



**STATISTICS FOR ECONOMICS
AND
INDIAN ECONOMIC DEVELOPMENT
FIRST PUC ECONOMICS**
(Hand book for I PUC Arts and Commerce Students)

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**You can not change
your future, but
you can change your
habits,
and surely your habits
will change your future.**

- Dr. Abdul Kalam



**CHAPTER - 1
INTRODUCTION**

1 Choose the correct answers (each question carries 1 mark).

1. A lawyer or a doctor or a banker or a taxi driver are called

- a) service providers b) trustees
c) service senders d) social workers

2. Scarcity is the root of

- a) all economic problems b) social problems
c) political problems d) all problems

3. The long queues at railway station, bus-stand, cinema theatres are all manifestations of

- a) publicity b) scarcity
c) plenty d) quantity

4. Alternative uses of resources give rise to the problem of

- a) rights b) price
c) choice d) chance

5. Economics is the study of mankind in _____ of life

- a) the ordinary business b) the weekly business
c) special business d) extraordinary Business

Ans: 1) a 2) a 3) b 4) c 5) a

II Fill in the blanks (each question carries 1 mark).

1. When you buy goods, you are called a _____
 2. When you produce goods, you are called a _____
 3. When you sell goods for profit, you are called a _____
 4. Resource are limited, but wants are _____
 5. Data, numbers, equations are being used in _____
- Ans : 1) Consumer 2) Producer 3) Seller 4) Unlimited 5) Economics

III Answer the following questions in a word / sentence.
(Each question carries 1 mark).

1. What is economics according to Alfred Marshall?
"Economics is a study of mankind in the ordinary business of life."
2. Give the meaning of statistics in the plural sense.
In plural sense "statistics refers to numerical facts systematically collected"
3. What are economic data?
Information or facts which are capable of numerical expression is called data.
4. Which subject enables the economists to present economic facts in a precise and definite form?
Statistics enables the economists to present economic facts in a precise and definite form.
5. The production of rice in India has increased from 39.58 million tonnes in 1974-75 to 58.64 million tonnes in 1984-85. Identify whether the data used in this statement are quantitative or qualitative.

The above statement related to Quantitative data.

IV Answer the following questions in about four sentences (each question carries 2 marks)

1. Give two examples for quantitative data.
Examples: Height, weight, income, production, score marks.
2. Give two examples for qualitative data.
Examples: Man-woman, Educated-Uneducated, Engineer, Doctor etc.
3. Mention any two scarcities in your daily life.
1) Scarcity of food
2) Scarcity of water
3) Scarcity of money

4. Write any two resources which have alternative uses.

- 1) Electricity :- Electricity can be used for cooking, water heating, lighting, Agriculture and industrial purposes.
- 2) Land :- Land can be used for Agriculture, Industries ect.

V Answer the following questions in about twelve sentences.
(Each question carries 4 marks)

1. How will you choose the wants to be satisfied?

Our wants are unlimited but the resources used in the production of goods that satisfy our wants are limited and scarce. So we have to choose those wants that we want the most.

All wants cannot be satisfied as there are limited resources. Therefore, people have to select some wants out of large number of wants. Usually people select wants in order to preference. The most urgent and important wants will be selected first and less important and urgent wants will be selected later.

For Example : For resources are limited and have alternative uses. These limited resources can be used to produce food crops such as wheat, rice, etc. and non-food crops such as rubber, cotton, jute, etc. Thus, alternative uses of resources give rise to the problem of choice between different crops that can be produced. We have to choose the crops whose demand is more urgent and intensive.

2. Statistical methods are no substitute for common sense. Comment with examples from your daily life.

Sometimes, Statistics give such results which do not sound sensible as per common sense. In fact, there is no substitute of common sense not statistics as well.

For example :- There is an interesting story which is told to make fun of statistics. It is said that a family of four persons (husband, wife and two children) once set out to cross a river. The father knew the average depth of the river. So he calculated the average height of his family members. Since the average height of his family members was greater than the average depth of the river, he thought they could cross

safely. Consequently some members of the family (children) drowned while crossing the river.

Therefore, we say that statistics are not substitute for common sense.

3. 'Scarcity is the root of all economic problems.' Explain the statement.

Human wants are unlimited in number, whereas the resources with which he can satisfy his wants are limited. The problem of choice would not have cropped up, if our wants are also limited like our resources. To put it in a different way, if a man has many wants and at the same time has ample resources to satisfy them, there is no economic problem for him. Thus, scarcity of resources and multiplicity of wants are the two important factors in economics.

