JEE MAINS 2026

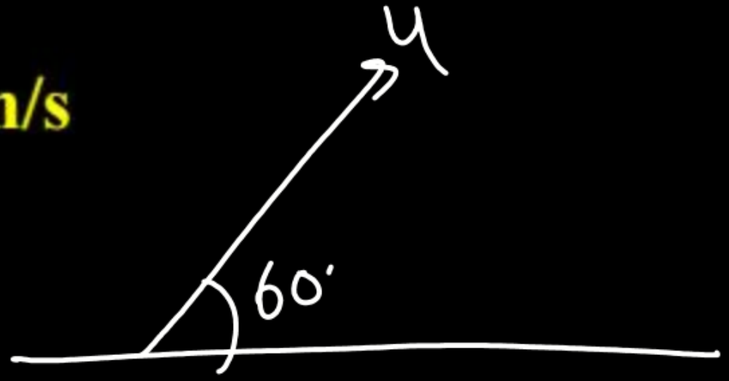
PAPER SOLUTION

22 JAN, SHIFT 1

Physics

Q) A projectile is projected at angle of projection 60° with speed u. When its velocity makes an angle 45° with horizontal its speed is 20m/s. Find u?

(A) $10\sqrt{2}$
(B) 20 m/s
(C) $20\sqrt{2}$ m/s
(D) 40 m/s



$u\cos 60^\circ = 20\cos 45^\circ$

$u \times \frac{1}{2} = 20 \times \frac{1}{\sqrt{2}}$

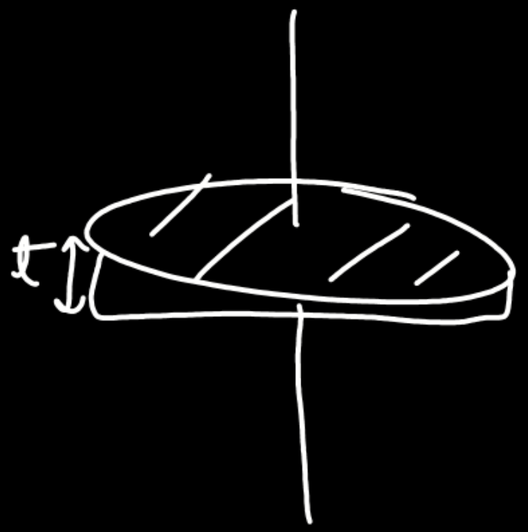
$u = 20\sqrt{2}$

Ans. (C)

Q) Two disc having same moment of inertia about their axis. Thickness is t_1 and t_2 and they have same density. If $R_1/R_2 = 1/2$, then find t_1/t_2.

(A) 4 **(B) 1/4**

(C) 1/16 **(D) 16**



$$I = \frac{1}{2}MR^2$$

$$= \frac{1}{2}(\rho V)R^2$$

$$= \frac{1}{2}\left(\rho\left[\pi R^2 t\right]\right)R^2$$

$$I = \frac{1}{2}\rho\pi R^4 t$$

$$R_1^4 t_1 = R_2^4 t_2$$

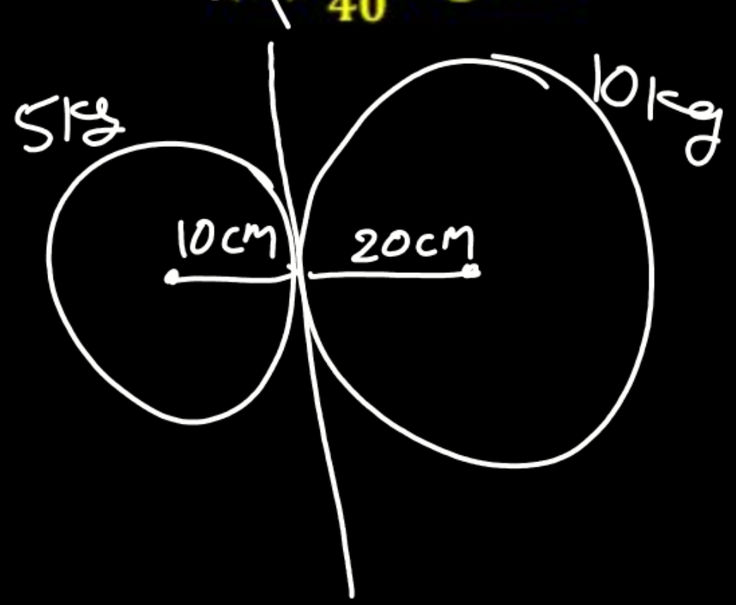
$$\frac{t_1}{t_2} = \left(\frac{R_2}{R_1}\right)^4$$

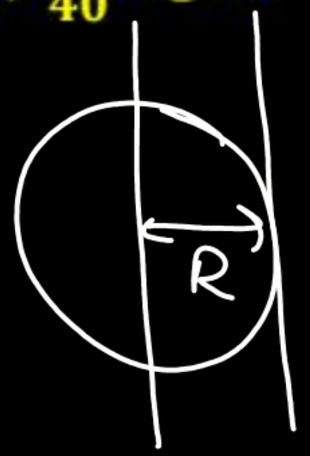
$$\frac{t_1}{t_2} = (2)^4$$

Ans. (D)

Q) Two thin circular rings are lying in the same plane and are touching each other at a single point. The first ring has mass 5 kg and radius 10 cm , while the second ring has mass 10 kg and radius 20 cm. Find the moment of inertia of the combined system about a straight line passing through the point of contact and lying in the plane of the rings.

