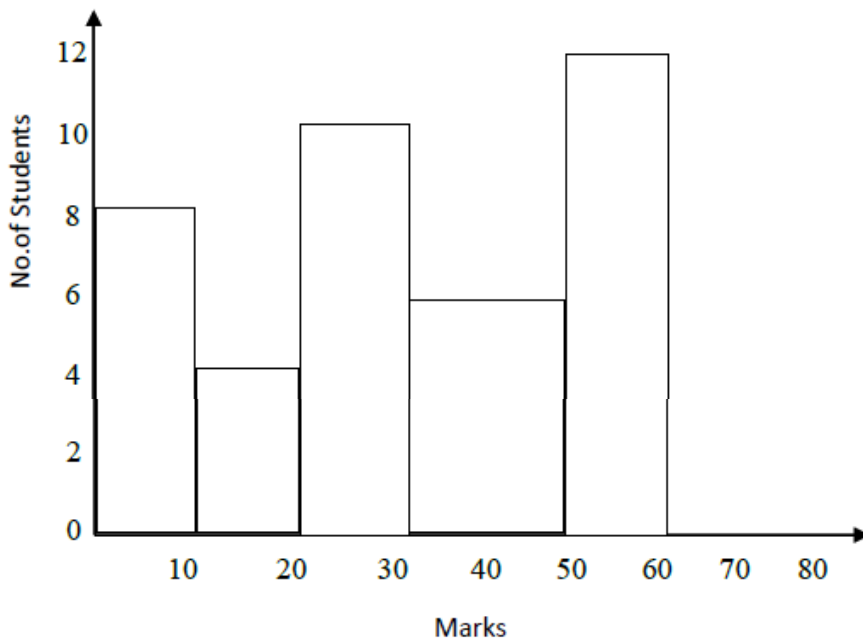## 15)   Data Representation and Interpretation
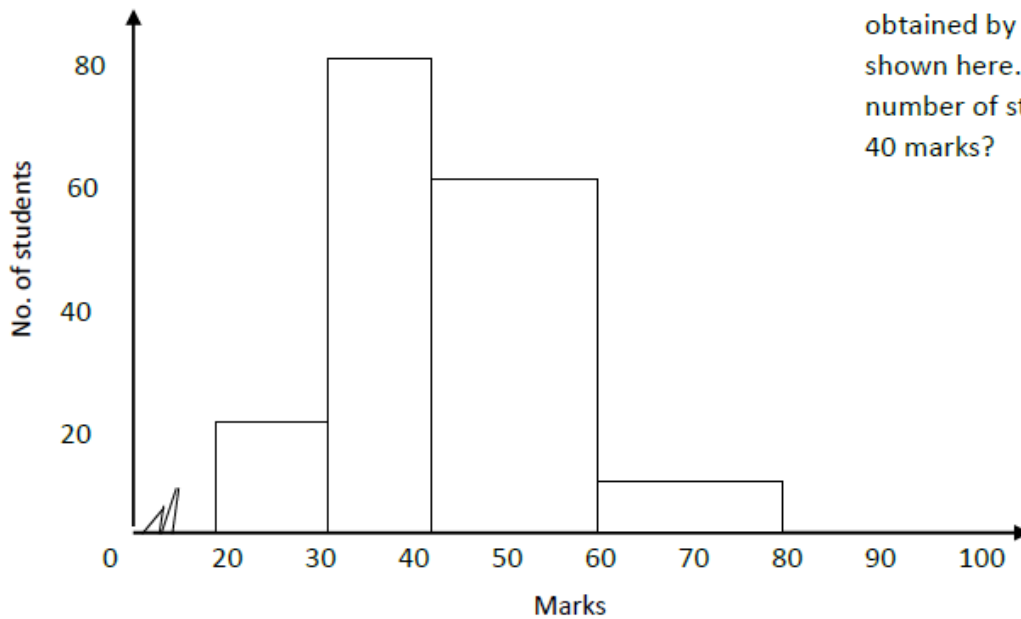
Part I

1.

The marks scored by 46 students for

mathematics are represented in the Histogram. Accordingly, how many students have scored more than 30 marks?

2.

A histogram drawn based on the marks obtained by a group of students in a test is shown here. What fraction of the total number of students obtained more than 40 marks?

3. The mean of the marks obtained by 50 students at a test is 55. 62 marks obtained by a student has been misreported as 32. Find the correct mean of marks of the students in the class.

