



# UGC-NET

Paper - 1

NATIONAL TESTING AGENCY (NTA)

**PAPER – 1 || VOLUME – 3**

**D.I, ICT, People, Development & Environment  
and Higher Education System**



# UGC NET PAPER – 1

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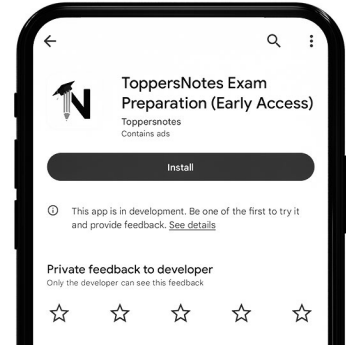
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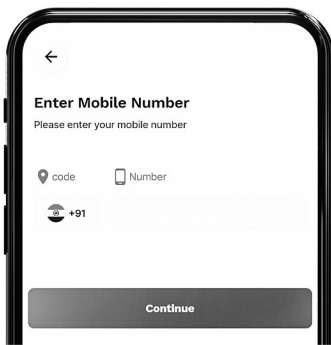
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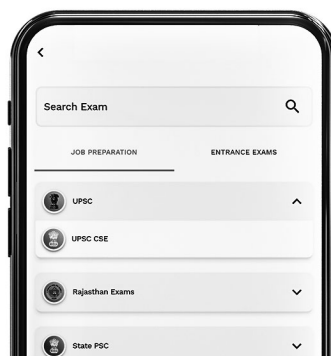
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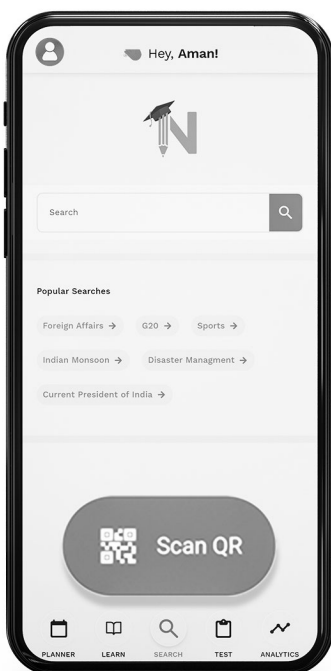
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## Analysis Page

### UNIT - 7

#### Data Interpretation



<b>Chapter</b>	<b>1</b>
<b>Questions</b>	<b>5 Questions</b>

- ✓ Basic Calculative & easy to moderate level questions asked from this unit
- ✓ Practice basic math concepts including general calculations, percentage, average & ratio.
- ✓ Practice PYQ as much as possible

# 7 UNIT

## Data Interpretation



### Learning Objectives

- Data acquisition and classification
- Qualitative and Quantitative Data
- Photographic description and data map
- Interpretation of data
- Statistics and Good Governance

### Introduction

The material provided is basically a bunch of raw facts, figures and statistics. The process by which meaningful information is obtained - data. For example, the number is often called statistics or the receipt of any information, its calculation, process or processing. The data is compiled, checked and stored after arranging in some sequence. After this it is sent to different person. The process consists of the following steps

1. Calculation - Addition, Subtraction, Multiplication, Division
2. Comparison - Equal, Greater, Smaller, Zero, Positive, Negative
3. Decision making - different stages depending on some condition
4. Reasoning - order of terms to get the required result

Mere counting of numbers is not called a process. Finding errors in documents with the help of computer. Arranging tax etc. is also called process or processing.

### Information

The given matter which has been processed is called information. Meaning is a complete fact number or statistical information. In simple words, the meaningful data that is obtained after processing the data is called information. Information is useful material having properties according to different categories. Information is essential and helpful for the following reasons -

1. It presents information in a concise and more meaningful way
2. It helps in taking decisions for present and future.
3. It is helpful in evaluating the future

### Properties of Information

We know that information is an essential factor for a system so information should have the following properties

1. Semantic completeness
2. Chastity
3. Accuracy
4. Improving prior knowledge and continuity as much as possible
5. Conciseness
6. Timeliness
7. Assistant in editing the work

### Qualitative Data

Qualitative data analysis can be summed up in one word - categorical. With qualitative analysis, data is not described through numerical values or patterns, but through the use of descriptive context (i.e., text). Typically, narrative data is gathered by employing a wide variety of person-to-person techniques. These techniques include:



- **Observations:** detailing behavioral patterns that occur within an observation group. These patterns could be the amount of time spent in an activity, the type of activity, and the method of communication employed.
- **Focus groups:** Group people and ask them relevant questions to generate a collaborative discussion about a research topic.
- **Secondary Research:** much like how patterns of behavior can be observed, different types of documentation resources can be coded and divided based on the type of material they contain.
- **Interviews:** one of the best collection methods for narrative data. Inquiry responses can be grouped by theme, topic, or category. The interview approach allows for highly-focused data segmentation.

