

**Institute of Management Studies
Devi Ahilya Vishwavidyalaya**

**MBA (Public Health) 2 Years
Semester II
Course Scheme**

S.N.	Code	Subject		Credits
1.	MS5G-502	Hospital Administration	Compulsory	3
2.	MS5G-504	Human Resource Management	Compulsory	3
3.	MS5G-506	Marketing Management	Compulsory	3
4.	MS5G-508	Management Information System and IT	Compulsory	3
5.	MS5G-510	Research Methodology in Healthcare	Compulsory	3
6.	MS5G-512	Financial Management	Compulsory	3
7.	MS5G-514	Managerial Economics	Compulsory	3
8.	MS5G-516	Operation Research	Compulsory	3
9.	MS5G-552	Comprehensive Viva	Compulsory	3 Virtual Credit
Total Credits: 24 + 3 Virtual Credits				

INSTITUTE OF MANAGEMENT STUDIES			
M.B.A. (Public Health) 2 Years			
Semester II			
Batch 2023-25			
Subject Name	Hospital Administration	Subject Code	MS5I-502
Subject Nature:			
Course Objective:			
<ul style="list-style-type: none"> • To expose the students to the different functions performed by managers, the roles they have to perform for those functions, and the knowledge and skills they have to develop for the roles through real life examples and cases in Hospitals; • To provide the necessary foundation for all other courses based on management practices across the world 			
Learning Outcome:			
At the end of the course students should be able to;			
<ul style="list-style-type: none"> • Define Hospital Administration and Management and explain how management differs according to level and whether a manager is a line manager or an enabling role. • Describe and attain various level of skills in the Hospital Management Processes 			
Examination scheme:			
The faculty member will award internal marks out of 40 based on three assessments of 20 marks each of which best two will be considered. The end semester examination will be worth 60 marks having theory and cases/practical problems.			
Note: At least One Case / Case-let to be discussed in each Unit			
Course Contents			
Content			
UNIT –I	Hospital administration- Principles Introduction to the Hospital field. Definitions -- Hospital and Medical Care, Types and Control 1.3 . Application of the Management principles functions in Hospitals 1.4 Management by Objectives in Hospital Sector Functions-- Medical Care, Prevention, Professional Education and Research. Role of Hospital in Health spectrum. Hospital as an Open System Hospital of India-to-day. Classification & Accreditation, Number type ; size, distribution; ownership; utilization; rations; trends ; problems Trends of Hospital Administration Abroad.		

Unit 2	Responsibilities, Roles & Functions of Hospital Administrator, Expected qualities of a good Hospital Administrator Organization of Hospital. The governing authority; the administrator; business aspects; clinical aspects; channels of authority and communication. Problems of hospital administration and their expected solutions
Unit-3	Management of different Clinical , Para clinical , and Support service departments in Hospitals 2.2 Administration of Government (Rural , District & Municipal Hospital) v/s Private Hospitals 2.3 Administration of a teaching hospital. 2.4 Administration of a corporate hospital. 2.5 Administration of a voluntary & charitable hospital
Unit-4	3.1 Nosocomial Infection 3.2 Management of Medical Records Department (manual & computerized) 3.3 Management of Hospital Information System (Manual, Online & Offline) 3.4 Management of Biomedical Waste in Hospitals (Law & the Reality)
Unit- 5	4.1 Hospital utilization and its evaluation 4.2 Hospital Audits, Financial Audit, Clinical Audit, Tissue Audit 4.3 Quality Management in Hospitals-Certification & Accreditation 4.4 TQM in Hospitals
Unit -6	5.1 Public Relations in Hospitals 5.2 Role of Administration in Medical & Paramedical Education and Research 5.3 Recent trends in hospital administration. Health Education in Hospital, Responsibilities of the hospital to the general public. Methods of Health Education in hospital and their importance. 5.5 Patient Education through I.T.
Unit-7	6.1 Hospital hazards 6.2 Disaster Management Programs and Disaster Preparedness 6.3 Telemedicine 6.4 Medical Tourism 6.5 Health Insurance and TPA

Learning Resources:

Text Books:

1. B.M.Sakharkar , Principles of Hospital Administration and Planning ,
2. Kunders Hospital planning & hospital Management

