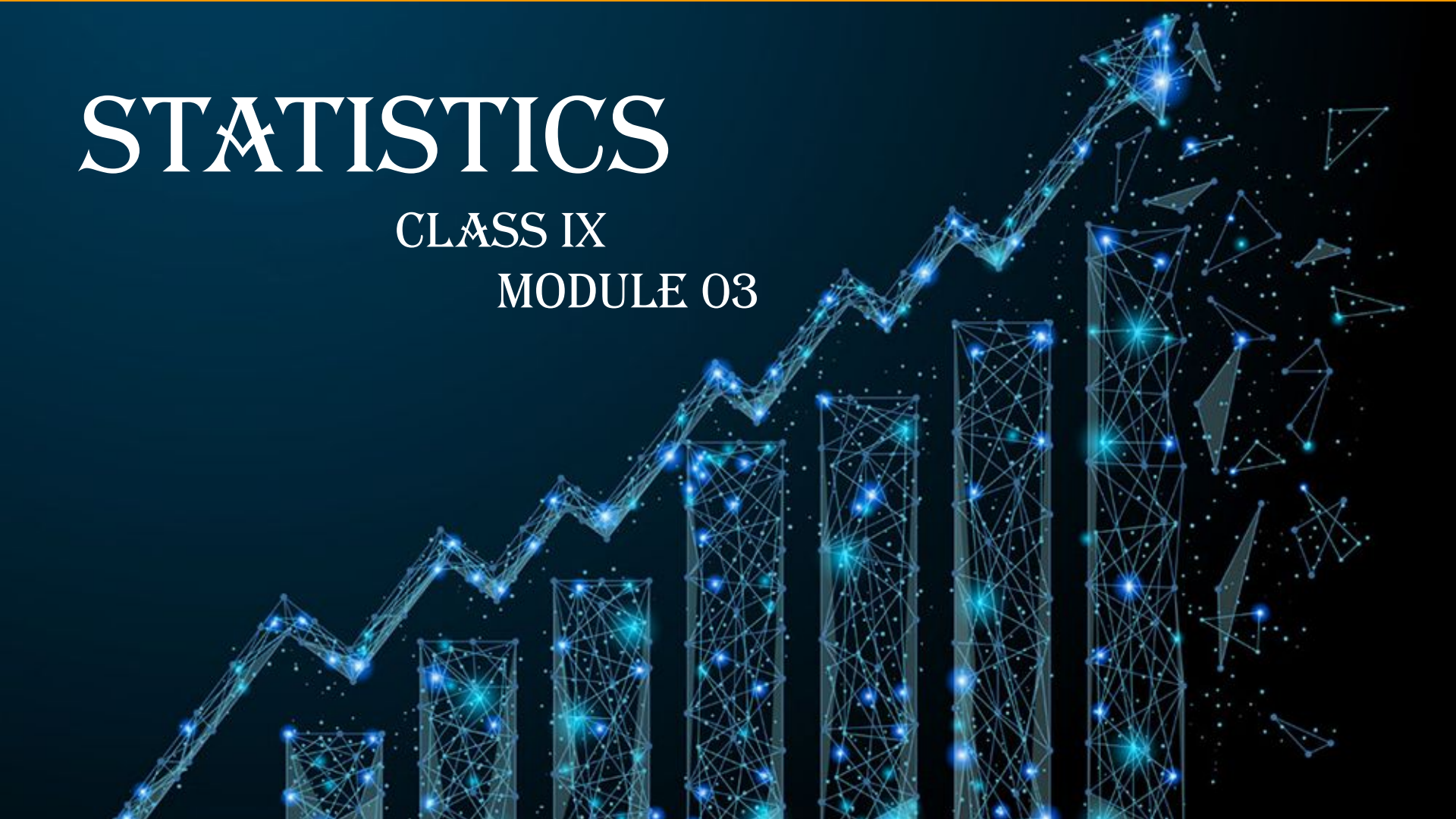
STATISTICS

CLASS IX

MODULE 03



GRAPHICAL REPRESENTATION OF DATA

The tabular representation of frequency of data is very useful way of presentation of raw data in a condensed and systematic manner.However such a representation is not of much use for a common man.

The pictorial or graphical representation of such data is more appealing and convincing. This is because pictures and graphs are more noticeable, easily intelligible and leave a long lasting impression on the mind of the observer.

Moreover pictures and graphs re good visual aids with the help of which data can be compared easily.

In the present section we shall study the following three types of graphical representation of the statistical data:
**Bar Graphs or bar Charts for unclassified frequency distribution.
**Histograms for classified frequency distributions.
**Frequency polygons for classified frequency distributions.