## Quantitative Data

If quantitative data interpretation could be summed up in one word (and it really can't) that word would be "numerical." There are few certainties when it comes to data analysis, but you can be sure that if the research you are engaging in has no numbers involved, it is not quantitative research. Quantitative analysis refers to a set of processes by which numerical data is analyzed. More often than not, it involves the use of statistical modeling such as standard deviation, mean and median. Let's quickly review the most common statistical terms:

- **Mean:** a mean represents a numerical average for a set of responses. When dealing with a data set (or multiple data sets), a mean will represent a central value of a specific set of numbers. It is the sum of the values divided by the number of values within the data set. Other terms that can be used to describe the concept are arithmetic mean, average and mathematical expectation.
- **Standard deviation:** this is another statistical term commonly appearing in quantitative analysis. Standard deviation reveals the distribution of the responses around the mean. It describes the degree of consistency within the responses, together with the mean, it provides insight into data sets.
- **Frequency distribution:** this is a measurement gauging the rate of a response appearance within a data set. When using a survey, for example, frequency distribution has the capability of determining the number of times a specific ordinal scale response appears (ie., agree, strongly agree, disagree, etc.). Frequency distribution is extremely keen in determining the degree of consensus among data points.

The difference between qualitative and quantitative is given below.

Qualitative	Quantitative
1. The qualitative method develops an understanding of the human and social sciences	1. Quantitative method is used to generate numerical data from scientific and empirical research method.
2. The qualitative method is holistic in nature.	2. Quantitative research is specific.
3. In this method the reasoning used to synthesize the data is inductive	3. The reasoning used in quantitative method is deductive
4. It is Inventor	4. Quantitative is crucial
5. Qualitative method is based on purposive sampling of data where a small group or sample size is selected to get an in-depth understanding of the target concept.	5. Quantitative method relies on random sampling in which large representative sampling method is used for the entire population.
6. Oral data is collected in qualitative method.	6. In quantitative method measurable data is done.
7. Qualitative method remains process oriented	7. Not such a quantitative method

## Data Visualization

Data can be serialized and represented in many ways, for example

1. Table
2. Pictogram
3. Bar Chart
4. Histogram
5. Pie Chart
6. Line Graph

Sometimes the data can be in more than one table, pie chart etc. Their purpose is not only quantitative cell testing. But also to explore comparative and analytical skills.

Main parts of the table

### A table must have the following main parts

#### 1. Title of the table

It is very important to have a proper title of each table. Which should reveal and clarify that what kind of figures are there? At what time? And to which place is it related? Title should be clear, concise and at some places explanatory. The quality of attractiveness is also necessary in the title so that the attention of the reader goes towards it and it does not have to spend much time and effort to understand it.

#### 2. Table No.

Each table should be numbered at the beginning. The table number makes it easy to find a term. When the number of tables is large, these tables should be numbered judiciously. Usually placed above the title. In such a way that it comes to the center of the title.

#### 3. Subtitle Each

A table consists of several columns. The headings in the columns are called subheadings or captions. The subheading should be placed in the middle of the column. There can be many headings under one subheading. When the terms in different columns are measured in different units of measurement, the concerned unit is omitted from the subheading.

#### 4. Row Title

The title of the row is called row title or strn, it is given twice in the table.

#### 5. Table cover

This is the main and important part of the table. Its size format should be decided in advance on the basis of data. In this section, the data is arranged according to the distribution of subheadings and line headings.

#### 6. Underline and Spacing

Leaving drawing space is also an important part of the table. By leaving proper space and making proper drawing, the table becomes more attractive and effective so that improvements can be made as much as possible and an attractive and clear table can be made.

#### 7. Foot Note

Sometimes comments are considered necessary for the explanation of the figures or words given in the table, then they are given below the table, but as far as possible, the comments should be used as little as possible.

