

## **CP-104 :Quantitative Methods**

### **Objectives**

The objective of the course is to make the students familiar with some basic statistical and linear programming techniques. The main focus ,however, is in their application in business decision making.

### **Course Contents**

#### **Unit-I**

Matrices and their Applications. Markov's Analysis.Function and Iterations of Business Applications.Progression.

#### **Unit-II**

Linear Programming: Introduction of Operations Research, Scope and Models in Operations research, Scope and models in Operations Research, Introduction of linear Programming, Formulation of LPP,Solutions of LPP-Graphical Methods & Simplex Procedure ,Duality.

#### **UNIT –III**

Introduction of Transportation Problems, Procedure of finding optimal solution, Assignment Problem & its solution.

#### **UNIT-IV**

Decision Theory: Introduction of Decision Theory, Decision Environments, Decision Making under Risk- EMV & EOL Decision Making under Uncertainty- Maximax, Maximin, Minimax,Regret& Laplace Criterion.

Games Theory - 2x2 zero sum game with dominance - Pure Strategy and Mixed Strategy.

#### **UNIT-V**

PERT- CPM, Inventory control.MonteCarloSimulation(Elementary idea only).

### **Suggested Readings:**

1. Narang ,A S. *Linear Programming And Decision Making* . New Delhi , Sultan Chand,1995.
2. Sharma , J.K. *Fundamentals of Operation research* ,Machmillan, New Delhi,2001
3. *Quantitative Techniques* –N.D. Vohra