

Syed Ammal Engineering College, Ramanathapuram

An Autonomous Institution

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai.

REGULATIONS 2024

Choice Based Credit System

MASTER OF BUSINESS ADMINISTRATION

CURRICULUM AND SYLLABI FOR I TO IV SEMESTERS

	Vision	Mission
•	To attain the global prominence in producing	•To impart the strong fundamentals that equips
	socially responsible leaders, managers and	the students to acquire the knowledge, skills
	entrepreneurs through the value and quality	and attitude in order to execute managerial
	based management education.	responsibilities.
		•To create the management professionals to deal
		with the rapidly evolving economic and social
		global environment.
		• To provide an inspiring environment that can
		nurture continuous innovation in learning and
		steadfast emergence in managerial traits

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

Graduates of the programme MBA will be able to

- PEO 1: Develop the ability to lead, manage, and make informed decisions across various organizational settings
- **PEO 2:** Build knowledge about socio-economic and cultural factors in a global business context.
- **PEO 3:** Enhance skills to analyze complex business problems and find innovative solutions.
- **PEO 4:** Improve both verbal and written communication to work effectively in diverse multidisciplinary teams.
- **PEO 5:** Encourage creativity and innovation through entrepreneurial projects.

PROGRAMME OUTCOMES (POs)

MBA graduates will be able to

- **PO 1: Leadership Skills:** The ability to lead teams and manage people effectively.
- **PO 2: Strategic Thinking:** Developing strategies for business growth and problem-solving.
- **PO 3: Critical Thinking:** Analyzing situations, identifying problems, and proposing solutions using a systematic approach.
- **PO 4: Global Business Perspective:** Understanding international business environments and managing across borders.
- **PO 5: Ethical Judgment and Professionalism:** Making decisions that are ethical and adhering to professional standards.
- **PO 6: Communication Skills:** Mastering both oral and written communication in a business context.
- **PO 7: Entrepreneurship:** Developing the ability to innovate and manage new ventures.
- **PO 8: Decision-Making:** Applying quantitative and qualitative methods to make informed business decisions.
- **PO 9: Collaboration and Teamwork:** Working effectively in diverse teams to achieve business objectives.

PROGRAMME SPECIFIC OUTCOMES (PSOs)

On successful completion of the MBA Degree programme, the Graduates shall exhibit the following:

- **PSO1:** Applying management principles and theories to solve for business decision-making and problem-solving.
- **PSO2:** Demonstrating the ability to communicate effectively with all stakeholders of business using updated technologies.
- **PSO3:** Identifying key issues in business, utilizing quantitative and qualitative methods to explore and solve those critical business issues.
- **PSO4:** Developing entrepreneurial traits to meet future requirements of society.

S.NO.	Subject Area		Credits Pe	r Semester		Total credits	Anna Univ- Credit points
		I	II	III	IV		
1	FC						
2	PEC			18		18	18
1	PCC	20	24	6		50	47
4	EEC	4	2	4	12	22	22
5	NEC	3				3	3
	Total Credits	27	26	28	12	93	90

FC - Foundation Course (FC)

- PCC Professional Core Course (Branch Compulsory Courses)
- PEC Professional Elective course (Branch Elective Course)
- EEC Employability Enhancement Course (Communication lab, Project, Internship, Seminar, Case Studies, Industrial training, Professional Practices)
- NEC Non-Functional Elective

SEMESTER - I

Sl. No.	COURSE	COURSE TITLE	CATEGORY		PERIO ER W		TOTAL	CREDITS	
	CODE	COURSE TITLE	CATEGORI	L	T	P	CONTACT PERIODS	CREDITS	
			THEORY			/			
1.	24BA101T	Statistics for Management	PCC	3	1	0	4	4	
2.	24BA102T	Management Concepts and Organisational Behavior	PCC	3	0	0	3	3	
3.	24BA103T	Managerial Economics	PCC	3	0	0	3	3	
4.	24BA104T	Accounting for Manager	PCC	3	1	0	4	4	
5.	24BA105T	Management Information System	PCC	3	0	0	3	3	
6.	24BA106T	Legal Asp <mark>ects of</mark> Business	PCC	3	0	0	3	3	
7.	CH	Non-Functio <mark>nal</mark> Elective	NEC NEC	3	0	0	3	3	
	So		PRACTICAL				AS /		
8.	24BA101P	Business Ethics (Seminar)	EEC	0	0	4	a° 4	2	
9.	24BA102P	Business Communication (Laboratory)	EEC	0	0	4	4	2	
		TOTAL	1069 8	21	2	8	31	27	

NOTE: In the first semester students need to choose one elective from the Non- Functional stream

SEMESTER - II

	COURSE CODE	COURSE TITLE	CATEGORY		ERIO ER WE		TOTAL CONTACT PERIODS	CREDITS
			THEORY		AT			
1.	24BA201T	Quantitative Techniques for Decision Making	PCC	3	1	0	4	4
2.	24BA202T	Financial Management	PCC	3	0	0	3	3
3.	24BA203T	Human Resource Management	PCC	3	0	0	3	3
4.	24BA204T	Operations Management	PCC	3	0	0	3	3
5.		Business Research Methods	PCC	3	0	0	3	3
6.	24BA206I	Business Analytics	PCC	2	0	2	4	3
7.		Marketing Management	PCC	3	0	0	3	3
PRA	CTICAL			191	7			
8.	24BA201P	Quality Management (Seminar)	EEC	0	0	4	4	2
9.	24BA202P	Data analysis and Business Modelling (Laboratory)	PCC	0	0	4	4	2
		TOTAL		21	1	8	31	26

Summer Internship – Minimum of 4 Weeks of Internship

The report along with the company certificate should be submitted within the two weeks of the reopening date of 3rd semester. The report should be around 40 pages. The report should be sent to the Controller of Examinations by the HOD through the Principal, before the last working day of the 3rd Semester.

NON FUNCTIONAL ELECTIVES (2 Electives)

Sl. No.	COURSE	COURSE TITLE	CATEGORY	PERIODS PER WEEK			TOTAL CONTACT	CREDITS
	CODE		CATEGORI	L	T	P	PERIODS	
1.	24BA101E	Entrepreneurship Development	NEC	3	0	0	3	3
2.	24BA102E	Event Management	NEC	3	0	0	3	3

SEMESTER - III

		SI	EMESTER - III					
Sl. No.	COURSE CODE	COURSE TITLE	CATEGORY		ERIC ER W	DDS EEK P	TOTAL CONTACT PERIODS	CREDITS
THEC	ORY		7/4				TERIODS	
1.		Strategic Management	PCC	3	0	0	3	3
2.	c	International Business	PCC	3	0	0	3	3
3.		Professional Elective I	PEC	3	0	0	3	3
4.	A	Professional Elective II	PEC	3	0	0	3 2	3
5.		Professional Elective III	PEC	3	0	0	33	3
6.		Professional Elective IV	PEC	3	0	0	63	3
7.		Professional Elective V	PEC	3	0	0	3	3
8.		Professional Elective VI	PEC)	3	0	0	3	3
PRAC	CTICAL		70					
9.		Creativity and Innovation Laboratory	EEC	0	0	4	4	2
10.		Summer Internship	EEC	0	0	4	4	2
			TOTAL	24	0	8	32	28

SEMESTER - IV

SI. No.	COURSE	COURSE TITLE	CATEGORY	PERIODS PER WEEK			TOTAL CONTACT	CREDITS
51.110.	CODE			\mathbf{L}	T	P	PERIODS	
PRACT	TCAL							
	1.	Project Work	EEC	0	0	24	24	12
			TOTAL	0	0	24	24	12

TOTAL: 93 CREDITS

PROFESSIONAL ELECTIVES (PEC)

FUNCTIONAL SPECIALISATIONS

1. Students can take three elective subjects from two functional specializations

Sl. No.	COURSE	COURSE TITLE	CATEGORY		IODS F WEEK	PER	TOTAL CONTACT	CREDITS	
	CODE	COURSE TITLE	CATEGORY	L	T	P	PERIODS	CREDITS	
	Sp	pecialization: Financial	Management	[7]		l .			
1.		Security Analysis and Portfolio Management	PEC	3	0	0	3	3	
2.		Financial Markets	PEC	3	0	0	3	3	
3.		Banking and Financial Services	PEC	3	0	0	3	3	
4.		Financial Derivatives	PEC	3	0	0	3	3	
5.		Financial Model <mark>ling</mark>	PEC	3	0	0	3	3	
6.		International Finance	PEC	3	0	0	3	3	
7.	$\overline{\mathbf{c}}$	Behavioral Finance	PEC	3	0	0	3	3	
	Sp	ecialization: Marketin	g Managemen	t [7]					
8.	7	Retail Marketing	PEC	3	7 0	0	3	3	
9.		Consumer Behavior	PEC	3	0	0	3 6	3	
10.		Integrated Marketing Communication	PEC	3	0	0	(163	3	
11.		Services Marketing	PEC	3	0	0	3	3	
12.		Sales and Distribution Management	PEC	3	0	0	3	3	
13.		Product and Brand Management	PEC	3	0	0	3	3	
14.		Digital Marketing	PEC	3	0	0	3	3	

