Classification and Tabulation of Data Exercise 23.1

Data-handling - I Exercise - 23.1

1. Define the following terms.

i) Observations:

The data collected by the observer in the given problem is called observations.

ii) Raw data:

Data collected in original form is called raw data.

iii) Frequency of an observation:

The number of times a certain value or class of value occurs.

iv) Frequency distribution:

The organisation of raw data in table form with classes and frequencies.

v) Discrete frequency distribution

A frequency distribution of numerical data. The raw data is not grouped.

vi) A Grouped frequency distribution:

A frequency distribution where several numbers are grouped into one class.

vii) Class-interval:

while arranging large amount of data, they are grouped into different classes to get an idea of the distribution, and the range of such class data is called class interval.

viii) class-size:

The difference between upper and lower boundaries of any class.

It is also difference between the lower limits of two consecutive classes or the upper limits of two consecutive classes.

ix) Class-limits:

Seperate one class in a grouped frequency distribution from another.

x) True class-limits

The exact class limits of frequency distribute are is called True class limits.

2)

final marks in mathematics of 30 students are given

(i)

Ascending order of marks 30 to 39 are.

37, 39.

Ascending order of marks 40 to 49 are.

44, 48, 48

Ascending order of marks 50 to 59 are.

50, 52, 53, 55, 56, 58, 58, 59.

Ascending order of marks 60 to 69 are.

60, 60, 60, 61, 62, 64, 67, 68.

Ascending order of marks 70 to 79.

70, 75, 77, 78.

Ascending order of marks 80 to 89.

84, 88.

Ascending order of marks 90 to 100.

90, 98, 100

(i) Highest score in the group = 100.

iii) Lowest score in the group = 37

iv) Range = 100 - 37 = 63.

v) No. of students failed = 2

vi) No. of students scored more than 75 = 8.

vii) The observations between 50 and 60 have not appered = 51, 54, 57

viii) No. of people scored less than 50 = 5

3) The weight of new born babies in hospital are given..

(i) Arranging weights in descending order.

3.1, 3.0, 2.9, 2.9, 2.8, 2.8, 2.7, 2.7, 2.6, 2.5, 2.4

2.4, 2.3, 2.2, 2.1

(ii) Highest weight = 3.1 kg.

iii) Lowest weight = 2.1 kg.

iv) Range = 3.1 - 2.1 = 1.0 kg.

v) No. of babies born on that day = 15

vi) No. of babies below 2.5 kg = 4

vii) No. of babies weigh more than 2.8 kg = 4

viii) No. of babies weigh 2.8 kg = 2.

4) Given number of children in 40 families.

children.	Tally	No. of families.
0	𝍸	5
1	𝍸 II	7
2	𝍸 𝍸 II	12
3	𝍸	5
4	𝍸 I	6
5	III	3
6	III	3.

5) Scores obtained by 50 students in a test are given.

Frequency table is drawn.

Marks	No. of Students	Marks	No. of students.	Marks	No. of Students
7	2	33	2	49	1
14	1	34	1	51	3
16	1	37	4	52	1
17	1	38	2	53	3
19	1	39	4	54	1
21	1	41	1	57	1
22	1	42	6	59	2
27	2	43	1	61	1
29	1	44	1	62	1
31	1	47	1	67	1

6. A die was thrown 25 times. following scores were obtained.

score	no. of times.
1	5
2	5
3	4
4	3
5	4
6	4

7

No. of accidents per day, the observations for 30 days were as follows.

Frequency distribution table as follows.

No. of accidents.	No. of days.
0	2
1	3
2	6
3	3
4	4
5	6
6	6.

8) Ages of 30 studens at class VIII in your school.

Frequency distribution table as follows.

Ages [in years]	No. of students.
12	4
13	13
14	8
15	2
16	2
17	1

9. Weekly wages of 15 workers in a factory are given.

frequency table as follows.

Wage.	No. of workers.
150	3
200	5
250	4
300	2
350	1

10. Marks obtained by 25 students in a history test in class VIII are given.

frequency distribution table as follows.

