Lesson-7

Presentation of Data

Summary

Presentation of data is the process of using various graphical formats to visually represent the relationship between two or more data sets so that the complex statistical data can be presented in a simple way. It provides the basis to make comparative study of different set of data of different grops also the decision making process. Statistical; data can be systematically organized and presented in the form of tables, diagrams, graphs and charts. In this chapter, we will learn about the process and methods of presenting statistical data comprehensively.

Table

Meaning – Table is a systematic arrangement of statistical data in columns and rows with some predetermined aim or purpose.

Purpose - Purpose of the table to simplify presentation of statistical data and make comparison easy.

Types of Table

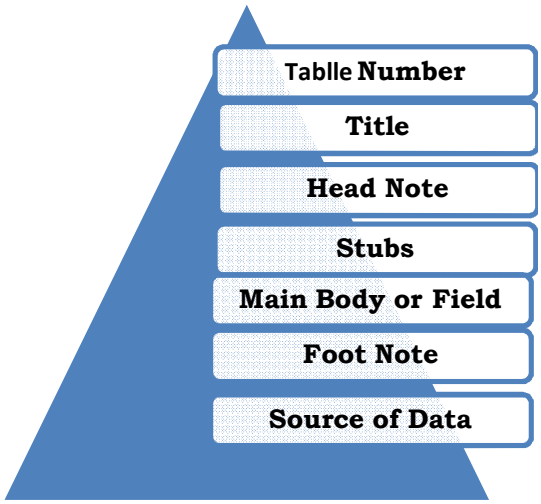
Reference or General Purpose Table

Special Purpose or Test Table

Reference or General Purpose table – These tables are a store of information with an aim of presenting detailed statistical data.

Special Purpose Test Tables – this type of table aims to analyse a Particular aspect so that we can be able to bring out specific point or answer a specific question.

Parts of Table



Bar Charts or Diagrams

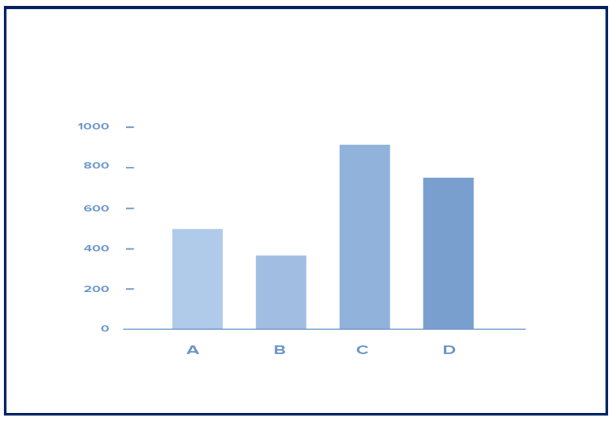
There are two types of bar diagrams – a) Simple Bar Diagram

b) components Bar diagram

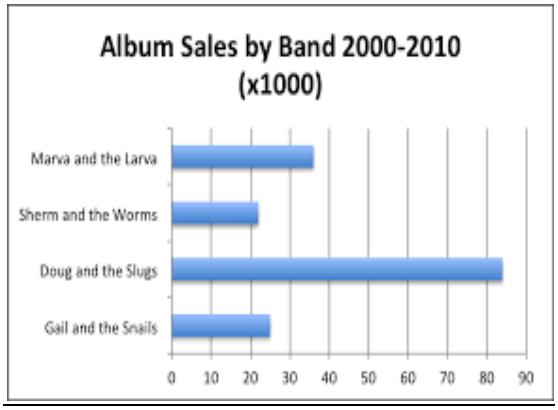
Samples of Bar Diagram – You

All are suggested to take some different set of data for practice.

