

### Exercise.1

**Diagrammatic and graphic representation – simple, multiple, component and percentage bar diagram – pie chart – histogram. Frequency polygon, frequency curve**

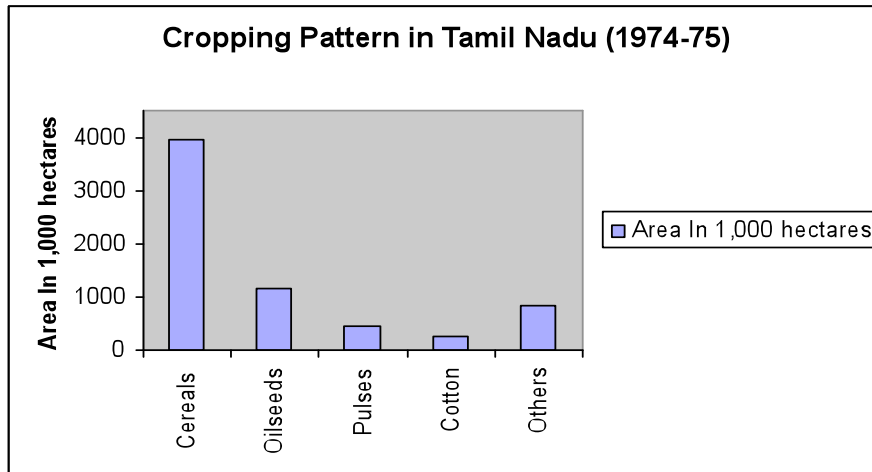
#### Simple Bar diagram

##### Example

The cropping pattern in Tamil Nadu in the year 1974-75 was as follows.

Crops	Area In 1,000 hectares
Cereals	3940
Oilseeds	1165
Pulses	464
Cotton	249
Others	822

The simple bar diagram for this data is given below.

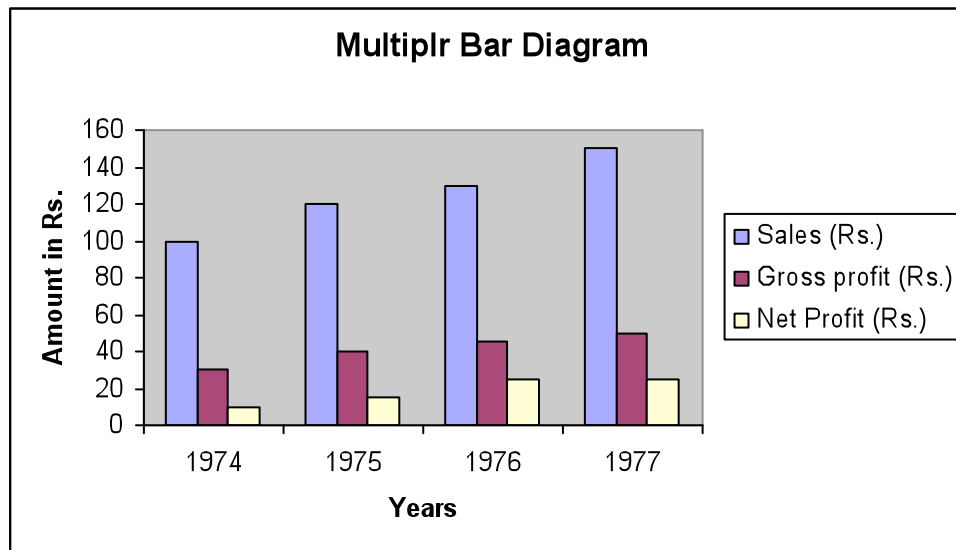


#### Multiple bar diagram

##### Example 1

Draw a multiple bar diagram for the following data

Year	Sales (Rs.)	Gross Profit (Rs.)	Net Profit (Rs.)
1974	100	30	10
1975	120	40	15
1976	130	45	25
1977	150	50	25
<b>Total</b>	<b>500</b>	<b>165</b>	<b>75</b>

