

IV B. TECH I SEMESTER REGULAR EXAMINATIONS, NOVEMBER - 2023
DATA SCIENCE PREPARATION AND ANALYSIS
(CSE-INTERNET OF THINGS)

Time: 3 hours

Max. Marks: 70

Note : Answer ONE question from each unit (5 × 14 = 70 Marks)

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UNIT-I

1. Explain the main types of data and list out the applications of data science. [14M]

(OR)

2. What is exploratory data analysis? Briefly give your own example. [14M]

UNIT-II

3. (i) Calculate the sum of square population standard deviation of the given x data value: 13,10,11,7,9,11,9 [9M]  
 (ii) Calculate the sample standard deviation for the given data: [5M]  
 7,3,1,0,4

(OR)

4. Analyze how graphs are used to represent qualitative and quantitative data? [14M]

UNIT-III

5. Elaborate on the various operations performed using numpy with an example. [14M]

(OR)

6. a) Write a python program to find common elements in a python list using two different methods. [7M]  
 b) Elaborate about the Python Pandas data structure with an example. [7M]

UNIT-IV

7. a) How to calculate standard error? Explain in brief with an example [7M]  
 b) Calculate the linear regression for the value of X as 34 [7M]  
 X = 43,21,25,42,57,59 and Y = 99,65,79,75,87,81.

(OR)

8. What is meant by a normal curve problem? Explain in detail. [14M]

UNIT-V

9. Briefly explain the line plot and scatter plot. [14M]

(OR)

10. a) Explain in brief the graphical and non-graphical data visualization. [7M]  
 b) What is matplotlib? Specify the two interfaces used by it. [7M]

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