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

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**End Semester Examination – Nov/Dec – 2018**

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| **Code :** | **15BI3014** | **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 the different types of objects and data types used to define data in R scripting. | CO1 | 20 |
| (OR) | | | | |
| 2. | a. | Discuss the installation procedure and setting up R environment from CRAN. | CO1 | 5 |
| b. | Write in detail R variables types with suitable examples. | CO1 | 15 |
|  |  |  |  |  |
| 3. |  | Write an R script showing various operations and manipulation done using string function – Comment on each line of the script. | CO1 | 20 |
| (OR) | | | | |
| 4. |  | Create a data frame for any given biological data set and perform all possible features and characteristics of a data frame. | CO2 | 20 |
|  |  |  |  |  |
| 5. |  | Accessing data from various external sources of different file formats using data interface in R – explain with suitable examples. | CO2 | 20 |
| (OR) | | | | |
| 6. | a. | Describe a R code to generate a three dimensional pie chart showing all possible features of the pie function. | CO2 | 10 |
| b. | Create a multiple line graph using plot functionsin R. | CO2 | 10 |
|  |  |  |  |  |
| 7. |  | Explain the statistical inferences drawn from analysis of numerical data using mean, median and mode functions in statistical language. | CO3 | 20 |
| (OR) | | | | |
| 8. |  | Cite an instance and show the procedure to establish multiple regression model using R script. | CO3 | 20 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | Illustrate and explain the workflow of chemmineR environment. Discuss the various application of chemmineR module in virtual screening. | CO3 | 20 |