	Specialization: Human Re	source M	anage	ement	[6]		
15.	Strategic Human Resource Management	PEC	3	0	0	3	3
16.	Industrial Relations and Labour Legislations	PEC	3	0	0	3	3
17.	Organizational, design, change and development	PEC	3	0	0	3	3
18.	Negotiation and conflict management	PEC	3	0	0	3 6	3
19.	Reward and Compensation management	PEC	3	0	0	3	3
20.	International Human Resource Management	PEC	3	0	0	3	3
	Specialization: Banking a	nd Insui	rance	Mar	ageme	ent [6]	
21.	Principles of Banking and Insurance	PEC	3	0	0	3	3
22.	Risk Management in Banking &Insurance	PEC	3	0	20)	3	3
23.	Digital Banking	PEC	3	0	0	3	3
24.	International Banking and Finance	PEC	3	0	0	3	3
25.	Merchant Banking	PEC	3	0	0	3	3
26.	Marketing of Banking Services	PEC 9	3	0	906	3	3
	Specialization : Business Ar	nalytics [51				
27.	Data Mining for Business Intelligence	PEC	3	0	0	3	3
28.	Deep Learning and Artificial Intelligence	PEC	3	0	0	3	3
29.	Social media web Analytics	PEC	3	0	0	3	3
30.	E-Business Management	PEC	3	0	0	3	3
31.	Enterprise Resource Planning	PEC	3	0	0	3	3

Sl. No.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	Т	P	C
	•	Specialization: Logistics Managem	ent[5]	A			LI CONTRACTOR OF THE PROPERTY	
32.		Basics of Logistics and Supply chain Management	PEC	3	3	0	0	3
33.	- /-	Port and Airport Management for Logistics	PEC	3	3	0	0	3
34.	15	International Logistics and Management	PEC	3	3	0	0	3
35.	17	Procurement, Storage and Warehouse Management	PEC	3	3	0	0	3
36.	S	Marketing practices for Logistics managers	PEC	3	3	0	0	3
		E CONTRACTION OF CONT	3 9 3 3	our 19 is				

- 1. To enable the students to have an insight into basic statistical techniques.
- 2. To determine the outcomes and probabilities for experiments.
- 3. To identify the population parameter and test statistic of given scenario.

UNIT I SAMPLING DISTRIBUTION AND ESTIMATION

12

Introduction to sampling distributions - Sampling distribution of mean and proportion-Application of central limit theorem - Sampling techniques - Estimation: Point and Interval estimates for population parameters of large sample and small samples - Determining the sample size.

UNIT II TESTING OF HYPOTHESIS - PARAMETIRC TESTS

12

Hypothesis testing: one sample and two sample tests for means and proportions of large samples (z- test) - One sample and two sample tests for means of small samples (t-test) - F-test for two sample standard deviations - ANOVA one and two way.

UNIT III NON-PARAMETRIC TESTS

12

Chi-square test for single sample standard deviation - Chi-square tests for independence of attributes and goodness of fit - Sign test for paired data - Rank sum test - Kolmogorov-Smirnov - Test for goodness of fit - Comparing two populations - Mann - Whitney U test and Kruskal Wallis test - One sample run test.

UNIT IV PROBABILITY AND PROBABILITY DISTRIBUTION

12

Basic definitions and rules for probability - Conditional probability independence of events - Baye's theorem and random variables - Probability distributions: Binomial, Poisson, Uniform and Normal distributions.

UNIT V CORRELATION AND REGRESSION

12

Correlation - Coefficient of Determination - Rank Correlation - Regression - Estimation of Regression line - Method of Least Squares - Standard Error of estimate.

TOTAL: 60 PERIODS

COURSE OUTCOMES:

- 1. Solve significant problems using statistical techniques.
- 2. Understand critically the problems that are faced in testing a hypothesis with reference to the errors in decision-making.
- 3. To apply the various sampling methodologies and their efficiencies in theoretical and practical aspects.
- 4. Understanding the theory of probability and its applications to real-life problems requires critical
- 5. Find the interrelation between two or more phenomena with the help of curve fitting and correlation-regression analysis.

- 1. Richard I. Levin, David S. Rubin, Masood H.Siddiqui, Sanjay Rastogi, "Statistics for Management", Pearson Education, 8th Edition, 2017.
- 2. Prem. S. Mann, "Introductory Statistics", Wiley Publications, 9th Edition, 2015.
- 3. T N Srivastava and Shailaja Rego, "Statistics for Management", Tata McGraw Hill, 3rd Edition 2017.
- 4. Ken Black, "Applied Business Statistics", 7th Edition, Wiley India Edition, 2012.
- 5. David R. Anderson, Dennis J. Sweeney, Thomas A.Williams, Jeffrey D.Camm, James J.Cochran, "Statistics for business and economics", 13th edition, Thomson (South Western) Asia, Singapore, 2016.
- 6. N. D. Vohra, "Business Statistics", Tata McGraw Hill, 2017.

CO's - PO's & PSO's MAPPING

CO	~9)				РО					PSO				
СО	1	2	3	4	5	6	7	8	9	10	2	3	4	
CO 1	2	3	63	1	2	1	_	3	_	3	2	3	-	
CO 2	2	3	3	401	2	2	_	3	(B)	3	2	3	-	
CO 3	-	3	3	-		(2)	(5)	3		3	-	3	-	
CO 4	-	3	3	2	2	2	_	3	_	3	-	3	2	
CO 5	-	3	3	2	3	2	-	3	-	3	-	3	2	
Avg.	2	3	3	2	2	2	-	3	-	3	2	3	2	

1-Low, 2-Medium, 3-High, '-'- No Correlation

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COURSE OBJECTIVES:

- 1. To provide insights on the fundamental concepts and theories of management.
- 2. To understand the complexity and wide variety of issues managers face in today's business firms.
- 3. To acquaint the students with the fundamentals of managing business and to understand individual behavior.

UNIT I NATURE AND THEORIES OF MANAGEMENT

Modern era - system & contingency approach - Managerial Skills.

Evolution of management Thought – Classical - Behavioral - 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 - Neo-Classical - Mayo & Hawthorne Experiments.

UNIT II PLANNING AND ORGANISING

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 - 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 - Types of Control.

UNIT III INDIVIDUAL BEHAVIOR

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

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.

TOTAL: 45 PERIODS

COURSE OUTCOMES:

At the end of the course, the students will be able to

- 1. Apply the management concepts to make better managerial decisions.
- 2. Gain knowledge of various functions of management in real-time.
- 3. Understand the complexities associated with the management of individual behavior in the
- 4. Develop the skill set to manage group behavior in the organization.
- 5. Know the current trends in managing organizational behavior.

REFERENCES:

- 1. Andrew J. Dubrin, "Essentials of Management", Thomson Southwestern, 10th edition, 2016.
- 2. Samuel C. Certo and S.Trevis Certo, "Modern Management: Concepts and Skills", Pearson education, 15th edition, 2018.
- 3. Harold Koontz and Heinz Weihrich, "Essentials of Management: An International, Innovation, And Leadership Perspective", 10th edition, Tata McGraw-Hill Education, 2015.
- 4. Charles W.L Hill and Steven L McShane, "Principles of Management", McGraw Hill Education, Special Indian Edition, 2017.
- 5. Stephen P. Robbins, Timothy A.Judge, "Organizational Behavior", PHI Learning / Pearson Education, 16th edition, 2014.
- 6. Fred Luthans, "Organizational Behavior", McGraw Hill, 12th Edition, 2013.
- 7. Don Hellriegel, Susan E. Jackson and John W, Jr Slocum, "Management: A Competency- Based Approach", Thompson South Western, 11th edition, 2008.

CO's - PO's & PSO's MAPPING

CO		9	1		PO			PS			PSO	SO	
СО	1	2	3	4	5	6	7	8	9	1	2	3	4
CO 1	3	2	2	1	22/	2	-1	2	2	2	1	2	2
CO 2	3	3	2	2	2	2	12	3	2	2	2	2	2
CO 3	2	3	3	2	3	2	1	3	2	2	2	3	2
CO 4	2	3	3	2	2	2	2	3	3	2	2	2	2
CO 5	2	3	3	2	2	2	2	3	2	2	2	2	3
Avg.	2	3	3	2	2	2	2	3	2	2	2	2	2

1-Low, 2-Medium, 3 -High, '-'- No Correlation

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COURSE OBJECTIVES:

- 1. To manage an Organization to describe principles of macroeconomics to have the understanding of economic environment of Business
- 2. To understand the Market demand and supply analysis and the ways in which changes in these determinants affect equilibrium price and output.
- 3. To determine the changes in price of the product, the effect of a price control in different market structure

UNIT I INTRODUCTION

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 BEHAVIOR

Market – Demand and Supply – Determinants – Market equilibrium – Elasticity of demand and supply – Consumer behavior – Consumer equilibrium – Approaches to consumer behavior – 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

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

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

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.

