VR17   Reg. No: ☐☐☐☐☐☐☐☐☐☐☐

VELAGAPUDI RAMAKRISHNA
SIDDHARTHA ENGINEERING COLLEGE
(AUTONOMOUS)

II/IV B.Tech. DEGREE EXAMINATION, NOVEMBER, 2020

Fourth Semester

INFORMATION TECHNOLOGY

17IT3401 STATISTICS WITH R

Time: 3hours   *Max. Marks: 70*

Part-A is compulsory

Answer One Question from each Unit of Part-B

Answer to any single question or its part shall be written at one place only

PART-A

10 x 1 = 10M

1. a.   Write any three linear algebra math operations.

    b.   What is data reshaping?

    c.   Write the syntax of strsplit() function.

    d.   How missing values are represented in R language?

    e.   List any three base plot functions.

    f.   Compute the intersection of {1, 2…10} and {5, 6, . . , 15}

    g.   What is the use of dnorm() function?

    h.   Define decision tree.

    i.   Write any two disadvantages of R programming language.

    j.   What are the applications of t-distribution?

PART-B

4 x 15 = 60M

UNIT-I

2. a. Explain abut vectors and data.frames in R with suitable examples.   **7M**

    b. Explain various ways of reading data into R programming.   **8M**

(or)

3. a. Write R code to define the function by using if-else   **7M**

    f(x) = x   if x<1/2
    = (1-x)   if ½<x<1
    = 0 otherwise

    b. Write about nested if in R.   **8M**

UNIT-II

4. a. What are the apply family functions available in R? Explain with examples.   **9M**

    b. Explain how to generate a random variable, with an example?   **6M**

(or)

5. a. Write an example for a combinatorial simulation in R.   **8M**

    b. Explain about built in random variable generators.   **7M**

UNIT-III

6. a. Fit a Binomial distribution to the following data   **8M**

x	0	1	2	3	4	5
f	2	16	28	12	9	3

    b. Discuss about correlation and covariance.   **7M**

(or)

7. a. Explain in detail about Poisson distribution.   **6M**

    b. Input a data set and explain the procedure of performing one way ANOVA test.   **9M**

UNIT-IV

8. a. Explain how K-means is implemented in R?   **8M**

    b. Discuss about logistic regression.   **7M**

(or)

9. a. What are the disadvantages of the linear model?   **3M**

    b. Discuss briefly about decision trees and how to implement in R?   **12M**

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