Important Questions - Statistics

10th Standard CBSE

Maths   Reg.No. :

Time : 01:00:00 Hrs

Total Marks : 50

Section - A

1) If the median of a series exceeds the mean by 3, find by what number the mode exceeds its mean?   **1**

2) From the following frequency distribution, find the median class   **1**

Cost of living Index	1400-1550	1550-1700	1700-1850	1850-2000
Number of Weeks	8	15	21	8

3) In the following frequency distribution, find the median class.   **1**

Height (in cm)	140-145	145-150	150-155	155-160	160-165	165-170
Frequency	5	15	25	30	15	10

4) Find median of the data, using an empirical relation when it is given that Mode = 12.4 and Mean = 10.5.   **1**

5) Consider the following distribution: **1**

Marks Obtained	0 or More	10 or More	20 Or More	30 Or More	40 Or More	50 Or More
Number of students	63	58	55	51	48	42

(i) Calculate the frequency of the class 30 - 40.

(ii) Calculate the class mark of the class 10 - 25

6) Which central tendency is obtained by the abscissa of point of intersection of less type and more than type ogives ?   **1**

7) What is abscissa of the point of intersection of the "Less than type" and of the "More than type" cumulative frequency curve of a grouped data   **1**

8) Find the value of λ if the mode of the following data is 20 :   **1**

15,20,25, 18, 13, 15,25, 15, 18, 17, 20, 25, 20, λ ,18

9) Find the mode of the following frequency distribution   **1**

Classes	0-6	6-12	12-18	18-24	24-30
Frequency	7	5	10	12	6

10) Given below is a frequency distribution table showing daily income of 100 workers of a factory   **1**

Daily Income of workers(in Rs)	200-300	300-400	400-500	500-600	600-700
Number of workers	12	18	35	20	15

Convert this table to a cumulative frequency distribution table of 'more than type

Section - B

11) An NGO working for welfare of cancer patients, maintained its records as follows: **2**

Age of patients (in years)	0-20	20-40	40-60	60-80
Number of patients	35	315	120	50

find mode.

12) The following distribution gives cumulative frequencies of 'more than type'. **2**

Marks obtained (More than or equal to)	5	10	15	20
Numbers of students (cumulative frequency)	30	23	8	2

Change the above data into a continuous grouped frequency distribution.

13) Find the mean of the following data and hence find the mode, given that median of the data is 42.5. **2**

Class interval	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Frequency	4	8	10	12	10	4	2

14) Draw 'a more than ogive' for the frequency distribution and hence obtain the median. **2**

Class interval	5-10	10-15	15-20	20-25	25-30	30-35	35-40
Frequency	2	12	2	4	3	4	3

15) Following frequency distribution shows the daily expenditure on milk of 30 households in a locality **2**

Daily Expenditure on Milk (in Rs)	0-30	30-60	60-90	90-120	120-150
Number in households	5	6	9	6	4

Find the mode for the above data

16) The weekly expenditure of 500 families is tabulated below **2**

Weekly Expenditure (Rs)	Number of families
0-1000	150
1000-2000	200
2000-3000	75
3000-4000	60
4000-5000	15

Find the median expenditure.

17) The following frequency distribution shows the number of runs scored by some batsmen of India in one-day cricket matches: **2**

Runs Scored	2000-4000	4000-6000	6000-8000	8000-10000	10000-12000
Number of batsman	9	8	10	2	1

Find the mode for the above data.

18) Find the mean and mode of the following frequency distribution **2**

Classes	0-10	10-20	20-30	30-40	40-50	50-60	60-70
Frequency	3	8	10	15	7	4	3

19) Prove that $\sum (x_i - \bar{x}) = 0$ **2**

20) Find the mean of the following distribution by step deviation method **2**

Class	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	5	13	20	15	7	5

Let assumed mean, a = 35 and h = 10

Section - C

21) 100 surnames were randomly picked up from a local telephone directory and the frequency distribution of **5**

the number of letters in the English alphabets in the surnames was obtained as follows:

Number of letters	1-4	4-7	7-10	10-13	13-16	16-19
Number of surnames	6	30	40	16	4	4

Determine

(i) median number of letters in the surnames

(ii) mean number of letters in the surnames.

(iii) modal size of the surnames.

22) A health officer took an initiative of organising a medical camp in a remote village. The medical checkup of 35 **5**

students of the age group of 10 yr and their weights were recorded as follows:

Weight (in kg)	Number of students
38-40	3
40-42	2
42-44	4
44-46	5
46-48	14
48-50	4
50-52	3

(i) Find the mean weight of students using step deviation method.

(ii) Which value of health officer was depicted in this situation?

23) (i) Find the mean of children per family from the data given blow: **5**

Number of children	0	1	2	3	4	5
Number of families	5	11	25	12	5	2

(ii) Which mathematical concept is used in this problem?

(iii)What is its value?

24) The table below gives the distribution of villages under different heights from sea level in a certain region: **5**

Height (in metre)	200	600	1000	1400	1800	2200
No. of Villages	142	265	560	271	89	16

(i) Compute the mean height of the region.

(ii) Which mathematical concept is used in this problem?

(iii) What is the value of village in modern times?

✶✶✶✶✶✶✶✶✶✶✶✶✶✶✶✶✶✶✶✶✶✶✶✶✶✶✶✶✶✶✶✶✶✶✶✶