(A) $\frac{27}{50}$ kg m^2 (B) $\frac{24}{40}$ kg m^2 (C) $\frac{27}{40}$ kg m^2 (D) $\frac{17}{12}$ kg m^2





$I = I_{com} + md^2$

$= \frac{MR^2}{2} + MR^2$

$= \frac{3}{2}MR^2$

Ans. (C)

$$I_{comb.} = I_1 + I_2$$

$$= \frac{3}{2} M_1 R_1^2 + \frac{3}{2} M_2 R_2^2$$

$$= \frac{3}{2}\left[5 \times \left(\frac{10}{100}\right)^2 + 10\left(\frac{20}{100}\right)^2\right]$$

$$= \frac{3}{2}\left[\frac{5}{100} + \frac{40}{100}\right]$$

$$= \frac{3}{2}\left[\frac{45}{100}\right]_{20}^{9} = \frac{27}{40}\ kgm^2$$

Q) In adiabatic compression temperature of gas becomes 4 times while volume decreased 1/2 times find γ.

(A) 1 **(B) 2** **(C) 3** **(D) 4**

$$TV^{\gamma-1} = \text{Const.}$$

$$T(V)^{\gamma-1} = (4T)\left(\frac{V}{2}\right)^{\gamma-1}$$

$$1 = 2^2 (2)^{1-\gamma}$$

$$2^0 = 2^{3-\gamma}$$

$$3-\gamma = 0$$

$$\gamma = 3$$

Ans. (C)

Q) A ray of light is incident at an angle i on an equilateral prism. If the ray emerges grazing the second face, find angle of refraction at first surface. Refractive index of prism $\sqrt{2}$.

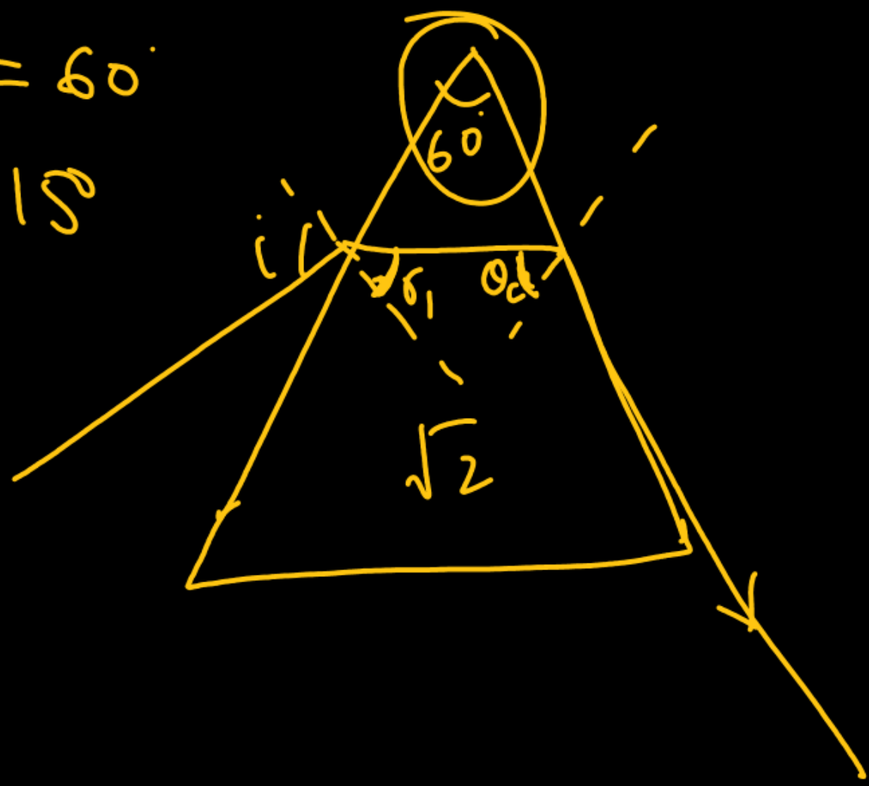
(A) 10° (B) 15° (C) 30° (D) 45°

$\sin\theta_c = \frac{1}{\sqrt{2}}$

$\theta_c = 45$

$45 + r_1 = 60$

$r_1 = 15$



Ans. (B)

Q) In series R-L circuit, voltage of battery is 10 V. Resistance and inductance are 10 Ω and 10 mH respectively. Find energy stored in the inductor when current reaches $\frac{1}{e}$ times of maximum value

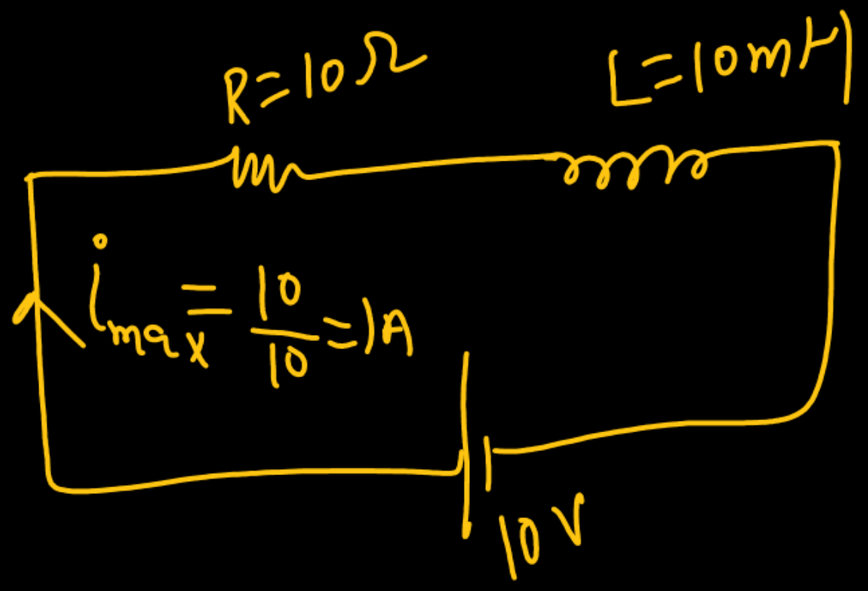
(A) 0.33 mJ (B) 1.33 mJ (C) 0.67 mJ (D) 2.33 mJ

$$E = \frac{1}{2}Li^2$$

$$= \frac{1}{2}(10\times10^{-3})\left(\frac{1}{e}\right)^2 \text{ J}$$

$$= \frac{5}{e^2}\text{ mJ} \simeq 0.67$$

Ans. (C)



