

MATHEMATICS

Class-VI

Topic-14

DATA HANDLING



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TERMINOLOGIES

Data, raw data, primary data, secondary data, frequency distribution, pictograph, bar graph, average.

INTRODUCTION

Data handling is one of the central activities through which we can organize and present data in such a way that its analysis and interpretation becomes easier.

Importance of Data : Expressing facts with the help of data is of great importance in our day-to-day life. For example, instead of saying that India has a large population, it is more appropriate to say that the population of India, based on the census of 2001 is one billion and twenty eight million..

14.1 TABULAR AND GRAPHICAL REPRESENTATION OF DATA

(a) Data

Data is the collection of information or facts . It may be a collection of numbers, figures, words, or symbols.

(b) Raw Data

The data that has been collected in the original form is called raw data.

For example :

The marks obtained by 50 students in the Social Studies exam are 60, 40, 35, 27, 67, 72, 40, 37, 45, 50, 52, and so on up to 50 items.

This collection of data is raw data.

(c) Observation

Each of the items in the raw data is called an observation. The marks of each student stands for an observation in the raw data.

(d) Types Of Data

There are two types of data — primary data and secondary data.

(i) **Primary data :** primary data is the data collected directly from the source.

(ii) **Secondary data :** Secondary data is the data collected from secondary sources such as the Internet, TV, libraries, newspapers. etc

For example :

Mr Sen asks the students to give their choice for the particular location they would like to go, the games they would like to play, the type of food they would like to have on their trip, he is getting the information directly from the source. This is **primary data collection**.

When he is collecting information about weather, or accommodation facilities. He may collect these from the Internet, travel brochures, newspapers, magazines, television and other sources. These sources are secondary sources and the data collected from secondary sources is called **secondary data**.

(e) Organisation of Data

To draw a meaningful conclusion from the data, the data must be organized. Understanding and analyzing the data becomes easier when it is represented by pictures or tables.

(f) Tabular Form

Consider the data given here. 75%, 88%, Devan , Charu, Sajita, Arvind, 70%, 60%, 83%, 90%, 94%, Greg, Manisha, Vijayan, Ahmed, Raghu, Neetu, 66%, 77%, 72%. This is raw data.

The data given above are facts in words and figures. Unless the available data is properly presented, we cannot get meaningful information from it. Given below is a tabular representation of the above data. This makes the information easy to understand.

Names of students	Percentage of marks obtained
Arvind	66%
Charu	83%
Deven	75%
Greg	88%
Manisha	72%
Ahmad	60%
Neetu	94%
Raghu	77%
Sajita	90%
Vijayan	70%

(g) Frequency Distribution

Let us study the peak hour traffic at a road junction to share it with the town or city administrators to help them develop that junction for easy traffic flow. We need to collect the data about the number of trucks, cars, other motor vehicles, and cycles passing through that junction during a fixed period at the peak hour.

We will try to find the number of vehicles passing through that junction during the peak interval of 9.00 a.m to 9.30a.m.

For this you have to prepare a data collection sheet.

Peak hour traffic during 9:00 a.m. to 9:30 a.m. on 3-3-2009		
Vehicles	Tally	Frequency
Trucks		17
Cars		33
Rickshaws		24
Motor cycles/ Scooters		36
Cycles		32
Total		142




You find here two new words tally and frequency. Tally is a mark 'I' we put in the chart against each item. For example, if a car passes the junction, we mark one tally "I" in the box against car. When four cars have passed, the tally will look like this "IIII". When the fifth car passes, we do not write "IIIII" but we put a cross across the four tallies like . This forms a group of 5. Similarly, ' ||' will be two fives and two, i.e., 12.

The total value of the tallies in each row tells us the number of the particular type of vehicle which passed through that junction. In general, the tally mark represents the number of times that particular situation happened. This is called the frequency of that event or that happening. In the case of trucks, 17 trucks passed through that junction between 9.00 a.m. and 9.30 a.m. Thus the frequency of the trucks passing during 9.00–9.30 is 17. And the frequency for cars is 33, and so on. Finally the investigation or data collection chart will look like this.




(h) Representation of Data

We have learnt how to collect the information and how to organize it using a frequency table. To represent the study of this data, we can draw graphs for this data. Pictographs and bar graphs are simple ways of representing this data.

(i) Pictograph : A pictograph is the way of representing data using pictures. In a school compound, there are 5 Neem trees, 4 Coconut trees and 3 Ashoka trees. Let us represent the above data by a pictograph.
Trees in the school compound

Neem tree	
Coconut tree	
Ashoka tree	

Let us now suppose that there are 40 neem trees, 24 coconut trees and 32 ashoka trees, you cannot draw each picture for each tree. So we take a convenient scale. Let us consider that each tree drawn represents 8 actual trees. 40 neem trees will become 5 trees drawn. Similarly, 24 coconut trees will be 3 and 32 ashoka trees will be represented by 4 trees. Now it is convenient to draw a graph.

Neem tree	
Coconut tree	
Ashoka tree	

Make sure that each picture must be one below the other.







Reading and interpreting pictograph :

Reading a pictograph helps in interpreting the pictograph so as to get information from it.

Illustration 14.1

Given below is a pictograph of ages of students in a class of 51 students.

Key :  represents 3 students

60 months old	
61 months old	
62 months old	
63 months old	
64 months old	
65 months old	
60 months old	$2 \times 3 = 6$
61 months old	$3 \times 3 = 9$
62 months old	$5 \times 3 = 15$
63 months old	$4 \times 3 = 12$
64 months old	$2 \times 3 = 6$
65 months old	$1 \times 3 = 3$

Answer the following questions.

(i) What is the total number of students ?

Sol. \bar{x} represents 3 students and here we have 17 such \bar{x} \therefore

$$\text{Total no. of students} = 17 \times 3 = 51$$

(ii) Which age group has the lowest number of students ? How many students are there in group

Sol. 65 month old age group has the lowest number of students. Three students are there in group.

(iii) Which age group has the highest number of students ? How many students are there in the group ?

Sol. 62 months old age group has the highest number of students. 15 students are there in the group.

(iv) How many students are there, who are 62 months and below ?

Sol. \bar{x} represents 3 students and here we have 10 such \bar{x} who are 62 months and below

$$\therefore \text{Total no. of students who are 62 months \& below} = 10 \times 3 = 30$$

(v) How many students are 62 months and above ?

Sol. \bar{x} represents 3 students and here we have 12 such \bar{x} who are 62 months and above

$$\therefore \text{Total no. of students who are 62 months \& above} = 12 \times 3 = 36$$

(vi) How many students are between the age of 61 months and 64 months ?

