

# BANK EXAMS

## QUANTITATIVE APTITUDE

### DATA INTERPRETATION

Data Interpretation can be called as comprehension of mathematics. In reading comprehension, we have to study the passage and answer the questions followed by that. Similarly, in Data Interpretation, data is given in the form of graphs, charts and tables followed by questions. We have to study, understand and analyse the data to solve the questions.

Data is a collection of facts, such as values or measurements. It can be numbers, words, measurements, observations or even just descriptions of things.

Information refers to data being arranged and presented in a systematic or an organised form, so that some useful inferences can be drawn from the same. By data we generally mean quantities, figures, statistics, relating to any event.

#### What is DATA INTERPRETATION?

Data Interpretation is the extraction of maximum information from a given set of data or information. The data can be presented either in the form of a table or a bar chart or a pie chart or a line graph or as a combination of one of these formats.

### VARIOUS TYPES OF GRAPHS

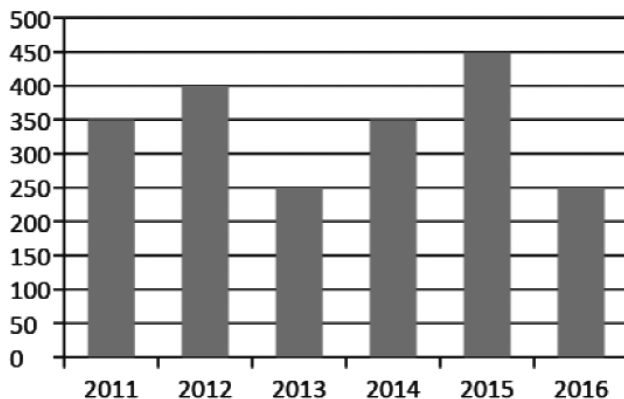
#### BAR DIAGRAM:

A bar diagram is that two dimensional graphic representation where the elementary graphic objects are a set of rectangles (bars) drawn in parallel so that the extension of the same is proportional to the magnitude they intend to represent.

The rectangles or bars, can be either horizontally or vertically positioned.

**Simple Bar diagram:** If only one bar is given in the graph that is called simple bar diagram.

**Ex:** Following bar diagram gives the production of a company in various years



1. What is the average production of the company over the years?

- 1) 350                                      2) 200                                      3) 450                                      4) 300  
5) None of these

**SOL:** Average production =  $\frac{350 + 400 + 250 + 350 + 450 + 250}{6}$   
 $= \frac{2050}{6} = 341.67$

Hence answer is 5

2. What is the difference between the highest and the lowest production of the company over the years?  
 1) 250                                      2) 100                                      3) 200                                      4) 400  
 5) None of these

**SOL:** Highest production = 500

Lowest production = 250

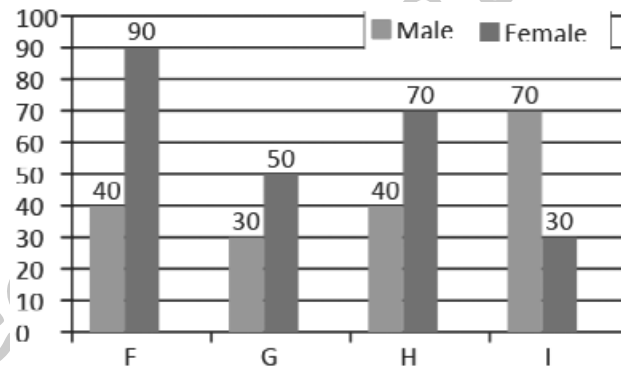
Difference = 500 - 250 = 250

Hence answer is 1

**Multiple Bar diagram:** When more than one adjacent vertical bars are given then that is called multiple bar diagram.

**Ex:** Following bar diagram gives the number of male and female teachers in four schools F, G, H and I.

(IBPS PO - 2014)



