

Code No.: AI623PE

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**CMR ENGINEERING COLLEGE: : HYDERABAD**  
**UGC AUTONOMOUS**  
**III-B.TECH-II-Semester End Examinations (Regular) - May- 2023**  
**R-PROGRAMMING**  
**(CSM)**

[Time: 3 Hours]

[Max. Marks: 70]

**Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 20 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

**PART-A**

**(20 Marks)**

1. a) Define major components of R environment? [2M]
- b) What are the packages in R? [2M]
- c) Define common vector operations in R. [2M]
- d) What are the control structures in R? [2M]
- e) How to Adding and Deleting elements to list? [2M]
- f) Define cbind() with example. [2M]
- g) What are factors and levels in R programming? [2M]
- h) What are tables in R programming? [2M]
- i) What is S generic function in R? [2M]
- j) What is code profiling tool? [2M]

**PART-B**

**(50 Marks)**

2. Explain complex numbers in r programming with example. [10M]
- OR**
3. Write R program to print sum of the numbers from 30 to 60 and squares of numbers in a given range. [10M]
- OR**
4. Write about R data structures and explain with suitable examples. [10M]
- OR**
5. Differentiate list, matrix, data frame, and scalar. [10M]
- OR**
6. Explain lapply(), sapply(), tapply() in data frames with examples. [10M]
- OR**
7. How to create a list containing strings, numbers, vectors & a logical values and give name to the element by showing the list? [10M]
- OR**
8. Explain Matrix-Like Operations on Tables with example. [10M]
- OR**
9. Explain about statistical distribution functions in tables with example. [10M]
- OR**
10. Classify the Generic Function on an S4 Class with example. [10M]
- OR**
11. Demonstrate on visualization, simulation and statistical analysis with R programming. [10M]

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