4. The following are ages of 15 workers in a factory prepared in ascending order.
19,20,23,23,27,30,30,30,37,40,45,47,49,50,50,
For this group of data find the following,
     i.   Median
    ii.   Interquartile range

5. Find,
    i. The mode
   ii. The median
  iii. The mean of the numbers 7,9,11,15,11,10,8.

6. Marks scored by 12 students for a certain test are given below. 1st quartile of the distribution is 5. Find the 3rd quartile and the interquartile range of the marks distribution.
2,4,5,5,6,8,8,10,12,14,15,15

7. Fill in the blanks in the following table.

Class Intervals	Frequency	Cumulative Frequency
0 – 10	4	4
10 – 20	6	....
20 – 30	....	20
30 – 40	9	29
40 – 50	3	32

8.
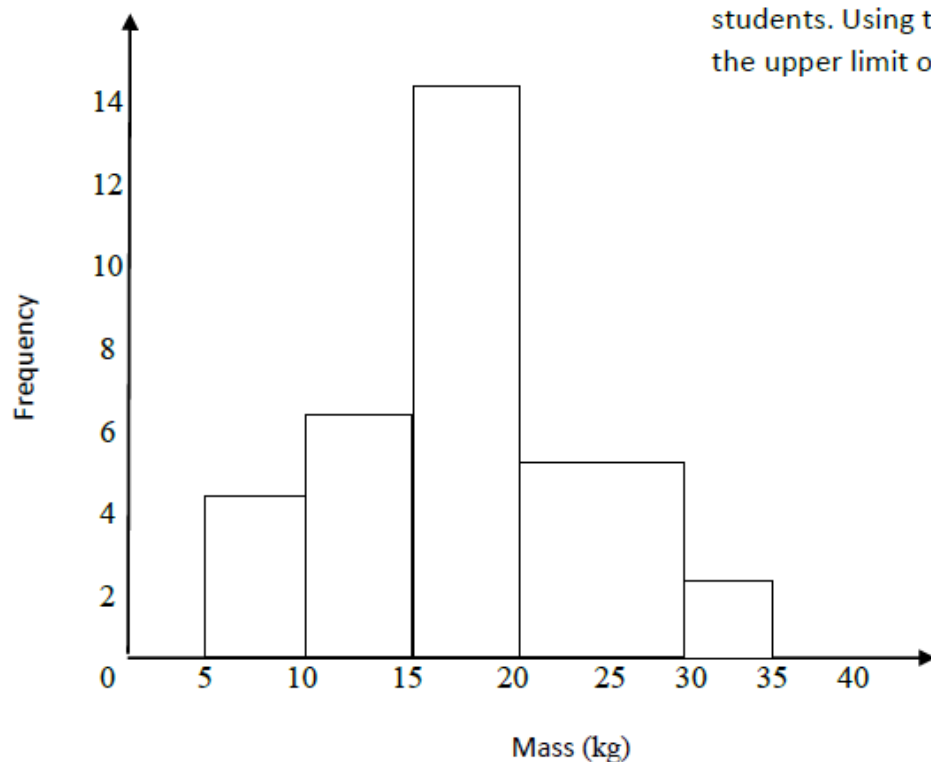
Given histogram is drawn to represent the mass of a group of students. Using the information, Write the lower limit and the upper limit of the modal class.

9. In this class interval (45 – 53),
    i. What is the size?
   ii. Write the mid value.

10. Marks obtained by 8 students for a certain test are given below.
15,22,20,18,12,18,16,23. Find the median of the marks.

Part II

1. A frequency distribution based on the amount of money (In rupees) spent by the students in a certain class, to buy food from the school canteen is given below.

Class Interval (Money)	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80	80 – 90	90 – 100
Frequency (No.of students)	3	....	8	12	8	6	2
Cumulative Frequency	3	8	16	....	36	42	....

    i.   Fill in the blanks of the table.

    ii. Using the completed table, draw the cumulative frequency curve.

    iii. Using the cumulative frequency curve find the following,

        a) First quartile and third quartile

        b) Inter quartile range

2. a) The frequency distribution on the mathematics marks of students is given below.

Marks	0 – 10	10 – 20	20 – 30	30 – 50	50 – 80
No.of students	5	7	10	16	12

    i.   Draw the histogram relevant to the given information.

    ii. Draw the frequency polygon on this histogram.

    b) Find the quartiles of the following 15 data written in ascending order.

      3,4,6,8,10,13,13,16,17,19,20,21,23,25,25

3. The following table represents the total number of hours that 72 persons spent watching TV during a 30 days month.

Number of hours spent watching TV in a month	15 – 30	30 – 45	45 – 60	60 – 90
Number of persons	14	16	18	24

    i.   Construct a suitable histogram to represent the number of persons within each class interval.

    ii. Draw the frequency polygon using the histogram.

    iii. How many persons watched TV for more than 30 hours during the month?

    iv. A rough sketch of a pie chart drawn to represent the information in the above histogram is given here. Calculate the magnitudes of the angles x,y,z in the figure.