TOTAL: 45 PERIODS

COURSE OUTCOMES:

At the end of the course, the students will be able to

- 1. Understand the basic concepts of economics.
- 2. Know the principles of microeconomics relevant to managing an organization.
- 3. To fix the price level in different market structure.
- 4. Analyze the economic environment of business.
- 5. Apply the policies that regulate economic variables.

REFERENCES:

- 1. Paul A. Samuelson, William D. Nordhaus, Sudip Chaudhuri and Anindya Sen, "Economics", 19th edition, Tata McGraw Hill, New Delhi, 2011
- William Boyes and Michael Melvin, Textbook of "Economics", Biztantra, 7th edition 2008.
 N. Gregory Mankiw, "Principles of Economics", 8th edition, Thomson learning, New Delhi, 2017.
- 4. Richard Lipsey and Alec Chrystal, "Economics", 13th edition, Oxford, University Press, New Delhi, 2015.
- 5. Karl E. Case and Ray C. Fair, "Principles of Economics", 12th edition, Pearson, Education Asia, New Delhi, 2017.
- Panneerselvam. R, "Engineering Economics", 2nd Edition, PHI Learning, 2014.

CO's - PO's & PSO's MAPPING

CO					PO						PS	SO	
СО	1	2	3	4	5	6	7	8	9	1	2	3	4
CO 1	2	2	3	1	2	1	2	3	1	3	1	3	1
CO 2	2	3	3	2	2	2	2	3	2	3	2	3	2
CO 3	2	3	3	2	2	2	3	3	2	2	1	3	2
CO 4	2	3	3	3	2	2	2	3	2	2	2	3	2
CO 5	3	3	3	3	3	2	3	3	2	3	2	3	3
Avg.	2	3	3	2	2	2	2	3	2	3	2	3	2

1-Low, 2-Medium, 3 -High, '-'- No Correlation

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COURSE OBJECTIVES:

- 1. Understand the principles, importance, and use of financial statements.
- 2. Develop the skills for the preparation, analysis and interpretation of financial statements.
- 3. Principles involved in the preparation of Cost statements.

UNIT I FINANCIAL ACCOUNTING

12

Introduction to Financial, Cost and Management Accounting – Generally accepted accounting principles– Double Entry System – Preparation of Journal, Ledger and Trial Balance Preparation of Final Accounts: Trading, Profit and Loss Account and Balance Sheet

- Reading the financial statements.

UNIT II ANALYSIS OF FINANCIAL STATEMENTS

12

Financial ratio analysis, Interpretation of ratio for financial Decisions-Comparative statements common size statements. Cash flow Funds flow statement analysis

(as per Accounting Standard 3) and

UNIT III COST ACCOUNTING

12

Cost Accounts – Classification of costs – Job cost sheet – Job order costing – Process costing – (excluding Interdepartmental Transfers and equivalent production) – Joint and by Product Costing – Activity Based Costing, Target Costing.

UNIT IV MARGINAL COSTING

12

Marginal Costing and profit planning – Cost, Volume, Profit Analysis – Break Even Analysis – Decision making problems - Make or Buy decisions - Determination of sales mix - Exploring new markets

UNIT V BUDGETING AND VARIANCE ANALYSIS

12

Budgetary Control – Sales, Production, Cash flow, fixed and flexible budget – Standard costing and Variance Analysis – (excluding overhead costing) Accounting standards and accounting disclosure practices in India.

TOTAL: 60 PERIODS

COURSE OUTCOMES:

- 1. Understand the financial statements by applying accounting principles.
- 2. Analyze and interpret the financial statements for effective decision making.
- 3. Understand cost accounting techniques.
- **4.** Analyze the Break Even Point and applications of marginal costing.
- **5.** Construct budgetary control and analyze the various types of budget.

- 1. R. Narayanaswamy, "Financial Accounting" PHI, 6th edition, 2017.
- 2. M.Y. Khan & P.K. Jain, "Management Accounting", Tata McGraw Hill, 8th edition, 2018.
- 3. T.S. Reddy& A. Murthy, "Financial Accounting, Margham" Publications, 2014.
- 4. Charles T. Horngren, Gary L.Sundem, David Burgstahler, Jeff Schatzberg, "Introduction to Management Accounting", PHI Learning, 2014, 16th edition
- 5. Earl K. Stice& James D. Stice, "Financial Accounting, Reporting and Analysis", 8th edition, Cengage Learning, 2015
- 6. N.M. Singhvi, Ruzbeh J.Bodhanwala, "Management Accounting" Text and cases, 3rd edition PHI Learning, 2018

CO's – PO's & PSO's MAPPING

GO.	X	2			PO			=			\mathcal{A}	PSO	
СО	1	2	3	4	5	6		8	9	1	2	3	4
CO 1	2	2	3	01	2	1	2	3	1	2	1	1	2
CO 2	2	3	3	2	431	92	1	3	62	2	1	2	1
CO 3	1	2	3	2	2	2	P	3	2	2	1	3	1
CO 4	2	3	3	2	2	2	1	3	2	1	2	1	1
CO 5	2	2	3	1	3	3	3	3	2	1	2	1	2
Avg.	2	2	3	2	2	2	1	3	2	2	2	2	1

1-Low, 2-Medium, 3-High, '-'- No Correlation

- 1. To understand the importance of information system in business.
- 2. To understand system analysis and design tools and techniques.
- 3. To understand the applications of information system.

UNIT I INTRODUCTION

9

Data – Information - Information System – Evolution - Types based on functions and hierarchy - Enterprise and functional information systems.

UNIT II SYSTEM ANALYSIS AND DESIGN

9

System Development Methodologies - System Analysis and Design - Data Flow Diagram (DFD) - Decision Table - Entity Relationship (ER) - Object Oriented Analysis and Design (OOAD) - UML diagram.

UNIT III DATABASE MANAGEMENT SYSTEMS

9

DBMS – Types and Evolution – RDBMS – OODBMS – RODBMS - Data warehousing - Data Mart - Data mining.

UNIT IV INEGRATED SYSTEMS, SECURITY AND CONTROL

9

Knowledge based decision support systems - Integrating social media and mobile technologies in Information system - Security - IS Vulnerability - Disaster Management - Computer Crimes - Securing the Web.

UNIT V NEW IT INITIATIVES

9

Introduction to Deep learning - Big data - Pervasive Computing - Cloud computing - Advancements in AI - IoT - Block chain - Crypto currency - Quantum computing.

TOTAL: 45 PERIODS

COURSE OUTCOMES:

- **1.** Learn the fundamentals of information system.
- 2. Acquire knowledge on tools and techniques used to analyze different types of MIS.
- **3.** Identify the range and importance of information systems applications in modern organizations.
- **4.** Understand the various security threats and networks system.
- 5. Procure knowledge on latest information technology concepts and practices.

- 1. Robert Schultheis and Mary Sumner, "Management Information Systems" The Manager's View, Tata McGraw Hill, 2008.
- 2. Kenneth C. Laudon and Jane P Laudon, "Management Information Systems" Managing the Digital Firm, 15th edition, 2018.
- 3. Panneerselvam. R, "Database Management Systems", 3rd Edition, PHI Learning, 2018.

CO's – PO's & PSO's MAPPING

CO					PO	d)	7	<				PSO	
CO	1	2	3	4	5	6	7	8	9	1	2	3	4
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CO 3	2	3	2	2	\ -	-	~2	2	(-M	2	//1	3	2
CO 4	2	3	2	-	2	2	3	2	1-1	2	2	3)
CO 5	3	3	2	2	2	2	3	2	2	3	2	3	2
Avg.	2	3	2	2	2	2	3	2	2	2	2	3	2

1-Low, 2-Medium, 3 -High, '-'- No Correlation

- 1. To understand the legal framework of Contracts and Agency under Indian Commercial Law.
- 2. To learn the key laws governing Company Formation, Corporate Governance and Competition regulation.
- 3. To gain knowledge of Industrial and Labor laws affecting Employer-Employee relationships and workplace regulations.

UNIT I COMMERCIAL LAW

9

THE INDIAN CONTRACT ACT 1872 Definition of Contract - Essentials elements and Types of a Contract - Formation of a Contract - Performance of Contract - Breach of Contract and its Remedies - Quasi Contract - Contract of Agency: Nature of agency - Creation and Types of Agent - Authority and Liability of Agent and Principal - Rights and Duties of Principal and Agent - Termination of Agency.

UNIT II COMPANY LAW AND COMPETITION ACT

9

COMPANY ACT 1956 & 2013 Major Principles - Nature and Types of Companies - Formation - Memorandum and Articles of Association - Prospectus - Power - Duties and Liabilities of Directors - Winding up of Companies - Corporate Governance.

