**Chapter-25**

**Data interpretations**

**Types of D.I. –** There are 4 kind of D.I.

(1) Tabulation (2) Bar Graphs (3) Pie- charts (4) Line-Graphs

**Useful Tips :**

(1) To solve D.I., first we learn some useful topic; percentage profit & loss, Ratio, Average, because these topics are used in D.I.

(2) In, income- expenditure type of D.I.

Expenditure is equivalent to C.P.

& income is equivalent to S.P.

(3) In percentage- 25% of 80 =  = 20

it is equivalent to- 80% of 25 = 

For example : Suppose a student got 80% out of maximum mark 75. What is the marks obtained by that student ?

80% of 75 =  (80% =  )

= 60

but, suppose another student got 64% marks out of maximum marks 75. What is the marks obtained by that student ?

It is difficult when we find 64% of 75 but if we find (75% = )

75% of 64 = 

We easily get the required answer.

(4) % profit of a company x in various years are given below in the form of line graph-



(i) In which year company x got maximum profit ?

Sol. (According to the question, most of the candidate answered year 2011 (25%) but it is not necessary) that 25% is maximum out of all given years then the value of 25% is also maximum (it may be), between (% P is always calculated on its expenditure, (expenditure is not given).

Ans. CND

(ii) In which year, company x got maximum % profit ?

Ans. 2011 (25%)

**Tabulation**

**Study the following table carefully and answer the questions given below** :

Number of students studying in different faculties in seven institutions

Institutions Faculty

**Arts Commerce Science Engineering Management**

A 135 207 236 155 84

B 106 162 188 134 147

C 154 245 130 184 37

D 175 148 255 86 66

E 225 222 275 112 137

F 194 216 165 178 99

G 235 123 216 256 158

**Example:** What is the percentage of students studying Management with respect to the total number of students studying in the institute B ?

**Answer** : Required % = = 20% (approx)

**Example:** Out of the total students of the institute D, approximately what percentage of students are studying Science ?

**Answer** : Required % = = 35%

**Example:** The total number of students studying Arts in institutes A, B and C together is approximately what percent of the total number of students studying Engineering in Institutes D, E and G together ?

**Answer** : Required % = = 87% (approx)

**Example:** What is the percentage of students studying Science in institute C with respect to the total students of all institutions studying Science ?

**Answer** : Required % = = 9% (approx)

**Example:** In which institution, the percentage of students studying Commerce with respect to the total students of the institution maximum ?

**Answer** : C

**Bar graph**

**Read the following graph carefully and answer the questions given below.**

Crude oil price (in Rs.) per metric tonne



**Example:** How many months experienced more than 10 percent increase in crude oil price over the earlier month?

**Answer** :Four

**Example:** Which month experienced more than 10 percent but less than 20 percent increase in the price of crude oil over the earlier month?

**Answer** : August

**Example:** What is the approximate percentage increase in the price of crude oil from February to September?

**Answer** : Required % = 

= 84% (approx)

**Example:** What is the respected ratio of crude oil price of May to the price of crude oil of April ?

**Answer**: Required ratio = 5900 : 9450= 118 : 189

**Example:** What is the average crude oil price if all the months taken together ?

**Answer** : Required average = = 9210

**Pie chart**

**Study the following pie chart carefully gives the answer-**

Classification of appeared candidates in a competitive test from different institutes and qualified candidates.



**Example:** What is the difference between the number of qualified candidates of institute R and those of T ?

**Answer** : Required difference = (24-7)% of 12000

= 17% of 12000= 2040

**Example:** What is the average number of appeared candidates from institutes P, T and V together ?

**Answer** : Total appeared candidates from P, T and V.

= 56000 × = 560× 45

Average =  = 8400

**Example:** What is the percentage of qualified candidates with respect to appeared candidates from institutes P and R taken together ? (Rounded to two decimal places) ?

**Answer** :Required% = × 100

= 21. 42%

**Example:** What is the sum total number of appeared students from institute R and total number of qualified students from institute P and S together ?

**Answer** : Total number = 15680 + 3960 = 19640

**Example:** What is the ratio between the number of candidates who qualified from institutes P and R together to the no. of candidates who appeared from institutes Q and V together ?

**Answer** : Required ratio

= 

**Line graph**

**Study the following graph carefully and answer the given questions :**

The following graph shows the% profit of two companies over the years :-



**Example:** In which of the following years was the total income more than double the total expenditure in that year for company A ?

**Answer** : From observing the graph year-2009

**Example:** If income of company A in the year 2006 and 2009 are same then what is the respective ratio of expenditure of company A in both the same years ?

**Answer** :. 

200 : 190

20 : 19

**Example:** If the total income of company B in 2011 was Rs 200 lakhs what was the expenditure of company A in the same year ?

**Answer** : We cannot correlate the income or expenditure and % profit for both the companies.

**Example:** In which of the following years the ratio of expenditure to income was the least for company B?

**Answer** : 

The denominator of which is the greatest the ratio will be minimum.

**Example:** If the total expenditure of company A is 2007 was Rs 150 lakhs what was the total income ?

**Answer** : Income of A in 2007 = 150 × 1.60

= Rs 240 lakhs