PAPER SOLUTION

From Meerut

JEE MAIN 2026

JAN	SHIFT
28	1st

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JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. **Let k =** $\tan\left(\frac{\pi}{4}+\frac{1}{2}\cos^{-1}\frac{2}{3}\right)+\tan\left(\frac{1}{2}\sin^{-1}\frac{2}{3}\right)$**. Then number of solutions of the equation** $\sin^{-1}(kx-1)=\sin^{-1}x-\cos^{-1}x$ **is**

A 1

B 2

C 3

D 4

(Ans : A)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. If α, β are roots of quadratic equation $\lambda x^2 - (\lambda + 3)x + 3 = 0$ and $\alpha < \beta$ such that $\frac{1}{\alpha} - \frac{1}{\beta} = \frac{1}{3}$, then find sum of all possible values of λ.

A 2

B 3

C 4

D 6

(Ans : D)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. Find the value of $\sum_{k=1}^{\infty} \frac{(-1)^{k+1}.k(k+1)}{k!}$

A 2/e

B 3/e

C 1/e

D e

(Ans : C)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. If 3 balls are taken from the box without replacement and found to be all black. If all configuration of red balls and black balls are equally likely then the probability that box contained 1 red and 9 black ball is $\frac{p}{q}$ for some coprime natural number p and q then, p + q is

A 59

B 69

C 57

D 79

(Ans : B)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. Consider the 10 observations 2,3,5,10,11,13,15,21, a and b such that mean of observation in 9 and variance is 34.2, Then the mean deviation about median is

(A) 5

(B) 6

(C) 7

(D) 3

(Ans : A)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. If f be a real valued function such that $f(x^2+1) = x^4 + 5x^2 + 2$, then $\int_0^3 f(x)dx$ is equal to

(A) 16

(B) 31/2

(C) 33/2

(D) 14

(Ans : C)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. $\lim\limits_{x\to 0} \dfrac{in\left(sec(ex)sec(e^2x)sec(e^2x)...sec(e^{10}x)\right)}{e^2-e^2\cos x}$

(A) $\dfrac{e^{18}-1}{e^2-1}$

(B) $\dfrac{e^{20}-1}{e^2-1}$

(C) $\dfrac{e^{16}-1}{e^2-1}$

(D) $\dfrac{e^{22}-1}{e^2-1}$

(Ans : B)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. If $g(x) = 3x^2 + 2x - 3$, $f(0) = -3$, $4g(f(x)) = 3x^2 - 32x + 72$. Then $f(g(2))$ is equal to

A $-\frac{25}{6}$

B $\frac{25}{6}$

C $-\frac{7}{2}$

D $\frac{7}{2}$

(Ans : D)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. If unit vectors $\bar{a}, \bar{b}, \bar{c}$ then $|a-b|^2+|b-c|^2+|c-a|^2=9, |2a+kb+kc|=3$, then find the positive values of k.

A 6

B 5

C 4

D 3

(Ans : B)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. Consider a circle C_1 passing through origin and lying in region $x \geq 0$ only, with diameter 10. Consider a chord PQ of C_1 with equation x = y and another circle C_2 which has PQ as diameter. A chord is drawn to C_2 passing throng (2,3) such that distance of chord from centre of C_2 is maximum has equation $x + ay + b = 0$ then (b-a) is equal to

A 4

B 2

C 3

D 5

(Ans : B)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. If $y = f(x)$ satisfies the differential equation $x\frac{dy}{dx} - sin2y = x^3cos^2y$ and $y(1) = \frac{\pi}{4}$, then $y\left(\frac{\pi}{3}\right)$ is

A. 1

B. $tan^{-1}\left(\frac{\pi}{4}\right)$

C. $tan^{-1}\left(\frac{\pi^3}{27}\right)$

D. zero

(Ans : C)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. Product of firs three term of G.P is 27, then the range of sum of these terms is $R - (a, b)$ then $a^2 + b^2$ is

(Ans : 90)

#Q. The common difference of AP $a_1, a_2, a_3 \ldots a_m$ is 13 times the common difference of AP $b_1, b_2, b_3 \ldots b_n$. Also, $a_{78} = 327, b_{43} = -385, b_{31} = -277$, then a_1 is equal to

(Ans : 9336)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. Let $S = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$. Let x be the number of 9-digit number formed using the digits of the set S such that, only one digit is repeated and it is repeated exactly twice. Let 'y' be the number of 9-digit number formed using the digits of the set S such that, only two digits are repeated and each of these is repeated exactly twice. Then,

A $56x = 9y$

B $9x = 2y$

C $21x = 4y$

D $45x = 7y$

(Ans : C)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. Let z be a complex number lying n the first quadrant such that $|z-6| = 5 and\ |z-3i+5| = 7$, then $z^3 - 7z^2 + 25z + 16$ is equal to

A 45

B 55

C 35

D 25

(Ans : B)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. Let $A = \begin{bmatrix} 12 & -5 \\ 10 & 6 \end{bmatrix}, B \begin{bmatrix} x_1 \\ x_2 \end{bmatrix} = \begin{bmatrix} 12 \\ -6 \end{bmatrix}$ such that $B = (I + A)^{-1}$, then $x_1 - x_2$ is equal to

A 108

B 54

C 21

D 27

(Ans : A)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. Let a line $L: x + 2\sqrt{2}y - 4 = 0$ cuts x-axis and y-axis at A and B respectively. Consider an equilateral triangle ABC, such that $(0, 0)$ is the orthocenter of ΔABC. *If point C is* (α, β) then $\left|\alpha + \sqrt{2}\beta\right|$ is

A 4

B 6

C 2

D 3

(Ans : B)