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**BENGALURU**  
**School of Information and Science**  
**Mid - Term Examinations - November 2024**

**Semester:** III

**Date:** 07-11-2024

**Course Code:** CSA2018

**Time:** 02.00pm to 03.30pm

**Course Name:** Data Modeling And Visualization

**Max Marks:** 50

**Program:** BCA

**Weightage:** 25%

**Instructions:**

*(i) Read all questions carefully and answer accordingly.*

*(ii) Do not write anything on the question paper other than roll number.*

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**Part A**

**Answer ALL the Questions. Each question carries 2marks.**

**5Qx2M=10M**

- |   |   |         |    |     |
|---|---|---------|----|-----|
| 1 | What are some essential skills required for data scientist? | 2 Marks | L1 | CO1 |
| 2 | What are the key steps in the data modeling process?        | 2 Marks | L1 | CO1 |
| 3 | Define outliers.  | 2 Marks | L1 | CO2 |
| 4 | List common techniques used in EDA.                         | 2 Marks | L1 | CO2 |
| 5 | What is feature?  | 2 Marks | L1 | CO2 |
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**Part B**

**Answer ALL Questions. Each question carries 10 marks.**

**4QX10M=40M**

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|---|--|----------|----|-----|
| 6 | Analyze the effect of transforming numerical variables on model performance. | 10 Marks | L4 | CO1 |
|---|--|----------|----|-----|

**Or**

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|---|---|----------|----|-----|
| 7 | Explain different feature scaling methods.                                | 10 Marks | L4 | CO1 |
| 8 | Assess the potential biases introduced by different imputation techniques | 10 Marks | L5 | CO1 |

**Or**

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|-----------|--|----------|----|-----|
| <b>9</b>  | Analyze categorical values encoding techniques                       | 10 Marks | L5 | C01 |
| <b>10</b> | <b>a.</b> Explain the advantages of Exploratory data analysis        | 4 Marks  | L2 | C02 |
|           | <b>b.</b> How does EDA differ from classical and Bayesian approaches | 6 Marks  | L4 | C02 |

**Or**

- |           |   |         |    |     |
|-----------|---|---------|----|-----|
| <b>11</b> | <b>a.</b> Why is exploratory data analysis important in data science? | 4 Marks | L2 | C02 |
|           | <b>b.</b> Describe steps involved in EDA                              | 6 Marks | L4 | C02 |
| <b>12</b> | <b>a.</b> What are the common Exploratory Data Analysis tools         | 4 Marks | L2 | C02 |
|           | <b>b.</b> Write a code to plot the Correlation matrix.                | 6 Marks | L3 | C02 |

**Or**

- |           |  |         |    |     |
|-----------|--|---------|----|-----|
| <b>13</b> | <b>a.</b> What are the key characteristics of Bayesian analysis? | 4 Marks | L2 | C02 |
|           | <b>b.</b> Write a code to create scatter plot.                   | 6 Marks | L3 | C02 |