DIPLOMA IN STATISTICAL ANALYSIS AND RESEARCH METHODOLOGY

SEMESTER I

SARM-1: INTRODUCTION TO STATISTICS

Max. Marks: 100

External: 70

Internal: 30

Pass: 40%

Credits: 6

Course Outcomes (COs)

After completing this course, students will be able to:

CO1. Explain the definition, scope, importance, and limitations of Statistics in economic and social analysis.

CO2. Collect, classify, and tabulate data from various sources using systematic methods.
CO3. Present data effectively through diagrams and graphs using both manual and MS Excel or any available tools.

CO4. Distinguish between population and sample, apply appropriate sampling techniques, and identify sampling errors.

CO5. Compute and interpret various measures of central tendency (Mean, Median, Mode, Geometric Mean, Harmonic Mean) using different methods.

Course Specific Outcomes (CSOs)

CSO1. Apply statistical tools to organize and summarize real-world data for decision-making.
CSO2. Use MS Excel to prepare frequency tables, charts, and graphs for data visualization.
CSO3. Select suitable sampling methods for conducting small-scale surveys and research projects.
CSO4. Analyze datasets to determine central tendencies and evaluate their merits and limitations.
CSO5. Develop practical skills in data presentation, interpretation, and application in economics, business, and social sciences.

INSTRUCTIONS FOR THE PAPER SETTER/ EXAMINER:

1. The syllabus prescribed should be strictly adhered to.
2. The Question Paper will have 70 Multiple-choice questions (MCQs) and four choices of answers will be there covering the entire syllabus. Each question will carry 1 mark. All questions will be compulsory; hence, candidates will attempt all the questions.
3. Paper-setters/Examiners are requested to distribute the questions from Section A and Section B of the syllabus equally i.e., 35 questions from Section A and 35 questions from Section B.
4. The examiner shall give clear instructions to the candidates to attempt questions.
5. The duration of each paper will be two hours.

INSTRUCTIONS FOR THE STUDENTS

The question paper shall consist of 70 Multiple-choice questions. All questions will be compulsory and each question will carry 1 mark. There will be no negative marking. Students are required to answer using OMR (Optimal Mark Recognition) sheets.

SECTION A

Unit 1: Statistics: definition, importance and Scope, limitations, Distrust

Unit 2: Collection of Data: Types and Sources

Unit 3: Classification and Tabulation of Data

Unit 4: Diagrammatic and Graphical presentation of data (with MS-Excel)

SECTION B

Unit 5: Sample, Population, Characteristics of good sample, type of sampling techniques, Sampling errors.

Unit 6: Measures of Central Tendency- Mean (Direct, Short cut and step deviation methods), Merits & Demerits.

Unit 7: Median (Direct, Short cut and step deviation methods) and Mode: Inspection and grouping method, Merits & Demerits

Unit 8: Geometric Mean, Harmonic Mean: Meaning, Merits & Demerits.

Suggested Readings

A.M Goon, M.K Gupta and B. Dasgupta, fundamental of Statistics Vol-I, World Press, Calcutta

- Gupta SC: Fundamental of statistics, S. Chand & Company. New Delhi
- Gupta, SP: Statistical Methods, S. Chand & Company. New Delhi
- Monga, GS: Mathematics and Statistics for Economics, Vikas Publishing House, New Delhi.
- Singh, D. and Chaudhary, F.S. (1986): Theory and Analysis of Sample Survey Designs. New Age International Publishers.

Cochran, W.G. (1977): Sampling Techniques (3rd edition), Wiley.