COMPETITION ACT 2002 - Introduction - Enquiry into Certain Agreements - Dominant Position of Enterprise and Combinations.

UNIT III INDUSTRIAL LAW

9

An Overview of Factories Act 1948 - Payment of Wages Act 1936- Payment of Bonus Act 1965- Industrial Disputes Act 1947.

UNIT IV CORPORATE TAX LAW 1961 & GST 2017

9

Corporate Tax Planning - Corporate Taxes - Overview of the Latest Developments in Indirect Tax Laws Related to GST- An Introduction including Constitutional Aspects - Levy and Collection of CGST & IGST - Basic Concept of Time and Value of Supply - Input Tax Credit - Computation of GST - Recent Amendments in GST - Liability - Registration - Tax Invoice - Credit & Debit Notes - Electronic Way bill - Returns - Payment of taxes including Reverse Charge.

UNIT V CONSUMER PROTECTION ACT AND INTRODUCTION OF CYBER LAWS 9

Consumer Protection Act 1986: Consumer Rights - Procedures for Consumer Grievances Redressal - Types of Consumer Redressal Mechanisms and Forums - Cybercrimes - Information Technology Act 2000 and 2002 - Cyber Laws - Intellectual Property Rights Act: Patent Act 1970 - Copyrights Act 1957 - Trademarks Act 1999 - Rights to Information Act 2005.

TOTAL: 45 PERIODS

COURSE OUTCOMES:

At the end of the course, the students will be able to.

- 1. Acquire basic knowledge and understanding of the legal framework of contracts.
- 2. Obtain knowledge and understanding of the legal procedure to form a company.
- 3. Gain an understanding of tax regulations and their practical use.
- 4. Know the basic concepts of industrial laws and their implications in industry.
- 5. Understand the key areas of business law relating to forms of business and cyber security.

REFERENCES:

- 1. N. D. Kapoor, "Elements of Mercantile Law", Sultan Chand and Company, India, 2017.
- 2. P. K. Goel, "Business Law for Managers", Biztantatara Publishers, India, 2017.
- 3. Akhileshwar Pathak, "Legal Aspects of Business", Tata McGraw Hill, 6th Edition 2018.
- 4. Ravinder Kumar, "Legal Aspects of Business", New Delhi: Cengage Learning, 4th edition, 2016.
- 5. Sinha P.K, Dr. Vinod Singhania, "Text Book of Indirect Tax", Taxman Publication, New Delhi
- 6. Taxmann, "GST Manual with GST Law Guide & Digest of Landmark Rulings", 11th Edition, 2019
- 7. P. P. S. Gogna, "Mercantile Law", S. Chand & Co. Ltd., India, Fourth Edition, 2015

CO's - PO's & PSO's MAPPING

CO	(6)	6			PO					6	6	PSO	
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CO 3	1	2	3	1	3	1	-	2	2	3	2	3	2
CO 4	3	2	3	2	2	1	1	2	2	3	2	1	3
CO 5	2	3	2	3	3	2	1	2	3	3	2	-	2
Avg.	2	3	3	2	3	2	1	2	2	3	2	2	2

1-Low, 2-Medium, 3 -High, '-'- No Correlation

- 1. To equip and develop the learner's entrepreneurial skills and qualities essential to undertake business.
- 2. To impart the learner's entrepreneurial competencies needed for managing business efficiently and effectively.
- 3. The stages of the entrepreneurial process and the resources needed for the successful development of entrepreneurial ventures.

UNIT I ENTREPRENEURAL COMPETENCE

9

Entrepreneurship concept – Entrepreneurship as a Career – Entrepreneurial Personality - Characteristics of Successful Entrepreneurs – Knowledge and Skills of an Entrepreneur.

UNIT II ENTREPRENEURAL ENVIRONMENT

9

Business Environment - Role of Family and Society - Entrepreneurship Development Training and Other Support Organisational Services - Central and State Government Industrial Policies and Regulations.

UNIT III BUSINESS PLAN PREPARATION

9

Sources of Product for Business - Prefeasibility Study - Criteria for Selection of Product - Ownership - Capital Budgeting- Project Profile Preparation - Matching Entrepreneur with the Project - Feasibility Report Preparation and Evaluation Criteria.

UNIT IV LAUNCHING OF SMALL BUSINESS

9

Finance and Human Resource Mobilization - Operations Planning - Market and Channel Selection -Growth Strategies - Product Launching - Incubation - Venture capital, Startups.

UNIT V MANAGEM ENT OF SMALL BUSINESS

9

Monitoring and Evaluation of Business - Business Sickness - Prevention and Rehabilitation of Business Units - Effective Management of small Business - Case Studies.

TOTAL: 45 PERIODS COURSE OUTCOMES:

- 1. Gain the entrepreneurial competence to run the business efficiently.
- 2. Create a new entrepreneurial environment.
- 3. Get the capability of preparing business plans and undertake feasible projects.
- 4. Analyze their efficiency in launching and developing their business ventures successfully.
- 5. Create the business models for the growth and development.

- 1. S.S. Khanka, "Entrepreneurial Development", S. Chand and Company Limited, New Delhi, 2016.
- 2. R. D. Hisrich, "Entrepreneurship", Tata McGraw Hill, New Delhi, 2018.
- 3. Rajeev Roy, "Entrepreneurship", Oxford University Press, 2nd Edition, 2011.
- 4. Donald F Kuratko, T.V Rao. "Entrepreneurshi": A South Asian perspective". Cengage Learning, 2012.
- 5. Dr. Vasant Desai, "Small Scale Industries and Entrepreneurship", HPH,2006.

CO's - PO's & PSO's MAPPING

CO	Ш				PO		9					PSO	Ш
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CO 3	3	3	2	-	\ -	2	3	3	2	3	2	3	3
CO 4	3	3	3	_ 3	2	2	3	3	3	3	2	3	_3
CO 5	3	3	3	2	3	2	3	3	3	3	3	3	3
Avg.	3	3	3	2	2	2	3	3	2	3	2	3	3

1-Low, 2-Medium, 3 –High, '-'- No Correlation

- 1. To provide basic knowledge of business ethics and values and their relevance in a modern context.
- 2. To enable the students to know the importance of ethics in management and the decision making process.
- 3. To give an insight on corporate governance practices in India.

UNIT I INTRODUCTION TO BUSINESS ETHICS AND VALUES

10

Meaning - Nature of business ethics - Importance of business ethics - Factors influencing business ethics - Arguments for and against business ethics - Types of ethical dilemmas - Values: Meaning, Types of values.

UNIT II ETHICS IN MANAGEMENT

12

Ethics in HRM- Importance - Managing ethical issues in HRM - Marketing ethics-Importance - Ethical issues in marketing - Ethical behavior in relation to suppliers competitors - Ethics in Finance and Accounts.

UNIT III ETHICAL DECISION MAKING

16

Meaning - Nature of ethical decision making - Process- Problem identification - Clarifying goals - Identifying the desired facts - Developing options based on objectives - Analysis of various options - Test the options and make decisions and implementation phase - Factors influencing ethical decision making- Individual influences (Age & Gender-National and cultural characteristics - Education & employment - Psychological factors - Personal values - Personal integrity and moral imagination) - Situational influences- (Issue related factors and Context related factors).

UNIT IV CORPORATE GOVERNANCE & CSR

8

Meaning - Features of good corporate governance - Factors influencing corporate governance - Corporate governance in India - Amendments to Corporate Governance - CSR - Concept and initiatives in India.

UNIT V CORPORATE GOVERNANCE & ETHICS

14

Ethical issues of Corporate Governance - Factors influencing Corporate Governance - Models of Corporate Governance (Anglo American, Japanese, German & Indian) - Theories of Corporate Governance (Agency, Political, Stake holder, Legitimacy, Resource dependency, Stewardship & Social contract theory).

TOTAL: 60 PERIODS

COURSE OUTCOMES:

At the end of the course, the students will be able to

- 1. Recognize ethical issues that affect multiple organizational behavior.
- 2. Attain knowledge of ethical theories and an understanding of real life situations.
- 3. Apply multiple ethical concepts in analyzing the consequences of decision making.
- 4. Evaluate the most appropriate perspective for achieving organizational welfare.
- 5. Identify the requirements of corporate social responsibility.

REFERENCES:

- 1. "Business Ethics" K Aswathappa, J Usha Rani, Sunanda GundaVajhala; Himalayala Publishing house; First edition 2017.
- 2. "Business Ethics and Corporate Governance" Dr. SS Khanka; S Chand and Company Pvt Ltd; First edition 2014.
 - 3. "Business Management" R K Sharma and Shashi K Gupta; Kalyani publishers; 2007edition. New Companies Act: Taxman's publication.