INSTITUTE OF MANAGEMENT STUDIES			
M.B.A. (Public Health) 2 Years			
Semester II			
Batch 2023-25			
Subject Name	HUMAN RESOURCE MANAGEMENT	Subject Code	MS5I-504
		Total Credits	03
Subject Nature: Compulsory			
Course Objective:			
<ol style="list-style-type: none"> 1. To make students aware about different functions of human resource management. 2. To develop understanding in students about different terms closely associated with HRM. 3. To provide and incorporate knowledge about possible changes that may affect the overall organization. 			
Learning Outcome:			
At the end of the course students should be able to;			
<ol style="list-style-type: none"> 1. assimilate high employee morale and sound human relations by sustaining and improving the various conditions and facilities. 2. execute relevant strategies without disturbing inter-relationships and avoid disputes/conflicts within an organization by smooth transition of changes 3. ponder Employing people, training them, compensating them, developing policies relating to them, and developing strategies to retain them 			
<ol style="list-style-type: none"> 1. Define HRM and understand its importance in managing diverse workforce. 2. Help students to make themselves skilled in HR function for the present day organisaiton. 			
Examination scheme:			
The faculty member will award internal marks out of 40 based on three assessments of 20 marks each of which best two will be considered. The end semester examination will be worth 60 marks having theory and cases/practical problems.			
Course Contents			
UNIT – I The field of HRM	1.1 Concept and Functions 1.2 Evolution of Human Resource Management 1.3 Models for excellence 1.4 HRM Models		
Unit - 2 HR Policies	2.1 Formulation and Essentials of Sound HR Policies 2.2 Factors Influencing Personnel Policy of the Organisation		
Unit – 3 Acquisition of Human Resources	3.1 Job Analysis 3.2 Job Description and Job Specification 3.3 Job Evaluation 3.4 An overview of Recruitment & Selection		
Unit- 4 Development of Human Resources	4.1 Orientation and Induction 4.2 Determining Training Needs 4.3 Overview of Training and Development		
Unit -5 Maintenance Of Human Resources	5.1 Placement Promotion and Transfer 5.2 Performance Appraisal 5.3 Career and Succession Planning		

Unit-6 Separation processes	6.1 Retirement 6.2 Layoff 6.3 Discharge 6.4 VRS
Unit 7 Research and the Future	7.1 Current trends, 7.2 Hybrid organization, hybrid workspaces 7.3 Future Challenges for HRM

Text Readings: Latest Editions

1. David S. Decenzo and Stephen P. Robbins, “Personnel/Human Resource Management”, New Delhi, Prentice Hall.
2. Michael Armstrong, “A Handbook of Human Resource Practice”, London, KoganPage.
3. K. Aswathappa (Author) "Human Resource Management: Text & Cases "| 8th Edition McGraw Hill.
4. V.S.P Rao."Human Resource Management" Taxmann

Suggested Readings

1. William B. Werther Jr. and Keith Davis, “Human Resources and Personnel Management”, Singapore, McGrawHill.
2. PSubbaRao, “Essentials of Human Resource Management and Industrial Relations: Text, Cases and Games”, Mumbai, Himalaya.
3. Biswajeet Patanayak, “Human Resource Management” New Delhi, Prentice Hall India.
4. Holloway J. Ed., “Performance Measurement and Evaluations”, New Delhi, Sage Publications. Guy V. & Mattock J., “The New international Manager”, London, Kogan Press.

INSTITUTE OF MANAGEMENT STUDIES			
M.B.A. (Public Health) 2 Years			
Semester II			
Batch 2023-25			
Subject Name	MARKETING MANAGEMENT	Subject Code	MS5I-506
		Total Credits	03
Subject Nature: Compulsory			
Course Objectives:			
<ul style="list-style-type: none"> ● To provide an understanding of the concept, functions, and techniques of Marketing. ● To familiarize with the applications of marketing in real life business scenario. 			
Learning Outcomes:			
At the end of the course students should be able:			
<ol style="list-style-type: none"> 1. To get an understanding of marketing concepts and techniques 2. To analyse the marketing environment 3. To apply marketing theories 4. To develop marketing plan using marketing mix elements. 			

Examination Scheme:

The faculty member will award internal marks out of 40 based on three assessments of 20 marks each of which best two will be considered. The end semester examination will be worth 60 marks having theory and cases/practical problems.

