SUBJECT: MATHEMATICS STD-IX

TOPIC- STATISTICS

ASSIGNMENT (STANDARD)

Mark the correct alternative in each of the following questions.

1. 5 people were asked about the time in a week they spend in doing social work in their community. They said 10, 7, 13, 20 and 15 hours, respectively. The mean (or average) time in a week devoted by them for social work is _____
   (a) 12
   (b) 13
   (c) 14
   (d) none of these.
2. The width of each of five continuous classes in a frequency distribution is 5 and the lower-class limit of the lowest class limit of the lowest class is 10. The upper-class limit of the highest class is: _____
   (a) 35
   (b) 15
   (c) 25
   (d) 40
3. In the class intervals 10 – 20, 20 – 30, the number 20 is included in _____ class
   (a) 10 – 20
   (b) 20 – 30
   (c) both the interval
   (d) none of these intervals
4. The mean of 5 numbers is 30. If one number is excluded, their mean becomes 28. The excluded number is _____
   (a) 28
   (b) 30
   (c) 35
   (d) 38.
5. A grouped frequency distribution table with class intervals of equal sizes using 250 – 270 as one of the class interval is constructed for the following data: 268, 220, 368, 258, 242, 310, 272, 342, 310, 290, 300, 320, 319, 304, 402, 318, 406, 292, 354, 278, 210, 240, 330, 316, 406, 215, 258, 236 The frequency of the class 310 – 330 is
   (a) 4
   (b) 5
   (c) 6
   (d) 7.

6. If each observation of the data is increased by 5 then their mean is _____
   (a) remains the same
   (b) becomes 5 times the original mean
   (c) is decreased by 5
   (d) is increased by 5.
7. There are 50 numbers. Each number s subtracted from 53 and the mean of the number so obtained is found to be 3.5. The mean of the given number is
   7. There are 50 numbers. Each number s subtracted from 53 and the mean of the number so obtained is found to be 3.5. The mean of the given number is _____
   (a) 46.5
   (b) 49.5
   (c) 53.5
   (d) 56.5.
8. The mean of 25 observations is 36. Out of these observations if the men of first 13 observations is 32 and that of the last 13 observations is 40, the 13th observation is _____
   (a) 23
   (b) 36
   (c) 38
   (d) 40.

Answer the following questions.

9. In a mathematics test given to 15 students, the following marks (out of 100) are recorded: 41, 39, 48, 52, 46, 62, 54, 40, 96, 52, 98, 40, 42, 52, 60 Find the mean, median and mode of this data.
10. The value of up to 50 decimal places is given below:
    3.14159265358979323846264338327950288419716939937510
    (i) Make a frequency distribution of the digits from 0 to 9 after the decimal point. (ii) What are the most and the least frequently occurring digits?
11. The following observations have been arranged in ascending order as 29, 32, 48, 50, x, x + 2, 72, 78, 84, 95. If the median of the data is 63, find the value of x.
12. The mean of 13 observations is 14. If the mean of the first 7 observations is 12 and that of last 7 observation is 16, find the 7th observation.
13. The average monthly salary of 15 workers in a factory is Rs. 285. If the salary of the manager is included, the average becomes Rs. 355. What is the manager's salary?
14. In a school 90 boys and 30 girls appeared in a public examination. The mean marks of boys was found to be 45% whereas the mean marks of girls was 70%. Determine the average marks % of the school.
15. The mean of 25 observations is 36. If the mean of the first 13 observations is 32 and that of the last 13 observations is 39, find the 13th observation.
16. Draw a frequency polygon to represent the following information.

Class Interval	25-29	30-34	35-39	40-44	45-49	50-57
Frequency	7	15	23	20	10	7

17. The following table gives the performance of 90 students in the mathematics test of 100 marks. Represent the given information with the help of a histogram.

Marks	0-20	20-30	30-40	40-50	50-60	60-70	Above 70
Frequency	7	10	10	20	20	15	8

18. The following table give the distribution of students of two sections according to the marks obtained by them. Represent the marks of the students of both the sections on the same graph by two frequency polygons.

Section-A		Section-B	
0-10	4	0-10	6
10-20	10	10-20	20
20-30	18	20-30	16
30-40	13	30-40	11
40-50	10	40-50	2

19. The mean of the following distribution is 50. Find the value of p.

x_i	10	30	50	70	90
f_i	17	5p+3	32	7p-11	19

20. Find the mean of first 10 prime numbers and hence show that $\sum_{i=1}^{n}(x_i - \bar{x}) = 0$