

GUJARAT UNIVERSITY

To be effective from 2018-2019
NEW SYLLABUS B.A. SEMESTER-3
STATISTICS ELECTIVE – II
APPLIED STATISTICS

Unit – 1 Population Census (25%)

Meaning of Population Census, Methods of Population Census and its uses. Summary of latest Population Census of India. Limitations of Population Census.

Unit – 2 Demand & Supply (25%)

Concept of Demand and Supply, Equilibrium Condition, Total Revenue, Average Revenue, Cost (Fixed and Variable), Total Cost, Average Cost, Profit, Concept of Elasticity. Simple Examples based on these terms (without Differentiation).

Unit – 3 Correlation (25%)

Concept of linear correlation between two variables, Types of Correlation, Interpretation of Correlation Coefficient, Methods of finding Correlation-(i) Scatter Diagram Method (ii) Karl Pearson's product moment method (iii) Spearman's Rank correlation coefficient, calculation of correlation coefficient for ungrouped data only. Simple Examples.

Unit – 4 Regression (25%)

Meaning and definition of Regression, Regression equations in two variables only, properties of Regression Coefficients. Simple examples based on ungrouped data.

Reference Books:

- (1) D. C. Sancheti & V.K. Kapoor: Statistics Theory, Methods & Application Sultan Chand & Sons.
- (2) S.C. Gupta & V. K. Kapoor : Fundamental of applied statistics Sultan Chand & Sons, New Delhi.
- (3) Sancheti & Kapoor : "Business Mathematics" Sultan Chand & Sons, New Delhi.
- (4) Kapoor V.K.: "Business Mathematics" Sultan Chand & Sons, New Delhi.
- (5) Parimal Mukhopadhyay: Mathematical Statistics" Books & allied (p) Ltd.

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NEW SYLLABUS B.A. SEMESTER-4
STATISTICS ELECTIVE – II

Unit – 1 Linear Programming (25%)

Meaning of Linear Programming, Assumptions and Limitations of Linear Programming, Uses of Linear Programming. Mathematical Form of Linear Programming Problem(LPP). Meaning of various terms used in LPP such as- Objective function, Constraints, Non-negativity conditions, Solution, Feasible Solution and Optimum Solution. Graphical Method of Solving Linear Programming Problem. Simple Examples.

Unit – 2 Transportation Problem (25%)

Introduction of Transportation Problem, Method of finding Initial Basic Feasible Solution (i) North-West Corner Rule (ii) Matrix minima method (iii) Vogel's Approximation Method. Examples based on Transportation Problem(Only Balanced Transportation Problems).

Unit – 3 Assignment Problem (25%)

Introduction of Assignment Problem. Definition of Assignment Problem. Hungarian method for solving Assignment Problem in the cases of Minimization and Maximization.(Only Balanced Assignment Problem)

Unit – 4 Decision Theory (25%)

Ingredients of decision making problems: Act, states of nature or events, pay off Matrix, Different methods of Decision making, Maxi-min principle, Maxi-max principle, Laplace principle, Horwich principle.

Reference Books:

- (1) J.K.Sharma : Operation Research:Theory and application, Macmillan IndiaLtd.
- (2) H.A.Taha: Operations Research, Macmillan India Ltd.