SEMESTER-III
SKILL ENHANCEMENT ELECTIVE
STAT-SEE-1 STATISTICAL DATA ANALYSIS USING SOFTWARE PACKAGES

Objective& Outcomes -To improve the Data analysis for decision making and Research.

UNIT -I

Learn how to load data, plot a graph viz. histograms (equal class intervals and unequal class intervals), box plot, stem-leaf, frequency polygon, pie chart, ogives with graphical summaries of data

UNIT- II

Generate automated reports giving detailed descriptive statistics, correlation and lines of regression.

UNIT -III

Random number generation and sampling procedures. Fitting of polynomials.Exponential curves. Application Problems based on fitting of suitable distribution, Normal probability plot.

UNIT -IV

Simple analysis and create and manage statistical analysis projects, import data, code editing,

Unit-V

Basics of statistical inference in order to understand hypothesis testing and compute p-values and confidence intervals.

SUGGESTED READING:

1. Moore, D.S. and McCabe, G.P. and Craig, B.A. (2014): Introduction to the Practice of Statistics, W.H. Freeman
2. Cunningham, B.J (2012):Using SPSS: An Interactive Hands□on approach
3. Cho, M.J., Martinez, W.L. (2014) Statistics in MATLAB: A Primer, Chapman and Hall/CRC

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SEMESTER-IV

GE-4
INTRODUCTION TO OPERATIONS RESEARCH

Objective& Outcomes -To improve the operation research for decision making and business policy

UNIT -I

Introduction to Operations Research, phases of O.R., model building, various types of O.R. problems. Linear Programming Problem, Mathematical formulation of the L.P.P, graphical solutions of a L.P.P.

UNIT -II

Optimum solution to a L.P.P: Simplex method, concept of artificial variables and Charne's big M-technique.

UNIT0 III

Transportation Problem: Initial solution by North West corner rule, Least cost method and Vogel's approximation method (VAM), MODI's method to find the optimal solution.

UNIT-IV

Assignment problem: Hungarian method to find optimal assignment.

UNIT-V

Game theory: Rectangular game, minimax-maximin principle, solution to rectangular game using graphical method.

SUGGESTED READING:

4. Taha, H. A. (2007): Operations Research: An Introduction, 8th Edition, Prentice Hall of India.
5. SwarupKanti, Gupta, P.K. and Manmohan (2007): Operations Research, 13th Edition, Sultan Chand and Sons.
6. Ravindran, A, Phillips, D.T., Solberg,J.J.(2005): Operations Research- Principles and Practice, John Wiley & Sons.

PRACTICAL

8. Mathematical formulation of L.P.P and solving the problem using graphical method
9. Simplex technique to solve L.P.P and reading dual solution from the optimal table
10. Allocation problem using Transportation model
11. Allocation problem using Assignment model