CH-7 : Graphic Presentation (Imp..)

Frequency distribution graph

↓

used to express frequency distribution in discrete or continuous series

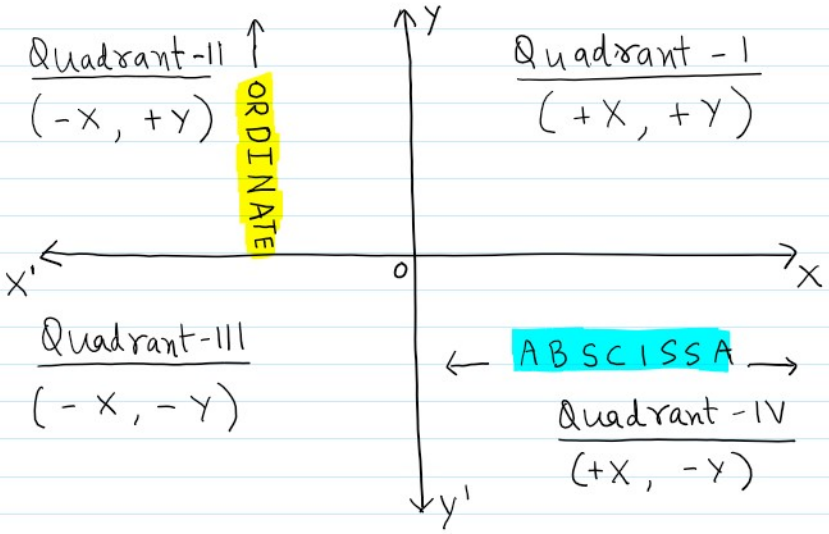
Time Series graph

↓

used to express variables (single or two) with reference to a specific time period

5 TYPES of Graph

* Construction of Graphs *



(1) HISTOGRAM

a) Histogram of equal class interval
b) Histogram when mid points are given
c) Histogram of unequal class
d) Histogram when inclusive series is given

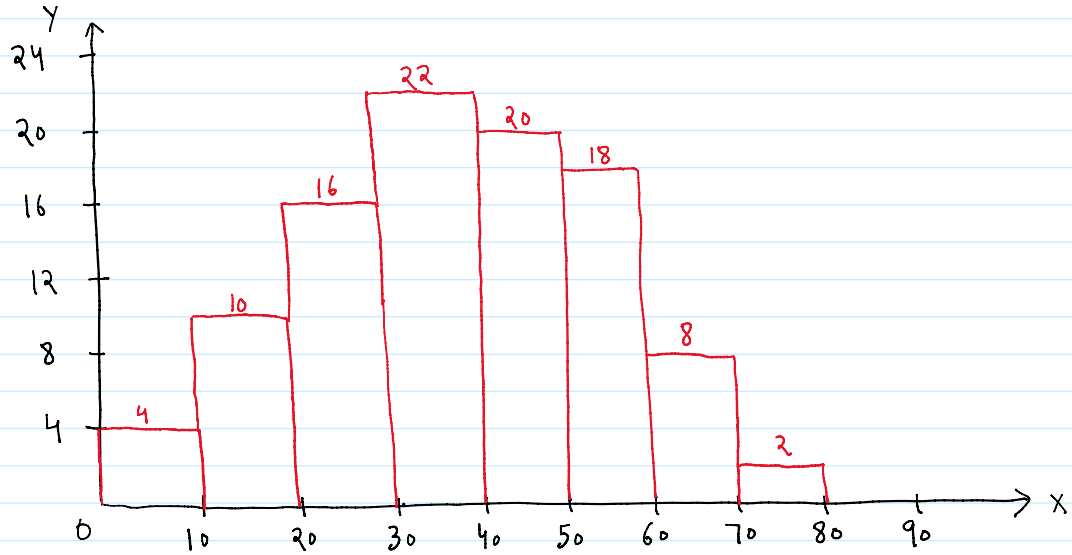
eg (1)

C.I	f

eg ①

C.I	f
0 – 10	4
10 – 20	10
20 – 30	16
30 – 40	22
40 – 50	20
50 – 60	18
60 – 70	8
70 – 80	2

Sol:-



eg ②

Mid points	f
150	8
160	10
170	25
180	12
190	7
200	3

Sol:- Step 1:- Convert Mid points to class interval.

