



# STATISTICS AND BUSINESS MATHEMATICS

## B.COM. SEMESTER II

**Dr. Mahendra Laxmanrao Vanjari**  
Assistant Professor  
Dada Ramchand Bakharu Sindhu  
Mahavidyalaya, Nagpur

# Meaning of Dispersion

The use of the expression *dispersion* is generally made in two senses. When we denote the distribution of items in a series we may either express it as within a certain limit, or as the average difference which the items in the distribution bear to the average or to the typical items of the series.

It is, therefore, obvious that in order to study a series fully we need measures of scatteredness of the items in addition to its average. These various measurements are known as measures of 'Dispersion.'

# Methods of Dispersion

## 1. The Range Method

Range is defined as the difference between the value of largest item and the value of the smallest item included in the distribution. Measures of range maybe absolute or relative.

## 2. Averaging Differences from Average Method

a) To measure the differences (commonly known as dispersion, deviations or variation) accurately, one of the movements of dispersion is commonly used. They are:

### i) Mean Deviation

The average deviation or the mean deviation is an average of the deviations.

### ii) Standard Deviation

The Standard Deviation, commonly denoted by the greek letter ' $\delta$ ' (Sigma), is the most widely used measure of dispersion of a series.

### iii) The Quartile Deviation

The Quartile Deviation is half of the difference between the upper and lower quartiles.