

UNIT I Correlation and Regression

Correlation – meaning, types of correlations, methods of studying correlation, Computation of correlation coefficient, Regression -fitting of simple linear regression equation –properties of regression coefficient.

UNIT II Estimation and testing of hypothesis

Test of significance –null and alternate hypothesis –level of significance – degrees of freedom - large sample test (one and two sample tests), Small sample test (one and two sample tests and paired test), F test.

UNIT III Chi- square test

Conditions for application of chi-square.

Uses of Chi-square (i) test for goodness of fit and (ii) test for independence of attributes, Contingency table (2 x 2), (2x3), (3x2), (rxc)

UNIT IV Introduction and Analysis of variance

Meaning of experiments, treatments, experimental units. Analysis of variance (ANOVA) –meaning –assumptions

UNIT V Basic Designs

Experimental designs -Basic principles of experimental designs –different designs –Completely Randomized Design ,Randomized Block Design and Latin square design.

Practical

1. Exercise on correlation.
2. Exercise on regression.
3. Problems on large sample test (Z test) -one sample and two sample Z test.
4. Problems on small sample test (t test) -one sample and two sample t test (Independent t test and paired t test).
5. Problems on Chi-square test (Goodness of fit and test of independence).
6. Exercise on Completely Randomized Design (CRD).
7. Exercise on Randomized Complete Block Design (RBD).
8. Exercise on Latin square Design (RBD).
9. Overview of SAS

Reference Books

- 1.Basic Statistics –by B L Agarwal (Wiley Eastern Ltd., New Delhi)
- 2.Statistical Methods –by Snedecor and Cochran (Oxford & IBH, New Delhi)
- 3.Statistical Methods in Animal Sciences –by V N Amle (ISAS, New Delhi)