OBJECTIVES:

1. To find the optimal solution of an optimization problem

2. It graphically displays interdependent relationships between group's steps and tasks as they all impact a project.

Learning Outcomes: After learning this course, the student will be able:
1. To know the scope of Operations Research
2. To link the OR techniques with business environment and life sciences
3. To convert real life problems into mathematical models
4. To find a solution to the problem in different cases
5. To inculcate logical thinking to find a solution to the problem

COURSE:

Unit I

Revised Simplex Method: Introduction, Standard forms for Revised Simplex Method, formulation of LPP in standard form – I, Notations form standard form – I, To obtain inverse of initial basis matrix and IBFS – when no artificial variables are needed, to construct the starting table in standard form – I, application of computational procedure of standard form – I. Examples and solutions on standard form – I.

Unit II

Revised Simplex Method: Formulation of LPP in Standard form – II, notations and basis matrix in standard form – II, computational procedure for standard form – II, advantages and disadvantages, examples and solutions on standard form – II.

Unit III

Integer Linear Programming Problem (IPP): Introduction and importance of IPP, Gomory's all Integer programming technique,

Gomory's cutting plane algorithm, short cut method for constructing the Gomory's constraint and computational problems on Gomory's method. Geometrical interpretation of Gomorys cutting plane method.

Unit IV

Integer Linear Programming Problem (ILPP): Branch and Bound method, its algorithm, computational problems on Branch and Bound method, Geometrical interpretation of Branch and Bound method.

Unit V

Patents and Intellectual Property Right: Introduction, Patent, Provisional Specification, Complete specification, Copy right, Design, Trade mark.

Books Recommended

1. S. D. Sharma(2012): Operations Research, Kadar Nath Ram Nath Publications.
2. Chong, E. K. P. and Zak, S. (2004). An Introduction to Optimization, Wiley.
3. Fletcher, R. (2000). Practical Methods of Optimization,Wiley.
4. Hadley, G. (1987). Linear Programming. Addison-Wesley.
5. Hiller, F.S. and Lieberman, G.J., (2009). Introduction to Operations Research (9th ed.), McGrawHill 6. Panneerselvam, R. (2012). Operations Research, 2nd Edn. Prentice Hall of India.
7. Taha, H. A. (2016) Operations Research: An Introduction, 10th edition, Prentice Hall