**Table No. "Title"**

Line Subheading	Main Column Title			Total
	Sub headline	Sub headline	Sub headline	
Sub-entries		Middle part		
Total				

## Bar Chart

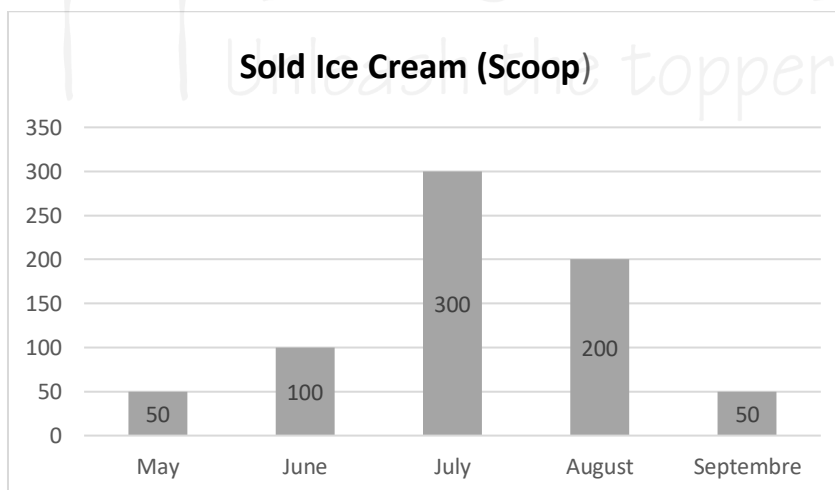
A bar chart is a graph that uses bars to show a comparison between categories of data. The bars can be either horizontal or vertical. There are 2 points in the graph. One axis will describe the types of categories being compared and the other will have a numerical value. Which represent the values of the data, it doesn't matter which axis or axes. But it will determine what is shown in the bar graph. If the description is on the horizontal axis, the outside will be oriented vertically. If the values are along the horizontal axis, the bars will be oriented horizontally.

### Types of Bar Charts

There are many types of bar charts or bar graphs, they are not always interchangeable. Each type will work best with a different type of fry. What we want to compare helps us determine what type of bar graph to use. First we will discuss some simple bar graph

### Vertical or Vertical Bar Chart

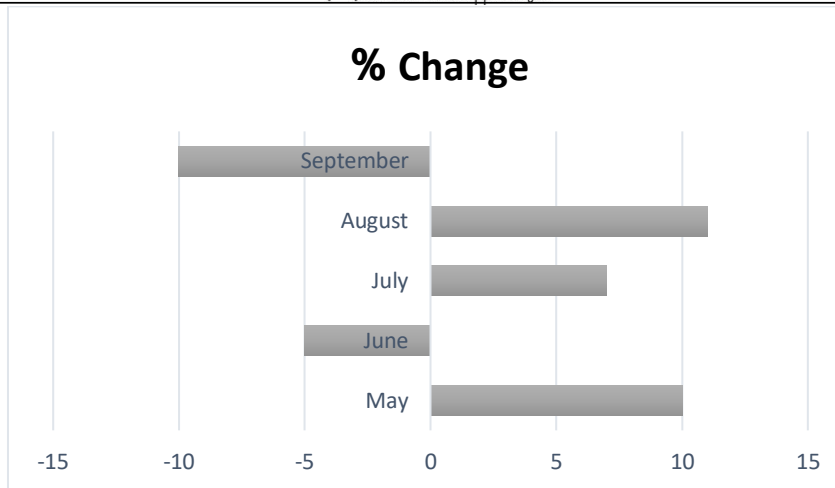
A simple vertical bar graph is best. When you do not have to make a comparison between two or more than two independent variables. Each variable will be related to a fixed value and hence can be fixed for horizontal value.



### Horizontal Bar Chart

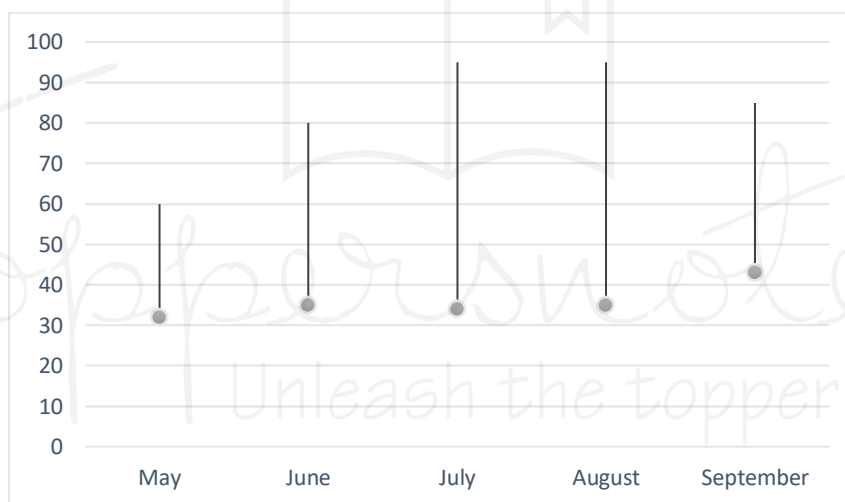
If your data has negative and positive values, but is still a comparison between two or more fixed independent variables, then it is appropriate to have a horizontal graph. The vertical axis can be oriented in the middle of the horizontal axis. Whose negative and positive value can be represented.