$\frac{160 - 150}{2} = 5$

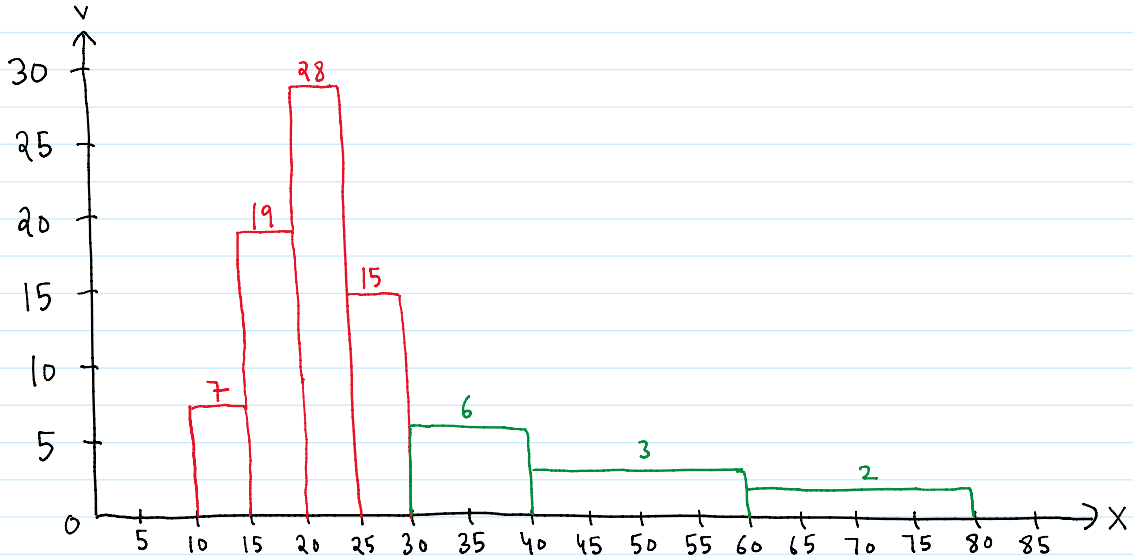
Lower limit : 150 (-) 5 = 145
Upper limit : 150 (+) 5 = 155

C.I	f
145 - 155	8
155 - 165	10
165 - 175	25
175 - 185	12
185 - 195	7
195 - 205	3

185 – 195	7
195 – 205	3

(*) eg (3)

C. I	f	Adjusted frequencies.
10 – 15	7	7
15 – 20	19	19
20 – 25	28	28
25 – 30	15	15
30 – 40	12	6
40 – 60	12	3
60 – 80	8	2

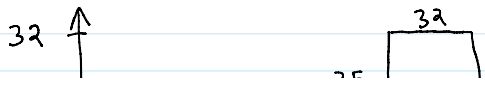


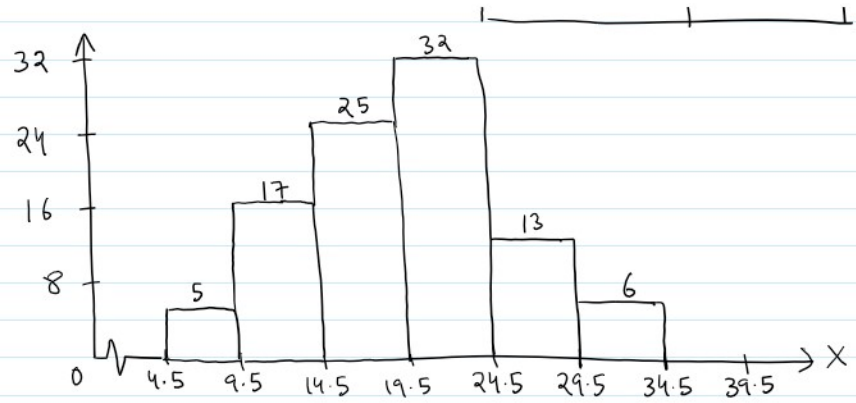
eg (4)

C. I	f
5 – 9	5
10 – 14	17
15 – 19	25
20 – 24	32
25 – 29	13
30 – 34	6

Sol:- Step :- Convert inclusive series to exclusive series.

