

Q1. 21 January Shift 1

Let the mean and variance of 7 observations $2, 4, 10, x, 12, 14, y, x > y$, be 8 and 16 respectively. Two numbers are chosen from $\{1, 2, 3, x - 4, y, 5\}$ one after another without replacement, then the probability, that the smaller number among the two chosen numbers is less than 4, is :

- (1) $\frac{3}{5}$ (2) $\frac{1}{3}$ (3) $\frac{2}{5}$ (4) $\frac{4}{5}$

Q2. 22 January Shift 2

If the mean deviation about the median of the numbers $k, 2k, 3k, \dots, 1000k$ is 500, then k^2 is equal to :

- (1) 9 (2) 1 (3) 4 (4) 16

Q3. 23 January Shift 1

Let the mean and variance of 8 numbers $-10, -7, -1, x, y, 9, 2, 16$ be $\frac{7}{2}$ and $\frac{293}{4}$, respectively. Then the mean of 4 numbers $x, y, x + y + 1, |x - y|$ is :

- (1) 11 (2) 12 (3) 10 (4) 9

Q4. 23 January Shift 2

If the mean and the variance of the data

Class	4-8	8-12	12-16	16-20
Frequency	3	λ	4	7

are μ and 19 respectively, then the value of $\lambda + \mu$ is

- (1) 21 (2) 19 (3) 20 (4) 18

Q5. 24 January Shift 1

The mean and variance of a data of 10 observations are 10 and 2, respectively. If an observation α in this data is replaced by β , then the mean and variance become 10.1 and 1.99, respectively. Then $\alpha + \beta$ equals

- (1) 15 (2) 5 (3) 10 (4) 20

Q6. 24 January Shift 2

Let $X = \{x \in \mathbb{N} : 1 \leq x \leq 19\}$ and for some $a, b \in \mathbb{R}$, $Y = \{ax + b : x \in X\}$. If the mean and variance of the elements of Y are 30 and 750, respectively, then the sum of all possible values of b is

- (1) 60 (2) 100 (3) 80 (4) 20

Q7. 28 January Shift 1

The mean and variance of 10 observations are 9 and 34.2, respectively. If 8 of these observations are $2, 3, 5, 10, 11, 13, 15, 21$, then the mean deviation about the median of all the 10 observations is

- (1) 4 (2) 7 (3) 5 (4) 6