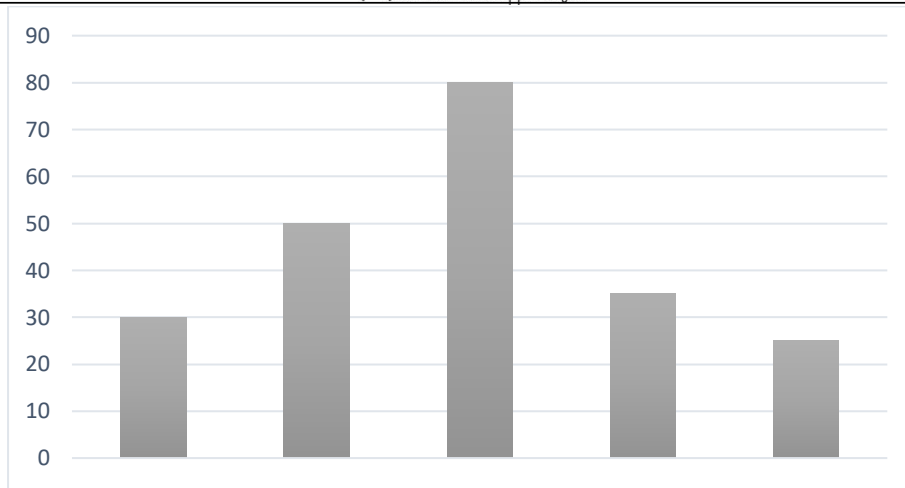
### Range Bar Chart

A range bar chart represents a range of data for each independent variable. Temperature ranges or value ranges are common sets of data for range graphs. Unlike the above graph the data does not start from a common listening point. But that particular point starts at a low number for the range of the data. A range bar graph can be either horizontal or vertical.

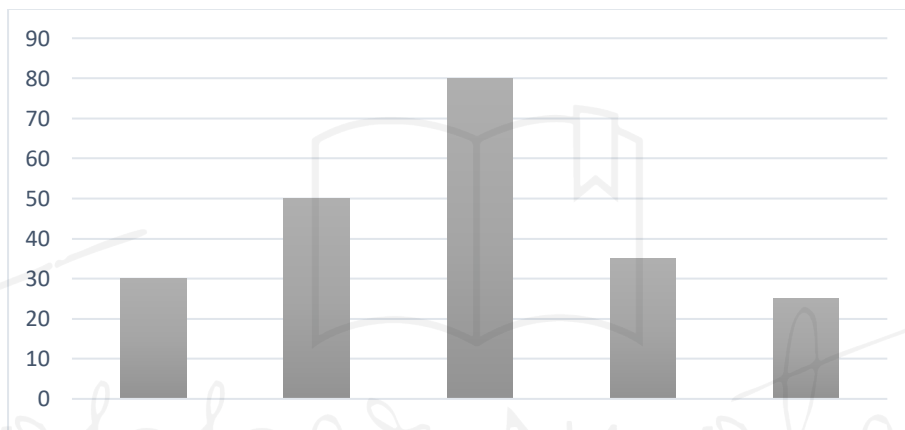


### Histogram Data

Statistical information is shown by histogram. The histogram describes the mean between two variables. It is a graphical representation of numerical or histogram data distribution in equal parts. It is a priority distribution of a continuous variable. It was first proposed by Karl Priusen. The histogram shows tabulated frequencies. Which is represented by a rectangle shown on a discrete interval, in which the area of the respective interval is directly proportional to the frequency of observation. The height of the rectangle is also proportional to the frequency density of the corresponding interval, ie the ratio of the shape and the interval width.



