STATISTICS

Section A (1 mark each)

1. Find the sum of lower limits of median class and modal class for the following distribution: (*Ans*:25)

Class:	0-5	5-10	10-15	15-20	20-25
Frequency:	10	15	12	20	9

2. Find the upper limit of the median class of the following frequency distribution : (*Ans*:17.5)

Class	0-5	6-11	12-17	18-23	24-29
frequency	13	10	15	8	11

3. Find the mean of the numbers 1,2,3,…n. $\left(Ans : \frac{n+1}{2} \right)$

4. Which measure of central tendency is obtained from the abscissa of the point of intersection of the less than type and the more than type cumulative frequency curves of a grouped data?

5. For the following distribution, find the modal class. (*Ans*:30-40)

Marks	Below 10	Below 20	Below 30	Below 40	Below 50	Below 60
No. of students	3	12	27	57	75	80

Section B(2 marks each)

6. The following is the distribution of weights (in kg) of 40 persons : (*Ans*:6.2 ha)(Exemplar)

Weight (kg)	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80
No. of persons	4	4	13	5	6	5	2	1

Construct a cumulative frequency distribution (less than type) table for the above data.

7. The frequency distribution table of agricultural holdings in a village is given below : (Exemplar)

Area of land (ha)	1-3	3-5	5-7	7-9	9-11	11-13
No. of families	20	45	80	55	40	12

Calculate the modal agricultural holdings of the village.

8. Construct a cumulative frequency distribution (more than type) of the following distribution:

Class	12.5-17.5	17.5-22.5	22.5-27.5	27.5-32.5	32.5-37.5
frequency	2	22	19	14	13

Section C (3 marks each)

9. The arithmetic mean of the following data is 14. Find the value of *k*. (*Ans:*6) (CBSE 2002)

x_i	5	10	15	20	25
f_i	7	*k*	8	4	5

10. Candidates of four schools appeared in mathematics test. The data were as follows : (*Ans*:52) (Exemplar)

School	No. of candidates	Average score
A	60	75
B	Not available	55
C	48	80
D	40	50

If the average score of the candidates of all the four schools was 66, find the no. of candidates appeared from school B.

11. The following table gives the no. of pages written by sarika for completing her own work for 30 days : (*Ans*:26) (Exemplar)

No. of pages written per day	16-18	19-21	22-24	25-27	28-30
No. of days	1	3	4	9	13

Find the average no. of pages written by her.

12. Find the mean, median and mode of the following frequency distribution.
*(Ans:*Mean:35.625;Median:35;Mode:33.85)(CBSE 2010)

Class	0-10	10-20	20-30	30-40	40-50	50-60	60-70
frequency	8	7	15	20	12	8	10

Section D(4 marks each)

13. The mean of the following frequency distribution is 57.6 and the sum of observation is 50. Find the missing frequency f_1 and f_2. (*Ans*: f_1 =8; f_2=10)(CBSE 2004)

Class	0-20	20-40	40-60	60-80	80-100	100-120
Frequency	7	f_1	12	f_2	8	5

14. Compute the arithmetic mean for the following distribution. (*Ans*:48.41)(Exemplar)

Marks obtained	No. of students
Below 10	5
Below 20	9
Below 30	17
Below 40	29
Below 50	45
Below 60	60
Below 70	70
Below 80	78
Below 90	83
Below 100	85

15. Form a frequency distribution table and compute arithmetic mean for the following frequency distribution : (*Ans*:64.3 kg)(Exemplar)

Weight in kg	No. of persons
Above 80	0
Above 75	4
Above 70	11
Above 65	22
Above 60	38
Above 55	45
Above 50	48
Above 45	50

16. The median of the following data is 50. Find the value of p and q, if the sum of all the frequencies is 90. (*Ans*: p=5; q=7)

Marks	20-30	30-40	40-50	50-60	60-70	70-80	80-90
No. of students	p	15	25	20	q	8	10

17. Draw 'less than ogive' and 'more than ogive' for the following distribution and hence find its median. (*Ans:*Median = 50)(CBSE 2010)

Class	20-30	30-40	40-50	50-60	60-70	70-80	80-90
frequency	25	15	10	6	24	12	8

18. 50 students enter for a school javelin throw competition. The distance (in metres) thrown are recorded below : (*Ans*:49.41)(Exemplar)

Distance (m)	0-20	20-40	40-60	60-80	80-100
No. of students	6	11	17	12	4

a) Construct a cumulative frequency table .
b) Draw a cumulative frequency curve (less than type) and calculate the median distance thrown by using the curve.
c) Calculate the median distance by using the formula for median.
d) Are the median distance calculated in (b) and (c) same?