practice", Deep & Deep Publications, 2007.
2. Naib, S., "The right to information act 2005: A handbook", Oxford University Press, 2011.
3. Saini, R. G., and Gupta, R. K., "Right to information act, 2005: Implementation and challenges", Deep and Deep Publications, 2009.

REFERENCES:

1. Paranjape, N. V., "Right to Information law in India", Lexis Nexis, 2014.

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		**Assessment II (100 Marks)**		**Total Internal Assessments**	**End Semester Examinations**
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	**60**	**40**	**60**	**200**	**100**
Total				**40**	**60**
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

VERTICAL IV

BUSINESS DATA ANALYTICS

		Category: MDC				
U21MDG22	STATISTICS FOR MANAGEMENT	L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To learn the fundamental concepts of statistics
- To learn the applications of statistics in business decision making

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Explain the basic probability concepts, Bayes' theorem, and different probability distributions (Understand)

CO2: Describe the various sampling techniques, and the ability to perform point and interval estimation of population parameters (Understand)

CO3: Apply hypothesis testing techniques for means of small samples (t-test), and ANOVA one-way (Apply)

CO4: Implement non-parametric tests in both the research and business environments (Apply)

CO5: Apply the statistical techniques for analyzing relationships and making predictions (Apply)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	1	1	-	-	-	-	-	-	1	2		
CO2	2	1	1	1	-	-	-	-	-	-	1	2		
CO3	3	2	2	2	3	2	-	-	-	-	2	2		
CO4	3	2	2	2	3	2	-	-	-	-	2	2		
CO5	3	2	2	2	3	2	-	-	-	-	2	2		
Correlation levels:	1: Slight (Low)			2: Moderate (Medium)					3: Substantial (High)					

SYLLABUS:

UNIT I INTRODUCTION 9

Basic definitions and rules for probability–Baye's theorem and random variables–Probability distributions: Binomial, Poisson, Uniform and Normal distributions

UNIT II SAMPLING DISTRIBUTION AND ESTIMATION 9

Introduction to sampling distributions– Central limit theorem and applications– sampling techniques– Point and Interval estimates of population parameters

UNIT III TESTING OF HYPOTHESIS - PARAMETIRC TESTS 9

Hypothesis testing: one sample and two sample tests for means of large samples (z-test)– one sample and two sample tests for means of small samples (t-test)– ANOVA one way

UNIT IV NON-PARAMETRIC TESTS 9

Chi-square tests for independence of attributes and goodness of fit– Kolmogorov-Smirnov – test for goodness of fit, Mann – Whitney U test and Kruskal Wallis test

UNIT V CORRELATION AND REGRESSION 9

Correlation –Rank Correlation – Regression – Estimation of Regression line – Method of Least Squares – Standard Error of estimate.

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Richard I. Levin, David S. Rubin, Masood H.Siddiqui, Sanjay Rastogi, "Statistics for Management",8th Edition, Pearson Education,2017.
2. T N Srivastava and Shailaja Rego, "Statistics for Management", 3rdEdition, Tata McGraw Hill, 2017.
3. David R. Anderson, Dennis J. Sweeney, Thomas A.Williams, Jeffrey D.Camm, James J.Cochran, "Statistics for business and economics",13thEdition, Thomson (South – Western) Asia, Singapore,2016

REFERENCES:

1. Prem. S. Mann, "Introductory Statistics", 9th Edition, Wiley Publications,2015.
2. Ken Black, "Applied Business Statistics", 7th Edition, Wiley India Edition, 2012.

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		**Assessment II (100 Marks)**		**Total Internal Assessments**	**End Semester Examinations**
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	**60**	**40**	**60**	**200**	**100**
Total				**40**	**60**
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

U21MDG23	DATAMINING FOR BUSINESS INTELLIGENCE	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To learn data mining concepts and techniques for business intelligence analysis
- To understand how knowledge discovering process is used in business decision making
- To understand data mining findings effectively through data visualization and presentation technique

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Explain the fundamental concepts of data mining techniques (Understand)

CO2: Apply data mining methodologies and evaluate prediction performance measures (Apply)

CO3: Utilize data visualization and time series analysis techniques for forecasting (Apply)

CO4: Apply classification and clustering techniques for data organization and pattern recognition (Apply)

CO5: Implement machine learning algorithms for problem solving(Apply)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	-	1	-	-	-	-	-	-	1	1		
CO2	2	1	-	1	-	-	-	-	-	-	1	1		
CO3	3	2	-	2	-	-	-	-	-	-	2	2		
CO4	3	2	-	2	-	-	-	-	-	-	2	2		
CO5	3	2	-	2	-	-	-	-	-	-	2	2		
Correlation levels:	1: Slight (Low)			2: Moderate (Medium)					3: Substantial (High)					

SYLLABUS:

UNIT I INTRODUCTION **9**

Data mining– Text mining– Web mining– Data ware house

UNIT II DATA MINING PROCESS **9**

Datamining process – KDD, CRISP-DM– SEMMA–Prediction performance measures.

UNIT III PREDICTION TECHNIQUES **9**

Data visualization– Time series – ARIMA, Winter Holts

UNIT IV CLASSIFICATION AND CLUSTERING TECHNIQUES 9

Classification– Association– Clustering

UNIT V MACHINE LEARNING AND AI 9

Genetic algorithms– Neural network– Fuzzy logic– Ant Colony optimization– Particle Swarm optimization.

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Ralph Kimball and Richard Merz, "The data warehouse toolkit", 3rdEdition, John Wiley, 2013.
2. Michel Berry and Gordon Linoff, "Mastering Data mining", 2nd Edition John Wiley and Sons Inc, 2011.

REFERENCES:

1. W.H.Inmon, "Building the Data Warehouse", 4thEdition Wiley India pvt. Ltd. 2005.
2. Galit Shmueli, Nitin R. Patel and Peter C. Bruce, "Data Mining for Business Intelligence – Concepts, Techniques and Applications" 2nd Edition, Wiley, India, 2010.

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		**Assessment II (100 Marks)**		**Total Internal Assessments**	**End Semester Examinations**
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	**60**	**40**	**60**	**200**	**100**
Total				**40**	**60**
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

U21MDG24	HUMAN RESOURCE ANALYTICS	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- NIL

COURSE OBJECTIVES:

- To develop the ability of the learners to define and implement HR metrics that are aligned with the overall business strategy
- To know the different types of HR metrics and understand their respective impact and application
- To understand the impact and use of HR metrics and their connection with HR analytics

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Infer the HR metrics and key performance indicators for effective decision-making (Understand)

CO2: Describe the recruitment metrics to optimize recruitment processes (Understand)

CO3: Evaluate training and development initiatives using different HR metrics (Apply)

CO4: Assess employee engagement through various indexs (Apply)

CO5:Analyze workforce diversity and employee development (Apply)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	-	-	-	-	-	-	-	-	2	2		
CO2	2	1	-	2	-	-	-	-	-	-	2	2		
CO3	3	2	-	2	-	-	-	-	-	-	2	2		
CO4	3	2	-	2	2	-	-	-	-	-	2	2		
CO5	3	2	-	2	-	-	-	-	-	-	2	2		
Correlation levels:			1: Slight (Low)			2: Moderate (Medium)					3: Substantial (High)			

SYLLABUS:

UNIT I INTRODUCTION TO HR ANALYTICS **9**

People Analytics – stages of maturity – Human Capital in the Value Chain: impact on business – HR metrics and KPIs

UNIT II HR ANALYTICS I: RECRUITMENT **9**

Recruitment Metrics: Fill-up ratio – Time to hire – Cost per hire – Early turnover – Employee referralhires – Agency hires – Lateral hires – Fulfillment ratio– Quality of hire

UNIT III HR ANALYTICS - TRAINING AND DEVELOPMENT **9**

Training & Development Metrics: Percentage of employees trained– Internally and externally trained– Training hours and cost per employee – ROI

UNIT IV HR ANALYTICS EMPLOYEE ENGAGEMENT AND CAREERPROGRESSION 9

Employee Engagement Metrics:Talent Retention index – Voluntary and involuntary turnover- grades, performance, and service tenure – Internal hired index Career Progression Metrics: Promotion Index – Rotation index – Career path index

UNIT V HR ANALYTICS IV: WORKFORCE DIVERSITY AND DEVELOPMENT 9

Workforce Diversity and Development Metrics: Employees per manager – Workforce age profiling – Workforce service profiling –Churnover index – Workforce diversity–index – Gender mix

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Dipak Kumar Bhattacharyya, "HR Analytics, Understanding Theories and Applications", 2nd Edition, SAGE Publications India ,2017.
2. Pease, G., & Beresford, B, "Developing Human Capital: Using Analytics to Plan and Optimize Your Learning and Development Investments",3rd Edition, Wiley,2014.

