Graphical Representation of Statistical Data – 23.1

1.

Sol:

(i) The given bar graph represents the number of the tickets of different state lotteries sold by an agent on a day

(ii) Number of tickets of assam state lottery were sold by agent is 40

(iii) Haryana sold the maximum number of tickets

(iv) Minimum number of tickets sold = 20

Maximum number of tickets sold = 100

$\therefore 100 = 5 \times 20$

So, the given statement is false

(v) Rajasthan sold the minimum number of tickets.

2.

Sol:

(i) The percentage of the youngest age group persons over those in the oldest age group

$= \frac{1400}{300} \times 100$

$= 466\frac{2}{3}.$

(ii) Total population of the town

$= 1400 + 1200 + 1100 + 900 + 800 + 300$

$= 6700.$

(iii) The number of persons in the age group of $60 - 65$ *is* 800.

(iv) The number of persons are more in the age group 10-15 than in the age group

$= 30 - 35 = 1400 - 1100 = 300.$

(v) The age group in which exactly 1200 persons living in the town is $20 - 25$

(vi) The total number of person living in the town is 20-25

(vii) The total number of persons living in the town in the age group 10-t115 and

$60 - 65 = 1400 + 800$

$= 2,200$

(viii) The population decreases with the increase in the group.

3.

Sol:

(i) Given bar graph represents the number of commercial banks in India during some years.

(ii) The number of commercial banks in 1977 was 130.

(iii) The ratio of the number of commercial banks in 1969 to that in $1980 = \frac{90}{150}$

$= 3:5$

(iv) The number of commercial banks in 1983 = 230

The number of commercial banks in 1980 = 150

Clearly, the number of commercial banks in 1983 is not less than double the number of commercial banks in 1969.

So, the given statement is false.

4.

Sol:

(i) Total number of students obtaining less than 20 marks $= 27 + 12 = 39$.

The cost off one – work book = Rs 5.

$\therefore$ The cost of 30 work books $= 39 \times 5$

= Rs 195.

(ii) The number of students belonging to the highest mark group = 17

The cost of a prize = 10.

$\therefore$ The cost of 17 prizes $= 10 \times 17$

$= Rs\ 170$

(iii) The number of students belonging to the lowest mark group $= 27$

The number of problems solved by 1 student = 5

$\therefore$ The total number of problems solved by 21 students $= 5 \times 27$

$= 135$.

(iv) (a) Total number of students = 100

The number of students in range 40-49=17.

% of students obtaining marks ranging

$40 - 49 = \frac{17}{100} \times 100$

$= 17\%$

So, the given statement is true.

(b) The number of students in range $10 - 29 = 12 = 120 = 32$.

Percentage of students obtaining marks ranging $10 - 29 = \frac{32}{100} \times 100 = 32\%$

So, the given statement is false (False).

(v) No. of students getting more than 20 marks = 39

(vi) Total no. of students getting more than 29 marks = 41

(vii) The number of students getting marks between 9 and $40 = 12 + 20 + 24 = 56$.

(viii) The number of students belonging to the highest mark group = 17.

(ix) The number of students obtaining more than 19 marks $= 100 - 27 - 12 = 61$

5.

Sol:

(i) The given Bar graph represents the number of government companies in india during some years.

(ii) (a) no. of government companies in 1957=50

Number of government companies in 1982=375

$\therefore$ The number of government companies in 1957 is that of 1982 $= \frac{50}{375}$

$= \frac{2}{15} \neq \frac{1}{9}$

So, the given statement is false

(b) The height of the bars increases over the years hence, the statement is false.

6.

Sol:

(i) The given information is about rice and wheat production in various states of India.

(ii) W · B is the largest producer of rice

(iii) U · P is the largest producer of wheat

(iv) The total production of rice and wheat is maximum in U · P

(v) The total production of rice and wheat is maximum in Maharashtra

7.

Sol:

(i) Total number of students have their heights more than $149cm = 16 + 10 + 5 = 31$.

The percentage of the total number of students has their heights more than 149cm

$= \frac{31}{50} \times 100 = 31 \times 2 = 62\%$

(ii) The number of students in the range of maximum height of the class is 5.

(iii) Total number of students below height of 150cm $= 7 + 12 = 19$.

The cost of the tonic for each student = Rs 55

The cost of the tonic for 19 student $= 19 \times 55$

$= Rs\ 1045$

(iv) The number of students are in the range of shortest height of the class = 7.

(v) (a) True

(b) False

(c) Total number of students in the range of $145 - 154 = 12 + 17 = 29$

So the given statement is true

(d) True

(e) The number of students whose height more than $154cm = 9 + 5 = 14$.

(f) So, the given statement is true.

8.

Sol:

(i) It gives information regarding industrial production of cement in different years in India.

(ii) The production of cement in the year 1980 – 1981 = 186 lakh tonnes.

