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Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Sixth Semester B.Tech Degree Regular and Supplementary Examination June 2023 (2019 Scheme)

VNN- 325

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	Write an R program to check whether a number is positive, negative or zero.	(3)
2	Explain the different data types in R.	(3)
3	List different summarizing functions in R.	(3)
4	Explain how to import data from text files in R.	(3)
5	Define mean, median and mode functions in R.	(3)
6	Explain the power test in R.	(3)
7	Explain the box plot.	(3)
8	Describe graphical parameters in detail.	(3)
9	Explain logistic regression function in R.	(3)
10	Explain polynomial regression function in R.	(3)

PART B

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

Module I

11	a)	Explain with examples the different control statements in R.	(9)
	b)	Write an R program to print the Fibonacci sequence.	(5)

OR

12	a)	Write an R program to check whether a number is palindrome or not.	(7)
	b)	Write an R program to find row and column indices of maximum and minimum values in a given matrix.	(7)

Module II

13	a)	Explain exporting data and importing data from databases with example.	(7)
	b)	How is data cleaning done in R Programming?	(7)

OR

14	a)	Write a function in R to impute missing values in a given data frame by replacing them with the mean of the non-missing values in each column.	(7)

b) Demonstrate with examples how to remove duplicates from i) rows and ii) columns of a data frame in R. (7)

Module III

15 a) Illustrate different summary statistics in R. (7)

b) Explain different statistical tests performed using R functions. (7)

OR

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

b) Explain different tests performed in discrete data. (7)

Module IV

17 a) Explain ggplot2 in detail. (7)

b) Explain lattice graphics with example. (7)

OR

18 a) A new icecream parlour is opening in town, and the owner is trying very hard to complete the menu. He wants to include a choice of 4 brands of icecream and 10 flavors of each brand. A survey collected information about favourite icecream brand, and flavour of the people in the town. Write R code to visualize the results of the survey: (7)

a) A pie chart to show the percentage of people voted for each brand

b) A histogram to show the number of people opted for each flavour of the most popular brand.

b) Explain different plots in R with examples. (7)

Module V

19 a) Describe non-linear least squares regression in detail. (7)

b) Compare the different models used for regression. (7)

OR

20 a) Comment on the unusual observations in the regression model. (7)

b) Write an R program to perform linear regression on the given data. (7)

x	10	15	18	21	25	34	42	55	67
y	300	315	389	410	234	413	254	346	514

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