REFERENCES:

1. Jac Fitzenz, "The New HR Analytics", 2nd Edition, AMACOM, 2010.
2. Phillips, J., & Phillips, P.P, "Making Human Capital Analytics Work: Measuring the ROI of Human Capital Processes and Outcome",4th Edition, McGraw-Hill,2014.

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		**Assessment II (100 Marks)**		**Total Internal Assessments**	**End Semester Examinations**
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	**60**	**40**	**60**	**200**	**100**
Total				**40**	**60**
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

		Category: MDC				
U21MDG25	MARKETING AND SOCIAL MEDIA WEB ANALYTICS	L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- NIL

COURSE OBJECTIVES:

- To learn the fundamentals of marketing and social media web analytics
- To understand the policies and measurements of social media

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Elucidate themarketing budgeting, performance measurement, data exploration, and market basket analysis for effective marketing decision-making (Understand)

CO2: Describe the comprehensive knowledge of social media (Understand)

CO3: Illustrate the social media policies, privacy, ethical challenges, and tracking methods for effective social media management (Understand)

CO4: Explain the web analytics strategy, report creation and web data analysis (Understand)

CO5: Apply the search engine optimization techniques for increase the web traffic(Apply)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	-	1	-	1	-	1	-	-	2	3		
CO2	2	1	-	1	-	2	-	2	-	-	-	2		
CO3	2	1	-	1	-	2	-	2	-	-	-	2		
CO4	3	1	-	1	-	2	-	-	-	-	-	2		
CO5	3	2	2	2	2	2	-	-	-	-	2	2		
Correlation levels:	1: Slight (Low)			2: Moderate (Medium)					3: Substantial (High)					

SYLLABUS:

UNIT I MARKETING ANALYTICS **9**

Marketing Budget and Marketing Performance Measure– Marketing – Geographical Mapping– Data Exploration– Market Basket Analysis

UNIT II COMMUNITY BUILDING AND MANAGEMENT **9**

History and Evolution of social media–Understanding Science of Social Media –Goals for using Social Media– Social Media Audience and Influencers – Digital PR– Promoting Social Media Pages– Linking Social Media Accounts-The Viral Impact of Social Media

UNIT III SOCIAL MEDIA POLICIES AND MEASUREMENTS **9**

Social Media Policies-Etiquette– Privacy-ethical problems posed by emerging social media technologies – The Basics of Tracking social media

UNIT IV WEB ANALYTICS 9

Data Collection– Overview of Qualitative Analysis–Business Analysis– KPI and Planning– Critical Components of a Successful Web Analytics Strategy– Proposals & Reports– Web Data Analysis

UNIT V SEARCH ANALYTICS 9

Search engine optimization (SEO)– user engagement– user-generated content– web traffic analysis– online security– online ethics– data visualization

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Takeshi Moriguchi, "Web Analytics Consultant Official Textbook", 7th Edition, WACA Web Analytics Consultants Association 2016.
2. Christian Fuchs, "Social Media a critical introduction", 3rd Edition, SAGE Publications Ltd, 2014.

REFERENCES:

1. K. M. Shrivastava, "Social Media in Business and Governance", 4th Edition, Sterling Publishers Private Limited,2013.
2. Bittu Kumar, "Social Networking", V & S Publishers,2nd Edition, 2013.

EVALUATION PATTERN:

<table>
<tr><th colspan="4">Continuous Internal Assessments</th><th rowspan="3">Total Internal Assessments</th><th rowspan="3">End Semester Examinations</th></tr>
<tr><th colspan="2">Assessment I (100 Marks)</th><th colspan="2">Assessment II (100 Marks)</th></tr>
<tr><th>*Individual Assignment / Case Study / Seminar / Mini Project / MCQ</th><th>Written Test</th><th>*Individual Assignment / Case Study / Seminar / Mini Project / MCQ</th><th>Written Test</th></tr>
<tr><td>40</td><td>60</td><td>40</td><td>60</td><td>200</td><td>100</td></tr>
<tr><td colspan="4" rowspan="2">Total</td><td>40</td><td>60</td></tr>
<tr><td colspan="2">100</td></tr>
</table>

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

U21MDG26	OPERATION AND SUPPLY CHAIN ANALYTICS	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- NIL

COURSE OBJECTIVES:

- To understand the principles of supply chain analytics and how to use them to improve decision-making and drive business value
- To learn analytics techniques and tools for optimizing operational and supply chain processes

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Explain the fundamentals of descriptive, predictive, and prescriptive analytics, and their application in transforming supply chains. (Understand)

CO2: Illustrate the knowledge of various warehouse location methods for efficient warehouse management (Understand)

CO3: Infer thedynamic lot sizing, multi-echelon inventory models, risk analysis, and pooling strategies to optimize inventory management in supply chains (Understand)

CO4: Apply shortest path and scheduling algorithms for network transportation (Apply)

CO5: Implement MCDM techniques such as AHP, DEA, fuzzy logic, ANP, and TOPSIS for effective decision-making in supply chain management (Apply)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	1	1	-	-	-	-	-	-	2	2		
CO2	2	1	1	1	-	-	-	-	-	-	2	2		
CO3	2	1	1	1	-	-	-	-	-	-	2	2		
CO4	3	2	2	2	-	-	-	-	-	-	3	3		
CO5	2	1	1	1	-	-	-	-	-	-	2	2		
Correlation levels:		1: Slight (Low)			2: Moderate (Medium)					3: Substantial (High)				

SYLLABUS:

UNIT I INTRODUCTION **9**

Descriptive, predictive and prescriptive analytics– Data Driven Supply Chains – Basics, transforming supply chains

UNIT II WAREHOUSING DECISIONS **9**

P-Median Methods – Guided LP Approach– Greedy Drop Heuristics– Dynamic Location Models– Space Determination and Layout Methods

UNIT III INVENTORY MANAGEMENT 9

Dynamic Lot sizing Methods– Multi-Echelon Inventory models– Aggregate Inventory system and LIMIT– Risk Analysis in Supply Chain– Risk pooling strategies

UNIT IV TRANSPORTATION NETWORK MODELS 9

Minimal Spanning Tree– Shortest Path Algorithms– Maximal Flow Problems– Transportation Problems– Set covering and Set Partitioning Problems– Travelling Salesman Problem– Scheduling Algorithms

UNIT V MCDM MODELS 9

Analytic Hierarchy Process (AHP)– Data Envelopment Analysis (DEA)– Fuzzy Logic an Techniques– the analytical network process (ANP)– TOPSIS.

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Gerhard J. Plenert, "Supply Chain Optimization through Segmentation and Analytics", 2nd Edition, CRC Press, Taylor & Francis Group, 2014.
2. Nada R. Sanders, "Big data driven supply chain management: A framework for implementing analytics and turning information into intelligence", 5th Edition, Pearson Education, 2014.

REFERENCES:

1. Michael Watson, Sara Lewis, Peter Cacioppi, Jay Jayaraman, "Supply Chain Network Design: Applying Optimization and Analytics to the Global Supply Chain", 2nd Edition, Pearson Education, 2013.
2. Anna Nagurney, Min Yu, Amir H. Masoumi, Ladimer S. Nagurney, "Networks Against Time: Supply Chain Analytics for Perishable Products", 2nd Edition, Springer, 2013.

EVALUATION PATTERN:

Continuous Internal Assessments					**End Semester Examinations**
Assessment I (100 Marks)		**Assessment II (100 Marks)**		**Total Internal Assessments**	
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	**60**	**40**	**60**	**200**	**100**
Total				**40**	**60**
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

U21MDG27	FINANCIAL ANALYTICS	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To understand risk and return in the investment
- To learn modern analytical tools that specifically target finance applications

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Illustrate the various financial modeling techniques (Understand)

CO2: Estimate and predict risk and return in financial markets (Understand)

CO3: Apply portfolio analysis techniques to assess and manage portfolio risk effectively (Apply)

CO4: Implement analysis tools in predicting share prices (Apply)

CO5: Apply financial knowledge in credit risk analysis (Apply)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	2	1	-	-	-	-	-	-	-	1		
CO2	3	2	2	2	2	-	-	-	-	-	-	1		
CO3	3	2	2	2	2	2	-	-	-	-	-	1		
CO4	3	2	2	2	2	2	-	-	-	-	-	1		
CO5	3	2	2	2	2	2	-	-	-	-	-	1		
Correlation levels:	1: Slight (Low)			2: Moderate (Medium)					3: Substantial (High)					

SYLLABUS:

UNIT I CORPORATE FINANCE ANALYSIS 9

Basic corporate financial predictive modelling– Project analysis– cash flow analysis – cost of capital– Financial Break-even modelling – Capital Budget Model – Payback, NPV– IRR

UNIT II FINANCIAL MARKET ANALYSIS 9

Estimation and prediction of risk and return (bond investment and stock investment) –Time series examining nature of data – Value at risk– ARMA– ARCH andGARCH

UNIT III PORTFOLIO ANALYSIS 9

Portfolio Analysis – capital asset pricing model – Sharpe ratio– Option pricing models– binomial model for options– Black Scholes model and Option implied volatility

UNIT IV TECHNICAL ANALYSIS 9

Prediction using charts and fundamentals – RSI, ROC, MACD– moving average and candle charts– simulating trading strategies–Prediction of share prices

UNIT V CREDIT RISK ANALYSIS 9

Credit Risk analysis– Data processing– Decision trees, logistic regression and evaluating credit risk model

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Dipak Kumar Bhattacharyya, "HR Analytics, Understanding Theories and Applications",2nd Edition, SAGE Publications India,2017.
2. Pease, G., & Beresford, B, "Developing Human Capital: Using Analytics to Plan and Optimize Your Learning and Development Investments",3rd Edition, Wiley ,2014.

