

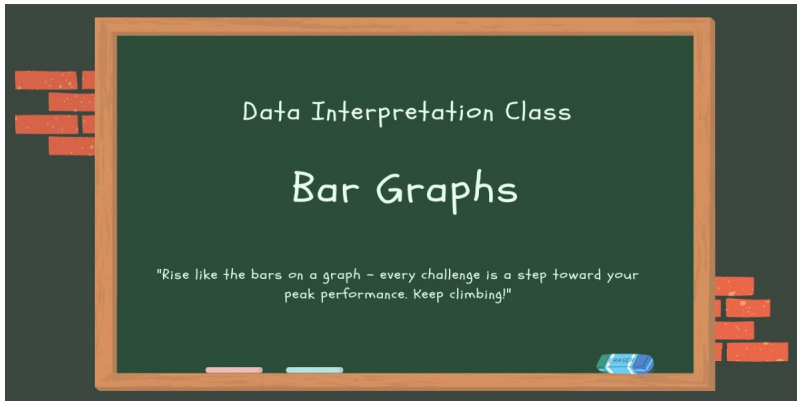
Preparing for bank exams like SBI PO, IBPS Clerk, or RBI Grade B requires mastering various subjects, and Data Interpretation (DI) is undeniably one of the critical components of this rigorous journey. Aspiring bankers know that success in these competitive exams hinges on comprehensive DI skills. DI not only assesses your mathematical acumen but also evaluates your ability to extract meaningful insights from complex data sets, a skill highly valued in the banking sector. So, this blog is essential for the preparation of Data Interpretation for Bank Exams.

In this blog, we will delve into the world of Data Interpretation, offering valuable insights, strategies, and practice exercises tailored to the specific demands of bank exams. So, whether you're aiming for the coveted SBI PO position, aspiring to become an IBPS Clerk, or envisioning a career with RBI Grade B, fasten your seatbelt as we embark on a data-driven expedition to empower your bank exam preparation. Mastering DI is your ticket to conquering those numerical challenges and securing a future in the world of banking.

So, let's start with **Bar Graph** first and then we will move further.

Bar Graph

Bar graphs in one of the oldest and most commonly used diagrams for presenting data. The value of bars is determined by the height of the bar. Therefore, it becomes easy to compare the value of a variable. So, if you're preparing for Data Interpretation for Bank Exams, you have to master this topic.



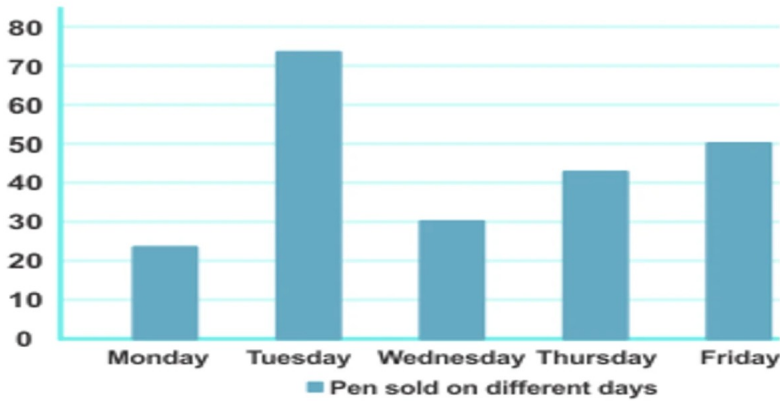
One axis (Normally X-axis) of every bar chart represents a discrete variable while the other axis (Normally Y-axis) represents the scale for one or more continuous variables.

Based on Simple Bar Graphs:

Let's take an example of Simple Bar Graphs.

E.g. Bar graph given below shows pens sold by a retailer on five different days. Study the data carefully and answer the following questions.

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[Note: This type of question was asked in **SBI PO 2022 exam**]

- (1) Out of total pens sold on Tuesday, the ratio between total defective pens sold to total pens sold is 7: 15. Find the total number of non - defective pens sold on Tuesday by the retailer?
- (2) The total number of pens sold on Saturday is 40% more than the total number of pens sold on Wednesday. Find the total number of pens sold on Friday and Saturday together?
- (3) Find the difference between the total number of pens sold on Monday and Tuesday together to the total number of pens sold on Thursday and Friday together?

