

CLASS NOTES

Class: IX

Ch.14. STATISTICS

Subject: Mathematics

Topic: Exe- 14.2

CHAPTER –14

STATISTICS

EXERCISE – 14.2

**1. The blood groups of 30 students of a class VIII are recorded as follows:
A, B, O, O, AB, O, A, O, B, A, O, B, A, O, O, A, AB, O, A, A, O, O, AB, B, A, O, B, A, B, O
Represent this data in the form of a frequency distribution table. Which is the most common and which is the rarest blood group among these students?**

Ans. The frequency distribution table for the given data is as follows:

Blood group	Tally Marks	Frequency (Number of students)
A		9
B		6
O		12
AB		3
Total		30

From the table we observe that most common blood groups is O and the rarest group is AB.

2. Construct a grouped frequency distribution table with class size 5 for the data given above taking the first interval as 0 – 5 (5 not included). What main features do you observe from this tabular representation?

Ans. The grouped frequency distribution table for the given data is as follows:

Distances (in km)	Tally Marks	Frequency (Number of female engineer's)
0 – 5		5
5 – 10		11
10 – 15		11
15 – 20		9
20 – 25		1
25 – 30		1
30 – 35		2
Total		40

From the table we observe that out of 40 female engineers 36 (5 +11 + 11 + 9) engineers i.e. 90% of the total female engineers reside less than 20 km from their place of work.

5. A study was conducted to find out the concentration of sulphur dioxide in the air in parts per million (ppm) of a certain city. The data obtained for 30 days is as follows:

0.03 0.08 0.08 0.09 0.04 0.17
 0.16 0.05 0.02 0.06 0.18 0.20
 0.11 0.08 0.12 0.13 0.22 0.07
 0.08 0.01 0.10 0.06 0.09 0.18
 0.11 0.07 0.05 0.07 0.01 0.04

(i) Make a grouped frequency distribution table for this data with class intervals as 0.01 – 0.04, 0.04 – 0.08 and so on.

(ii) For how many days, was the concentration of sulphur dioxide more than 0.11 parts per million.

Ans. (i) The grouped frequency distribution table for the given data is as follows:

Concentration of Sulphur dioxide (in ppm)	Tally marks	Frequency
0.00–0.04		4
0.04–0.08	 	9
0.08–0.12	 	9
0.12–0.16		2
0.16–0.20		4
0.20–0.24		2
Total		30

(ii) From the above frequency distribution, we observe that the concentration of Sulphur dioxide was more than 0.11 ppm for 8 days.

6. Three coins were tossed 30 times simultaneously. Each time the number of heads occurring was noted down as follows:

0 1 2 2 1 2 3 1 3 0
 1 3 1 1 2 2 0 1 2 1
 3 0 0 1 1 2 3 2 2 0

Prepare a frequency distribution for the data given above.

Ans. (i) The grouped frequency distribution table for the given data is as follows:

Number of heads	Tally Marks	Frequency
0	 	6
1	 	10
2	 	9
3	 	5
Total		30

7. The value of π up to 50 decimal places is given below:

3.14159265358979323846264338327950288419716939937510.

(a) Make a frequency distribution of the digits after the decimal point list the digits from 0 to 9 in your first column.

(b) What are the most and the least frequency occurring digits?

Ans. (a) The value of π up to 50 decimal places is given as table:

3.14159265358979323846264338327950288419716939937510.

The frequency distribution table of the digits after the decimal point in the value of π is as follows:

Digits	Tally Marks	Frequency
0		2
1		5
2		5
3	 	8
4		4
5		5
6		4
7		4
8		5
9	 	8
Total		50

(b) Maximum frequency is 8.

Hence 3 is the most frequently occurring digit.

Least frequency is 2.

Hence 0 is the least occurring digit.

8. Thirty children were asked about the number of hours they watched TV programmes in the previous week. The results were found as follows:

1 6 2 3 5 12 5 8 4 8
10 3 4 12 2 8 15 1 17 6
3 2 8 5 9 6 8 7 14 12

(i) Make a frequency distribution table for this data, taking class width 5 and one of the class interval 5 – 10.

(ii) How many children watched television for 15 or more hours a week?

Ans. (i) Frequency distribution table for the given data is as follows:

Number of hours (in a week)	Tally Marks	Number of children (Frequency)
0 – 5	IIII II	10
5 – 10	IIII III	13
10 – 15	II	5
15 – 20	II	2
Total		30

(ii) From the frequency table we observe that number of children in the class interval 15 – 20 is 2.

So 2 children view television for 15 hours or more than 15 hours a week.

9. A company manufactures car-batteries of particular type. The live (in years) of 40 such batteries were recorded as follows:

2.6 3.0 3.7 3.2 2.2 4.1 3.5 4.5
 3.5 2.3 3.2 3.4 3.8 3.2 4.6 3.7
 2.5 4.4 3.4 3.3 2.9 3.0 4.3 2.8
 3.5 3.2 3.9 3.2 3.2 3.1 3.7 3.4
 4.6 3.8 3.2 2.6 3.5 4.2 2.9 3.6

Construct a grouped frequency distribution table for this data, using class intervals of size 0.5 starting from the interval 2 – 2.5.

Ans. Grouped frequency distribution table for the given data is as follows:

Life of batteries (in years)	Tally Marks	Frequency
2.0 – 2.5	II	2
2.5 – 3.0	IIII I	6
3.0 – 3.5	IIII IIII	14
3.5 – 4.0	IIII I	11
4.0 – 4.5	IIII	4
4.5 – 5.0	III	3
Total		40

Assignment :- Que.3 and Que.4 of Exe- 14.2

The above content is prepared entirely at home