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# Data Handling

## EXERCISE 33 (A)

### Question 1.

Marks scored by 30 students of class VI are as given below :

38, 46, 33, 45, 63, 53, 40, 85, 52, 75, 60, 73, 62, 22, 69, 43, 45, 33, 47, 41, 29, 43, 37, 49, 83, 44, 55, 22, 35 and 45. State:

- (i) the highest marks scored.
- (ii) the lowest marks scored.
- (iii) the range of marks.

### Solution:

(i) Highest marks scored = 85 .

(ii) Lowest marks scored = 22

(iii) Range of marks =  $85 - 22 = 63$



### Question 2.

For the following raw data, form a discrete frequency distribution :

30,32,32, 28,34,34,32,30,30,32,32,34,30,32,32. 28,32,30, 28,30,32,32,30,28 and 30.

### Solution:

The required frequency table will be as shown below :

Marks	Tally-marks	Frequency
28		4
30		8
32		10
34		3
Total		25

### Question 3.

Define :

(i) data

(ii) frequency of an observation.

**Solution:**

(i) **Data** : The word data means information in the form of numerical figures.

(ii) **Frequency of an observation** : The number of times a particular observation occurs is called its frequency.

### Question 4.

Rearrange the following raw data in descending order :

5.3, 5.2, 5.1, 5.7, 5.6, 6.0, 5.5, 5.9, 5.8, 6.1, 5.5, 5.8, 5.7, 5.9 and 5.4. Then write the :

(i) highest value

(ii) lowest value

(iii) range of values

**Solution:**

Writing these numbers in descending order we get:

6.1, 6.0, 5.9, 5.9, 5.8, 5.8, 5.7, 5.7, 5.6, 5.5, 5.5, 5.4, 5.3, 5.2, 5.1

(i) Highest value = 6.1

(ii) Lowest value = 5.1

(iii) Range of values = Highest value - lowest value =  $6.1 - 5.1 = 1.0$

### Question 5.

Represent the following data in the form of a frequency distribution :

52, 56, 72, 68, 52, 68, 52, 68, 52, 60, 56, 72, 56, 60, 64, 56, 48, 48, 64 and 64.

**Solution:**

The required frequency table will be as shown below :

Marks	Tally-marks	Frequency
48		2
52		4
56		4
60		2
64		3
68		3
72		2
Total		20

**Question 6.**

In a study of number of accidents per day, the observations for 30 days were obtained as follows :

6 3 5 6 4 3 2 5 4 2  
 4 0 5 3 6 1 5 5 2 6  
 2 1 2 2 0 5 4 6 1 6

Construct a suitable frequency distribution table.

**Solution:**

The required frequency table will be as shown below :

No. of accidents	Tally marks	Frequency
0		2
1		3
2		6
3		3
4		4
5		6
6		6
Total		30

**Question 7.**

The following data represents the weekly wages (in ₹) of 15 workers in a factory : 900, 850, 800, 850, 800, 750, 950, 900, 950, 800, 750, 900, 750, 800 and 850.

Prepare a frequency distribution table. Now find,

(i) how many workers are getting less than ₹850 per week?

(ii) how many workers are getting more than ₹800 per week?

**Solution:**

The required frequency table will be as shown below :

Weekly wages in (₹)	Tally-marks	Frequency
750		3
800		4
850		3
900		3
950		2
Total no. of workers		15

(i) Workers getting less than ₹850 per week

No. of workers getting ₹750 = 3 workers

No. of workers getting ₹800 = 4 works

∴ Workers getting less than ₹ 850 = 4 + 3 = 7 workers

(ii) Workers are getting more than ₹800 per week

No. of workers getting ₹850 = 3

No. of workers getting ₹900 = 3

No. of workers getting ₹950 = 2

∴ Workers getting more than ₹800 = 3 + 3 + 2 = 8 workers

### Question 8.

Using the data, given below, construct a frequency distribution table : 9, 17, 12, 20, 9, 18, 25, 17, 19, 9, 12, 9, 12, 18, 17, 19, 20, 25, 9 and 12. Now answer the following :

(i) How many numbers are less than 19?

(ii) How many numbers are more than 20?

(iii) Which of the numbers, given above, is occurring most frequently?

### Solution:

The required frequency table will be as shown below :

Marks	Tally marks	Frequency
9		5
12		4
17		3
18		2
19		2
20		2
25		2
Total		20

(i) There are 14 numbers are less than 19.

(ii) There are 2 numbers more than 20.

(iii) 9 is occurring most frequently i.e. 5 times.

**Question 9.**

Using the following data, construct a frequency distribution table : 46, 44, 42, 54, 52, 60, 50, 58, 56, 62, 50, 56, 54, 58 and 48.

Now answer the following :

- (i) What is the range of the numbers?
- (ii) How many numbers are greater than 50?
- (iii) How many numbers are between 40 and 50?

**Solution:**

Marks	Tally marks	Frequency
42		1
44		1
46		1
48		1
50		2
52		1
54		2
56		2
58		2
60		1
62		1
Total		15

- (i) Range of numbers = Highest number - Lowest number =  $62 - 42 = 20$
- (ii) 9 numbers are greater than 50
- (iii) 6 numbers are between 40 and 50 Ans.