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**Presidency University**

**Bengaluru**

**School Of Computer Science and Engineering & Information Science**

**SUMMER TERM End-Term Examinations, Aug 2024**

**Date**: 5-8-2024

**Time**: 9.30AM-12.30PM

**Max Marks**: 100

**Weightage**: 50%

**Odd Semester**: 2023 - 24

**Course Code**: CSA1003

**Course Name**: Fundamentals of Data Science

**Department: BCA**

 **Instructions:**

1. *Read the all questions carefully and answer accordingly.*
2. *Do not write any matter on the question paper other than roll number.*

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| **Q.No** | **Questions** | **Marks** | **CO** | **RBT** |
| 1 | 1. **List** out basic distinctions between data and information in everyday situations?
 | 4 | CO1 | L1 |
| 1. **Recognize** categorical variable and a continuous variable, and briefly explain the difference between them
 | 6 | CO1 | L2 |
| c.**Explain** any 5 Vs of Big Data | 10 | CO1 | L3 |
| OR |
| 2 | a. **Explain** different sources of data | 4 | CO1 | L1 |
| b. You are given a dataset with the following values: 12, 15, 18, 20, and 22. **Calculate** the mean (average) of this dataset | 6 | CO1 | L2 |
| **c.Describe** nominal, ordinal, and interval scales of measurement in data analysis | 10 | CO1 | L3 |

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| 3 | **a.Identify** the advantages and disadvantages of using bar charts and line graphs for representing different data sets.  | 4 | CO2 | L1 |
| **b.Differentiate** between questionnaire and schedule  | 6 | CO2 | L2 |
| **c.Describe** the different types of Probability sampling techniques | 10 | CO2 | L3 |

OR

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| 4 | 1. **Identify** the mean, mode and median of the given sets of data: 7,9,11,13,15,17,6,8, 12, and 4
 | 4 | CO2 | L1 |
| 1. **List** the main differences between structured and unstructured data types?
 | 6 | CO2 | L2 |
| 1. **Explain** different types of Data Analysis
 | 10 | CO2 | L3 |

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| 5 | 1. **Classify** Quasi Structured Data with Semi Structured Data.
 | 4 | CO3 | L1 |
| 1. **Demonstrate** the standard error for the sample data: 30, 40, 50, 60, 65.
 | 6 | CO3 | L2 |
| 1. **Solve** the interquartile range formula, calculate the range of the following set of data: {4, 17, 7, 14, 18, 12, 3, 16, 10, 4, 4, 11}
 | 10 | CO3 | L3 |

OR

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| 6 | 1. Define Voluntary Sampling
 | 4 | CO3 | L1 |
| 1. Differentiate between Primary Data and Secondary Data
 | 6 | CO3 | L2 |
| 1. Find the harmonic mean for data 2, 5, 7, and 9
 | 10 | CO3 | L3 |

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| 7 | 1. Define Schedule
 | 4 | CO4 | L1 |
| 1. Illustrate the essentials of a good questionnaire
 | 6 | CO4 | L2 |
| 1. Explain Interview Method
 | 10 | CO4 | L3 |

OR

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| 8 | 1. **Define** Convenience sampling
 | 4 | CO4 | L1 |
| 1. **Demonstrate** the standard error for the sample data: 10, 20, 30, 40, 45.
 | 6 | CO4 | L2 |
| 1. **Explain** Correlation and types of correlation
 | 10 | CO4 | L3 |

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| 9 | 1. **Name** the different V's of Data.
 | 4 | CO1 | L1 |
| 1. **Describe** Non-Probability Sampling
 | 6 | CO1 | L2 |
| 1. **Interpret** the following scores for students are 40, 45, 49, 53, 61, 65, 71, 79, 85, 91. Calculate the percentile for score 71?
 | 10 | CO1 | L3 |

OR

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| 10 | 1. Define Data Collection and Data Visualization
 | 4 | CO2 | L1 |
| 1. Explain observation method in detail.
 | 6 | CO2 | L2 |
| 1. Mice with an average life span of 32 months will live up to 40 months when fed by certain nutritious food. If 64 mice fed on this diet have an average lifespan of 38 months and standard deviation of 5.8 months, then test at 1% level of significance that if there is any reason to believe that the average lifespan is less than 40 months.
 | 10 | CO2 | L3 |