CHAPTER-15
STATISTICS
01 MARK TYPE QUESTIONS

Q. NO	QUESTION	MARK
1.	Mohan is doing one of his project. For this he asked shoe size of 10 of his class-mates which are as follows: 6,5,5,6,8,6,7,7,8,8 Now help him now for finding : What would be the mean shoe size for the data? (a) 6　　(b) 6.25　　(c) 6.6　　(d)7	1
2.	The runs scored by a batsman in 5 ODIs are 31,97,112, 63, and 12. The standard deviation is (a)24.79　　(b)23.79　　(C)25.79　　(d)26.79	1
3.	The variance of 5 values is 16. If each value is doubled, then what is the standard deviation of the new value? (a) 8　　(b) 16　　(c) 64　　(d) none of these	1
4.	A. Rahane has the following scores in his last 10 matches: 50, 30, 25, 45, 70, 80, 65, 100, 20, 60. What is the interquartile range (IQR) of his scores? A) 40　　B) 45　　C) 50　　D) 55	1
5.	A group of students conducted a study on the daily study hours of a set of students for a particular subject. The recorded study hours (in hours) for the first group of students were: 2, 4, 5, 6, 8, 17. After calculating, they found that the variance of this data set is approximately 23.33.	1

	Now, another group of students is studying a different subject, and their daily study	
	hours (in hours) are recorded as follows: 4, 8, 10, 12, 16, 34. What is the variance of this new data set?	
	(A) 23.23 (B) 25.33 (C) 46.66 (D) 48.66	
6.	A quality control team tested the lifetimes of a set of light bulbs to ensure their reliability. The recorded lifetimes (in ours) for 5 bulbs were: 1357, 1090, 1666, 1494, 1623	1
	Calculate the mean deviation (in hours) from the mean lifetime for these light bulbs.	
	A) 178 B) 179 C) 220 D) 356	
7.	Nine students took a mathematics test, and their marks were recorded as follows: 50, 69, 20, 33, 53, 39, 40, 65, 59.	1
	Calculate the mean deviation from the median of the students' marks.	
	(A) 7.5 B) 10.2 C) 12.67 D) 15.4	
8.	A group of students participated in a science experiment, and their recorded results (in arbitrary units) were as follows: 6, 5, 9, 13, 12, 8, 10.	1
	Calculate the standard deviation of the recorded results.	
	(A) 52 B) √ (52/7) C) √ 5 D) 4	
9.	A group of researchers conducted a study on the growth of a certain type of plant. They collected 100 observations of the plant's height (in centimeters) and found that the mean height was 50 centimeters, and the standard deviation was 5 centimeters.	1
	Calculate the sum of the squares of all the observations.	

	(A) 50000 B) 250000 C) 252500 D) 255000	
10.	A meteorological study collected temperature data in degrees Celsius (°C) to analyze variations. The standard deviation of the collected data was found to be 5 °C. If the temperature data were converted into degrees Fahrenheit (ºF), what would be the variance of the data? (A) 81 B) 57 C) 36 D) 25	1
11.	A man travels at a speed of 20 km/hour and then returns at a speed of 30 km/hour. His average speed of the whole journey is a) 25 km/hour b) 24 km/hour c) 24.5 km/hour d) 26 km/hour	1
12.	When tested, the lives (in hours) of 5 bulbs were noted as follow: 1090, 1666, 1494, 1623. The mean deviation (in hours) from their mean is a) 179 b) 356 c) 220 d) 178	1
13.	If a, b, c be any three positive numbers, then the least value of $(a + b + c)\left(\frac{1}{a} + \frac{1}{b} + \frac{1}{c}\right)$ is a) 9 b) 1 c) 3 d) 6	1
14.	Product of n positive numbers is one. The sum of these numbers cannot be less than a) n^3 b) n c) 1 d) n^2	1
15.	The mean and standard deviation of 100 items are 50, 5 and that of 150 items are 40, 6 respectively. What is the combined standard deviation of all 250 items? a) 7.5 b) 7.7 c) 7.3 d) 7.1	1
16.	For a normal distribution, we have a) mean = median b) mean = mode c) mean = median = mode d) median = mode	1
17.	If the mean of the squares of first n natural numbers is 11, then n is equal to a) 5	1

	b) 14 c) 11 d) 13	
18.	Consider the numbers 1, 2, 3, 4, 5, 6, 7, 8, 9, 10. If 1 is added to each number, the variance of the numbers so obtained is a) 3.87 b) 8.25 c) 2.87 d) 6.5	1
19.	The average marks obtained by the students in a class are 43. If the average marks obtained by 25 boys are 40 and the average marks obtained by the girl students are 48, then what is the number of girl students in the class? a) 18 b) 17 c) 20 d) 15	1
20.	Mean of the first n terms of the A.P. a + (a + d) + (a + 2d) + ………is a) $a + \frac{(n-1)d}{2}$ b) $\frac{a+nd}{2}$ c) a + nd d) a + (n -1)d	1
21.	The mean deviation of the data 2, 9, 9, 3, 6, 9, 4 from the mean is: (A) 2.23 (B) 2.57 (C) 3.23 (D) 3.57	1
22.	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	1
23.	A set of n values x_1, x_2, x_3, ………, x_n has standard deviation 6. The standard deviation of n values $x_1 + k$, $x_2 + k$, $x_3 +k$,…., $x_n + k$ will be: (A) σ (B) σ + k (C) σ − k (D) kσ	1
24.	Coefficient of variation of two distributions are 50 and 60, and their arithmetic means are 30 and 25 respectively. Difference of their standard deviation is: (A) 0 (B) 1 (C) 1.5 (D) 2.5	1
25.	Consider the numbers 1, 2, 3, 4, 5, 6, 7, 8, 9, 10. If 1 is added to each number, the variance of the numbers so obtained is: (A) 6.5 (B) 2.87 (C) 3.87 (D) 8.25	1
26.	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) k s (C) s + k (D) s/k	1
27.	Let x_1, x_2, ... x_n be n observations. Let $w_i= lx_i+ k$ for i = 1, 2, ...n, where l and k are constants. If the mean of x_i's is 48 and their standard deviation is 12, the mean of w_i's is 55 and standard deviation of w_i's is 15, the values of l and k	1

