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)

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