



## **COURSE:**

### **UNIT - I**

Essentials of R - language – Expressions and objects, assignments, creating vectors, vectorized arithmetic, creating matrices, operations on matrices, lists, data frame creation, indexing, sorting and conditional selection with examples.

### **UNIT- II**

Programming using conditional statements and loops (flow control: if (), for () and while () loop), data editor, reading data from text files.

### **UNIT -III**

Learn how to load data, plot a graph: bar-plot, pie-chart, and box plot, stem-leaf, histograms (equal class intervals and unequal class intervals), frequency polygon, ogives with graphical summaries of data.

### **UNIT- IV**

Random number generation and sampling procedures. Application problems based on fitting of suitable distribution, Q-Q plot, Multiple Regression.

### **UNIT- V**

Basics of statistical inference in order to understand hypothesis testing, compute p-values and confidence intervals. Simple analysis and manage statistical analysis projects, import data. **References:**

1. Braun, W.J. , and Murdoch, D.J.(2007).A First Course in Statistical Programming with R. Cambridge University Press. New York.
2. Dalgaard, P.(2008). Introductory Statistics with R. 2 nd Ed Springer.
3. Gardener, M.(2012): Beginning R: The Statistical Programming Language, Wiley Publications

