

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA INTEGRATED– SEMESTER VIII- EXAMINATION –WINTER-2023

Subject Code:4480602**Date: 06/12/2023****Subject Name: Data Analytics with R****Time: 02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make Suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

- Q.1** (a) What is Data Analytics? Write down the applications of it. **07**
 (b) What is variable? How to assign variable and remove variable in R programming? **07**
- Q.2** (a) Explain various control structure in R with suitable example. **07**
 (b) Write a note on classification of data. **07**
- OR**
- (b) Explain all the data types in R with suitable example. **07**
- Q.3** (a) What is vector? How to create a vector? Explain logical and character vector with suitable example. **07**
 (b) How to read the data from database (MS Access/ Oracle/ My SQL). Explain in detail with suitable example. **07**
- OR**
- Q.3** (a) Explain Histogram and box plot with suitable example. **07**
 (b) Write a R script to draw bar graph for the following data: **07**
 Sale <- c(7,12,28,3,41)
 months <- c("Mar", "Apr", "May", "Jun", "Jul")
- Q.4** (a) What is normal distribution? Explain dnorm(), pnorm(), qnorm() and rnorm() with suitable example. **07**
 (b) Explain time series analysis with suitable example. **07**
- OR**
- Q.4** (a) Explain the decision tree with suitable example. (Output is not required) **07**
 (b) Explain Survival analysis in detail. **07**
- Q.5** (a) Discuss Reinforcement Learning in detail. **07**
 (b) Write R script to create data frame “student” with the fields of stud_id, stud_name, email_id and mobile_no. Perform following operations on it: **07**
 a. Display all the data of the data frame.
 b. Display the summary of the data frame.
 c. Display the structure of the data frame.
 d. Extract and display only the stud_name and mobile_no from the data frame.
- OR**
- Q.5** (a) How to read the data from JSON and CSV file? Explain in detail. **07**
 (b) Explain the design of experiment in detail. **07**
