**ST.MARYS WOMENS ENGINEERING COLLEGE**

**External lab**

**Branch:AIDS&AIML&DS**

**Regulation:R20**

**Lab: R programming lab**

**Year-sem:II-II**

**LIST OF EXPERIMENTS**

**Week 1:** a)Installing R and Studios

b)Basic functionality of R, variable, data types in R

**Week 2**: a) Implement R script to show the usage of various operators available in R language.

b) Implement R script to read person‘s age from keyboard and display whether he is eligible for voting or not.

c) Implement R script to find biggest number between two numbers.

d) Implement R script to check the given year is leap year or not

. **Week 3**: a) Implement R Script to create a list.

b) Implement R Script to access elements in the list.

c) Implement R Script to merge two or more lists. Implement R Script to perform matrix operation

**Week 4**: Implement R script to perform following operations:

a) various operations on vectors

b) Finding the sum and average of given numbers using arrays.

c) To display elements of list in reverse order.

d) Finding the minimum and maximum elements in the array.

**Week 5:** a) Implement R Script to perform various operations on matrices

b) Implement R Script to extract the data from data frames.

c) Write R script to display file contents. d) Write R script to copy file contents from one file to another

**Week 6:** a)Write an R script to find basic descriptive statistics using summary, str, quartile function on mtcars& cars datasets.

b) Write an R script to find subset of dataset by using subset (), aggregate () functions on iris dataset

**Week 7:** a)Reading different types of data sets (.txt, .csv) from Web or disk and writing in file in specific disk location.

b) Reading Excel data sheet in R.

c)Reading XML dataset in R

**Week 8:** a) Implement R Script to create a Pie chart, Bar Chart, scatter plot and Histogram (Introduction to ggplot2 graphics)

b) Implement R Script to perform mean, median, mode, range, summary, variance, standard deviation operations.

**Week 9:** a) Implement R Script to perform Normal, Binomial distributions.

b) Implement R Script to perform correlation, Linear and multiple regression.

**Week 10:** Introduction to Non-Tabular Data Types: Time series, spatial data, Network data.

Data Transformations: Converting Numeric Variables into Factors, Date Operations String Parsing, Geocoding

**Week 11:** Introduction Dirty data problems: Missing values, data manipulation, duplicates, forms of data dates, outliers, spelling

**Week 12:** Data sources: SQLite examples for relational databases, Loading SPSS and SAS files, Reading from Google Spreadsheets, API and web scraping example

Signature of External Examiner Signature of internal examiner