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).

REFRENCES

1. Gass S.I (1975): Linear Programming Methods and Aplications, 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.