FUNDAMENTALS OF OPERATIONS RESEARCH

Name of Course	Semester	Core/Elective/Allied/Practical/Project	Course/Paper Code	Course/Paper Title	Credit	Internal Marks	External Marks	External Exam Time Duration
B.B.A.	V	Elective	19BBA509	Fundamentals of operations research	3	30	70	2 ½ Hours

COURSE OBJECTIVES

The objective of this paper is to familiarize the students with basic techniques of operations research.

COURSE CONTENT

Unit - 1	**Introduction of Operations Research**
	· Nature of Operations Research · Characteristic of Operations Research · Methodology of Operations Research · Models of Operations Research · Applications of Operations Research
Unit – 2	**Linear Programming -1**
	· Meaning and uses of L.P. · Various terms which are used in L.P. · Mathematical Formulation of the L.P. · Assumptions and Limitations of L.P. · Optimum solution of L.P. by Graphical Method · Typical Examples.
Unit - 3	Linear Programming -2
	• Slack and Surplus variables. • Optimum solution of L.P. by simplex Method (for two & three variables only) • Transformation of a given problem into dual problem and its optimum solution. • Typical Examples.
Unit – 4	Transportation Problem
	• Introduction of T.P. • Initial method of solving T.P. (1) North-West corner rule method (2) Matrix minima method (3) Vogel's approximation method • Optimum method for solving T.P. (1) MODI method, (2) Stepping stone method

REFERENCES

- Operations Research Theory and Applications (2nd edition): J K Sharma (Macmillan India)
- Operations Research Techniques for Management: V.K. Kapoor (Sultan Chand & Sons)
- Operations Research: Kanti Swarop, P.K. Gupta & Man Mohan (Himalaya Publication)
- Quantitative Techniques in Management: N.D. Vera (TATA McGraw Hill)