	should be: (A) l = 1.25, k = −5 (B) l = − 1.25, k = 5 (C) l = 2.5, k = − 5 (D) l = 2.5, k = 5	
28.	Consider the first 10 positive integers. If we multiply each number by −1 and then add 1 to each number, the variance of the numbers so obtained is: (A) 8.25 (B) 6.5 (C) 3.87 (D) 2.87	1
29.	The following information relates to a sample of size 60: X^2 = 18000, x = 960. The variance is: (A) 6.63 (B) 16 (C) 22 (D) 44	1
30.	Standard deviations for first 10 natural number is: (A) 5.5 (B) 3.87 (C)2.97 (D) 2.87	1
31.	The variance of the given data 2, 4, 5, 6, 8, 17 is 23.33. Then find the variance for the data 4, 8, 10, 12, 16, 34. (a) 23.23 (b) 25.33 (c)46.66 (d)48.66	1

32.	Find the mean deviation about the mean for the following data :
	           6, 7 , 10 , 12 , 13 , 4 , 8 , 12
	
	   (a) 3 (b) 2.55 (c) 3.5 (d) 2.75
		1

33.	Find the mean deviation about the mean for the following data :
	
	  12, 3, 18, 17, 4, 9, 17, 19, 20, 15, 8, 17, 2, 3, 16, 11, 3, 1, 0, 5
	
	   (a) 7.5 (b) 7.2 (c) 6.2 (d) 6
		1

34.	Find the mean deviation about the median for the following data :
	
	        3, 9, 5, 3, 12, 10, 18, 4, 7, 19, 21.
	
	   (a) 5.5 (b) 5.27 (c) 6.27 (d) 6.5
		1

35.	Find the mean deviation about the mean for the following data :
	    x_i 2 5 6 8 10 12
	    f_i 2 8 10 7 8 5
	
	   (a) 3 (b) 2.3 (c) 3.2 (d) 2.5
		1

36.	Find the mean deviation about the median for the following data : | x_i	3	6	9	12	13	15	21	22
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f_i	3	4	5	2	4	5	4	3 | (a) 3.7 (b) 4.3 (c) 4.97 (d) 4.52	1
37.	The sum of 10 items is 12 and the sum of their squares is 18. The standard deviation is (a) 1/5 (b) 2/5 (c) 3/5 (d) 4/5	1
38.	When tested the lives (in hours) of 5 bulbs were noted as follows : 1357, 1090, 1666, 1494, 1623. The mean of the lives of 5 bulbs is (a) 1445 (b) 1446 (c) 1447 (d) 1448	1

39.	Compute the variance and standard deviation of the following observations of marks of 5 students of a tutorial group : Marks out of 25 : 8 , 12, 13 , 15 , 22 . (a) 13 (b) 15 (c) 15.2 (d) 21.2	1

40.	Find the mean deviation about the mean.for the data.
	      4 , 7, 8, 9, 10, 12, 13, 17
	    (a) 3 (b) 2.3 (c) 3.2 (d) 2.5
		1

ANSWERS:

Q. NO	ANSWER	MARKS
1.	(C) 6.6	1
2.	(c) 25.79	1
3.	(a) 8	1
4.	(b) 45	1
5.	(C) 46.46	1
6.	(A) 178	1
7.	(C) 12.67	1
8.	(B) √ (52/7)	1
9.	(c) 252500	1
10.	(A) 81	1
11.	(b) 24 km/hour	1
12.	(d) 178	1
13.	(a) 9	1
14.	(b) n	1
15.	(a) 7.5	1
16.	c) mean = median = mode	1
17.	(a) 5	1
18.	(b) 8.25	1
19.	(d) 15	1
20.	a) $a + \frac{(n-1)d}{2}$	1
21.	(D) 3.57	1
22.	(C) 46.66	1
23.	(A) σ	1
24.	(A) 0	1
25.	(D) 8.25	1
26.	(A) s	1
27.	(A) l = 1.25, k = −5	1
28.	(A) 8.25	1
29.	(D) 44	1
30.	(D) 2.87	1
31.	(c)	1
32.	(d)	1
33.	(c)	1
34.	(b)	1
35.	(b)	1
36.	(c)	1
37.	(c)	1

38.	(b)	1
39.	(d)	1
40.	(a)	1