Sol: (1) As total pens sold comprise defective and non-defective pens, where let defective pens be 7 and total pens are 15. Non-defective pens are 8.

Ratio of non-defective pens to total pens be = $\frac{8}{15}$

Number of non-defective pens sold on Tuesday is = $(\frac{8}{15}) \times 75 = 40$ (**Ans.**)

(2) Total number of pens sold on Friday = 50

As pens sold on Saturday is 40% greater than sold on Friday

By multiplying factor,

$\Rightarrow 50 \times 1.4 = 70$ pens sold on Saturday.

Sum of the number of pens sold on Friday and Saturday = $50 + 70 = 120$ (**Ans.**)

(3) Observing from Graph we obtain the data for Monday, Tuesday, Thursday and Friday.

Sum of pens sold on Monday and Tuesday = $25 + 75 = 100$

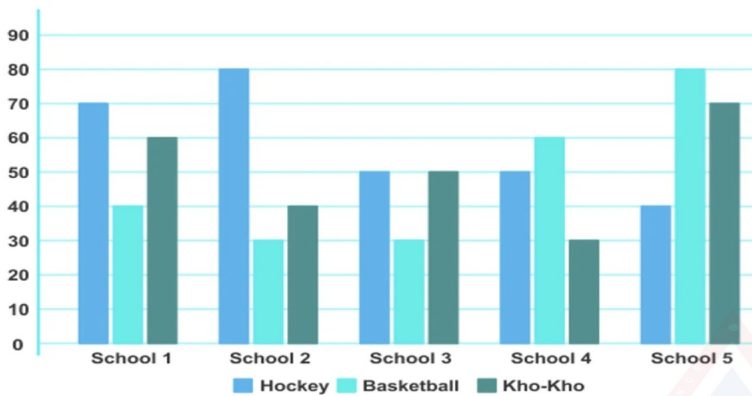
Sum of pens sold on Thursday and Friday = $45 + 50 = 95$

The difference would be $100 - 95 = 5$ (**Ans.**)

So, this graph comprises one bar chart, now we will look into a question based on more than one bar graph.

Based on more than one Bar Graph:

E.g. Number of players participating in three different games in five different schools.



- (1) What is the total number of players participating in Hockey from all the five schools together?
- (2) What is the respective ratio between the number of players participating in Basketball from School 1 and the number of players participating in Kho-Kho from school 3?
- (3) In which school is the number of players participating in Hockey and Basketball together Highest?

Sol: (1) Observing the blue section carefully we got the data for Hockey

Which is 70, 80, 50, 50, and 40.

$$\Rightarrow 70 + 80 + 50 + 50 + 40 = 290 \text{ (Ans.)}$$

(2) From the graph, we would fetch the number of students of Basketball from school 1 which is 40 and of Kho-Kho of school 3 which is 50.

$$\text{Ratio would be} = 40/50 = 4/5 \text{ (Ans.)}$$

(3) For this, we have to calculate the sum for each school individually then compare them

$$\text{School 1} \Rightarrow 70 + 40 = 110$$

$$\text{School 2} \Rightarrow 80 + 30 = 110$$

$$\text{School 3} \Rightarrow 50 + 30 = 80$$

$$\text{School 4} \Rightarrow 50 + 60 = 110$$

School 5 $\Rightarrow 40 + 80 = 120$

Highest is in school 5 (Ans.)

So, we learned the variety of questions that could be asked in a Banking Exam paper. As you saw there isn't that much variety so one should not miss this too although data table and bar charts comprise 40% questions in data interpretation questions. If you get them you will be awarded well in exams.

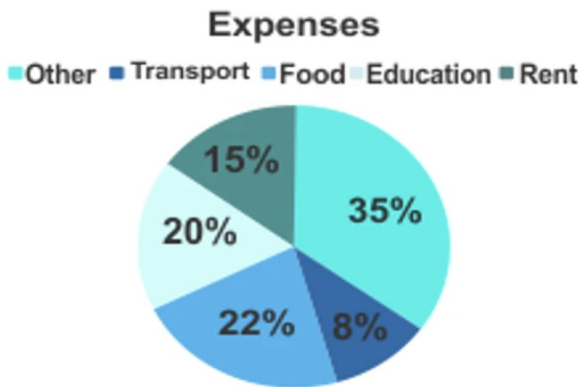
So now, we will learn about **Pie Charts**.

