GUJARAT TECHNOLOGICAL UNIVERSITY
MCA INTEGRATED– SEMESTER - VIII EXAMINATION –WINTER-2021

Subject Code: 4480602   **Date: 24/11/2021**
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.

Q 1 (a)   **Do as directed :**   **07**

   (i) A variable is called ___ variable whose value is gathered through experiments?
   (a) Predictor   (b)   Response (c)   Clustering (d) None of these

   (ii) What will the following code print ?
   > a=c(2,3,4,5)
   >b=c(1,2)
   >d= a*b
   >print(d)

   (iii)   Which of the following syntax is used to install forecast package ?
   (a) install.pack("Randomforest")
   (b) install.package("RandomForest")
   (c) install.packages("RandomForest")
   (d) None of above

   (iv) What will be the output of the following R code snippet?
   > f <- function(a, b) {
   +   a^2
         + }
   > f(2)

   (a) 4   (b) 3   (c) 2   (d) 1

   (v) How many ways to create new variable in R programming explain with example?

   (vi) month.abb is Built-in list in R programming. (True/False)

   (vii)   Full form : AOV

Q 1 (b)   What is data analytics? Explain types of data analytics.   **07**

Q 2 (a)   Explain five characteristics of effective data analytics.   **07**
Q 2 (b)   Explain all the data types in R with example.   **07**
                                        OR

Q 2 (b)	Define data analytics and write any two applications of data analytics?	**07**
Q 3 (a)	What is regression? Explain linear and multiple regression with example.	**07**
Q 3 (b)	Discuss Reinforcement Learning in detail.	**07**

OR

Q 3 (a)	Explain Histogram with example.	**07**
Q 3 (b)	Explain time series analysis in detail with example.	**07**
Q 4 (a)	Explain following function with example : (i)List() (ii) ts() (iii) setwd()	**07**
Q 4 (b)	What is Normal Distribution? Explain following function used in R for Normal distribution. (i) dnorm( ) (ii) pnorm( ) (iii) qnorm( ) (iv) rnorm( )	**07**

OR

Q 4 (a)	Explain following function with example **:** (i) rbind() (ii) toupper() (iii) typeof()	**07**
Q 4 (b)	Describe decision tree with example. (output is not required)	**07**
Q 5 (a)	Discuss design of experiment explain in detail?	**07**
Q 5 (b)	Write a program to read data from excel file and convert it into dataframe and display 1).structure 2).colnames 3).no of columns and 4). rows of data frame.	**07**

OR

Q 5 (a)	How to read data from json and csv file? Explain in detail	**07**
Q 5 (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: a. Display data of data frame b. Display summary of data frame c. Display structure of data frame d. Extract and display only stud_name and mobile_no from data frame	**07**

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