FAROOK TRAINING COLLEGE

(RESEARCH CENTER IN EDUCATION UNIVERSITY OF CALICUT)
Govt. Aided College Affiliated to University of Calicut and Recognized by NCTE & UGC
Reaccredited by NAAC at A Grade with CGPA 3.25 (2024-29)
Accredited by SAAC at A+ Grade with CGPA 3.39(2021-26)

Add-on course

Basics in Data Analysis

For M.Ed. Students

Basics in Data Analysis

Course Objectives:

- Proficiency in Excel: Understand basic functions, data organization, and statistical functions.
- Introduction to SPSS: Learn file creation, data entry, manipulation, and various statistical analyses.
- Data Visualization: Create charts and graphs in both Excel and SPSS for effective data representation.
- Statistical Testing: Grasp various statistical tests for analyzing different data sets.
- Application Skills: Apply learned concepts to solve real-world data analysis problems.

Course Structure:

Module 1: Excel Fundamentals (7 hours)

Session 1 (2 hours): Basic functions in Excel

Session 2 (2 hours): Data entry and organization

Session 3 (3 hours): Statistical functions in Excel

Module 2: Excel Charts & Visualization (3 hours)

Session 4 (3 hours): Creating and formatting charts in Excel

Module 3: Introduction to SPSS (8 hours)

Session 5 (1 hour): Test selection in SPSS

Session 6 (2 hours): File creation, opening files, data setup, and entry in SPSS

Session 7 (1 hour): Selecting cases and data transformation

Session 8 (2 hours): Descriptive statistics in SPSS

Session 9 (2 hours): Testing for normality

Module 4: Advanced SPSS Analysis (7 hours)

Session 10 (1.5 hours): Chart & Graphs in SPSS

Session 11 (2.5 hours): One sample t-test, independent sample t-test, paired sample t-test

Session 12 (1.5 hours): One way ANOVA

Session 13 (1.5 hours): Correlation analysis in SPSS

Module 5: Further SPSS Functions (5 hours)

Session 14 (2 hours): Item analysis

Session 15 (2 hours): Reliability and validity testing

Session 16 (1 hour): Two-way ANOVA, Three-way ANOVA, ANCOVA

Class Hour Breakdown:

➢ Excel: 10 hours

➢ SPSS Introduction: 14 hours

➢ Advanced SPSS: 10 hours

➢ Data Visualization: 3 hours

➢ Statistical Testing: 3 hours

Teaching Methodology:

➢ Lectures: 60%
➢ Practical hands-on sessions: 30%
➢ Discussions and Q&A: 10%

Assessment

➢ Written Test
➢ Assignment