Pie Charts

Pie charts are specific types of data representation, where data is represented in the form of a circle. In a pie chart, a circle is divided into various sections such that each sector or segment represents a certain proportion or percentage of the total. Let's try two different type of questions based on different approaches.

Percentage Approach:

E.g. The following pie chart represents the breakup of Raju's monthly expenses.



(1) If Raju spent 4,500 rs more on food and transport together than he spent on rent, then find his monthly expenses (in rs.).

(2) If Raju increased his savings, which is currently 10% of his income, by 20%, and reduced his expenses by 20%, then his savings would be what percentage of his expenses?

(3) Raju spent 20% of his expenditure on 'others' on entertainment. This amounted to 2,100 rs. Find his expenditure on education.

Sol: (1) Here data is given in percentage term,



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Total percentage of food and transport = $22 + 8 = 30\%$

Total percentage of rent = 15%

$\Rightarrow 30\% - 15\% = 15\%$

Here 15% is equivalent to 4500 rs.

1% would be equivalent to $\Rightarrow (4500/15)$ rs.

100% would be equal to $= (4500/15) \times 100 = 30,000$ rs. **(Ans.)**

(2) After reading (2) question some students must be puzzled what should we do,

This question is completely independent of the given data. Let's take a simplistic approach without getting any confusion.

In the beginning saving is 10%

(Income = saving + expenditure)

So, our expenditure = 90%

As saving increased by 20% so saving would be $= 10 \times 1.2 = 12\%$

And expenditure would get decrease by $20\% = 90 \times 0.8 = 72\%$

$\Rightarrow (12/72) \times 100 = 16.67\%$ **(Ans.)**

(3) In this pie chart others have share of $= 35\%$

According to question, 20% of this is used in Entertainment

$\Rightarrow 35 \times 0.2 = 7\%$

Here $7\% = 2100$ rs.

$\Rightarrow 1\% = (2100/7)$

Expenditure on education = $20\% = (2100/7) \times 20 = 6000$ rs. **(Ans.)**

Now, let's check out the second approach.

Degree Approach:

Let's revise the basics of the degree approach before moving on to the question.

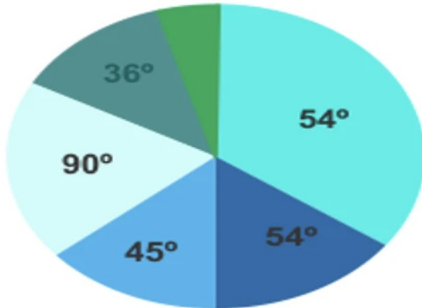
The central angle in a circle represents 360° , so any part or segment in a pie chart is calculated as a proportion of 360° .

Value of a sector = $(\text{Percent of the sector}/100) \times \text{Total Value}$

Value of a sector = $(\text{Angle of the sector}/360) \times \text{Total Value}$

Now, let's look at this question.

E.g. Study the following pie chart and answer the questions given below it.



■ Paper ■ Advertisement ■ Binding
■ Printing ■ Royalty ■ Miscellaneous

Expenditure incurred in bringing out a book by a publisher

(1) How much percent more is spent on advertisement than that on the binding?

(2) If the total amount spent on royalty during the year is 3 crore rs., then what is the difference in expenditure on paper and that on printing?

Sol: (1) Angle made by advertisement segment = 54°

Angle made by advertisement segment = 45°

Difference = 54 – 45 = 9°

Percentage of difference = $(9/360) \times 100\% = 2.5\%$ (**Ans.**)

(2) Difference between angle made by paper and printing = 126 – 90 = 36°

Angle made by royalty = 36°

So if the angle is the same so the value would also be the same, 3 crore rs. (**Ans.**)

So in this blog, we have covered both the degree and percentage approach for the pie chart which is a part of your data interpretation for Bank Exam.

Now, let's move on to the next type of DI i.e. **Line Graph**.

Line Graph

A line chart or line graph or Cartesian graph is a simplistic method of representing the data and it is quite simple to denote single or multiple related continuous variables against a specific set of values of a discrete variable. In simple language, it is that same zig-zag graph which we made in our school days with a pencil, nostalgic?

Single Dependent Variable Graph:

Let's take our first example.

E.g. The following line graph represents the population (in millions) of country X in each year from 1980 to 1985.



