

BHARATH COACHING CENTRE

9th CBSE

Statistics

Total: 50

Maths

Time: 1.30hrs

SECTION - A

$$5 \times 1 = 5$$

1. Which one of the following is not a measure of central value?
2. The mean of a set of seven numbers is 81. If one of the numbers is discarded, the mean of the remaining numbers is 78. The value of discarded number is
3. For the set of numbers 2, 2, 4, 5 and 12, which of the following statements is true?
4. IF the mean of five observations $x, x + 2, x + 4, x + 6, x + 8$, is 11, then the mean of first three observations is
5. The empirical relation between mean, mode and median is _____.

SECTION - B

$$5 \times 2 = 10$$

6. The marks obtained by 36 students in an examination are given below:
370, 290, 318, 175, 170, 410, 378, 405, 380, 375, 315, 305, 325, 275, 241, 288, 261, 355, 402, 460, 380, 178, 253, 428, 240, 210, 175, 154, 405, 380, 370, 306, 460, 328, 440, 425.
Construct a frequency table with class intervals of length 50 each.
7. The following table gives the pocket money (in Rupees) given to children per day by their parents:

Pocket Money (in Rs.)	0 – 10	10 -20	20 – 30	30 – 40	40 - 50
No. of children	12	23	35	20	10

8. For the given data: 11, 15, 17, $y + 1$, 19, $y - 2$, 3; if the mean is 14, find the value of y .
9. Find the median of first ten prime numbers.
10. If the mode of the following data is 7, find the value of x . 3, 5, 6, 7, 5, 6, $(x + 1)$, 8, 7.

SECTION - C

$$5 \times 3 = 15$$

11. An insurance company selected 1600 drivers at random in a particular city to find a relationship between age and number of accidents. The data obtained are given in the following table:

Age of drivers (in years)	No. of accidents (in one year)				
	0	1	2	3	More than 3
18 – 25	320	125	75	45	30
25 – 40	400	45	50	15	10
40 – 55	150	85	13	8	10
Above 55	150	25	17	20	7

Find the number of drivers

- a) In the age of 25 – 40 years and has more than 2 accidents in the year.
 - b) The age is above 40 years and has accidents more than 1 but less than 3.
12. Construct a frequency polygon with histogram, for the following information:

Class Interval	30 – 45	45 – 60	60 – 75	75 - 90
Frequency	4	8	15	19

13. The median of the following observations arranged in the ascending order is 24: 14, 18, $x + 2$, $x + 4$, 30, 34. Find the value of x and hence find the mean of the data.
14. Find the median of all the factors of 108.
15. The weights (in kg) of 15 students are 31, 35, 27, 29, 32, 43, 37, 41, 34, 28, 36, 44, 45, 42 and 30. Find the median. If the weight 44kg is replaced by 46 kg and 35 kg is replaced by 37 kg, find the new median.

SECTION - C

$$5 \times 4 = 20$$

16. The following data gives the weights (in grams) of 30 oranges picked from a basket:

106	107	76	109	187	95	125	92	70	139
128	100	88	84	99	113	204	141	136	123
90	115	110	97	90	107	75	80	118	82

Construct a grouped frequency distribution table taking class size equal to 20 in such a way that the mid – value of the first class is 70.

From the frequency table, find the number of oranges

- i) Weighing more than 180 grams. ii) Less than 100 grams.

17. For the following data, draw a histogram:

Class	1 – 4	4 – 6	6 – 8	8 – 12	12 – 20
Frequency	6	30	44	16	4

18. Marks secured by a group of 10 students are as follows: 16, 18, 29, 31, 20, 23, 26, 25, 32, 20

- i) Find the mean of the data.
- ii) If 32 is replaced by 23 in the data, find the new mean.
- iii) If each observation in the given data is increased by 5 marks, then what will be the mean?
- iv) If two students securing 16 & 32 leave the group, then find the mean of remaining 8 students.

19. Obtain the mean of the following distribution and also find the mode.

Marks (out of 60)	5	15	20	35	40	45	50	60
No. of students	7	10	6	8	12	3	5	4

20. The given frequency tables shows the rate at which the heart beats of an athlete running on a treadmill at a constant speed:

Time (in seconds)	0 – 60	60 – 120	120 – 180	180 – 240	240 – 300
Heart Beat Rate	85	100	120	110	110

Draw a frequency polygon and histogram.