**Squar** → **Bar Chart**



**Number** → **Histogram**

The total area of the map is equal to the total number of figures. A histogram is also displayed by overnormalizing it with the corresponding frequency. Talking about a common form of a histogram, it is shown with the dependent or independent variable on the horizontal line and the dependent or dependent variable along the vertical, these data are shown separately in some color or like a covered moving area.

It is very similar to a bar chart. But there are constant variables in it. The difference between a histogram and a simple bar graph is that each bar in a histogram represents a series of dependent variables, rather than just a single dotted point.

## DATA MAPPING

- Data mapping is the process of mapping data fields from a source file to their related target fields. The accessibility to required data can make some organization more successful. Somehow, data is easier to use when it can be visualized as well.
- Visual data help people to understand how different concepts originate and their relation with each other.
- Data mapping helps in all these. For example, "Name, "Email,' and 'Phone' fields from an Excel source are mapped to the relevant fields in a delimited file, which is our destination.

- Data mapping helps by providing organizations with procedure links to show how certain tasks are to be utilized. Forty per cent of our nerve fibres linking to the brain are in the retina only. Data mapping helps us to see what makes different pieces of data useful and helpful
- The customer trends can be traced in the real time The causes of trends and past data numbers can be analysed and other calculations of information and variables can be done. We can also use data mapping software to compare our data with that of competitors. This should make it easier for your business to grow when chosen right.
- They also work by establishing larger maps. Salesforce of any organization has a particularly strong data mapping software program that can be put to use. This helps in real time also. We can get connected to a cloud network to get information in real time.
- Data mapping works for all businesses. For example, if we were in the retail sector, then we can use data mapping to calculate how discount sales can influence the overall sales totals in our business. Similarly, financing, investment type decisions can also be made.
- Data may be internal or external, but it is getting more dispersed and voluminous, then its data leverage is important and actionable insights are developed.
- In general, data mapping helps with the following activities.

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### Data Integration

Data mapping tools to cover differences in the schemas of data source and destination, allowing businesses to consolidate information from different data points easily.

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### Data Migration

It is moving data from one database to another. Here, using a code-free data mapping solution that can automate the process is important to migrate data to the destination successfully.

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### Data Warehousing

Data mapping in a data warehouse is the process of creating a connection between the source and target tables or attributes.

---

### Data Transformation

It is essential to break information silos and draw insights. Data mapping is the first step in data transformation.

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### Data Mapping Techniques

Although an essential step in any data management process, data mapping can be complex and time consuming. Based on the level of automation, data mapping techniques can be divided into two types and they are as follows.

1. **Manual data mapping:** Although hand-coded, manual data mapping process offers unlimited flexibility.
2. **Semi-automated data mapping:** Schema mapping is often classified as a semi-automated data mapping technique. The process involves identifying two data objects that are semantically related and then building mappings between them.

## Figure or Data Interpretation

Data interpretation assigns a meaning to the information analyzed and determines its signature and implication. It refers to the implementation of procedures through which data are reviewed for the purpose of arriving at an informed conclusion. A good judgment should be made for its comparative measurement. It includes the following scales.

1. Nominal Scale It consists of non-numerical scale which cannot be ranked or compared quantitatively. variable is specific and exhaustive
2. Karma Indicative Number or Ordinal Scale. It consists of categories that are other wholes, but with a logical dema. Examples of quality ratings and agreement ratings are Good, Very, Good, Fair, or Agree.
3. Interval scale. Here the data is sorted and grouped into categories on the basis of equal distance. It is always an arbitrary 0 point.
4. Proportion It includes all the above three features while interpreting the data an analysis should try to understand the difference between correlation factor and coincidence etc. apart from some other factors.

## DATA AND GOVERNANCE

Data governance is a requirement in today's fast-moving and highly competitive enterprise environment. Now that organizations have the opportunity to capture massive amounts of diverse internal and external data, they need a discipline to maximize their value, manage risks and reduce cost.

Data governance is a collection of processes, roles, policies, standards, and metrics that ensure the effective and efficient use of information in enabling an organization to achieve its goals. Data governance defines who can take what action, upon what data, in what situations, using what methods. Data governance ensures that roles related to data are clearly defined, and that responsibility and accountability are agreed upon across the enterprise. A well-planned data governance framework covers strategic, tactical, and operational roles and responsibilities.

While crafting data and governance strategy, we need to be careful.

