

Reg.No. \_\_\_\_\_



# Karunya UNIVERSITY

(Karunya Institute of Technology & Sciences)  
(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

## End Semester Examination – Nov/Dec – 2016

Code : 14BI2019  
Sub. Name : R PROGRAMMING

Semester : 2016-17 ODD  
Duration : 3hrs  
Max. marks : 100

### ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)

Q. No.	Sub Div.	Questions	Course Outcome	Marks
1.	a.	Define function definition and list the components R function with syntax. Write R script, show examples and describe the following calling a function without an argument, with argument, by position, by name and lazy evaluation of a function.	CO1	20
(OR)				
2.	a.	Create a data frame with factor data containing 6 rows and 6 columns. Perform the following with data frame: Print the structure of data frame, show summary, print first three columns, print 3 <sup>rd</sup> and 4 <sup>th</sup> column and 2 <sup>nd</sup> and 4 <sup>th</sup> record, generate factor data. Also discuss about the need and characteristics of data frame.	CO1	20
3.	a.	Write a short note CRAN project. Explain the rules for variable declaration in R. Show any three ways of assigning variables to R object and also quote the difference between print and cat function with examples.	CO1	20
(OR)				
4.	a.	How do read data from XML files and access data from website using data interface module in R. Explain it with syntax, description and suitable example.	CO2	20
5.	a.	Construct a group bar chart with atleast five elements using R script showing labels, legend, different color for each stack.	CO2	10
	b.	Draw a multiple line graph for atleast three vectors, showing title of the graph, labels, colors code for each line in the graph.	CO2	10
(OR)				
6.	a.	Construct a three dimensional pie chart for a sample biological data. The chart should contain atleast seven pieces and all possible parameters should be shown in the example.	CO2	20
7.	a.	Show the steps to establish linear regression models in R with suitable examples. Discuss all the available functions, features and visualization of regression graphically.	CO3	20
(OR)				
8.	a.	Write R script to explain how prediction is done using multiple regression models. Also explain the syntax and procedure.	CO3	20
<b><u>Compulsory:</u></b>				
9.	a.	How do you perform dynamic programming using R packages explain it with suitable example. Show comments for each line in the example.	CO3	20

ALL THE BEST