Name of the Department: Department of Statistics

Course name: Application of MS- Excel in Statistics

Course Coordinator name & Contact number: Dr. Tejaswi S. Kurane (8928650101)

Duration: 15 days

Course Fee: Rs. 300/-

Eligibility: It's suitable for undergraduates, graduates and researchers from any field that uses statistical computing.

Minimum intake Capacity: 20

Objectives of the Course:

This course aims to provide knowledge about how to

- ➢ Apply advanced formulas to lay data in readiness for analysis
- ➢ Use advanced techniques for report visualizations
- ➢ Understand various statistical methodologies of summarizing data

Learning Outcomes: At the end of the course, students should be able to:

- ➢ Import and export data from other applications.
- ➢ Share workbooks with others.
- ➢ Identify the different components of the Excel worksheet.
- ➢ Open an existing workbook and create a new workbook
- ➢ Save and print workbooks.
- ➢ Enter text and formulas in to an Excel spreadsheet ·
- ➢ Work with cell references.

➢ Create a spreadsheet to tabulate and record numeric values

➢ Learn to use functions and formulas.

➢ Create and edit charts and graphics.

➢ Create, sort, and filter table data

➢ Differentiate between formulas and functions in Excel. ·

➢ Save and print workbooks.

➢ Construct formulas, including the use of built-in functions, and relative and absolute references.

➢ Create charts and share information.

Syllabus:

1. Why Microsoft Excel?

   1.1 Introduction to Ms-Excel, features of Ms-Excel, starting and ending of Ms-Excel, getting help in Ms-Excel.

   1.2 workbooks and worksheets, moving the cell pointer, Excel file operations, opening file ,entering data, text entry, text editing, copying cells contents, spell check, formatting numbers in cells, cells merging, alignment property page,

   1.3 Writing and using formulae in Excel

   1.4 Mathematical and Statistical Functions using Excel.

      a) Absolute value, combination, Exponent, Factorial, multinomial, Random numbers, Square root, sum.

      b) Statistical Functions: Mean, geometric mean, Harmonic mean, mode, median, quartile, deciles, percentiles, variance.

2. Diagrams:

   Simple bar diagram, subdivided bar diagram, multiple bar diagram, Pie diagram

3. Graphs:

   Histogram (both equal and unequal class intervals), frequency polygon, ogive curves, empirical distribution function.

4. Measures of central Tendency:

   Computation of following measures for all types of data. Mean, mode, median, quartiles, Deciles, Percentiles, Geometric mean, Harmonic mean.

5. Measures of dispersion:

Computation of following measures for all types of data. Range, Quartile Deviation, Variance, Standard Deviation, Coefficient of Variation, Mean Deviation, Mean Squared Deviation.

6. Measures of Skewness and Kurtosis:

Bowley's coefficient and Karl Pearson's coefficient of Skewness.

7. Moments:

Computation of Raw and central moments, measures of Skewness and kurtosis

8. Correlation and Regression

Fitting of lines of regression, computation of correlation coefficient, fitting of second curve.