C. I	f
4·5 – 9·5	5
9·5 – 14·5	17
14·5 – 19·5	25
19·5 – 24·5	32
24·5 – 29·5	13
29·5 – 34·5	6



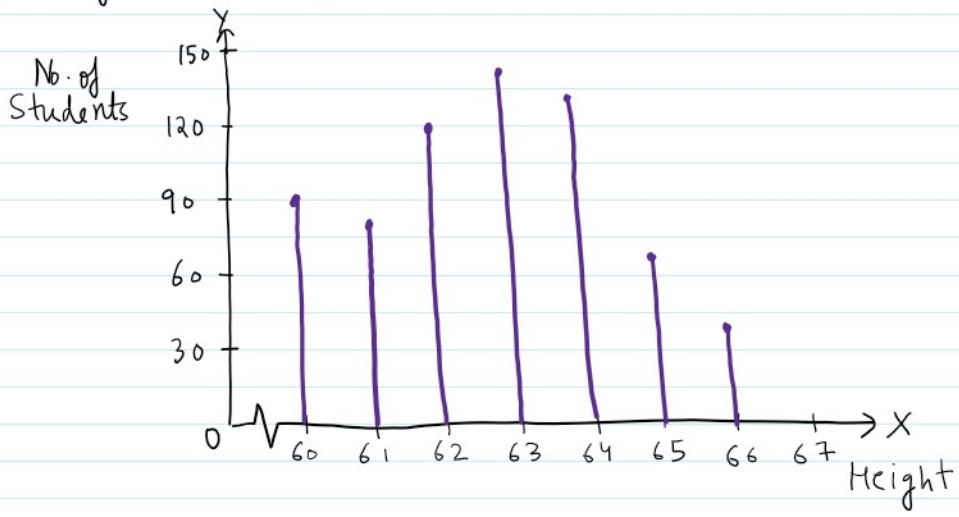


(2) LINE FREQUENCY CURVE

eg :-

Height	60	61	62	63	64	65	66
No of students	90	80	120	140	132	70	40

Sol:-



(3) FREQUENCY POLYGON

(i) With Histogram

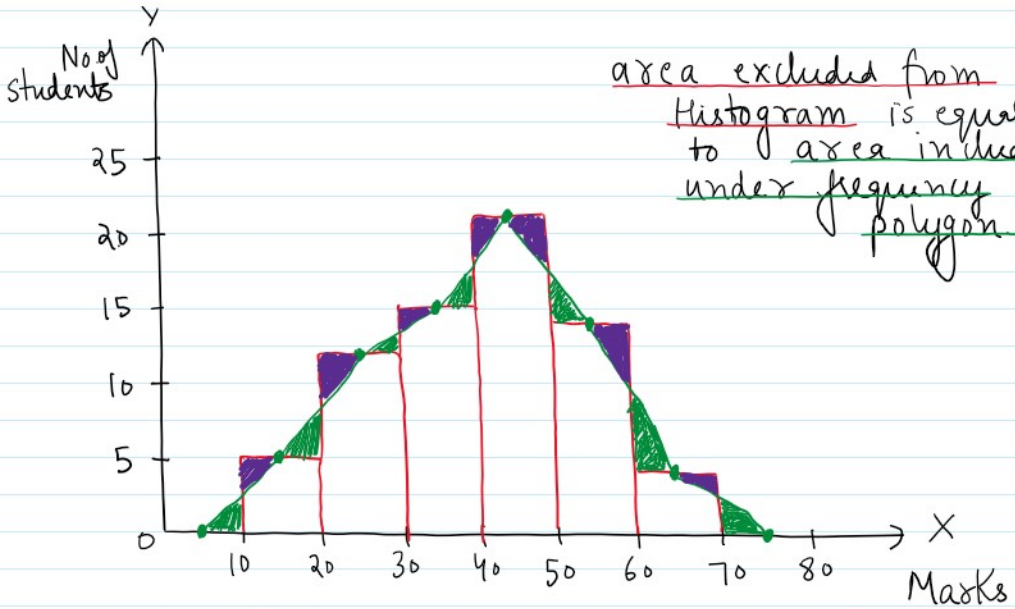
(ii) Without Histogram

eg

Marks	No of students
10 - 20	5
20 - 30	12
30 - 40	15
40 - 50	22
50 - 60	14

50 – 60	14
60 – 70	4

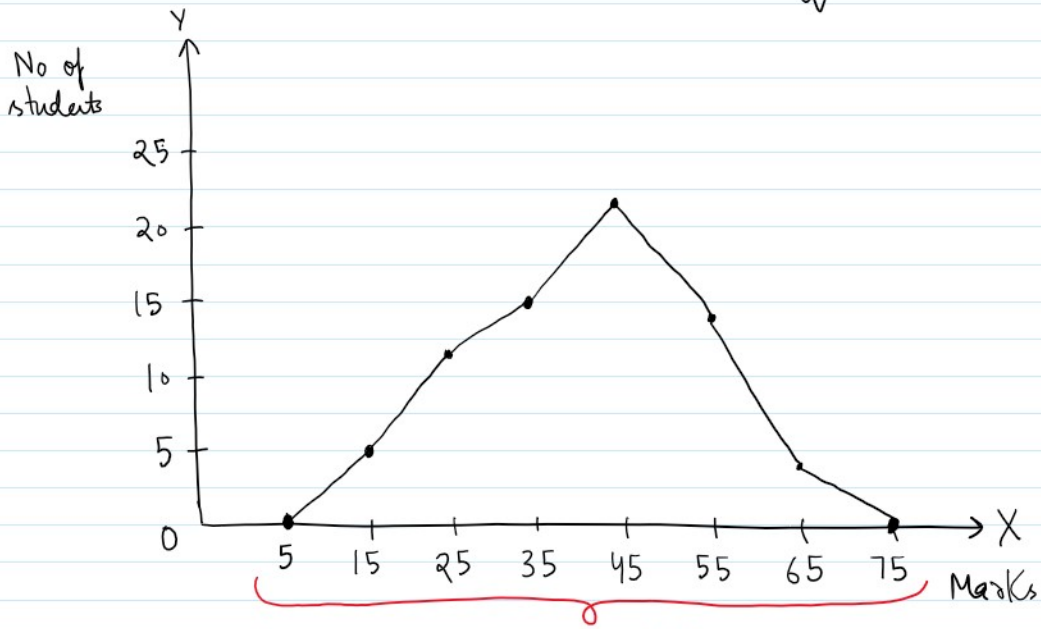
Sol Case (1)