Q) In a potentiometer null point for two resistance R_1 and R_2 is at 40 cm. If 16 Ω is connected in parallel to R_2 then null point is at 50 cm then R_1 and R_2 are respectively.

(A) 16 Ω, 48 Ω
(B) 16/3 Ω, 8 Ω
(C) 32/3 Ω, 8 Ω
(D) 12/3 Ω, 12 Ω

$$\frac{R_1}{R_2} = \frac{2}{3}$$

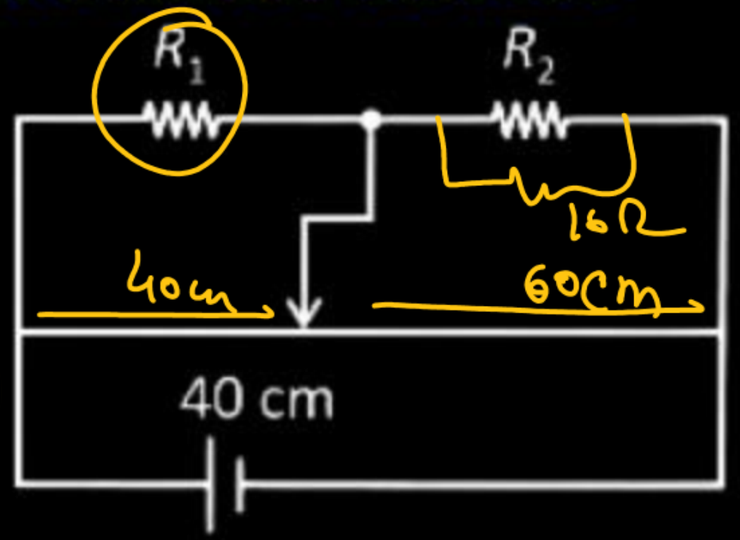
$$\frac{R_1}{\frac{16R_2}{R_2+16}} = 1$$

$$R_1 = \frac{16}{3}\Omega$$

$$\frac{2}{3}R_2 = \frac{16R_2}{R_2+16}$$

$$R_2 + 16 = 24$$

$$R_2 = 8\Omega$$



Ans. (B)

Q) The escape velocity of a planet A is 10 km/s. Another planet B has density equal to 10% of planet A and radius equal to 10% of planet A. What is the escape velocity of planet B?

(A) 3.16 km/s **(B) 1.0 km/s**

(C) 0.316 km/s **(D) 0.10 km/s**

$$V = \sqrt{\frac{2GM}{R}} = \sqrt{\frac{2G \cdot \rho \cdot \frac{4\pi}{3} R^3}{R}}$$

$$V \propto \sqrt{\rho R^2}$$

$$\frac{V_2}{V_1} = \frac{R_2}{R_1}\sqrt{\frac{\rho_2}{\rho_1}}$$

$$= \frac{1}{10}\sqrt{\frac{10}{100}}$$

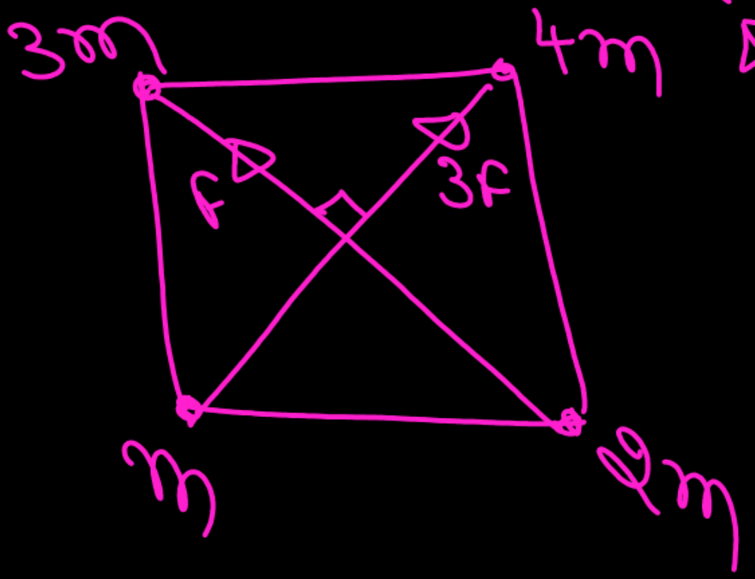
$$\frac{V_2}{V_1} = \frac{1}{10\sqrt{10}}$$

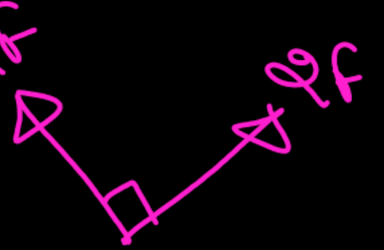
$$V_2 = \frac{10}{10\sqrt{10}} = \frac{\sqrt{10}}{10}$$

