VEER NARMAD SOUTH GUJARAT UNIVERSITY

M.Com-II
Semester - III
Paper No : 304
ADVANCED STATISTICS PAPER : 7
(Syllabus effective from Academic Year 2011-12 onwards)

(1) Design of Experiment -1:

Linear model, Analysis of Variance, Basic Principles of design of Experiment. Analysis of CRD and their application. (25%)

Analysis of RBD and their application. Missing plot technique for only one yield missing. Efficiency of RBD over CRD. (25%)

(2) Sample Survey - 1 :

Sample surveys, Principal steps involved in sample survey, Specific sampling design : Simple Random Sampling, Determination of sample size under S.R.S. with illustrations**.** (25%)

Specific Sampling Design : Sampling for proportions and percentages, Determination of sample size under sampling for proportion with illustrations. (25%)

BOOKS :

1. Federer, W.T. (1955): Experimental Designs - Theory and Applications, Oxford & TBH Pub.
2. Shah, S.M. (1976): Nidarshan Padhdhatio and Prayogik Abhikalpanao (In Gujarati); University Granth Nirmal Board, Ahmedabad.
3. Montgomery, D.C. (1991): Design and Analysis of Experiments; John Wiley.
4. Cochran, W.G. (1984): Sampling Techniques, Wiley Eastern.
5. Mukhopadhyay, P. (1979): Applied Statistics, Books & Allied Pub., Kolkata.

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ADVANCED STATISTICS PAPER : 8
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1. Game Theory : Competitive games, Two person zero sum game, Minimax and Maximin principle, Fundamental theorem of game theory, Saddle point and the valve of the game (based on pure strategies), Mixed strategies. Solution of the game with/without saddle point. Dominance rule, Solution of mx2 and 2xn games using graphical method. Algebraic method of solving games. Solution of game by linear programming approach. Solution of game by iterative method. Theory related to 2 - person, non - zero sum games. Limitations of game theory. Significance of game theory. (40 %)

2. PERT / CPM : Introduction, Historical development of PERT/CPM. Techniques, application of PERT/CPM techniques, Basic steps. Network diagram representation, rules of drawing network diagram ,time estimates and critical path in network analysis, PERT technique, updating resources allocation, limitations of network techniques, project monitoring. (40 %)

3**. SIMULATION :** Introduction, Simulation Defined, Reasons for using simulation, Methodology for simulation, Advantages and Drawbacks of simulation, Managements Application. (20 %)

BOOKS :

1. Kanti Swarup, P.K.Gupta and Man Mohan (1995) Operations Research: Sultan Chand & Sons; New Delhi.
2. Sharma S.D.(2005-06) :Operations Research: Kedar Nath & sons, Meerut.
3. V.K.Kapoor (2003): Operations Research Techniques for management sultan Chand & sons, New Delhi.
4. Sharma, J.K. (1998): Operations Research; Mac Milan Pub., New Delhi.

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M.Com-II.
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ADVANCED STATISTICS PAPER : 9
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(1) LINEAR PROGRAMMING AND ITS APPLICATIONS :-

Meaning, assumptions, uses and limitations of linear programming. Mathematical formulation of linear programming problem (L.P.P). Simplex method, Big-M method, Two phase method and its applications. Degeneracy problem. (50%)

(2) Inventory Models : EOQ models with uniform rate of demand and shortages not allowed, deterministic models with shortages, instantaneous production, finite rate of replacement model, probabilistic demand models, single period models with uniform demand, ABC analysis of inventory.

(50%)

BOOKS :

1. Kanti Swarup, P.K.Gupta and Man Mohan (1995) Operations Research: Sultan Chand & Sons; New Delhi.
2. Sharma S.D.(2005-06) :Operations Research: Kedar Nath & sons, Meerut.
3. V.K.Kapoor (2003): Operations Research Techniques for management sultan Chand & sons, New Delhi.
4. Sharma, J.K. (1998): Operations Research; Mac Milan Pub., New Delhi.