SYLHET CADET COLLEGE

FIRST TERM-END EXAMINATION - 2023

	Set	A

CLASS: XI

MULTIPLE CHOICE QUESTIONS

STATISTICS FIRST PAPER

TIME – 20 minutes

FULL MARKS – 20

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. **If $f_i = 3, 5, 7$ and $x_i = 2, 4, 7$; ; what is the value of $\sum_{i=1}^{3} f_i x_i^2$?**
   (a) 450   (b) 350   (c) 345   (d) 435

2. **Which is not a function of statistics?**
   (a) Data collection   (b) Data organization   (c) Analysis   (d) Database creation

3. **If $\sum(x_i - k) = 0$, what is the value of k?**
   (a) n (b) $\bar{x}$ (c) x (d) $n\bar{x}$

4. **Which one is an example of an infinite population?**
   (a) Students of Dhaka University   (b) Cadets of SCC
   (c) Minor planets in the solar system   (d) Red blood cells in a person's body

5. **If a rate is defined as $R = \dfrac{c}{d}$, where c is constant, then which measure is perfect?**
   (a) Weighted arithmetic mean   (b) Harmonic mean
   (c) Quadratic mean   (d) Weighted geometric mean

6. **Capital and profit belong to a variable which is–**
   i. Bivariate
   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

7. **Which formula is correct for harmonic mean?**
   (a) $\dfrac{n}{\sum_{i=1}^{n} \dfrac{f_i}{x_i}}$ (b) $\dfrac{f_i}{\sum_{i=1}^{n} \dfrac{f_i}{x_i}}$ (c) $\dfrac{\sum f_i}{\sum_{i=1}^{n} \dfrac{f_i}{x_i}}$ (d) $\dfrac{\sum f_i}{\sum_{i=1}^{n} \dfrac{1}{x_i}}$

8. **Which of the following may be used to determine mode?**
   (a) Histogram   (b) Frequency Curve   (c) Ogive   (d) Frequency Polygon

9. **Which is considered statistics?**
   (a) Jaman obtained 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

10. **Time Series has how many components?**
    (a) 2   (b) 3   (c) 4   (d) 5

    Answer the next three questions as per the following information.

    42 44 59 64 70 72 74 91 94 are 9 values.

11. **What is the 50th percentile?**
    (a) 64   (b) 70   (c) 72   (d) 71

12. **Below which value lie 70 percent values?**
    (a) 42   (b) 44   (c) 59   (d) 74

13. **Above which value lie 30% observations?**
    (a) 3rd Quartile   (b) Median   (c) 30th Percentile   (d) 70th percentile

14. **Limitations of published statistics in Bangladesh are –**

i. Wrong data collection method
ii. Insufficient data
iii. Lack of proper training

Which one is correct?

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

15. **An equation is: y = 5x + 9. If $\bar{x} = 20, \bar{y} =$?**

(a) 100   (b) 209   (c) 109   (d) 29

16. **The standard deviation of a mesokurtik distribution is 2. What is the value of the 4th central moment?**

(a) 4   (b) 8   (c) 16   (d) 48

17. **$\beta_2 = \sqrt{9}$ implies data are–**

(a) Leptokurtic   (b) Platykurtic   (c) Mesokurtic   (d) Symmetric

18. **What is the second central moments of first 10 natural numbers?**

(a) 9.90   (b) 9.09   (c) 8.25   (d) 5.67

Answer the next THREE questions based on the following information

Year	2016	2017	2018	2019	2020	2021	2022	2023
USD Exchange Rate	78.35	79.49	82.87	83.26	84.60	84.37	85.80	106.70

Table 1: Source–Investing.com

19. **What is the second value of semi-average method?**

(a) 85.40   (b) 90.37   (c) 91.73   (d) 89.78

20. **What kind of a trend do the data have?**

(a) Upward   (b) Downward
(c) Both upward & downward   (d) No trend

21. **Which component of time series is visible in the later part of the data?**

(a) Seasonal Variation   (b) General Trend   (c) Irregular Variation   (d) Cyclic Variation

22. **First moment around zero is –**

(a) 0   (b) 1   (c) -1   (d) Arithmetic Mean

23. **Which moment is equal to zero?**

(a) First raw moment around 1   (b) Second central moment
(c) First central moment   (d) Second raw moment around 0

24. **Which measure of trend is subjective?**

(a) Semi-average method   (b) Graphical method   (c) Moving average method   (d) None of the above

25. **Which is a type of trend?**

i. Linear trend
ii. Non-linear trend
iii. Cyclic trend

Which one is correct?

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

An approximate answer to the right problem is worth a good deal more than an exact answer to an approximate problem. – John Tukey.

Answer Key

1. (d) 435

2. (d) Database creation

3. (b) $\bar{x}$

4. (d) Red blood cells in a person's body

5. (b) Harmonic mean

6. (a) i and ii

7. (a) $\dfrac{n}{\sum_{i=1}^{n} \dfrac{f_i}{x_i}}$

8. (a) Histogram

9. (c) Mean monthly income in a city is 80,000 taka

10. (c) 4

11. (b) 70

12. (d) 74

13. (d) 70th percentile

14. (d) i, ii and iii

15. (c) 109

16. (d) 48

17. (c) Mesokurtic

18. (d) 0.025

19. (b) 90.37

20. (a) Upward

21. (c) Irregular Variation

22. (d) Arithmetic Mean

23. (c) First central moment

24. (b) Graphical method

25. (a) i and ii