REFERENCES:

1. Jac Fitzenz ,"The New HR Analytics", 2nd Edition AMACOM , 2010.
2. Phillips, J., & Phillips, P.P, "Making Human Capital Analytics Work: Measuring the ROI of Human Capital Processes and OUTCOME",4th Edition McGraw-Hill,2014.

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		**Assessment II (100 Marks)**		**Total Internal Assessments**	**End Semester Examinations**
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	60	40	60	200	100
Total				40	60
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

VERTICAL V
ENVIRONMENT AND SUSTAINABILITY

U21MDG28	SUSTAINABLE ENGINEERING	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To inculcate in students an awareness of environmental issues
- To acquire understanding of global initiatives towards attaining sustainability
- To realize the potential of technology in bringing in sustainable practices

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Understand the relevance and the concept of sustainability and the global initiatives in this direction (Understand)
CO2: Explain the different types of environmental pollution problems and their sustainable solutions (Understand)
CO3: Discuss the environmental regulations and standards (Understand)
CO4: Outline the concepts related to conventional and non-conventional energy (Understand)
CO5: Demonstrate the broad perspective of sustainable practices by utilizing engineering knowledge and principles (Understand)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	2	3	-	-	-	-	2		
CO2	-	-	-	-	-	2	3	-	-	-	-	2		
CO3	-	-	-	-	-	2	3	-	-	-	-	2		
CO4	-	-	-	-	-	2	3	-	-	-	-	2		
CO5	-	-	-	-	-	2	3	-	-	-	-	2		
Correlation levels:	1: Slight (Low)					2: Moderate (Medium)					3: Substantial (High)			

SYLLABUS:

UNIT I SUSTAINABILITY 9

Introduction, concept, evolution of the concept– Social, environmental and economic sustainability concepts– Sustainable development– Nexus between Technology and Sustainable development– Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs)– Clean Development Mechanism (CDM)

UNIT II ENVIRONMENTAL POLLUTION 9

Air Pollution and its effects– Water pollution and its sources– Zero waste concept and 3 R concepts in solid waste management– Greenhouse effect– Global warming– Climate change–Ozone

layer depletion– Carbon credits, carbon trading and carbon foot print– legal provisions for environmental protection

UNIT III ENVIRONMENTAL MANAGEMENT STANDARDS 9

ISO 14001:2015 frame work and benefits– Scope and goal of Life Cycle Analysis(LCA)– Circular economy– Bio-mimicking– Environment Impact Assessment (EIA)– Industrial ecology and industrial symbiosis

UNIT IV RESOURCES AND ITS UTILISATION 9

Basic concepts of Conventional and non-conventional energy– General idea about solar energy– Fuel cells– Wind energy– Small hydro plants, bio-fuels– Energy derived from oceans and Geothermal energy

UNIT V SUSTAINABILITY PRACTICE 9

Basic concept of sustainable habitat– Methods for increasing energy efficiency in buildings– Green Engineering– Sustainable Urbanisation– Sustainable cities– Sustainable transport

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Allen, D. T. and Shonnard, D. R., Sustainability Engineering: Concepts, Design and Case Studies, 3rd Edition, Prentice Hall.
2. Bradley, A.S; Adebayo,A.O., Maria, P. Engineering applications in sustainable design and development, Cengage learning.

REFERENCES:

1. Environment Impact Assessment Guidelines, Notification of Government of India, 2006
2. Mackenthun, K.M., Basic Concepts in Environmental Management, Lewis Publication, London, 1998
3. ECBC Code 2007, Bureau of Energy Efficiency, New Delhi Bureau of Energy Efficiency Publications-Rating System, TERI Publications - GRIHA Rating System
4. Ni bin Chang, Systems Analysis for Sustainable Engineering: Theory and Applications, McGraw-Hill Professional
5. Twidell, J. W. and Weir, A. D., Renewable Energy Resources, English Language Book Society (ELBS)
6. Purohit, S. S., Green Technology - An approach for sustainable environment, Agrobios Publication

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		**Assessment II (100 Marks)**		**Total Internal Assessments**	**End Semester Examinations**
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	**60**	**40**	**60**	**200**	**100**
Total				**40**	**60**
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

U21MD29	NGOS AND SUSTAINABLE DEVELOPMENT	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To understand the importance of sustainable development
- To acquire a reasonable knowledge on the legal frameworks pertaining to pollution control and environmental management
- To comprehend the role of NGOs in attaining sustainable development

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Have a thorough grounding on the issues and challenges being faced in attaining sustainable development (Understand)
CO2: Have a knowledge on the role of NGOs towards sustainable development (Understand)
CO3: Present strategies for NGOs in attaining sustainable development (Understand)
CO4: Recognize the importance of providing energy, food security and health equity to all members of the society without damaging the environment (Understand)
CO5: Understand the environmental legislations (Understand)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	2	2	-	3	-	-	2		
CO2	-	-	-	-	-	2	2	-	3	-	-	2		
CO3	-	-	-	-	-	2	2	-	3	-	-	2		
CO4	-	-	-	-	-	2	2	-	3	-	-	2		
CO5	-	-	-	-	-	2	2	-	3	-	-	2		
Correlation levels:	1: Slight (Low)					2: Moderate (Medium)						3: Substantial (High)		

SYLLABUS:

UNIT I ENVIRONMENTAL CONCERNS **9**

Introduction to sustainable development goals– Global responsibility of environmental concern– Importance of environmental preservation– Environmental threats– Pollution and its types– Effects of Pollution– Pollution control– Treatment of wastes

UNIT II ROLE OF NGOS **9**

Role of NGO's in national development– NGO's and participatory management– Challenges and limitations of NGO's– Community Development programmes– Role of NGO's in Community Development programmes– Participation of NGO's in environment management– Corporate Social responsibility– NGO's and corporate social responsibility

UNIT III SUSTAINABLE DEVELOPMENT **9**

Issues and Challenges of Sustainable Development– Bioenergy– Sustainable Livelihoods and Rural Poor in Sustainable Development– Protecting ecosystem services for sustainable development– Non-renewable sources of energy and its effect– Renewable sources of energy for sustainability– Nuclear resources and Legal Regulation of Hazardous Substances– Sustainable Development: Programme and Policies– Sustainability assessment and Indicators

UNIT IV NGO'S FOR SUSTAINABILITY **9**

Civil Society Initiatives in Environment Management– Civil Society Initiatives for Sustainable Development– Global Initiatives in Protecting Global Environment– World Summit on Sustainable Development (Johannesburg Summit 2002)– Ecological economics– Environmental sustainability– Social inclusion– Health for all, education for all– Food security and Water security– NGOs and Sustainable Development strategies

UNIT V LEGAL FRAMEWORKS **9**

Need for a Legal framework and its enforcement– Legal measures to control pollution– Environmental Legislations in India– Mechanism to implement Environmental Laws in India– Legal Protection of Forests Act 1927– Legal Protection of Wild Life– Role of NGO's in implementing environmental laws– Challenges in the implementation of environmental legislation

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Kulsange, S and Kamble, R. (2019). Environmental NGO's: Sustainability Stewardship, Lap Lambert Academic Publishing, India, ISBN-13: 978-6200442444.
2. Dodds, F. (2007). NGO diplomacy: The influence of nongovernmental organizations in international environmental negotiations. Mit Press, Cambridge, ISBN-13: 978-0262524766.

