

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (AI&ML/CSE)(Sem.-5)

STATISTICAL COMPUTING TECHNIQUES USING R

Subject Code :BTES 501-20

M.Code :93170

Date of Examination :18-11-2025

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. Write briefly :

- a) How can you check if a value is missing (NA) in R?
- b) What is the default type of a vector created in R?
- c) What is an R script and why is it useful?
- d) How can you comment a line of code in an R script?
- e) What is the purpose of exploratory data analysis?
- f) How can you generate a quick summary of a dataset in R?
- g) What is the degree of freedom in the Chi-square goodness of fit test?
- h) What is contingency table in R?
- i) How to read a CSV file into R?
- j) How can you change the default working directory in R?

SECTION - B

2. What are the built-in mathematical functions in R that can be used for basic calculations?
3. Describe the attributes of a vector in R. How can you access the length, type and names of a vector?
4. How do you create a basic plot in R using the plot() function? Provide an example.
5. What is the difference between an error and a warning in R? Provide an example of each.
6. Give an example of using an ifelse() statement to perform a conditional operation on a vector in R.

SECTION - C

7.
 - a) What is the purpose of calculating the range of a dataset and how do you compute it in R?
 - b) How can you create a histogram in R to visualize the distribution of a numeric variable?
8.
 - a) What is statistical inference and why is it important in data analysis?
 - b) What is the bootstrap method and how is it used to estimate the standard error of a statistic in R?
9.
 - a) What are some strategies for efficiently handling and analyzing large datasets in R?
 - b) What is a data frame in R and how does it differ from a 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.