(iii) The minimum production is 30 lakh tonnes in 950 – 1951 and maximum production 232 lakh tonnes in 1982 – 1983

9.

Sol:

(i) Total number of newspapers published in Hindi, English, Urdu, Punjabi and Bengali

$= 3700 + 3400 + 700 + 200 + 1100$

$= 9100.$

(ii) The number of newspapers published in Hindi $= 3700$

The total number of newspapers is published

$= 700 + 400 + 1000 + 200 + 1400 + 1400 + 700 + 1100 + 3400 + 1100 = 14,400$

The percentage of Hindi news papers $\frac{3700}{14400} \times 100 = 25 \cdot 69 = 25 \cdot 71$

(iii) The excess of the number of newspapers published in English over those published in Urdu

$= 3400 - 700 = 2700.$

(iv) Bengali, Gujrati, and Marathi, Malayalam are the two pairs of languages which publish the same number of newspaper.

(v) Punjabi is the Languages in which the smallest number of newspaper were published.

(vi) Hindi is the language in which the largest numbers of newspaper were published.

(vii) English is the language in which the number of newspaper were published in between 2500 and 3500

(viii) (a) Total number of newspaper were published in Malayalam and Marathi
$= 1400 + 1400 = 2800.$
Number of newspaper were published in English = 3400
$\therefore$ The number of newspapers published in Malayalam and Marathi together is less than those published in English so the given statement is true.
(b) Number of news. Papers published in Telugu = 400
Number of newspaper published in Tamil = 1000
$\therefore$ The number of newspapers published in Telugu is more less than those published in Tamil.
So, the given statement is false

10.

Sol:

(i) It is gives information regarding the production of rice crop in India in different years

(ii) The crop production of rice in $1970 - 71 = 42 \cdot 5$ lakh tonnes.

(iii) The difference between the maximum and minimum production of rice = 55 – 22 = 33 lakh tonnes

11.

Sol:

(i) It gives the information about the public expenditure one education by various state subcontinents

(ii) In Africa the expenditure education is maximum in 1980

(iii) In east Africa. The expenditure has gone by from 1980 to 1990

(iv) In Africa the gap between 1980 and 1990 is maximum.

12.

Sol:

(i) It gives the information about the areas under sugarcane crop during different years in India

(ii) The areas under the sugarcane crop were the maximum and the minimum in $1982 - 1983$ and $1950 - 51$ respectively

(iii) The area under sugarcane crop in the year $1982 - 1983 = 34$ lakh hectors.
The area under sugarcane crop in the year $1950 - 51 = 17$ lakh hectors
Clearly, the area under the sugarcane crop in the year $1982 - 83$ is not three tomes that of the year $1950 - 51$

So, the given statement is false

13.

Sol:

(i) It gives the information about the expenditure on health and family planning during sixth five plan in India

(ii) The expenditure on health and many family planning in the year $1982-83 = Rs\ 700$ cores

(iii) $1984-85$ is the year in which the increase in expenditure maximum over the expenditure in previous year.
The maximum increase $= 1000-780$
$= 220$ crores.

14.

Sol:

(i) It gives the information about the number of families with different number of members in a locality.

(ii) The number of families having 6 members = 50

(iii) 3 members per family are there in the maximum number of families
The number of families which have 3 members = 120.

(iv) 9 and 10 are the number of members per family for which the number of families are equal
The number of such families is 5.

15.

Sol:

(i) It gives the information above the overage of some Door Darshan centers of India

(ii) Kolkata Door Darshan center convers maximum area.
The area covered by Kolkata door darshan
Centre $= 36000\ sq-km$

(iii) The difference between the areas covered by the centers of Delhi and Bombay
$= 33,000-19,000$
$= 14,000\ sq-km$

(iv) Kanpur and Luck now door darshan center are in U·P state
The area covered by Kanpur door darshan center $= 32,000\ sq.km$
The area covered by Lucknow door darshan center $= 25,000\ sq.km$

Graphical Representation of Statistical Data – 23.2

1.

Sol:

First step in reading a bar graph is to know what it represents or what is the information given by it, for this we read the captions. Which are generally written just below the horizontal line $(x-axis)$ and adjacent to vertical line $(y-axis)$

After knowing that what a bar graph represents, we read the scale so that we can know the precise value in the given data.

After reading a bar graph one must be able to draw certain condusions from it. Drawing some conditions from a given bar graph means interpretation of the bar grph.

2.

Sol:

(i) It gives the information regarding import and export from $1982-83$ to $1986-1987$

(ii) The export is minimum in the years $1982-83$

(iii) The imports is maximum in $1986-87$.

(iv) The different of value of export and import is maximum in 1986-87

3.

Sol:

(i) (b) VI, IX

(ii) (a) VII

(iii) (b) VII