**Data Governance is not data management:** Data management refers to the management of the full data lifecycle needs of an organization. Data governance is the core component of data management such as data warehousing.

1. **Data Governance is not master data management:** Master data management focuses on identifying an organization's key entities and then improving the quality of this data.
2. **Data Governance is not data stewardship:** Data stewards take care of data assets, making certain that the actual data is consistent with the data governance plan, linked with other data assets and in control in terms of data quality, compliance, or security.

## Benefits of Data Governance

An effective data governance strategy provides many benefits to an organization, where it includes the following

- **There is a common understanding of data.**
- **There is improved quality of data, such as data accuracy, completeness and consistency.**
- **Data map is available.**
- **Holistic view:** A 360-degree view of each customer and other business entities basically a single version of the truth'.



- **Consistent compliance:** Data governance provides a platform for meeting the demands of government regulations.
- **Improved data management:** It brings the human dimension into a highly automated and data-driven world.

We can use technology as the enabler for the same.

Open source and cloud are the basic strategies for data governance tools. iPaaS is also closely linked with them. These tools also help us achieve the following.

1. **Capture and understand our data,**
2. **Improve the quality of our data.**
3. **Managing data:** With metadata-driven ETL and ELT, and data integration applications.
4. **Controlling data.**
5. **Document our data.**
6. **Empower the people that know the data best:** To contribute to the data stewardship.
7. **Protecting sensitive data.**

We need to understand that data governance is not optional.

The implementation known as a 'data lake' necessarily requires processes that allow you to keep the data you need in a way that eliminates technical barriers and gives new capabilities to process that data.



## Data Interpretation

Data Interpretation refers to the process of reviewing the data provided and using these data to calculate the required value.

Data can be provided in various forms such as tables, line diagrams, bar diagrams, pie charts, radar graphs, compound graphs and caselets. Also, check the data adequacy concepts once through the data interpretation concepts.

Data Interpretation Methodology is a way of analyzing and helping people make sense of numerical data that has been collected, analyzed and presented. When the data is collected, it usually remains in the form of a row which can be difficult for the lay person to understand and that is why analysts always divide the collected information so that others can understand it. For example, when founders present their pitches to or to their potential investors, they may seek a better understanding of the market.

The following concepts are useful for solving data interpretation –

- Average
- Ratio and Proportion
- Percent

### Average

The average or arithmetic mean or mean of two or more quantities is equal to their sum divided by the number of those quantities.

$$\text{Average} = \frac{\text{Sum of all quantities}}{\text{Number of quantities}}$$

It is defined as the central value of the values of all quantities. It is the result of the sum of the values of all the quantities divided by the number of quantities. The average is always between the highest and lowest values of all quantities. It is necessary that the quantities taken into account have the same features and must be expressed either in the same unit or in comparable units. In order to calculate the average, students must learn the various properties related to the average.

### Ratio and Proportion

The comparative relation between two quantities of the same type by division is called ratio. In other words, ratio means how much of one quantity belongs to another.

The ratio is always between the same units like kg : kg, hour : hour, litre : litre etc.

Let us consider two quantities x and y in the ratio x : y or x/y or x y.

The two quantities being compared here are called terms. The first quantity 'x' is called antecedent. The second quantity 'y' is called the resultant.

### Percent

Percent means every hundred. It is a ratio with a base of 100. Percentage calculation is the most important aspect in representation as well as in the interpretation of data.

$$\text{Percentage increase} = (\text{Final value} - \text{Initial value}) / (\text{Initial value}) \times 100$$

$$\text{Percentage reduction} = (\text{Initial value} - \text{Final value}) / (\text{Initial value}) \times 100$$

## **Tips and Tricks for data interpretation**

### **Read the question asked carefully**

Firstly, before going through the given data, go through all the questions asked. Now, you get some information about the given topic.

### **Try to analyze the given data**

Start reading the given data and analyze it carefully keeping in mind the questions.

### **Don't make assumptions**

Do not try to make any assumptions while answering the questions. Answer it when you are absolutely sure that it is correct. There is a risk of negative marking if you answer with guesses. (Questions with negative marking cases)

### **The approximation of values can be considered:**

When making calculations, consider approximate values to make simplification easier.

### **Learn to calculate fast and maintain accuracy**

Instead of using a calculator or lengthy methods when simplifying, try to calculate in your mind. Initially, it may take some time but with regular practice you can master it. Everyone can solve a problem but those who have time management and efficiency, they succeed in the exam are eligible for.