BAR GRAPHS / BAR CHARTS

**A bar graph is pictorial representation of unclassified data in the form of bars(or rectangles) of uniform width with equal spacing between them along x-axis, the heights of the bar along the y axis being proportional to the frequencies of the variable.

**Thus the x axis represents the variable while the y axis represents the values of the variable.

13 A SURVEY CONDUCTED BY AN ORGANISATION FOR THE CAUSE OF ILLNESS AND DEATH AMONG THE WOMEN BETWEEN THE AGES 15-44 (IN YEARS) WORLD WIDE, FOUND THE FOLLOWING FIGURES IN PERCENTAGE.

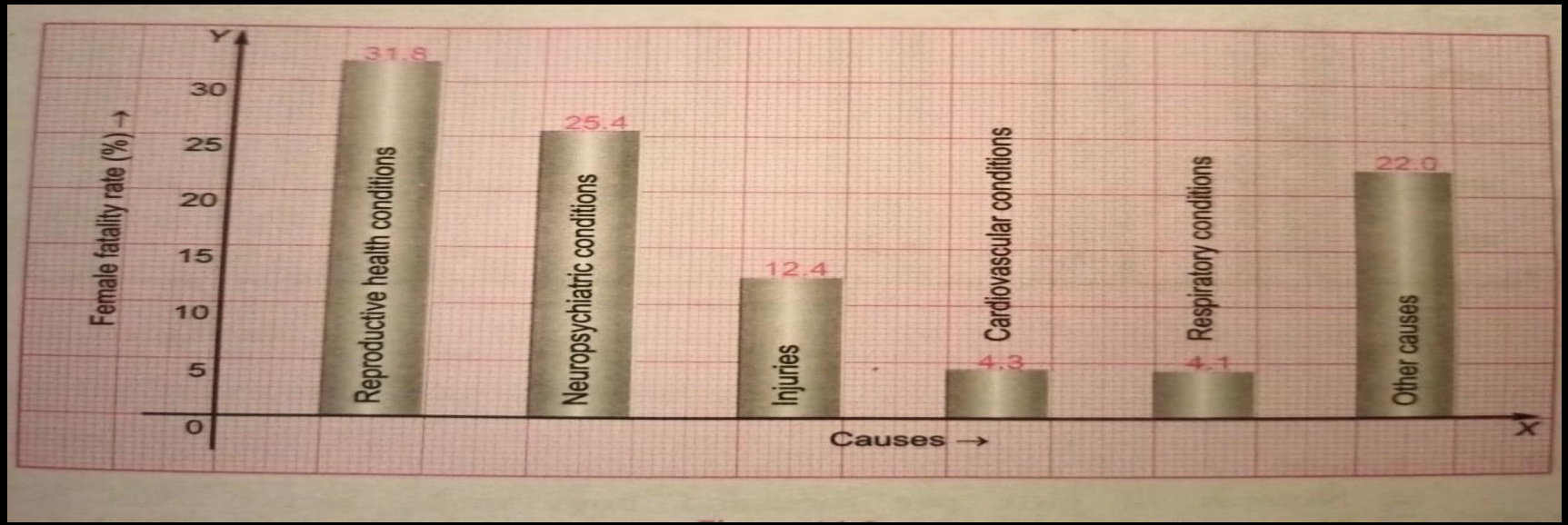
S.No	CAUSES	Female Fatality Rate (%)
1	Reproductive health conditions	31.8
2	Neuropsychiatric Conditions	25.4
3	Injuries	12.4
4	Cardiovascular Conditions	4.3
5	Respiratory Conditions	4.1
6	Other Causes	22.0

Represent the information using graphical method.
Which condition is major cause of women's ill health and death in the world.

Steps for drawing the bar graph:

**We represent causes of death on the horizontal axis.
**For each case we draw a bar of width 1 cm, leaving a gap of 1 cm between two consecutive bars.
**We represent the female fatality rate on the vertical axis. We take scale : 1cm=5%.
** We draw the rectangular bars of the following heights:

31.8/5=6.36 cm
25.4/5=5.08 cm
12.4/5=2.48 cm
4.1/5=0.82 cm
4.3/5=0.86 cm
22/5=4.4 cm



