Brain International School

Vikas Puri, New Delhi

ASSIGNMENT NO. 6

SUBJECT: MATHEMATICS **CLASS-XI** **December,2025**

Chapter - Statistics

Ques1. Find the mean deviation about the mean of the following data:

Size (x):	1	3	5	7	9	11	13	15
Frequency (f):	3	3	4	14	7	4	3	4

Ques2. Calculate mean, variation and standard deviation of the following frequency distribution:

Classes	**Frequency**
1-10	11
10-20	29
20-30	18
30-40	4
40-50	5
50-60	3

Ques3. Variance of the data 2, 4, 5, 6, 8, 17 is 23.33. Then variance of 4, 8, 10, 12, 16, 34 will be

(A) 23.23 (B) 25.33 (C) 46.66 (D) 48.66

Ques4. A set of n values $x_1, x_2, \dots, x_n$ has standard deviation 6. The standard deviation of n values $x_1 + k, x_2 + k, \dots, x_n + k$ will be

(A) σ (B) $\sigma + k$ (C) $\sigma - k$ (D) $k\sigma$

Ques5. Find the mean and variance of the frequency distribution given below:

X	$1 \le x < 3$	$3 \le x < 5$	$5 \le x < 7$	$7 \le x < 10$
f	6	4	5	1

Ques6. Mean and standard deviation of 100 observations were found to be 40 and 10, respectively. If at the time of calculation two observations were wrongly taken as 30 and 70 in place of 3 and 27 respectively, find the correct standard deviation.

Ques7. While calculating the mean and variance of 10 readings, a student wrongly used the reading 52 for the correct reading 25. He obtained the mean and variance as 45 and 16 respectively. Find the correct mean and the variance.

Ques8. The mean of 100 observations is 50 and their standard deviation is 5. The sum of all squares of all the observations is

(A) 50,000 (B) 2,50,000 (C) 2,52,500 (D) 2,55,000

Ques9. Let x_1, x_2, x_3, x_4, x_5 be shown in the observations with mean m and standard deviation s. The standard deviation of the observations $kx_1, kx_2, kx_3, kx_4, kx_5$ is

(A) $k + s$ (B) $\frac{s}{k}$ (C) ks (D) s

Ques10. Let a, b, c, d, e be the observations with mean m and standard deviation s. The standard deviation of the observations $a + k, b + k, c + k, d + k, e + k$ is

(A) s (B) ks (C) $s + k$ (D) $\frac{s}{k}$

Chapter - Probability

Ques11. 20 cards are numbered 1 to 20. One card is drawn at random. What is the probability that the number on the card will not be a multiple of 6.

Ques12. Two students Anil and Ashima appeared in an examination. The probability that Anil will qualify the examination is 0.05 and that Ashima will qualify the examination is 0.10. the probability that both will qualify the examination is 0.02. find the probability that

(i) Both Anil and Ashima will not qualify the examination.

(ii) Atleast one of them will not qualify the examination and

(iii) Only one of them will qualify the examination.

Ques13. From a group of 2 boys and 3 girls, two children are selected at random. Describe the event A both children are girls.

Ques14. A, B and C are three mutually exclusive and exhaustive events. Find P(B) if $\frac{1}{3}P(C) = \frac{1}{2}P(A) = P(B)$

Ques15. A dice is thrown. Write the probability of getting an even number or a multiple of 3.

Ques16. A natural number is chosen at random from the first 500. What is the probability that the numbers so chosen is divisible by 3 or 5.

Ques17. Two dice are thrown. Find the probability of getting (i) six as a product (ii) the sum as a prime number.

Ques18. Two students appeared in an interview. The probability that Kharib will qualify the examination is 0.06 and Naman will qualify the examination is 0.12. The probability that both will qualify the examination is 0.04. find the probability that

(a) Both will not qualify (ii) Atleast one of them will not qualify (iii) only one of them will qualify