PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF INFORMATION SCIENCE
MID TERM EXAMINATION - OCT 2023

Semester : Semester I - 2023
Course Code : CSA1003
Course Name : Sem I - CSA1003 - Fundamentals of Data Science
Program : BCD

Date : 30-OCT-2023
Time : 11:30AM - 1:00PM
Max Marks : 50
Weightage : 25%

Instructions:
(i) Read all questions carefully and answer accordingly.
(ii) Question paper consists of 3 parts.
(iii) Scientific and non-programmable calculator are permitted.
(iv) Do not write any information on the question paper other than Roll Number.

PART A

ANSWER ALL THE QUESTIONS   **(5 X 2 = 10M)**

1. Define Data Science.   (CO1) [Knowledge]

2. Write the formula to calculate Percentile.   (CO1) [Knowledge]

3. Consider the data: 56, 67, 54, 34, 78, 43, 23. What is the median?   (CO1) [Knowledge]

4. List any four types of variables.   (CO2) [Knowledge]

5. What is the use of Pie Chart?   (CO2) [Knowledge]

PART B

ANSWER ALL THE QUESTIONS   **(2 X 10 = 20M)**

6. a) Illustrate Key Aspects of Data Science Process [5 Marks]   (CO1) [Comprehension]
    b) Explain any 4 Basic Statistical descriptions of Data [5 Marks]

7. Explain Different types of Charts with neat Diagram.   (CO2) [Comprehension]

PART C

ANSWER THE FOLLOWING QUESTION   **(1 X 20 = 20M)**

8. a) From a statistics standpoint, the standard deviation of a dataset is a measure of the magnitude of deviations between the values of the observations contained in the dataset. From a financial standpoint, the standard deviation can help investors quantify how risky an investment is and determine their minimum required return on the investment. Solve the standard deviation for the following 12 weeks data set. [15 Marks]

Weeks	Expenditure
1	$48.50
2	$87.40
3	$19.98
4	$59.74
5	$40.87
6	$105.51
7	$40.80
8	$23.10
9	$98.10
10	$60.54
11	$64.81
12	$48.01

b) A garden contains 39 plants.
The following plants were chosen at random, and their heights were recorded in cm: 38, 51, 46, 79, and 57. Calculate their heights' standard deviation. [5 Marks]

(CO2) [Application]