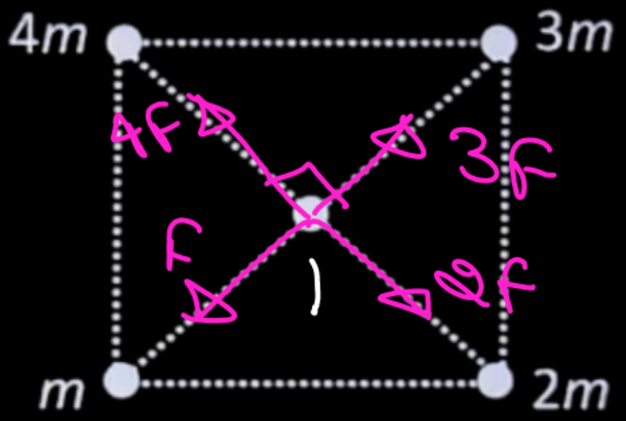
Ans. (C)

Q) In the given situation force at center on 1 kg mass is F_1. Now if 4 m and 3 m is interchanged the force is F_2. Given : $\frac{F_1}{F_2} = \frac{2}{\sqrt{a}}$. Find α.

(A) α = 1 **(B) α = 3**
(C) α = 5 **(D) α = 7**







$F_1 = 2\sqrt{2}F$

$F_2 = \sqrt{10}F$

$\frac{F_1}{F_2} = \frac{2}{\sqrt{5}}$

Ans. (C)

Q) Match the column

A. Thermal Conductivity	(P) $[ML^2 T^{-2} K^{-1}]$
B. Boltzmann Constant	(Q) $[M^1 L^{-1} T^{-2}]$
C. Spring constant	(R) $[M^1 L^1 T^{-3} K^{-1}]$
D. Surface tension	(S) $[M^1 L^0 T^{-2}]$
	(T) $[M^1 L^2 T^{-3} K^{-1}]$
	(U) $[ML^2 T^{-2}]$

$\frac{dQ}{dt} = \frac{KA}{l}(\theta_1 - \theta_2)$

$K = \left[\frac{\frac{dQ}{dt} \cdot l}{A \cdot \Delta\theta}\right] = \frac{ML^2T^{-3}}{L\theta}$

$U = \frac{3}{2}KT$

$[K] = \frac{ML^2T^{-2}}{K}$

(A) A → R; B → P; C → S; D → S

(B) A → T; B → P; C → U; D → S

(C) A → R; B → T;C → Q; D → Q

(D) A → T; B → U; C → S; D → Q

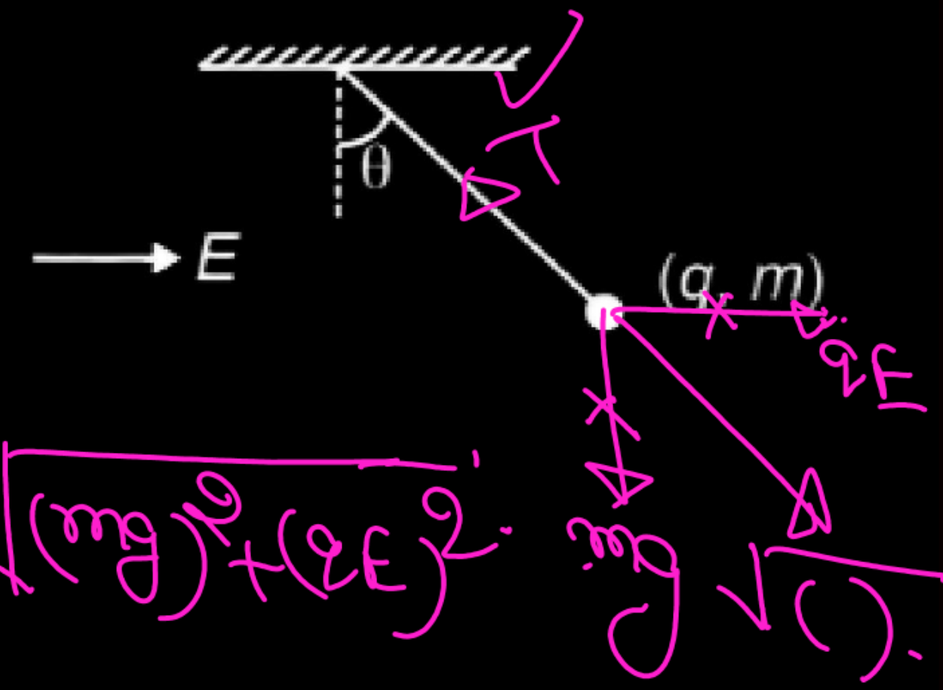
Q) A simple pendulum with bob (mass m & charge q) is in equilibrium in presence of horizontal electric field E then tension in thread is.

(A) $mg + qE\tan\theta$

(B) $\sqrt{mg + qE}$

(C) $mg + qE$

(D) $\sqrt{m^2g^2 + q^2E^2}$



Ans. (D)

Chemistry

Q) Statement I ⇒ Ortho & Para nitro phenol can be differentiated by steam distillation.

Statement II ⇒ Glycerol is separated from spent lie by distillation under reduced pressure

Statement III ⇒ Chromatography separation based on diffential affinities of component for a Stationary phase.

Statement IV ⇒ Aniline is commonly separated from mix. from water by crystallization

Select correct options

(A) only I & IV
(B) only I, II & III
(C) only I, III
(D) All of these

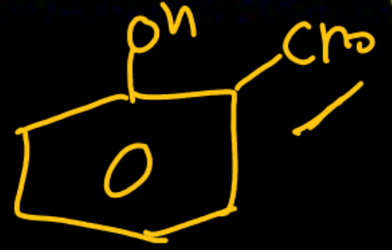
Q) Match List-I with List-II

List-I Name of reaction	List-II Reagent
(I) Clemmensen	(P) Zn-Hg / con. HCl
(II) Wollf Kishner	(Q) $NH_2 - NH_2/OH^-$
(III) Tollen's	(R) $[Ag(NH_3)_2]OH$
(IV) Fehling	(S) $CuSO_4 \cdot 5H_2O$
	(T) NaOH + Rochelle's Salt

(I) S)

Q) Statement I → when phenol reacts with Chloroform in presence of KOH then product P and Q formed.