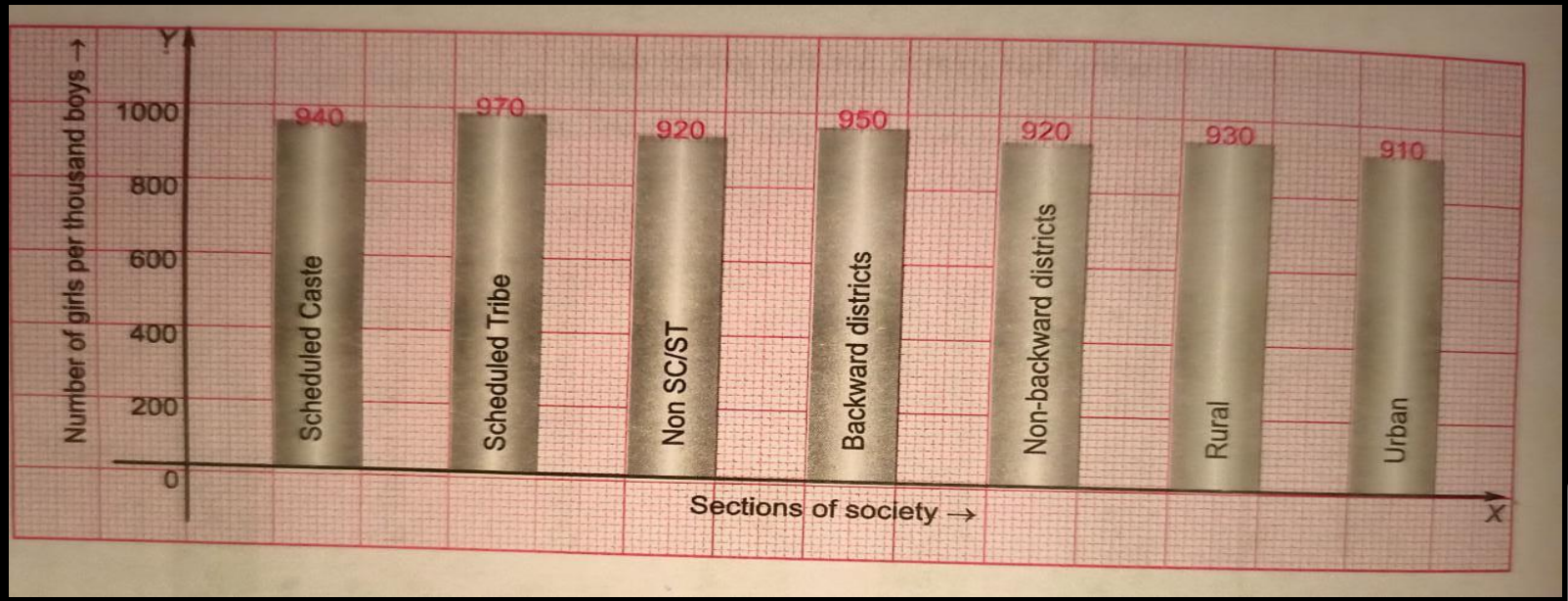
2}THE FOLLOWING DATA ON THE NUMBER OF GIRLS TO THE NEAREST TEN PER THOUSAND BOYS IN DIFFERENT SECTIONS OF THE SOCIETY IS GIVEN BELOW:

SECTION	NO OF GIRLS PER THOUSAND BOYS
Schedule Caste	940
Schedule Tribe	970
Non SC/ST	920
Backward Districts	950
Non Backward Districts	920
Rural	930
Urban	910

Represent the data graphically.
Write two conclusions you can derive at from the graph with justification.

Steps for drawing the bar graph:

**We represent the different sections of society on the horizontal axis.
**For each society, we draw a bar of width 1 cm, leaving a gap of 1 cm between two consecutive bars.
**We represent number of girls per thousand boys in different sections of society on the vertical axis.We take scale : 1 cm = 200 girls. Then for the given data we get a bar graph shown in the below graph



