PAPER SOLUTION

From Meerut

JEE MAIN 2026

JAN	SHIFT
21	1st

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JEE MAIN 2026 LIVE PAPER DISCUSSION

#Q. The value of $cosec10^0 - \sqrt{3}\, sec10^0$

A 1

B 2

C 4

D None

(Ans – C)

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#Q. If $A = \begin{bmatrix} \alpha & 2 \\ 1 & 2 \end{bmatrix}, B = \begin{bmatrix} 1 & 1 \\ \beta & 1 \end{bmatrix}$ and $A^2 - 4A + 2I = 0; B^2 - 2B + I = 0$, then $\left|adj\left(A^3 - B^3\right)\right|$ is equal to

A 7

B 11

C -11

D 121

(Ans – B)

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#Q. The value of $\int_0^{\pi/2} |\sin x + \sin 2x + \sin 3x| dx$ is

A 8/3

B 7/3

C 2/3

D 3

(Ans – B)

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#Q. If $y = y(x)$ and $(1 + x^2)dy + (1 - tan^{-1}x)dx = 0$ and $y(0) = 1$ then $y(1)$ is

A $\frac{\pi^2}{32} + \frac{\pi}{4} + 1$

B $\frac{\pi^2}{32} - \frac{\pi}{4} + 1$

C $\frac{\pi^2}{32} - \frac{\pi}{2} - 1$

D $\frac{\pi^2}{32} - \frac{\pi}{2} + 1$

(Ans – B)

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#Q. The sum of roots of the equation $|x-1|^2 - 5|x-1| + 6 = 0$ is

A 3

B 4

C 5

D 0

(Ans – B)

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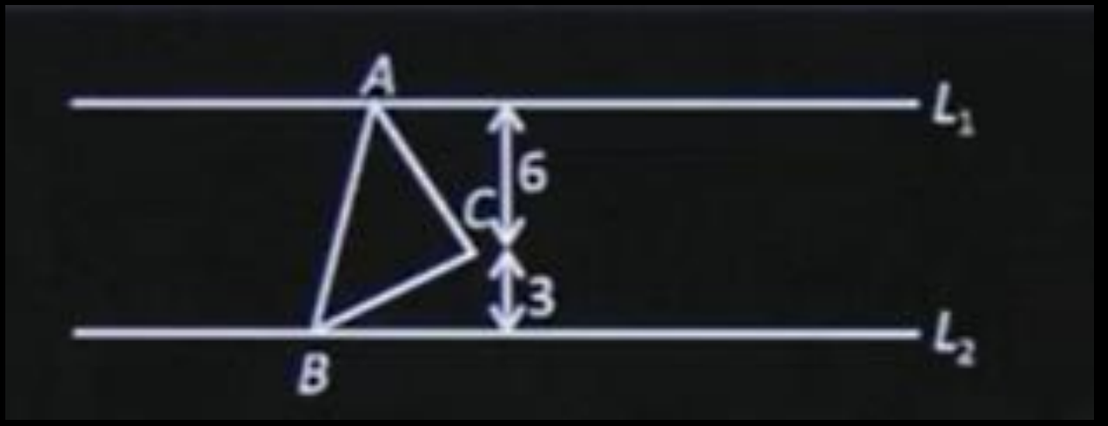
#Q. If L_1 and L_2 are two parallel lines and ΔABC is an equilateral triangle then area of triangle ABC is:



(A) $7\sqrt{3}$

(B) $4\sqrt{3}$

(C) $21\sqrt{3}$

(D) 84

(Ans – C)

#Q. If $x^2 + x + 1 = 0$, then $\left(x + \frac{1}{x}\right)^4 + \left(x^2 + \frac{1}{x^2}\right)^4 + \left(x^3 + \frac{1}{x^3}\right)^4 + \cdots + \left(x^{25} + \frac{1}{x^{25}}\right)^4$ is

(Ans – 145)

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#Q. The locus of point of intersection of tangent drawn to the circle $(x-2)^2+(y-3)^2=16$, which contains an angle of 120^0 is

A $3x^2+3y^2-12x-18y-25=0$

B $x^2+y^2-12x-18y-25=0$

C $3x^2+3y^2+12x+18y-25=0$

D $x^2+y^2+12x+18y-25=0$

(Ans – A)