### **Identify the questions that are time consuming and skip them**

Try to identify the questions that are time consuming, even if you think you can get the answers, skip them because of the lengthy calculations. It can waste your time and you may miss solving simple questions left with you. If you have time after covering all the questions then come back to such questions and give an attempt.

### **Master these techniques by regularly practicing on various model questions**

Once you have all the concepts of Data Interpretation in your mind, get clarity on those topics by solving various example problems. Now, start applying your knowledge on Data Interpretation to solve various model questions and then try to solve previous year question papers.

Data Interpretation is broadly classified as follows -

1. Table
2. Line diagram
3. Bar graph
4. Pie chart
5. Radar graph
6. Mixed graph
7. Caselet

## Table

In tabular method, data is arranged in vertical and horizontal rows. It is the easiest way to represent statistics but not the easiest way to interpret statistics. Generally, questions based on tabular method include data related to production/profit/sales of different companies in a year, list of students in a class, list of defective goods, income of different persons etc. In the tabular method, either row is used to represent discrete non-connected data.

### How to Solve Tabular Method

Generally, there are two types of tables in the Table Data Interpretation (DI) : (i) Complete Data Tables (ii) Missing data tables.

#### Missing Data Tables

While solving the missing data table, try to complete the data in the table if it can be completed initially, as it will help you solve the questions.

To solve the question, first of all, note down all the variables against which you have to extract the data from the table.

#### Example :

**Directions:** Read the following information carefully and answer questions accordingly.

The table shows the population (in thousands) of six different cities and the percentage of males, females and children in them. It is also given that there is no other person who is outside the category of men, women and children. Furthermore, children are exclusive of man and woman.

City	Population	Male	Women	Children
A	36	45%	33%	22%
B	54	36%	,	,
C	72	24%	52%	,
D	28	,	25%	,
E	86	,	,	42%
F	94	44%	25%	,

**Q. What is the average number of children in cities A, C, E and F ?**

**Sol:** Number of children in city A = 22% of 36000 = 7920

Number of children in city E = 42% of 86000 = 36120

Percentage of children in city C =  $(100 - 24 - 52) = 24\%$

Number of children in city C = 24% of 72000 = 17280

Percentage of children in city F =  $(100 - 44 - 25) = 31\%$

Number of children in city F = 31% of 94000 = 29140

Average number of children =  $(\text{total number of children in city A, C, E, F}) \times 100 / 4$

$$\Rightarrow \frac{7920 + 36120 + 17280 + 29140}{4} = \frac{90460}{4} = 22615 \text{ Children}$$



## Practice Questions with Their Solution

**Instructions (Q.1-3):** Study the given table carefully to answer the following questions.

**Number of students studying in five different sections of five institutes -**

Discipline Institutes	Arts	Commerce	Science	Management	Computer Science
A	350	260	450	140	300
B	240	320	400	180	320
C	460	300	360	160	380
D	440	480	420	120	340
E	280	360	340	200	330

**Q.1** What is the average number of students studying in commerce institute from all the institutes together?

- (a) 356                      (b) 360                      (c) 348                      (d) 344

**Sol:** (d)

$$\begin{aligned}
 \text{Average of students} &= \frac{\text{Sum of all institutes of students}}{\text{Total number of institutes}} \\
 &= \frac{260 + 320 + 300 + 480 + 360}{(A + B + C + D + E)} \\
 &= \frac{1720}{5}
 \end{aligned}$$

$$\text{Average of students} = 344$$

**Q.2** The total number of students studying Arts section from institutes A and B together is what percent of the total number of students studying Computer Science section from these two institutes together?

- (a) 84                      (b) 85                      (c) 88                      (d) 95

**Sol:** (d)

$$\text{Number of students of arts from institute A \& B} = (350 + 240) = 590$$

$$\text{Number of computer science students from institute A \& B} = (300 + 320) = 620$$

$$\begin{aligned}
 \text{Required percentage} &= \frac{590}{620} \times 100 \\
 &= 96.61 \cong 95\%
 \end{aligned}$$

**Q.3** What is the respective ratio of the total number of students studying in science section from institutes C and D together to the total number of students studying in Computer Science section from these two institutes together?