REFERENCES:

1. Ghosh, S. (Ed.). (2019). Indian environmental law: Key concepts and principles. Orient Black Swan, India, ISBN-13: 978-9352875795
2. Alan Fowler and Chiku Malunga (2010) NGO Management: The Earthscan Companion, Routledge, ISBN-13 : 978-1849711197

EVALUATION PATTERN:

<table>
<tr><th colspan="4">Continuous Internal Assessments</th><th rowspan="3">Total Internal Assessments</th><th rowspan="3">End Semester Examinations</th></tr>
<tr><th colspan="2">Assessment I (100 Marks)</th><th colspan="2">Assessment II (100 Marks)</th></tr>
<tr><td>*Individual Assignment / Case Study / Seminar / Mini Project / MCQ</td><td>Written Test</td><td>*Individual Assignment / Case Study / Seminar / Mini Project / MCQ</td><td>Written Test</td></tr>
<tr><td>40</td><td>60</td><td>40</td><td>60</td><td>200</td><td>100</td></tr>
<tr><td colspan="4" rowspan="2">Total</td><td>40</td><td>60</td></tr>
<tr><td colspan="2">100</td></tr>
</table>

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

U21MDG30	MATERIALS FOR ENERGY SUSTAINABILITY	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To familiarize the students about the challenges and demands of energy sustainability
- To provide fundamental knowledge about electrochemical devices and the materials used
- To introduce the students to various types of fuel cell
- To enable students to appreciate novel materials and their usage in photovoltaic application
- To introduce students to the basic principles of various types Supercapacitors and the materials used

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Students will acquire knowledge about energy sustainability (Understand)
CO2: Students understand the principles of different electrochemical devices (Understand)
CO3: Students learn about the working of fuel cells and their application (Understand)
CO4: Students will learn about various Photovoltaic applications and the materials used (Understand)
CO5: The students gain knowledge on different types of supercapacitors and the performance of various materials (Understand)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	-	-	-	1	2	2	-	-	-	-	-		
CO2	1	-	-	-	1	2	2	-	-	-	-	-		
CO3	1	-	-	-	1	2	2	-	-	-	-	-		
CO4	1	-	-	-	1	2	2	-	-	-	-	-		
CO5	1	-	-	-	1	2	2	-	-	-	-	-		
Correlation levels:	1: Slight (Low)			2: Moderate (Medium)					3: Substantial (High)					

SYLLABUS:

UNIT I SUSTAINABLE ENERGY SOURCES 9

Introduction to energy demand and challenges ahead – sustainable source of energy (wind, solar etc.) – electrochemical energy systems for energy harvesting and storage – materials for sustainable electrochemical systems building – India centric solutions based on locally available materials – Economics of wind and solar power generators vs. conventional coal plants – Nuclear energy

UNIT II ELECTROCHEMICAL DEVICES 9

Electrochemical Energy – Difference between primary and secondary batteries – Secondary battery(Li-ion battery, Sodium-ion battery, Li-S battery, Li-O2 battery, Nickel Cadmium, Nickel Metal Hydride) – Primary battery (Alkaline battery, Zinc-Carbon battery) – Materials for battery (Anode materials – Lithiated graphite, Sodiated hard carbon, Silicon doped graphene, Lithium Titanate)

(Cathode Materials – S, LiCoO2, LiFePO4, LiMn2O4) – Electrolytes for Lithium-ion battery (ethylene carbonate and propylene carbonate based)

UNIT III FUEL CELLS **9**

Principle of operation of fuel cells – types of fuel cells (Proton exchange membrane fuel cells, alkaline fuel cell, direct methanol fuel cells, direct borohydride fuel cells, phosphoric acid fuel cells, solid oxide fuel cells, and molten carbonate fuel cells) – Thermodynamics of fuel cell – Fuel utilization – electrolyte membrane (proton conducting and anion conducting) – Catalysts (Platinum, Platinum alloys, carbon supported platinum systems and metal oxide supported platinum catalysts) – Anatomy of fuel cells (gas diffusion layer, catalyst layer, flow field plate, current conductors, bipolar plates and monopolar plates)

UNIT IV PHOTOVOLTAICS **9**

Physics of the solar cell – Theoretical limits of photovoltaic conversion – bulk crystal growth of Siand wafering for photovoltaic application - Crystalline silicon solar cells – thin film silicon solar cells – multijunction solar cells – amorphous silicon based solar cells – photovoltaic concentrators – Cu(InGa)Se2 solar cells – Cadium Telluride solar cells – dye sensitized solar cells – Perovskite solar cells – Measurement and characterization of solar cells - Materials used in solar cells (metallic oxides, CNT films, graphene, OD fullerenes, single-multi walled carbon nanotubes, two-dimensional Graphene, organic or Small molecule-based solar cells materials – copper-phthalocyanine and perylenetetracarboxylicbis - benzine – fullerenes - boron subphthalocyanine- tin (II) phthalocyanine)

UNIT V SUPERCAPACITORS **9**

Supercapacitor –types of supercapacitors (electrostatic double-layer capacitors, pseudo capacitors and hybrid capacitors) – design of supercapacitor–three and two electrode cell-parameters of supercapacitor–Faradaic and non – Faradaic capacitance – electrode materials (transition metaloxides (MO), mixed metal oxides, conducting polymers (CP), Mxenes, nanocarbons, non-noble metal, chalcogenides, hydroxides and 1D-3D metal-organic frame work (MOF), activated carbon fibres (ACF)– Hydroxides-Based Materials – Polyaniline (PANI), a ternary hybrid composite conductive polypyrrole hydrogels – Different types of nanocomposites for the SC electrodes (carbon–carbon composites, carbon-MOs composites, carbon-CPs composites and MOs-CPs composites) – Two-Dimensional (2D) Electrode Materials – 2D transition metal carbides, carbonitrides, and nitrides

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Functional materials for sustainable energy applications; John A. Kilner, Stephen J. Skinner, Stuart J. C. Irvine and Peter P. Edwards.
2. Hand Book of Fuel Cells: Fuel Cell Technology and Applications, Wolf Vielstich, Arnold Lamm, Hubert Andreas Gasteiger, Harumi Yokokawa, Wiley, London 2003.

REFERENCES:

1. B.E. Conway, Electrochemical supercapacitors: scientific fundamentals and technological applications, Kluwer Academic / Plenum publishers, New York, 1999.
2. T.R. Crompton, Batteries reference book, Newners, 3rd Edition, 2002.
3. Materials for Supercapacitor applications; B.Viswanathan. M.AuliceScibioh
4. Electrode Materials for Supercapacitors: A Review of Recent Advances, Parnia Forouzandeh, Vignesh Kumaravel and Suresh C. Pillai, catalysts 2020.
5. Recent advances, practical challenges, and perspectives of intermediate temperature solid oxide fuel cell cathodes Amanda Ndubuisi, Sara Abouali, Kalpana Singh and Venkataraman Thangadurai, J. Mater. Chem. A, 2022
6. Review of next generation photovoltaic solar cell technology and comparative materialistic development Neeraj Kant, Pushpendra Singh, Materials Today: Proceedings, 2022

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		**Assessment II (100 Marks)**		**Total Internal Assessments**	**End Semester Examinations**
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	**60**	**40**	**60**	**200**	**100**
Total				**40**	**60**
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

U21MDG31	GREEN TECHNOLOGY	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To acquire knowledge on green systems and the environment, energy technology and efficiency, and sustainability
- To provide green engineering solutions to energy demand, reduced energy footprint

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Understand the principles of green engineering and technology (Understand)
CO2: Learn about pollution using hazardous chemicals and solvents (Understand)
CO3: Modify processes and products to make them green and safe (Apply)
CO4: Design processes and products using green technology (Apply)
CO5: Understand advanced technology in green synthesis (Understand)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	-	1	1	-	2	3	-	-	-	-	2		
CO2	3	1	3	2	1	2	2	-	-	-	-	2		
CO3	2	2	3	1	1	1	1	-	-	-	-	2		
CO4	3	1	3	2	2	1	3	-	-	-	-	2		
CO5	3	1	2	2	2	2	3	-	-	-	-	2		
Correlation levels:	1: Slight (Low)			2: Moderate (Medium)				3: Substantial (High)						

SYLLABUS:

UNIT I PRINCIPLES OF GREEN CHEMISTRY 9

Historical Perspectives and Basic Concepts– The twelve Principles of Green Chemistry and green engineering– Green chemistry metrics- atom economy– E factor, reaction mass efficiency, and other green chemistry metrics– application of green metrics analysis to synthetic plans

UNIT II POLLUTION TYPES 9

Pollution – types, causes, effects, and abatement– Waste – sources of waste– different types of waste– chemical, physical and biochemical methods of waste minimization and recycling

UNIT III GREEN REAGENTS AND GREEN SYNTHESIS 9

Environmentally benign processes– alternate solvents– supercritical solvents, ionic liquids, water as a reaction medium– energy-efficient design of processes– photo, electro and sono chemical methods– microwave-assisted reactions

UNIT IV DESIGNING GREEN PROCESSES 9

Safe design, process intensification, in process monitoring– Safe product and process design – Design for degradation– Real-time Analysis for pollution prevention– inherently safer chemistry for accident prevention

UNIT V GREEN NANOTECHNOLOGY 9

Nanomaterials for water treatment– nanotechnology for renewable energy– nanotechnology for environmental remediation and waste management–nanotechnology products as potential substitutes for harmful chemicals– environmental concerns with nanotechnology

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Green technology and design for the environment, Samir B. Billatos, Nadia A. Basaly, Taylor & Francis, Washington, DC, 1997.
2. Green Chemistry – An introductory text - M. Lancaster, RSC, 2016.
3. Green chemistry metrics - Alexi Lapkin and david Constable (Eds), Wiley publications, 2008.