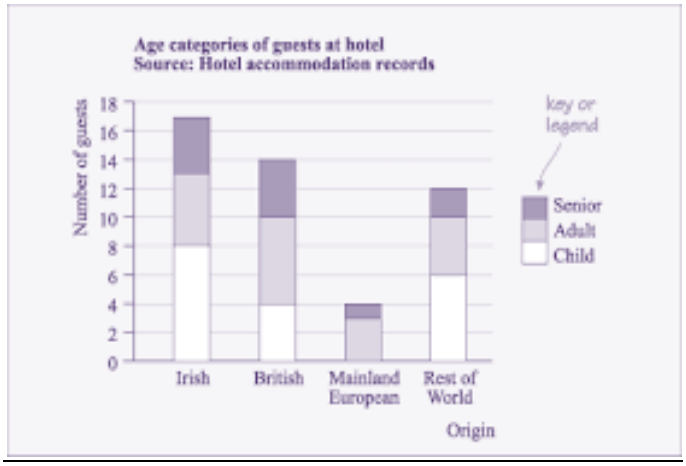
Vertical Bar Diagram



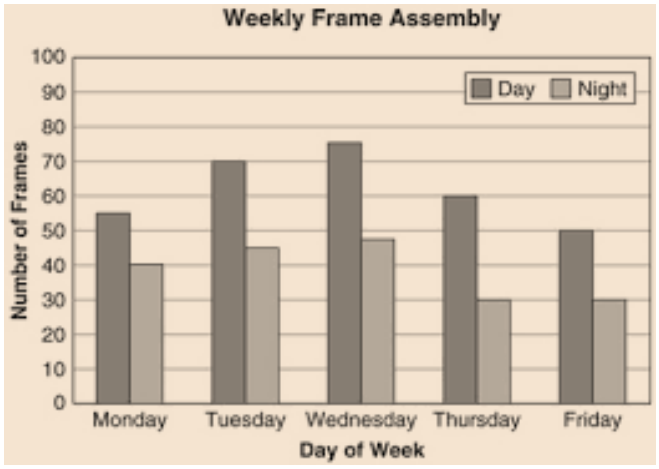
Horizontal Bar Diagram



Component Bar Diagram



Multiple Bar Charts



Pie – Diagram Pie- Diagram is a circle sub-divided into component sectors to present the proportion of different component parts to the total. It is also known as angular diagram.

Steps in construction of Pie-Diagram

Step 1 Find the value of each category or component or group as percentage of total of all groups.

Steps 2 Calculate degree of angle formed by each category or group by formula given below .

Degree for particular group or category.

$$= \frac{Value\ of\ the\ group}{Total\ of\ all\ group} \times 360^0$$

Step 3 Take a circle of suitable size and draw radius.

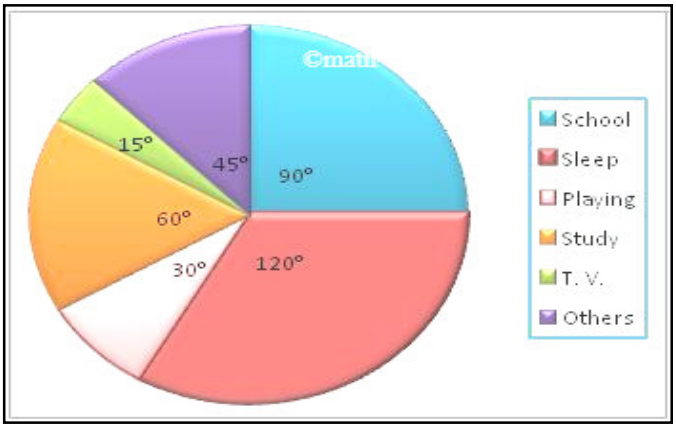
Step 4 Now draw angle calculated in step 2 with the help of a protector.

Step 5 Shade or colour different segment suitably or make a distinction between categories or groups.

Step 6 For each categories or group

Activity	**No. of Hours**	**Measures of Angles**
School	6	$\frac{6}{24} \times 360^0 = 90^0$
Sleep	8	$\frac{8}{24} \times 360^0 = 120^0$
Playing	2	$\frac{2}{24} \times 360^0 = 30^0$
Study	4	$\frac{4}{24} \times 360^0 = 60^0$
T.V.	1	$\frac{1}{24} \times 360^0 = 15^0$
Others	3	$\frac{3}{24} \times 360^0 = 45^0$

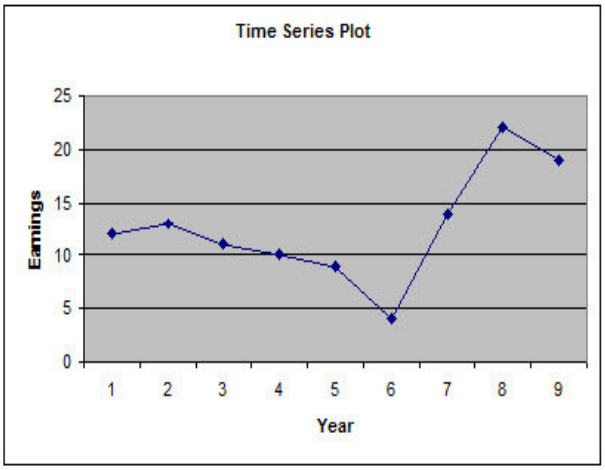
Pie-Chart



Time –Series Line Graph

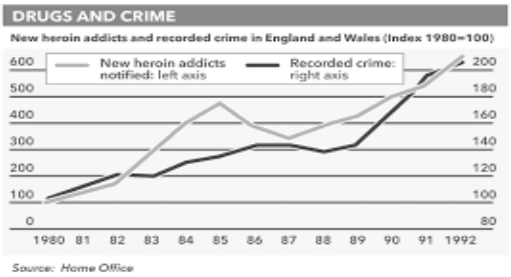
Statistical data can also be presented in the form of time series graph.If one of the two variables is time in days, weeks, months or years we get a time series line graph.

Example –



It is possible to two or more comparable dependent variable on a time series line graph.

