Data Handling

Excercise - 21.A

Question 1.
The number of members in 20 families are given below:
4, 6, 5, 5 ,4, 6, 3, 3, 5, 5, 3, 5 ,4, 4, 6, 7, 3, 5, 5, 7
Prepare a frequency distribution of die data.

Solution:

No. of Members	Tally Marks	Number of Families
3	𝍸	4
4	𝍸	4
5	𝍸 ||	7
6	|||	3
7	||	2
Total		20

Question 2.
A dice was thrown 30 times and the following outcomes were noted :
2, 1, 2, 4, 6, 1, 2, 3, 6, 5, 4, 4, 3, 1, 1,
3, 1, 1, 5, 6, 6, 2, 2, 3, 4, 2, 5, 5, 6, 4
Prepare a frequency table :

Solution:

Face No. of Disc.	Tally Marks	No. of outcomes (Frequency)
1	𝍸 |	6
2	𝍸 |	6
3	𝍸	4
4	𝍸	5
5	𝍸	4
6	𝍸	5
Total		30

Question 3.
The following data gives the number of children in 40 families :
1, 2, 6, 5, 1, 5, 1, 3, 2, 6, 2, 3, 4, 2, 0, 4, 4, 3, 2, 2, 0, 0, 1, 2, 2, 4, 3, 2, 1, 0, 5, 1, 2, 4, 3, 4, 1, 6, 2, 2
Represent it in the form of a frequency distribution.

Solution:

No. of Children	Tally Marks	No. of families
0	𝍸	4
1	𝍸 |	7
2	𝍸 𝍸 ||	12
3	𝍸	5
4	𝍸 |	6
5	|||	3
6	|||	3
Total		40

Excercise - 21.B

Question 1.
The marks obtained by 40 students of a class in an examination are given below:
8, 47, 22, 31, 17, 13, 38, 26, 3, 34, 29, 11, 22, 7, 15, 24, 38, 31, 21, 35, 42, 24, 45, 23, 21, 27, 29, 49, 25, 48, 21, 15, 18, 27, 19, 45, 14, 34, 37, 34.
Prepare a frequency distribution table with equal class intervals starting from 0-10 (where 10 is not included).

Solution:
Frequency distribution table is given below:

Class intervals	Tally marks	Frequency
0 —10	|||	3
10 —20	𝍸 |||	8
20 —30	𝍸 𝍸||||	14
30 —40	𝍸 ||||	9
40 —50	𝍸||	6
Total		40

Question 2.
The electricity bills (in rupees) of 25 houses of a certain locality for a month are given below :

324, 700, 617, 400, 356, 365, 435, 506, 548, 736, 780, 378, 570, 685, 312, 630, 584, 674, 754, 776, 596, 745, 565, 763, 472.
Arrange the above data in increasing order and form a frequency table using equal class intervals, starting from 300 – 400, where 400 is not included.

Solution:
Arranging the given data in increasing order:
312, 324, 356, 365, 378, 400, 435, 472, 506, 548, 565, 570, 584, 596, 617, 630, 674, 685, 700, 736, 745, 754, 763, 776, 780.
Now frequency distribution table is given below :

Class intervals	Frequency	Tally marks
300 — 400	5	𝍸
400 — 500	3	|||
500 — 600	6	𝍸|
600 — 700	4	𝍸
700 — 800	7	𝍸||

Question 3.
The weekly wages (in rupees) of 28 workers of a factory are given below :
668, 610, 642, 658, 668, 620, 719, 720, 700, 690, 710, 642, 672, 654, 692, 706, 718, 702, 704, 678, 615, 640, 680, 716, 705, 615, 636, 656
Construct a frequency table with equal class intervals, taking the first of the class intervals as 610 – 630, where 630 is not included.

Solution:
Frequency Distribution table is given below:

Wages (in Rs.)	Tally Marks	Frequency
610 — 630	||||	4
630 — 650	||||	4
650 — 670	𝍸	5
670 — 690	|||	3
690 — 710	𝍸||	7
710 — 730	𝍸	5
Total		28

Question 4.
The weekly pocket expenses (in rupees) of 30 students of a class are given below:

62, 80, 110, 75, 84, 73, 60, 62, 100, 87, 78, 94, 117, 86, 65, 68, 90, 80, 118, 72, 95, 72, 103, 96, 64, 94, 87, 85, 105, 115
Construct a frequency table with class intervals 60 – 70 (where 70 is not included), 70 – 80, 80 – 90, etc.

Solution:
Frequency distribution table is given below

Expenses (in Rs.)	Tally Marks	Frequency
60 — 70	𝍸 |	6
70 — 80	𝍸	5
80 — 90	𝍸 ||	7
90 — 100	𝍸	5
100 — 110	|||	3
110 — 120	||||	4
Total		30

Question 5.
The daily earnings (in rupees) of 24 stores in a market was recorded as under:

715, 650, 685, 550, 573, 530, 610, 525, 742, 680, 736, 524, 500, 585, 723, 545, 532, 560, 580, 545, 625, 630, 645, 700
Prepare a frequency table taking equal class-sizes. One such class is 500 – 550, where 550 is not included.

Solution:
Frequency table is given below :

Daily earnings	Tally Marks	frequency (in Rs.)
500 — 550	𝍸 ||	7
550 — 600	𝍸	5
600 — 650	||||	4
650 — 700	|||	3
700 — 750	𝍸	5
Total		24

Question 6.
The heights (in cm.) of 22 students were recorded as under :

125, 132, 138, 144, 142, 136, 134,
125, 132, 138, 144, 142, 136, 134,
125, 135, 130, 126, 132, 135, 142,
143, 128, 126, 136, 135, 130, 130,
133
Prepare a frequency distribution table, taking equal class intervals and starting from 125 – 130, where 130 is not included.

Solution:

Heights (in cm.)	Tally marks	Frequency
125 — 130	𝍸	5
130 — 135	𝍸 ||	7
135 — 140	𝍸 |	6
140 — 145	||||	4
Total		22