Chapter-6
Measures of Dispersion

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1 Marks Questions

1. What is inter quartile range?.

Ans. The difference in the two values of quartile is called inter quartile range (Q3 Q1)

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2. Give the formula of calculating coefficient of variation.

Ans.

$$\text{Coefficient of variation} = \frac{\sigma \times 100}{X}$$

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3. What is Lorenz Curve?

Ans. Lorenz curve is the graphic presentation of studying dispersion.

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4. Calculate range 22, 35, 32, 45, 42, 48, 39

Ans. Range = Largest value Smallest value

= 48 22

= 26

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5. Which graphical method is used to measure dispersion?

Ans. Lorenz curve method is used to measure dispersion.

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6. Give the meaning of dispersion.

Ans. Dispersion is a measure of the variation of the item from a central value.

7. How is coefficient of mean deviation computed?

Ans.

$$\text{Mean deviation} = \frac{\sum f|D|}{N}$$

8. Which measure of dispersion covers middle 50% of the items?

Ans. Inter quartile range

9. Write one major demerit of mean deviation.

Ans. The major demerit of mean deviation is that it ignores ± signs.

10. What do you mean by relative measure of dispersion?

Ans. Relative measures are expressed in ratios or percentage, also known as coefficients of dispersion.

11. What is a line of equal distribution.

Ans. While drawing Lorenz curve zero of Xaxis and 100 on yaxis are joined by a line. This line is known as line of equal distributions.

12. Write two demerits of range.

Ans. Demerits of range

(i) It is not based on all the observation of series.

(ii) It is very much affected by extreme items.

13. Which is most widely used and best measurement of dispersion.

Ans. The most widely used and best measurement of dispersion is standard deviation.

14. Give the formula of calculating quartile deviation.

Ans.

$$\text{Quartile deviation} = \frac{Q3 - Q1}{2}$$

15. Write two uses of range.

Ans. Two uses of range

(i) Quality control

(ii) Measure of fluctuations.

VERY SHORT ANSWER TYPE QUESTIONS [ONE MARK QUESTIONS]

1. What is meant by central tendency?

Ans. A Single figure that represents the whole series is known as central Tendency.

2. What are the types of mean?

Ans. There are two types of mean simple and weighted.

3. Name any two partition values.

Ans. (i) Quartile (ii) Decile (iii) Percentile

4. Give the meaning of arithmatic average.

Ans. When the sum of all items is divided by their number is known as arithmatic average.

5. Define mode.

Ans. The value which occurs most frequently in series is known as mode.

6. Pocket money of 8 students is Rs. 6,12,18, 24, 30, 36, 42 and 48,

calculate mean.

Ans. $\bar{X} = \frac{X_1 + X_2 + X_3 + ---- X_N}{N}$

$= \frac{6+12+18+24+30+36+42+48}{8}$

$= \frac{216}{8} = 27$

7.Write the formula for weighted mean.

Ans. $\bar{X}_W = \frac{\sum W X}{\sum W}$

8. What is the relation among the mean, median and mode?

Ans. Mode = 3 median 2 mean

9. Which partition value divide the total set of values into four equal parts.

Ans. Quartile

10. Give the meaning of combined mean.

Ans. When the mean of two or more than two series is computed collectively, it is known as combined mean.

11. A shoes manufacturing company only manufactures shoes for adults. Company wants to know the most popular size. Which type of central tendency will be the most appropriate?

Ans. Mode

12. Which diagram is used for finding the value of mode graphically?

Ans. Histogram

13. Mention one demerit of mode.

Ans. One demerit of mode is that it is not capable of algebraic treatment.

14. If the values of mean and median are 40 and 48. Find out the most probable value of mode.

Ans. Mode = 3 median 2 mean

= (3x 48) (2 x 40) = 144 80

= 6

15. Calculate mode from the following data 10, 8, 10, 6, 4, 12, 10, 8, 10,

18, 16, 10, 18, 10, 10.

Ans. Mode = 10

16. How is the value of median computed with the help of ogive curves?.

Ans. The point of intersection where ‘less than’ ogive curve and ‘more than’ ogive curve intersect each other gives us the value of median.

17. What is positional average?

Ans. Those averages whose value is worked out on the basis of their position in the statistical series.

18. What is the sum of deviations taken from mean in a series.

Ans. Zero.

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