

SARDAR PATEL UNIVERSITY
B. Com. Semester - IV
UB04DCOM66 ADVANCED STATISTICS – VIII

Syllabus Effect from : Nov./Dec. 2020

1. Assignment Problem (AP) and Replacement Problem (RP) (25%)

Meaning of balanced Assignment problem (AP), its mathematical form, Hungarian method for solving A.P. in the cases of minimization and maximization problem

Meaning of Replacement Problem, simple examples of Replacement Problem when the units are deteriorating with time and the value of money remains unchange

2. Simplex Method [25%]

Definition of slack and surplus variables and other basic terms like basic solution, basic feasible solution, initial basic feasible solution, Standard form of L.P.P., Introduction to Simplex Method, Simplex algorithm for solving LPP, Simple Simplex Algorithm (Problems with constraints “ \leq ” and “ $=$ ” types only).

3. Arithmetic Progression and Geometric Progression [25%]

Introduction of arithmetic progression and geometric progression, sum of series in arithmetic progression, arithmetic mean, geometric mean, sum of series in geometric progression. Its application based examples.

4. PERT and CPM Techniques (25%)

Meaning and characteristics of PERT, explanation of basic terms like activity, event, dummy activity, optimistic time, pessimistic time, most likely time, expected time.

Fulkerson’s rules for numbering the events, meaning of Critical Path Method (CPM), differences between PERT and CPM, earliest start time, earliest finish time, latest start time, latest finish time, total float time of activity, uses and limitations of PERT and CPM and simple examples on the basis of all above.

Reference Books :

1. Loomba & N. Paul : Linear Programming Tata Mc Graw Hill, New Delhi.
2. Gass S. I.: Linear Programming Methods & Applications, Mc Graw Hill.
3. J.K.Sharma : O.R. Theory and Applications, Macmillan India Ltd.
4. Anderson, Sweeney, Williams, An Introduction to Management Science Quantitative Approach to Decision Making, Cengage Learning India Pvt. Ltd. New Delhi.
5. Barry Render, Ralph M. Stair , Michael E. Hanna, Quantitative Analysis for Management, Pearson Education(Singapore) Pte. Ltd