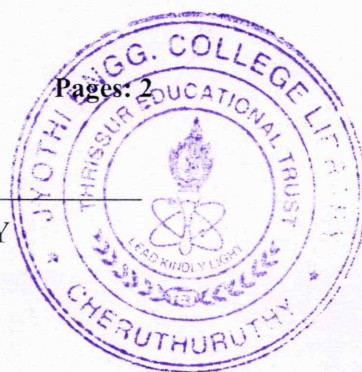


Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S6 (R,S) Exam April 2025 (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 the use of lists in R with an example. | (3) |
| 2 | Write an R program to generate a sequence of numbers from 1 to 100 with a step size of 5. | (3) |
| 3 | Describe the process of data filtering in R using the subset function. | (3) |
| 4 | What are the different ways of joining data frames in R? | (3) |
| 5 | Explain the concept of normality testing in R. | (3) |
| 6 | What is the Wilcoxon test, and when is it used in R? | (3) |
| 7 | Explain the function used to plot scatter plots with an R program. | (3) |
| 8 | Describe graphical parameters in detail. | (3) |
| 9 | Explain Logistic Regression in R. | (3) |
| 10 | Explain how unusual observations can significantly influence the model's accuracy and validity | (3) |

PART B*Answer one question from each module, each carries 14 marks.***Module I**

- | | | |
|----|---|-----|
| 11 | a) Write an R program to swap two numbers without using a temporary variable. | (7) |
| | b) Explain the scope of variables in R functions with an example | (7) |

OR

- | | | |
|----|--|-----|
| 12 | a) Write an R program to check if a given number is prime or not. | (7) |
| | b) Write an R program to compute the factorial of a number using iteration | (7) |

Module II

- | | | |
|----|--|-----|
| 13 | a) Explain how data are imported from external file. | (7) |
| | b) Write an R program to extract specific columns from a data frame and perform basic operations on them | (7) |

OR

- | | | |
|----|---|-----|
| 14 | a) List the different types of data structures used for storing data in R. Explain any two with example. | (7) |
| | b) What are the different functions used for combining datasets in R. Explain any two functions with example. | (7) |

Module III

- 15 a) Explain how to perform Proportion test design with suitable example, give the general syntax for the same . (7)
b) Illustrate the concept of hypothesis testing in R with example. (7)

OR

- 16 a) Describe the process of performing an independent t-test in R with an example. (7)
b) Write an R program to simulate and analyse a binomial distribution (7)

Module IV

- 17 a) What do you meant by graphical parameters, list out different parameter used. (7)
b) Differentiate bar chart and histogram in data visualization in R. (7)

OR

- 18 a) Explain ggplot() with an example. (7)
b) What do you meant by lattice Graphics. Explain the working of lattice graphics (7)

Module V

- 19 a) Compare the advantages and limitations of linear regression and support vector regression. (7)
b) With an example explain simple liner model regression (7)

OR

- 20 a) Comment on the unusual observations in the regression model. (7)
b) What is poisson regression. What function is used to implement poisson regression. Explain the steps involved (7)
