

DISCIPLINE SPECIFIC ELECTIVE FOR FIFTH SEMESTER-STATISTICS
Operations Research (DSE-01)

M.M- 60 (Theory=56 & Attendance=04)

UNIT- I

Operations Research (OR): Introduction to Operations Research its Development, characteristics and scope. Importance of Operations Research in industry. Limitations of OR.

UNIT- II

Linear programming: Introduction to linear programming (LPP), Concepts of Convex set, basic Solution, feasible solution, basic feasible solution, optimum solution and slack & surplus variables in linear programming problems (LPP). Mathematical formulation of LPP, Standard form of LPP, graphical method of solving LPP.

UNIT- III

Simplex Method: Iterative nature of simplex method, computational details of simplex algorithm and summary. Artificial variable techniques (Two-phase and Big-M techniques) for solving a general LPP.

UNIT- IV

Transportation Problem: Mathematical formulation and tabular representation. Concept of feasible, Basic feasible and optimal solutions with reference to T.P. Methods for finding initial basic feasible solution :North-West Corner Rule, Lowest Cost Entry , Vogel's Approximation method).

REFERENCES

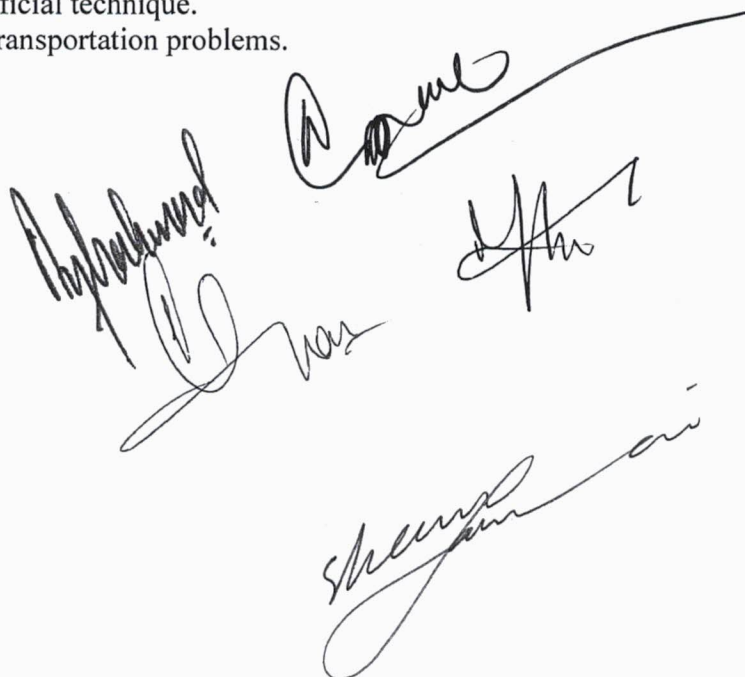
1. Gass S.I (1975): Linear Programming Methods and Applications, McGraw Hill.
2. S.D. Sharma(1994): Operations Research, Kedar Nath Ram Nath & Co, Meerut.
3. P. K. Gupta and D.S. Hira (2009): Operations Research, S. Chand New Delhi

ADDITIONAL REFERENCES:

1. H.A. Taha (2009): Operations Research: An introduction Person Prentice Hall

B.A./B.Sc. FIFTH SEMESTER (Practical) M.M:30(28+2)

1. Formulation of LPPs.
2. Solving LPPs by graphical and simplex methods.
3. Solving LPPs by artificial technique.
4. Practicals based on transportation problems.



Handwritten signatures of faculty members, including names like 'Abdullah', 'Rame', 'Hira', and 'Sharma'.