area excluded from Histogram is equal to area included under frequency polygon.

* area under Histogram = area under frequency polygon.

Case(ii)



* Mid - points is to be calculated

(4) **Frequency curve or Smoothed frequency curve**

→ It is like frequency polygon only but not straight lines.

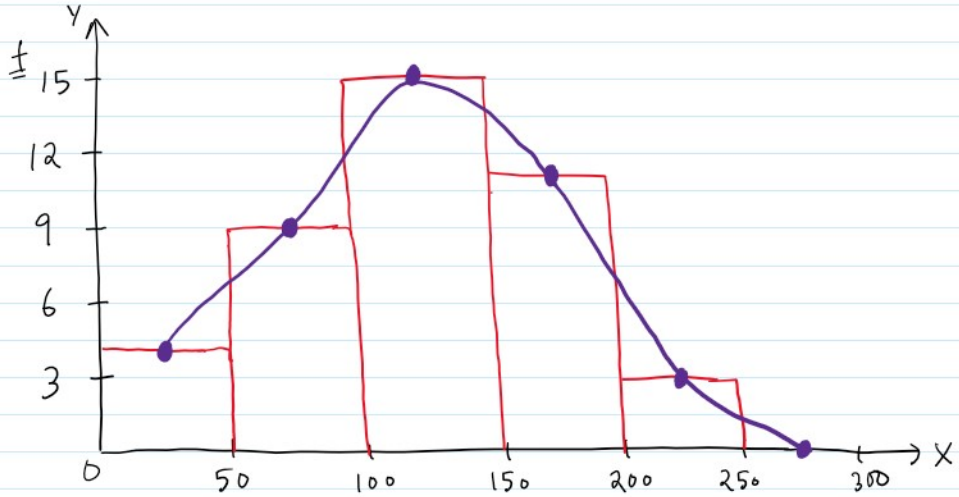
eg :-

C.I	f
0 – 50	4

eg :-

C. I	f
0 - 50	4
50 - 100	9
100 - 150	15
150 - 200	11
200 - 250	3

Sol:-



(5) Cumulative Frequency Curve [OGIVE]

- Less than ogive
- More than ogive.