Sol. \bar{x} represents 3 students and here we have 9 such \bar{x} who are between the age of 61 months and 64 months

$$\therefore \text{Total no. of students who are between the age of 61 months and 64 months} = 9 \times 3 = 27.$$

(ii) **Bar Graph** : When the given data is large and also not in multiples of a number, it is difficult to draw pictographs. When numerical data is presented as columns on a graph, this graphical representation of data is called a **bar graph** . It is also known as column graph.

Properties of Bar Graphs :

In a bar graph, the columns are drawn such that :

- Each column is of equal width.
- There is equal space between each column.
- The height of each column indicates the value of data such that if a perpendicular is drawn from its top to ray OY, the percentage of marks represented by the column can be read off.
- All bars or columns are draw on the same common base.
- To make the bar graph attractive, the bars may be coloured.
- Bars are very helpful for visual comparison of data.

Construction of a bar graph :

STEPS :

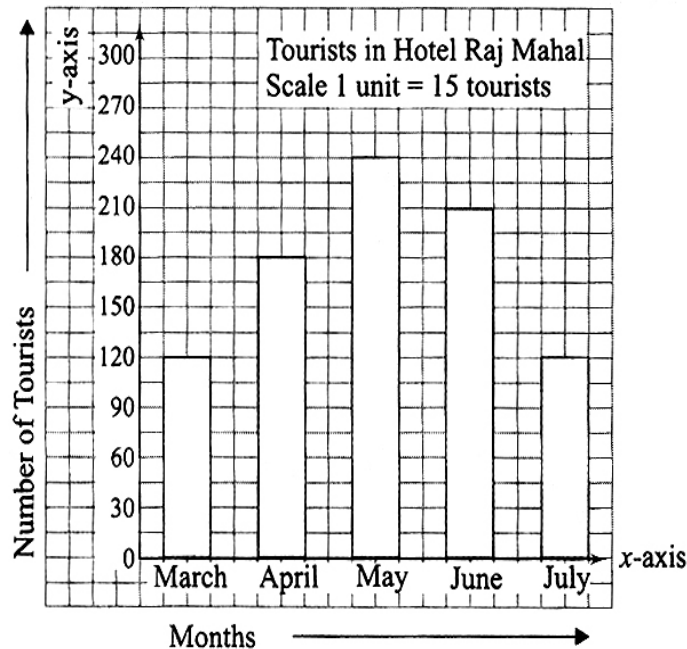
1. On the graph paper draw a horizontal line (x-axis) and a vertical line (y-axis)
2. Along the horizontal line, mark points at equal distances and write the names of the items for which the data is to be represented.
3. Choose a suitable scale which shall determine the height of the bars.
4. Locate the heights of different bars according to scale.
5. On x-axis draw bars of equal width according to the required height.
6. Keep the distance between the bars the same.

Illustration 14.2

Look at the frequency chart representing the number of tourists staying in Hotel Raj Mahal in Shimla for 5 months : March, April, May, June and July.

Months	Tourists
March	120
April	180
May	240
June	210
July	120

Take a graph paper or a squared paper. Draw a horizontal axis at the bottom. On the left side draw a vertical axis. Take an appropriate scale. In this case, let it be 1 division (1 centimetre) equal to 15 tourists.



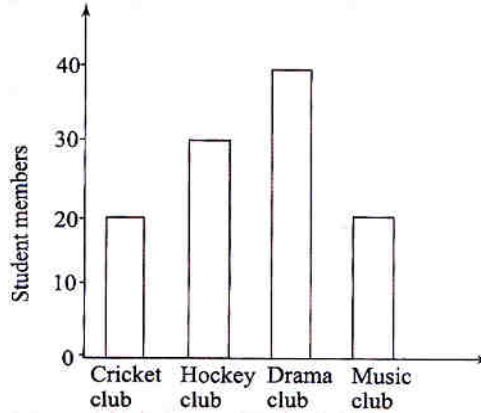
On the horizontal axis, represent the five months separately with equal width and equal distances between them.

Reading of bar graphs :

Reading of the bar graph is the process of interpreting the bar graph to gather information.

Illustration 14.3

Read the bar graph given below and answer the following questions.



(i). What is the total number of students in all the clubs together ?

Sol. $20 + 30 + 40 + 20 = 110$ students

(ii). Which club has more students and how many ?

Sol. Drama club, 40 students.

(iii). Which club have equal number of students ?

Sol. Cricket club and music club

(iv). How many students are there in hockey club ?

Sol. 30 students.

(v). What information is given in the bar graph ?

Sol. The bar graph represents the number of members of different sports clubs.

(i) Average

$$\text{Average} = \left(\frac{\text{Sum of observations}}{\text{Number of observations}} \right)$$

Illustration 14.4

Find the average of all prime numbers between 30 and 50.

Sol. There are five prime numbers between 30 and 50.

They are 31, 37, 41, 43, and 47

$$\therefore \text{Required average} = \left(\frac{31 + 37 + 41 + 43 + 47}{5} \right) = \frac{199}{5} = 39.8$$

Illustration 14.5

Find the average of first 5 multiples of 7.

Sol. Required average = $\frac{7 + 14 + 21 + 28 + 35}{5} = \frac{105}{5} = 21$

Ask yourself



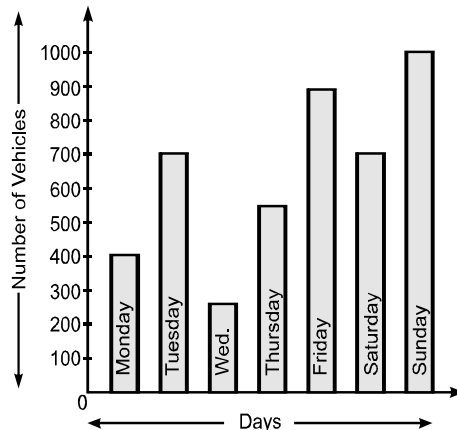
1. What is data ?
2. The total number of children in 20 families of a locality are given below :
2,2,3,2,1,3,3,2,2,1,2,2,3,1,2,1,1,3,2,2
Represent this information in a frequency distribution table.
3. The marks obtained by 25 students in a class test of 100 marks is given below:
80,60,40,70,75,80,90,100,60,70,60,70,85,65,70,70,85,60,65,80,60,70,80,70,60
Make a frequency distribution table of the above data and answer the following questions:
 - (a) What is the maximum marks obtained ?
 - (b) Find the number of students who scored less than 75 marks.
 - (c) Find the number of students who scored more than 80 marks.
4. Shabana was asked to find the number of students playing different games in the school. The information collected by her is as follows :
Football 30 Badminton 10 Cricket 20 Volleyball 30 Basketball 40
Represent the given information with a pictograph.