Course Contents		Class Room Contact Sessions
Unit- 1 Marketing Concepts	1.1 Marketing Concept and Definitions 1.2 Customer Value, Satisfaction and Delight 1.3 Conceptualizing Tasks and Philosophies of Marketing 1.4 Scanning the Marketing Environment.	07
Unit-2 Market Segmentation, Targeting, Positioning,	2.1 Market segmentation – Concept and Application 2.2 Bases and Process of Market Segmentation 2.3 Targeting - Evaluating and selecting the market segments 2.4 Developing a Positioning strategy	06
Unit-3 Marketing Research Marketing Mix	3.1 Marketing Information System 3.2 Marketing Research Process 3.3 Marketing Mix – concept and elements	04
Unit- 4 Product Decisions	4.1 Product classification, 4.2 Product-Mix, 4.3 Product life cycle strategies, 4.4 Packaging and Labelling 4.5 Brand	06
Unit- 5 Pricing Decisions	5.1 Factors affecting pricing, 5.2 Pricing methods and strategies.	06
Unit-6 Promotion Decisions	6.1 A view of Communication Process, 6.2 Marketing Communications Mix elements	06
Unit-7 Distribution Decisions	7.1 Importance and Functions of Distribution Channel, 7.2 Distribution Channel Decisions, 7.3 Distribution Channel Members.	06
Unit- 8 Emerging Trends in Marketing	A brief introduction to emerging trends and practices in marketing such as Digital Marketing, Green Marketing etc.	04
	Total Classes	45

Text Reading: Latest Editions

1. Principles of Marketing Management, Philip Kotler, Gary Armstrong, Sridhar Balasubramanian, Prafulla Agnihotri, Pearson Education.
2. Marketing Management - Philip Kotler, Kevin Lane Keller, Alexander Chernev, Jagdish N. Sheth, G.Shainesh, Pearson Education
3. Marketing Management – Rajan Saxena, McGraw Hill
4. Marketing Management: Indian Context Global Perspective – V. S. Ramaswamy and S. Namakumari, Sage

INSTITUTE OF MANAGEMENT STUDIES			
M.B.A. (Public Health) 2years SEMESTER I			
Batch 2023-24			
Subject Name	Management Information System and IT	Subject Code	MS5I-508
		Total Credits	03
Subject Nature: ABILITYENHANCEMENT			
Course Objective: The objective of this course is to help the student acquire the basics of Information Technology and e-Business Fundamentals. The subject course is to help students to understand the management aspect of E-commerce Technological Environment.			
Learning Outcome: At the end of the course learners will be able to; <ol style="list-style-type: none"> 1. Apply Information Technology in business 2. Acquire practical knowledge about MS Word, MS Excel , MS Power point and application and use of Statistical test 3. Use of Management Information System (MIS) at various levels of management 4. Identify with the concepts of Blockchain and Cryptocurrency. 			
Examination scheme: The faculty member will award internal marks out of 40 based on three assessments of 20 marks each of which best two will be considered. The end semester examination will be worth 60 marks having theory and cases/practical problems.			
Note: One Case / caselet to be discussed in each Unit			
Course Contents			
UNIT-1	Data , Information , Hardware , Software , Block diagram, Input & Output Devices, Memory Types, Software Types, Operating Systems, Computer Language, Generations, Number Systems		
UNIT-2	M S Office : M S Word, M S Excel, M S Power point,		
UNIT-3	Internet Basics and evolution, Intranet, Extranet, Media, Modem, Digital Analog Communication		

UNIT- 4	The meaning and use MIS, System View of Business, Process of MIS, Development of MIS within the organization, Management Process, Information Needs, System Approach in Planning Organizing and Controlling MIS.
UNIT-5	Planning, Implementation and Controlling of Management Information System. Fundamentals of Data Processing, Computer Operation of Manual Information System, Components of Computer Systems, Flow Chart, Conversion of Manual to Computer Based Systems, Computer Systems

INSTITUTE OF MANAGEMENT STUDIES			
M.B.A. (Hospital Administration) 2 Years			
SEMESTER II			
Batch 2023-25			
Subject Name	RESEARCH METHODOLOGY IN HEALTHCARE	Subject Code	MS5I-510
		Total Credits	03
Subject Nature: Compulsory			
Course Objective:			
<ul style="list-style-type: none"> • The objectives of the course are to equip the students with the concept and methods of Business Research. • The students will be able to plan, design and carry out business research using scientific methods and prepare research report(s) / paper(s). 			
Learning Outcome:			
At the end of the course students should be able to;			
<ol style="list-style-type: none"> 1. Help to get solutions to the problems in the corporate world through research. 2. Develop research papers to understand the intricacies of research. 3. Describe and attain some elementary level of data analysis applicable in research. 			
Examination scheme:			
The faculty member will award internal marks out of 40 based on three assessments of 20 marks each of which best two will be considered. The end semester examination will be worth 60 marks having theory and cases/practical problems.			
Course Contents			Class Room Contact Sessions
UNIT –I Introduction to Research Methods	1.1 Role and objectives of business research 1.2 Types of research 1.3 Research process: Overview 1.4 Ethics and Business Research		08
Unit-2 Theoretical Framework and	2.1 Research problem 2.2 Review of Literature, 2.3 Need for Theoretical Framework 2.4 Hypothesis Development.		08

