SS1 Economics - Week 4 Lesson Note

Subject: Economics

Class: SS1

Week: 4

Topic: Tools of Economic Analysis II

Subtopics:

1. Measures of Central Tendency: Mean, Median, and Mode

2. Definitions, Advantages, and Disadvantages

Lesson Objectives:

By the end of the lesson, students should be able to:

- Define Mean, Median, and Mode.

- Identify and explain how to calculate them.

- Discuss their merits and demerits.

- Apply them to solve basic problems in economics.

1. Mean (Arithmetic Mean)

Definition:

The mean is the average of a set of numbers. It is calculated by dividing the sum of all values by the number of values.

Formula:

Mean = (Sum of values) / (Number of values)

Example:

Find the mean of 10, 20, 30, 40, and 50.

Mean = (10 + 20 + 30 + 40 + 50) / 5 = 150 / 5 = 30

Advantages:

- Simple to calculate.

- Uses all data values.

- Suitable for further statistical calculations.

Disadvantages:

- Affected by extreme values (outliers).

- Not suitable for qualitative data.

2. Median

Definition:

The median is the middle value when data is arranged in ascending or descending order.

Steps:

- Arrange the data.

- If the number of values is odd, pick the middle.

- If even, take the average of the two middle values.

Example:

Find the median of 5, 8, 12, 15, 18.

Ordered data: 5, 8, 12, 15, 18 Median = 12

For even number:

Data: 3, 6, 7, 9

Median = (6 + 7) / 2 = 6.5

Advantages:

- Not affected by outliers.

- Easy to compute.

Disadvantages:

- Doesnt use all values.

- Cannot be used for advanced statistical calculations.

3. Mode

Definition:

The mode is the value that appears most frequently in a data set.

Example:

Data: 3, 5, 3, 6, 8, 3, 9 Mode = 3

Advantages:

- Simple and easy to understand.

- Useful for categorical data (e.g., most common item sold).

Disadvantages:

- A data set may have no mode or more than one mode.

- Not useful for further statistical analysis.

Conclusion:

SS1 Economics - Week 4 Lesson Note

- Mean is best for symmetrical data.

- Median is better for skewed data or data with outliers.

- Mode is useful for identifying the most frequent observation.

Assignment:

1. Find the mean, median, and mode of the following data: 12, 15, 18, 21, 24, 27, 30.

2. State one advantage and one disadvantage each of mean, median, and mode.

3. Differentiate between mean and median with examples.