

## DATA INTERPRETATION (DI)

Data interpretation refers to the process of reviewing provided data and to use these data for calculating the required value. The data can be provided in various forms like in table format, pie chart, line graph, bar graph, caselet or a combination of these.

### Points to Remember

- **Read the entire question carefully** – Read the complete data given in the form of values, graph etc.
- **Analyze the data** – Take a look and analyze the data carefully. Don't get diverted or afraid due to a lot of information and avoid skipping the information before giving a glance to it.
- **Pay attention to the units** – Many times, different units are used in one question. For example, speed is given in km/h and time is to be calculated in seconds.
- **Use of approximation** – If the options are adequately far apart then you can approximate values, fractions and percentages to nearby numbers which can ease our calculations.
- **Use of last Digit** – Check if all options have different last digits, then to find the correct option, we can just calculate the last digit of our answer (but then approximation is not at all allowed).
- **Mental calculations** – Try to do mental calculations as frequently as possible while practicing. It will help in minimizing the time to solve the question.

### Types of Data Interpretation

- Tabular DI
- Pie chart
- Bar graph
- Line graph
- Caselet DI

### Tabular DI

In this data is provided in horizontal rows and vertical columns called tabular form. We need to understand the given information and thereafter answer the given questions.

**Directions:** Study the following information carefully and answer the given questions based on it.

Table shows the number of trees planted by the government in 6 different years.

	Banyan	Neem	Teak
2013	30000	25000	15000
2014	35000	30000	5000
2015	35000	45000	10000

<b>2016</b>	40000	40000	25000
<b>2017</b>	45000	55000	35000
<b>2018</b>	55000	50000	40000

**Q1. Find the respective ratio between the number of neem trees planted in the year 2015 and the number of banyan trees planted in the year 2014**

**Solution:**

Number of neem trees planted in 2015 = 45000

Number of banyan trees planted in 2014 = 35000

Required ratio = 45000 : 35000 = 9 : 7

**Q2. What was the approximate average number of neem trees planted in all the years together?**

**Solution:**

Total number of neem trees planted in all the years = 25000 + 30000 + 45000 + 40000 + 55000 + 50000  
= 245000

Required average = 245000/6 = 40833.33  $\approx$  40830 (approx. depends on options given in question)

**Q3. How much percent more teak trees planted by government in the year 2017 as compared to 2016?**

**Solution:**

Total teak trees planted in year 2017 = 35000

Total teak tree planted in year 2016 = 25000

Percentage increase =  $(35000 - 25000)/25000 \times 100 = 40\%$ .

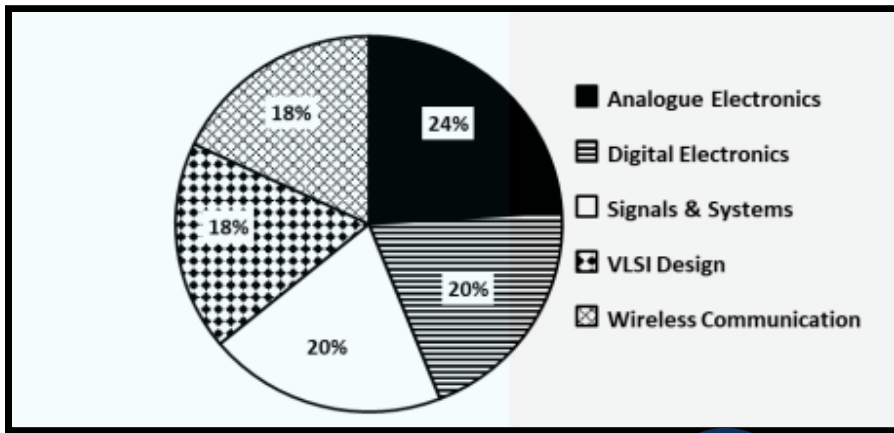
## Pie Chart

It is a circular chart divided in various sectors. The sectors of the circle are constructed in such a way that the area of each sector is proportional to the corresponding values of information provided. In pie charts total quantity is distributed over a total angle of 360° or 100%.