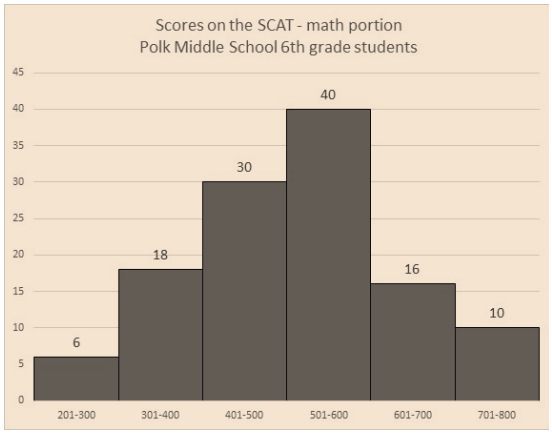
Example



Histogram

Histogram is a joining rectangular diagram of a continuous in which each rectangle represents the class interval with frequency.

Method of Construction of Histogram



- Take marks on X-axis.
- Take frequency on Y-axis.
- Get rectangles joining shape for each class.
- Level both the axis.

Frequency Polygon

Polygon is a diagrammatic presentation of data which is constructed by joining the mid points of the tops of rectangles in a diagram.

Method of Construction of Frequency Polygon

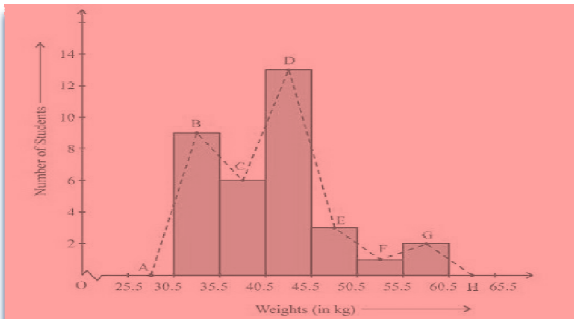
a. draw a suitable histogram.

b. Get mid-points of the upper

horizontal side of each rectangle

c. Join these mid- points of the histogram by straight line.

d. Both axis should be clearly leveled



Cumulative Frequency Curve (Ogive) It is the

It is the curve which is constructed by plotting cumulative frequency data on graph paper. It is constructed in two ways –

(a)Less than method and

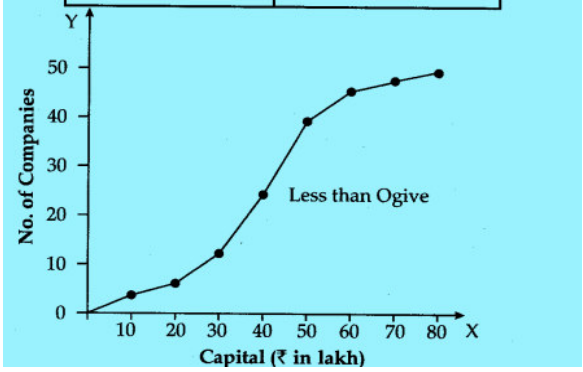
(b) More than method.

Method for Constructing cumulative Frequency Curve

- Find cumulative Frequency of Given data
- Plot observations on X-axis.+
- Plot calculated frequency on Y-axis
- Plot the various and join them to get ogive.
- Both the axis should be clearly leveled.

Sample of less-than ogive curve-

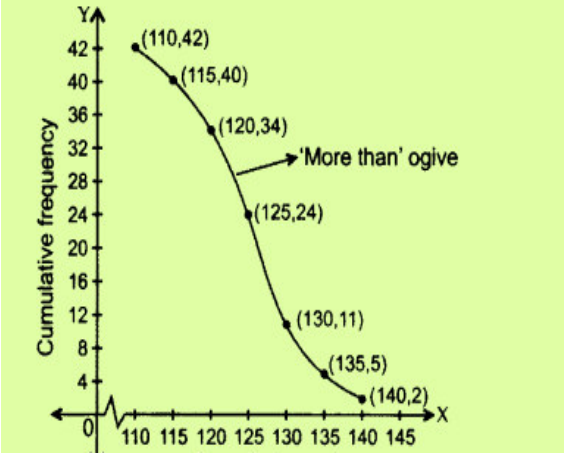
Capital (₹ in lakh)	Number of Companies
below 10	2
below 20	5
below 30	12
below 40	23
below 50	38
below 60	45
below 70	47
below 80	50



Evaluate Yourself

Q. Marks obtain by 50 students are given as - Marks – 0-10, 10-20, 20-30, 30-40 40-50,50-60, 60-70, 70-80.

Length (in mm)	No. of leaves (f)	(c.f.)
More than 110	2	42
More than 115	6	40
More than 120	10	34
More than 125	13	24
More than 130	6	11
More than 135	3	5
More than 140	2	2



Evaluate Yourself

Draw- histogram, frequency polygon less-than and more-than ogive

Q. List out various components of tabular Presentation.

Q. Mention steps for drawing pie-chart.

Q. Draw multiple bar diagram from given data of result for class 12.

Year	1st Div.	2nd Div.	3rd Div.
2010	50	150	50
2011	60	140	70
2012	50	250	60