Summary

- An estimator is also known as a statistic and is a quantity that is calculated from a sample of data which is used to give information about unknown values in the corresponding population

- There are two types of estimators. They are Point estimators and Interval Estimator

- An estimator is said to be a best estimator if it is unbiased, consistent, efficient and sufficient

- The significance of the central limit theorem lies in the fact that it permits us to use sample estimators to make inference about the population parameters without knowing anything about the shape of the frequency distribution of that population other than what we can get from the sample

- The amount of bias: B = Estimated value – true value of the parameter

- As a working rule the effect of bias on the accuracy of the value of an estimator is negligible if the absolute value of Bias is:
    - $B < 0.1/\sigma$

- The sampling distribution is the probability distribution of an estimator

- The Standard Deviation of the sampling distribution of an estimator is known as Standard error

- The standard error is important because it is used to compute other measures, like confidence intervals and margins of error

- The sampling distribution of the point estimator should be centered over the true value of the parameter to be estimated

- The spread (as measured by the variance) of the sampling distribution should be as small as possible