### Points to Remember

- Value of sector =  $(\text{Angle of sector}/360^\circ) \times \text{Total Value of sector}$
- Value of sector =  $(\text{Percentage of sector}/100) \times \text{Total value}$

**Directions:** The following Pie chart shows the percentage of students who like five different subjects of engineering from college x. Percentage of students who like 5 different subjects of engineering.



**Q1. What is the difference between the number of students who like Analogue Electronics and VLSI Design?**

**Solution:**

Number of students liking Analogue Electronics =  $(1000/100) \times 24 = 240$ .

Number of students liking VLSI Design =  $(1000/100) \times 18 = 180$ .

Required difference =  $240 - 180 = 60$ .

**Q2. Find the total number of students who like Analogue Electronics, VLSI Design and Wireless Communication.**

**Solution:**

Number of students liking Analogue Electronics =  $(1000/100) \times 24 = 240$ .

Number of students liking VLSI Design =  $(1000/100) \times 18 = 180$ .

Number of students liking Wireless Communication =  $(1000/100) \times 18 = 180$ .

Total number of students =  $240 + 180 + 180 = 600$ .

**Q3. The number of students who like VLSI Design are how much percent less than the number of students who like Analogue Electronics?**

**Solution:**

Number of students liking VLSI Design =  $(1000/100) \times 18 = 180$ .

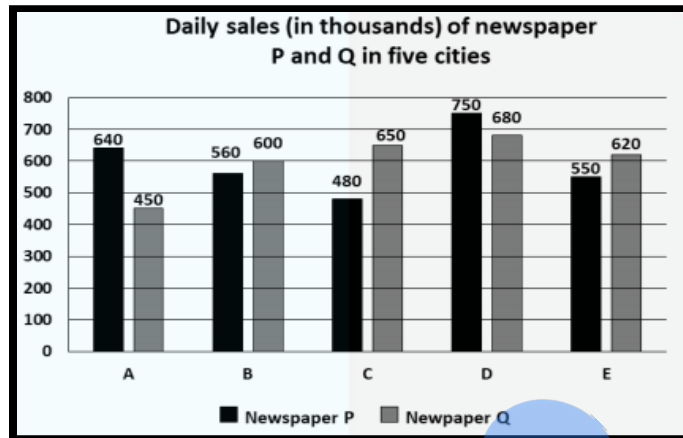
Number of students liking Analogue Electronics =  $(1000/100) \times 24 = 240$ .

Difference of students =  $240 - 180 = 60$

Required percentage =  $(60/240) \times 100 = 25\%$ .

## Bar Graph

Directions: Study the given graph and answer the question that follows.



Q1. What is the ratio of the total daily sales of newspaper P in cities A and C to the total daily sales of newspaper Q in cities B and D?

**Solution:**

Total sales of newspaper P in cities A and C =  $640 + 480 = 1120$

Total sales of newspaper Q in cities B and D =  $600 + 680 = 1280$

Required ratio =  $1120:1280 = 7:8$ .

Q2. The total daily sales of newspaper P in cities, B, D and E is what percentage less than that of newspaper Q in cities A, C, D and E?

**Solution:**

Total sales of newspaper P in cities B, D and E =  $560 + 750 + 550 = 1860$

Total sales of newspaper Q in cities A, C, D and E =  $450 + 650 + 680 + 620 = 2400$

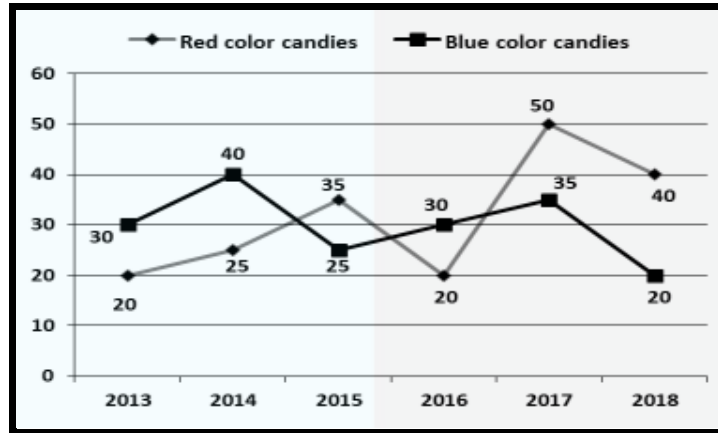
Required percentage =  $[(2400 - 1860)/2400] \times 100 = 22.5\%$ .

