INDIAN SCHOOL AL WADI AL KABIR
Department: Mathematics
Class X   **Worksheet – Statistics**

(MCQ & Assertion Reasoning)   **27- 08 -2023**

Questions of 1 mark each

Q.1. Find the median class for the following data.

Class	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50	Total
Frequency	12	8	8	15	3	46

A	30 - 40	B	0 - 10	C	40 - 50	D	20 - 30

Q.2. The median and mode of a distribution are 21.2 and 21.4 respectively. Then its mean is

A	21	B	21.1	C	21.3	D	20.8

Q.3. A data has 13 observations arranged in the ascending order. Which observation represents the median of the data?

A	7th	B	6th	C	13th	D	8th

Q.4. The frequency of the class succeeding the modal class in the following frequency distribution is

Class Interval	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40
Frequency	3	7	16	12	9	5

A	7	B	16	C	12	D	9

Q.5. Given in the below table are the marks obtained by 50 students in a class test:

Marks	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50
No. of students	4	7	19	12	8

From this data, the lower limit of the median class is

A	10	B	20	C	25	D	30

| Q.6. | Consider the following distribution: | | | | | | (CFQ) |

Q.6. Consider the following distribution: (CFQ)

Classes	0 - 5	5 - 10	10 - 15	15 - 20	20 - 25
Frequency	10	15	12	20	9

The sum of lower limits of the median class and the modal class is

A	15	B	25	C	30	D	35

Q.7. The modal class of the data given below is 10 – 15, then (CFQ)

Classes	0 - 5	5 - 10	10 - 15	15 - 20	20 - 25
Frequency	7	6	f	4	3

A	f < 8	B	f > 8 only	C	f ≥ 8	D	f < 7

Q.8. The mean of the following distribution is

Classes	0 - 10	10 - 20	20 - 30	30 - 40
Frequency	1	2	2	1

A	20	B	16	C	18	D	22

Q.9. For the following distribution, the modal class is (CFQ)

Marks	Below 10	Below 20	Below 30	Below 40	Below 50	Below 60
No. of students	3	12	27	57	75	80

A	10 - 20	B	20 - 30	C	30 - 40	D	50 - 60

Q.10. The difference of the upper limit of the median class and the lower limit of the modal class is (CFQ)

Class	65 - 85	85 - 105	105 - 125	125 - 145	145 - 165	165 - 185	185 - 205
Frequency	4	5	13	20	14	7	4

A	0	B	19	C	20	D	38

Q.11. If $\sum fi = 18$, $\sum fi\,xi = 2p + 24$ and mean of the distribution is 2, then p is equal to

A	3	B	4	C	8	D	6

Q.12.	The median of first 10 prime numbers is						
A	12	B	11	C	13	D	10

Q.13.	The runs scored by a batsman in 35 different matches are given below:

Runs scored	0 - 15	15 - 30	30 - 45	45 - 60	60 - 75	75 - 90
Frequency	5	7	4	8	8	3

Number of matches in which the batsman scored less than 60 runs are

A	16	B	24	C	8	D	19

Q.14.	The mean of 11 observations is 50. If the mean of first 6 observations is 49 and that of the last six observations is 52, then the 6th observation is (CFQ)

A	50	B	48	C	52	D	56

Q.15. A grouped data is shown below:

Class interval	0 - 15	15 - 30	30 - 45	45 - 60	60 - 75	75 - 90
Frequency	2	26	32	42	28	30

Which of the following is the most effective measure of central tendency?

A	Mean because the data has extreme data points
B	Mean because the data has no extreme data points
C	Median because the data has extreme data points
D	Median because the data has no extreme data points

ASSERTION AND REASONING

DIRECTION: In questions, a statement of **Assertion (A)** is followed by a statement of **Reason (R).** Choose the correct option

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)

(b) Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A)

(c) Assertion (A) is true but reason (R) is false.

(d) Assertion (A) is false but reason (R) is true.

Q.16.	**Assertion:** If the mean and median of a frequency distribution are 10.5 and 9.6 respectively, then its mode is 7.8
	Reason: Mean, median and mode of a frequency distribution are related as: Mode = 3 Median – 2 Mean
Q.17.	**Assertion:** If the arithmetic mean of 5, 7, x, 10, 15 is x, then x = 9.25
	Reason: If $x_1, x_2, x_3, \ldots x_n$ are n observations in a data, then the mean is given by $\bar{x} = \dfrac{x_1 + x_2 + x_3 + \cdots + x_n}{2n}$

ANSWERS

Q.1	D	Q.2	B	Q.3	A	Q.4	C	Q.5	B
Q.6	B	Q.7	C	Q.8	A	Q.9	C	Q.10	C
Q.11	D	Q.12	A	Q.13	B	Q.14	D	Q.15	C
Q.16	a	Q.17	c						

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