**Question Paper Code: 93C03**

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2021

Third Semester

Computer Science and Business System

19UCB303 - Computational Statistics

(Regulation 2019)

Duration: Three hours | Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. In which IDE we can interact with R? CO2- A

(a) R studio (b) Console (c) GCC (d) Power shell

2. Which function is used to combine the elements into a vector? CO2- A

(a) C() (b) D() (c) E() (d) F()

3. What is the meaning of "<-"? CO1- U

(a) Functions (b) Loops (c) Addition (d) Assignment

4. Identify the output of the following R code? CO2- A

```
> m <- matrix(nrow = 2, ncol = 3)
> dim(m)
```

a) 3 2 b) 2 3 c) 2 2 d) 4 5

(a) 3 2 (b) 2 3 (c) 2 2 (d) 4 5

5. Which function gives an error message if the desired package cannot be loaded. CO2- A

(a) Dplyr (b) Require (c) Library (d) Sample

6. _____ evaluate the cumulative distribution function for a Normal distribution. CO1- U

(a) dnorm (b) rnorm (c) pnorm (d) rpois

7. Which of the following is lattice command for producing boxplots? CO2- A

(a) plot() (b) bwplot() (c) xyplot() (d) barlm()

8. _____ function carries out a chi-square test. CO1- U

(a) chisq.test() (b) t.test() (c) prop.test() (d) fisher.test()

9. What plot(s) are used to view the linear regression? CO1- U

(a) Scatterplot (b) Box plot

(c) Density plot (d) Scatterplot, Boxplot, Density plot

10. Function used for linear regression in R is _____ CO1- U

(a)lm(formula,data) (b) lr(formula, data)

(c) lrm(formula, data) (d) regression.linear(formula, data)

PART – B (5 x 2= 10 Marks)

11. What are the advantages of R? CO1- U

12. List the miscellaneous operator in R CO1 -U

13. List any five math function in R. CO1- U

14. What is meant by Visualization? CO1- U

15. What is meant by regression? CO1-U

PART – C (5 x 16= 80 Marks)

16. (a) Discuss Vectors in R with Suitable Example. CO1-U (16)

Or

(b) Explain Data Frame in R with appropriate example CO1-U (16)

17. (a) Explain operators and Decision Statements and apply those concepts to write R Program to get the first 10 Fibonacci numbers. CO2- App (16)

Or

(b) Explain Matrices and Develop a R Program to create a matrix from list of given vectors. CO2- App (16)

18. (a) Develop R Program to implement Data Sorting with appropriate Example. CO2- App (16)

Or

(b) Develop a R Program to implement all Set Operations in R and to find Cumulative Sum and Product for the given vector values using R Function . CO2- App (16)

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|---|---|---|---|---|
| 19. | (a) | Explain Scatter Plot and Box Plot with an Example | CO1- U | (16) |
| | | Or | | |
| | (b) | Explain Binomial and Normal distribution in detail. | CO1- U | (16) |
| 20. | (a) | Explain Regression Analysis with an example. | CO1- U | (16) |
| | | Or | | |
| | (b) | Explain Non linear models in detail. | CO1- U | (16) |