# Glossary

1.  **Alternative hypothesis**
The alternative hypothesis, H1, is a statement of what a statistical hypothesis test is set up to establish. For example, in a clinical trial of a new drug, the alternative hypothesis might be that the new drug has a different effect, on average, compared to that of the current drug.

2.  **Composite hypothesis**
A composite hypothesis is a hypothesis which does not specify the population distribution completely.

3.  **Empirical**
Empirical evidence is a source of knowledge acquired by means of observation or experimentation. Empirical evidence is information that justifies a belief in the truth or falsity of an empirical claim**.**

4.  **Event**
An event is any collection of outcomes of an experiment. Formally, any subset of the sample space is an event. Any event which consists of a single outcome in the sample space is called an elementary or simple event. Events which consist of more than one outcome are called compound events

5.  **Hypothesis**
A hypothesis is a proposed explanation for a phenomenon. For a hypothesis to be a scientific hypothesis, the scientific method requires that one can test it. Scientists generally base scientific hypotheses on previous observations that cannot satisfactorily be explained with the available scientific theories.

6.  **Nonparametric hypothesis**
A hypothesis which specifies only the form of the density function in the population is called the non parametric hypothesis. For example: Hypothesis that the population is Normal is a nonparametric hypothesis (that is we want to test whether the population is Normal)

7.  **Null hypothesis**
The null hypothesis, H0, represents a theory that has been put forward, either because it is believed to be true or because it is to be used as a basis for argument, but has not been proved. For example, in a clinical trial of a new drug, the null hypothesis might be that the new drug is no better, on average, than the current drug.

8.  **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.

9.  **Parametric hypothesis**
A hypothesis which specifies only the parameters of the probability density function of the population is called a parametric hypothesis. For example: the hypothesis that the population follows Normal distribution with mean equal to twenty five, that is we want to test whether the mean is equal to twenty five.

10. **Poisson distribution**

Poisson distribution is a statistical distribution showing the frequency probability of specific events when the average probability of a single occurrence is known. The Poisson distribution is a discrete function.

### 11.    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

### 12.    Potency
Potency means having tremendous strength or influence in either a moral or physical sense. In the field of pharmacology, potency is a measure of drug activity expressed in terms of the amount required to produce an effect of given intensity.

### 13.    Simple hypothesis
A simple hypothesis is a hypothesis which specifies the population distribution.

### 14.    Statistical hypothesis
A statistical hypothesis test is a method of making decisions using data, whether from a controlled experiment or an observational study (not controlled). In statistics, a result is called statistically significant if it is unlikely to have occurred by chance alone, according to a pre-determined threshold probability, the significance level.

### 15.    Testable Hypothesis
A testable hypothesis must be testable, repeatable, have clear cut (or close to clear cut) results which can be used to disprove or prove a hypothesis and, finally, it must reduce the amount of error by eliminating variables.