

**ATOMIC ENERGY EDUCATION SOCIETY
STUDY MATERIAL**

CLASS: VIII

SUBJECT : MATHEMATICS

**UNIT 5 – DATA HANDLING
MODULE - 2/5**

Frequency distribution table

- Usually, data available to us is in an unorganised form , in order to draw meaningful inferences, we need to organise the data systematically by **tabulating**.

EXAMPLE

- 20 people were asked for their favourite IPL team, the answer is

Pune, Mumbai, Mumbai, Kolkata, Delhi, Kolkata, pune, Mumbai, Hyderabad, Bangalore, Mumbai, Pune, Delhi, Mumbai, Pune, Kolkata, Pune, Pune, Hyderabad, pune

It will be difficult to read this data, so we can organize this data into table format

Team	Number of People
Pune	7
Mumbai	5
Kolkata	3
Delhi	2
Hyderabad	2
Bangalore	1

The number of people is called the frequency

Frequency

Frequency gives the number of times that a particular entry occurs

Table that shows the frequency of different values in the given data is called a **frequency distribution table**

Grouped frequency distribution

- Sometime data is very huge,If we make a frequency distribution table for each observation, then the table would be too long.
- For convenience, we make groups of observations say, 0-10, 10-20 and so on, and obtain a frequency distribution of the number of observations falling in each group.
- The frequency distribution table then obtained is Grouped frequency distribution.

EXAMPLE

A class of 50 students was given Physics test of Maximum Mark 60. Here is the test score of the students

20,21,22,22,23,25,26,27,27,26,27,26,29,26,27,25,25,30,51,
55,46,47,48,41,42,31,34,35,35,36,36,37,37,35,37,39,39,37,
36,35,36,36,37,38,38,39,39,43,44,44

If we draw the frequency distribution based on individual marks, it will difficult to understand the data, So for convenience we can group the Marks in equal interval and draw the frequency distribution like below

Class Marks	Frequency
20-25	5
25-30	12
30-35	3
35-40	20
40-45	5
45-50	3
50-55	2

Important Definition from above learning

- 20-25, 25-30 are called the **CLASS INTERVAL**. The groupings used to group the values in given data are called classes or class-intervals.
- The lower value in a class is called the lower class limit. The higher value in a class is called the upper class limit. In 20-25 class interval,20 is called **LOWER CLASS LIMIT** and 25 is called the **UPPER CLASS LIMIT**
- The common observation like 25,30, etc. belongs to the higher class interval. So 25 will belong to 25-30
- The number of values that each class contains or the difference between the upper class limit and lower class limit is called the **WIDTH OR SIZE** of the class interval.
- $\text{class size} = \text{upper limit} - \text{lower limit}$
- **Class-mark:** Mid value of class interval is called its class-mark.

$$\text{Class-mark} = (\text{Upper limit} + \text{Lower limit}) / 2$$

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