

# **SIX MONTH TRAINING IN DATA SCIENCE WITH R** **PROGRAMMING**



## **Module 1 Basic of R Language**

### **Introduction to R**

- Overview and history of R
- Introduction of R Studio
- Installing and configuration of R
- Introduction to R Console

### **Programming in R**

- Programming Structure of R
- R data type and objects
- R language Operators
- Various operators
- Branching & Looping

### **Function In R language:**

- R important built-in functions
- General functions
- Math functions
- Statistical functions
- Write function in R
- When should we write function?
- Functions with condition

### **Vector, Array and Matrix:**

- Introduction to vector
- Types of vector
- Matrix create, print, add columns, slice
- Array in R

### **Factor In R:**

- Introduction to Factor



- Types of Factor

### **Data Frames and List**

- What is a Data Frame?
- How to create a data frame
- Append a Column to Data Frame
- Select a column of a data frame
- Subset a data frame
- List Using vector array and matrix

### **Package in R :**

- Package Introduction
- Installing package
- Loading package manually
- Data Reshaping in R

## **Module 2 ~ R Charts, Graphs and Interfaces**

### **Graphs in R**

- History and Graphical representation of data
- Different chart Functions
- Different type of charts and graphs
- Pie charts,Boxplots,Bar charts
- Histograms, Lines Graphs and Scatter plots

### **Interfaces in R**

- Data import in R
- Data import form excel format
- Csv file format
- Execl format
- Binary files
- Xml and json files
- Web Data



### **Exporting data in R**

- Writing data in tag delimited text file
- Exporting data in excel file
- Export data in stata binary format
- Export data in SAS format

## **Module 3 Data Manipulation and Modeling**

### **Data Manipulation with R**

- Feature Engineering
- Label Encoding
- One Hot Encoding
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### **Predictive Modeling using Machine Learning in R**

- Linear Regression
- Decision Tree
- Random Forest
- Multipul Regression
- Logistic Regerssion

### **Advanced data manipulation**

- Normal Distribution
- Binomial Distribution
- Time Series Analysis
- Non-Linear Least Square
- Analysis and Covariance

## **Module 4 Project Work**

- Case study using R
- Project coding and testing using R