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Recognized by : UGC

**(Business Statistics)**  
**(B.COM. & BBA SEM - III)**



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## Business Statistics

### **B.Com/BBA**

### **Semester IIIrd**

#### **Q.3 Define Statistics. Discuss its features, functions, scope and importance.**

Ans:- Statistics is not a new discipline but it is as old as the human society it has been used right from the existence of life on this earth, although the sphere of its utility was very much restricted.

Meaning;

In the olden days statistics was regarded as the ‘science statecraft’ and was the by Product of the administrative activity of the state

The word statistics seems to have been derived from the latin word ‘Status’ or the Italian word ‘Statista’ or the German word ‘Statistik’ or the French word ‘Statistique each of which means a political state Gottfried Achenwall is the father of statistics.

The word statistics has three different sense which are discussed below:

- (a) Plural Sense
- (b) Singular Sense
- (c) Plural of word “statistic”

In Plural sense, the word statistics refers to numerical facts and figures collected in a systematic manner with a definite purpose in any field of field of study. It is considered as a numerical description, of quantitative aspect of things. It is also aggregates of facts which are expressed in numerical forms for an example: Statistics on Industrial Production statistics or population growth of a country in differed years etc.

In singular sense, Statistics refers to the science comprising methods which are used in collection, analysis interpretation & presentation of numerical data. It is just like a device which is employed for the purpose collection, classification, presentation, comparison and interpretation of data. For example:-

If we want to study about the distributes of weights of students in a certain colleges first of all, collect the information on the weights which may be obtained from the records of the college or we may collect from the students directly.

The large number of weight figures will confuse the mind. In this situation we may arrange the weight in groups such as; “50kg to 60 kg” “60kg to 70 kg” and so on and then find the number of students fall in each group. This step is called a presentation of data.

We may still go further and compute the averages and some measures which may give us complete description of the original data.

Plural of word “Statistic”

The word statistics is used as the plural of the word “Statistic” which refers to a numerical quantity like mean, median, variance etc..... Calculated from sample value. For example: If we select 15 student from a class of 80 students, measure their height and find the average height/. This average would be statistic.

Definitions of Statistics

According to A.L. Bowley:- “Statistics are numerical statement of facts in any department of enquiry placed in relation to

According to Netter and Wasserman:- “Statistics refers to the body of technique or methodology which has been developed for the collection presentation and analysis of quantitative data and for the use of such data in decision making.”

Above meaning & definition, we can say that statistics is the collection of scientific methods to study the numerical facts. This science provides the technique to study the major numerical facts. The conclusion of any problem can be obtained. By way of interpretation, analysis and study.

## Characteristics of Statistics:

Statistics consist the following characteristics-

- (a) It aggregates of facts
- (b) Statistics are measurement, enumerated or estimated
- (c) Pre-determined purpose
- (d) Systematically arranged
- (e) Affected by multiplicity of causes.
- (f) Accuracy must be maintained
- (g) Placed in relation to each other.

## Uses/functions of Statistics

1. To present facts in definite form
2. Precision to the facts
3. Formulation and testing of Hypothesis
4. Forecasting
5. Policy making
6. It enlarges knowledge
7. To measure uncertainty
8. Reduces the complexity of data
9. Simplification of complex facts
10. Relationship between facts
11. To indicate Trend Behaviour
12. Classification of Data
13. To Draw rational conclusion

**(1) To present facts in definite facts:-** We can reference the things in their true form with the help of figures. Without a statistical study our idea would be vague and indefinite. The facts are to be given in the definite form. If the results are given in numbers, then they are more convincing if the result are expressed on the basis of quality.

**(2) Precision to the facts:-** The statistics are presented in a definite form so they also help in considering the data into important figure. So statistical methods represent meaningful information in other words statistics help in simplifying complex data to simple to make them understandable.

**(3) Formulation and Testing of Hypothesis:-** These statistical methods help us in formulation and testing of hypothesis or a new theory with the help of statistical technique, we can know the effect of imposing tax on the export of tea on the consumption of tea in other countries.