CO's – PO's & PSO's MAPPING

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CO 2	2	2	3	2	3	2	1	3	2	3	2	3	2
CO 3	2	3	3	2	3	2	2	3	2	2	2	3	3
CO 4	2	3	3	3	3	2	2	3	2	2	2	3	2
CO 5	3	2	3	3	3	2	2	3	2	3	2	3	3
Avg.	2	2	3	2	3	2	2	3	2	3	2	3	2

1-Low, 2-Medium, 3 -High, '-'- No Correlation

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COURSE OBJECTIVES:

- 1. To familiarize learners with the mechanics of communication.
- 2. To enable learners to communicate precisely and effectively.
- 3. To help the students acquire some of the necessary skills to handle day-to-day managerial responsibilities.

UNIT I INTRODUCTION AND TYPES OF BUSINESS COMMUNICATION

Introduction to Business Communication: Principles of effective communication, Target group profile, Barriers of Communication, Reading Skills, Listening, and Feedback. - Principles of Nonverbal Communication: Professional dressing and body language. Role Playing, Debates and Quiz. Types of managerial speeches - Presentations and Extempore - speech of introduction, speech of thanks, occasional speech, theme speech. - Group communication: Meetings, group discussions. - Other Aspects of Communication: Cross Cultural Dimensions of Business Communication.

Technology and Communication, Ethical & Legal Issues in Business Communication.

UNIT II BUSINESS COMMUNICATION WRITING MODELS AND TOOLS

Business letters, Routine letters, Bad news and persuasion letters, sales letters, collection letters, Maintaining a Diary, Resume / CV, job application letters, proposals. Internal communication through - notices, circulars, memos, agenda and minutes, reports. Case Studies. Exercises on Corporate Writing, Executive Summary of Documents, Creative Writing, Poster Making, Framing Advertisements, Slogans, Captions, Preparing Press Release and Press Notes

UNIT III EFFECTIVE PRESENTATIONS

Principles of Effective Presentations, Principles governing the use of audiovisual media.

UNIT IV INTERVIEW SKILLS

Mastering the art of giving interviews in - selection or placement interviews, discipline interviews, appraisal interviews, exit interviews, web /video conferencing, tele-meeting.

UNIT V REPORT WRITING

Objectives of report, types of report, Report Planning, Types of Reports, developing an outline, Nature of Headings, Ordering of Points, Logical Sequencing, Graphs, Charts, Executive Summary, List of Illustration, Report Writing.

Note: The emphasis of the entire subject should be on practical aspects.

Practical: Module 1-This module introduces both written and spoken communication skills to students to build their confidence in delivering clear and logical messages to their audience. They will develop written communication skills through crafting business messages such as business letters, emails, and meeting minutes. In addition, students will work through presentations and simulated meetings to refine their spoken communication skills, discussion techniques and people skills.

Practical - Module 2-This module builds on the foundation of Business Communication 1

And creates opportunities for students to strengthen their oral and written communication. Students will be required to enhance their presentation skills through impromptu speeches. Students will also learn how to prepare a formal business report. Job hunting and employment skills will be introduced to prepare students for a positive start to their careers. Students will be taught to write application letters and resumes. Additionally, students will learn job interview techniques through role-plays and simulations

Practical - Module 3-This practical module aims to help students be persuasive in the business world. Students will learn listening and data gathering skills to better understand their target audience's needs and requirements and persuasive skills to convince the audience to accept a new policy/suggestion/product through role-playing a boardroom presentation. Students will also be taught business networking skills including conversation techniques, dining etiquette and personal branding through role-plays and simulations.

TOTAL: 60 PERIODS

COURSE OUTCOMES:

At the end of the course, the students will be able to

- 1. Develop good managerial communication skills.
- 2. Attain skills about excelling in different forms of written communication required in a business context.
- 3. Develop a good presentation skill.
- 4. Attain knowledge on in-depth understanding of the interview skills.
- 5. Prepare the new business reports.

REFERENCES:

- 1. Rajendra Pal, J. S. Korlahalli, Essentials of Business Communication by, Sultan Chand & Sons, 13th Edition.
- 2. Meenakshi Raman, Prakash Singh, Bu sine s S Communication by, Oxford, 2nd edition, 2012.
- 3. Raymond V. Lesikar, Flatley, Basic Business Communication Skills for Empowering the Internet Generation by, M.E., TMGH, New Delhi, 10th edition, 2004.
- 4. Ludlow R, Panton, The Essence of Effective Communications, Prentice Hall of India Pvt. Ltd. 2, 1995C.
- 5. C S. Rayadu, Communication by, HPH, 2015.
- 6. R. C. Sharma, Krishna Mohan, Business Correspondence & Report Writing, Tata McGraw Hill, 5th Edition, 2017.

CO's - PO's & PSO's MAPPING

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СО	1	2	3	4	5	6	7	8	9	1	2	3	4
CO 1	2	2	3	1	3	3	1	2	3	2	3	2	2
CO 2	2	1	2	1	3	3	1	2	3	1	3	2	2
CO 3	2	2	2	3	3	3	1	2	3	1	3	2	2
CO 4	1	1	2	1	3	3	1	2	2	1	3	2	2
CO 5	2	3	2	2	3	3	1	3	2	3	3	2	3
Avg.	2	2	2	2	3	3	1	2	3	2	3	2	2

1-Low, 2-Medium, 3 –High, '-'- No Correlation

- 1. To understand, develop, and solve mathematical models of linear programming problems.
- 2. To comprehend and solve the mathematical model of transportation and assignment problems.
- 3. To provide knowledge on game theory and decision theory in real time applications.

UNIT I INTRODUCTION TO LINEAR PROGRAMMING (LP)

12

Relevance of quantitative techniques in management decision making - Linear Programming- Formulation - solution by graphical and simplex methods (Primal Penalty, Two Phase) - Special cases - Sensitivity Analysis.

UNIT II LINEAR PROGRAMMING EXTENSIONS

12

Transportation Models (Minimizing and Maximizing Problems) Balanced and unbalanced Problems - Initial Basic feasible solution by N-W Corner Rule - least cost and Vogel's approximation methods - Check for optimality, Solution by MODI / Stepping Stone method, Case of Degeneracy - Transshipment Models - Assignment Models (Minimizing and Maximizing Problems) - Balanced and Unbalanced Problems - Solution by Hungarian and Branch and Bound Algorithms - Travelling Salesman problem - Crew Assignment Models.

UNIT III DECISION AND GAME THEORIES

12

Decision making under risk - Decision trees - Decision making under uncertainty - Game Theory-Two-person Zero sum games - Saddle point - Dominance Rule - Convex Linear Combination (Averages) - Methods of matrices - Graphical and LP solutions.

UNIT IV INVENTORY AND REPLACEMENT MODELS

12

Inventory Models - EOQ and EBQ Models (With and without shortages) - Quantity Discount Models - Replacement Models - Individual Replacement Models (With and without time value of money) - Group Replacement Models.

UNIT V OUEUING THEORY AND SIMULATION

12

Queuing Theory single and multi - Channel models - Infinite number of customers and Infinite calling source - Monte Carlo simulation - Use of random numbers - Application of simulation techniques.

TOTAL: 60 PERIODS

COURSE OUTCOMES:

- 1. Construct and solve linear programming models to answer business optimization problems.
- **2.** Analyze transportation and assignment problems to find the best routes and allocation of resources for matching supply and demand.
- **3.** Apply various techniques of game theory and decision theory for enhancing operational efficiency.
- **4.** Evaluate various techniques for inventory management and replacement models in manufacturing context.
- **5.** Apply the applications of queuing and simulation to real time optimization.

- 1. N.D Vohra, "Quantitative Techniques in Management", Tata McGraw Hill, 2010.
- 2. G. Srinivasan, "Operations Research–Principles and Applications", 2nd edition, PHI, 2011.
- 3. Paneerselvam R., "Operations Research", Prentice Hall of India, Fourth Print, 2008.
- 4. Hamdy A Taha, "Introduction to Operations Research", Prentice Hall India, Tenth Edition, Third Indian Reprint2019.
- 5. Bernard W. Taylor III, "Introduction to Management Science", 9th Edition, Pearson Ed.
- 6. Frederick & Mark Hillier, "Introduction to Management Science"—A Modeling and case studies approach with spread sheets, Tata McGraw Hill, 2010.
- 7. Nagraj B, Barry Rand Ralph M.S Jr., "Managerial Decision Modelling with Spread sheets", Second Edition, 2007, Pearson Education.

CO's - PO's & PSO's MAPPING

CO	9	7			PO						G	PSO	
СО	1	2	3	4	5	6	7	8	9	1	2	3	4
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CO 4	3	3	-	2	3	2	1-1			3	-	3	2
CO 5	3	3	-	2	3	2	-	2	-	3	-	3	2
Avg.	3	3	2	2	3	2	-	2	-	3		3	2

1-Low, 2-Medium, 3 -High, '-'- No Correlation

Manual Ma

- 1. To provide students with a conceptual and essential functions of various areas of financial decision making
- 2. To provide students with analytical skills required to examine the shareholder's wealth maximization
- 3. To provide students with the knowledge of interpretation of business information and application of financial theory in various decision areas of finance.