## Line Graph

A line graph shows the quantitative information or a relationship between two changing quantities with a line or curve. We are required to understand the given information and thereafter answer the given questions.

Directions: Read the following line graph carefully and answer the given questions below:

Following line graph shows the number of red- and blue-coloured candies (in lakhs) produced in 6 different years.



**Q1. Candies produced of red colour in 2018 are what percentage less/more than candies produced of red colour in 2017?**

**Solution:**

Candies produced of red colour in 2018 = 40 lakhs

Candies produced of red colour in 2017 = 50 lakhs

Required percentage =  $(50 - 40)/50 \times 100 = 20\%$ .

**Q2. Total candies produced in years 2014 and 2015 are how much more/less than total candies produced in years 2017 and 2018 together?**

**Solution:**

Total candies produced in years 2014 and 2015 =  $25 + 40 + 35 + 25 = 125$  lakhs

Total candies produced in years 2017 and 2018 =  $50 + 35 + 40 + 20 = 145$  lakhs

Required difference =  $145 - 125 = 20$  lakhs.

**Q3. For how many years candies produced of blue color are more or equal to average candies produced of blue color for all the years?**

**Solution:**

Average number of blue color candies =  $(30 + 40 + 25 + 30 + 35 + 20)/6 = 180/6 = 30$  lakhs.

Hence, required years = 2013, 2014, 2016, 2017.

Number of years = 4.

**Q4. Find the difference between total number of red color candies and total number of blue color candies produced throughout the 6 years.**

**Solution:**

Total number of red color candies =  $20 + 25 + 35 + 20 + 50 + 40 = 190$  lakhs

Total number of blue color candies =  $30 + 40 + 25 + 30 + 35 + 20 = 180$  lakhs

Required difference =  $190 - 180 = 10$  lakhs.

**Q5. Find the ratio of the number of candies of red color produced in years 2013, 2014 and 2015 together to the number of candies of blue color produced in years 2016, 2017 and 2018 together.**

**Solution:**

The number of candies of red color produced in years 2013, 2014 and 2015 together =  $20 + 25 + 35 = 80$  lakhs

The number of candies of blue color produced in years 2016, 2017 and 2018 together =  $30 + 35 + 20 = 85$  lakhs

Required ratio =  $80/85 = 16:17$

### Caselet DI

In Caselet DI, a long paragraph is provided and with that as the basis, some sets of questions are asked. We need to understand the given information and then answer the given questions.

**Comprehension:**

Three friends A, B and C went to a shopping mall to buy laptop (individually), they all are having same amount of money equal to the value of MRP of a Laptop (i.e., Rs. 60000) but each one of them got different discounts from the exclusive showroom. If A paid Rs. 51000, B has paid Rs. 3000 more than what A has paid while C has paid the amount equal to the average value of amount paid by A and B together. Find the answer of the following questions based on the given information:

**Q1. What is the ratio of the total amount paid by A, B and C together to the sum of MRP of all the three laptops?**

**Solution:**

The MRP of each laptop = Rs. 60000;

The sum of MRP of 3 laptops =  $60000 \times 3 = \text{Rs. } 1,80,000$

Now, amount paid by A = Rs. 51000

Amount paid by B = Rs.  $51000 + 3000 = \text{Rs. } 54000$

Amount paid by C =  $(51000 + 54000)/2 = \text{Rs. } 52500$

The total amount paid by A, B and C together =  $51000 + 54000 + 52500 = \text{Rs. } 1,57,500$

The ratio of the total amount paid by A, B and C together to the sum of MRP of all the three laptops =  $157500:180000 = 7:8$