Osmania University
Hyderabad-500007.

Faculty of Informatics
Data Science Lab Record (R-Lab)
MCA III SEMESTER -2022

Sl.No	Title	Level
	R -BASICS	
1.	Downloading, installing and setting path for R.	Basic
2.	Give an idea of R Data Types.	Basic
3.	R as a calculator: Perform some arithmetic operations in R.	Basic
4.	Demonstrate the process of creating a user defined function in R.	Basic
5.	Perform some logical operations in R.	Basic
6.	Write an R script to change the structure of a Data frame.	Basic
7.	Write an R script to demonstrate loops.	Basic
8.	Write an R script to demonstrate conditional statements: if, if else, switch.	Basic
9.	Write an R script to convert a vector to factors.	Basic
10.	Write an R script to expand a data frame.	Basic
	R- INTERMEDIATE	
11.	Write an R script to demonstrate R objects.	Intermediate
12.	Demonstrate the following aggregate functions in R: sum, mean, count, min, max.	Intermediate
13.	Write an R script to read and write different files.	Intermediate
14.	Write an R script to find subset of a dataset.	Intermediate
15.	Elucidate the process of data exploration in R using read(),summary(),nrow(),ncol(),str().	Intermediate
16.	Write an R script to handle missing values in a dataset.	Intermediate

17.	Write an R script to handle outliers.	Intermediate
18.	Write an R script to handle invalid values.	Intermediate
19.	Visualize iris dataset using mosaic plot.	Intermediate
20.	Visualize correlation between sepal length and petal length in iris data set using scatter plot.	Intermediate
R- Advance		
21.	**Linear Regression:** Consider the following mice data: Height:140,142,150,147,139,152,154,135,148, 147. Weight: 59, 61, 66, 62, 57, 68, 69, 58, 63, 62. Derive relationship coefficients and summary for the above data.	Advance
22.	Consider the above data and predict the weight of a mouse for a given height and plot the results using a graph.	Advance
23.	**Logistic Regression:** Analyse iris data set using Logistic Regression. Note: create a subset of iris dataset with two species.	Advance
24.	Perform Logistic Regression analysis on the above mice data(Sl.No.21) and plot the results.	Advance
25.	**Decision Tree:** Implement ID3 algorithm in R.	Advance
26.	Implement C4.5 algorithm in R.	Advance
27.	**Time Series:** Write R script to decompose time series data into random, trend and seasonal data.	Advance
28.	Write R script to forecast time series data using single exponential smoothing method.	Advance
29.	**Clustering:** Implement K-means algorithm in R.	Advance
30.	Implement CURE algorithm in R.	Advance