PAPER SOLUTION

From Meerut

JEE MAIN 2026

JAN	SHIFT
24	1st

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JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. The value of $\frac{\sqrt{3}\text{cosec}20^\circ - \sec 20^\circ}{\cos 20^\circ \cos 40^\circ \cos 60^\circ \cos 80^\circ}$ is

A. 64

B. 12

C. 16

D. 32

(Ans : A)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. The number of solutions $for\ x \in R, x|x-4| + |x-1| - 2 = 0$

A 1

B 2

C 3

D 4

(Ans : A)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. Consider 10 data such that their mean is 10 and variance is 2. If one of the data α is removed and new data entry β is inserted. Now new mean is 10.1 and new variance is 1.99 then $(\alpha + \beta)$ is equal to

A 10

B 20

C 1

D 2

(Ans : B)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. If $F(t)=\int \frac{1-\sin(\ln t)}{1-\cos(\ln t)}\,dt$ and $F\left(e^{\pi/2}\right)=-e^{\pi/2}$ then $F\left(e^{\pi/4}\right)$ is

A $(-1-\sqrt{2})e^{\frac{\pi}{4}}$

B $(1-\sqrt{2})e^{\frac{\pi}{4}}$

C $(1+\sqrt{2})e^{\frac{\pi}{4}}$

D $(-2-\sqrt{2})e^{\frac{\pi}{4}}$

(Ans : A)

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#Q. consider an A.P $a_1, a_2 \cdots a_n; a_1 > 0, a_2 - a_1 = \frac{-3}{4}, a_n = \frac{1}{4}a_1$ and $\sum_{i=1}^{n} a_i = \frac{525}{2}$ then $\sum_{i=1}^{17} a_i$ is equal to

A 276

B 238

C 189

D 258

(Ans : B)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. If the function $f(x)=\frac{e^{x}\left(e^{\tan x-x}-1\right)+\log_{e}(\sec x+\tan x)-x}{\tan x-x}$ is continuous at $x=0$, then the value of $f(0)$ is equal to

A 1

B 1/2

C 3/2

D 2/3

(Ans : C)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. Consider a sequence 729, 81, 9, 1, ...

Let P_n = product of first n terms of the given sequence and $\sum_{n=1}^{40} (P_n)^{\frac{1}{n}} = \frac{3^{\alpha}-1}{2\times 3^{\beta}}$.

Then the value of $\alpha + \beta$ is

A 73

B 75

C 76

D 81

(Ans : A)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. Number of matrices A of order 3×2 such that all of its elements are from the set $\{-2, -1, 0, 1, 2\}$ such that trace of AA^T is 5, is equal to

A 120

B 312

C 192

D 126

(Ans : B)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. Out of 100 bulbs, 10 are defective and 90 are non-defective. If the probability of finding 7 defective bulbs out of 8 draws, with replacement, is $\frac{K}{10^8}$, then the value of K is

A 69

B 72

C 75

D 96

(Ans : B)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. Let a circle passes through points $A(-\sqrt{2}\alpha, 0)$, $B(0, \sqrt{3}\,\beta)$ and O (0,0) such that its radius is 4. Then the radius of locus of centroid of triangle OAB is

A 2/3

B 8/3

C 4/3

D 11/3

(Ans : B)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. Let $\cot\theta = \frac{5}{12}$ and $\theta \in \left(\pi, \frac{3\pi}{2}\right)$.

Then the value of $\cos 7\theta \left(\sin\frac{13\theta}{2} + \cos\frac{13\theta}{2}\right) + \sin 7\theta \left(\sin\frac{13\theta}{2} - \cos\frac{13\theta}{2}\right)$ is

A $-\frac{1}{\sqrt{13}}$

B $\frac{1}{\sqrt{13}}$

C $-\frac{5}{\sqrt{13}}$

D $\frac{5}{\sqrt{13}}$

(Ans : C)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. Let $\left|\frac{z-6i}{z-2i}\right| = 1, \left|\frac{z-8+2i}{z+2i}\right| = \frac{3}{5}$ then if ω satisfy both equation then find $\sum|\omega^2|$.

A 385

B 386

C 384

D 387

(Ans : A)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. If $S = \frac{1}{25!} + \frac{1}{2313!} + \frac{1}{21!5!} + \cdots$. upto 13 terms. Then $13S = \frac{2^{\alpha}}{\beta!}$, then $\alpha + \beta$ is

(Ans : 49)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. A line passing through point $P(1,1,1)$, which is perpendicular to $\frac{x-17}{1} = \frac{y-71}{1} = \frac{z}{0}$ and $\frac{x-4}{4} = \frac{y-1}{1} = \frac{z-1}{1}$. Let the line intersect the $y-z$ plane at point Q. Another line parallel to L and passing through $s(1,0,-1)$ intersect another plane at point R. Then the square of area of parallelogram $PQRS$ is

A 11

B 12

C 13

D 6

(Ans : D)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. Let A_1 be the area enclosed by $y = x^2 + 2$, y-axis and $x + y = 8$ in first quadrant and
Let A_2 be the area enclosed by $y = x^2 + 2, y^2 = x$, $x = 2$ and y-axis, then the value of $A_1 - A_2$ is

A $\frac{4+8\sqrt{2}}{3}$

B $\frac{2+4\sqrt{2}}{3}$

C $\frac{8+2\sqrt{2}}{3}$

D $\frac{8-2\sqrt{2}}{3}$

(Ans : B)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q.

$$E_1: \frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$$

$$E_2: \frac{x^2}{A^2} + \frac{y^2}{B^2} = 1$$

Let eccentricity of both $E_1 \& E_2$ be $\frac{4}{5}$, $2l_1^2 = 9l_2$ where l_1 and l_2 are the length of latus rectum of $E_1 \& E_2$ respectively. Distance between the foci of E_1 be 8 then distance between foci of ellipse E_2 is

- **A** 32/5
- **B** 16/5
- **C** 8/5
- **D** 4/5

(Ans : A)

JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. Find the number of numbers greater than 5000 and less than 9000, formed by using numbers 0, 1, 2, 5, 9 with repetition allowed and divisible by 3.

A 31

B 42

C 48

D 52

(Ans : B)