# <u>Glossary</u>

## 1. Attribute

A characteristic of a system for which numerical measurements cannot be made and therefore cannot be treated as a variable in quantitative analysis.

## 2. Confidence interval

Confidence interval (CI) is a type of interval estimate of a population parameter and is used to indicate the reliability of an estimate. A confidence interval gives an estimated range of values which is likely to include an unknown population parameter, the estimated range being calculated from a given set of sample data

# 3. Confidence level

The probability part of a confidence interval is called a confidence level. The confidence level describes the likelihood that a particular sampling method will produce a confidence interval that includes the true population parameter.

## 4. Defective

Defective means the lack of something necessary or desirable for completion or perfection or an imperfection that causes inadequacy or failure.

#### 5. Interval estimation

Interval estimation is the use of sample data to calculate an interval of possible (or probable) values of an unknown population parameter, in contrast to point estimation, which is a single number.

#### 6. Normal Distribution

A normal distribution is a function that represents the distribution of many random variables as a symmetrical bell-shaped graph.

#### 7. Parameter

A statistical parameter is a parameter that indexes a family of probability distributions. It can be regarded as a numerical characteristic of a population or a model.

#### 8. Population

A population is a collection of units being studied. Units can be people, places, objects, procedures, or many other things. Much of statistics is concerned with estimating numerical properties (parameters) of an entire population from a random sample of units from the population

#### 9. **Population proportion**

A population proportion is the proportion of individuals in a population sharing a certain trait, denoted p. The sample proportion is the proportion of individuals in a sample haring a certain trait, denoted ^p.

#### 10. Proportion

Proportion is the comparative relation between things or magnitudes as to size, quantity, number, etc.; ratio

#### 11. Sampling distribution

This is the probability distribution, under repeated sampling of the population, of a given statistic.

#### 12. Standard deviation

This is the most commonly used measure of statistical dispersion. It is the square root of the variance, and is generally written as  $\sigma$  (sigma).

#### 13. Substitution

The replacement of a term of an equation by another that is known to have the same value in order to simplify the equation. Substitution of variables (also called variable substitution or coordinate transformation) refers to the substitution of certain variables with other variables.

#### 14. Summation

Summation is the operation of adding a sequence of numbers; the result is their sum or total.

#### 15. Variance

The variance is a measure of how far a set of numbers is spread out. It is one of several descriptors of a probability distribution, describing how far the numbers lie from the mean (expected value). In particular, the variance is one of the moments of a distribution.