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



**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 – 2017**

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| **Code :** | **14BI2019** | **Duration :** | **3hrs** |
| **Sub. Name :** | **R PROGRAMMING** | **Max. marks :** | **100** |

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

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| Q. No. | Sub Div. | Questions | Course  Outcome | Marks |
| 1. |  | Explain how mathematical and logical manipulations done using operators. Discuss about all types of operators used in R language along with examples. | CO1 | 20 |
| (OR) | | | | |
| 2. |  | Give the basic syntax for function definition and list the components of R function. Write an R script to describe the following: Calling a function without an argument, with argument, by position, by name and lazy evaluation of a function. | CO1 | 20 |
|  |  |  |  |  |
| 3. |  | Define data type. Explain the six classes of vectors in R programming with syntax and suitable examples. | CO1 | 20 |
| (OR) | | | | |
| 4. | a. | Explain how factors are used to categorize the data and store it as levels. | CO2 | 10 |
|  | b. | Write an R code showing the implementation of factors in data frame. | CO2 | 10 |
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| 5. |  | Write the procedure and explain how to read, write and analyze csv and excel file types with syntax and examples. | CO2 | 20 |
| (OR) | | | | |
| 6. |  | Explain the procedure and syntax for constructing group and stacked bar chart with suitable example. The example should contain all possible features and effects. | CO2 | 20 |
|  |  |  |  |  |
| 7. |  | Write a short note on multiple regression model. Cite an instance and show the procedure to establish multiple regression model using R programming. | CO3 | 20 |
| (OR) | | | | |
| 8. | a. | Write an R script to develop an three dimensional pie-chart with representation of at least 10 slices with different colors, showing percentage and labels. | CO3 | 10 |
|  | b. | Write the basic syntax and describe the parameters used in Pie function. | CO3 | 10 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | Explain how statistical analysis done for the given data using mean, median and mode functions in R language. Explain all the available features of the functions with syntax and examples. | CO3 | 20 |

ALL THE BEST