Code No: 155FN

R18

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year I Semester Examinations, January/February - 2023
INTRODUCTION TO DATA SCIENCE
(Computer Science and Engineering – Data Science)

Time: 3 Hours **Max. Marks: 75**

Note: i) Question paper consists of Part A, Part B.
ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.
iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub-questions.

PART – A

(25 Marks)

1.a) Define statistical inference. [2]

b) Write about basic data types in R. [3]

c) Explain about type of an Attribute. [2]

d) Describe about Mean, Median, and Mode. [3]

e) What are structured array? Give examples. [2]

f) Explain about how to merging lists. [3]

g) Explain about logical operators with examples. [2]

h) Define Recursion in R. [3]

i) Define Clustering. [2]

j) Explain about Sampling. [3]

PART – B

(50 Marks)

2. a) What is Data Science? Explain Data Science process.

b) Describe about probability distributions and fitting a model. [5+5]

OR

3.a) Write the advantages of R programming. Explain various features of R language with necessary examples.

b) Write a R program for matrix multiplication. [5+5]

4.a) Describe about asymmetric attributes and binary attributes in detail.

b) Explain about describing attributes by the number of values. [5+5]

OR

5.a) Evaluate measuring the Central Tendency.

b) Analysis of graphic displays of basic statistical descriptions of data. [5+5]

6.a) What is a vector in R? List the difference between vector and list.

b) Explain the different concepts of arrays in R Language. [5+5]

OR

7. a) Explain about ordered and unordered factors in R.

b) Describe about creating a named list and accessing list elements. [5+5]

8. a) Describe about conditional statements in R with an example.

b) Explain about vectors with an example program. [6+4]

OR

9. a) How to load an R Package and describe mathematical functions in R.

b) Calculate probability for n*(n-1) functions. [5+5]

10. a) Explain about regression and Log-Linear Models.

b) Describe about Wavelet Transforms and Data Cube Aggregation. [5+5]

OR

11. a) Compare between pixel-oriented and geometric projection visualization techniques.

b) Describe about different about hierarchical visualization techniques. [5+5]