

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT.

SYLLABUS FOR B.Sc. (MATHEMATICS)

SEMESTER – V

Elective Generic – 5001

(Operations Research – I)

Effective from June 2022

Marks : 70 (20 internal + 50external)

(2 Hours / Week - Credits :2)

Unit 1:

Graphical solution of Linear Programming Problem (LPP). Definition of the Dual Problem, General rules for converting any Primal Problem into its dual, the symmetric Dual Problems.

Unit 2:

Basic concept of Basic, Non-basic, Degenerate, Non-degenerate and Basic feasible solutions of LPP, Slack & Surplus variables.

Unit 3:

LPP in the standard matrix form, Slack & Surplus variables, Solution of LPP using Simplex method.

Unit 4:

Solution of LPP using Two Phase Simplex method and Big-M method.

The syllabus is covered by the following reference books:

1. J. K. Sharma : Operations Research: Theory & Applications, McMillan India Ltd., 1998.
2. Kanti Swaroop, P. K. Gupta & Man Mohan : Operations Research, S. Chand & Sons, New Delhi, 1998.
3. G. Hadley : Linear Programming, Narosa Publishing House, New Delhi, 1995.
4. S. D. Sharma: Operations Research, Kedarnath Ramnath & Co.
5. P. M. Karak : Linear Programming, New Central Book Agency Pvt. Ltd. Calcutta.
6. K. V. Mittal & L. Mohan : Optimization methods in O.R. and System Analysis, New Age International Publications.
7. Goel & Mittal : O.R., Pragati Prakashan, Meerut.

Mittal