REFERENCES:

1. Environmental chemistry, Stanley E Manahan, Taylor and Francis, 2017.

EVALUATION PATTERN:

Continuous Internal Assessments					End Semester Examinations
Assessment I (100 Marks)		Assessment II (100 Marks)		Total Internal Assessments	
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	60	40	60	200	100
Total				40	60
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

U21MDG32	ENVIRONMENTAL QUALITY MONITORING AND ANALYSIS	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To understand and study the complexity of the environment in relation to pollutants generated due to industrial activity
- To analyze the quality of the environmental parameters and monitor the same for the purpose of environmental risk assessment

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Basic concepts of environmental standards and monitoring (Understand)
CO2: The ambient air quality and water quality standards (Understand)
CO3: The various instrumental methods and their principles for environmental monitoring (Apply)
CO4: The significance of environmental standards in monitoring quality and sustainability of the environment (Apply)
CO5: The various ways of raising environmental awareness among the people (Understand)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	1	1	-	-	-	-	-	-	-	-	-		
CO2	1	1	1	1	1	-	-	-	1	-	2	2		
CO3	1	1	2	1	1	-	-	-	2	-	1	1		
CO4	1	2	3	3	1	-	-	-	2	-	3	3		
CO5	1	1	3	2	1	-	-	-	3	-	3	1		
Correlation levels:	1: Slight (Low)			2: Moderate (Medium)					3: Substantial (High)					

SYLLABUS:

UNIT I ENVIRONMENTAL MONITORING AND STANDARDS 9

Introduction– Environmental Standards– Classification of Environmental Standards– Global Environmental Standards– Environmental Standards in India– Ambient air quality standards– water quality standard– Environmental Monitoring–Need for environmental monitoring– Concepts of environmental monitoring– Techniques of Environmental Monitoring

UNIT II MONITORING OF ENVIRONMENTAL PARAMETERS 9

Current Environmental Issues– Global Environmental monitoring programme–International conventions– Application of Environmental Monitoring– Atmospheric Monitoring – screening parameters – Significance of environmental sampling– sampling methods – water sampling – sampling of ambient air-sampling of flue gas

UNIT III ANALYTICAL METHODS FOR ENVIRONMENTAL MONITORING 9

Classification of Instrumental Method– Analysis of Organic Pollutants by Spectrophotometric methods –Determination of nitrogen, phosphorus and, chemical oxygen demand (COD) in sewage–

Biochemical oxygen demand (BOD)– Sampling techniques for air pollution measurements– analysis of particulates and air pollutants like oxides of nitrogen, oxides of sulfur, carbon monoxide, hydrocarbon– Introduction to advanced instruments for environmental analysis

UNIT IV ENVIRONMENTAL MONITORING PROGRAMME (EMP) & RISKASSESSMENT **9**

Water quality monitoring programme– national water quality monitoring– Parameters for National Water Quality Monitoring– monitoring protocol– Process of risk assessment– hazard identification– exposure assessment– dose-response assessment– risk characterization

UNIT V AUTOMATED DATA ACQUISITION AND PROCESSING **9**

Data Acquisition for Process Monitoring and Control – The Data Acquisition System – Online Data Acquisition, Monitoring, and Control – Implementation of a Data Management System – Review of Observational Networks–Sensors and transducers– classification of transducers–data acquisition system– types of data acquisition systems– data management and quality control– regulatory overview

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Environmental monitoring Handbook, Frank R. Burden, © 2002 by The McGraw-Hill Companies, Inc.
2. Handbook of environmental analysis: chemical pollutants in the air, water, soil, and soild wastes / Pradyot Patnaik, © 1997 by CRC Press, Inc.

REFERENCES:

1. Environmental monitoring / edited by G. Bruce Wiersma, © 2004 by CRC Press LLC.
2. H. H. Willard, L. L. Merit, J. A. Dean and F. A. Settle, Instrumental Methods of Analysis, CBP Publishers and Distributors, New Delhi, 1988.
3. Heaslip, G. (1975) Environmental Data Handling. John Wiley & Sons. New York

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		Assessment II (100 Marks)		Total Internal Assessments	End Semester Examinations
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	60	40	60	200	100
Total				40	60
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

KPRIET
Learn Beyond

U21MDG33	INTEGRATED ENERGY PLANNING FOR SUSTAINABLE DEVELOPMENT	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To create awareness on the energy scenario of India with respect to world
- To understand the fundamentals of energy sources, energy efficiency and resulting environmental implications of energy utilisation
- Familiarisation on the concept of sustainable development and its benefits
- Recognize the potential of renewable energy sources and its conversion technologies for attaining sustainable development
- Acquainting with energy policies and energy planning for sustainable development

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Understand the world and Indian energy scenario (Understand)
CO2: Analyse energy projects, its impact on environment and suggest control strategies (Analyse)
CO3: Recognise the need of Sustainable development and its impact on human resource development (Apply)
CO4: Apply renewable energy technologies for sustainable development (Apply)
CO5: Fathom Energy policies and planning for sustainable development (Understand)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	3	-	-	-	2	2	-	-	-	-	-		
CO2	-	-	-	-	-	2	2	-	-	-	-	-		
CO3	2	3	2	-	-	2	3	-	-	-	-	-		
CO4	2	-	2	-	-	2	3	-	-	-	-	-		
CO5	-	3	2	-	-	2	3	-	-	-	-	-		
Correlation levels:	1: Slight (Low)			2: Moderate (Medium)					3: Substantial (High)					

SYLLABUS:

UNIT I ENERGY SCENARIO **9**

Comparison of energy scenario – India and World (energy sources, generation mix, consumption pattern, T&D losses, energy demand, per capita energy consumption) – energy pricing – Energy security

UNIT II ENERGY AND ENVIRONMENT **9**

Conventional Energy Sources - Emissions from fuels – Air, Water and Land pollution –Environmental standards – measurement and controls

UNIT III SUSTAINABLE DEVELOPMENT 9

Sustainable Development: Concepts and Stakeholders– Sustainable Development Goal (SDG) – Social development: Poverty, conceptual issues and measures, impact of poverty– Globalization and Economic growth – Economic development: Economic inequalities– Income and growth

UNIT IV RENEWABLE ENERGY TECHNOLOGY 9

Renewable Energy – Sources and Potential – Technologies for harnessing from Solar, Wind, Hydro, Biomass and Oceans – Principle of operation– relative merits and demerits

UNIT V ENERGY PLANNING FOR SUSTAINABLE DEVELOPMENT 9

National & State Energy Policy – National solar mission – Framework of Central Electricity Authority – National Hydrogen Mission – Energy and climate policy – State Energy Action Plan– RE integration– Road map for ethanol blending– Energy Efficiency and Energy Mix

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Energy Manager Training Manual (4Volumes) available at http://www.em-ea.org/gbook1.asp, a website administered by Bureau of Energy Efficiency (BEE), a statutory body under Ministry of Power, Government of India.2004
2. Robert Ristirer and Jack P. Kraushaar, "Energy and the environment", Willey, 2005
3. Godfrey Boyle, "Renewable Energy, Power for a Sustainable Future", Oxford University Press, U.K., 2012

REFERENCES:

1. Twidell, J.W. & Weir A., "Renewable Energy Resources", EFNSpon Ltd., UK, 2015
2. Dhandapani Alagiri, Energy Security in India Current Scenario, The ICFAI University Press, 2006
3. M.H. Fulekar,Bhawana Pathak, R K Kale,"Environment and Sustainable Development" Springer,2016
4. https://www.niti.gov.in/verticals/energy.