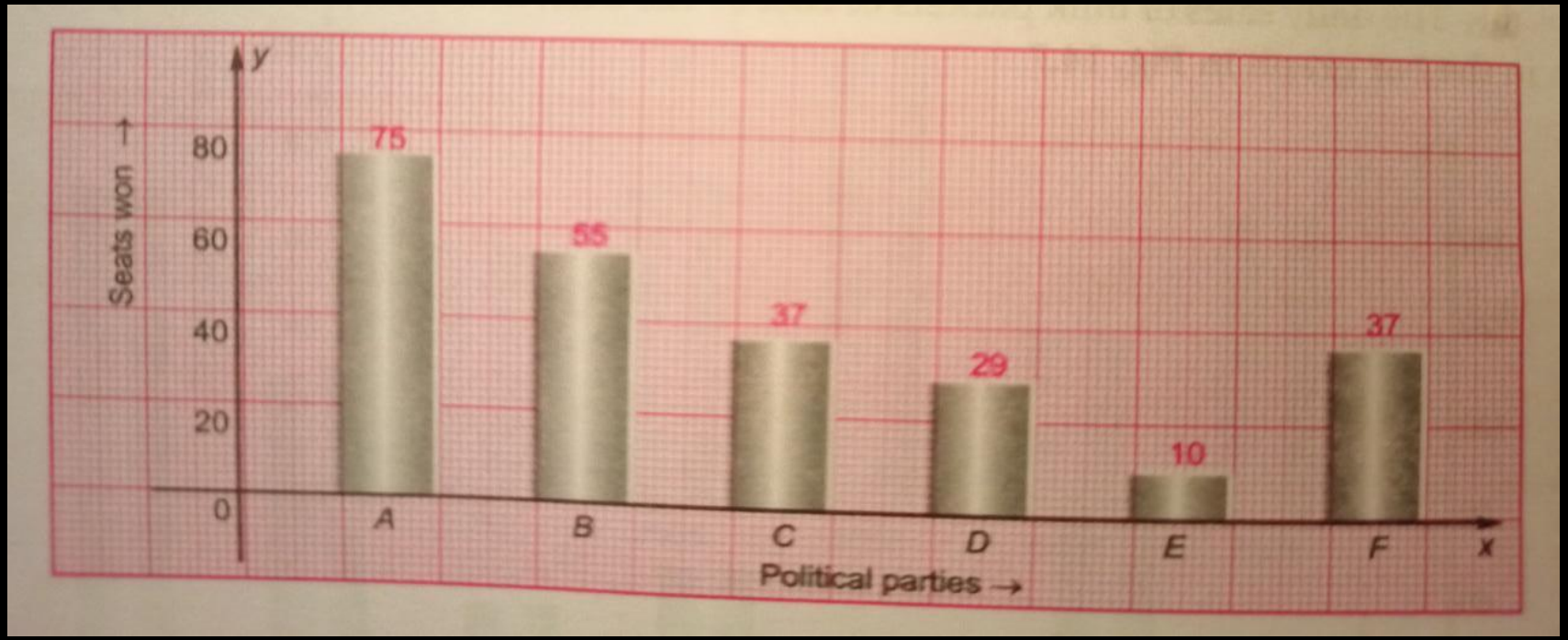
3}GIVEN BELOW ARE THE SEATS WON BY DIFFERENT POLITICAL PARTIES IN THE POLLING OUTCOME OF A STATE ASSEMBLY ELECTIONS:

POLITICAL PARTY	A	B	C	D	E	F
SEATS WON	75	55	37	29	10	37

Draw a suitable graph to represent the polling results.
Which political party won the maximum number of seats?

STEPS FOR DRAWING BAR GRAPH:

**We represent the different political parties on the horizontal axis.For each party we draw a rectangular bar of width 1 cm leaving a gap of 1 cm between two consecutive bars.
**We represent the number of seats won by party on the vertical axis.
**We take scale as 1 cm = 20 seats


y
Seats won →
80
60
40
20
0
75
55
37
29
10
37
A
B
C
D
E
F
x
Political parties →

**THE EXPENDITURE OF A FAMILY ON DIFFERENT HEADS IN A MONTH IS GIVEN BELOW: DRAW THE BAR GRAPH TO REPRESENT THE DATA BELOW.

HEAD	FOOD	EDUCATION	CLOTHING	RENT	OTHERS	SAVINGS
EXPENDITURE	4000	2500	1000	3500	2500	1500

**THE FOLLOWING TABLE GIVES THE FREQUENCY OF MOST COMMONLY USED LETTERS A, E, I, O, R, T, U FROM A PAGE IN THE BOOK.REPRESENT THE DATA GRAPHICALLY IN FORM OF BAR GRAPH.

LETTERS	a	e	i	o	r	t	u
FREQUENCY	75	125	80	70	80	95	75

**EXPENDITURE ON EDUCATION OF A COUNTRY DURING FIVE YEAR PERIOD IN CRORE OF RUPEES S GIVEN BELOW.REPRESENT THE INFORMATION BY A BAR GRAPH.

ELEMENTARY EDUCATION	240
SECONDARY EDUCATION	120
UNIVERSITY EDUCATION	190
TEACHER'S TRAINING	20
SOCIAL EDUCATION	10
OTHER PROGRAMMES	115
CULTURAL PROGRAMMES	25
TECHNICAL EDUCATION	125

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