UNIT I FOUNDATIONS OF FINANCE

9

Introduction to Finance - Financial Management - Nature - Scope and functions of Finance - Organization of financial functions - Objectives of Financial management - Major financial decisions - Time value of money - Features and valuation of shares and bonds - Concept of risk and return - Single asset and of a portfolio.

UNIT II INVESTMENT DECISIONS

9

Capital Budgeting: Principles and Techniques - Nature of capital Budgeting - Identifying relevant cash flows Evaluation Techniques: Payback - Accounting rate of return - Net Present Value - Internal Rate of Return - Profitability Index Comparison of DCF Techniques - Concept and measurement of cost of capital - Specific cost and Overall cost of capital.

UNIT III FINANCING AND DIVIDEND DECISION

9

Leverages - Operating and Financial leverage - Measurement of leverages - Degree of Operating & Financial leverage - Combined leverage - EBIT - EPS Analysis Indifference point - Capital structure - Theories - Net Income Approach - Net Operating Income Approach - MM Approach-Determinants of Capital structure - Dividend Decision - Issues in dividend decisions - Importance and Relevance & Irrelevance theories - Walter's - Model - Gordon's model and MM model - Factors determining dividend policy - Types of dividend policies - Forms of dividend.

UNIT IV WORKING CAPITAL MANAGEMENT

9

Principles of working capital: Concepts - Needs - Determinants - Issues and estimation of working capital - Receivables Management - Inventory management - Cash management Working capital finance: Commercial paper - Company deposit - Trade Credit - Bank finance.

UNIT V LONG TERM SOURCES OF FINANCE

9

Indian capital Market-New issues market - Secondary Market Long term finance Shares, debentures and term loans, lease, hire purchase, venture capital financing, Private Equity.

TOTAL: 45 PERIODS

COURSE OUTCOMES:

- 1. Comprehend the various decision areas of finance and its importance in day to day business.
- **2.** Apply the techniques involved in the investment decision.
- **3.** Describe the Capital Structure and Leverage analysis of an organization
- **4.** Determine the Dividends and Working Capital requirements of a firm.
- **5.** Understanding the various sources of finance.

- 1. IM. Pandey 'Financial Management', Vikas Publishing House Pvt. Ltd., 11th edition, 2018.
- 2. M.Y. Khan and P.K. Jain "Financial management", Text, Problems and cases Tata McGraw Hill, 8th edition, 2017.
- 3. Aswath Damodaran, "Corporate Finance Theory and practice", John Wiley & Sons, 2011.
- 4. James C. Vanhorne "Fundamentals of Financial Management" PHI Learning, 13th Edition, 2014.
- 5. Brigham, Ehrhardt, "Financial Management Theory and Practice", 14th edition, Cengage Learning 2015.
- 6. Prasanna Chandra, "Financial Management", 9th edition, Tata McGraw Hill, 2017.

CO's - PO's & PSO's MAPPING

CO's – PO)'s &	PSO's	MAP	PPINO	N	G]	N	E	ER	IN			
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CO 2	3	3	3	2	3		-	3	1	3	3	3	2
CO 3	3	3	3	2	3	_	-	3	7/1-	3	3	3	2
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CO 5	2	2	3	2	3/	-	(2		3	2	3	2
Avg.	3	3	3	2	3	2	-	3	-	3	3	3	2

1-Low, 2-Medium, 3 -High, '-'- No Correlation

A SO OFFICIALITY & SO COULTY

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COURSE OBJECTIVES:

- 1. To enable the students to understand the various HR functions in depth.
- 2. To familiarize students with contemporary practices in human resource management.
- **3.** To provide knowledge about management issues related to training and development.

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UNIT I PERSPECTIVES IN HUMAN RESOURCE MANAGEMENT

9

Evolution of human resource management - The importance of the human capital - Role of human resource manager - Challenges for human resource managers - Trends in Human resource policies - Computer applications in human resource management - Human resource accounting and audit.

UNIT II HUMAN RESOURCE PLANNING AND RECRUITMENT

9

Importance of Human Resource Planning- Forecasting human resource requirement - Matching supply and demand - Internal and External Sources - Organizational Attraction - Recruitment- Selection - Induction and Socialization - Theories - Methods and Process.

UNIT III TRAINING AND DEVELOPMENT

9

Types of training methods - Purpose - Benefits - Resistance - Executive development programme - Common Practices - Benefits - Self-development - Knowledge management.

UNIT IV EMPLOYEE ENGAGEMENT

9

Compensation plan - Reward - Motivation - Application of theories of motivation - Career management - Mentoring Development of mentor - Protégé Relationships - Job Satisfaction - Employee Engagement - Organizational Citizenship Behavior: Theories - Models.

UNIT V PERFORMANCE EVALUATION AND CONTROL

9

Method of performance evaluation - Feedback - Industry practices - Promotion - Demotion - Transfer and Separation - Implication of job change - The control process - Importance - Methods - Requirement of effective control systems grievances - Causes - Implications - Redressal methods.

TOTAL: 45 PERIODS

COURSE OUTCOMES:

- 1. Understand the knowledge on the various aspects of HRM.
- 2. Understand the knowledge needed for success as a human resource professional
- **3.** Develop the skills needed for a successful HR manager.
- **4.** Implement the concepts learned in the workplace.
- **5.** Aware of the emerging concepts in the field of HRM.

- **1.** Gary Dessler and Biju Varkkey, "Human Resource Management", 14th Edition, Pearson Education Limited, 2015.
- **2.** David A. Decenzo, Stephen. P. Robbins, and Susan L. Verhulst, "Human Resource Management", Wiley, International Student Edition, 11th Edition, 2014.
- **3.** Luis R.Gomez Mejia, David B. Balkin, Robert Cardy. Managing Human Resource, PHIL earning, 2012.
- **4.** Bernad in," Human Resource Management", Tata McGraw Hill, 8th Edition, 2012.
- 5. Wayne Cascio, "Managing Human Resource", McGraw Hill, 2015.
- 6. Ivancevich, "Human Resource Management", McGraw Hill 2012.
- 7. UdayKumar Haldar, Juthika Sarkar," Human Resource management", Oxford, 2012.

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CO					PO	\wedge				(6		PSO	
СО	1	2	3	4	5	6	7	8	9	1	2	3	4
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CO 2	3	3	3	2	3	2	-	2	1	3	3	3	1
CO 3	3	3	3	-^	3	2	2	3	3	3	3	3	3
CO 4	3	3	3	-/	36	1 2	2	3	3	3	3	3	3
CO 5	2	3	3	2	3	2	47		1	3	3	3	3
Avg.	3	3	3	2	3	2	2	3	2	3	3	3	2

1-Low, 2-Medium, 3-High, '-'- No Correlation

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COURSE OBJECTIVES:

Supply Chain Management.

- 1. Students will examine how inputs are transformed into outputs through various operational processes, including the impact of technology and innovation.
- 2. Students will gain knowledge of forecasting techniques and how accurate demand predictions impact production and operational planning.
- 3. Students will explore how operations strategies align with overall business strategies to create a competitive advantage.

INTRODUCTION TO OPERATIONS MANAGEMENT UNIT I

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;

FORECASTING, CAPACITY AND FACILITY DESIGN UNIT II

Demand Forecasting - Need - Types - Objectives and Steps - Overview of Qualitative and Quantitative methods - Capacity Planning - Long range - Types - Developing capacity alternatives - Overview of sales and operations planning - Overview of MRP - MRP II and ERP - Facility Location - Theories - Steps in Selection - Location Models - Facility Layout -Principles - Types - Planning tools and techniques.

DESIGN OF PRODUCT, PROCESS AND WORK SYSTEMS UNIT III

Product Design - Influencing Factors - Approaches - Ethical and Environmental Issues - Process -Planning - Selection - Strategy and Major Decisions - Work Study - Objectives, Procedure; Method Study and Motion Study - Work Measurement and Productivity - Measuring Productivity and Methods to Improve Productivity.

UNIT IV MATERIALS MANAGEMENT

Materials Management – Objectives – Planning – Budgeting - and Control; Purchasing - Objectives - Functions - Policies - Vendor Rating and Value Analysis; Stores Management - Nature - Layout - Classification and Coding; Inventory - Objectives - Costs and Control Techniques; Overview of JIT.

UNIT V SCHEDULING AND PROJECT MANAGEMENT

Project Management - Scheduling Techniques - PERT - CPM; Scheduling - Work Centers - Nature - Importance; Priority Rules and Techniques - Shop Floor Control; Flow Shop Scheduling -Johnson's Algorithm - Gantt Charts; Personnel Scheduling in Services.

TOTAL: 45 PERIODS

COURSE OUTCOMES:

At the end of the course, the students will be able to

- 1. Understand and familiarize themselves with the concepts of operation management and its applications in industrial situations, operation planning, and management.
- 2. Attain knowledge about design forecasting methods, formulate a capacity plan and explore various types of facility layouts.
- 3. Enhances the understanding of product development and design process.
- **4.** Apply material management, budgeting, vendor rating, and cost control techniques to effective inventory management.
- **5.** Evaluate and apply scheduling and network techniques to optimize project completion timelines and resource utilization, using real-time case studies to develop practical solutions.