5. The total number of students of a school in different years is shown in the following table:

Year	No. of students
2000	4000
2001	5500
2002	6500
2003	3500
2004	5000
2005	4500

Prepare a pictograph using ☺ to represent 1000 students and answer the following :

- (a) How many symbols represent total number of students in the year 2000?
 - (b) How many symbols represent the total number of students in the year 2003?
 - (c) For which year , you need to make maximum number of symbols.
6. The following bar graph shows the number of vehicles passed through a crossing. Answer the following questions :



- (a) Which day is the day of minimum traffic at the crossing ?
- (b) Which day is the day of maximum traffic at the crossing ?
- (c) How many vehicles passed through the traffic crossing on Friday ?
- (d) How many total vehicles passed through the traffic crossing during the week ?

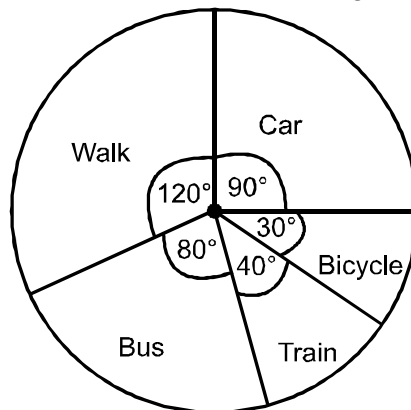
Answers

3. (a) 100 (b) 16 (c) 4 5. (a) 4 (b) 3.5 (c) 2002
 6. (a) Wednesday (b) Sunday (c) 900 (d) 4500



Add your knowledge _____

- (a) **Range** : The difference between the highest and lowest values of the given data is called range .
 For example, 0,3,8,10,10,12,18,19,19,20
 So in this case, Range = 20 - 0 = 20
- (b) **Frequency** : The number of times a particular observation occurs is called its frequency.
 For example, 0,3,8,10,10,12,18,19,19,20
 10 marks are obtained by 2 students so its frequency is 2.
 Frequency of 19 is 2, and rest of the numbers have frequency 1
- (c) **Pie- Chart** : A diagram used to represent statistical data by dividing a circle into sectors is known as pie chart or pie graph.
 Pie graphs are circular, so they are also called circle graphs. Each sector of a pie graph shows a fraction of the total. It shows the relation of the part with the whole.
 This pie chart shows how 36 pupils usually come to school :
 The number of pupils is 36 and the whole group of 36 pupils is represented by the complete angle 360°. the angles at the centre are in proportion to each category. Thus , the angle of 120° at the centre corresponds to the walk group.



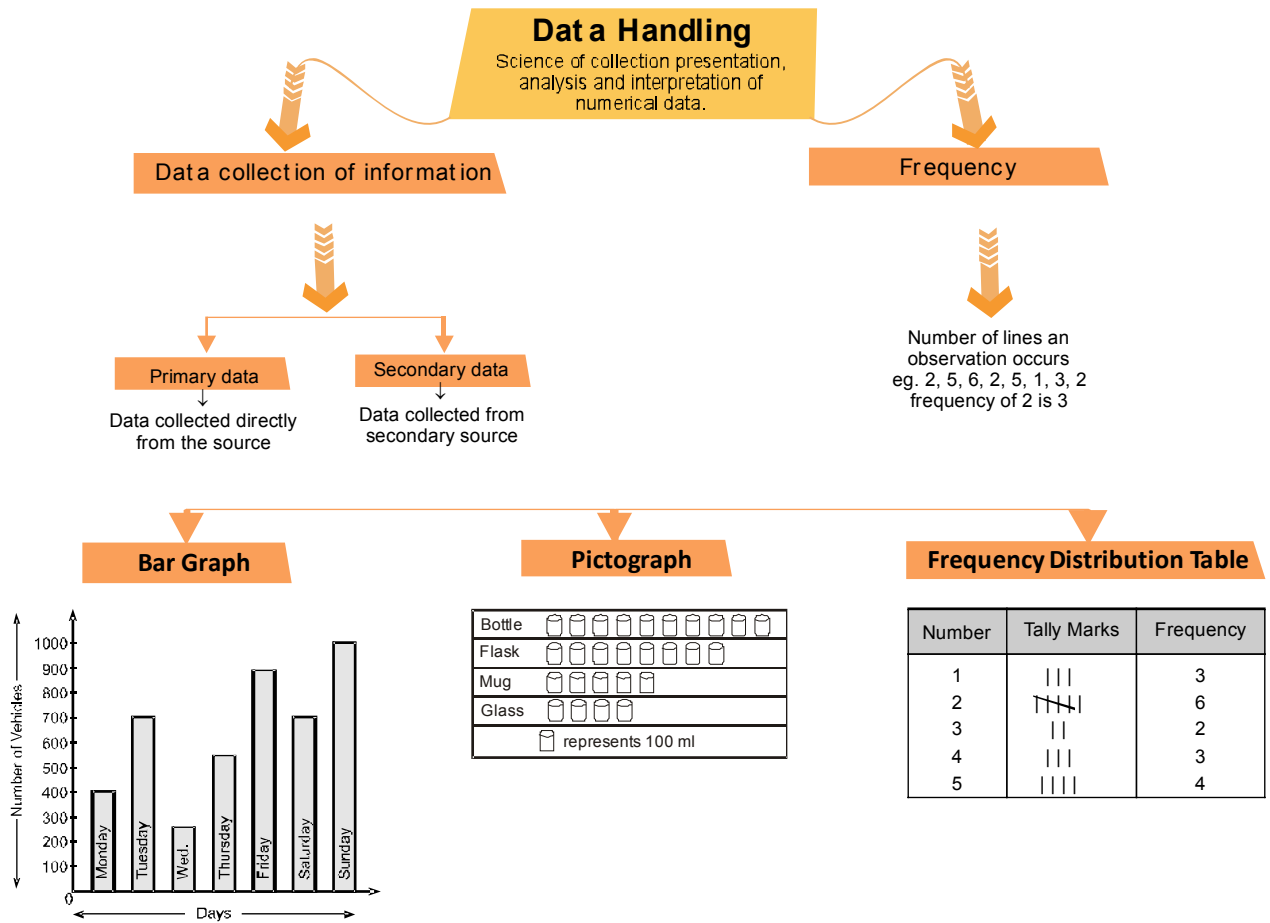
Since angle of 360° at the centre corresponds to the whole group of 36 pupils.

