

DEPARTMENT STATISTICS AND MATHEMATICS

STAM 102

Credits 2(1 + 1)

INTRODUCTION TO STATISTICS

Theory

Statistical Methods

Introduction to Statistics, types of data, diagrammatic representation of data with Bar, Multiple and Sub-divided diagrams and Pie Charts.

Frequency distribution and its graphical representation with Histogram and Ogive curves. Measures of Central Tendency: Mean, Median, Mode, Geometric and Harmonic Means. Measures of Dispersion: Range, Quartile Deviation, Standard Deviation and Coefficient of Variation.

Introduction to Probability, Addition and Multiplication theorems, Binomial, Poisson and Normal distributions.

Tests of Significance: SND (Z) test for single and Two Samples, Student's t-test for single and two samples, Paired t-test, F-test for homogeneity of variance, Chi-Square test for (mxn) Contingency Table. Correlation and Regression and its testing.

Practicals

1. Preparation of Frequency Distribution Tables
2. Graphical representation of frequency distributions through histogram and Ogive curves
3. Diagrammatic representation of data through Bar and Pie Charts
4. Computation of Mean for Grouped and Un-grouped data
5. Computation of Median and Mode for Grouped and Un-grouped data
6. Computation of Geometric Mean and Harmonic Means for Grouped and Un- grouped data
7. Computation of Range, Quartile Deviation
8. Computation of Standard Deviation and Coefficient of Variation for grouped and un-grouped data
9. Examples on Probability theory
10. Examples on Binomial, Poisson and Normal Distributions
11. Examples on SND [Z] test for single and two samples

- 12.Examples on t-test for single and two samples and paired t-test
- 13.Examples on F-test and Chi-Square test - (2x2) Contingency Table with Yates' Correction
- 14.Examples on c-Square Test for (mxn) Contingency Table
- 15.Computation of Correlation coefficient and its testing
- 16.Fitting of Simple Regression equations X and Y and Y on X

References

1. Theory and Problems of Statistics Spiegel MR 1992. Schaum's Outline Series, McGraw Hill Publishers, New Delhi
2. Statistics for Agricultural Sciences Nageswara Rao G 1983. Oxford and IBH Publishing Company, New Delhi