Hypothesis Development		
Unit 3 Research Design	3.1 Elements of Research Design and Need for research design 3.2 Features of a good research design 3.3 Different research designs and types of research design (exploratory, descriptive, experimental and diagnostic research)	
Unit-4 Sampling Theory and Design of Sample Survey	3.1 Census Vs Sample Enumerations 3.2 Objectives and Principles of Sampling 3.3 Types of Sampling, Sampling and Non-Sampling Errors.	06
Unit- 4 Measurement and Scaling Concepts	4.1 Measurement in research, 4.2 Measurement scales, 4.3 Sources of errors in measurement, 4.4 Techniques of developing measurement tools, 4.5 Classification and testing (reliability, verification and validity) scales 4.6 Designing questionnaires.	06
Unit -5 Data Collection and Analysis	5.1 Collection, Organization and Presentation 5.2 Analysis: Univariate and bivariate Analysis (Hypothesis testing) 5.3 Multivariate Analysis (Concepts only)	12
Unit-6 Report Writing	6.1 Meaning of interpretation 6.2 Techniques of Interpretation 6.3 Precautions in interpretation 6.4 Significance of report writing 6.5 Steps in report writing 6.6 Layout of report 6.7 Precautions in writing research reports.	05
	TOTAL CLASSROOM CONTACT SESSIONS	45

Text Reading: Latest Editions

1. Bougie and Sekaran, "Research Methods for Business", Wiley
2. William G. Zikmund, "**Business Research Methods**", Orlando: Dryden Press.
3. C. William Emory and Cooper R. Donald, "**Business Research Methods**", Boston, Irwin.
4. Fred N Kerlinger, "**Foundations of Behavioural Research**", New Delhi: Surjeet Publications.
5. David Nachmias and Chava Nachmias, "**Research Methods in the Social Sciences**", New York: St. Marlia's Press.
6. C. R. Kothari, "**Research Methodology: Methods and techniques**", New Delhi: Vishwa Prakashan.

INSTITUTE OF MANAGEMENT STUDIES			
M.B.A. (Public Health) 2 Years			
SEMESTER II			
Batch 2023-25			
Subject Name	FINANCIAL MANAGEMENT	SUBJECT CODE	MS5I-512
		TOTAL CREDITS	03
Subject Nature: Compulsory			
Course Objective: The objectives of this course are to help the students learn the concepts, tools and skills of financial analysis and financial management, and application in the efficient conduct of business.			
Learning Outcome: At the end of the course students should be able to: 1. Understand Concepts of Financial Management and their Application in Financial Analysis and Interpretation. 2. Use Financial Management Tools for Managerial Decision Making.			
Examination Scheme: The faculty member will award internal marks out of 40 based on three assessments of 20 marks each of which best two will be considered. The end semester examination will be worth 60 marks having theory and cases/practical problems.			
Course Contents			
Unit – 1 Introduction	1.1. Meaning and Objectives of Financial Management. 1.2. Scope and Functions of Financial Management. 1.3. Wealth Maximization v/s Profit Maximization. 1.4. Short Term and Long Term Sources of Finance in India.		
Unit–2 Ratio Analysis	2.1. Liquidity Ratios. 2.2. Profitability Ratios. 2.3. Leverage Ratios. 2.4. Activity Ratios. 2.5. Calculation and Interpretation of Ratios.		
Unit-3 Investment and Financing Decisions	3.1. Concept of Time Value of Money. 3.2. DCF and Non DCF Methods for Evaluating Projects, 3.3. Relationship between Investment and Financing Decisions, 3.4. Cost of Debt & Bonds, Cost of Preference Share, Cost of Equity, Weighted Average Cost of Capital.		
Unit –4 Leverage Analysis	4.1. Determination of operating leverage, financial leverage and total leverage, 4.2. Leverage and Financial Distress.		

