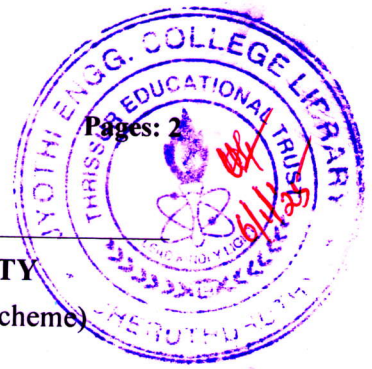


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Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
B.Tech Degree S6 (S, FE) Examination December 2024 (2019 Scheme)

Course Code: AIT362

Course Name: PROGRAMMING IN R

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions, each carries 3 marks.

- | | | Marks |
|----|--|-------|
| 1 | Explain data frames in R with an example. | (3) |
| 2 | Explain vector in R with an example. | (3) |
| 3 | Explain aggregate function in R. | (3) |
| 4 | Illustrate different ways to access a subset of a dataset. | (3) |
| 5 | Define probability distribution in R. | (3) |
| 6 | Write an R program to compute the covariance between two vectors using pearson method. | (3) |
| 7 | Explain the function used to plot histogram with an R program. | (3) |
| 8 | Explain box plots with the help of an R program. | (3) |
| 9 | Describe the unusual observations in the regression models. | (3) |
| 10 | Explain poisson regression in R. | (3) |

PART B

Answer one question from each module, each carries 14 marks.

Module I

- 11 a) Write an R program to check whether a number is prime number or not. (8)
b) Explain data structures in R program. (6)

OR

- 12 a) Write a R program to check whether a number is armstrong or not. (8)
b) Explain with examples for loop, while loop and controlling loops in R. (6)

Module II

- 13 a) Explain how data is exported from database in R programming. (7)

- b) Write an R program to export the following data to a csv file. (7)

Reg_no	Name	Sub_Mark1	Sub_Mark2	Sub_Mark3
10001	Jack	76	88	76
10002	John	77	84	79
10003	Alex	74	79	81

OR

- 14 a) Given a file "auto.csv" of automobile data with the fields index, company, body-style, wheel-base, length, engine-type, num-of-cylinders, horsepower, average-mileage, and price. Write an R program to print total cars of all companies and find the average mileage of all companies. (7)

- b) Explain different methods used for combining data sets in R. (7)

Module III

- 15 a) Explain different statistical tests performed in continuous data. (7)

- b) Explain data analysis in R. (7)

OR

- 16 a) Explain different non- parametric tests in R. (7)

- b) Explain t-test and ANOVA in R. (7)

Module IV

- 17 a) Explain graphics devices used in data visualization. (7)

- b) Compare and contrast the ggplot and lattice functions. (7)

OR

- 18 a) Differentiate bar chart and histogram in data visualization in R. (7)

- b) Write a R program and explain how to create a Bar Chart. (7)

Module V

- 19 a) Distinguish between simple and multiple regression analysis and explain its applications when working with numerical and categorical data. (7)

- b) With the help of an example write the steps to establish a regression. (7)

OR

- 20 a) List the different types of regression models. (7)

- b) Given two vectors, write an R program to predict the weight of new person using regression model. (7)
