# PADHO TO AISE

# UGC NET PAPER-1

# FREE MATERIALS

## CHAPTER-7

## Data Interpretation

# 28. Sources, Acquisition and Classification of Data

Data can be numbers, images, words, figures, facts or ideas. Data in itself cannot be understood and to get information from the data one must interpret it into meaningful information. There are various methods of interpreting data.

**Data sources are broadly classified into primary and secondary data.**

Data collection plays a very crucial role in the statistical analysis. In research, there are different methods used to gather information, all of which fall into two categories, i.e., primary and secondary data as the name suggests, Primary data is one which is collected for the first time by the researcher while secondary data is the data already collected or produced by others.

**DATA ACQUISITION**

Data is one of the most important and vital aspect of any research studies. Researchers conducted in different fields of study can be different in methodology, but every research is based on data which is analyzed and interpreted to get information. Data is the basic unit in statistical studies. Statistical information like census, population variables, health statistics, and road accidents records are all developed from data.

There are two sources of data collection techniques. Primary and Secondary data collection techniques, Primary data collection

uses surveys, experiments or direct observations. Secondary data collection may be conducted by collecting information from a diverse source of documents or electronically stored information, census and market studies are examples of a common sources of secondary data. This is also referred to as “data mining”

**CLASSIFICATION OF DATA**

Data classification is the process of organizing data into categories for its most effective and efficient use. Classification is the way of arranging the data in different classes in order to give a definite form and a coherent structure to the data collected, facilitating their use in the most systematic and effective manner. It is the process of grouping the statistical data under various understandable homogeneous groups for the purpose of convenient interpretation.

There are three different approaches are the industry standard for data classification:

- Content – based classification
- Context-based classification
- User –based classification

# 29. Quantitative and Qualitative Data

- Quantitative data are anything that can be expressed as a number, or quantified. Examples of quantitative data are scores on achievement tests, the number of hours of study, or weight of a subject. These data may be represented by ordinal. Interval or ratio scales and lend themselves to most Statistical manipulation.

- Qualitative data cannot be expressed as a number. Data that represent nominal scales such as gender, social economic status, religious preference are usually considered to be qualitative data.

# 30. Graphical Representation

The act of organising and interpreting data to get meaningful information is data interpretation. It majorly deals with the comparison of numbers and is not formula-based. In data interpretation, culling out the requisite data is the first step. Data interpretation is one of the easiest sections of NET paper-I. It is basically about drawing conclusions and inferences or graphical form by means of an illustration namely table, line graphs, pie charts, bar graph and so on. In UGC exam, questions asked in this section are based on table.

These questions test the candidates ability to interpret the information presented and to select the appropriate data for answering a question.

The numerical data pertaining to any situation can be presented in the form of:

**1. Numerical data table:** It is easiest way of presenting data but it does not show trends effectively.

**2. Line graph:** It is easy to spot trends in the given data, though it is difficult to read actual values.

**3. Bar graph:** In this type, data is shown in blocks and direct comparison of actual values is very easy.

**4. Pie charts:** In this type, data is expressed as percentage.

**5. Caselet form:**It is most difficult and row form of data interpretation.

# 31. Data Interpretation

Data can be written or represented in 4 Forms (Data can be presented either through words as in case-lets or through pictorial methods. Out of all the types of pictorial charts, table, bar chart, pie chart and line chart are most frequently used types)

- Numerical: Data in the numerical form
- Table Form: Data in Tabular Form
- Mixed form: Data in Mix Form
- Graphical form Like Line, Bar graph, PI Chart etc.

**Approximation Techniques**

A very large number of these questions check your ability to compare or calculate fractions and percentages. If you sit down to actually calculate the ansewer, you would end up spending more time than required. Here are a few ideas that you can use for approximation.

- Learn the concept of Approximations and Estimations. These are very important to solve DI questions very fast.
- When trying to calculate (approximate) a fraction p/q, add value to the denominator and corresponding value to the numerator before calculating (approximating).
- If the percentage growth rate is r for a period of t years, the overall growth rate is approximate rt + t* (t – 1)* r 2/2

# 32. Data and Governance

Data Governance is a system of decision rights and accountabilities for information-related processes, executed according to agreed upon models which describe who can take what actions with what information, and when, under what circumstances, using what methods.

- Data governance is primarily used to refer to the strategy of managing and controlling data.
- Data governance is the overall management of data availability, relevancy, usability, integrity and security
- The drivers of data governance are usually regulatory and legal requirements; however, a governance rule can be any practice to which the organization wishes to adhere.
- Governance often dictates where certain types of data may be stored and codifies data protection methods, such as encryption or password strength.
- Governance can dictate how to back up data, who has access to data, and when archived data should be destroyed.

The committee identified seven key principles for the data protection law:

- Technology agnostics
- Holistic application
- Informed consent

- Data minimization
- Controller accountability
- Structured enforcement
- Deterrent penalties
- Protection of sensitive personal data

It envisions three main objectives of a data protection authority: monitor, investigate and enforce the laws: set the standards and generate awareness in an increasingly digitized society