REFERENCES:

- 1. Richard B.Chase, Ravi Shankar, F. Robert Jacobs, Nicholas J. Aquila no, "Operations and Supply Management", Tata McGraw Hill, 12th Edition, 2010.
- 2. Norman Gaither and Gregory Frazier, "Operations Management", South Western Cengage, 2002.
- 3. William J Stevenson, "Operations Management", Tata McGraw Hill, 11th Edition, 2015.
- 4. Russel and Taylor," Operations Management", Wiley, 8th Edition, 2015.
- 5. Kanishka Bedi, "Production and Operations Management", Oxford University, 3rd Edition, 2013.
- 6. CharyS.N, "Production and Operations Management", Tata McGraw Hill, 5th Edition, 2013.
- 7. Aswathappa K and Shridhara Bhat K, "Production and Operations Management", Himalaya Publishing House, Revised Second Edition, 2008.

CO's - PO's & PSO's MAPPING

CO					PO				1	2	P	SO	
CO	1	2	3	4	5	6	7	8	9	E 1	2	3	4
CO 1	3	2	2	/ -	1	2	1-9	2	2	3	2	2	-
CO 2	2	3	2	1-	-	1	//-	3	20	3	1	2	-
CO 3	2	3	2	1	2	2	2	1-		2	2	2	2
CO 4	3	2	1	_	2	2	-	3	2	3	1	2	-
CO 5	3	2	2		-	2		3	3	3	-	3	-
Avg.	3	2	2	11	12	552	2	3	2	3	2	2	2

1- Low, 2 - Medium, 3 - High, '-'- No Correlation

- 1. To introduce the concept of scientific research and the methods of conducting scientific enquiry.
- 2. To introduce the measurement tools and test for their validity and reliability.
- **3.** To develop skills for scientific data collection methods and sampling techniques.

UNIT I INTRODUCTION

9

Business Research - Definition and Significance - The research process - Types of research Exploratory and causal Research - Theoretical and empirical Research - Cross Sectional and time-series research - Research questions / problems - Research objectives - Research hypotheses - Characteristics - Research in an evolutionary perspective - The role of theory in research.

UNIT II RESEARCH DESIGN AND MEASUREMENT

9

Research design - Definition - Types of research design; Exploratory and causal research design - Descriptive and experimental design; Different types of experimental design - Validity of findings - Internal and external validity - Variables in research - Measurement and Scaling-Different scales - Construction of instrument - Validity and Reliability of instrument.

UNIT III DATA COLLECTION

9

Types of data - Primary Vs. Secondary data - Methods of primary data collection - Survey Vs. Observation - Experiments - Construction of questionnaire and instrument - Types of Validity - Sampling plan - Sample size - Determinants optimal sample size - Sampling techniques - Sampling methods.

UNIT IV DATA PREPARATION AND ANALYSIS

9

Data Preparation; Editing - Coding - Data entry - Validity of data - Qualitative Vs. Quantitative data analysis - Applications of Bivariate and Multivariate statistical techniques - Factor analysis - Discriminant analysis - Cluster analysis - Multiple regression and Correlation - Multidimensional scaling - Conjoint Analysis - Application of statistical software for data analysis.

UNIT V REPORT DESIGN, WRITING AND ETHICS IN BUSINESS RESEARCH

9

Research report - Types - Contents of report - Need for executive summary - Chapterization - Contents of chapter - Report writing - The role of audience - Readability - Comprehension - Tone - Final proof - Report format - Title of the report - Ethics in research - Subjectivity and objectivity in research.

TOTAL: 45 PERIODS

COURSE OUTCOMES:

- 1. Understand the basic concepts of business research.
- 2. Gain knowledge through research on a scientific basis and select appropriate research design.
- 3. Apply the appropriate data collection method and sampling technique.
- **4.** Analyze the data and find out the solutions to the problems.
- **5.** Apply the right tools to enhance the quality of research reports.

- 1. Donald R. Cooper, Pamela S. Schindler and J K Sharma "Business Research methods",11th Edition, Tata McGraw Hill, New Delhi, 2012.
- 2. Alan Bryman and Emma Bell, "Business Research methods", $3^{\rm rd}$ Edition.
- 3. Uma Sekaran and Roger Bougie, "Research methods for Business", 5th Edition, Wiley India, New Delhi, 2012.
- 4. William G Zikmund, Barry J Babin, Jon C.Carr, Atanu Adhikari, Mitch Griffin," Business Research methods", A South Asian Perspective, 8th Edition, Cengage Learning, New Delhi, 2012.
- 5. Panneerselvam. R, "Research Methodology", 2nd Edition, PHIL earning, 2014.

CO's - PO's & PSO's MAPPING

CO	Y				PO						P	SO	
CO	1	2	3	4	(5)	6	7	8	9	1	2	3	4
CO 1	2	3	3 (2	3	2		3	-	3	TAL	3	2
CO 2	2	3	3	/-/	3	2		3	- 1	3		3	2
CO 3	2	3	3		3	2	<u> </u>	3	-	3	-	3	2
CO 4	2	3	3	_	3	2		3	-	3	1-1	3	2
CO 5	2	3	3	_	3	3		3	-	3	3	-	2
Avg.	2	3	3	2	×3	2		3	-	3	13	3	2

1-Low, 2-Medium, 3-High, '-'- No Correlation

Something Beneautilies,

- 1. Understand fundamental concepts and decision making.
- 2. Apply analytical and technical skills to solve problems using data science.
- 3. Derive insights from the data and communicate effectively.

UNIT I: INTRODUCTION TO BUSINESS ANALYTICS

7

Business Analytics: Terminologies - Process - Importance - Relationship with Organisational Decision Making - BA for Competitive Advantage.

UNIT II: MANAGING RESOURCES FOR BUSINESS ANALYTICS

7

Managing BA Personnel - Data and Technology - Organizational Structures Aligning BA: Managing Information Policy - Data Quality and Change in BA.

UNIT III: DESCRIPTIVE ANALYTICS & DATA VISUALIZATION

9

Descriptive Analytics: Exploratory Data Analysis - Data Visualization - Charts - Tables - Pivot Tables - Dashboards.

(Lab Sessions): Data Visualization using Tableau/R/Python.

UNIT IV: PREDICTIVE ANALYTICS

10

Introduction to Predictive Analytics: Logic and Data - Driven Models - Predictive Analysis Modeling and Procedure - Data Mining for Predictive Analytics - Analysis of Predictive Analytics. (**Lab Session**): Predictive Analytics using R /Python.

UNIT V: PRESCRIPTIVE ANALYTICS

12

TOTAL: 45 PERIODS

Introduction to Prescriptive Analytics: Prescriptive Modeling - Optimization and its Business Applications - Decision Analysis - Single and Multi - Criteria. (Lab Session): Prescriptive Analytics using R/Python.

COURSE OUTCOMES:

At the end of the course, the students will be able to

- 1. Understand the role of business analytics in decision making.
- 2. Identify the appropriate tool for the analytics scenario.
- 3. Apply the descriptive analytics tools and generate solutions.
- **4.** Understand predictive analytics and applications.
- 5. Gain knowledge of prescriptive analytics and demonstrating business process improvement.

A SOUTH BE BENEAUTH BE

- 1. Camm, J.D., Cochran, J.J., Fry, M.J. and Ohlmann, J.W. (2021). "Business Analytics" (4th Edition). Cengage.
- 2. Christian Albright S and Wayne L. Winston, "Business Analytics Data Analysis and Decision Making", Fifth edition, Cengage Learning, 2015.
- 3. James R. Evans," Business Analytics Methods, Models and Decisions", Pearson Ed, 2012.

CO's - PO's & PSO's MAPPING

CO	9			3	PO	3	EE		À	P	so	
СО	1	2	3	4	5	6	7 8	9	1	2	3	4
CO 1	1	2	3	1	1	1	1 3		3	1	3	1
CO 2	7	_	3	-	_1	_	- 2	1	2	1	3	-
CO 3	4	-	3	-	-	3	- 3	1	3	3	3	-
CO 4	4-	2	3	1	-	7 - 1	2 3	1	3	1	3	2
CO 5	2	3	3	1	2	1	3 3	///-	3	- 4	3	3
Avg.	2	2	3	1_	1	2	2 3	1	3	2	3	2

1-Low, 2-Medium, 3-High, '-'- No Correlation

Som the Beautilier

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

UNIT I INTRODUCTION

9

Marketing Meaning - Definition - 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 the functional areas - Production - Finance - Human Relations Management - Information System - 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 Mix components.

