IV B. TECH I SEMESTER REGULAR EXAMINATIONS, NOVEMBER - 2023
FUNDAMENTALS OF DATA SCIENCE
(CIVIL ENGINEERING)

Time: 3 hours   Max. Marks: 70

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

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UNIT-I

1. a) What is data science? Discuss the need for data science with real time applications. [7M]

   b) Explain data science process in detail. [7M]

(OR)

2. a) Discuss about cleaning data in detail. [7M]

   b) Explain combined graphs in exploratory data analysis. [7M]

UNIT-II

3. a) Define Cumulative Frequency distribution. Explain constructing Cumulative Frequency distribution. [7M]

   b) Explain about Frequency Polygon in detail. [7M]

(OR)

4. a) What is Ordered Qualitative data? Explain. [7M]

   b) Explain variability for Qualitative data. [7M]

UNIT-III

5. a) Define Estimators and Explain about different types of Estimators. [7M]

   b) Define population data. Find the mean, median and population mean of the following data. 20,33,45,26,46,75,62,37,64,82. [7M]

(OR)

6. a) Differentiate One score and two scores. [7M]

   b) Explain about different normal curves. [7M]

UNIT-IV

7. a) Explain NumPy's structured arrays. [7M]

   b) What is Combined Indexing? Explain. [7M]

(OR)

8. a) How to handle missing data in pandas? Explain. [7M]

    b) Explain pandas Index Object with python code. [7M]

UNIT-V

9. a) Explain line plots with python code. [7M]

    b) Explain three-dimensional plotting in matplotlib with python code. [7M]

(OR)

10. a) Explain Data analysis using statsmodels. [7M]

    b) Explain scatter plots using plt.scatter with python code. [7M]

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