TRINITY COLLEGE FOR WOMEN
NAMAKKAL
Department of Mathematics

NME-STATISTICAL METHODS
23PSTN01– EVEN Semester

MEASURE OF CENTRAL TENDENCY

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Measures of Central Tendency:

This central value is called a measure of central tendency or an average or a measure of locations. There are five averages:

*Mean

*Median

*Mode

*Geometric mean

*Harmonic mean

Mean, median and mode are called simple averages and the other two averages geometric mean and harmonic mean are called special averages.

Characteristics for a good or an ideal average :

The following properties should possess for an ideal average: 1. It should be rigidly defined.

2. It should be easy to understand and compute.

3. It should be based on all items in the data.

4. Its definition shall be in the form of a mathematical formula.

5. It should be capable of further algebraic treatment.

6. It should have sampling stability.

7. It should be capable of being used in further statistical computations or processing.

Arithmetic mean or mean :

Arithmetic mean or simply the mean of a variable is defined as the sum of the observations divided by the number of observations.

Median :

The median is that value of the variate which divides the group into two equal parts, one part comprising all values greater, and the other, all values less than median.

Mode :

Mode refers to that value in a distribution, which occur most frequently.

It is an actual value, which has the highest concentration of items in and around it.

Geometric Mean :

The geometric mean of a series containing n observations is the nth root of the product of the values. If x1,x2…,xn

Harmonic mean (H.M)

Harmonic mean of a set of observations is defined as the reciprocal of the arithmetic average of the reciprocal of the given values. If x1,x2…..xn

Merits and demerits of Arithmetic mean :

1. It is rigidly defined.

2. It is affected very much by extreme values

Merits and demerits of median:

1. **Median can be located even if the data are incomplete.**
2. **Median can be located even if the data are incomplete.**

THANK YOU

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