Answer all the questions. Each question is worth one (1) mark.

1. **Who is known as the Father of modern statistics?**
   (a) P.C. Mahalanobis   (b) Kazi Motaher Hossain (c) Karl Pearson   (d) R.A. Fisher

2. **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) 230   (d) 2130

3. **A subset of a population is called–**
   (a) Constant   (b) Variable   (c) Sample   (d) Scale

   Answer the next 2 question based on the following information.

   A farmer collects growth (in cm) of 10 plants in a month and finds that
   $\sum x_i = 7$ **and** $\sum x_i^2 = 15$

4. **What is the value of $\sum(x_i + 4)$?**
   (a) 23   (b) $\sum x_i + 4n$ (c) 22   (d) 11

5. **What is the value of $\sum(x_i - 4)^2$?**
   (a) 23   (b) 135   (c) 484   (d) 121

6. **How many measurement scales are there?**
   (a) 2   (b) 3   (c) 4   (d) 5

7. **Which of the following is a continuous variable?**
   (a) Number of goals   (b) Natural number
   (c) Summation of Fibonacci series   (d) Success rate

8. **In which scale of measurement, zero is regarded as true zero?**
   (a) Nominal scale   (b) Interval scale   (c) Ratio scale   (d) Ordinal scale

9. **How many measure of central tendency are there?**
   (a) 2   (b) 3   (c) 4   (d) 5

10. **Which measure of central tendency is suitable for qualitative variable?**
    (a) Arithmetic Mean   (b) Harmonic Mean   (c) Quadratic Mean   (d) Mode

11. **In presence of negative values, which measure is not usable?**
    (a) Arithmetic Mean   (b) Geometric Mean   (c) Quadratic Mean   (d) Harmonic Mean

12. **For grouped data, which formula is correct for Arithmetic Mean?**
    (a) $\bar{x} = \dfrac{\sum f_i x_i}{\sum f_i}$ (b) $\bar{x} = \dfrac{\sum x_i}{N}$ (c) $\bar{x} = \dfrac{\sum f_i x_i}{n}$ (d) $\bar{x} = \dfrac{\sum f_i}{N}$

13. **Arithmetic mean of the series 2, 12, 22, $\cdots$, 92 is–**
    (a) 45   (b) 46   (c) 47   (d) 55

14. **Median can be determined from the–**
    (a) Histogram   (b) Frequency curve   (c) Ogive   (d) Pie Chart

    Answer the next two (2) questions based on the following information

Class	≤ 20	20-25	25-50	50-60	69-70	≥ 70
Frequency	5	10	10	7	5	3
Cumulative Frequency	5	15	25	32	37	40

15. **How many values are between 20 and 70?**
    (a) 20   (b) 32   (c) 35   (d) 37

16. **Which one is the median class?**
    (a) 20-25   (b) 25-50   (c) 50-60   (d) 60-70

17. **The formula of coefficient of variance (CV) is −**

(a) $\frac{\mu_2}{n} \times 100$ (b) $\frac{\mu_2}{\mu_1} \times 100$ (c) $\frac{\mu_2}{\bar{x}} \times 100$ (d) $\frac{\mu_3}{\sigma} \times 100$

18. **First moment around zero is −**

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

19. **In a symmatric distribution−**

i. Arithmetic Mean = Mode = Median
ii. $Q_2 - Q_1 = Q_3 - Q_2$
iii. $Q_1 - X_L = X_H - Q_3$

Which one is true?

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

20. **Which is not a method of finding general trend?**

(a) Graphical Method (b) Moving Average (c) Semi-Average (d) Moving Median

Answer the next two questions based on the following table:

Year	2007	2008	2009	2010	2011	2012
Sales	5	35	34	40	42	204

21. **In Semi-Average method, what is the 2nd average?**

(a) 74 (b) 24.67 (c) 95.33 (d) 28

22. **For this data, which method would give the best measure of trend?**

(a) 3-yearly Moving Average (b) 4-yearly Moving Average

(c) Semi-Average (d) Graphical Method

23. **Which statistics are published by an NGO?**

(a) Official statistics (b) Non-official statistics (c) Semi-official statistics (d) None of the above

24. **The primary source of official statistics in Bangladesh is −**

(a) WHO (b) BBS (c) CPD (d) UNDP

25. **In Bangladesh, a census is usually done every − years**

(a) 20 (b) 15 (c) 10 (d) 12

Answer Key

1. (d) R.A. Fisher

2. (c) 230

3. (c) Sample

4. (a) 23

5. (a) 23

6. (c) 4

7. (d) Success rate

8. (c) Ratio scale

9. (d) 5

10. (d) Mode

11. (b) Geometric Mean

12. (a) $\bar{x} = \dfrac{\sum f_i x_i}{\sum f_i}$

13. (c) 47

14. (c) Ogive

15. (b) 32

16. (b) 25-50

17. (c) $\frac{\mu_2}{\bar{x}} \times 100$

18. (d) Arithmetic Mean

19. (d) i, ii &iii

20. (d) Moving Median

21. (c) 95.33

22. (a) 3-yearly Moving Average

23. (c) Semi-official statistics

24. (b) BBS

25. (c) 10