1° corresponds to $\frac{36}{360}$ of the whole group.



120° corresponds to $\frac{36}{360} \times 120$, i.e. 12 pupils. So, 12 pupils walk to school.

Similarly, number of pupils coming by car = $\frac{36}{360} \times 90 = 9$ and so on.

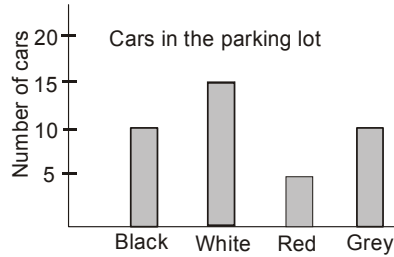
Concept Map



EXERCISE
01
SECTION -A (FIXED RESPONSE TYPE)
OBJECTIVE DPP


1. If one symbol  represents 150 trees, then the number of trees represented by  are
 (A) 600 (B) 700 (C) 750 (D) 500

Direction : (Q. 2 to Q. 5) Using the given bar graph, choose the correct option in the questions given below :

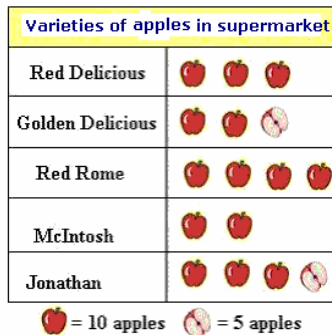


2. Which colour is the least common among the cars in the parking lot ?
 (A) black (B) white (C) red (D) grey
3. Which colours had the same number of cars parked ?
 (A) Black and Grey (B) White and Black (C) White and Red (D) Grey and White
4. What is the ratio of the number of white cars to red cars?
 (A) 5 : 2 (B) 2 : 5 (C) 3 : 1 (D) 1 : 3
5. The total number of cars in the parking lot was
 (A) 20 (B) 35 (C) 50 (D) 40
6. Total numbers of animals in five villages are shown in the following table.

villages	A	B	C	D	E
Animals	80	120	90	40	60

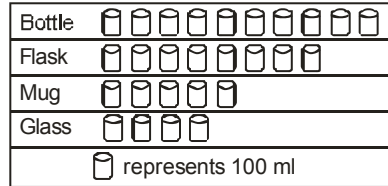
If one symbol  represents 10 animals, the total number of symbols required to represent animals for village C will be:

- (A) 5 (B) 7 (C) 8 (D) 9
7. The following pictograph shows the number of varieties of apples stored in a supermarket. The total number of apples stored in the supermarket is



- (A) 150 (B) 100 (C) 50 (D) 16

8. Final marks of 20 students are as follows:
53, 61, 48, 60, 78, 68, 55, 100, 67, 90, 75, 88, 77, 37, 84, 58, 60, 48, 62, 56
What is the lowest score?
(A) 37 (B) 100 (C) 62 (D) 48
9. The picture graph shows the capacity of 4 containers. Which container has a capacity of $\frac{1}{2}$ litre?



- (A) Bottle (B) Flask (C) Mug (D) Glass
10. Find the average of first 5 prime numbers
(A) 5 (B) 6 (C) 7.6 (D) 5.6
11. The average of first five multiples of 2 is
(A) 3 (B) 5 (C) 6 (D) 8
12. The arithmetic mean of the numbers 12, 19, 13 and 16 is
(A) 12 (B) 13 (C) 14 (D) 15

FILL IN THE BLANKS

- The data collected directly from source is _____ data.
- Way of representing data using pictures is _____
- Data means information in the form of _____
- Data obtained in the _____ form is called raw data.
- Arranging the data in the form of a table is called _____

TRUE / FALSE

- The bars in bar graph are always drawn vertically.
- Each numerical figure in a data is called an observation
- Number of times a particular observation occurs is called its frequency.
- Data collected from secondary source is primary data.
- In a bar graph, the columns are of unequal width.

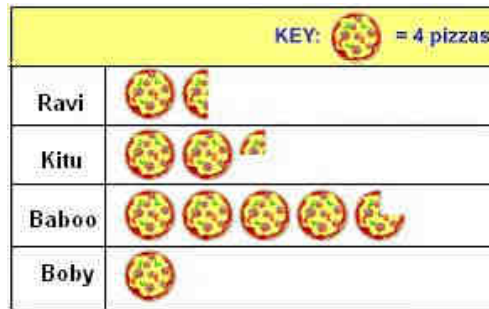
MATCH THE COLUMNS

- | 1. Column – I | Column – II |
|------------------|---|
| (A) Data | (p) data collected directly from source |
| (B) Array | (q) Each numerical figure in a data |
| (C) Primary data | (r) information in the form of numerical figures |
| (D) Observation | (s) Data obtained in original form |
| (E) Raw Data | (t) arranging the numerical figures in an ascending or descending order |

SECTION -B (FREE RESPONSE TYPE)

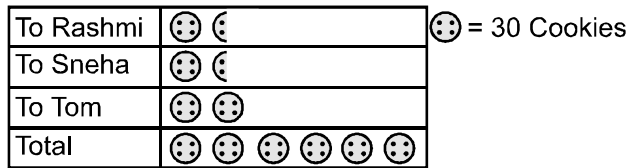
VERY SHORT ANSWER TYPE

- Tally marks |||| represent the number ?
- The weight of 25 student of class X in kg given as below:
35, 38, 40, 45, 43, 39, 45.5, 37, 46, 45, 36, 37, 46, 39, 38, 40, 41, 42, 42, 43, 38, 37, 36, 49, 50.
How many students have 50 or more than 50 weight?
- The following pictograph shows the number of pizzas eaten by four friends in the past month.



Find he total number of pizzas eaten by four friends

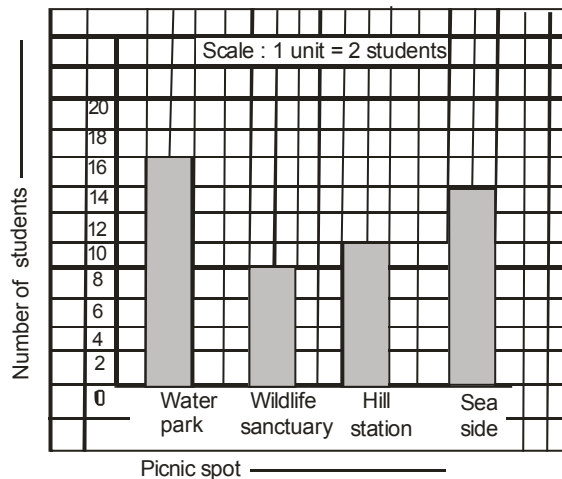
- Merlin has prepared some cookies for a party. The distribution of those is shown in the form of pictograph. Find the number of cookies Merlin gave to Rashmi and Sneha



- Find the average of first five natural multiples of 3.

