Topic: 1.1 – Introduction, Sampling distribution estimation of parameters

Population:

A group of individuals under study.
The population may be finite or unfinite.

Sample:

A finite subset of statistical individuals
in a sample

Sample Size:

The number of individuals in a sample
is called the sample size.

Sampling error:

To avoid verbal confusion with the
statistical constants we use parameter,
population mean μ, variance σ^2.

Statistical measures computed from
sample observations are
sample mean $\bar{x}$, variance (s^2) etc, which
are known as Statistic.

Statistical Hypothesis:

In attempting to reach decesions about Population on the basis of sample observations, we make assumptions about Population, which are not necessarily true are called statistical hypothesis.

Null hypothesis:

The hypothesis tested for possible rejection under the assumption that it is true is usually called Null hypothesis

The null hypothesis is a hypothesis which reflect no change or no difference. It is denoted by H_0.

Alternative Hypothesis.

The alternative hypothesis is the Statement which reflects the situation anticipated to be correct of the null hypothesis is wrong.
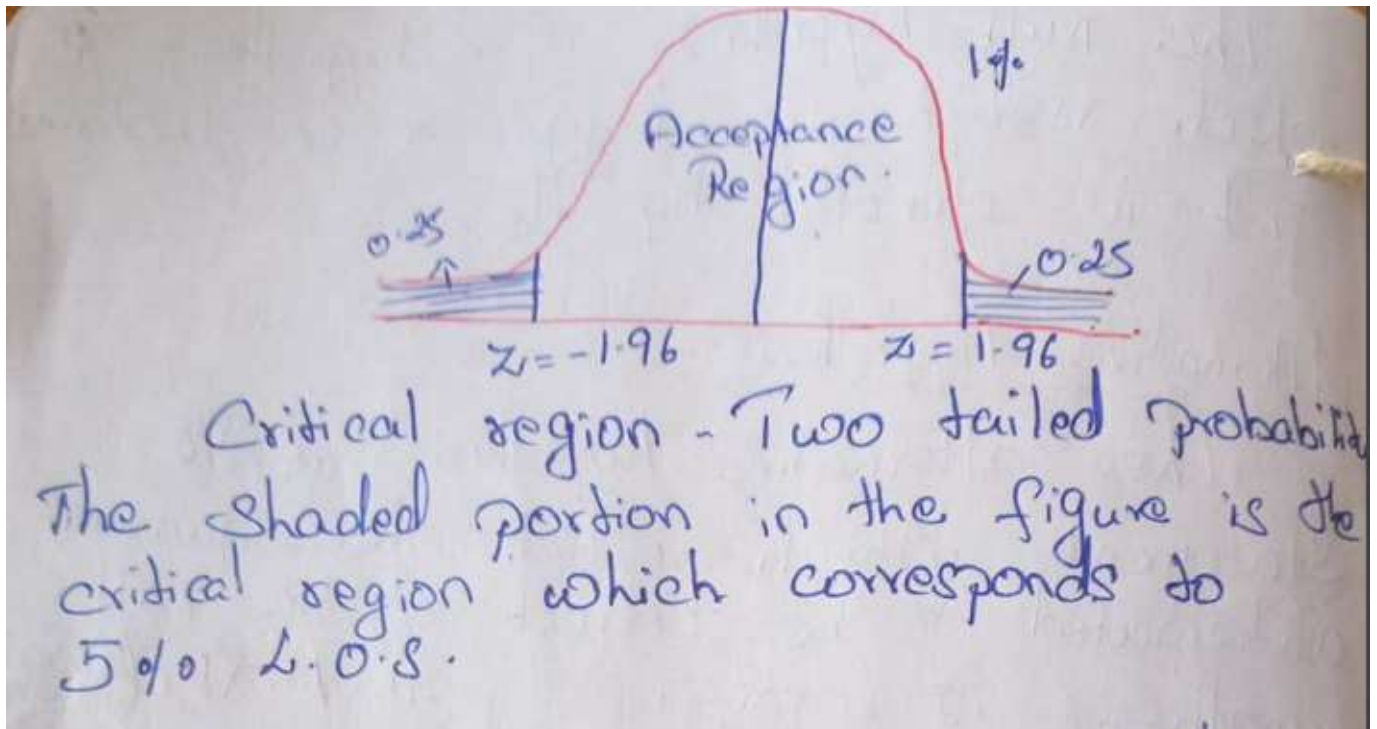
It is denoted by H_1.

$H_1 : \mu \neq \mu_0$ (Two tailed)

$H_1 : \mu > \mu_0$ (One. Tailed Right)

$H_1 : \mu < \mu_0$ (One Tailed)

Level of significance (LOS)

It is the probability level below whi null hypothesis is rejected.

Generally 5% and 1% L.O.S are u

Critical Region or Region of Reflection

The critical region of a test of statistical hypothesis is that region of the normal curve which correspon to the rejection of null hypothesis.

Critical region - Two tailed Probabilit

The shaded portion in the figure is th critical region which corresponds to 5% L.O.S.

Types of test	L.O.S.		
	1%	5%	10%
Two tailed Test	2.58	1.96	1.645
One tailed Test	2.33	1.645	1.28

Type I Error:

It is Rejection of null hypothesis(H_0) when it is correct.

Type II Error:

Acceptance of H_0 when it is wrong