(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2023-24 ONLY)

SUBJECT CODE 23 UCT 412

REG.NO.

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS : MAY – 2025

B.Sc. – COMPUTER TECHNOLOGY **MAXIMUM MARKS: 75**

IV SEMESTER **TIME : 3 HOURS**

PART – III
R PROGRAMMING

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS. **(K1)**

1. R is _____.

   a) A database b) A spreadsheet tool

   c) A programming language for data analysis d) An operating system

2. _____ command is used in R lists to install all packages.

   a) library() b) installed.packages() c) help() d) find.package()

3. In R, NA value represents _____.

   a) Infinite value b) Missing data c) Negative integer d) Data frame

4. _____function is used to extract substrings in R.

   a) substr() b) strsplit() c) paste() d) grep()

5. _____ is the correct syntax for creating a Data Frame in R.

   a) df <- data.list() b) df <- matrix()

   c) df <- data.frame() d) df <- array()

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES **(K2)**

6. Write any two advantages of using R over other programming languages.
7. Illustrate the purpose of the is() function in R.
8. Define a vector in R.
9. Indicate one built-in function in R used for mathematical operations.
10. Explain how to access the first row of a Data Frame in R.

SECTION – B (5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. **(K3)**

11. a) Explain how to install and load a package in R.

(OR)

b) Outline the steps to handle packages in R programming.

(CONTD …. 2)

12. a) Describe the types of variables supported in R.

(OR)

b) Find the special value functions in R, and when are they used?

13. a) Examine with a short note on the if-else statement in R.

(OR)

b) List the usage of the for loop with an example.

14. a) Show how you can manipulate text in R using string functions.

(OR)

b) Describe the process of creating and accessing elements in a list.

15. a) Show how to create and visualize a Pie Chart in R

(OR)

b) Describe the usage of the `head()` and `tail()` functions for Data Frame operations.

SECTION – C (5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

(K4 (Or) K5)

16. a) Classify the advantages of using R Studio for R programming.

(OR)

b) Compare the R language with other programming languages with examples.

17. a) Outline the process of entering and retrieving data in R.

(OR)

b) Categorize the different data types in R with examples.

18. a) Analyze the decision-making constructs in R language.

(OR)

b) Prove that how user-defined functions are created and called in R.

19. a) Determine the various operations that can be performed on vectors in R.

(OR)

b) Outline the properties and operations of lists in R

20. a) Classify how can data be extracted and summarized from Data Frames in R?

(OR)

b) Justify the steps to create a Bar Chart and add labels and titles in R.