SHORT ANSWER TYPE


- A class took a vote to decide where to go for a trip.

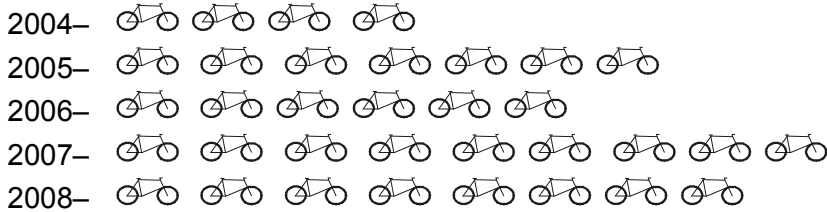


- How many students are there in the class?
- Where did the majority of students want to go?
- Which was the second choice?
- How many students voted for water park?

7. The following pictograph represents the number of cycles produced in a factory during 2004 – 2008. Read the pictograph to answer the questions given below.

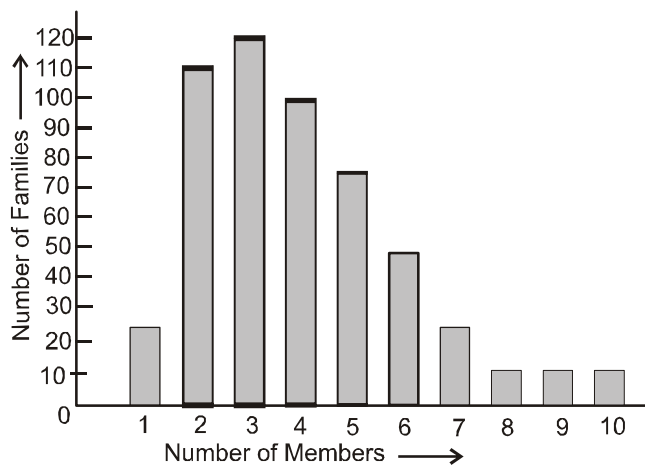
Number of Cycles

Scale: 1  = 2000 cycles



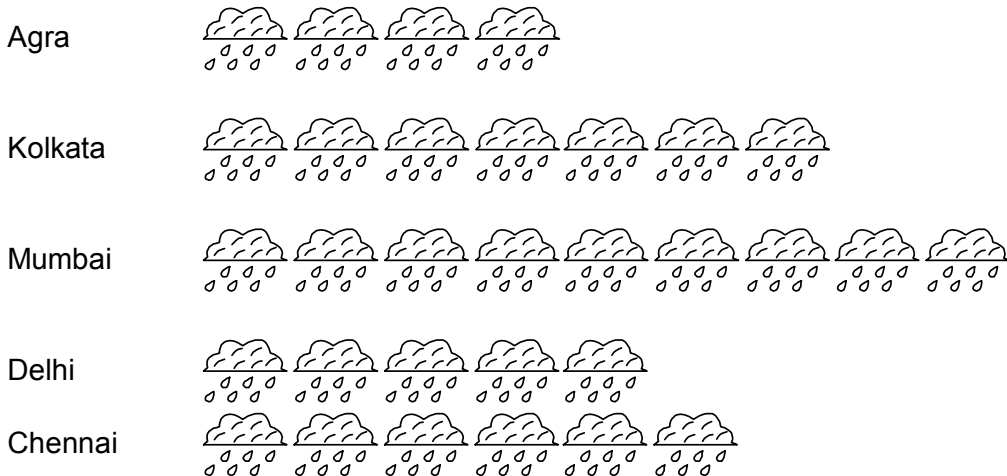
- (a) How many cycles were produced in 2007?
- (b) How many cycles were produced in 2005?
- (c) In which year was the production of cycles the largest ?


8. Read the bar graph in the figure and answer the following questions :



- (a) What is the information given by the bar graph ?
- (b) What is the number of families having 6 members?
- (c) How many members per family are there in the maximum number of families ? Also tell the number of such families.
- (d) What are the number of members per family for which the number of families are equal? Also tell the number of such families.

9. The pictograph shows the rainfall in some cities during a certain year.

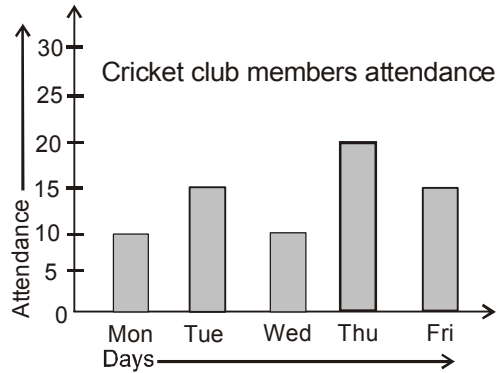


One  represents 10 cm.

Now answer the following questions:

- (a) Find the rainfall in cm in the following cities :
 (i) Agra (ii) Mumbai (iii) Chennai
 (b) How many more cm of rainfall fell in Mumbai city than in Delhi ?

10. Read the graph and answer.

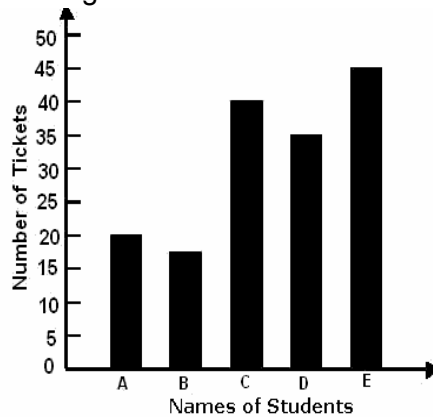


Fill in the chart and prepare a frequency table.

Attendance

Monday	Tuesday	Wednesday	Thursday	Friday

11. The following bar graph shows the number of tickets sold by five students A, B, C, D and E during a fair. Find the average number of tickets sold by A, C, D and E



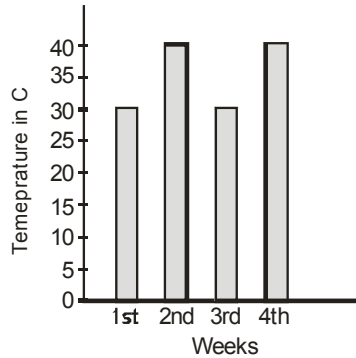
LONG ANSWER TYPE

12. The table below shows the number of students playing four different games :

Games	Number of students
Football	200
Hockey	140
Cricket	100
Badminton	50

Present this information as a pictograph.

