Enrollment No._____

NAVRACHANA UNIVERSITY
a UGC recognized University

School: School of Engineering and Technology
Program/s: BSc Data Science
Year: 2nd **Semester:** 3rd
Examination: End Semester Examination
Examination year: December - 2021

Course Code: DS201 **Course Name:** R programming for Data Science
Date: 02/12/2021 **Total Marks:** 40
Time: 08:30 am to 10:30 am **Total Pages:** 2

Instructions:

➔ *Write each answer on a new page.*

		Marks	CO's	BTL
Q.1	Answer the following:	**[1 x 4 =4]**	**CO1, CO2**	**1,2,3**
[1]	Write the function which is used for merging of data frames vertically in R.			
[2]	Write one-line code to extract the first 3 characters in given text. sentence <- "Not a very long sentence."			
[3]	R is functionality divided into a number of packages. (TRUE / FALSE)			
[4]	R is an interpreted language so it can access through Command line interpreter. (TRUE / FALSE)			
Q.2	Answer the following:**[ANY Eight]**	**[2 x 8 =16]**	**CO5, CO4,**	**1,2,3,4**
[1]	Write one-line code and its output to count number of characters in a given text. sentence <- "Not a very long sentence."			
[2]	What is Lazy Evaluation in R? Explain with example.			
[3]	What are some advantages of R?			

[4]	What will be the output of the following R programming code?
	x<-5
	if(x%%2==0)
	print("X is an even number")
	else
	print("X is an odd number")			

[5]	What will be the output of the below code?
	printmessage <- function (a) {
	if (is.na (a))
	print ("a is a missing value!")
	else if (a < 0)
	print ("a is less than zero")			

	else
	print ("a is greater than or equal to zero")
	invisible (a)
	}
	printmessage (NA)			

[6]	What is the value of f (2) for the following R code?
	
	b <- 4
	f <- function (a)
	{
	b <- 3
	b^3 + g (a)
	}
	g <- function (a)
	{
	a*b
	}			

[7]	Write a code to create vector with the multiple of 7, smaller than 50.			
[8]	What is Difference Between Matrix and Dataframes?			
[9]	What is difference between "%%" and "%/%" operator?			
Q.3	Answer the following:	**[3 x 2 =6]**	**CO2, CO5**	**1,2,3**
[1]	What is difference between order(), rank() and sort() functions? Explain with example.			
[2]	Explain case_when function with example.			
Q.4	Answer the following:		**CO3, CO5**	**1,2,3**
[1]	Write a R program to find factorial of a number.	**5**		
[2]	Suppose an angle α is given as a positive real number of degrees. If $0 \leq \alpha < 90$ then it is quadrant 1. If $90 \leq \alpha < 180$ then it is quadrant 2. If $180 \leq \alpha < 270$ then it is quadrant 3. If $270 \leq \alpha < 360$ then it is quadrant 4. Write a function quadrant(alpha) which returns the quadrant of the angle α.	**5**		
[3]	Create function to find absolute value of number.	**4**		

**********End of Question Paper**********