Mathematics
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(Chapter – 5) (Data Handling)
(Class – VIII)

Exercise 5.1

**Question 1:**
For which of these would you use a histogram to show the data:
(a) The number of letters for different areas in a postman’s bag.
(b) The height of competitors in an athletics meet.
(c) The number cassettes produced by 5 companies.
(d) The number of passengers boarding trains from 7.00 a.m. to 7.00 p.m. at a station.

Give reason for each.

**Answer 1:**
Since, Histogram is a graphical representation of data, if data represented in manner of class-interval.
Therefore, for case (b) and (d), we would use a histogram to show the data, because in these cases, data can be divided into class-intervals.
In case (b), a group of competitions having different heights in an athletics meet.
In case (d), the number of passengers boarding trains in an interval of one hour at a station.

**Question 2:**
The shoppers who come to a departmental store are marked as: man (M), woman (W), boy (B) or girl (G). The following list gives the shoppers who came during the first hour in the morning.


Make a frequency distribution table using tally marks. Draw a bar graph to illustrate it.

**Answer 2:**
The frequency distribution table is as follows:

<table>
<thead>
<tr>
<th>Shopper</th>
<th>Tally Marks</th>
<th>Number of shoppers</th>
</tr>
</thead>
<tbody>
<tr>
<td>W</td>
<td></td>
<td>28</td>
</tr>
<tr>
<td>M</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>G</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>60</td>
</tr>
</tbody>
</table>

The illustration of data by bar-graph is as follows:
Question 3:
The weekly wages (in ₹) of 30 workers in a factory are:
830, 835, 890, 810, 835, 836, 869, 845, 898, 890, 820, 860, 832, 833, 855, 845, 804, 808, 812,

Using tally marks, make a frequency table with intervals as 800 – 810, 810 – 820 and so on.

Answer 3:
The representation of data by frequency distribution table using tally marks is as follows:

<table>
<thead>
<tr>
<th>Class Intervals</th>
<th>Tally Marks</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>800–810</td>
<td>III</td>
<td>3</td>
</tr>
<tr>
<td>810–820</td>
<td>II</td>
<td>2</td>
</tr>
<tr>
<td>820–830</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>830–840</td>
<td>III</td>
<td>9</td>
</tr>
<tr>
<td>840–850</td>
<td>III</td>
<td>5</td>
</tr>
<tr>
<td>850–860</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>860–870</td>
<td>III</td>
<td>3</td>
</tr>
<tr>
<td>870–880</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>880–890</td>
<td>III</td>
<td>4</td>
</tr>
<tr>
<td>890–900</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>

Question 4:
Draw a histogram for the frequency table made for the data in Question 3 and answer the following questions.
(i) Which group has the maximum number of workers?
(ii) How many workers earn ₹ 850 and more?
(iii) How many workers earn less than ₹ 850?

Answer 4:
(i) 830 – 840 group has the maximum number of workers.
(ii) 10 workers can earn more than ₹ 850.
(iii) 20 workers earn less than ₹ 850.

Question 5:
The number of hours for which students of a particular class watched television during holidays is shown through the given graph.

Answer the following:
(i) For how many hours did the maximum number of students watch T.V.?
(ii) How many students watched TV for less than 4 hours?
(iii) How many students spent more than 5 hours in watching TV?

Answer 5:
(i) The maximum number of students watched T.V. for 4 – 5 hours.
(ii) 34 students watched T.V. for less than 4 hours.
(iii) 14 students spent more than 5 hours in watching T.V.