13. Average temperature recorded in 4 weeks of June in Delhi is shown in the given column graph. Read this graph and answer the given questions.



- (a) What was the average temperature in the 1st week ?
- (b) Which was the hottest week ? What was the average temperature in this week ?
- (c) Find the difference between the average temperatures of 2nd and 3rd weeks ?

14. Draw the bar graph of the following data.

Pupils	Weight(inkg)
Anil	35
Arun	29
Sudhir	38
Naresh	32
Prem	22
Bobby	25

15. Draw the bar graph of the following data.

Players	Runs Scored
Sachin Tendulkar	120
Saurav Ganguly	85
Rahul Dravid	60
Verender Sehwag	82
Yuvraj	47
Mohd.Kaif	58

16. Make a bar graph for the following data.

(a) The table shows the number of books read by the class in the past month.

Number of students	2	6	9	10	4	1
Books read	1	2	3	4	5	6

(b) This is the daily routine of Shankar. Make a bar graph representing the time and activities.

Activity	Time (hours)
School	6
Sleeping	9
Playing + hobby	3
TV watching	2
Eating + Drinking	1
Other activities	3

- (c) This is the result of a traffic survey conducted by Anil in front of his village house for 1 hour.

Cars	Buses	Lorries	Motorbikes	Bicycles
27	12	15	30	40

- (d) For the 'Marathon Run for Peace' programme a big group of children took part. The age-wise details of participants are given below.

7 years	8 years	9 years	10 years	11 years
100	150	250	200	75

17. The music group of Class VI of St. George's School performed a musical programme. The students of Class VII were asked to grade the programme in a scale of 5 where 1 represents excellent performance, 2 good, 3 ordinary performance, 4 not good, 5 very poor show. This is the result of 80 students of Class VI.

4, 2, 5, 2, 4, 2, 4, 5, 3, 4, 3, 2, 5, 5, 3, 2, 4, 5, 4, 5, 4, 4, 3, 3, 4, 3, 4, 3, 5, 5, 4, 3, 2, 5, 4, 4, 3, 3, 4, 4, 5, 5, 4, 3, 2, 5, 4, 4, 3, 2, 5, 4, 4, 5, 3, 3, 4, 4, 3, 3, 4, 5, 5, 3, 2, 4, 3, 5, 4, 3, 2, 4, 2, 4, 3, 3, 4, 2, 4, 4, 3, 4, 2, 4, 4

Prepare a frequency table using tally marks.

18. Following is the data collected from 50 students of their favourite fruits. a stands for mangoes, b for apples, c for oranges, d for bananas, e for grapes. The raw data is as follows:





c, d, a, c, b, d, a, c, b, e, e, b, c, a, a, a, c, b, b, a, c, d, d, e, e, a, a, b, c, c, e, d, a, b, b, b, a, d, e, d, d, a, b, b, d, d, a, b, b, c

Prepare a frequency chart.

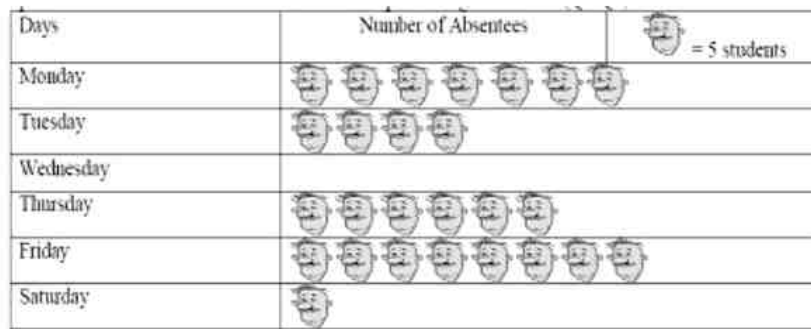
EXERCISE 02

SECTION -A (COMPETITIVE EXAMINATION QUESTION)

MULTIPLE CHOICE QUESTIONS

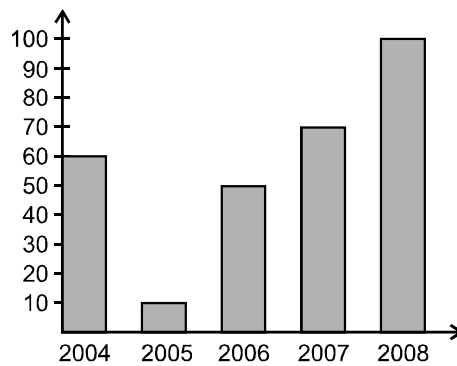
- Using tally marks , which one of the following represents the number eight :
 (A)  IIII (B)  (C)  II (D)  IIII
- The marks (out of 10) obtained by 28 students in a Mathematics test are listed as below :
 8, 1, 2, 6, 5, 5, 5, 0, 1, 9, 7, 8, 0, 5, 8, 3, 0, 8, 10, 10, 3, 4, 8, 7, 8, 9, 2, 0
 The number of students who obtained marks more than or equal to 5 is
 (A) 13 (B) 15 (C) 16 (D) 17
- The choices of the fruits of 44 students in a class are as follows :
 A, O, B, M , A, G, B, G, A, G, B, M, A, G, M, A, B, G, M, B, A, O, M, O, G, O, B, O, M, G, A,
 A, B, M, O, M, G, B, A, M, O, M, O, O, Where A, B, G, M and O stand for the fruits Apple,
 Banana, grapes, Mango and Orange respectively.
 Which two fruits are liked by an equal number of students ?
 (A) A and M (B) M and B (C) B and O (D) B and G

4. The following pictograph shows the number of absentees in a class of 30 students during the previous week. Which day had full attendance?



- (A) Friday (B) Monday (C) Wednesday (D) Saturday

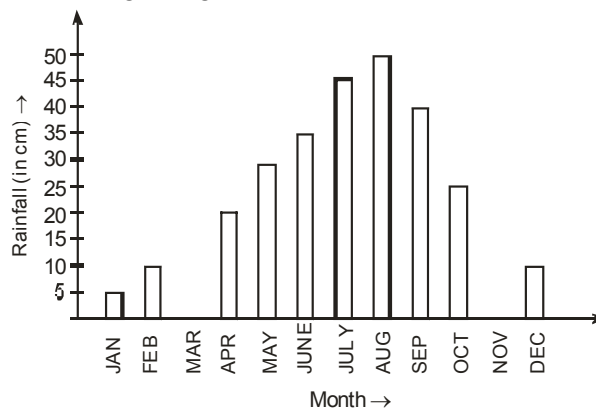
5. The following base graph shows the amount of sugar purchased (in tons) bt the give from 2004 to 2008.