Unit-5 Statement of Changes in Financial Position	5.1. Funds Flow Statement. 5.2. Total Resource Method. 5.3. Working Capital Method. 5.4. Cash Method. 5.5. Cash Flow Analysis.
Unit – 6 Capital Structure and Firms Value	6.1. Net Income Approach. 6.2. Net Operating Income Approach. 6.3. Traditional Approach. 6.4. MM Approach.
<p>Text Reading: Latest Editions</p> <ol style="list-style-type: none"> 1. Pandey, I.M. financial Management, Vikas Publishing House, New Delhi. 2. Khan M.Y. and Jain P.K. Financial Management, Tata McGraw Hill, New Delhi. 3. Keown, Arthu J., Martin, John D., Petty, J. William and Scott, David F, Financial Management. Pearson Education. 4. Chandra, Prasanna; Financial Management TMH, New Delhi. 5. Van Horn, James C., Financial management and Policy, Prentice Hall of India. 6. Brigham & Houston, Fundamentals of Financial Management, Thomson Learning, Bombay. 7. Kishore, R., Financial Management, Taxmans Publishing House, New Delhi. D.N. Elhance, Veena Elhance and B. M. Aggrawal, “Fundamentals of Statistics”, Allahabad: KitabMahal. 	

INSTITUTE OF MANAGEMENT STUDIES			
M.B.A. (Public Health) 2 Years			
SEMESTER II			
Batch 2023-25			
Subject Name	MANAGERIAL ECONOMICS	Subject Code	MS5I-514
Subject Nature: Compulsory			
Course Objective: Objective of this Course is to help the students analyze and understand economic environment.			

<p>At the end of the course learners will be able to;</p> <ol style="list-style-type: none"> 1. Analyze how buyers and sellers interact in a free and competitive market to determine prices and quantities of goods. 2. Measure how changes in price and income affect the behavior of buyers and sellers. 3. Use the concept of producer, consumer surplus, and total surplus to explain the outcomes of markets for individuals, firms, and society. 4. Analyze how firms can use various pricing strategies to maximize profit. 5. Evaluate macro-economic factors using various indicators. 6. Utilizes strengths and weakness of fiscal and monetary policy to determine an appropriate stabilization policy for a given macroeconomic situation 	
<p>Examination scheme: The faculty member will award internal marks out of 40 based on three assessments of 20 marks each, of which best two will be considered. The end semester examination will be worth 60 marks consisting of two sections A and B respectively. Section A will be of 40 marks and have five theory questions out of which a student will be required to do any four questions. Section B will be of 20 marks and consist of numerical / case(s).</p>	
<p>Note: One Case/cassette be discussed in each Unit</p>	
<p>Course Content</p>	
<p>UNIT1 Introduction to economics and Managerial Economics</p>	<ol style="list-style-type: none"> 1.1 Nature scope, characteristics and significance of managerial economics. 1.2 Relationship of managerial economics with economics, operation research, 1.3 Decision making, statistics, accounting.
<p>UNIT2 Fundamental concepts:</p>	<ol style="list-style-type: none"> 1.1 Incremental reasoning, Marginal analysis, Equi-marginal utility, time perspective 1.2 consumer surplus, opportunity cost, time value of money 1.3 Theories of Firm–Managerial theories–Baumol and Williamson, Behavioral theories–Simon, Cyretand March

<p>UNIT3 Supply & Demand Analysis</p>	<ol style="list-style-type: none"> 3.1 Concept, Determinates & Types of Demand. Utility and its types, law of 3.2 Diminishing Marginal utility. 3.3 Demand Function, Law of Demand. Elasticity of Demand Price, Income, Cross 3.4 Advertising & price expectation. Demand Forecasting
<p>UNIT4 Production and cost analysis:</p>	<ol style="list-style-type: none"> 4.1 Meaning of production, production function, short run and long run-production analysis. 4.2 Isoquant curves and Iso-cost lines, Ridgelines, Equilibrium production, expansion path. 4.3 Cost–meaning and types of cost, cost function, short run and long run cost function. 4.4 Economies and diseconomies of scale. Law of supply.