Marks	no. of students.
9	6
12	4
17	4
18	2
19	4
20	3
25	2

(i) Range of marks = 25 - 9 = 16

(ii) Highest mark = 25

(iii) The mark occuring frequently is = 9.

Data Handling-I Classification and Tabulation of Data Ex23.2

Exercise 23.2

1) Marks obtained by 40 students of class VIII in examination are given below.

Marks	No. of students
0 – 5	9
5 – 10	9
10 – 15	7
15 – 20	8
20 – 25	7

2) Marks obtained by 20 students in a test are given.

Marks in class intervals	Tally marks	No. of children
40 – 50	IIII	4
50 – 60	𝍸 III	8
60 – 70	III	3
70 – 80	III	3
80 – 90	II	2

The class interval in which greatest frequency occurs is 50 – 60.

3. The distribution of weights of 52 persons are given.

i) Lower limit of class 50-60 is = 50

ii) The class marks of the classes 40-50

$$= \frac{40+50}{2} = 45$$

The class marks of the classes 50-60.

$$= \frac{50+60}{2} = 55.$$

iii) The class size = 40-30 = 10

Similarly 50-60 = 10.

4.

weights of mangoes.	No. of mangoes.
30-35	4
35-40	1
40-45	3
45-50	3
50-55	7
55-60	3
60-65	6
65-70	5
70-75	3.

i) Class mark of class interval 40-45 is

$$\frac{40+45}{2} = 42.5$$

ii) Range of above weights = 74-30 = 44

iii) The no. of class = 9.

5). Marks obtained by 30 students in an examination are given.

Frequency table with class intervals 0-5 are as follows.

Marks	No. of students.
0-5	3
5-10	5
10-15	3
15-20	5
20-25	3
25-30	3
30-35	1
35-40	2
40-45	2
45-50	3.

6. The marks secured by 40 students of class VIII are given.

frequency table with class-size 10.

Marks.	Tally marks	frequency distribution
20-30	I	1
30-40	III	3
40-50	𝍸 I	6
50-60	𝍸 II	7
60-70	𝍸 IIII	9
70-80	𝍸 III	8
80-90	IIII	4
90-100	II	2

6. The marks secured by 40 students of class VIII are given.

frequency table with class-size 10.

Marks.	Tally marks	frequency distribution
20-30	I	1
30-40	III	3
40-50	𝍸 I	6
50-60	𝍸 II	7
60-70	𝍸 IIII	9
70-80	𝍸 III	8
80-90	IIII	4
90-100	II	2

7) The height of 30 students of class VIII are given.

The frequency distribution tables is as follows.

Heights (in cm)	Tally	No. of Students.
145 - 149	𝍸	4
150 - 154	𝍸 𝍸	9
155 - 160	𝍸 𝍸 𝍸	12
160 - 164	𝍸	5

8. The monthly wages of 30 workers in a factory are given.

frequency distribution table as follows.

Wages.	Tally	No. of workers.
800 - 809	𝍸	3
810 - 819	𝍸	2
820 - 829	𝍸	1
830 - 839	𝍸 𝍸	8
840 - 849	𝍸	5
850 - 859	𝍸	1
860 - 869	𝍸	3
870 - 879	𝍸	1
880 - 889	𝍸	1
890 - 899	𝍸	5

9. Monthly wages of 28 labours working in factory. are given.

frequency distribution table as follows.

Wages	Tally	No. of workers.
210 - 230	IIII	4
230 - 50	IIII	4
250 - 270	𝍸	5
270 - 290	III	3
290 - 310	𝍸 II	7
310 - 330	𝍸	5

10. Daily minimum Temperatures in degree celsius. recorded are given

frequency distribution table is as follows.

Temperatures (^{o}c)	Tally.	frequency Distribution.
-19.9 - -15	I	1
-15 - -11.1	𝍸 I	6
-11.1 - -6.2	𝍸 I	6
-6.2 - -1.3	𝍸 IIII	9
-1.3 - 3.6	𝍸 𝍸 III	13