## **Introduction of Statistics**

The word statistics seems to have derived from the Latin word 'Status' or the Italian word 'Statista' or the German word 'Statistik' or the French word 'Statistique'.

### **Definition of Statistics**



## **Definition of Statistics in Singular Sense**

In singular sense, it means the science of counting or science of average.

### **Definition of Statistics in Plural Sense**

In plural sense, statistics refers to information in terms of numbers or numerical data.

## **Characteristics of Statistics**

### (i) Characteristics of Statistical Data

- (a) Statistics are aggregate of facts
- (b) Statistics must be numerically expressed.
- (c) Statistics are collected for a pre-defined purpose
- (d) Statistics should be collected in a systematic manner.
- (e) Statistics are placed in relation to each other.

### (ii) Characteristics of Science of Statistics

- (a) Statistics is a group of methods or techniques.
- (b) Use of Statistics is Universal.
- (c) Statistics is both Science and an Art.

## **Scope of Statistics**

- •Scope of Statistics in planning.
- •Scope of Statistics in Economics.
- •Scope of Statistics in Business and Management.
- Scope of Statistics in Auditing.
- •Scope of Statistics in Industry.
- •Scope of Statistics in Social Sciences and Medical Sciences.
- Scope of Statistics in Psychology and Education.

## Limitations of Statistics

- •Statistics does not study qualitative data.
- •Statistics does not study individuals.
- •Statistical laws are not exact.
- •Statistics is liable to be misused.

# **Division of Statistics**

- (i) Descriptive Statistics
- (ii) Inferential or Inductive Statistics
- (iii) Applied Statistics



So first of all we will talk about Collection of data

## **Collection of Data**

There are two types of data on the basis of collection :



#### **Primary Data:**

Primary data is **data that is collected by a researcher from first-hand sources**, using methods like surveys, interviews, or experiments. It is collected with the research project in mind, directly from primary sources.

### Secondary Data:

Secondary data is data gathered from studies, surveys, or experiments that have been run by other people or for other research.

### **Methods of Collecting Primary Data:**

(1) Observation Method

(a) Direct Observation

- (b) Indirect Observation
- (2) Interview Method
- (3) Questionnaire Method
- (4) Schedule Method
- (5) Experiment
- (6) Case Study

#### **Sources of Collecting Secondary Data:**

(1) Published Source

- (a) Government Publications
- (b) Public Records
- (c) Historical and Statistical Documents
- (d) News Paper
- (e) Technical and Trade Journals .....etc.

### (2) Unpublished Source

- (a) Social Media information
- (b) Diaries
- (c) Letters
- (d) Unpublished biographies .....etc.