

Code No: 155FN

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 example. [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]

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

b) Explain about vectors with example program.

[6+4]

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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]

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OR

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

b) Describe about different about hierarchical visualization techniques.

[5+5]

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