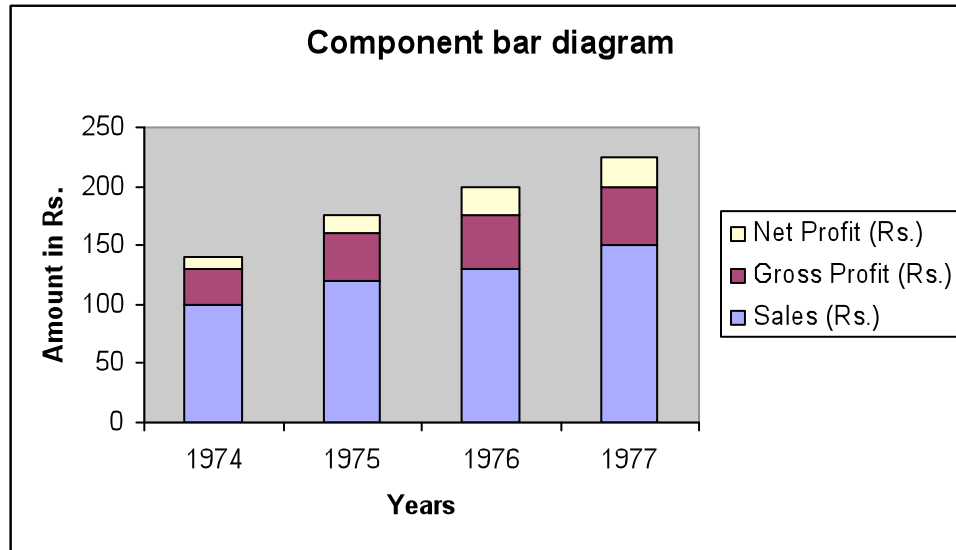


### Component bar diagram

#### Example 2

Draw a component bar diagram for the following data

Year	Sales (Rs.)	Gross Profit (Rs.)	Net Profit (Rs.)
1974	100	30	10
1975	120	40	15
1976	130	45	25
1977	150	50	25



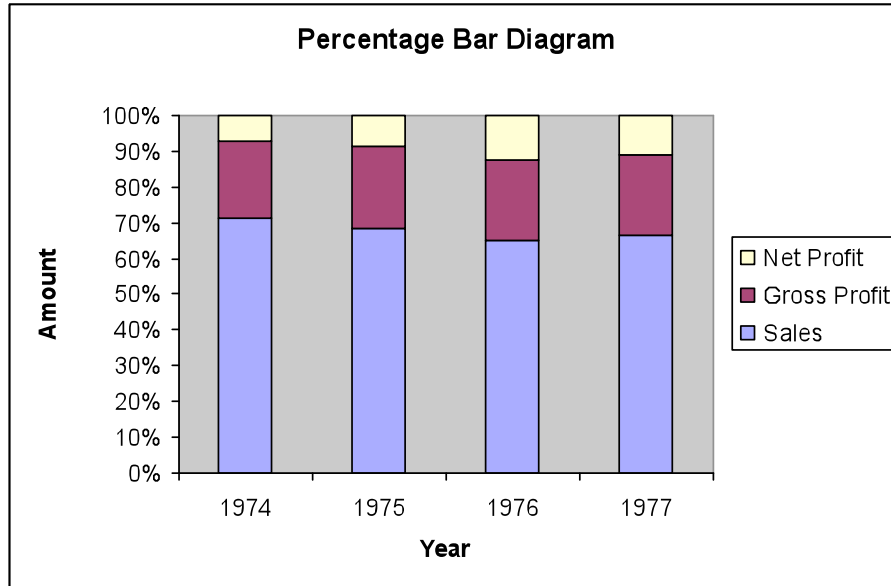
### Percentage bar diagram

#### Example 3

Draw a Percentage bar diagram for the following data

Using the formula  $\text{Percentage} = \frac{\text{Actual value}}{\text{Total of the actual value}} \times 100$ , the above table is converted.

Year	Sales (Rs.)	Gross Profit (Rs.)	Net Profit (Rs.)
1974	71.43	21.43	7.14
1975	68.57	22.86	8.57
1976	65	22.5	12.5
1977	66.67	22.22	11.11



### Pie chart / Pie Diagram

#### Example 4

Given the population of 1991 of four southern states of India. Construct a pie diagram for the following data.

State	Population
Andhra Pradesh	663
Karnataka	448
Kerala	290
Tamil Nadu	556
<b>Total</b>	<b>1957</b>

Using the formula

$$\text{Angle} = \frac{\text{Actual value}}{\text{Total of the actual value}} \times 360^\circ$$

(or)

$$\text{Angle} = \frac{\text{Percentage}}{100} \times 360^\circ$$

The table value becomes

State	Population
Andhra Pradesh	121.96
Karnataka	82.41
Kerala	53.35
Tamil Nadu	102.28

