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SYLHET CADET COLLEGE
Year Final EXAMINATION - 2025
CLASS: XI
SAQ and MCQ
STATISTICS
FIRST PAPER
[According to the Syllabus of 2025]
TIME – 25 minutes
FULL MARKS – 25

Ques Setter	
Moderator	
VP	

Subject Code: | 1 | 2 | 9 |

Set: | C |

[N.B. – Answer all the questions. Each question carries ONE mark. Block fully, with a black ball- point pen, the circle of the letter that stands for the correct/best answer in the "Answer sheet" for the Multiple Choice Questions Examination.]

Candidates are asked not to leave any mark or spot on the question paper.

1. **Which is not an example of shift of scale?**

   (a) $y_i = \frac{x_i}{a}$ (b) $y_i = cx_i$ (c) $y_i = x_i - 2$ (d) $y_i = \frac{cx_i}{d}$

2. **Given** $\sum_{i=1}^{10} a_i^2 = 40$ **and** $\sum_{i=1}^{10} a_i = 20$**, find the value of** $2\sum_{i=1}^{10} a_i^2 - 3\sum_{i=1}^{10} a_i + 60$**.**

   (a) 70 (b) 100 (c) 80 (d) 50

3. **A researcher collected data on age and income of the people in a city. The variables are –**

   i. bi-variate
   ii. quantitative
   iii. qualitative

   Which one is correct?

   (a) i and ii (b) i and iii (c) ii and iii (d) i, ii and iii

   Answer the next two questions based on the following plot

   Data: 18, 21, 22, 23, 24, 26, 31, 33, 33, 35, 37, 42

Stem	Leaf
1	8
2	1 2 3 4 6
3	1 3 3 5 7
4	2

   Key: 2 | 1 means **21**

4. **How many data values are greater than 30 in the stem-and-leaf plot?**

   (a) 3 (b) 4 (c) 5 (d) 6

5. **What is the median of the data shown in the stem-and-leaf plot?**

   (a) 26 (b) 31 (c) 30 (d) 29

6. **If** $\sum(x_i - k) = 0$**, what is the value of k?**

   (a) n (b) $\bar{x}$ (c) x (d) $n\bar{x}$

7. **Median is –**

   i. Affected by extreme values
   ii. Rigidly defined
   iii. Suitable for open-ended distributions

   Which one is correct?

   (a) i and ii (b) i and iii (c) ii and iii (d) i, ii and iii

8. **Which of the following may be used to determine mode?**

   (a) Histogram (b) Frequency Curve (c) Ogive (d) Frequency Polygon

9. **What is the minimum possible value of standard deviation?**

   (a) ∞ (b) -1 (c) 0 (d) 1

10. **The mean and coefficient of variation of a distribution are 5 and 30%, respectively. What is the value of standard deviation?**

    (a) 1.5 (b) 6.5 (c) 7.6 (d) 10.2

11. **What is the standard deviation of the first n natural numbers?**

    (a) $\sqrt{\frac{(n^2-1)}{6}}$ (b) $\sqrt{\frac{(n^2-1)}{12}}$ (c) $\sqrt{\frac{n(n+1)(2n+1)}{6n}}$ (d) $\sqrt{\frac{n(n+1)}{2}}$

Answer the next two questions based on the following information

The temperatures (in ^oC of two cities in a country are 30 and 35.

12. **What is their Mean deviation?**

    (a) 1.2 (b) 2.5 (c) 3.0 (d) 5.5

13. **What is the coefficient of variation?**

    (a) 2.7% (b) 8.3% (c) 5.8% (d) 7.7%

SAQ $10 \times 1 = 10$

1. Which measure is suitable for an open-ended distribution?

"Quote"
– Author