Roll No. | | | | | | | | | | | |

Total No. of Pages : 02

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B.Tech. (AI & ML / CSE) (Sem.–5)

STATISTICAL COMPUTING TECHNIQUES USING R

Subject Code : BTES-501-20

M.Code : 93170

Date of Examination : 26-11-2024

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Answer briefly :

a. List few data types used in R.

b. Write syntax of while loop in R.

c. How would you calculate the square root of a number using R?

d. Name a function in R used to create a sequence of numbers.

e. What is the role of the data frame function in R?

f. How can you use the cat() function to concatenate and print multiple values in R?

g. Write a function to plot box plot in R.

h. What is the need of probability distributions in statistical analysis?

i. Write a R script for finding greater of two numbers in R.

j. What is difference between mean, mode and median?

SECTION-B

2. What is user defined objects in R and How they are different from system objects?

3. What is preprocessing of data? How we can handle missing values in R?

4. What is regression analysis? How can you perform simple linear regression analysis in R using the lm() function? Provide an example.

5. Write R code to generate the probability distribution table for number of successes from a binomial distribution where n=5 and probability of success in each trial is 0.25.

6. What is Exploratory data analysis? Discuss few principles of Exploratory data analysis.

SECTION-C

7. Discuss different feature and applications of R tool in detail. Why is R a popular choice for big data analysis?

8. Discuss the concept of Generalized Linear Model (GLM), and how does it extend the concept of linear regression?

9. **Write a short note on :**

   a. Normal distribution

   b. Vector *vs* Matrix.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.