The following points explain the scarcity of resources and problem of choice.

- 1) **Unlimited wants** : Human wants are unlimited. They are innumerable and countless. When one want gets satisfied another want crops up. It is very difficult to satisfy them all.
- 2) **Limited resources** : Resources to satisfy human wants are scarce or limited. The supply of resources can not be increased easily and quickly. The scarcity of resources also creates economic problems and makes people choose between different wants.
- 3) **Alternative uses** : The scarce resources are capable of alternative uses. This means most of the resources can be used for different purposes.

For example : Coal is used in factories, in running railways and in thermal stations for electric generation and by households etc. While using the scarce resources man has to select the purpose which brings him maximum profit.

4) **Problem of choice** : All wants cannot be satisfied as there are limited resources. Therefore, people have to select some wants out of large number of wants. Usually people select wants in order to preference. The most

urgent and important wants will be selected first and less important and urgent wants will be selected later.

Therefore the character of **alternative uses of the resources** gives rise to the **problem of choice between different uses**.

4. Briefly explain how Statistics helps to study economics.

Statistics has become so important today. Statistics is part and parcel of Economics, Commerce and Business management. In modern age statistical information and methods are widely used in many fields like business, engineering, social, physical and natural sciences. All most every aspects of human activity economic and non economic activities are based on statistical measurements. The following points explain the importance of statistics.

1) **Statistics helps in simplifies complex data** : With the help of statistical methods a mass of data can be presented in such a manner that they become easy to understand.

For example : The complex data may be presented as total, averages, percentages etc.

2) **Statistics helps in formulating policies** : Planning and policy making by the Government is based on statistics. Many policies such as that of import, export, wages, production etc are formed on the basis of statistics.

3) **Statistics helps in forecasting** : Statistics helps to predict the future behaviour of phenomena such as market situation for the future is predicted on the basis of available statistics of past and present.

For example we can predict the demand for food in 2017, if we know the expected population of 2017.

4) **Statistics helps in comparing different sets of figures** : Comparison is an important function of statistics. **For example**: Comparison of data of different regions, periods, conditions etc, is helpful for drawing economic conclusions. Some of the statistical tools like averages, ratios, percentages etc are used for the comparison.

5) Statistics helps to test and formulate theories : When some theory is to be tested, statistical data and techniques are useful.

For example weather cigarette smoking causes cancer? Weather demand increase affects the price? Can be tested by collecting and comparing relevant data.

6) Statistics helps in presenting facts in a definite form : The facts can be given a definite form with the help of statistical study. The definiteness is achieved by stating conclusions in a numerical form. For example : The 2001 Gujarat earthquake killed around 20,000 people, injured 1,67,000 is more factual than the statement thousands of people were killed, lakhs of people injured in 2001 earthquake. Thus numerical data commands more faith.

7) Statistics studies relationship : Statistical method helps for studying the relationship between different variables.

For example relationship between supply and demand, relationship between sugarcane price and sugar, relationship between advertisement and sale etc.

CHAPTER - 2

COLLECTION OF DATA

I Choose the correct answers (each question carries 1 mark).

1. Which method of collection of Data gives better results?

- a) Census
b) Sample Survey
c) Innovation
d) Distribution

2. Which of the following error is more serious?

- a) Sampling error
b) Non-sampling error
c) Data error
d) Calculation error

3. The method of collection of data in which reactions can be watched is

- a) Telephone interview
b) Mailing questionnaire
c) Personal interview
d) E-mail

Ans : 1) a 2) b 3) c

II Fill in the blanks. (Each question carries 1 mark).

1. Data collected by the investigator is called _____

2. The method of interview in obtaining information at a shorter time is _____

3. Most expensive method of interview is _____

4. The method of data collection which cannot be used by illiterates are _____

5. Census of India is carried out once in _____ years.

Ans : 1) Primary Data

2) Telephone Interview method

3) Direct interview method

4) Mail questionnaire method

5) 10

III Match the following: (total 5 marks).

| A | B |
|---------------------------|-----------------------------------|
| (a) Personal interview | a. Pre-testing of questionnaire |
| (b) Mailing Questionnaire | b. Covers every individual |
| (c) Telephone interview | c. Loss of questionnaire |
| (d) Pilot Survey | d. Cheaper or relatively low cost |
| (e) Census | e. More expensive |

Solutions

| | |
|--------------------------|-----------------------------------|
| a) Personal interview | a. More expensive |
| b) Mailing Questionnaire | b. Loss of questionnaire |
| c) Telephone interview | c. Cheaper or relatively low cost |
| d) Pilot Survey | d. Pre-testing of questionnaire |
| e) Census | e. Covers every individual |

IV Answer the following questions in a word / sentence.

