**Computer Science and Information Technology Department, UoB, Quetta**

**Course: Probability and Statistics**

**Mid + Terminal Exam 2021**

**BSCS (2019-23) Roll No: \_\_\_\_\_\_\_\_\_\_ Max marks: 70**

**NOTE: USE OF SMART PHONE AS CALCULATOR IS NOT ALLOWED.**

**Question No 1: Select the correct option. (20 x 2 = 40 marks)**

1. Which one of the following data collection method is most reliable?

|  |  |  |
| --- | --- | --- |
| * 1. In person Interviews | * 1. Mail Surveys | * 1. online Survey |

1. Which one of the following data collection method is most costly?

|  |  |  |
| --- | --- | --- |
| * 1. In person Interviews | * 1. Mail Surveys | * 1. online Survey |

1. Which strategy is more appropriate when dealing with numeric missing data?

|  |  |  |
| --- | --- | --- |
| * 1. Ignore them | * 1. Fill with zeros | * 1. Fill with the average |

1. Which of the following does not fall in the category of qualitative variable?

|  |  |  |
| --- | --- | --- |
| * 1. Student’s weight | * 1. Color of eyes | * 1. intelligence |

1. Which of the following does not fall in the category of quantitative variable

|  |  |  |
| --- | --- | --- |
| * 1. Student’s weight | * 1. Lifetime of battery | * 1. intelligence |

1. Which term best describes “hair color of a person”

|  |  |  |
| --- | --- | --- |
| * 1. Attribute | * 1. Continuous Variable | * 1. Discrete Variable |

1. Which term best describes “time required for a wound to heal”

|  |  |  |
| --- | --- | --- |
| * 1. Attribute | * 1. Continuous Variable | * 1. Discrete Variable |

1. Which term best describes “number of children in a family”

|  |  |  |
| --- | --- | --- |
| * 1. Attribute | * 1. Continuous Variable | * 1. Discrete Variable |

1. Statistical measures that can describe a set of data.

|  |  |  |
| --- | --- | --- |
| * 1. Median & Range | * 1. Mode & Mean Deviation | * 1. Mean & Standard Deviation |

1. Which of the following sample data has mean = 4 and standard deviation of 2

|  |  |  |
| --- | --- | --- |
| * 1. 0, 4, 8 | * 1. 3, 4, 5 | * 1. 2, 4, 6 |

1. Measurement errors that arise from observer’s personal limitation, or the imperfection in instrument.

|  |  |  |
| --- | --- | --- |
| * 1. Biased errors | * 1. Unbiased errors | * 1. Absolute errors |

1. Measurement errors that tend to cancel out in long run.

|  |  |  |
| --- | --- | --- |
| * 1. Biased errors | * 1. Unbiased errors | * 1. Absolute errors |

1. Biased errors are also known as

|  |  |  |
| --- | --- | --- |
| * 1. Cumulative errors | * 1. Random errors | * 1. Accidental errors |

1. Unbiased errors are also known as

|  |  |  |
| --- | --- | --- |
| * 1. Cumulative errors | * 1. Random errors | * 1. Systematic errors |

1. A graph that shows the evolution or change over time

|  |  |  |
| --- | --- | --- |
| * 1. Histogram | * 1. Historigram | * 1. Time Series |

1. A graph that shows the frequency distribution

|  |  |  |
| --- | --- | --- |
| * 1. Histogram | * 1. Pie chart | * 1. Time Series |

1. Which measurement scale groups observations into qualitative categories

|  |  |  |
| --- | --- | --- |
| * 1. Nominal | * 1. Ordinal | * 1. Interval |

1. Which measurement scale can be used for ranking performance of students

|  |  |  |
| --- | --- | --- |
| * 1. Nominal | * 1. Ordinal | * 1. Interval |

1. When tossing a fair coin the events head and tail are

|  |  |  |
| --- | --- | --- |
| * 1. Mutually Exclusive | * 1. Mutually Exhaustive | * 1. Both a and b |

1. When two events A and B are equally likely then which of the following is true

|  |  |  |
| --- | --- | --- |
| * 1. P(A) < P(B) | * 1. P(A) > P(B) | * 1. P(A) = P(B) |

**Question No 2: Construct a grouped frequency distribution using the following data and calculate mean, median, mode, Q1 and Q3 (10 Marks)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **106** | **107** | **76** | **82** | **109** | **107** | **115** | **93** | **187** | **95** | **123** | **125** |
| **111** | **92** | **86** | **70** | **126** | **68** | **130** | **129** | **139** | **119** | **115** | **128** |
| **100** | **186** | **84** | **99** | **113** | **204** | **111** | **141** | **136** | **123** | **90** | **115** |
| **98** | **110** | **78** | **185** | **162** | **178** | **140** | **152** | **173** | **146** | **158** | **194** |
| **148** | **90** | **107** | **181** | **131** | **75** | **184** | **104** | **110** | **80** | **118** | **82** |

**Question No 3: Calculate Variance and Standard Deviation of the data given in Question 2. (10 Marks)**

**Question No 4: Two fair dice are thrown, what is the probability that the sum of the dots on two dice is greater than 8. (10 Marks)**