

JEE MAIN STATISTICS — PYQS

Max. Marks: 84

Questions: 21

Section A (MCQ) — 21 questions

- Q.1** A set of four observations has mean 1 and variance 13. Another set of six observations has mean 2 and variance 1. Then, the variance of all these 10 observations is equal to :

[JEE Main 2026 (Online) 8th April Evening Shift]

- (1) 5.96 (2) 6.14 (3) 6.04 (4) 6.24

Scan or tap for the full solution



- Q.2** A data consists of 20 observations $x_1, x_2, \dots, x_{20}$. If $\sum_{i=1}^{20} (x_i + 5)^2 = 2500$ and $\sum_{i=1}^{20} (x_i - 5)^2 = 100$, then the ratio of mean to standard deviation of this data is :

[JEE Main 2026 (Online) 6th April Morning Shift]

- (1) 2 : 1 (2) 3 : 1 (3) 3 : 2 (4) 4 : 1

Scan or tap for the full solution



- Q.3** Let the mean and the variance of seven observations 2, 4, α , 8, β , 12, 14, $\alpha < \beta$, be 8 and 16 respectively. Then the quadratic equation whose roots are $3\alpha + 2$ and $2\beta + 1$ is :

[JEE Main 2026 (Online) 6th April Evening Shift]

- (1) $x^2 - 35x + 306 = 0$ (2) $x^2 - 41x + 420 = 0$
 (3) $x^2 - 45x + 506 = 0$ (4) $x^2 - 37x + 342 = 0$

Scan or tap for the full solution



- Q.4** The mean deviation about the mean for the data

x_i	5	7	9	10	12	15
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f_i	8	6	2	2	2	6
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is equal to:

[JEE Main 2026 (Online) 5th April Morning Shift]

- (1) $\frac{40}{13}$ (2) $\frac{42}{13}$ (3) $\frac{44}{13}$ (4) $\frac{46}{13}$

Scan or tap for the full solution



- Q.5** A variable X takes values 0, 0, 2, 6, 12, 20, ..., $n(n-1)$ with frequencies ${}^nC_0, {}^nC_1, {}^nC_2, {}^nC_3, {}^nC_4, {}^nC_5, \dots, {}^nC_n$, respectively. If the mean of this data is 60, then its median is :

[JEE Main 2026 (Online) 5th April Evening Shift]

- (1) 56 (2) 42 (3) 72 (4) 90

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- Q.6** Suppose that the mean and median of the non-negative numbers 21, 8, 17, a , 51, 103, b , 13, 67, ($a > b$), are 40 and 21, respectively. If the mean deviation about the median is 26, then $2a$ is equal to :

[JEE Main 2026 (Online) 4th April Morning Shift]

- (1) 109 (2) 117 (3) 161 (4) 131

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- Q.7** For 10 observations $x_1, x_2, \dots, x_{10}$, if $\sum_{i=1}^{10} (x_i + 2)^2 = 180$ and $\sum_{i=1}^{10} (x_i - 1)^2 = 90$, then their standard deviation is :

[JEE Main 2026 (Online) 4th April Evening Shift]

- (1) 2 (2)
- $\sqrt{3}$
- (3)
- $2\sqrt{2}$
- (4) 3

Scan or tap for the full solution



- Q.8** If the mean of the data

Class	5-10	10-15	15-20	20-25	25-30	30-35
Frequency	2	k	28	54	k+1	5

is 21, then k is one of the roots of the equation :

[JEE Main 2026 (Online) 2nd April Morning Shift]

- (1) $2x^2 - 23x - 10 = 0$ (2) $4x^2 - 35x + 24 = 0$
 (3) $2x^2 - 19x - 10 = 0$ (4) $2x^2 - 35x + 98 = 0$

Scan or tap for the full solution



- Q.9** The mean and variance of n observations are 8 and 16, respectively. If the sum of the first $(n-1)$ observations is 48 and the sum of squares of the first $(n-1)$ observations is 496, then the value of n is :

[JEE Main 2026 (Online) 2nd April Evening Shift]

- (1) 21 (2) 16 (3) 13 (4) 7

Scan or tap for the full solution



- Q.10** 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

[JEE Main 2026 (Online) 28th January Morning Shift]

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

Scan or tap for the full solution



- Q.11** 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

[JEE Main 2026 (Online) 24th January Morning Shift]

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

Scan or tap for the
full solution



- Q.12** Let $\mathbf{X} = \{x_1, x_2, \dots, x_n\}$ in $\mathbb{N} : 1 \leq x_i \leq 19\}$ 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

[JEE Main 2026 (Online) 24th January Evening Shift]

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

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full solution



- Q.13** 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 :

[JEE Main 2026 (Online) 23rd January Morning Shift]

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

Scan or tap for the
full solution



- Q.14** 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 :

[JEE Main 2026 (Online) 23rd January Evening Shift]

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

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full solution



- Q.15** If the mean deviation about the median of the numbers $k, 2k, 3k, \dots, 1000k$ is 500, then k^2 is equal to :

[JEE Main 2026 (Online) 22nd January Evening Shift]

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

Scan or tap for the
full solution



- Q.16** 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 :

[JEE Main 2026 (Online) 21st January Morning Shift]

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

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full solution



- Q.17** The mean and standard deviation of 100 observations are 40 and 5.1, respectively. By mistake one observation is taken as 50 instead of 40. If the correct mean and the correct standard deviation are μ and σ respectively, then $10(\mu + \sigma)$ is equal to

[JEE Main 2025 (Online) 7th April Morning Shift]

- (1) 447 (2) 445 (3) 449 (4) 451

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full solution



- Q.18** Let the mean and the standard deviation of the observations 2, 3, 3, 4, 5, 7, a , b be 4 and $\sqrt{2}$ respectively. Then the mean deviation about the mode of these observations is :

[JEE Main 2025 (Online) 4th April Evening Shift]

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

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full solution



- Q.19** Let the Mean and Variance of five observations $x_1 = 1, x_2 = 3, x_3 = a, x_4 = 7$ and $x_5 = b$, $a > b$, be 5 and 10 respectively. Then the Variance of the observations $n + x_n$, $n = 1, 2, \dots, 5$ is

[JEE Main 2025 (Online) 3rd April Evening Shift]

- (1) 17 (2) 16 (3) 16.4 (4) 17.4

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full solution



- Q.20** If the mean and the variance of 6, 4, a , 8, b , 12, 10, 13 are 9 and 9.25 respectively, then $a + b + ab$ is equal to :

[JEE Main 2025 (Online) 2nd April Evening Shift]

- (1) 103 (2) 106 (3) 100 (4) 105

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full solution



- Q.21** Let $x_1, x_2, \dots, x_{10}$ be ten observations such that $\sum_{i=1}^{10} (x_i - 2) = 30$, $\sum_{i=1}^{10} (x_i - \beta)^2 = 98$, $\beta > 2$, and their variance is $\frac{4}{5}$. If μ and σ^2 are respectively the mean and the variance of $2(x_1 - 1) + 4\beta$, $2(x_2 - 1) + 4\beta$, $\dots$, $2(x_{10} - 1) + 4\beta$, then $\frac{\beta\mu}{\sigma^2}$ is equal to :

[JEE Main 2025 (Online) 29th January Morning Shift]

- (1) 100 (2) 90 (3) 120 (4) 110

Scan or tap for the
full solution



ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	11
Ans.	3	2	2	3	1	4	4	3	4	3	4
Ques.	12	13	14	15	16	17	18	19	20	21	
Ans.	4	1	2	4	1	3	3	2	1	1	