Statistics MCQ Question Bank

First Paper

Statistics, Variable and Concepts of Different Symbols

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1 Basic Concept of Statistics

2 Collection, Organization, and Presentation of Data

3 Measures of Central Tendency

1. **Which measure of central tendencyis suitable for qualitative variable?**
   (a) Arithmetic Mean (b) Harmonic Mean (c) Quadratic Mean (d) Mode
2. **In presence of negative values, which measure is not usable?**
   (a) Arithmetic Mean (b) Geometric Mean (c) Quadratic Mean (d) Harmonic Mean
3. **What is the arithmetic mean of first n odd natural numbers?**
   (a) $\frac{n+1}{n}$ (b) n (c) n+1 (d) $\frac{n+1}{2}$
4. **Inappropriate for algebraic analysis–**
   i. Median
   ii. Mode
   iii. Geometric Mean
   Which one is true?
   (a) i (b) ii (c) i & ii (d) ii & iii

   Answer the next two questions based on the following information

Accident	4	6	7	8	9
Frequency	2	0	4	4	1

5. **Fifth Decile is –**
   (a) 0 (b) 8 (c) 7 (d) 6
6. **Which of the following is mode?**
   (a) 4 (b) 8 (c) 0 (d) 7
7. **Which measure gives a value from within the values?**
   (a) Arithmetic Mean (b) Geometric Mean (c) Median (d) Mode
8. **Which one is not a proper measure of central tendency?**
   (a) 2nd Quartile (b) Third Decile (c) 3rd Quintile (d) 110th Percentile
9. **Which measure is not used in determining skewness?**
   (a) Arithmetic Mean (b) Geometric Mean (c) Median (d) Mode
10. **In which scale of measurement, zero is regarded as true zero?**
    (a) Nominal scale (b) Interval scale (c) Ratio scale (d) Ordinal scale
11. **Which is a discrete variable?**
    (a) Weight (b) Amount of rainfall (c) Distance (d) Grade in a subject
12. $If x_1 = 2, x_2 = -3, x_3 = 7$, **and** $x_4 = 12, \sum_{i=1}^{4} x_i^2 =?$
    (a) 26 (b) 106 (c) 206 (d) 216

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

14. **Which one is product of square?**
(a) $\prod x_i^2$ (b) $(\prod x_i)^2$ (c) $\sum x_i^2 \times \sum x$ (d) $\sum x_i^2$

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

Answer the next three 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** $\sum x_i^2 = 15$

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

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

18. **If the square of summation is subtracted the sum of square, the value is -**
(a) -8 (b) 34 (c) 8 (d) -34

19. **Which one is not an example of ratio scale?**
(a) Room no. (b) Income (c) Number of accidents (d) Weight

4 Measures of Dispersion

5 Moments, Skewness, and Kurtosis

20. **Which can be used to measure dispersion?**
(a) μ_2' (b) μ_1 (c) μ_2 (d) μ_1'

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

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

23. **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

24. **Which might have a negative value?**
(a) μ_4 (b) μ_3 (c) μ_2' (d) μ_2

25. **In a symmatric distribution–**
i. Arithmetic Mean = Mode = Median
ii. $Q_2 - Q_1 = Q_3 - Q_2$
iii. $Q_1 - X_H = X_H - Q_3$
Which one is true?
(a) i & ii (b) ii & iii (c) i &iii (d) i, ii &iii

26. **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

27. $\sqrt{\beta_1} = -0.23$ **implies–**
(a) Left Skew (b) Symmetry (c) Right Skew (d) Mesokurtic

28. **Which is not included in five number summary?**
(a) Arithmetic Mean (b) X_H (c) Q_2 (d) Q_3

29. $\beta_2 = \sqrt{9}$ **implies data are–**
(a) Leptokurtic (b) Platykurtic (c) Mesokurtic (d) Symmetric

30. **2nd Central Moment is –**
(a) $\mu_2 - \mu_1'$ (b) $\mu_2 + \mu_1'$ (c) $\mu_2 - \mu_1'^2$ (d) $\mu_2' - \mu_1^2$

6 Correlation and Regression

7 Time Series

31. **A company is constantly getting greater revenue than previous year; this is–**
(a) Seasonal Variation (b) General Trend (c) Irregular Variation (d) Cyclic Variation

32. **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

33. **In Semi-Average method, what is the 2nd average?**
(a) 74 (b) 24.67 (c) 95.33 (d) 28

34. **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

35. **which component of time series represents a natural disaster?**
(a) Seasonal Variation (b) General Trend (c) Irregular Variation (d) Cyclic Variation

Answer Key:

1. (d) Mode
2. (b) Geometric Mean
3. (b) n
4. (a) i
5. (c) 7
6. (b) 8
7. (d) Mode
8. (d) 110th Percentile
9. (b) Geometric Mean
10. (c) Ratio scale
11. (d) Grade in a subject
12. (c) 206

13. (a) Temperature

14. (a) $\prod x_i^2$

15. (b) Continuous variable

16. (a) 23

17. (a) 23

18. (d) -34

19. (a) Room no.

20. (c) μ_2

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

22. (a) 0

23. (a) Mode

24. (b) μ_3

25. (d) i, ii &iii

26. (d) 29.45

27. (a) Left Skew

28. (a) Arithmetic Mean

29. (c) Mesokurtic

30. (c) $\mu_2 - \mu_1'^2$

31. (b) General Trend

32. (d) Moving Median

33. (c) 95.33

34. (a) 3-yearly Moving Average

35. (c) Irregular Variation