To be effective from Year 2016-2017

New Syllabus of Gujarat University for B. Com. **Semester - II**

C E 102 B STATISTICS – II (Operations Research)

Unit 1: Introduction of Operations Research (O.R.) and Linear Programming Problem (L.P.P.) (25%)

Meaning, uses and limitations of Operations Research

Meaning of linear programming, uses, assumptions and limitations of LPP, explanation of basic terminology of LP, Mathematical form of LP, solution of LP problem by graphical method only. Simple mathematical & applied problems of two variables only.

Unit 2: Transportation Problem (TP) (25%)

Meaning of balanced and unbalanced Transportation Problem (TP), General Transportation table and its mathematical form for balanced TP, Initial basic feasible solution (IBFS) and its cost by North-West Corner Method (NWCM), Least Cost (Matrix Minima) Method (LCM), Vogel's Approximation Method (VAM), examples based on these methods for balanced and unbalanced TP

Unit 3: 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 unchanged.

Unit 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

Recommended Reading :

1. H.A.Taha, Operations. Research, Macmillan Publishing Co. Inc.
2. Vohra N.D, Quantitative Techniques in Management Tata Mc Graw Hill, New Delhi.
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.