Relative Measures of Dispersion

also known as

(Coefficient Measures of Dispersion)

(i) Coefficient of Range
(ii) Coefficient of Quartile deviation.
(iii) Coefficient of Mean deviation
(iv) Coefficient of standard Deviation.

Range: It is the simplest absolute measure of dispersion. It is the difference b/w largest value and smallest value. and denoted by 'R'. Range is independent of frequency.

$$\text{Range} = L - S$$

$$\text{Coefficient of Range} = \frac{L-S}{L+S}$$

Quartile Deviation:

$$\text{Inter Quartile Range} = Q_3 - Q_1$$

$$\text{Quartile Deviation} = \frac{Q_3 - Q_1}{2}$$

$$\text{Coefficient of Quartile deviation} = \frac{Q_3 - Q_1}{Q_3 + Q_1}$$

→ **Mean Deviation:** It is denoted by σ. It is also known as the Average deviation. It is defined as the arithmetic mean of all the absolute deviation. It is independent of the sign of its average (mean, median, mode).

$$\text{Coefficient of mean deviation} = \frac{M.D}{A}$$

In Individual Series:

$$M.D = \sigma = \frac{\Sigma|x-A|}{n}$$

where A = mean or median or mode

n = No. of items

In Case of Discrete Series:

$$M.D = \sigma = \frac{\Sigma f|x-A|}{N}$$

N = sum of frequencies.