The year in which government purchased minimum sugar is –

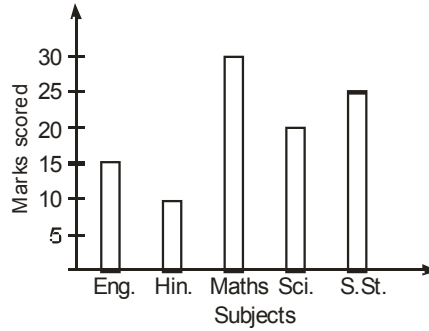
- (A) 2004 (B) 2005 (C) 2006 (D) 2007

Direction (6-7) : Read the following bar graph and answer the questions given below.



6. Which month has maximum rainfall ?
 (A) April (B) July (C) August (D) September
7. Which two months do not have any rain ?
 (A) January and March (B) January and November
 (C) November and December (D) March and November

Direction (8-10) : The given graph shows the marks scored by a student in his class test. read the graph shown and answer the questions.



8. Highest marks are scored in _____
 (A) English (B) Hindi (C) Maths (D) None of these
9. If the maximum number of marks is 50 in each subject, then how many subjects students scored more than half of maximum marks ?
 (A) 1 (B) 2 (C) 3 (D) 4
10. If the minimum marks for passing in each subject is 14, then in how many subject/subjects did he fail?
 (A) 1 (B) 2 (C) 0 (D) None of these

SECTION -B (TECHIE STUFF)

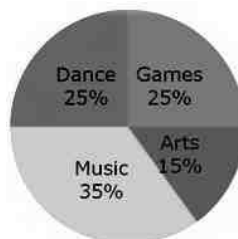
Instructions (11 to 14)

The final marks in mathematics of 30 students are as follows :

53, 61, 48, 60, 78, 68, 55, 100, 67, 90, 75, 88, 77, 37, 84, 58, 60, 48, 62, 56, 44, 58, 52, 64, 98, 59, 70, 39, 50, 60

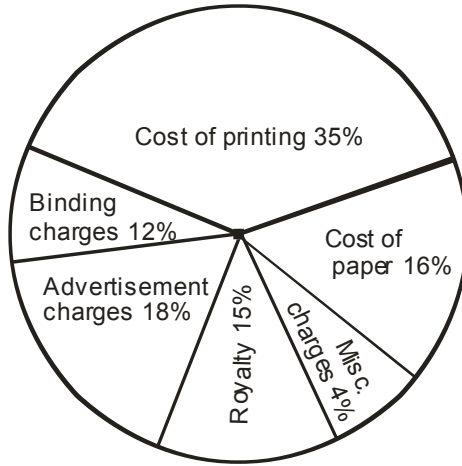
Now answer the following :

11. The highest score is :
 (A) 98 (B) 95 (C) 99 (D) None of these
12. The lowest score is :
 (A) 44 (B) 37 (C) 31 (D) 29
13. The range of data is :
 (A) 61 (B) 62 (C) 63 (D) 64
14. If 40 is the pass marks how many have failed :
 (A) 2 (B) 4 (C) 5 (D) 7
15. The given pie chart represents the number of students (in percentage) in various co-curricular activities. If the total number of students in the school is 500, then the number of students whose co-curricular activity is games is



- (A) 125 (B) 165 (C) 225 (D) 360

Directions (16 to 18) : Graph given below shows the expenditure incurred in bringing out a book by a publisher.



16. What should be the central angle of the sector for the cost of the paper :
 (A) 22.5° (B) 16° (C) 54.8° (D) 57.6°
17. If the cost of printing is Rs 17,500 the royalty is
 (A) Rs. 8,750 (B) Rs. 7, 500 (C) Rs. 3, 150 (D) Rs. 6, 300
18. If the miscellaneous charges are Rs 6,000 then, the advertisement charges are :
 (A) Rs 9, 0000 (B) Rs 1, 333.33 (C) Rs 27, 000 (D) Rs 12 , 000





EXERCISE


03

(PREVIOUS YEAR EXAMINATION QUESTIONS)

1. The pictograph below shows the number of books read by four six-grade students?

[NSTSE 2009]

Student	Number of books
Nancy	
Shailesh	
Praneeth	
Pragna	





Key
 = 10 Books

How many more books did shailesh read than Praneeth ?

- (A) 30 (B) 60 (C) 25 (D) 85

2. The incomplete pictograph shows the number of points obtained by four teams.

[NSTSE 2009]

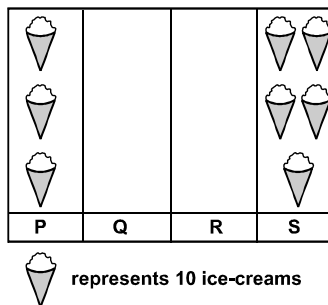
Team W	
Team X	
Team Y	
Team Z	
	Represents 2 points

Team W has the highest score with 8 points more than the team with the second highest score . How many points does team W score ?

- (A) 4 (B) 12 (C) 16 (D) 18

3. The incomplete pictograph shows the number of ice-creams bought by four boys.

[NSTSE 2010]



The total number of ice-creams bought by them was 150. Q and R bought the same number of ice-creams . How many ice-creams did Q buy ?

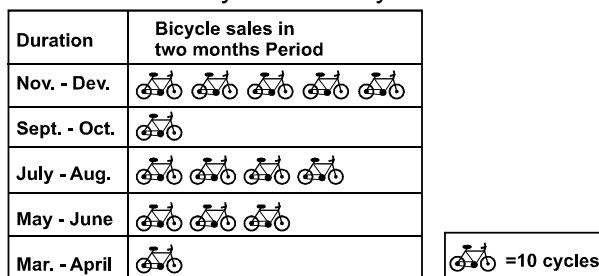
- (A) 25 (B) 35 (C) 50 (D) 70

4. For the science project Ramya is keeping track of the calories her father eats at breakfast. The table shows the number of calories he ate at breakfast on Monday. [NSTSE 2011]

Break Fast Calories		
Food	Number of Servings	Number of Calories Per Serving
Oat Cereal	1	80
Skim Milk	1	40
Orange Juice	1	86
Banana	1	105
Flavored	1	55

Which is the closest to the number of calories Ramya’s father ate at breakfast on Monday. (A) 200cal. (B) 300cal. (C) 400cal. (D) 500cal.