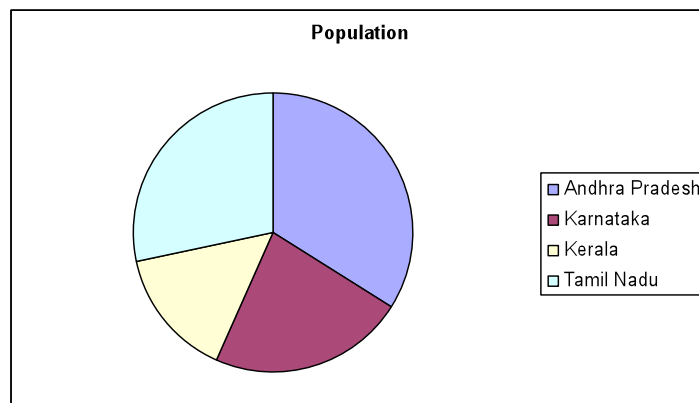
$$\text{Radius} = \pi r^2$$

$$\text{Here } \pi r^2 = 1957$$

$$r^2 = \frac{1957}{\pi} = \frac{1957}{3.14} = 623.24$$

$$r = 24.96$$

$$r = 25 \text{ (approx)}$$



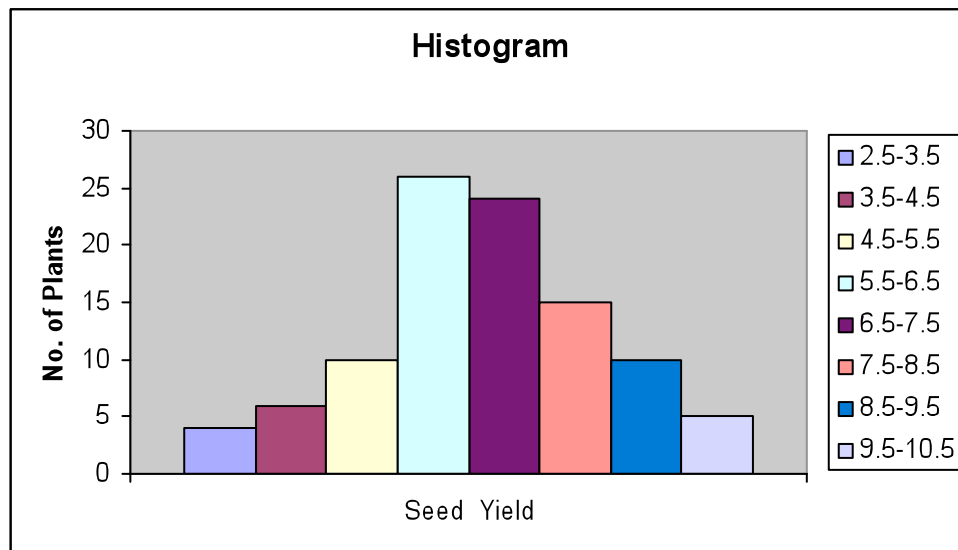
## Histogram

### Example 5

Draw a histogram for the following data

Seed Yield	No. of Plants
2.5-3.5	4
3.5-4.5	6
4.5-5.5	10

5.5-6.5	26
6.5-7.5	24
7.5-8.5	15
8.5-9.5	10
9.5-10.5	5



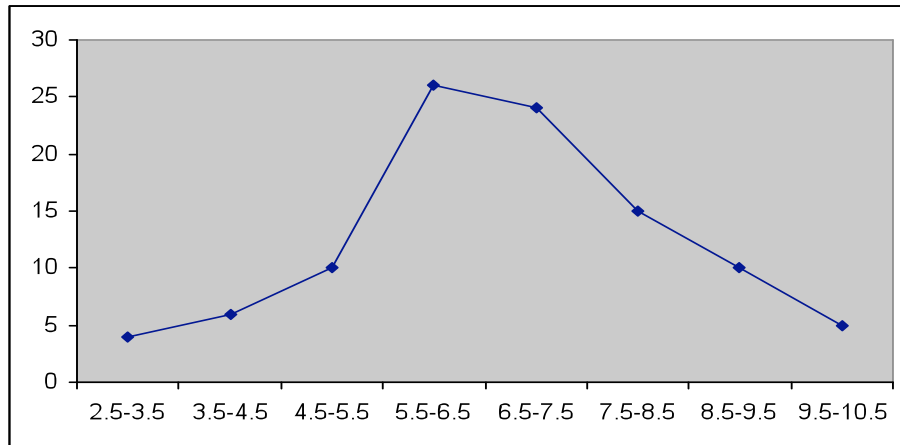
### Frequency Polygon

#### Example 6

Draw frequency polygon for the following data

Seed Yield	No. of Plants
2.5-3.5	4
3.5-4.5	6
4.5-5.5	10
5.5-6.5	26
6.5-7.5	24

7.5-8.5	15
8.5-9.5	10
9.5-10.5	5

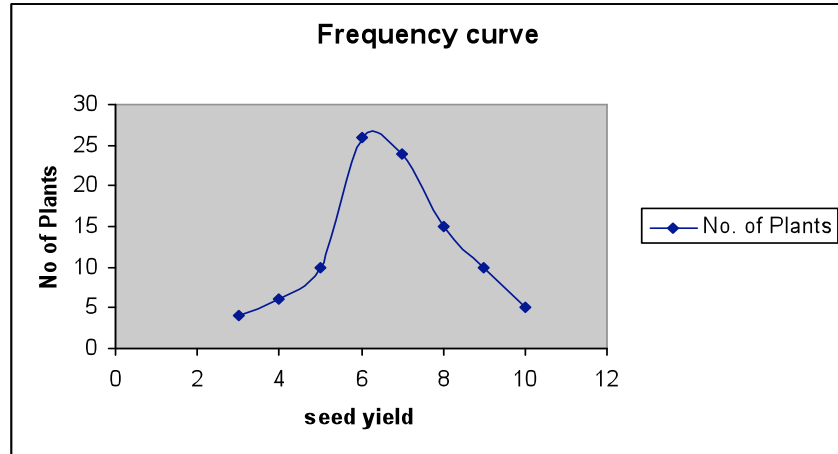


### Frequency curve

#### Example 7

Draw frequency curve for the following data

Seed Yield	No. of Plants
2.5-3.5	4
3.5-4.5	6
4.5-5.5	10
5.5-6.5	26
6.5-7.5	24
7.5-8.5	15
8.5-9.5	10
9.5-10.5	5

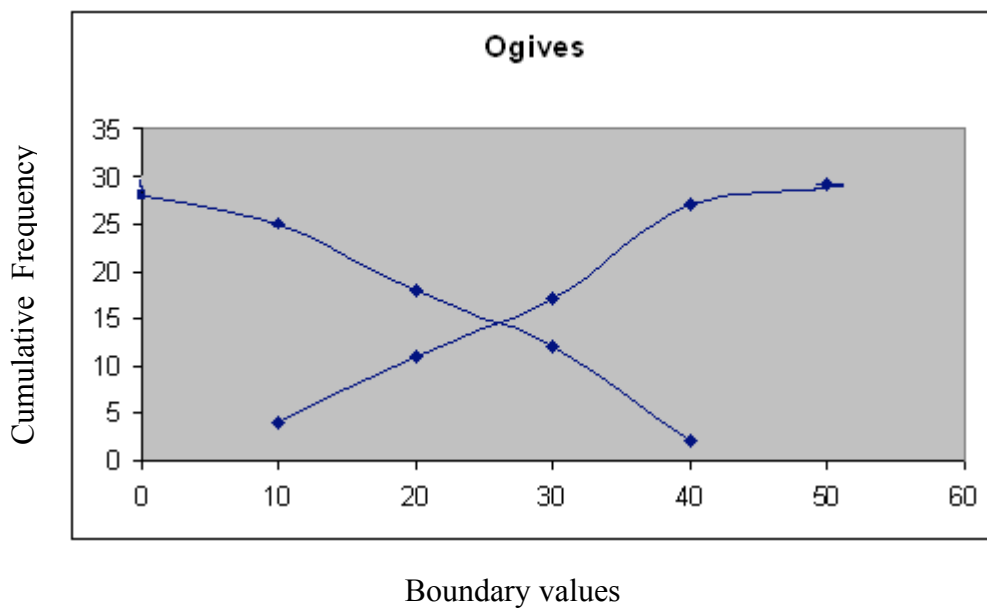


**Ogives**

**Example 8**

Draw ogives for the following data

Continuous Interval	Mid Point	Frequency	< cumulative Frequency	> cumulative frequency
0-10	5	4	4	29
10-20	15	7	11	25
20-30	25	6	17	18
30-40	35	10	27	12
40-50	45	2	29	2





### Learning Exercise

1) The mean yields of green gram (Kg/hectare) under different weedicide treatment were as follows

Weedicide	Yield(Kg/ha)
Oxadiazon	1382
Fluchloralin	1117
Isopropofuron	1066
Unweeded Control	767

Draw Simple Bar Diagram

2) The cropping pattern of Tamil Nadu in 3 different years was as follows.

Crops	Area		
	2002	2003	2004
Cereals	3600	3650	3950
Oilseeds	1000	1150	1100
Pulses	400	450	460
Cotton	200	230	240
Others	800	820	820

Draw multiple bar diagram, Component bar diagram, Percentage bar diagram and Pie chart.

3) The yields of a crop sorghum from 100 experimental plots is given below. Construct histogram, frequency polygon, frequency curve and ogives.

Grain Yield	No. of Plants
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65-85	3
85-105	5
105-125	7
125-145	20
145-165	24
165-185	26
185-205	12
205-225	02
225-245	01