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		Assessment II (100 Marks)		Total Internal Assessments	End Semester Examinations
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	60	40	60	200	100
Total				40	60
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

U21MDG34	ENERGY EFFICIENCY FOR SUSTAINABLE DEVELOPMENT	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To understand the types of energy sources, energy efficiency and environmental implications of energy utilisation
- To create awareness on energy audit and its impacts
- To acquaint the techniques adopted for performance evaluation of thermal utilities
- To familiarise on the procedures adopted for performance evaluation of electrical utilities
- To learn the concept of sustainable development and the implication of energy usage

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Understand the prevailing energy scenario (Understand)
CO2: Familiarise on energy audits and its relevance (Understand)
CO3: Apply the concept of energy audit on thermal utilities (Apply)
CO4: Employ relevant techniques for energy improvement in electrical utilities (Apply)
CO5: Understand Sustainable development and its impact on human resource development (Understand)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	2	2	-	-	-	-	-		
CO2	-	-	-	-	-	2	2	-	-	-	-	-		
CO3	-	-	-	-	-	2	3	-	-	-	-	-		
CO4	-	-	-	-	-	2	3	-	-	-	-	-		
CO5	-	-	-	-	-	2	3	-	-	-	-	-		
Correlation levels:	1: Slight (Low)					2: Moderate (Medium)						3: Substantial (High)		

SYLLABUS:

UNIT I ENERGY AND ENVIRONMENT 9

Primary energy sources – Coal, Oil, Gas – India Vs World with respect to energy production and consumption– Climate Change, Global Warming, Ozone Depletion, UNFCCC, COP

UNIT II ENERGY AUDITING 9

Need and types of energy audit– Energy management (audit) approach–understanding energy costs–bench marking– energy performance– matching energy use to requirement– maximizing system efficiencies– optimizing the input energy requirements– fuel & energy substitution– energy audit instruments

UNIT III ENERGY EFFICIENCY IN THERMAL UTILITIES 9

Energy conservation avenues in steam generation and utilisation, furnaces– Thermic Fluid Heaters– Insulation and Refractories – Commercial waste heat recovery devices: recuperator, regenerator, heat pipe, heat exchangers (Plate, Shell & Tube), heat pumps, and thermocompression

UNIT IV ENERGY CONSERVTION IN ELECTRICAL UTILITIES 9

Demand side management – Power factor improvement – Energy efficient transformers – Energy conservation avenues in Motors, HVAC, fans, blowers, pumps, air compressors, illumination systems and cooling towers

UNIT V SUSTAINABLE DEVELOPMENT 9

Sustainable Development: Concepts and Stakeholders– Sustainable Development Goal (SDG)– Globalization and Economic growth– Economic development: Economic inequalities– Income and growth– Social development: Poverty, conceptual issues and measures, impact of poverty

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Energy Manager Training Manual (4Volumes) available at http://www.em-ea.org/gbook1.asp, a website administered by Bureau of Energy Efficiency (BEE), a statutory body under Ministry of Power, Government of India.2004
2. Eastop.T.D& Croft D.R, "Energy Efficiency for Engineers and Technologists", Logman Scientific & Technical, ISBN-0-582-03184, 1990
3. W.R. Murphy and G. McKay "Energy Management" Butterworths, London 1987
4. Pratap Bhattacharyya, "Climate Change and Greenhouse Gas Emission", New India Publishing Agency- Nipa,2020

REFERENCES:

1. Matthew John Franchetti , DefneApul "Carbon Footprint Analysis: Concepts, Methods, Implementation, and Case Studies" CRC Press,2012
2. Robert A. Ristinen, Jack J. Kraushaar, Jeffrey T. Brack, "Energy and the Environment", 4th Edition,Wiley,2022
3. M.H. Fulekar,Bhawana Pathak, R K Kale,"Environment and Sustainable Development" Springer,2016
4. Sustainable development in India: Stocktaking in the run up to Rio+20: Report prepared by TERI for MoEF, 2011.

EVALUATION PATTERN:

Continuous Internal Assessments					End Semester Examinations
Assessment I (100 Marks)		Assessment II (100 Marks)		Total Internal Assessments	
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	60	40	60	200	100
Total				40	60
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

Vertical VI

ECONOMICS

U21MDG01	FINANCIAL MANAGEMENT	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To equip the students to understand the fundamentals of financial management in the context of a corporate entity
- To acquaint them with different dimensions of financial management with a focus on the application of the relevant tools and techniques of financial decision making aimed at shareholder's wealth maximization

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Describe the importance of financial management from a strategic perspective (Understand)
CO2: Exemplify cost of capital and develop innovative financial strategies (Understand)
CO3: Comprehend the capital structure decisions through relevant models (Understand)
CO4: Examine the capital investment and dividend models (Understand)
CO5: Depict short term asset management techniques (Understand)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	1	1	1	-	1	-	-	-	-	3	-		
CO2	1	1	2	1	-	1	-	-	-	-	3	-		
CO3	1	1	2	1	-	1	-	-	-	-	3	-		
CO4	1	1	2	1	-	1	-	-	-	-	3	-		
CO5	1	1	2	1	-	1	-	-	-	-	3	-		
Correlation levels:	1: Slight (Low)			2: Moderate (Medium)					3: Substantial (High)					

SYLLABUS:

UNIT I INTRODUCTION TO FINANCIAL MANAGEMENT 9

Nature and Scope of Financial Management – Financial Goals – Conflict of interest between the stakeholders – Functions of Financial Manager – Changing Financial Environment – Emerging Challenges faced by the Finance Manager

UNIT II FINANCING DECISIONS 9

Sources of Long Term Capital Equity, Debt, Term Loan, Preference share, Hybrid Securities, Internal Funds – Issues relating Financing Decisions–Cost of Capital: Computation of Cost of Equity–cost of Debt–Cost of Preference Capital – Cost of Internal Reserve Weighted Average Cost of Capital

UNIT III LEVERAGE AND CAPITAL STRUCTURE ANALYSIS 9

Analysis of Operating Leverage and Financial Leverage – Combined Financial and Operating Leverage – Concept of Capital Structure: Determinants – Theories of Capital Structure – Relevance and Irrelevance – Problems of Optimal – Capital Structure

UNIT IV LONG TERM INVESTMENT ANALYSIS 9

Investment idea Generation – Tools and techniques of Analysis – Risk Analysis in Capital Investment Decisions. Dividend Decisions: Issues in Dividend Decisions – Models and Theories of Dividend – Forms of Dividend – Corporate Dividend Behaviour

UNIT V SHORT TERM ASSET MANAGEMENT 9

Strategic Planning and Estimation of Short-Term Funding– Need –Financing Sources – Computation of Cost of Short term Fund– Management of Cash– Inventory and Receivables

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total: 45 Periods

TEXT BOOKS:

1. Arnold, G.C: Corporate Financial Management, Financial Times Pitmom Publishing.
2. Atrill, P; Financial Management for Non-Specialists, Prentice Hall.

REFERENCES:

1. Besant Raj. A: Corporate Financial Management, Tata McGrow Hill.
2. Block & Hirt: Foundation of Financial Management, Irwin Homewood.
3. Boltmam& Conn: Essentials of Managerial Finance, Hongnton& Mifflin.
4. Brealy, R. A. and Myers, S: The principle of Corporate Finance, McGraw Hill Internal.

EVALUATION PATTERN:

Continuous Internal Assessments					End Semester Examinations
Assessment I (100 Marks)		Assessment II (100 Marks)		Total Internal Assessments	
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	60	40	60	200	100
Total				40	60
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Designer can choose any one / two components based on the nature of the course.

KPRIET
Learn Beyond

U21MDG35	GREEN MARKETING	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To understand the importance of Green Marketing on consumer satisfaction and environmental safety
- To learn Green revolution, going green, environment protection, and sustainable development
- To learn Consumers are gradually becoming conscious buying eco-friendly products
- To understand the concept of Green Products and Marketing

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Explain green marketing and its importance to the environment from the perspective of consumers and businesses (Understand)

CO2: Describe the current state of the environment resulting from the past and present practices of the human consumption (Understand)

CO3: Understand the opportunities, challenges, and issues in designing and implementing green marketing strategies (Understand)

CO4: Demonstrate evidence of emerging green consumer segments and how marketers are addressing those needs (Understand)

CO5: Revisit the factors that affect consumers' purchase decision in general (Understand)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	-	-	-	-	-	2	1		
CO2	-	-	-	-	-	-	-	-	-	-	2	1		
CO3	-	-	-	-	-	-	-	-	-	-	2	1		
CO4	-	-	-	-	-	-	-	-	-	-	2	1		
CO5	-	-	-	-	-	-	-	-	-	-	2	1		
Correlation levels:	1: Slight (Low)			2: Moderate (Medium)					3: Substantial (High)					

SYLLABUS:

UNIT I FUNDAMENTALS OF GREEN MARKETING 9

Meaning & Concept & Evolution of Green Marketing– Types of Green Marketing– Difference in between Marketing &Green Marketing– Green Product – Green Marketing – Importance of Green Marketing – Importance of green marketing – Benefits of Green Marketing Adoption of Green Marketing – Green Marketing Mix – Strategies to Green Marketing

UNIT II SEGMENTATION OF GREEN MARKETING 9

Green Spinning – Green Selling – Green Harvesting – Enviropreneur Marketing – Compliance Marketing – Green Washing – Climate Performance Leadership Index Promotional Channels of Green Marketing

UNIT III GREEN MARKETING POLICIES 9

Introduction to Green Marketing Policy & Process, Green Firms – HCL's Green Management Policy – IBM's Green Solutions – IndusInd Bank's Solar Powered ATMs – ITCs Paperkraft – Maruti's Green Supply Chain – ONCGs Mokshada Green Crematorium – Reva's Electric Car – Samsung's Eco-friendly handsets – Wipro Infotech's Eco-friendly computer peripherals

UNIT IV ENVIRONMENTAL CONSCIOUSNESS 9

Introduction to Environment Consciousness– Types of Environmental Consciousness – Importance of environmentalism – Environmental movement – Benefits of green environment to the society – E-waste exchange – Extended Producer Responsibility Plan – Guidelines for Collection and Storage of E-Waste – Guidelines for Transportation of E-Waste – Guidelines for Environmentally Sound Recycling of E-Waste

UNIT V ENVIRONMENTAL TECHNOLOGICAL & LEGAL ASPECTS 9

Manufacturing industry: Energy consumption and GHG emissions– Long-term changes in sustainable "Production and Consumption"– Sustainable Patterns of Materials– Sustainable Energy and Climate Technologies– Green Technologies for Energy Intensive– Selected Emerging Green Technologies: Carbon capture and Storage (CCS) and Renewable– Impacts of emerging green technologies for the manufacturing Sector on Innovation– Green technologies as Drivers of Innovation– Innovation dynamics for Green Technologies are Relevant in Manufacturing

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Robert Dahlstrom, "Green Marketing Management", Cengage Learning India, Latest Edition.
2. M.Meera, "Green Marketing - Concepts, Literatures and Examples", Evincepub Publishing. Latest edition.

