**TEMPLATE 6 QUESTION 1**

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| **University of Kerala** | | |
| Discipline: STATISTICS |  | Time: 1 Hour (60 Mins) |
| Course Code: UK1MDCSTA102 |  | Total Marks: 28 |
| Course Title: SURVEY DESIGNS AND ANALYSIS FOR SOCIAL SCIENCES |  |  |
| Type of Course: MDC |  |  |
| Semester: 1 |  |  |
| Academic Level: 100-199 |  |  |
| Total Credit: 3, Theory: 2 Credit, Practical: 1 Credit |  |  |

Part A. 4 Marks. Time: 5 Minutes Objective Type. 1 Mark Each. Answer All Questions (Cognitive Level: Remember/Understand)

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| **Qn. No.** | **Question** | **Cognitive Level** | **Course Outcome (CO)** |
| 1. | The scale of measurement that categorizes data without any order is called \_\_\_\_\_\_\_\_ scale. | Remember | CO1 |
| 2. | Which measure of central tendency is most affected by extreme values?  A) Mean  B) Median  C) Mode  D) Quartile Deviation | Remember | CO2 |
| 3. | In a normal distribution, the mean, median, and mode are \_\_\_\_\_\_\_\_. | Understand | CO3 |
| 4. | Simple random sampling ensures that every individual in the population has an \_\_\_\_\_\_\_\_ chance of being selected. | Understand | CO1 |

Part B. 8 Marks. Time: 15 Minutes  
Short Answer. 2 Marks Each. Answer All Questions (Cognitive Level: Understand/Apply)

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| **Qn. No.** | **Question** | **Cognitive Level** | **Course Outcome (CO)** |
| 5. | Explain the **interval scale** and give an example ? | Understand | CO1 |
| 6. | Explain the purpose of a **Q-Q plot** ? | Understand | CO3 |
| 7. | Calculate the **mean** for the following data: 8, 10, 12, 14, 16. | Apply | CO2 |
| 8. | Explain the concept of a **Type I error** ? | Understand | CO3 |

Part C. 16 Marks. Time: 40 Minutes

Long Answer. 4 Marks Each. Answer all 4 Questions, choosing among options within each question.

(Cognitive Level: Apply/Analyse/Evaluate/Create).

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| **Qn. No.** | **Question** | **Cognitive Level** | **Course Outcome (CO)** |
| 9. | A. Define the significance of statistics in social sciences. How does statistical analysis contribute to understanding social phenomena?  OR  B. Describe different data collection methods with examples | Apply | CO1 |
| 10. | A. A pharmaceutical company claims that the average time for a new medication to reduce fever is 30 minutes. A researcher conducts a study to test whether the actual average time is different from 30 minutes. Describe how you would test this claim.  OR  B. A nutritionist wants to determine if there is an association between dietary habits (vegetarian, non-vegetarian) and the incidence of high cholesterol (high, normal). A study is conducted, and data is collected. How would you test whether dietary habits and cholesterol levels are independent of each other? | Analyze | CO3 |
| 11. | A. Evaluate the symmetry of the data using mean, median and mode   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | 13 | 10 | 13 | 11 | 13 | 6 | 13 | 7 | | 13 | 8 | 14 | 22 | 17 | 5 | 9 | 3 |   OR  B. Evaluate of the sd of the data  12,17,21,24,16,17,12,13,21,20 | Evaluate | CO2 |
| 12. | A. Evaluate the symmetry of the data using Histogram   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **Class** | **0-15** | **15-30** | **30-45** | **45-60** | **60-75** | **75-90** | **90-105** | | Frequency | 10 | 20 | 15 | 12 | 8 | 5 | 3 |   OR  B. Draw a Box plot of the data  12,13,17,12,21,19,21,17,21,17 | Evaluate | CO3 |
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| **Cognitive Level** | **Marks** | **Percentage** |
| Remember | 2 | 7.1 |
| Understand | 8 | 28.6 |
| Apply | 6 | 21.4 |
| Analyse | 4 | 14.3 |
| Evaluate | 8 | 28.6 |
| Create |  |  |
| **TOTAL** | 28 | 100.0 |

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| **Course Outcome** | **Marks** | **Percentage** |
| CO1 | 8 | 28.57 |
| CO2 | 7 | 25 |
| CO3 | 13 | 46.43 |
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