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Reg. No.

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V Semester B.C.A. 6 (NEP) Degree Examination, March/April - 2024

STATISTICAL COMPUTING AND 'R' PROGRAMMING

(Regular)

Time : 2 Hours

Maximum Marks : 60

Instructions to Candidates:

All Sections are compulsory.

SECTION - A

Answer any TEN questions. Each question carries 2 marks.

(10×2=20)

1. List the basic datatypes in R.
2. Define list in R. Write an example to create a list.
3. What do you mean by special values ? Give example.
4. Mention the different assignment operators in R with examples.
5. Differentiate between cat () and Print () functions.
6. Write the syntax of "while" and "repeat" statements in R.
7. Write the purpose of prod () and round () functions. Give example for each.
8. List any four functions on set operations.
9. Define normal distribution.
10. What is ANOVA? Write the notations for Null and alternative hypothesis.
11. Write the purpose and syntax of lm () function in R.
12. What are regions and margins in a R plot?

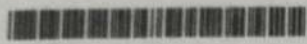
SECTION - B

Answer any FOUR questions. Each question carries 5 marks.

(4×5=20)

13. Define vector in R. Explain the different ways of creating a vector.
14. What is recursion? Write an R program to find the factorial of a number using recursion.

[P.T.O.]



15. What is a file? Explain any four file handling functions in R.
16. Compute the mean and median for the following observations: (9,5,2,3,4,6,7) Mention the R functions for the same.
17. Write a note on simple linear regression.

SECTION - C

Answer any TWO questions. Each question carries 10 marks.

(2×10=20)

18. a) Discuss the features of R programming.
b) Explain the different algebraic operations on matrices.
 19. a) Define variance, Covariance and correlation.
b) Write a R program to illustrate plot () list () and Pie () plotting functions.
 20. a) Explain the concept of Markov chain with a suitable example.
b) Discuss the following:
 - i) Defining colors in R plots
 - ii) Point and click co-ordinate interaction.
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