

**ALLIED COURSE III (AC) – OPERATIONS RESEARCH**

**UNIT I**

Operations Research: Introduction - Basics of OR – OR & decision making – Role of Computers in OR - Linear programming formulations & graphical solution of two variables – Canonical & standard forms of LPP

**UNIT II**

Simplex Method : Simplex Method for  $<$  ,  $=$  ,  $>$  constraints – Charne’s method of penalties– Two phase Simplex method.

**UNIT III**

Transportation problem: Transportation algorithm –Degeneracy algorithm – Degeneracy in Transportation Problem, Unbalanced transportation problem - Assignment algorithm –Unbalanced Assignment problem .

**UNIT IV**

Sequencing problem : Processing of n jobs through two machines – Processing of n jobs through 3 machines – processing of two jobs through m machines.

**UNIT V**

Networks: Network – Fulkerson’s rule- measure of activity –PERT computation – CPM computation. - Resource scheduling.

**TEXT BOOK(S)**

- [1] Manmohan & Gupta, Operations Research, Sultan Chand Publishers, New Delhi

**REFERENCE(S)**

- [1] Prem Kumar Gupta and D.S. Hira, Operations Research: An Introduction, S. Chand and Co., Ltd. New Delhi,  
[2] Hamdy A. Taha, Operations Research (7<sup>th</sup> Edn.), McMillan Publishing Company, New Delhi, 1982.