SARDAR PATEL UNIVERSITY
B. Com. **Semester - IV**
UB04DCOM36 ADVANCED STATISTICS – VIII

Effect from : November, 2019

1. Assignment Problem (AP) and Replacement Problem (RP) (25%)
Meaning of balanced Assignment problem (AP), its mathematical form, Hungerian
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 "≤" 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
Approch 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