

To be effective from Year 2017-2018

## New Syllabus of Gujarat University for B. Com. Semester - VI

CC 310 STATISTICS – VI

### Unit 1 : Testing of Hypothesis & Large Sample Test (25%)

Idea of Parameter and Statistic, Meaning of Statistical Hypothesis and its types, Standard error of statistics and its uses in testing of Hypothesis, Type-I and Type-II errors, Power of the test, Level of significance and Level of confidence, Critical region, One tailed test and two tailed test (Theoretical explanation only), Test of significance for mean, Test for difference between two means, Test for proportion of an Attribute, Test for difference of two proportions and sums related to standard error and above four tests only.

### Unit 2 : Decision Theory (25%)

Meaning and importance of Decision theory, components of decision theory, different methods of taking decision, Maxi-Min Principle, Maxi-Max Principle, Laplace's Principle, Horwitz's Rule, EMV (Expected Monetary Value), EPPI and EVPI and sums related to above all.

### Unit 3 : Game Theory (25%)

Meaning of game, two person zero sum game and its assumptions, Strategy and Pay-off matrix for two person zero sum game, saddle point, pure strategy, value of the game, mixed strategy, Dominance principle for solving the game without saddle point, reduction of  $m \times n$  pay off matrix into  $2 \times 2$  matrix using dominance principle and solving the game, simple sums of game theory problem with saddle point and without saddle point using dominance principle only.

### Unit 4 : Matrix Algebra (25%)

Definition of matrix and different types of matrices, addition, subtraction and multiplication of matrices, determinant of square matrix (upto order of  $3 \times 3$ ), Adjoint matrix, Inverse matrix of a square matrix (upto order  $3 \times 3$ ), Solution of linear equations (Upto 3 Variables) with the help of inverse matrix and related examples.

#### Reference Books:

1. H.A.Taha, Operations. Research, Macmillan Publishing Co. Inc.
2. Vohra N.D, Quantitative Techniques in Management Tata McGraw 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 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.