

E - CONTENT

Subject : Economics

Class : B.A Part III (Paper VII)

Topic : Measures of Central Tendency

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Measures of Central Tendency

Average

↓
Mathematical
Average

↓
Positional
Average

↓ ↓ ↓
Arithmetic Geometric Harmonic
Mean Mean Mean

↓
Median

↓
Mode

Average

An average is a single figure that represents whole group.

Mathematical Average

↓
Arithmetic
Mean

↓
Geometric
Mean

↓
Harmonic
Mean

A. Arithmetic Mean —

Generally if we talk about average, it signifies arithmetic mean.

- It is also known as "Mean"

Features: —

- It is based on all observations.
- It is calculated value and not based on the position of the series.

Simple Arithmetic Mean —

I. Direct Method: —

$$\bar{x} = \frac{\sum x}{N}$$

where:

\bar{x} — Arithmetic Mean

$\sum x$ — Sum of the values of the items of a series.

N — Number of Observations.

II. Short cut Method :-

$$\bar{X} = A + \frac{\sum d}{N}$$

Where: \bar{X} - Arithmetic Mean

A - Assumed Mean

$\sum d$ - Sum of Deviation

N - Number of Observation

Properties of Arithmetic Mean :-

1.) The sum of deviation of items from A.M is always 0.

$$\boxed{\sum (x - \bar{X}) = 0}$$

2.) The sum of squared deviation of A.M is minimum.