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#Q. If $a_1, a_2, a_3, \ldots$ are in increasing geometric progression such that

$$a_1 + a_3 + a_5 = 21,$$

$$a_1 a_3 a_5 = 64$$

then $a_1 + a_2 + a_3$ is

- **A** 5
- **B** 7
- **C** 10
- **D** 15

(Ans – B)

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#Q. Consider a set $S = \{a, b, c, d\}$. Then number of reflexive as well as symmetric relations from $S \to S$ are

A 1024

B 256

C 16

D 64

(Ans – D)

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#Q. Ellipse E: $\frac{x^2}{36}+\frac{y^2}{16}=1$, A hyperbola confocal with ellipse and eccentricity of hyperbola is equal to 5. The length of latus rectum of hyperbola is, if principal axis of hyperbola is x-axis ?

A $\frac{96}{\sqrt{5}}$

B $24\sqrt{5}$

C $18\sqrt{5}$

D $12\sqrt{5}$

(Ans – A)

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#Q. If O is the vertex of the of the parabola $x^2 = 4y, Q$ is the point on parabola If C is the locus of point which divides OQ in ratio 2:3. The equation of chord of C which bisected at point (1, 2).

A $5x + 4y + 3 = 0$

B $5x - 4y - 3 = 0$

C $5x - 4y + 3 = 0$

D $5x + 4y - 3 = 0$

(Ans – C)

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#Q. The value of $\int_{-\frac{\pi}{6}}^{\frac{\pi}{6}} \frac{\pi+4x^{11}}{1-\sin\left(|x|+\frac{\pi}{6}\right)}\,dx$

A 3π

B 4π

C 6π

D 12π

(Ans – B)

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#Q. If $f(3)=18, f'(3)=0$ and $f''(3)=4$. Then, the value of $\lim_{x\to 1} \ln\left(\frac{f(x+2)}{f(3)}\right)^{\frac{18}{(x-1)^2}}$ is equal to

A 2

B 4

C 6

D 8

(Ans – A)

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#Q. If the mean and variance of observations $x, y, 12, 14, 4, 10, 2$ is 8 and 16 respectively where $x > y$. Then the value of $3x - y$ is

A 18

B 20

C 22

D 24

(Ans – A)

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#Q. If the domain of the function $cos^{-1}\left(\frac{2x-5}{11x-7}\right) + sin^{-1}\left(2x^2 - 3x + 1\right)$ is $[0, a] \cup \left[\frac{12}{13}, b\right]$ then $\frac{1}{ab}$ is equal to

A -3

B 3

C 2

D 4

(Ans – B)

#Q. If $A = \{1, 2, 3, 4, 5, 6\}, B = \{1, 2, 3, .. 8, 9\}$. Then the number of strictly increasing function from $A \to B$ such that $f(i) \neq i \forall i = 1, 2, 3, 4, 5, 6$ are

(Ans – 28)

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#Q. In binomial expansion of $(ax^2 + bx + c)(1 - 2x)^{26}$, the coefficient of x, x^2, x^3 is -56, 0 respectively, then $(a + b + c)$ is equal to

A 1500

B 1403

C 1300

D 1483

(Ans – B)

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#Q. If $a_1 = 1$ and for $\forall\, n \geq 1 a_{n+1} = \frac{1}{2}a_n + \frac{n^2-2n-1}{n^2(n+1)^2}$ then $\left|\sum_{n=1}^{\infty}\left(a_n - \frac{2}{n^2}\right)\right|$ is equal to

(Ans : 2)

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#Q. Area enclosed by $x^2 + 4y^2 \leq 4, y \leq |x| - 1, y \geq 1 - |x|$ is

A $4\sin^{-1}\left(\frac{3}{5}\right) + \frac{6}{5}$

B $\sin^{-1}\left(\frac{3}{5}\right) - \frac{6}{5}$

C $4\sin^{-1}\left(\frac{3}{5}\right) + \frac{12}{5}$

D $4\sin^{-1}\left(\frac{3}{5}\right) - \frac{6}{5}$

(Ans – D)