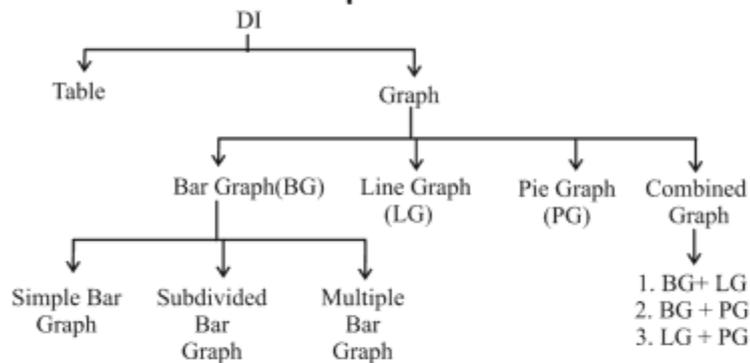


# Data Interpretation

## INTRODUCTION

Data Interpretation questions are based on the information given in the tables and graphs.

## Classification of Data Interpretation



## Table

A table is one of the easiest way for summarising data.

A statistical table is the logical listing of related quantitative data in vertical columns and horizontal rows of numbers with sufficient explanatory and qualifying words, phrases and statements in the form of heading and notes to make clear the meaning of data.

## Graph

Graphs are a convenient way to represent information. The graphs should be labelled properly to show what part of the graphs shows what a value.

## Bar Graph

Bar diagram consists of a number of equidistant rectangles. One for each category of the data in which the magnitudes are represented by the length or height of rectangle, whereas width of rectangles are immaterial. Thus, a bar is just one dimensional as only the length of the bar is to be considered and not the width. All the bars drawn in a diagram are generally of uniform width which depends on the number of bars to be constructed and the availability of the space.

## Line Graph (LG)

Very often the quantity is measured as time changes. LG are used to show how a quantity changes. If the line goes up, the quantity is increasing and the line goes down, the quantity is decreasing. If the line is horizontal, the quantity is not changing.

## Pie Graph (PG)

It is a pictorial representation of numerical data by non-intersecting adjacent sectors of a circle. Central angle of each sector is proportional to the magnitude of the data represented by the sector.

Value of central angle of the sector representing 1% of total value of the data =  $\frac{360^\circ}{100} = 3.6^\circ$

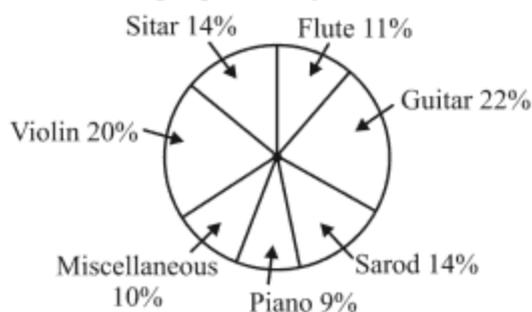
The % of components parts can be converted to central angle in degree of the sector representing this components part by multiplying  $3.6^\circ$ .

Central angle in degree of any component part which is  $x\%$  If the total value of data =  $3.6x^\circ$ .

# EXERCISE

**DIRECTIONS (Qs. 1 - 5) :** Read the following chart and answer the questions that follows

The following pie-chart shows the preference of musical instruments of 60,000 people surveyed over whole India.



- If 2100 people be less from the number of people who prefer Flute, the percentage of people who prefer Flute would have been:
  - 9.5%
  - 6.5%
  - 7.5%
  - 8.5%
- The total number of people who prefer either Sarod or Guitar, is greater than the total number of people who prefer either Violin or Sitar by:
  - 1200
  - 1600
  - 1100
  - 1400
- The number of people who prefer the musical instrument Sarod is:
  - 7400
  - 8400
  - 6400
  - 8600
- If  $16\frac{2}{3}\%$  of the people who prefer Piano, would go with the people who prefers Flute, the percentage of people who prefer Flute would have been :
  - 13.5%
  - 14.5%
  - 15.5%
  - 12.5%
- The number of people who prefer Guitar is greater than the total number of people who prefer either Flute or Piano by:
  - 1200
  - 1100
  - 1300
  - 1400

