

SUBJECT: QUANTITATIVE MANAGEMENT

UNIT 1 QUANTITATIVE TECHNIQUES – INTRODUCTION

- Introduction to Statistics,
- Importance of Statistics in modern business environment.
- Definition of Statistics
- Scope and Applications of Statistics Characteristics of Statistics
- Functions of Statistics
- Limitations of Statistics
- Statistical Software

UNIT 2 MEASURES OF CENTRAL TENDENCY

- Introduction
- Importance
- Difference measures: Central Tendency and Dispersion
- Measures of Central Tendency: Mean
- Measures of Central Tendency: Median, Quartile, Decile, Percentile
- Measures of Central Tendency: Mode
- Measures of Dispersion: Range, Interquartile Range, Absolute Mean Deviation, Standard Deviation, Variance, Coefficient of Variation
- Real world applications of Central tendency and Dispersion

UNIT 3 MATHEMATICAL MODEL

- Introduction
- Importance
- Types of models
- Resource Limitation (Constraints) and Optimization
- Real world applications

UNIT 4 LINEAR PROGRAMMING

- Introduction
- Importance
- Formulation of Linear Programming
- Graphical solution procedure with steps
- Simplex solution procedure with steps

UNIT 5 TRANSPORTATION MODEL

- Introduction
- Importance
- Initial Feasible Solution (All three methods)
- Final (Optimal) Solution: MODI Method and Stepping Stone Method

UNIT 6 ASSIGNMENT MODEL

- Introduction
- Importance
- Basic assignment steps
- Optimal Solution with tie for assignment
- Profit Assignment (Assignment with Maximization)

UNIT 7 CPM & PERT

- Introduction

- Importance
- Minimum Cost
- Maximum Flow
- Maximum Profit

UNIT 8 WAITING MODEL (QUEUING THEORY)

- Introduction
- Importance
- Types of Queue
- Finite Queuing Model

UNIT 9 THEORETICAL PROBABILITY DISTRIBUTIONS

- Introduction
- Importance
- Discrete Probability Distribution: Binomial, Poisson and Hyper Geometric
- Continuous Probability Distribution: Uniform and Normal

UNIT 10 PROBABILITY DISTRIBUTION OF RANDOM VARIABLE

- Introduction
- Mean for discrete distribution - random variable
- Standard deviation of discrete distribution- random variable