CLASS -10 MATHEMATICS ,
BASIC QUESTION PAPER
CHAPTER: STATISTICS

Multiple Choice Questions

1. For a frequency distribution, mean, median and mode are connected by the relation
    (a) mode = 3 mean – 2 median
    (b)   mode   =   2   median   –   3   mean
    (c) mode = 3 median – 2 mean
    (d) mode = 3 median + 2 mean

2. Which measure of central tendency is given by the x - coordinate of the point of intersection of the more than ogive and less than ogive ?
    (a) mode
    (b) median
    (c) mean
    (d) all the above three measures

3. The class mark of a class interval is
    (a) upper limit + lower limit
    (b) upper limit – lower limit
    (c) $\frac{1}{2}$ (upper limit + lower limit)
    (d) $\frac{1}{2}$ (upper limit – lower limit)

4. Construction of cumulative frequency table is useful in determining the
    (a) mode
    (b) median
    (c) mean
    (d) all the above three measures

5. For the following distribution

Marks	Number of students
Below 10	3
Below 20	12
Below 30	27
Below 40	57
Below 50	75
Below 60	80

    the modal class is
    (a) 10-20   (b) 20-30   (c) 30-40   (d) 40-50

Fill In the Blanks

6. The range of the data 14, 27, 29, 61, 45, 15, 9, 18 is: ---

7. The class mark of the class 120 – 150 is:------------

8. The median class of the following distribution is:-----------

C.I	0-10	10-20	20-30	30-40	40-50	50-60
F	8	10	12	22	30	18

9 Weights of 40 eggs were recorded as given below:

Weights(in gms)	85-89	90-94	95-99	100 - 104	105- 109
No. of eggs	10	12	15	4	2

    The lower limit of the modal class is:------

10. In a grouped frequency distribution, the mid values of the classes are used to measure for finding --------
    central tendency .

Answer The Following:

11. Find the median of 10, 16,12, 20, 14, 18.

12. If the median of 12, 13, 16, x + 2, x + 4, 28, 30, 32 is 23, when x + 2, x + 4 lie between 16 and 30, then find the value of x .

13. If the mode of 12, 16, 19, 16, x, 12, 16, 19, 12 is 16, then find the value of x .

14. The abscissa of the point of intersection of the less than type and of the more than type ogives gives which Central tendency?

15 In which measure of Central tendency Construction of cumulative frequency table is useful ?

Short Answer Type-1

16. Find the mean of the following data from this table:

x	5	10	15	20	25
f	3	5	8	3	1

17. For the following distribution find the modal class .

Marks	Below 10	Below 20	Below 30	Below 40	Below 50
No. of Students	8	17	32	62	80

18. From the following data of the marks obtained by students of class X

Marks	0-10	10-20	20-30	30-40	40-50	50-60
No. of Students	8	12	20	30	10	10

Find how many students, secured less than 40 marks?

19. The times in seconds taken by 150 athletics to run a 100m hurdle race are given as under:

Time in seconds	12.7-13	13-13.3	13.3-13.6	13.6-13.9	13.9-13.12
Number of Athelete	5	6	10	55	41

Find the number of athletes who completed the race in less than 13.9 sec.

20. Consider the data and find the difference of the upper limit of the median class and the lower limit of the modal class.

Class	25-45	45-65	65-85	85-105	105-125	125-145
Frequency	4	5	12	20	14	11

Short Answer Type-II

21. The percentage of marks obtained by 100 students in an examination are given below:

Marks	30-35	35-40	40-45	45-50	50-55	55-60	60-65
No. of Students	14	16	18	23	18	8	3

Determine the median percentage of marks.

22. The frequency distribution table of agriculture holdings in a village is given below:

Area of land(in ha)	1-3	3-5	5-7	79	9-11	11-13
No. of families	20	45	80	55	40	12

Find the modal agriculture holdings of the village.

23. Find the mean of the distribution:

Class	1-3	3-5	5-7	7-9
Frequency	9	22	27	17

24. Daily wages of 110 workers, obtained in a survey, are tabulated below:

Daily wages (in Rs.)	100 - 120	120 - 140	140 - 160	160- 180	180 - 200	200 - 220
No. of workers	15	18	25	22	18	12

Determine the mean wages of workers.

25. Calculate the mean of the scores of 20 students in a mathematics test:

Marks	0-10	10-20	20-30	30-40	40-50

No. of Students	2	4	7	6	1

Long Answer Type Question

26. Compare the modal ages of two groups of students appearing for an entrance examination:

Age(in years)	16-18	18-20	20-22	22-24	24-26
Group A	50	78	46	28	23
Group B	54	89	40	25	17

27. The mean of the following distribution is 18. The frequency/in the class interval 19-21 is missing. Determine f.

Class	11-13	13-15	15-17	17-19	19-21	21-23	23-25
Frequency	3	6	9	13	f	5	4

28. The following is the distribution of weights (in kg) of 40 persons:

Weight(in 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 (of less than type) table for the data above.

29. Find the unknown entries a, b, c, d, e, f in the following distribution of heights of students in a class:

Heighten cm)	150-155	155-160	160-165	165-170	170-175	175-180
Frequency	12	b	10	d	e	2
Cumulative Frequency	a	25	c	43	48	f

30. Find the mean, mode and then median by using Empirical Formula for the following frequency distribution.

Class	0-10	10-20	20-30	30-40	40-50	Total
Frequency	8	16	36	34	6	100