(Each question carries 1 mark).

1. What is a variable?

Values of some economic factors change from time to time, such economic facts are called variables.

2. Write the meaning of Census.

The data collected each and every unit of the universe or population through census enumeration method is called census.

3. What is Sample Survey?

Sample survey refers to the method in which data are collected about the samples or a group of items taken from the universe.

4. Give the meaning of sampling error.

The difference between a sample result and the census result under the same circumstances is known as a sampling error.

5. Expand NSSO. National Sample Survey Office.

6. Expand CSO. Central Statistical Office

7. Expand DGCIIS.

Director General of Commercial Intelligence and Statistics

V Answer the following questions in about four sentences.

(Each question carries 2 marks)

1. Mention the two sources of data.

- 1) Primary data
- 2) Secondary data.

2. Write any two qualities of a good questionnaire.

- 1) The questions should be simple and clear.
- 2) Personal questions should be avoided.

3. Mention any two modes of collecting data.

- 1) Census method
- 2) Sampling method

4. Write the differences between Census & Sample survey.

The data collected each and every unit of the universe or population through census enumeration method is called census.

Sample survey refers to the method in which data are collected about the samples or a group of items taken from the universe.

5. Name the two methods of selecting samples in Random Sampling?

- 1) Lottery method
- 2) Use of Random number table.

6. Give the meaning of Pilot Survey.

Pre-testing of the questionnaire with a small group is known as pilot survey.

VI Answer the following questions in about twelve sentences.

(Each question carries 4 marks)

1. Does the lottery method always give you a random sample? Explain

Explain

Yes, lottery method always gives a random samples, because in this method every item has a chance of being selected like random sampling.

Under this method, all the units of the population are allotted

separate numbers and they are written on separate slips of identical shapes and sizes. Now, these slips are put in a box or container and thoroughly mixed. Then, the selection is made randomly from the box. The slips drawn or selected will constitute the random sample.

2. Do sample surveys provide better results than Census? Give reasons for your answer.

Sample gives provide better results than survey because:

- 1) A sample can provide reasonably reliable and accurate information at a lower cost and shorter time.
- 2) As samples are smaller than population, more detailed information can be collected by conducting intensive enquirers.
- 3) Sample needs a smaller team of enumerators it is easier to train them and supervise their works more effectively.

3. Briefly explain Sampling errors.

The difference between a sample result and the census result under the same circumstances is known as a sampling error.

- 1) When sample method is used, we cannot expect to get the same result as we would have got if we would have used census method.
- 2) There is always a difference in conclusions drawn from sample and conclusions of the universe. This is called sampling error.
- 3) These errors are minimum when random sampling techniques are used and size of sample is fairly large.
- 4) As we increase size of sample, sampling error keeps falling and become zero at 100% i.e. census method.
4. **What is Random Sampling? Explain briefly.**

If a sample is selected in such a way that each time one unit is selected and each unit has an equal chance of being selected then it is termed as random sampling.

Random sampling is not haphazard selection of units, but it is a scientific method. There are three different methods for obtaining a random sample. They are:

1) **Lottery method** : Under this method all the units of the universe are represented at one place in the form of chits and someone is asked to take out the required number of units. Care should be taken to prepare the chits in a manner in which they are presented in the same size, shape, colour, etc. so that impartiality of sample is assured.

2) **Random table method** : A table prepared by Tippett is used under this method in selecting the samples.

VII Project oriented question (5 marks)

1. Suppose you are a research student and you are asked to conduct a sample survey about the 'Mid-day meals program' in schools. Prepare a good questionnaire to support your survey.

- 1) Name of the School _____
- 2) Address of the School _____
- 3) Number of students studying in the school -
a) Boys _____
b) Girls _____
- 4) Net attendance of the School _____
- 5) Quantity of rice given by the Government per student _____
- 6) Quantity of vegetables given per student _____
- 7) Expenditure per student for one day _____
- 8) Has the "Mid day meal" scheme given by the Government benefited the students
Yes / No
- 9) Quality of mid day meal given by the Government
a) Excellent b) Good c) Satisfactory d) Bad