**(4) Forecasting:** Statistics is not only concern with the above functions but it also predicts future course of action of the phenomena. We can make future policies on the basis of estimate mode with the help of statistics. We can predict the demand for goods in 2015. If we know the population in 2014 on the basis of growth rate of population in Past the statistics help in shaping future polices.

**(5) Policy making:-** with the help of statistics, we can frame favourable policies. How much food is required to be imported in 2017? It depends on the food production in 2017 and demand for goods in 2017. Without knowing these factors we can not estimate the amount of imports. On the basis of forecast the government forms, the policies about the foods grains housing etc. But if the forecasting is not will be affected.

**(6) It enlarges knowledge;-** Whipple rightly remarks that “ Statistics enables one to enlarge his horizon” so when a person goes through various procedures of statistics, it widens his knowledge pattern It also widens his thinking and reasoning power It also helps him to reach to a rational conclusion.

**(7) To measure uncertainty:** Future is uncertain, but statistics help the various authorities in all the phenomenon of the world to make correct estimate by taking and analysing the various data of the part. So the uncertainty could be decreased. As we have to make a forecast, we have also to create trend behaviour of the past, for which we use techniques like regression, interpretation and time series.

**(8) Reduce the complexity of data:** Statistics simplifies the complexity of data. The raw data are unintelligible. We make them simple and intelligible by using different statistical measures. Some such commonly used measures are graph averages, dispersions skewness, kurtosis, correlation & regression etc. These measures help in interpretation and drawing inferences Therefore, statistics enables to enlarge the horizon of one’s knowledge.

**(9) Simplification of complex facts:-** The for most purpose of the statistics is to simplify huge collection of numerical data. It is beyond the reach of human mind to remember and recollect the huge facts and figures. Statistical method makes its possible to understand the whole in the short span of time and in a better way

## Scope of Statistics

1. Statistics and planning
2. Statistics and economics
3. Statistics and Business
4. Statistics and Industry
5. Statistics and modern science
6. Statistics, Psychology and education
7. Statistics and war

8. In Banking
9. Statistics and modern science
10. In accounting and auditing
11. In state management (Administrations)
12. In natural and social science
13. In Astronomy
14. Statistics & sociology
15. Statistics and government

**1. Statistics & Planning:** Statistics is indispensable into Planning in the modern age which is term as the age of planning “ Almost all over the world the government are restoring to planning for economic development.

**2. Statistics and economics:** Statistics data and techniques of statistical analysis have to immensely useful involving economical problem such as wages price time series analysis, demand analysis.

**3. Statistics and Business:** Statistics is an irresponsible tool of production control. Business executive are relying more and more on statistical techniques for studying the much and desire of the valued customers.

**4. Statistics and Industry:** In industry statistics is widely used inequality control. In Production engineering to find out weather the product is confirming to the specifications or not statistical tools such as inspections plan, control chart etc.

**5. Statistics and mathematics:** Statistics are intimately related recent advancements in statistical technique are the outcome of wide applications of mathematics.

**6. Statics and modern science:** In medical science the statistical tool for collection, Presentation and analysis observed facts relating to causes and incidence of disease and the result of application various drugs and medicine are of great importance.

**7. Statistics, Psychology and education:-** In education and physiology statistics has found wide application such as determining or to determine the reliability and validity to a test, factor analysis etc.

**8. Statistics and War:-** In war, the theory of decision function can be a great assistance to the military & personal to “maximum distraction with minimum effort.”

**9. In accounting and auditing:** Accounting is impossible without exactness. The correction of the value of current assets is made on the basis of the purchasing power of money or current value of it. In auditing sampling techniques are commonly used on auditor determines the sample size of the book to be audited on the basis of error.

**10. In Astronomy:-** Astronomy is the oldest branches of statistics study. It deals with the measurement of distance, size and densities of heavenly bodies by the means of observation. During these measurement errors are unavoidable so most favourable measurement, are founded by using statistical methods.

### **Importance of Statistics**

1. It simplifies mass O's data (Consideration)
2. Helps to get concrete information about any problems
3. Helps for reliable & objective decision making
4. It presents facts in a precise & definite form
5. Facilitates comparisons (measure of central tendency & dispersion)
6. It facilitates Predictions (Time series & regression towards Predictions)
7. It helps in formulation of suitable policies.

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