UNIT III MARKETING MIX DECISIONS

9

Product planning and development - Product lifecycle - New product Development and Management - Defining Market Segmentation - Targeting and Positioning - Brand Positioning and Differentiation - Distribution Channel Management - Managing Integrated Marketing Channels - Managing Retailing - Wholesaling and Logistics - Promotion Mix - Pricing Objectives - Strategies - Policies and Methods - Trade Marketing.

UNIT IV BUYER BEHAVIOUR

9

Understanding Industrial and Consumer Buyer Behaviour - 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 - Digital Marketing - Green Marketing and AI Marketing.

TOTAL: 45 PERIODS

COURSE OUTCOMES:

At the end of the course, the students will be able to

- **1.** Acquire the various marketing concepts, marketing philosophies, and marketing environment factors.
- 2. Get enhanced knowledge of marketing strategies for consumer and industrial marketing.
- **3.** Analyze the right marketing mix with appropriate use of the marketing mix elements.
- **4.** Ability to analysis the nature of consumer buying behaviour.
- **5.** Understand the marketing research and new trends in the area of marketing.

REFERENCES:

- 1. Philip T. Kotler and Kevin Lane Keller, "Marketing Management", Prentice Hall India, 15th Edition, 2017.
- 2. KS Chandrasekhar "Marketing management" Text and Cases, Tata Mc Graw Hill Education, 2012.
- 3. Lamb, Hair, Sharma, McDaniel "Marketing An Innovative approach to learning and teaching" A south Asian perspective, Cengage Learning, 2012.
- 4. Paul Baines, Chris Fill, Kelly Page, "Marketing", Asian edition, Oxford University Press, 5th edition, 2019.
- 5. Ramasamy, V.S, Namakumari. S "Marketing Management: Global Perspective Indian Contex"t, Mac Millan Education, New Delhi, 6th edition, 2018.
- 6. A.NAG, "Marketing successfully-A Professional Perspective", Macmillan 2008.
- 7. Philip Kotler, Gay Armstrong, Prafulla Agnihotri, "Principles of marketing", 7th edition, 2018.

CO's - PO's & PSO's MAPPING

CO	Å.				PO			7			P	so	
CO	1	2	3	4	5	6	7	8	9	1	2	3	4
CO 1	1_	3	3	1	2	3	1	3	1/	3	2	2	3
CO 2	2	3	3	2	1	3	1, }	2	2	3	3	2	2
CO 3	-05	3	3	2	2	2	2	2	2	3	2	3	2
CO 4	- 0	2	3	1-1	3	3	- 1	2	3	2	3	3	2
CO 5	Y- Y	3	3	2	2	3	-	3	3	3	2	3	3
Avg.	1	3	3	2	2	3	1	2	2	3	2	3	2

1-Low, 2-Medium, 3 -High, '-' - No Correlation

- 1. To learn the concept of quality, the customer's perspective on quality, cost of quality, and quality control, as well as to understand the contributions of philosophers and quality methodologies.
- 2. To impart control techniques and various methodologies, such as Six Sigma and TPM, to improve operational efficiency and control.
- **3.** To learn product planning and development models through QFD, HOQ, and FMEA, as well as ways to benchmark product quality.

UNIT I INTRODUCTION TO QUALITY MANAGEMENT

12

Evolution of Quality Management - TQM framework - benefits and obstacles Dimensions of Product and service quality - Quality statements.

UNIT II PHILOSOPHIES OF QUALITY GURUS

12

Overview of the contributions of Deming - Juran - Crosby - Masaaki Imai - Feigenbaum, Ishikawa - Taguchi Technique.

UNIT III PROCESS IMPROVEMENT PRACTICES FOR QUALITY MANAGEMENT 12

Toyota Production System - Kaizen - Quality circle - Japanese 5S Principles and 8D Methodology - Six Sigma

UNIT IV TOOLS AND TECHNIQUES FOR QUALITY MANAGEMENT

12

Quality Functions Development (QFD) - Failure Mode Effect Analysis (FMEA) - Seven Old (Statistical) tools - Seven New Management tools - Benchmarking - POKAYOKE.

UNIT V BEST PRACTICES OF QUALITY MANAGEMENT

12

Quality management systems, Environmental Management systems - Total Productive Maintenance - Supplier partnership - Employee Involvement.

TOTAL: 60 PERIODS

COURSE OUTCOME:

- **1.** Understand the principles of Total Quality Management and the specifics of its implementation.
- **2.** Apply quality philosophies and tools to facilitate continuous improvement and ensure customer delight.
- **3.** Acquire knowledge of the quality management process for analyzing and solving problems in an organization.
- **4.** Analyze appropriate statistical tools and techniques to improving quality processes.
- **5.** Acquire knowledge on ISO standards and various quality certifications for implementation in the organization.

- 1. Shridhara Bhat K, -"Total Quality Management"—Text and Cases, (1st ed.), Himalaya Publish House, 2010.
- 2. T. R. Natarajan, EdwinaPio, "Quality Samurai", Mac Millan India Private Limited, 1999.
- 3. John Gilbert, How to eat and Elephant–A Slice by Slice Guide to "Total Quality Management", East– West Press, 2004.
- 4. Robert Slater, "Jack Welch and GE Way", Tata Mc Graw Hill, 2021.

EXTENSIVE READING:

- 1. Gopala krishnan N," Simplified Six Sigma ", PHIL earning Private Limited, New Delhi, 2012.
- 2. Bai Baird Craig," Six Sigma Manual", Yes Dee Publications, Chennai, 2009.
- 3. Montgomery Douglas C," Introduction to Statistical Quality Control", (8th ed.), Wiley India Ltd, New Delhi, 2020.

CO's - PO's & PSO's MAPPING

CO		V			PO	4					P	so	
СО	1	2	3	4	5	6	7	8	9	1	2	3	4
CO 1	2	2	3	-,	2	1	6	2	2	3	1	-2	-
CO 2	2	3	3	-	2	2	1	3	2	3	2	3	1
CO 3	>	2	3	-	2	/-	-///	3	2	3	-	3	- 1
CO 4	60	2	3	-	2	-	- \	3	_	2	2	3	-
CO 5		3	2	2	3	1	-	2	2	2	2	2	-
Avg.	2	2	3	2	2	1	1	3	2	3	2	_3	1

1-Low, 2-Medium, 3-High, '-' - No Correlation

South Beautifle

- 1. Students will be able to systematically apply qualitative and quantitative techniques to solve problems.
- 2. To help students to learn about the tools used for research analysis.
- 3. To disseminate the students about networking, inventory models and queuing theory using data analytical tools.

S. No.	Exp. No.	Details of experiments	PERIODS
		Name	
1	1	Descriptive Statistics	4
2	2	Parametric Tests	4
3	3	Non-parametric Tests	4
4	4	Correlation & Regression	4
5	5	Forecasting	4
6	<u> </u>	Extended experiment-1	14
7	6	Portfolio Selection	4
8	7	Risk Analysis & Sensitivity Analysis	4
9	8	Revenue Management	4
10	~ \-	Extended experiment-2	4
11	9	Transportation & Assignment	6 4
12	10	Networking Models	6 4
13	11	Queuing Theory	6 4
14	12	Inventory Models	4
15	-	Extended experiment-3	4

Spreadsheet Software and Data Analysis Tools

TOTAL: 60 PERIODS

COURSE OUTCOMES:

- 1. The students will be able to understand the forecasting in real time business world using analytical tools.
- 2. The students will be able to conduct Risk and sensitivity analysis and portfolio selection based on business data.
- **3.** The students will be able to know the networking, inventory models and queuing theory using data analytical tools.
- **4.** The students will be able to acquire knowledge about the nature of data and conducting hypothesis . testing using various data analysis techniques
- **5.** The students will be able to identify the relationship between variables using data analytical tools.

- 1. David R. Anderson, et al," An Introduction to Management Sciences: Quantitative approaches to Decision Making", (13th edition) South-Western College Pub, 2011.
- 2. William J. Stevenson, Ceyhun Ozgur,"Introduction to Management Science with Spread sheet", Tata `Mc Graw Hill,2009.
- 3. Hansa Lysander Manohar,"Data Analysis and Business Modelling using Microsoft Excel"PHI, 2017.
- 4. David M. Levineetal, "Statistics for Managers using MS Excel" (6th Edition) Pearson, 2010.
- 5. Minnick, C.Web Kit for Dummies. John Wiley & Sons, (2012).

CO's - PO's & PSO's MAPPING

СО				P() /	039 6						PSO		
	1	2	3	4	5	6	7	8	9	1	2	3	4	
CO 1	1	3	3	1	1	2	-	3	1	3	2	3		
CO 2	1	3	3	1	2	2		3	1	3	2	3	2	
CO 3	1	2	3	1	1	2	-	3	<u>\ 1</u>	3	2	3	_	
CO 4	1	3	3	1	2	3 📉	-	3	1	3	3	3	3-	
CO 5	1	3	3	1	1	2	-	3	1	3	2	3	-/	
Avg.	1	3	3	1	1	2		3	1	3	2	3	2	

1-Low, 2-Medium, 3 -High, '-' - No Correlation

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