SYLHET CADET COLLEGE

FIRST TERM-END EXAMINATION - 2024 | Set | A |
CLASS: XI
MCQ and Short QUESTIONS **Subject Code:** | 1 | 2 | 9 |
STATISTICS FIRST PAPER
TIME – 25 minutes
FULL MARKS – 25

[N.B. – Answer all the questions. Each question carries ONE mark.]

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

1. **If** $\sum_{i=1}^{20} x_i^2 = 20$ **and** $\sum_{i=1}^{20} x_i = 30$**, what is the value of** $\sum_{i=1}^{20} x_i^2 + \sum_{i=1}^{20} x_i + 100$**?**

   (a) 130 (b) 200 (c) 150 (d) 2130

2. **Which of the following is a continuous variable?**

   (a) Number of goals (b) Natural number
   (c) Summation of Fibonacci series (d) Success rate

3. **If** $x_1 = 4$**,** $x_2 = 1$**,** $x_3 = -2$**, and** $x_4 = 3$**, find** $\sum_{i=1}^{4}(x_i^2 + 3)$**?**

   (a) 40 (b) 50 (c) 42 (d) 56

   Answer the next three questions based on the following information.

   The values of x_i and f_i are given below:

x_i	2	4	6	8
f_i	2	2	5	4

4. **Find** $\sum_{i=1}^{4} f_i x_i$**.**

   (a) 50 (b) 74 (c) 56 (d) 60

5. **Compute** $\sum_{i=1}^{4} f_i x_i^2$**.**

   (a) 256 (b) 274 (c) 476 (d) 300

6. **Determine** $\sum_{i=1}^{4} f_i (x_i - 5)^2$**.**

   (a) 61 (b) 48 (c) 52 (d) 58

7. **Which is an advantage of primary data?**

   i. Specific to the study
   ii. More reliable
   iii. Less time-consuming

   Which one is correct?

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

   Answer the next THREE questions based on the following information.

   The weights of 120 fruits were recorded and this frequency distribution was constructed.

Weight (grams)	0-50	50-100	100-150	150-200
No. of Fruits	30	35	25	30

8. **How many fruits weigh at least 100 grams?**

   (a) 55 (b) 50 (c) 60 (d) 65

9. **How many fruits weigh less than 100 grams?**

   (a) 68 (b) 70 (c) 65 (d) 50

10. **What percent of fruits weigh between 50 and 150 grams?**

    (a) 50% (b) 55% (c) 60% (d) 75%

11. **Which of the following represents primary data?**

    i. A scientist collects soil samples for analysis
    ii. Data compiled in a textbook
    iii. A business owner surveys customers directly

    Which one is correct?

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

    Answer the next two questions based on the following information

Class Interval	<10	10-20	20-30	30-40
Frequency	6	3	7	4

12. **What is relative frequency of the class with the highest frequency?**
    (a) 0.25 (b) 0.45 (c) 0.40 (d) 0.35
13. **Which curve is suitable for**
    (a) Histogram (b) Bar Diagram (c) Pie Chart (d) Ogive
14. **Which measure of central tendency is suitable for qualitative variable?**
    (a) Arithmetic Mean (b) Harmonic Mean (c) Quadratic Mean (d) Mode
15. **If $\sum(x_i - k) = 0$, what is the value of k?**
    (a) n (b) $\bar{x}$ (c) x (d) $n\bar{x}$
16. **Give an example of a continuous variable.** _____
17. **How many measurement scales are there?** _____
18. **After expansion, what does $\sum_{i=1}^{n}(ax_i - b)$ become?** _____
19. **What is change of scale?** _____
20. **What is the primary use of a histogram?** _____
21. **What information can you gather from a pie chart?** _____
22. **What is the purpose of a frequency distribution?** _____
23. **What is the primary goal of central tendency?** _____
24. **Find median:** $7, 2, 4, 5, 6, 10$ _____
25. **What is a variable?** _____

"It is a capital mistake to theorize before one has data." – Sir Arthur Conan Doyle

Answer Key

1. (c) 150
2. (d) Success rate
3. (c) 42
4. (b) 74
5. (c) 476
6. (a) 61
7. (a) i and ii
8. (a) 55
9. (c) 65
10. (c) 60%
11. (a) i and iii
12. (d) 0.35
13. (d) Ogive
14. (d) Mode
15. (b) $\bar{x}$