Statement II:- o-salic aldehyde and p-salic aldehyde can be Isolated by Steam distillation.



$$\text{Phenol} + CHCl_3 \xrightarrow{KOH} P + Q$$

(A) Statement-I and II are correct

(B) Both Statement-I and II are incorrect

(C) Statement-I is correct but Statement-II incorrect

(C) Statement-I incorrect but Statement-II correct

Q) Statement-I : Sucrose is dextrorotary and upon hydrolysis it becomes laevorotatory.

Statement-II : Sucrose on hydrolysis gives glucose and fructose such that the levorotation of glucose is more than dextrorotation of fructose.

(A) Both Statement-I and Statement-II are correct

(B) Both Statement-I and Statement-II are incorrect

(C) Statement-I is correct, Statement-II is incorrect

(D) Statement-II is correct, Statement-I is incorrect

by Carius Method

$$\% \text{ of } C = \frac{35.5}{143.5} \times \frac{\text{ppt } 0.2368}{\text{or. comp } 0.0811} \times 100$$

$$= \underline{72.24\ \%}$$

Q) Arrange the given metal ions in number in increasing order of unpaired electrons in low spin complex formed by Mn^{3+}, Cr^{3+}, Fe^{3+}, Co^{3+}

(A) $Co^{3+} < Fe^{3+} < Mn^{3+} < Cr^{3+}$

(B) $Co^{3+} < Mn^{3+} < Fe^{3+} < Cr^{3+}$

(C) $Cr^{3+} < Mn^{3+} < Cr^{3+} < Fe^{3+}$

(D) $Cr^{3+} < Mn^{3+} < Co^{3+} < Fe^{3+}$

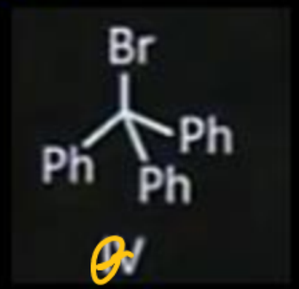
Mn^{3+} $3d^4$ $n=2$

Cr^{3+} $3d^3$ $n=3$

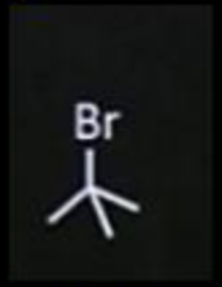
Fe^{3+} $3d^5$ $n=1$

Co^{3+} $3d^6$ $n=0$

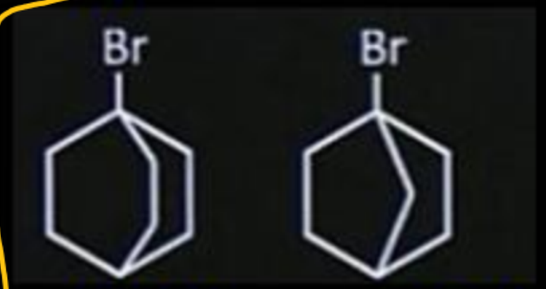
Q) Reactivity of following on the basis of S_N1 mechanism.



(I)



(II)



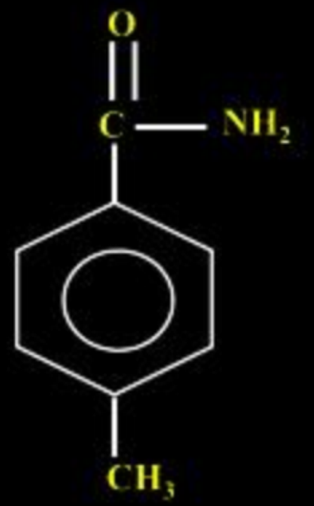
(III) (IV)

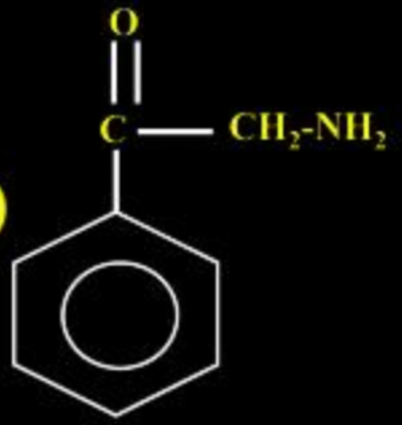
(A) I > II > III > IV
(B) II > I > III > IV
(C) IV > II > III > I
(D) IV = II > III > I

Q) (A) $C_8H_9ON \xrightarrow{Br_2+KOH} B \xrightarrow{HNO_2} C \xrightarrow{CUCN+HCN} D \xrightarrow{H_3O^+} E$

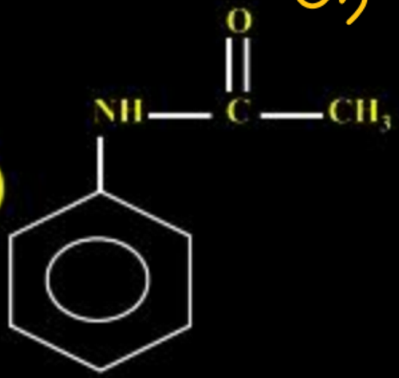
$A \xrightarrow{H_3O^+} E$

Identify A

(A) 

(B) 

(C) 

(D) 

