

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

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)