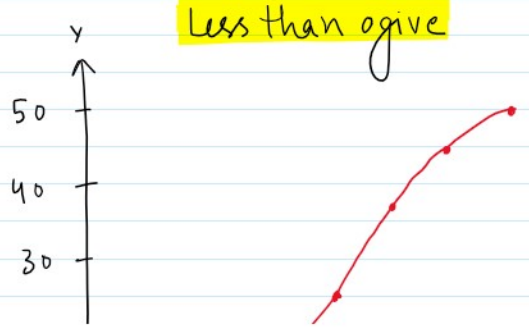
eg :-

C. I	f
0 - 10	4
10 - 20	4
20 - 30	7
30 - 40	10
40 - 50	12
50 - 60	8
60 - 70	5
	50

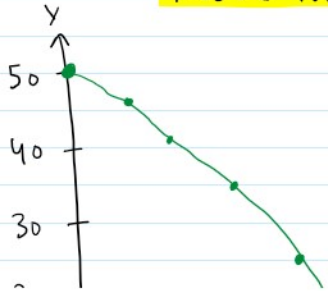
Less than	C. f
Less than 10	4
" " 20	8
" " 30	15
" " 40	25
" " 50	37
" " 60	45
" " 70	50

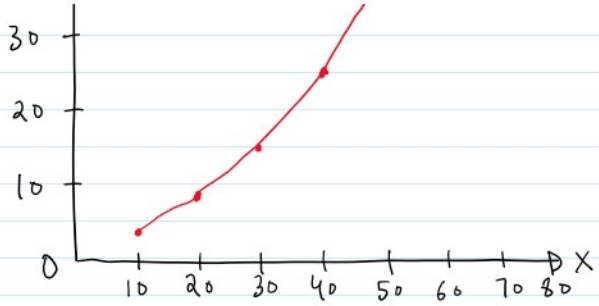
More than	C. f
More than 0	50
" " 10	46
" " 20	42
" " 30	35
" " 40	25
" " 50	13
" " 60	5

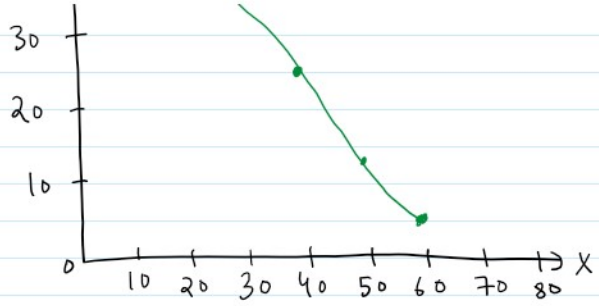
Less than ogive



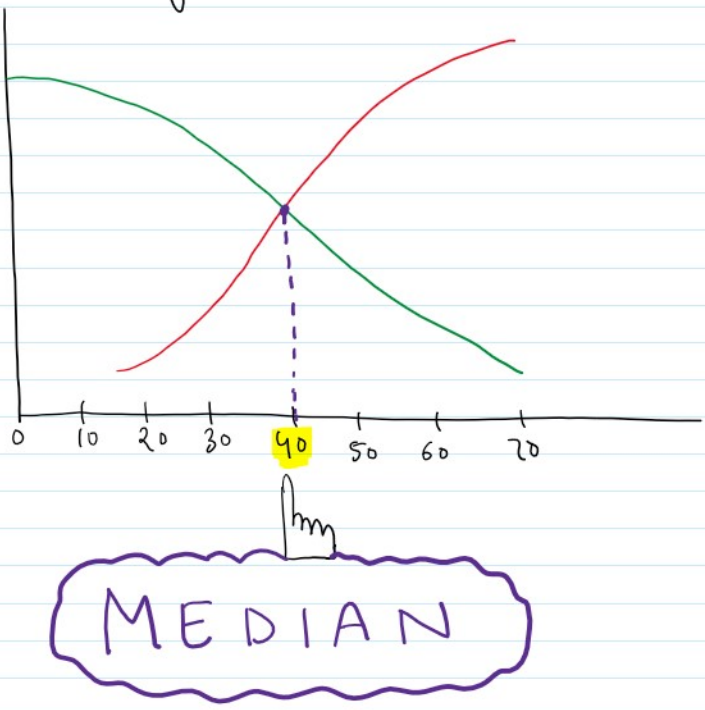
More than ogive







Just for Reference



II. Graph of Time Series

Single (one) variable

Multiple (Two or more) variable

* In case if Question requires then we can use False Base line as well

eg :-

Years	No. of Students
2011	1120
2012	1380
2013	1587
2014	1490
2015	1760
2016	1734
2017	1675

We will use False Base line in this Q

Sol :-