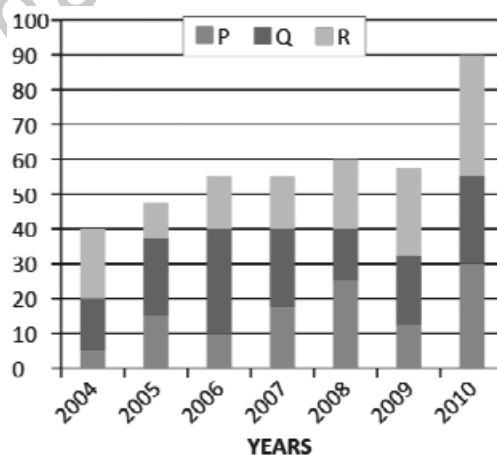
1. What is the difference between the average number of male and female teachers in the given schools?  
 1) 10                                      2) 20                                      3) 5                                      4) 15  
 5) 25

**SOL:** Required Difference =  $\frac{40 + 30 + 40 + 70}{4} - \frac{90 + 50 + 70 + 30}{4}$   
 $\Rightarrow \frac{(180) - (240)}{4} = \frac{60}{4}$

Hence answer is 4

**Sub-divided or component bar diagram:** Sub-divided or component bar chart is used to represent data in which the total magnitude (bar) is divided into different parts or components. In this diagram, first we make simple bars for each class taking total magnitude in that class and then divide these simple bars into parts in the ratio of various components.

**Ex:** Following graph gives the production of vehicles by three companies P, Q and R over the years. Production is in thousands.



1. What is the difference between the production of Q in 2007 and 2009?

- 1) 1250                                      2) 2000                                      3) 2500                                      4) 2250  
5) None of these

Ans: 3

2. The production of R in 2004 is how much percent more than the production of R in 2007?

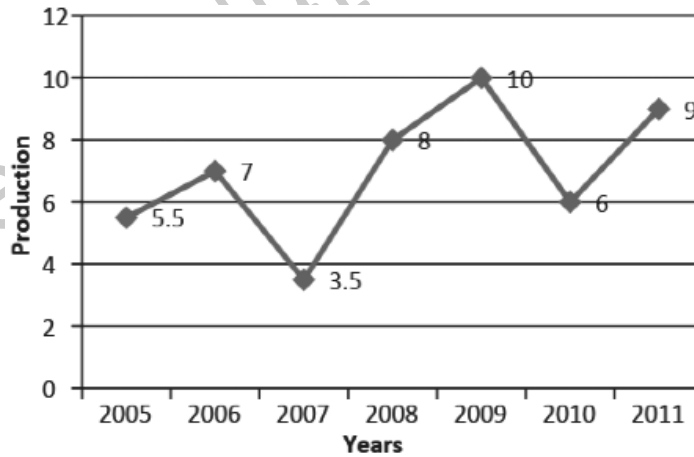
- 1) 20%                                      2) 12.5%                                      3) 22.4%                                      4) 16.67%  
5) None of these

Ans: 5

**LINE GRAPHS:**

A line graph is a type of graph, which displays information as a series of data points connected by straight line segments or a graph that uses points connected by lines to show how something changes in value.

**Ex 1:** Following line graph gives the production of a company over the years.



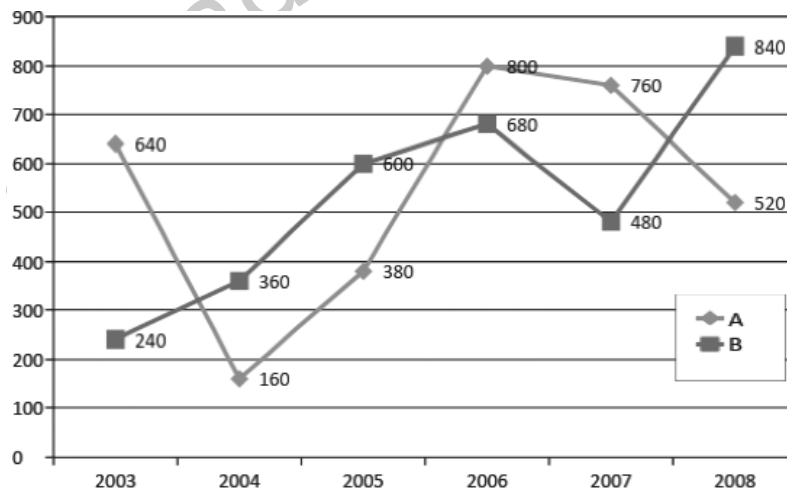
1. In how many of the following years was the production of the company above the average?

