SYLHET CADET COLLEGE

PROGRESS TEST EXAMINATION - 2024

CLASS: XI

MULTIPLE CHOICE QUESTIONS

STATISTICS FIRST PAPER

TIME – 25 minutes

FULL MARKS – 25

Set :A

Subject Code: 1 2 9

[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. **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

2. **Which measurement scale does height belong to?**

   (a) Nominal   (b) Ordinal   (c) Interval   (d) Ratio

3. **The arithmetic mean of first 10 natural numbers is:**

   (a) 6   (b) 8.5   (c) 5.5   (d) 5.6

4. **If a data set is divided into five parts, how many partition values are created?**

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

5. **When is the statement $AM = GM = HM$ true?**

   (a) When the values are natural numbers   (b) When all the values are equal

   (c) When all the values have equal frequency   (d) When mode is greater than median

6. **Which is considered statistics?**

   (a) Jaman obtain 75 in statistics   (b) Shafiq lives at Road no. 5

   (c) Mean monthly income in a city is 60,000 taka   (d) Width of a book is 10 cm

7. **If $x_1 = 2, x_2 = 3, x_3 = 4, x_4 = 6$, and $x_5 = 5, \sum_{i=1}^{4} x_i^2 = ?$**

   (a) 80   (b) 87   (c) 90   (d) 105

8. **Which can be measured from the Ogive?**

   (a) Arithmetic Mean   (b) Geometric Mean   (c) Median   (d) Mode

   Answer the next three questions based on the following information

   The data collected in a research is this: 1, 2, 4, 8, 16, 32

9. **Which measure is suitable?**

   (a) Arithmetic Mean   (b) Geometric Mean   (c) Median   (d) Mode

10. **What is the arithmetic mean of the data?**

    (a) 8.5   (b) 10   (c) 8   (d) 10.5

11. **What is the geometric mean?**

    (a) 8.5   (b) 5.66   (c) 6.55   (d) 16

12. **The arithmetic mean and geometric mean of two non-zero positive numbers are 15 and 10, respectively. What is harmonic mean?**

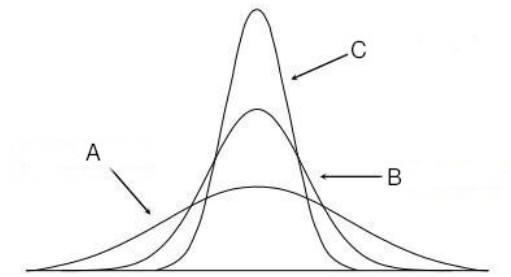   (a) 6.61   (b) 6.67   (c) 7.66   (d) 6.76

13. **A good measure of central tendency -**

    i. is loosly defined
    ii. takes into consideration all values
    iii. easily understandable

    Which one is correct?

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

14. **What is the harmonic mean of these values: 10, 12, 13, 15, 20, 25**

    (a) 12.49   (b) 14.93   (c) 14.39   (d) 13.49

15. **What is true of harmonic mean?**

    i. uses all values in tha data
    ii. undefined if the any value is zero
    iii. affected by extreme values

    Which one is correct?

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

16. **What is formula of rth raw moment for grouped data about a?**

    (a) $\frac{\sum f_i(x_i-a)^r}{n}$ (b) $\frac{\sum f_i(x_i-\bar{x})^r}{n}$ (c) $\frac{\sum(x_i-a)^r}{n}$ (d) $\frac{\sum(x_i+a)^r}{n}$

17. **Which relatonship is correct?**

    (a) $\mu_1' = \bar{x} + a$ (b) $\mu_1' = \bar{x} - a$ (c) $\mu_2' = \bar{x} + a$ (d) $\mu_1 = \bar{x} - a$

18. **If $\gamma_1 > 0$, the data is -**

    (a) Negatively skewed   (b) Positively skewed   (c) Symmetric   (d) Uncertain

19. **Which relationship is correct?**

    (a) $M_o = 2Me - \bar{x}$ (b) $M_o = 3Me - \bar{x}$ (c) $M_o = 3Me - 2\bar{x}$ (d) $M_o = 2Me - 3\bar{x}$

20. **Which curve is platykurtic?**

    (a) A   (b) B   (c) C   (d) None

21. **What is formula of the left inner fence for a box and whisker plot?**

    (a) $Q_1 - 1.5 \times IQR$ (b) $Q_3 + 1.5 \times IQR$ (c) $Q_1 - 3 \times IQR$ (d) $Q_3 + 1.5 \times IQR$

Figures don't lie, but liars figure. - Mark Twain

Answer Key

1. (a) i and ii

2. (d) Ratio

3. (c) 5.5

4. (a) 4

5. (a) When the values are natural numbers

6. (c) Mean monthly income in a city is 30,000 taka

7. (c) 90

8. (c) Median

9. (b) Geometric Mean

10. (d) 10.5

11. (b) 5.66

12. (b) 6.67

13. (a) i and iii

14. (c) 14.39

15. (a) i and ii

16. (a) $\frac{\sum f_i(x_i - a)^r}{n}$

17. (b) $\mu_1' = \bar{x} - a$

18. (b) Positively skewed

19. (a) $M_o = 2Me - \bar{x}$

20. (a) A

21. (a) $Q_1 - 1.5 \times IQR$