REFERENCES:

1. Esakki and Thangasamy, "Green Marketing and Environmental Responsibility in Modern Corporations", IGI Global, 2017.
2. Jacquelyn A. Ottman, "Green Marketing: Challenges and Opportunities for the New Marketing Age", NTC Business Books, 1993.
3. Jacquelyn A. Ottman, "The New Rules of Green Marketing", Berrett-Koehler Publishers, 2011.

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		**Assessment II (100 Marks)**		**Total Internal Assessments**	**End Semester Examinations**
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	**60**	**40**	**60**	**200**	**100**
Total				**40**	**60**
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

U21MDG36	MARKETING MANAGEMENT	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To understand the changing business environment and the fundamental premise underlying market driven strategies
- To identify the indicators of management thoughts and practices

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Understand the knowledge of contemporary marketing theories to the demands of business and management practice (Understand)
CO2: Enhance the knowledge of marketing strategies for consumer and industrial marketing (Understand)
CO3: Understand the choice of marketing mix elements and managing integrated marketing channels (Understand)
CO4: Analyze the nature of consumer buying behaviour (Analyze)
CO5: Understanding of the marketing research and new trends in the arena of marketing (Understand)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	-	-	-	-	-	2	1		
CO2	-	-	-	-	-	-	-	-	-	-	2	1		
CO3	-	-	-	-	-	-	-	-	-	-	2	1		
CO4	-	-	-	-	-	-	-	-	-	-	2	1		
CO5	-	-	-	-	-	-	-	-	-	-	2	1		
Correlation levels:	1: Slight (Low)			2: Moderate (Medium)				3: Substantial (High)						

SYLLABUS:

UNIT I INTRODUCTION 9

Defining Marketing – Core concepts in Marketing – Evolution of Marketing – Marketing Planning Process – Scanning Business environment: Internal and External – Value chain – Core Competencies– PESTEL – SWOT Analysis – Marketing interface with other functional areas – Production, Finance, Human Relations Management, Information System – Marketing in global environment – International Marketing – Rural Marketing – Prospects and Challenges

UNIT II MARKETING STRATEGY 9

Marketing strategy formulations – Key Drivers of Marketing Strategies – Strategies for Industrial Marketing – Consumer Marketing – Services marketing – Competition Analysis – Analysis of consumer and industrial markets – Influence of Economic and Behavioral Factors – Strategic Marketing Mixcomponents

UNIT III MARKETING MIX DECISIONS 9

Product planning and development – Product life cycle – New product Development and Management– Defining Market Segmentation – Targeting and Positioning – Brand Positioning and Differentiation –Channel Management – Managing Integrated Marketing Channels – Managing Retailing, Wholesaling and Logistics – Advertising and Sales Promotions – Pricing Objectives, Policies and Methods

UNIT IV BUYER BEHAVIOUR 9

Understanding Industrial and Consumer Buyer Behavior – Influencing factors – Buyer Behaviour Models – Online buyer behaviour – Building and measuring customer satisfaction – Customer relationships management – Customer acquisition, Retaining, Defection – Creating Long Term Loyalty Relationships

UNIT V MARKETING RESEARCH & TRENDS IN MARKETING 9

Marketing Information System – Marketing Research Process – Concepts and applications: Product –Advertising – Promotion – Consumer Behaviour – Retail research – Customer driven organizations –Cause related marketing – Ethics in marketing – Online marketing trends - social media and digital marketing

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Philip T. Kotler and Kevin Lane Keller, Marketing Management, Prentice Hall India, 15th edition, 2017.
2. KS Chandrasekar, "Marketing management-Text and Cases", Tata McGraw Hill Education, 2012.

REFERENCES:

1. Lamb, Hair, Sharma, Mc Daniel, "Marketing – An Innovative approach to learning and teaching - A south Asian perspective", Cengae Learning, 2012.
2. Paul Baines, Chris Fill, Kelly Page, "Marketing", Asian edition, Oxford University Press, 5thedition, 2019.
3. Ramasamy V.S, Namakumari S, "Marketing Management: Global Perspective Indian Context", Macmillan Education, New Delhi, 6thedition, 2018.

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		Assessment II (100 Marks)		Total Internal Assessments	End Semester Examinations
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	60	40	60	200	100
Total				40	60
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

U21MDG37	MANAGERIAL ECONOMICS	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- Nil

COURSE OBJECTIVES:

- To introduce the concepts of scarcity and efficiency
- To explain principles of micro economics relevant to managing an organization;
- To describe principles of macroeconomics to have the understanding of economic environment of business

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Understand the concepts of scarcity and efficiency(Understand)

CO2: Understand principles of microeconomics relevant to managing an organization (Understand)

CO3: Describe principles of macroeconomics(Understand)

CO4: Understand the economic environment of business (Understand)

CO5: Understand the policies that regulate economic variables (Understand)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	-	-	-	-	-	2	1		
CO2	-	-	-	-	-	-	-	-	-	-	2	1		
CO3	-	-	-	-	-	-	-	-	-	-	2	1		
CO4	-	-	-	-	-	-	-	-	-	-	2	1		
CO5	-	-	-	-	-	-	-	-	-	-	2	1		
Correlation levels:	1: Slight (Low)			2: Moderate (Medium)					3: Substantial (High)					

SYLLABUS:

UNIT I INTRODUCTION **9**

The themes of economics – scarcity and efficiency – three fundamental economic problems – society's capability – Production possibility frontiers (PPF) – Productive efficiency Vs economic efficiency –economic growth & stability – Micro economies and Macro economies – the role of markets and government – Positive Vs negative externalities

UNIT II CONSUMER AND PRODUCER BEHAVIOUR **9**

Market – Demand and Supply – Determinants – Market equilibrium – elasticity of demand and supply– consumer behaviour – consumer equilibrium – Approaches to consumer behaviour – Production – Short-run and long-run Production Function – Returns to scale – economies Vs diseconomies of scale– Analysis of cost – Short-run and long-run cost function – Relation between Production and cost function

UNIT III PRODUCT AND FACTOR MARKET 9

Product market – perfect and imperfect market – different market structures – Firm's equilibrium and supply – Market efficiency – Economic costs of imperfect competition – factor market – Land, Labour and capital – Demand and supply – determination of factor price – Interaction of product and factor market – General equilibrium and efficiency of competitive markets

UNIT IV PERFORMANCE OF AN ECONOMY – MACRO ECONOMICS 9

Macro-economic aggregates – circular flow of macroeconomic activity – National income determination– Aggregate demand and supply – Macroeconomic equilibrium – Components of aggregate demand and national income – multiplier effect – Demand side management – Fiscal policy in theory

UNIT V AGGREGATE SUPPLY AND THE ROLE OF MONEY 9

Short-run and Long-run supply curve – Unemployment and its impact – Okun's law – Inflation and the impact – reasons for inflation – Demand Vs Supply factors –Inflation Vs Unemployment tradeoff –Phillips curve – short-run and long-run –Supply side Policy and management – Money market – Demand and supply of money – money-market equilibrium and national income – the role of monetary policy

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Guha, Ashok S. Economics without Tears: A New Approach to an Old Discipline. Penguin UK, 2016.
2. Paul A. Samuelson, William D. Nordhaus, Sudip Chaudhuri and Anindya Sen, "Economics", 19th edition, Tata McGraw Hill, New Delhi, 2011.
3. William Boyes and Michael Melvin, "Textbook of economics", Biztantra, 7th edition 2008.

REFERENCES:

1. N. Gregory Mankiw, "Principles of Economics", 8th edition, Thomson learning, New Delhi,2017.
2. Richard Lipsey and Alec Chrystal, "Economics", 13th edition, Oxford, University Press, New Delhi, 2015.
3. Karl E. Case and Ray C. Fair, "Principles of Economics", 12th edition, Pearson, Education Asia, New Delhi, 2017.

