GUJARAT TECHNOLOGICAL UNIVERSITY
MCA INTEGRATED– SEMESTER VIII- EXAMINATION –SUMMER-2024

Subject Code: 4480602　　　　　　　　　　　**Date: 03/05/2024**
Subject Name: Data Analytics with R
Time: 10:30 AM TO 01:00 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)**	Define Data Analytics. Write down the applications of it.	**07**
	(b)	Provide an in-depth explanation of data types in R with suitable example.	**07**
Q.2	**(a)**	Explain the concept of function in R with suitable example.	**07**
	(b)	Write a note on classification of data.	**07**
		OR	
	(b)	Define variable. Explain the concept of variables in R programming with suitable example.	**07**
Q.3	**(a)**	Discuss control structures in R programming with suitable example.	**07**
	(b)	How to insert, update and fetch data from database (MS Access/ Oracle/ My SQL)? Explain with suitable example.	**07**
		OR	
Q.3	**(a)**	Discuss the concepts of histogram and box plot in detail with example.	**07**
	(b)	Write a R script to draw bar graph for the following data: Sale <- c(7,12,28,3,41) months <- c("Mar", "Apr", "May", "Jun", "Jul")	**07**
Q.4	**(a)**	Define normal distribution. Explain dnorm(), pnorm(), qnorm() and rnorm() with suitable example.	**07**
	(b)	Offer an in-depth explanation of time series analysis.	**07**
		OR	
Q.4	**(a)**	Provide a detailed explanation of decision trees with example.	**07**
	(b)	Discuss Survival analysis in detail.	**07**
Q.5	**(a)**	Provide a detailed explanation of Reinforcement Learning.	**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: 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.	**07**
		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**

****