

15 FEB 2023

Reg. No.

Question Paper Code

11717

B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV/DEC 2022

Third Semester

Electronics and Communication Engineering

20ECPW301 - R PROGRAMMING WITH LABORATORY

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|--|-------------------------------|
| 1. Define recursive list with an example. | 2, K1, CO1 |
| 2. Write a R program to find if the given number is even. | 2, K1, CO1 |
| 3. Explain the switch case with a suitable example. | 2, K2, CO2 |
| 4. State the method of passing default arguments to a function. | 2, K1, CO2 |
| 5. For the matrix given $m1 = \begin{matrix} 1 & 2 \\ 7 & 8 \end{matrix}$ give the output for <code>t(diag(diag(m1)))</code> . | 2, K2, CO3 |
| 6. What are the different parameters evaluated while using <code>summary()</code> function? | 2, K1, CO3 |
| 7. Show the purpose of using ANOVA test. | 2, K2, CO4 |
| 8. State the differences between Covariance and Correlation. | 2, K2, CO4 |
| 9. Give the differences between the <code>lines()</code> and <code>abline()</code> function. | 2, K2, CO5 |
| 10. List the use of <code>lty</code> and <code>lwd</code> keywords in a plot. Give the syntax for the same. | 2, K1, CO5 |

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) Using the concept of data frame form a table that stores the employer details of 10 employees with `emp.id`, `emp.name`, `emp.salary`, `emp.age` as the columns. 13, K2, CO1
- OR**
- b) Explain the different data types in R with suitable examples. 13, K2, CO1
12. a) Discuss how the function is applied to the data frame using the `tapply()` function. 13, K2, CO2
- OR**
- b) Write a R script to implement a calculator using appropriate control statements with a neat algorithm. 13, K2, CO2

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

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13. a) Explain briefly about R function used in Graphs and plots with suitable examples. *13, K2,CO3*

OR

- b) Consider the current market value of adidas and Nike brands to be 50% each. Calculate the market value of the brands using Markovian model assuming suitable transition matrix. *13, K2,CO3*

14. a) Compare and contrast any two methods of survival analysis and apply it on a suitable data set. Give the inference from the output of the models. *13, K2,CO4*

OR

- b) Explain Normal Distribution and Binomial Distribution with suitable examples. *13, K2,CO4*

15. a) Represent graphically different plots in R. Give the syntax of each to get minimum of four plots in a single window using suitable R function. *13, K2,CO5*

OR

- b) Write a R program to represent the histogram plot with variable bin width using ggplot for scores of two batsmen with the colors red and yellow and retain both the graph using suitable R function. *13, K2,CO5*

PART - C (1 × 15 = 15 Marks)

16. a) Apply the R code to run a machine learning model for iris dataset and compute accuracy to categorize the class setosa, versicolor and virginica. *15, K3,CO6*

OR

- b) Brief the reinforcement learning in R with suitable examples. *15, K2,CO6*