

R Programming for Data Analysis

Course Code		Course Deliver Method	Class Room / Blended Mode
Credits	04	CIA Marks	20
No. of Lecture Hours / Week	04	Semester End Exam Marks	30
Total Number of Lecture Hours	60	Total Marks	50
Course Focus	Employability	Entrepreneurship	Skill Development.

Content

1. Installation and features and operation procedures of R
2. Basics of R Programming
 - a. Introduction to Data Types, vector, list, Matrix, Array
 - b. Operations on Data Types , Slicing etc
3. File reading in R Programming
 - a. Setting up Directories (Set/Working)
 - b. Reading Files, Csv, Excel Book, and other formats
4. Introduction to libraries and its applications
 - a. Dplyr. Tidy and shiny other
5. Data Cleaning and Data Munging
 - a. Isna , Table slicing , Parsing
6. Visuals in R Programing
 - a. Q Plots and Basic understanding of Visuals
7. Advance Visuals
 - a. Diagrams and Graphs advance (GG plot)
8. Statistical application of R Programming
 - a. Computation of measures of Central Tendency and Dispersion
 - b. T-Test for significance of single mean, difference means and paired t-test
 - c. Correlation and Regression correlation plots
9. Multiple Correlation and regression analysis
10. Analysis of Variance (ANOVA) – One way and Two way.

Practical Components:

- Collect the data from different sources and understand the procedure of how R Programming Execute for the next process.
- Collect the data of any organization and conduct statistical analysis for better decision .
- Load the data in R Programming and create data visualization .
- Calculate summary statistics, such as mean, median, and standard deviation, to describe the data.
- Gather relevant data from various sources, such as databases, spreadsheets, Clean and preprocess the data to remove duplicates, handle missing values, and format it for analysis.