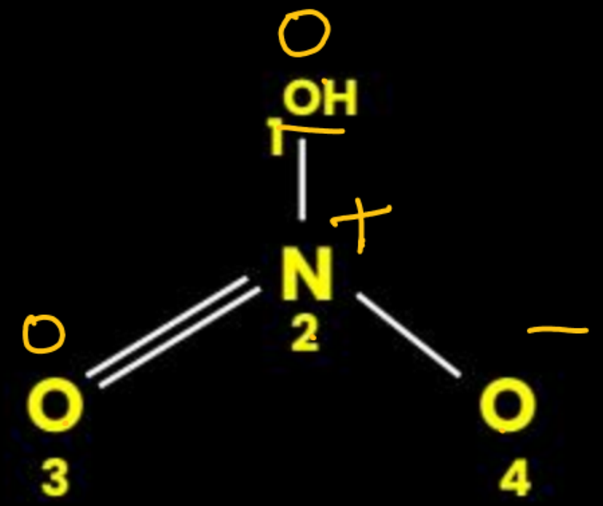
Q) What is the formal change of atoms numbered as 1,2,3 & 4

(A) 0, +1, 0, -1

(B) 0, 0, -1, +1

(C) +1, -1, 0, 0

(D) -1, +1, 0, 0



Q) Given below are two statements.

Statement I: HX bond length is higher in HCl than HF.

Statement II: The lowest boiling point in hydride of group 15 element is PH_3

(A) Both statement I and statement II is correct

(B) Both statement I and statement II is incorrect

(C) Statement I is correct but statement II is incorrect

(D) Statement I is incorrect but statement II is correct

$PH_3 < AsH_3 < NH_3 < SbH_3 < BiH_3$

Math

Q) If sum of first 4 terms of an A.P is 6 and sum of first 6 terms is 4, then sum of first 12 terms of an A.P is

(A) –21 **(B) –22** **(C) –23** **(D) –24**

$\frac{4}{2}(2a+3d)=6$

$2a+3d=3$

$6a+9d=9$

$\frac{6}{2}(2a+5d)=4$

$3(2a+5d)=4$

$6a+15d=4$

$6d=-5$

$d=\frac{-5}{6}$

$2a=3-3\left(\frac{-5}{6}\right)=3+\frac{5}{2}$

$a=\frac{1}{2}\left(\frac{11}{2}\right)=\frac{11}{4}$

$S_{12}=\frac{12}{2}(2a+11d)$

$S_{12}=6\left(\frac{11}{2}-\frac{55}{6}\right)$

$=6(11)\left(\frac{3-5}{6}\right)$

$=11(-2)$

$=-22$

Ans. (B)

Q. $x|x+4| + 3|x+2| + 10 = 0$ No. of real soln:

(I) $x \geq -2$ $\quad x(x+4)+3(x+2)+10=0$

$x^2+7x+16=0$

$x = \frac{-7 \pm \sqrt{49-64}}{2}$

$D<0$ ✗

(II) $-4 \leq x < -2$

$x(x+4)-3(x+2)+10=0$

$x^2+x+4=0$

$D = 1-4(4)$

<0 ✗

(III) $x < -4$

$-x(x+4)-3(x+2)+10=0$

$-x^2-7x+4=0$

$x^2+7x-4=0$

$x = \frac{-7 \pm \sqrt{49+16}}{2} = \frac{-7 \pm \sqrt{65}}{2}$

$\frac{-7+\sqrt{65}}{2}$ ✗ $\frac{-7-\sqrt{65}}{2}$ ✓

one soln

Ans 1

Q) If $A = \begin{bmatrix} 2 & 3 \\ 3 & 5 \end{bmatrix}$, then the value of $|A^{2025} - 3A^{2024} + A^{2023}|$ is

$tr(A) = 7$

$|A| = 10 - 9$

$= 1$

$\Rightarrow |A^{2023}|\,|A^2 - 3A + I|$

Ch. eqn: $A^2 - (7)A + I = 0$

$A^2 = 7A - I$

$\Rightarrow |1|\,|7A - I - 3A + I|$

$= |4A|$

$= 4^2|A|$

$= 16$

Ans. (16)

Q) If the domain of the function $\frac{1}{\ln(10-x)} + \sin^{-1}\left(\frac{x+2}{2x+3}\right)$ is $(-\infty, -a] \cup (-1, b) \cup (b, c)$, then $(b + c + 3a)$ is equal to

(A) 20 **(B) 21** **(C) 23** **(D) 24**

$b=9$
$c=10$
$3a=5$

$-\frac{5}{3}$ 9 9 10

$10-x>0$
$10>x$

$10-x \neq 1$
$x \neq 9$

Ans. (D)

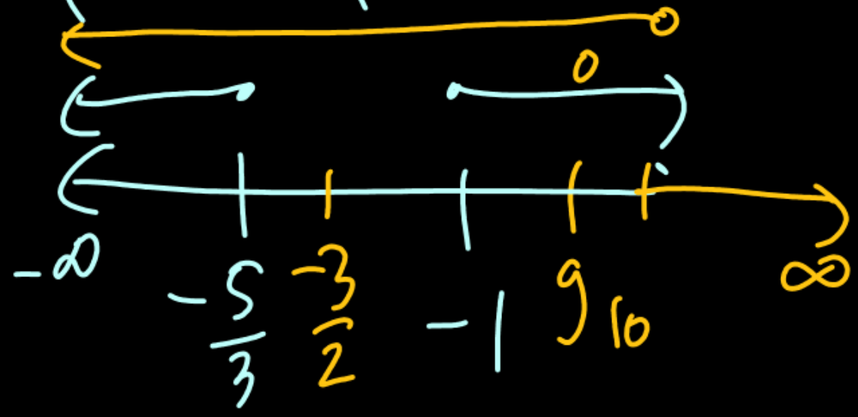
$\left|\frac{x+2}{2x+3}\right| \leq 1$

$|x+2| \leq |2x+3|$

$(x+2)^2 \leq (2x+3)^2$

$(2x+3)^2-(x+2)^2 \geq 0$

$(3x+5)(x+1) \geq 0$



$[x] = -2$ if $-2 \le x < -1$ $\quad -1 \le x < 0$, $[x] = -1$

Q) $\int_{\frac{-\pi}{2}}^{\frac{\pi}{2}} \frac{dx}{[x]+5}$ **is equal to: ([.] denotes greatest integer function)**