5. The pictograph shows the bimonthly sale of bicycles of a store.










In what period were exactly 30 bicycles sold?

[NSTSE 2011]

- (A) July-August (B) May-June (C) January-April (D) September-October

6. The pictograph given below shows the number of deliveries made by made by a bakery during a week.

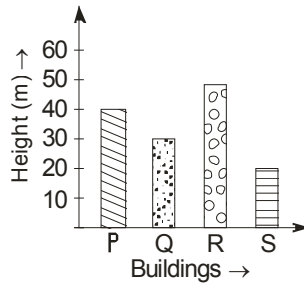
Day	Delivery
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	
Sunday	

Key : Each  represent 3 deliveries.

Which two consecutive days have a total of 30 deliveries? **[NSTSE 2012]**

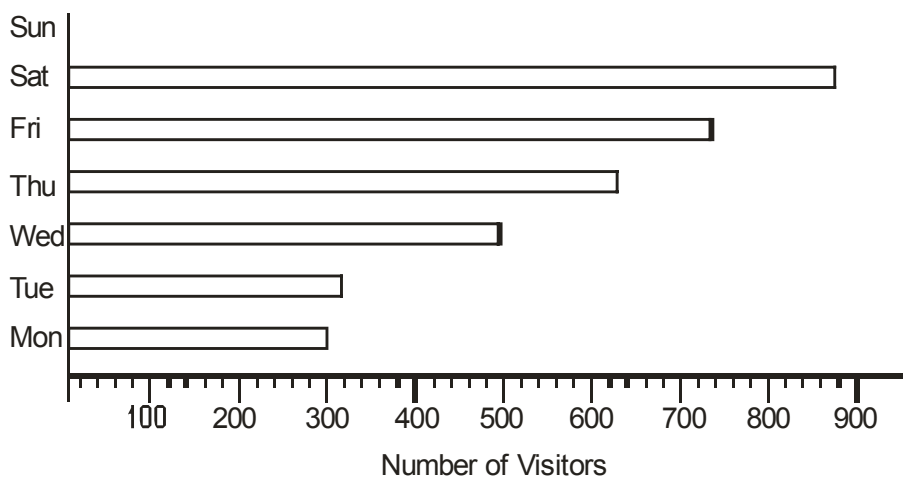
- (A) Tuesday and Wednesday (B) Thursday and Friday
 (C) Friday and Saturday (D) Wednesday and Thursday

7. Which building is 20m taller than the shortest ? **[NSTSE 2012]**



- (A) P (B) Q (C) R (D) S

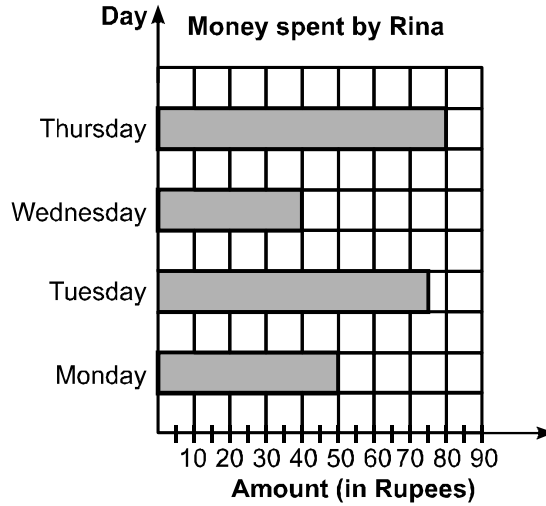
8. The graph given shows the number of visitors too a zoo in a particular week.



On which day was the number of visitors thrice that on Monday ? **[NSTSE 2013]**

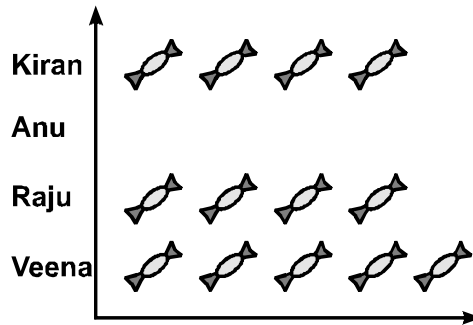
- (A) Sunday (B) Saturday (C) Friday (D) Thursday

9. The given figure is a bar graph which shows the amount of money Rina spent in her school canteen last week from Monday to Thursday. [NSTSE 2014]



On Thursday, Rina spent her money on 2 packets of sweets. How much did each packet cost?

- (A) Rs 15 (B) Rs 25 (C) Rs 35 (D) Rs 40
10. The given figure is an incomplete pictograph which shows the number of sweets each child has.



Key : Each represents 2 sweets.

The total number of sweets the four children have is 30. How many sweets does Anu have ?

- (A) 2 (B) 4 (C) 34 (D) 17

[NSTSE 2014]

ANSWER KEY
EXERCISE
01
**SECTION -A (FIXED RESPONSE TYPE)
OBJECTIVE DPP**

Ques.	1	2	3	4	5	6	7	8	9	10	11	12
Ans.	C	C	A	C	D	D	A	A	C	D	C	D

FILL IN THE BLANKS

1. primary 2. pictograph 3. Numerical figures
4. original 5. Tabulation

TRUE / FALSE

1. False 2. True 3. True 4. False 5. False

MATCH THE COLUMNS

1. (A)-(r) , (B)-(t) , (C)-(p) , (D)-(q) ,(E)-(s)

VERY SHORT ANSWER TYPE

1. 5 2. 1 3. 38 4. 90 5. 9

SHORT ANSWER TYPE

6. (a) 48 (b) Water park (c) Sea side (d) 16
7. (a) 18000 (b) 14000 (c) 2007
8. (a) maximum number of families with different number of members in family
(b) 50 (c) 3,120 (d) 8, 9, 10 ; 10
9. (a) (i) 40 (ii) 90 (iii) 60 (b) 40
10. Monday (10), Tuesday(15), Wednesday(10), Thursday(20), Friday(15) 11. 35.0.

LONG ANSWER TYPE

13. (a) 38.3 (b) 4th , 40 (c) 5

EXERCISE
02
**SECTION -A (COMPETITIVE EXAMINATION QUESTION)
MULTIPLE CHOICE QUESTIONS**

Ques.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Ans.	D	D	D	C	B	C	D	C	A	A	D	B	C	A	A	D	B	C

EXERCISE
03
(PREVIOUS YEAR EXAMINATION QUESTIONS)

Ques.	1	2	3	4	5	6	7	8	9	10
Ans.	C	D	B	C	B	D	A	B	D	B