

# Key Notes

---

## Chapter 14 Statistics

### 1. Collection of Data

### 2. Presentation of Data

### 3. Graphical Representation of Data

### 4. Measures of Central Tendency

- Statistics is the area of study that deals with the collection presentation, analysis and interpretation of data.
  - Data:** Facts or figures, collected with a definite purpose, are called data.
  - There are two types of data (i) Primary (ii) Secondary
  - We can represent the data by (i) ungrouped and grouped frequency distribution.
  - Data can also represent by (i) bar graph (ii) Histogram (iii) Frequency polygons
  - Class mark of grouped data is  $\frac{\text{lower limit} + \text{upper limit}}{2}$
  - Measure of central tendencies by mean, median, mode.
  - Mean:**  $(\bar{x}) = \frac{\text{sum of all observations}}{\text{Total no. of observations}}$
  - If observations denoted by  $\bar{x}$  and their occurrence i.e. frequency is denoted by  $f_i$  then mean is
$$(\bar{x}) = \frac{\sum \bar{x}}{\sum f_i} = \frac{\sum f_i \bar{x}}{\sum f_i}$$
  - Median:** Arrange the observations in ascending or descending order then if numbers of observations ( $n$ ) are odd then then median is  $\frac{n+1}{2}$  term.

If no. of observations ( $n$ ) are even, then median is average of  $\frac{n}{2}$ th and  $\frac{n}{2} + 1$ th terms.
  - Mode:** The observation whose frequency is greatest.
  - Mode = 3 median - 2 mean.
-