(A) $\frac{\pi}{4} - \frac{1}{10}$ **(B)** $\frac{\pi}{4} - \frac{1}{20}$ **(C)** $\frac{\pi}{\frac{\pi}{2}} - \frac{1}{10}$ **(D)** $\frac{\pi}{4} - \frac{1}{5}$

$$\int_{-\frac{\pi}{2}}^{-1} \frac{dx}{-2+5} + \int_{-1}^{0} \frac{dx}{-1+5} + \int_{0}^{1} \frac{dx}{0+5} + \int_{1}^{\frac{\pi}{2}} \frac{dx}{1+5}$$

$$= \frac{1}{3}\left(-1+\frac{\pi}{2}\right) + \frac{1}{4}(0+1) + \frac{1}{5}(1-0) + \frac{1}{6}\left(\frac{\pi}{2}-1\right)$$

$$= \left(\frac{\pi}{6}+\frac{\pi}{12}\right) - \frac{1}{3} + \frac{1}{4} + \frac{1}{5} - \frac{1}{6} = \frac{\pi}{4} \quad -\frac{1}{4}+\frac{1}{5} = \frac{\pi}{4} - \frac{1}{20}$$

Ans. (B)

Q) If $6\int_1^x f(t)dt = 3x\,f(x) + x^3 - 4$, then find the value of $f(2) - f(3)$

$6f(x) = 3xf'(x) + 3f(x) + 3x^2$

$f(x) = y \Rightarrow 6y = 3x\frac{dy}{dx} + 3y + 3x^2$

$3y = 3x\frac{dy}{dx} + 3x^2$

$\frac{dy}{dx} - \frac{y}{x} = -x$

$IF = e^{\int -\frac{1}{x}dx} = e^{-\ln x} = \frac{1}{x}$

$\frac{y}{x} = \int \frac{1}{x}(-x)dx$

$\frac{y}{x} = -x + c$

$y = f(x) = -x^2 + cx$

$x = 1 \Rightarrow 0 = 3f(1) - 3 \Rightarrow f(1) = 1$

$c = 2$

$f(x) = -x^2 + 2x$

$f(2) - f(3) = 0 - (-3) = 3$

Ans. (3)

Q) The coefficient of x^{48} in

$$1\cdot(1+x)+2\cdot(1+x)^2+3\cdot(1+x)^3+\ldots.+100\cdot(1+x)^{100} \text{ is}$$

(A) $\left({}^{101}C_{46}\right)-100$ **(B)** $100\left({}^{101}C_{46}\right)-{}^{101}C_{47}$

✓ **(C)** $100\left({}^{101}C_{49}\right)-{}^{101}C_{50}$ **(D)** ${}^{101}C_{47}-{}^{101}C_{46}$

$$y = 1(1+x)+2(1+x)^2+\cdots+99(1+x)^{99}+100(1+x)^{100}$$

$$(1+x)y = \quad +1(1+x)^2 \pm \cdots\cdots \pm 99(1+x)^{100} \pm 100(1+x)^{101}$$

Ans. (C)

$$-xy = (1+x)+(1+x)^2+\cdots+(1+x)^{100}-100(1+x)^{101}$$

$$-xy = (1+x)\left(\frac{(1+x)^{100}-1}{(1+x)-1}\right) - 100(1+x)^{101}$$

$$y = \frac{(1+x)-(1+x)^{101}}{x^2} + \frac{100(1+x)^{101}}{x}$$

$$x^{48} = 100\,{}^{101}C_{49} - {}^{101}C_{50}$$

Q) Let M = {1, 2, 3, …, 16} and R be a relation on M defined by xRy if and only if 4y = 5x – 3. Then, the number of elements required to added in R to make it symmetric is

(A) 3 **(B) 2** **(C) 5** **(D) 4**

Ans. (B)

$xRy \Rightarrow 4y = 5x - 3$ $\quad x, y \in \{1, 2, 3 \cdots 16\}$

$y = \frac{5x-3}{4}$ $\quad 1 \le y \le 16 \Rightarrow 1 \le \frac{5x-3}{4} \le 16$

$x = 3, y = 3$
$x = 7, y = 8$
$x = 11, y = 13$

$R = \{(3,3), (7,8), (11,13)\}$
$add = (8,7), (13,11)$

$\Rightarrow \frac{7}{5} \le x \le \frac{67}{5}$
$x = 2, 3, -13$

Q) The solution of the differential equation $xdy - ydx = \sqrt{x^2 + y^2}\,dx$ is (where c is integration constant)

