DIPLOMA IN STATISTICAL ANALYSIS AND RESEARCH METHODOLOGY

SEMESTER II

SARM-7: LAB – STATISTICAL ANALYSIS PRACTICAL

Max. Marks: 50

External: 30

Internal: 20

Pass: 40%

Credits: 2

Course Outcomes:

CO1. Collect, classify, and tabulate data effectively.

CO2. Compute and interpret measures of central tendency, dispersion

CO3. Visualize data using diagrams, charts, graphs, and frequency distributions

CO4. Apply statistical methods for correlation, regression, time series and probability analysis

CO5. Conduct hypothesis testing and interpret results, and make a report

Course Specific Outcomes:

CSO1. Develop proficiency in using Excel, SPSS, or R for statistical analysis

CSO2. Apply descriptive statistics techniques to summarise and interpret data

CSO3. Analyze relationships between variables using correlation and regression techniques.

CSO4. Execute inferential statistics tests and draw valid conclusions from data.

CSO5. Present and report data findings in a professional and clear manner.

Syllabus:

Practical applications of statistical techniques, including data presentation, computation, and interpretation. Students will perform the following:

Attempt any 8 Practical questions:

1. Create a Data set and tabulation using Excel.

2. Diagrammatic and graphical representation of data using Excel.
3. Computation of mean and median by taking the same example.
4. Calculation of correlation coefficients.
5. Calculate the line of regression of X on Y.
6. Construction of index numbers.
7. Plotting time series data and identifying trends.
8. Calculation of 3-yearly moving average.
9. Hypothesis testing using small and large sample tests: t-test (single mean, difference of means, paired), z-test.
10. Preparation of statistical reports and result interpretation.