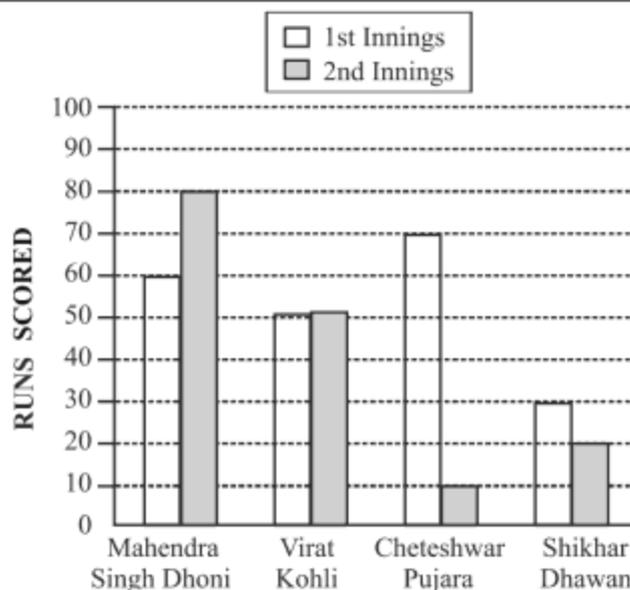
**DIRECTIONS (Qs. 6 - 9) :** The following table shows the productions of food-grains (in million tons) in a state for the period 1999 - 2000 to 2003 - 2004. Read the table and answer the questions.

Years	Production (in million tons)			
	Wheat	Rice	Barley	Other cereals
1999-2000	680	270	250	450
2000-2001	800	420	440	300
2001-2002	680	350	320	460
2002-2003	720	400	380	500
2003-2004	820	560	410	690

- In 2002 - 2003, the percentage increase in the production of barley as compared to the previous year was:
  - 14.20%
  - 17.85%
  - 18.75%
  - 7.90%

- During the period 1999 - 2000 to 2003 - 2004, x per cent of the total production is production of wheat. The value of x is about:
  - 12.6%
  - 37.37%
  - 37.8%
  - 20.2%
- In the year 2003 - 2004, the increase in production was maximum over the previous year for:
  - Rice
  - Barley
  - Other cereals
  - Wheat
- The difference of average production of rice and the average production of barley over the years is :
  - 50
  - 60
  - 80
  - 40

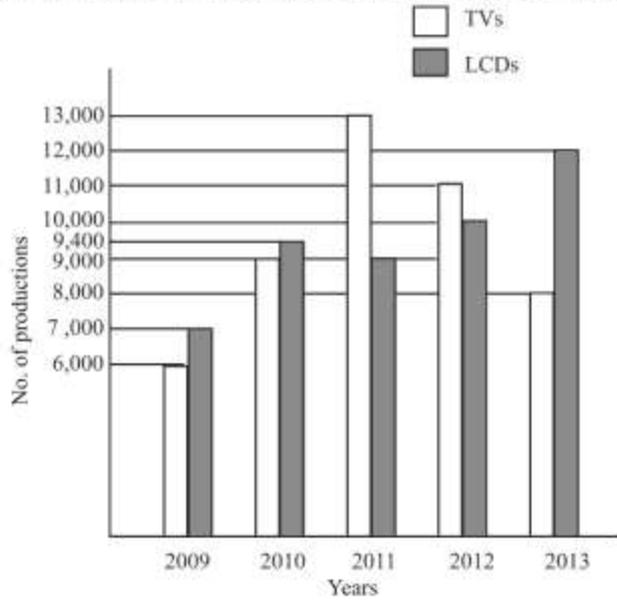
**DIRECTIONS (Qs. 10-13) :** Given here a multiple bar diagram of the scores of four players in two innings. Study the diagram and answer the questions.



- The average runs of two innings of the player who scored highest in average is :
  - 75
  - 85
  - 80
  - 70
- The average runs in two innings of the player who has scored minimum at the second innings is :
  - 50
  - 60
  - 40
  - 30
- The average score in second innings contributed by the four players is :
  - 30
  - 60
  - 40
  - 50
- The total scores in the first innings contributed by the four players is :
  - 220
  - 200
  - 210
  - 190

**DIRECTIONS (Qs. 14-17) :** Study the following bar diagram carefully and answer the following Four Questions.

The number of the production of electronic items (TVs and LCDs) in a factory during the period from 2009 to 2013.