- (1) Find the percentage increase in the population of X from 1980 to 1985.
- (2) If in 1981, 60% of the population of X were men while in 1982 it was only 50%, find the percentage change in the male population from 1981 to 1982.
- (3) In which of the given years, from 1981 to 1985, did the population increase by the highest percentage over the previous year?

Sol: (1) Required percentage change = $\{(1.9 - 1.1) / 1.1\} \times 100 = 72.72\%$ (Ans.)

(2) Number of men in 1981 = $1.3 \times 0.6 = 0.78$

Number of men in 1982 = $1.4 \times 0.5 = 0.70$

Required percentage change = $[(0.78 - 0.70) / 0.78] \times 100 = 10\%$ (Ans.)

(3) As the maximum increase in population between any two years is 0.2 million (1981, 1983 and 1985) and as the increase in population in 1981 is on a lower base, the percentage increase in 1981 would be the highest. (Ans.)

Learnings:

1. We don't have to be accurate in calculation, we want speed so we prefer approximation. (Prefer the chapter of approximation for better understanding.)

2. Sometimes there is no need for rigorous calculation. We got an answer for 3 rd questions just by observing the graph carefully.

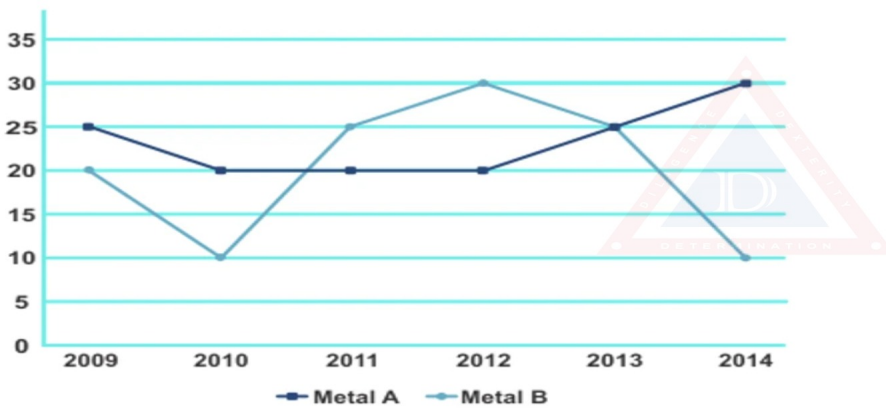
Now, let's look at one more type of the line graph.

More than one Dependent Variable:

In this type of graph, two or more lines are drawn to represent two or more dependent variables. The scale for the dependent variables is common to all the variables.

E.g. Consider the following graph and answer the questions based on it.

[Note: This type of question was also asked in **RBI Grade B 2022 exam**]



Trend of consumption of two types of metals (in units) by the state over a period of time

- (1) The number of years, for which the consumption of metal B was more than the consumption for metal A in the given period, was _____.
- (2) The total consumption of metal A divided by the total consumption of metal B over the period will give a ratio equal to?
- (3) For the two data series shown above, how many years in all have shown a decrease in consumption?

Sol: (1) [Attention] here we can simply note down all the values and compare them but we don't need to do that. What we have to do is just check on which year red line (Metal B) is higher than blue line (Metal A).

Which is in 2011 and 2012, so our answer is 2 (**Ans.**)

(2) For this, you have to calculate the total consumption of each metal.

Consumption of metal A = $25 + 20 + 20 + 20 + 25 + 30 = 140$

Consumption of metal B = $20 + 10 + 25 + 30 + 25 + 10 = 120$



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Ratio = $140/120 = 7/6$ (Ans.)

(3) Total consumption of metal A and B

in 2009 $\Rightarrow 20 + 25 = 45$ units

in 2010 $\Rightarrow 20 + 10 = 30$ units

in 2011 $\Rightarrow 20 + 25 = 45$ units

in 2012 $\Rightarrow 20 + 30 = 50$ units

in 2013 $\Rightarrow 25 + 25 = 50$ units

in 2014 $\Rightarrow 30 + 10 = 40$ units

Decrease in total consumption was in two years. (2010, 2014) (Ans.)

So this is all for today. In continuing this series, we will learn about Tables, Caselets and Mixed Graphs in our next blog. Keeping your morale high during this pandemic is a very crucial thing along with taking care of your mental health too. So, keep practicing questions for the better preparation of Data Interpretation for Bank Exams. Stay tuned for [Data Interpretation \(Part 2\)](#).