

TABLE OF CONTENTS

UNIT 1 LINEAR PROGRAMMING

- Session 1: Introduction
- Session 2: What is Linear Programming
- Session 3: Applications of Linear Programming
- Session 4: Examples of Linear Programming problems
- Session 5: Requirements of Linear Programming Problems
- Session 6: Assumptions Linear Programming
- Session 7: Terminologies
- Session 8: Standard form of the Model
- Session 9: Formulating Linear Programming Problems
- Session 10: Solving linear programming: Graphical Method
- Session 11: Sensitivity analysis
- Session 12: Dual (Shadow) Prices

UNIT 2 TRANSPORTATION PROBLEM

- Session 2.1: Introduction
- Session 2.2: Terminologies
- Session 2.3: Transportation problem
- Session 2.4: Balancing a transportation problem
- Session 2.5: Initial feasible solution
- Session 2.6: Finding the optimum solution

UNIT 3 ASSIGNMENT PROBLEM

- Session 2.1: Introduction
- Session 2.2: Solution of Minimization Assignment Problem
- Session 2.3: Solution of Maximization Assignment Problem

UNIT 4 NETWORK ANALYSIS

- Session 4.1: Introduction
- Session 4.2: Critical path analysis CPM limitations
- Session 4.3: Terminologies
- Session 4.4: Notations for drawing network diagrams
- Session 4.5: Constructing network diagrams
- Session 4.6: Activity on node (AON) diagrams
- Session 4.7: Critical path
- Session 4.8: Early times
- Session 4.9: Late times
- Session 4.10: Float
- Session 4.11: Project time reduction
- Session 4.12: Activity on arc (AOA) diagrams
- Session 4.13: Program Evaluation and Review technique(PERT)

UNIT 5 INVENTORY CONTROL

- Session 5.1: Introduction to inventory control
- Session 5.2: Types of Inventory
- Session 5.3: Terminologies
- Session 5.4: The Functions of Inventory
- Session 5.5: Inventory Policies
- Session 5.6: Inventory Models/Systems
- Session 5.7: Economic Order Quantity (EOQ) model

UNIT 6 WAITING LINES/ QUEUING THEORY

- Session 6.1: Introduction
- Session 6.2: Poisson Distribution
- Session 6.3: Characteristics of waiting line systems
- Session 6.4: Measuring the Queue's performance
- Session 6.5: Suggestions for Managing Queues

UNIT 7 SIMULATION

Session 7.1: Introduction

Session 7.2: Problem definition

Session 7.3: Constructing a Simulation problem

Session 7.4: Specification of Variables and Parameters

Session 7.5: Specification of Decision Rules

Session 7.6: Specification of Probability Distribution

Session 7.7: Specification of Time-Incrementing Procedure

Session 7.8: Determining Starting Conditions

Session 7.9: Determining Run Length

Session 7.10: Evaluating Results

Session 7.11: Validation

Session 7.12: Monte Carlo Simulation

UNIT 8 LINEAR PROGRAMMING: SIMPLEX METHOD

Session 8.1: Introduction

Session 8.2: Standard form of LP problems

Session 8.3: Solving LP problems

Session 8.4: Interpreting the Simplex Tableau