- 1) 2                                      2) 4                                      3) 1                                      4) 5  
5) None of these

Ans: 5

**Ex 2:** Following graph shows the number of books purchased for two libraries A and B during 6 years.

(IBPS PO – 2017)



1. The number of books purchased for library 2003 is what percent of the number of books purchased for library A in 2006?
- 1) 330%                      2) 15%                      3) 55%                      4) 30%
- 5) None of these

Ans: 4

2. Out of total books purchased by both libraries together in 2008, only 20% are graphic novels. What is the total number of graphic novels purchased for libraries A and B together in 2008?
- 1) 284                      2) 215                      3) 272                      4) 341
- 5) None of these

Ans: 3

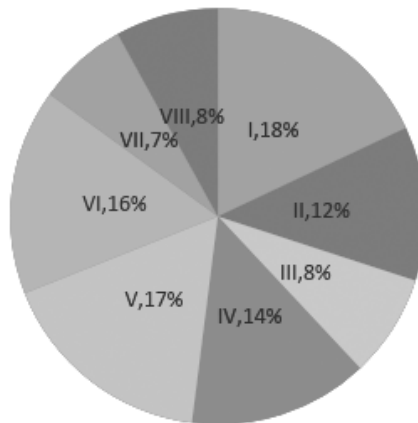
**PIE CHART:**

A pie chart is a circular chart divided into sectors. In a pie chart, the arc length of each sector (and consequently its central angle and area), is proportional to the quantity it represents.

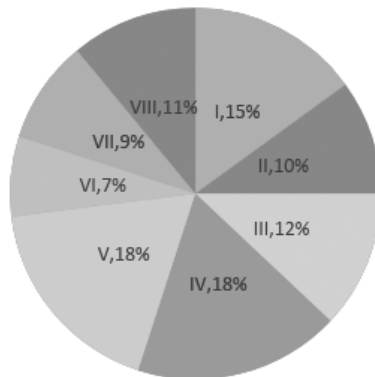
**Ex:** Following Pie-charts show the percentage of employees of a company in 8 different countries.

(IBPS PO – 2017)

**Total Number of Employees 86000**



**Total Number of Male Employees 56000**



1. What is the ratio between the number of male employees and female employees working in the country II?
- 1) 53 : 70                      2) 70 : 59                      3) 52 : 73                      4) 75 : 49
- 5) None of these

Ans: 2

2. What is the average number of female employees in the countries IV and VII?
- 1) 1470                                      2) 1280                                      3) 1960                                      4) 980
- 5) None of these

Ans: 1

**TABLES:**

Data is given in rows and columns. A row is a series of cells going horizontally across the table. A column is a series of cells going vertically or up and down the table.

**Ex:** Following table gives the number of computers produced by five companies P, Q, R, S and T over the years. Production is in thousands.

Company→ Year ↓	P	Q	R	S	T
2004	10	06	07	09	10
2005	14	08	06	08	12
2006	08	05	09	12	08
2007	05	10	08	13	10
2008	09	12	12	05	11
2009	10	12	14	08	14

1. The percentage lead in the production of computers by company R from 2005 to 2006 was
- 1) 20%                                      2) 30%                                      3) 25%                                      4) 50%
- 5) 32.5%

**Sol:** Required percentage is  $\frac{09 - 06}{06} \times 100$   
 $= 50 \%$

Hence answer is 4

**Tips to solve DI questions**

The following tips may help in answering problem solving questions that involve data analysis...

- ★ Before starting DI section one should be very comfortable with numbers, calculations, fractions, percentages, averages, ratios. It helps in reducing the time required for solving the questions.
- ★ Scan the data briefly to see what it is about, but do not attempt to analyse it in too much detail before reading a question. Focus on only those aspects of the data that are necessary to answer the question.
- ★ Be sure to read all notes related to the data.
- ★ When possible, try to make visual comparisons of the data given in a graph and estimate products and quotients rather than perform involved computations. Remember that these questions are to be answered only on the basis of the data given, everyday facts (such as the number of days in a year), and your knowledge of mathematics.
- ★ Do not make use of specific information you recall that might relate to the particular situation on which the questions are based unless that information can be derived from the data provided.

**Writer: Dr. G. S. Giridhar**