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EAST POINT COLLEGE OF ENGINEERING & TECHNOLOGY
An Autonomous Institution Affiliated to Visvesvaraya Technological University (VTU) Belagavi

USN 1 E P 2 4 C I 0 4 2

24AD44/24CI44

Fourth Semester B.E. Degree Examination, May 2026
DATA ANALYTICS WITH R

TIME:3 hrs. Max.Marks:100

Note: 1. Answer **any FIVE** full questions, choosing **ONE** question from **each MODULE.**
2. M: Marks, L: Bloom's level,C: Course outcomes.
3. Assume missing data suitably.

		Module-1	M	L	C
Q.1	a	List and explain the different data types in R with example for each.	6	L2	CO1
	b	How values can be aligned to variables in R. Describe with example.	4	L2	CO1
	c	Explain the use of if and else in R. Write a program to find the largest of three numbers using nested if -else.	10	L3	CO1
		OR			
Q.2	a	Discuss the various types of loops supported by R.	6	L2	CO1
	b	Discuss environment variables with example.	4	L2	CO1
	c	Explain the following with respect to vector: i) seq( ) ii) length( ) iii) which( ) iv) rep( ) v) seq-len( )	10	L2	CO1
		Module–2			
Q.3	a	Define data frame. Describe the significance of any 5 functions of data frames with suitable example.	10	L2	CO1
	b	Develop a R program to create two matrices of size 3X3 and perform: i) Transpose ii) Multiplication iii) Addition iv) Subtraction	10	L3	CO2
		OR			
Q.4	a	With example, discuss any 5 string-related functions in R.	10	L2	CO1
	b	Define matrix and discuss the following operations with an example for each: i) Rownames() and colnames() ii) nrow() and ncol() iii) cbind() and rbind() iv) Dimnames() and dim()	10	L2	CO1
		Module–3			
Q.5	a	Explain any 5 grouping functions used in R.	10	L2	CO2
	b	Design a data frame in R for storing 10employee details. Create a CSV file named "input.csv" that defines all the required information about the employee such as id, name, salary, start date, dept. Import into R and do the following analysis. i) Find the total number of rows and columns ii) Find the maximum salary iii) Retrieve the details of the employee with the maximum salary iv) Retrieve all the employees working in the IT department	10	L3	CO2

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		OR			
Q.6	a	Discuss any 4 functions used to manipulate the strings in data cleaning process.	**10**	**L2**	**CO2**
	b	Define data reshaping. Explain in detail with example.	**10**	**L2**	**CO2**
		Module–4			
Q.7	a	Write the syntax to create Pie Chart. Create a pie chart for the given data :	**10**	**L3**	**CO3**

Name	Apple	Mango	Grapes	Kiwi	Banana
Values	25	5	35	20	15

	b	Define histogram, write the syntax for creating histogram. Explain the significance of each parameter.	**10**	**L2**	**CO3**
		OR			
Q.8	a	Define EDA. List the steps used in iterative cycle of EDA.	**10**	**L2**	**CO3**
	b	Define line plot. Discuss with syntax how line plots are created using base graphics and lattice graphics.	**10**	**L2**	**CO3**
		Module–5			
Q.9	a	Explain the following with an example: Mean Mode Median Standard Deviation Quartile Range	**10**	**L2**	**CO4**
	b	Discuss the four functions used to generate a normal distribution.	**10**	**L2**	**CO4**
		OR			
Q.10	a	Explain the following with respect to the binomial distribution: dbinom() pbinom() qbinom() rbinom()	**10**	**L2**	**CO4**
	b	Explain Linear Regression with a suitable example.	**10**	**L2**	**CO4**

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