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		**Assessment II (100 Marks)**		**Total Internal Assessments**	**End Semester Examinations**
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	**60**	**40**	**60**	**200**	**100**
Total				**40**	**60**
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

U21MDG38	OPERATIONS MANAGEMENT	Category: MDC				
		L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- NIL

COURSE OBJECTIVES:

- To provide a broad introduction to the field of operations management
- To explain the concepts, strategies, tools and techniques for managing the transformation process that can lead to competitive advantage

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Understand the evolution of operations management practices and world class manufacturing processes (Understand)

CO2: Get knowledge about capacity planning, strategic sourcing and procurement in organizations (Understand)

CO3: Enhance the understanding of product development and design process (Understand)

CO4: Forecast the demand and overcome bottlenecks (Apply)

CO5: Get the insight to Quality management tools and practices (Understand)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	-	-	-	-	-	2	1		
CO2	-	-	-	-	-	-	-	-	-	-	2	1		
CO3	-	-	-	-	-	-	-	-	-	-	2	1		
CO4	-	-	-	-	-	-	-	-	-	-	2	1		
CO5	-	-	-	-	-	-	-	-	-	-	2	1		
Correlation levels:	1: Slight (Low)			2: Moderate (Medium)					3: Substantial (High)					

SYLLABUS:

UNIT I INTRODUCTION TO OPERATIONS MANAGEMENT **9**

Operations Management – Nature, Importance, historical development– transformation processes– differences between services and goods, a system perspective, functions, challenges, current priorities, recent trends– Operations Strategy – Strategic fit, framework– Productivity; World-class manufacturing practices

UNIT II OPERATIONS AND THE VALUE CHAIN **9**

Capacity Planning – Long range, Types– Developing capacity alternatives, tools for capacity planning– Facility Location – Theories, Steps in Selection, Location Models– Sourcing and procurement – Strategic sourcing– make or buy decision– procurement process– managing vendors

UNIT III DESIGNING OPERATIONS 9

Product Design – Criteria, Approaches– Product development process – stage-gate approach – tools for efficient development– Process – design, strategy, types, analysis– Facility Layout – Principles, Types, Planning tools and techniques

UNIT IV PLANNING AND CONTROL OF OPERATIONS 9

Demand Forecasting – Need, Types, Objectives and Steps – Overview of Qualitative and Quantitative methods– Operations planning – Resource planning – Inventory Planning and Control–Operations Scheduling – Theory of constraints - bottlenecks, capacity constrained resources, synchronous manufacturing

UNIT V QUALITY MANAGEMENT 9

Definitions of quality–The Quality revolution, quality gurus–TQM philosophies–Quality management tools– certification and awards– Lean Management – philosophy, elements of JIT manufacturing– continuous improvement – Six sigma

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Richard B. Chase, Ravi Shankar, F. Robert Jacobs, "Operations and Supply Chain Management", McGraw Hill Education (India) Pvt. Ltd, 14th edition, 2014.
2. Mahadevan B, "Operations management: Theory and practice", Pearson Education India, 2015.

REFERENCES:

1. William J Stevenson, "Operations Management", Tata McGraw Hill, 9th edition, 2009
2. Russel and Taylor, "Operations Management", Wiley, 5th edition, 2006.
3. Norman Gaither and Gregory Frazier, "Operations Management", South Western Cengage Learning, 9thedition, 2015.

EVALUATION PATTERN:

Continuous Internal Assessments				Total Internal Assessments	End Semester Examinations
Assessment I (100 Marks)		Assessment II (100 Marks)			
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	60	40	60	200	100
Total				40	60
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

		Category: MDC				
U21MDG39	ORGANIZATIONALBEHAVIOR	L	T	P	J	C
		3	0	0	0	3

PRE–REQUISITES:

- NIL

COURSE OBJECTIVES:

- To familiarize the students to the basic concepts of management in order to aid in understanding how an organization functions, and in understanding the complexity and wide variety of issues managers face in today's business firms
- To acquaint the students with the fundamentals of managing business and to understand individual and group behaviour at work place so as to improve the effectiveness of an organization. The course will use and focus on Indian experiences, approaches and cases

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

CO1: Understand the various management concepts and skills required in the business world(Understand)

CO2: Understand the various functions of management in a real time management context (Understand)

CO3: Understand the complexities associated with management of individual behavior in the organizations (Understand)

CO4: Develop the skillset to have manage group behaviour in Organizations (Apply)

CO5: Understand the insights about the current trends in managing organizational behaviour (Understand)

CO-PO MAPPING:

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	-	-	-	-	-	2	1		
CO2	-	-	-	-	-	-	-	-	-	-	2	1		
CO3	-	-	-	-	-	-	-	-	-	-	2	1		
CO4	-	-	-	-	-	-	-	-	-	-	2	1		
CO5	-	-	-	-	-	-	-	-	-	-	2	1		
Correlation levels:	1: Slight (Low)			2: Moderate (Medium)				3: Substantial (High)						

SYLLABUS:

UNIT I NATURE AND THEORIES OF MANAGEMENT 9

Evolution of management Thought–Classical, Behavioral and Management Science Approaches Management – meaning, levels, management as an art or science– Managerial functions and Roles– Evolution of Management Theory – Classical era– Contribution of F.W.Taylor, Henri Fayol, NeoClassical-Mayo & Hawthorne Experiments – Modern era – system & contingency approach Managerial Skills

UNIT II PLANNING AND ORGANISING 9

Planning – Steps in Planning Process – Scope and Limitations – Forecasting and types of Planning – Characteristics of a sound Plan –Management by Objectives (MBO) – Policies and Strategies – Scope and Formulation – Decision Making – Types, Techniques and Processes.

Organization Structure and Design – Authority and Responsibility Relationships – Delegation of Authority and Decentralization – Interdepartmental Coordination – Impact of Technology on Organizational design – Mechanistic Vs Adoptive Structures – Formal and Informal Organization – Control:meaning, function, Process and types of Control

UNIT III INDIVIDUAL BEHAVIOUR 9

Meaning of Organizational behavior, contributing disciplines, importance of organizational behavior– Perception and Learning – Personality and Individual Differences – Motivation theories and Job Performance – Values, Attitudes and Beliefs – Communication Types-Process – Barriers – Making Communication Effective

UNIT IV GROUP BEHAVIOUR 9

Groups and Teams: Definition, Difference between groups and teams– Stages of Group Development–Group Cohesiveness–Types of teams– Group Dynamics – Leadership – Styles – Approaches – Power and Politics – Organizational Structure – Organizational Climate and Culture– Conflict: concept, sources, Types, Stages of conflict– Management of conflict Organizational Change and Development

UNIT V EMERGING ASPECTS OF ORGANIZATIONAL BEHAVIOUR

Comparative Management Styles and approaches – Japanese Management Practices Organizational Creativity and Innovation – Organizational behavior across cultures – Conditions affecting cross cultural organizational operations– Managing International Workforce– Productivity and cultural contingencies–Cross cultural communication– Management of Diversity.

Contact Periods:

Lecture: 45 Periods Tutorial: – Periods Practical: – Periods Project: – Periods

Total 45 Periods

TEXT BOOKS:

1. Andrew J. Dubrin, "Essentials of Management", Thomson Southwestern, 10th edition, 2016.
2. Samuel C. Certo and S.TrevisCerto, "Modern Management: Concepts and Skills", Pearson education, 15th edition, 2018.

REFERENCES:

1. Harold Koontz and Heinz Weihrich, "Essentials of Management: An International, Innovation, And Leadership Perspective", 10th edition, Tata McGraw-Hill Education, 2015.
2. Charles W.L Hill and Steven L McShane, "Principles of Management", McGraw Hill Education, Special Indian Edition, 2017.
3. Stephen P. Robbins, Timothy A.Judge, "Organizational Behavior", PHI Learning / Pearson Education, 16th edition, 2014.

EVALUATION PATTERN:

Continuous Internal Assessments					
Assessment I (100 Marks)		**Assessment II (100 Marks)**		**Total Internal Assessments**	**End Semester Examinations**
*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test	*Individual Assignment / Case Study / Seminar / Mini Project / MCQ	Written Test		
40	**60**	**40**	**60**	**200**	**100**
Total				**40**	**60**
				100	

*Role Play / Group Discussions / Debates / Oral Presentations / Poster Presentations / Technical presentations can also be provided. Course Coordinator can choose any one / two components based on the nature of the course.

KPR Institute of Engineering and Technology

Learn Beyond

(Autonomous, NAAC "A")

0422 2635600, +91 75488 88444
admission@kpriet.ac.in
Avinashi Road, Arasur, Coimbatore - 641407

kpriet.edu.in /KPRIETonline