- (a) 13 : 12                      (b) 12 : 13                      (c) 13 : 15                      (d) 15 : 13

**Sol:** (a)

$$\text{Total number of students form the section C and D of science} = (360 + 420) = 780$$

$$\text{Total number of students form the section C and D of computer} = (380 + 340) = 720$$

$$\begin{aligned}
 \text{Required ratio} &= 780 : 720 \\
 &= 13 : 12
 \end{aligned}$$

**Direction (Question 4-6):** The following table shows the total number of students appeared in an entrance examination from six schools in different years and the ratio of passed students to failed students. Answer the given questions on the basis of this table.

**Note** - Total Attended = Total Passed + Total Failed in a given year

School	2010		2011		2012	
	Total Attendance	Passed : Fail	Total Attendance	Passed : Fail	Total Attendance	Passed : Fail
A	646	11 : 8	754	7 : 6	672	3 : 5
B	847	4 : 7	845	8 : 5	952	9 : 8
C	810	8 : 7	792	7 : 4	637	4 : 3
D	876	7 : 5	828	11 : 7	988	7 : 12
E	870	3 : 2	726	7 : 4	725	8 : 5
F	986	17 : 12	867	12 : 5	924	8 : 13

**Q.4** What is the difference between the total number of failed students from school Q in the year 2010 and  $\frac{3}{4}$ th of the failed students from school B in the year 2012?

- (a) 165                      (b) 176                      (c) 175                      (d) 180

**Sol:** (c)

The total attendance of the school in the year 2010 was 876, out of which passed

$$= 876 \times \frac{7}{12} = 511$$

The total attendance of the school in the year 2012 was 952, out of which failed

$$= 952 \times \frac{8}{17} = 448$$

**Q.5** What is the total number of failed students in schools A and D together in all the three years together?

- (a) 1036                      (b) 1311                      (c) 2351                      (d) 2446

**Sol:** (c)

$$\text{Failed from school A} = 646 \times \frac{8}{19} + 754 \times \frac{6}{13} + 672 \times \frac{5}{8} = 1040$$

$$\text{Failed from school D} = 876 \times \frac{5}{12} + 828 \times \frac{7}{18} + 988 \times \frac{12}{19} = 1311$$

$$\text{Total failed} = 1040 + 1311 = 2351$$

**Q.6** What is the difference between the number of passed students in the year 2011 from A, B and D together and the number of failed students in the year 2012 from A, C and F together?

- (a) 167                      (b) 177                      (c) 217                      (d) 157

**Sol: (a)**

$$\text{Passed in year 2011 from A} = 754 \times \frac{7}{13} = 406$$

$$\text{Passed in year 2011 from B} = 754 \times \frac{7}{13} = 406 = 845 \times \frac{8}{13} = 520$$

$$\text{Passed in year 2011 from D} = 828 \times \frac{11}{18} = 506$$

Total passed = 1432

Failed in 2012

$$\text{A} = 672 \times \frac{5}{8} = 420$$

$$\text{C} = 637 \times \frac{3}{7} = 273$$

$$\text{F} = 924 \times \frac{13}{21} = 572$$

Total failed = 1265

$$\text{Required difference} = 1432 - 1265 = 167$$

**Directions (Q.7-9): Study the given table carefully to answer the following questions**

Friend	Salary (In rupees)	Incentives (In rupees)	Expenditure (In rupees)				Savings (In rupees)
			Journey	Party	Home	Marketing	
Babu	46000	6900	13035	5480	5290	7935	21160
Gaurav	48000	7200	7640	8500	6200	10730	22080
Anand	42000	6300	5796	3864	13524	5796	19320
Mohit	44000	6600	9846	7560	4554	8400	20240
Kamal	40000	6000	2300	15480	4200	5620	18400
Mohan	30000	5700	4200	3496	11664	6860	17480

**Q.7 Find the total amount (in Rs.) spent by all the friends on the journey together?**

- (a) 42817 Rs.      (b) 42871 Rs.      (c) 41817 Rs.      (d) 41781 Rs.

**Sol: (a)**

$$\begin{aligned} \text{Total spent in journey} &= 1350 + 7640 + 5796 + 9846 + 2300 + 4200 \\ &= 42817 \text{ Rs.} \end{aligned}$$

**Q.8 Find the difference between the amount spent by Gaurav on party and marketing together and the amount spent by Anand on housing.**

- (a) 5656      (b) 5776      (c) 5756      (d) 5576

**Sol: (c)**

$$\text{Total spent by Gaurav in party and marketing} = 8500 + 10780 = 19280$$

$$\text{Spent by Anand in housing} = 13524$$

$$\text{Required difference} = 19280 - 13524 = 5756 \text{ Rs.}$$