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

1. **For which variable, determining number of terms is not possible?**
   (a) Discrete variable   (b) Continuous variable   (c) Quantitative variable   (d) Qualitative variable

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

3. **Which is a discrete variable?**
   (a) Weight   (b) Amount of rainfall   (c) Distance   (d) Grade in a subject

4. **If $x_1 = 2, x_2 = -3, x_3 = 7$, and $x_4 = 12, \sum_{i=1}^{4} x_i^2 = ?$**
   (a) 26   (b) 106   (c) 206   (d) 216

5. **Which one falls in the category of interval scale?**
   (a) Temperature   (b) Speed   (c) Distance   (d) Film rating

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

7. **Which one is not a proper measure of central tendency?**
   (a) 2nd Quartile   (b) Third Decile   (c) 3rd Quintile   (d) 110th Percentile

8. **When is the relationship $AM = HM = GM$ true?**
   (a) All values are equal   (b) The values form a geometric progression
   (c) The values form an arithmetic progression   (d) All values are distinct

9. **In the presence of outlier(s), which measure of central tendency is suitable?**
   (a) Arithmetic mean   (b) Median   (c) Quadratic mean   (d) Power mean

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

11. **Which measure is not used in determining skewness?**
    (a) Arithmetic Mean   (b) Geometric Mean   (c) Median   (d) Mode

12. **The arithmetic mean of first n natural numbers-**
    (a) $\frac{n}{2}$ (b) $\frac{n+1}{2}$ (c) $\frac{n^2}{2}$ (d) $\frac{n^2-1}{2}$

    Answer the next two questions as per the following information.

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

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

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

15. **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) $\frac{\mu_3}{\sigma} \times 100$

16. **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

17. **First moment around zero is –**
    (a) 0   (b) 1   (c) -1   (d) Arithmetic Mean

18. **Which values are used in constructing Box & Whisker Plot?**

    (a) Mode
    (b) X_L
    (c) $Q_1 \& Q_3$
    (d) $Q_1, Q_2 \& Q_3$

19. **Which might have a negative value?**

    (a) μ_4
    (b) μ_3
    (c) μ_2'
    (d) μ_2

20. **For a data, $Q_3 = 41.6, Q_1 = 17.2, Median = 29, \& AM = 30$; What is Coefficient of skewness?**

    (a) 24.4
    (b) 1
    (c) 0.03
    (d) 29.45

21. **$\sqrt{\beta_1} = -0.23$ implies–**

    (a) Left Skew
    (b) Symmetry
    (c) Right Skew
    (d) Mesokurtic

22. **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

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

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

24. **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

25. **which component of time series represents a natural disaster?**

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