UNIT5 Pricing:	5.1 Price determination under perfect competition. 5.2 Monopoly and Price Discrimination, Monopolistic Competition, 5.3 Oligopoly– kinked demand curve, cartel formation, 5.4 Price leadership.
UNIT6 Profit:	6.1 Meaning, types and theories of profit, 6.2 Profit planning–break even analysis.
UNIT7 Micro-macro interrelations:	7.1 Circular flow of economic activity, National Income concepts, Concepts and Objectives of Private Business. 7.2 Meaning and Phases of Business Cycles: Economic stabilization & Role of govt. in the econ.
<p>Learning Resources:</p> <p>Text Books:</p> <ul style="list-style-type: none"> • P.L. Mehta– Managerial Economics, Sultan Chand, New Delhi. • Mishra & Puri–Micro Economics, Himalaya Publishing House, New Delhi • G.S. Gupta: Managerial Economics, Tata McGraw Hills, New Delhi • Peterson & Lewis: Managerial Economics, Princeton Hall of India, New Delhi. <p>Reference Books:</p> <ul style="list-style-type: none"> • Koutsoyiannis–Modern Micro Economics, Macmillan Press, New Delhi • Dr. Atmanand–Managerial Economics, Excel books, New Delhi • Howard Davis–Managerial Economics, Macmillan Press, New Delhi • D.N. Dwivedi–Managerial Economics, Vikas Publishing, New Delhi • Hal Varian– Intermediate micro economics, Tata McGraw Hills, New Delhi <p>Web References: http://ocw.mit.edu/courses/economics/ Supplementary Material:</p>	

INSTITUTE OF MANAGEMENT STUDIES			
M.B.A. (Public Health) 2 Years			
SEMESTER II			
Batch 2023-25			
Subject Name	OPERATIONS RESEARCH	Subject Code	MS5I-516
		Total Credits	03
Subject Nature: Compulsory			
Course Objective:			
<ul style="list-style-type: none"> • The objectives of this course are to help the students acquire quantitative tools. • The use of these tools for the analysis and solution of business problems. The emphasis will be on the concepts and application rather than derivations. 			
Learning Outcome:			
At the end of the course students should be able to;			
2. Develop models as per the requirements of the practicing managers and to get solutions from them.			
3. Describe and attain of decision science skills for the management processes.			
Examination scheme:			

The faculty member will award internal marks out of 40 based on three assessments of 20 marks each of which best two will be considered. The end semester examination will be worth 60 marks having theory and cases/practical problems.

Course Contents		Class Room Contact Sessions
UNIT –I Quantitative Techniques and Operations Research	1.1 Meaning, Scope, methodology Operations Research in Management 1.2 Modeling in OR 1.3 Advantages and Limitations of Operation Research.	06
Unit-2 Linear Programming	2.1 Meaning of Linear programming 2.2 General Mathematical Formulation of LPP 2.3 Graphical Analysis 2.4 Simplex Method and Big-M Method. 2.5 Advantage and limitations of LPP.	12
Unit-3 Transportation Model and Assignment Problem	3.1 Mathematical Model of Transportation Problem 3.2 Transportation problem as a particular case of LPP 3.3 The Transportation Algorithm (Initial Basic Feasible Solution by various methods, Optimization (Minimization and Maximization) using Modified Distribution Method and Stepping Stone Method. 3.3 Assignment Model as a particular case of transportation model, 3.4 Formulation of assignment problems, Solution of assignment problems using Hungarian Method (Minimization and Maximization).	10
Unit- 4 Game Theory	4.1 Introduction to Games 4.2 Maximin and Minimax Principles 4.3 Pure and Mixed Strategies 4.4 Rule of dominance 4.5 Solutions of Games using –Algebraic, Arithmetic, Matrix and Graphical Methods	05
Unit -5 Replacement Models	5.1 Introduction and Scope in Management 5.2 Single Equipment Replacement Model and Group Replacement 5.3 Replacement of items which deteriorate with time and items which fails suddenly.	04
Unit-6 Queuing Theory	6.1 The structure of the queuing system, 6.2 Performance Measures of a Queuing Systems, 6.3 Single Server Queuing Models.	06
Unit- 7 Simulation	7.1 Concept of Simulation and its applications. 7.2 Monte Carlo Simulation	02
TOTAL CLASSROOM CONTACT SESSIONS		45

Text Reading: Latest Editions

- 1 J k Sharma, "Operations Research: Theory and Practices", Trinity Press
- 2 Haruly M. Wagner, "**Principles of Operations Research with application to managerial decisions**", New Delhi: Prentice Hall of India Pvt. Ltd.
- 3 Hamdy A. Taha, "**Operations Research: An Introduction**", New Delhi: Prentice Hall of India Pvt. Ltd.
- 4 N. D. Vohra. "**Quantitative Techniques**", New Delhi: Tata McGraw Hill Publications.
- 5 V. K. Kapoor, "**Problems and Solutions in Operations Research**", New Delhi: Sultan Chand and Sons.
- 6 P. K. Gupta and D. S. Hira, "**Operations Research**", New Delhi: Sultan Chand Publications.