14. The total number of production of electronic items is maximum in the year  
(a) 2009  
(b) 2010  
(c) 2011  
(d) 2013
15. The ratio of production of LCDs in the year 2011 and 2013 is  
(a) 3 : 4  
(b) 4 : 3  
(c) 2 : 3  
(d) 1 : 4
16. The difference between averages of production of TVs and LCDs from 2009 to 2012 is  
(a) 600  
(b) 700  
(c) 800  
(d) 900
17. The ratio of production of TVs in the years 2009 and 2010 is  
(a) 7 : 6  
(b) 6 : 7  
(c) 2 : 3  
(d) 3 : 2

## Hints & Solutions

1. (c) No. of people who prefer flute = 11% of 60,000  

$$= \frac{11}{100} \times 60000 = 6600$$
 2100 people be less from the people who prefer flute.  
 Therefore,  $6600 - 2100 = 4500$   
 Required percentage =  $\frac{4500}{60000} \times 100 = 7.5\%$
2. (a) Total number of people who prefer either Sarod or Guitar = 14% of 60000 + 22% of 60000  
 $\Rightarrow 8400 + 13200 = 21600$   
 Total number of people of who prefer violin or Sitar = 20% of 60000 + 14% of 60000  
 $\Rightarrow 12000 + 8400 = 20400$   
 Required difference =  $21600 - 20400 = 1200$
3. (b) Required number = 14% of 60000  

$$= \frac{14}{100} \times 60000 = 8400$$
4. (d) No. of people who prefer piano = 9% of 60000 = 5400  
 According to question,  $16\frac{2}{3}\%$  no. of the people who prefer piano would go with flute.  
 Therefore,  $\frac{50}{3}\%$  of 5400 = 900  
 Hence, the required percentage  

$$= \frac{900 + 11\% \text{ of } 60000}{60000} \times 100$$

$$= \frac{900 + 6600}{60000} \times 100 = 12.5\%$$
5. (a) No. of people who prefer guitar = 22% of 60000 = 13200  
 No. of people who prefer Flute or Piano = (11 + 9)% of 60000 = 12000  
 Required difference =  $13200 - 12000 = 1200$ .
6. (c) Percent increase =  $\frac{380 - 320}{320} \times 100 = 18.75\%$
7. (b) **Total production:**  
 Wheat  $\Rightarrow$  3700 million tonnes  
 Rice  $\Rightarrow$  2000 million tonnes  
 Barley  $\Rightarrow$  1800 million tonnes  
 Other cereals  $\Rightarrow$  2400 million tonnes
- Total production of all products  
 $= 3700 + 2000 + 1800 + 2400 = 9900$   
 and production of wheat = 3700  
 $\therefore$  ATQ,  $x\%$  of 9900 = 3700  

$$\frac{x}{100} \times 9900 = 3700, x = \frac{370000}{9900}$$

$$x = 37.37\%$$
8. (a) Percentage increase:  
 Rice =  $\frac{160}{400} \times 100 = 40$   
 Other Cereals =  $\frac{190}{500} \times 100 = 38$   
 Barley =  $\frac{30}{380} \times 100 = 7.8$   
 Wheat =  $\frac{100}{720} \times 100 = 13.8$
9. (d) Required difference =  $\frac{2000}{5} - \frac{1800}{5} = 400 - 360$   
 $= 40$  million tonnes
10. (d) Highest Average in two Innings =  $\frac{60 + 80}{2} = 70$ .
11. (c) Less score in second innings by player pujara = 10  
 Average score in two innings =  $\frac{70 + 10}{2} = 40$
12. (c) Average score in second Innings  

$$= \frac{80 + 50 + 10 + 20}{4} = \frac{160}{4} = 40$$
13. (c) Total score in 1<sup>st</sup> Innings =  $60 + 50 + 70 + 30 = 210$ .
14. (c) Production of electronic items maximum in 2011 i.e.  $13,000 + 9,000 = 22,000$
15. (a) Production of LCD in 2011 = 9,000  
 Production of LCD in 2013 = 12,000  
 Ratio =  $\frac{9,000}{12,000} = \frac{3}{4}$
16. (d) Total production of TV from 2009 to 2012 = 39,000  
 Average of TV production = 9,750  
 Total production of LCD from 2009 to 2012 = 35,400  
 Average of LCD production = 8,850  
 Their difference =  $9,750 - 8,850 = 900$
17. (c) Ratio of production of TV =  $\frac{6,000}{9,000} = 2 : 3$