Department of Statistics
Institute of Social Sciences
Dr. Bhimrao Ambedkar University, Agra

Value Added Course: Testing of Hypothesis using SPSS

Course Duration: 30 hours **Maximum Marks: 100**

Course Objectives

Unit	Objectives	Mode of Teaching
I	Understanding of statistical hypothesis testing	Theory & Practical
II	Exploration and visualization of data using SPSS	Theory & Practical
III	Parametric and Nonparametric testing of data using SPSS	Theory & Practical

Course Content

Unit	Content	Time
I	**Testing of Hypothesis:** • Concepts of Testing of Hypothesis • Null Hypothesis and Alternate Hypothesis • Hypothesis Testing and Confidence Intervals • Simple and Composite Hypothesis Testing • One-Tailed and Two-Tailed Hypothesis Testing • Type 1 and Type 2 Error • P-Value • Univariate and Bivariate Data Analysis using SPSS • Exploration of data using SPSS	10 hours
II	**Parametric Tests and its application using SPSS:** • Advantages and Disadvantages of Parametric Tests • Test concerning means: One Sample t-test, Paired Sample t-test, Two independent Sample t-test, Paired Sample t-test • Analysis of Variance Techniques: One -way ANOVA, Two-way ANOVA, Factorial Design	10 hours
III	**Nonparametric Test and its application using SPSS:** • Advantages and Disadvantages of Nonparametric Tests • Chi-square Test • Run test for Randomness • One Sample Sign Test, Two Sample Sign Test • Mann-Whitney U Test for Independent Samples • Wilcoxon Signed Rank Test for Paired Sample • The Kruskal-Wallis Test	10 hours

Course Outcomes

- The students will be able to explore data using SPSS Software.
- Students will be able to apply various statistical tests in order to test the hypothesis about the population.
- Students will be able to process and analyse the data to extract information.
- From this course students will come to know how to apply Parametric and Nonparametric test using SPSS software.

References

- Argyrous, G.: Statistics for Research: With a Guide to SPSS, Sage South Asia; Third Edition.
- George Darren: SPSS for Window Step by Step.
- Griffith, A.: SPSS For Dummies, Published by Wiley Publishing, Inc.
- Knell, R.J.: Introductory R: A Beginner's Guide to Data Visualisation and Analysis using R.
- Chawala D. and Sondhi N.: Research Methodology Concepts and Cases
- Patric L. . A. K. and Feeney B. C.: A Simple Guide to SPSS.
- Sheridon J Coaks: SPSS.