(A) $\sqrt{x^2 + y^2} = cx^2 - y$

(B) $\sqrt{x^2 + y^2} = cx^2 + y$

(C) $\sqrt{x^2 + y^2} = cx - y$

(D) $\sqrt{x^2 + y^2} = cx + y$

$$\frac{x\,dy - y\,dx}{x^2} = \frac{\sqrt{x^2+y^2}}{x^2}\,dx$$

$$d\left(\frac{y}{x}\right) = \sqrt{1+\left(\frac{y}{x}\right)^2}\cdot\frac{1}{x}\,dx$$

$$\int \frac{d(y/x)}{\sqrt{1+(y/x)^2}} = \int \frac{1}{x}\,dx$$

$$\ln\left(\frac{y}{x} + \sqrt{1+(y/x)^2}\right) = \ln(x) + \ln(c)$$

$$\frac{y}{x} + \sqrt{\frac{x^2+y^2}{x^2}} = cx \quad \Big| \quad \sqrt{x^2+y^2} = cx^2 - y$$

Ans. (A)

Q) The number of values of x satisfying $\tan^{-1}(4x) + \tan^{-1}(6x) = \frac{\pi}{6}$ and $x \in \left[-\frac{1}{2\sqrt{6}}, \frac{1}{2\sqrt{6}}\right]$ is

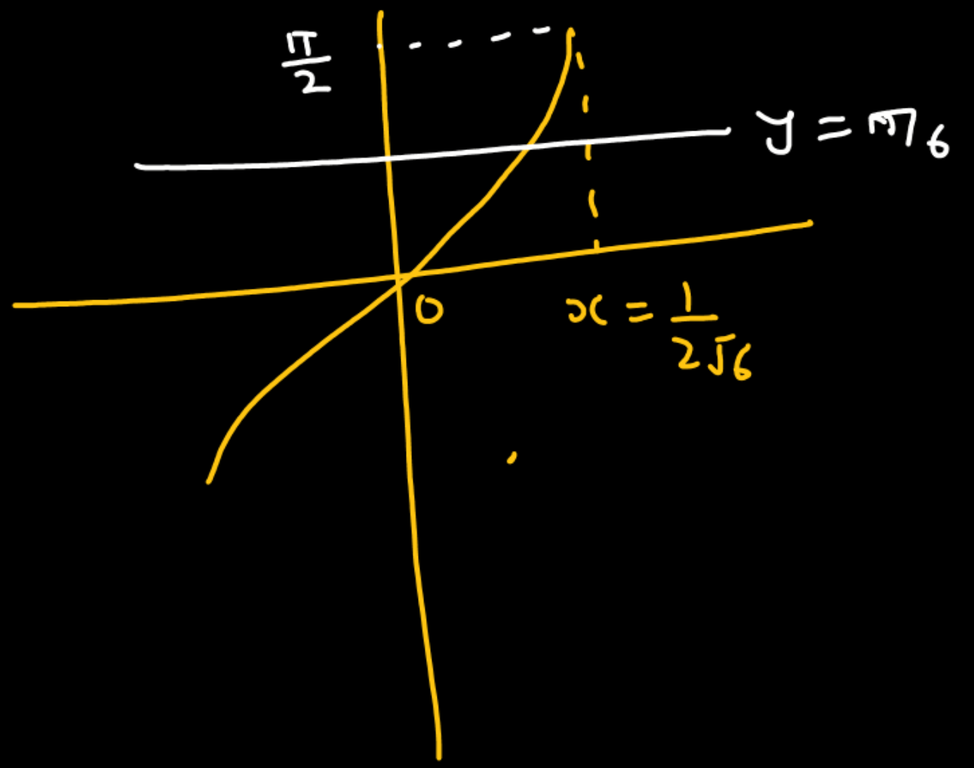
(A) 0 **(B) 1** **(C) 2** **(D) 3**

Let $F(x) = \tan^{-1}(4x) + \tan^{-1}(6x)$

$$F'(x) = \frac{4}{1+16x^2} + \frac{6}{1+36x^2} > 0$$

$F(x) \uparrow$ (Strictly inc

$(4x)(6x) = 24x^2 = 1$



Ans. (B)

Q) If $\frac{\cos^2 48^\circ - \sin^2 12^\circ}{\sin^2 24^\circ - \sin^2 6^\circ} = \frac{\alpha + \sqrt{5}\beta}{2}$. Then, the value of $(\alpha + \beta)$ is

(A) 3 (B) 2 (C) 11 (D) 4

$$\frac{\cos 60^\circ \cos 36^\circ}{\sin(30^\circ)\sin 18^\circ} = \frac{\frac{1}{2}\,\frac{\sqrt{5}+1}{4}}{\frac{1}{2}\,\frac{\sqrt{5}-1}{4}} = \frac{\sqrt{5}+1}{\sqrt{5}-1} = \frac{(\sqrt{5}+1)^2}{4}$$

$$= \frac{6+2\sqrt{5}}{4} = \frac{3+\sqrt{5}}{2}$$

$\alpha = 3 \quad \beta = 1$

$\alpha + \beta = 4$

Ans. (D)

Q) If

$$\int (\cos x)^{-5/2} (\sin x)^{-11/2} dx = \frac{p_1}{q_1} (\cot x)^{9/2} + \frac{p_2}{q_2} (\cot x)^{5/2} + \frac{p_3}{q_3} (\cot x)^{1/2} - \frac{p_4}{q_4} (\cot x)^{-3/2} + c$$

(where c is constant of integration), then value of $\frac{15 p_1 p_2 p_3 p_4}{q_1 q_2 q_3 q_4}$ is

(A) 16 **(B) 14** **(C) 10** **(D) 9**

Ans. (A)

$$\int \frac{dx}{(\sin x)^{11/2} (\cos x)^{5/2} (\cos x)^{11/2}}$$

$$= \int \frac{\sec^2 x \sec^6 x \, dx}{(\tan x)^{11/2}} \qquad \tan x = t$$

$$\int \frac{(1+t^2)^3 dt}{t^{11/2}} = \int \frac{(1+t^6+3t^2+3t^4)}{t^{11/2}} dt$$

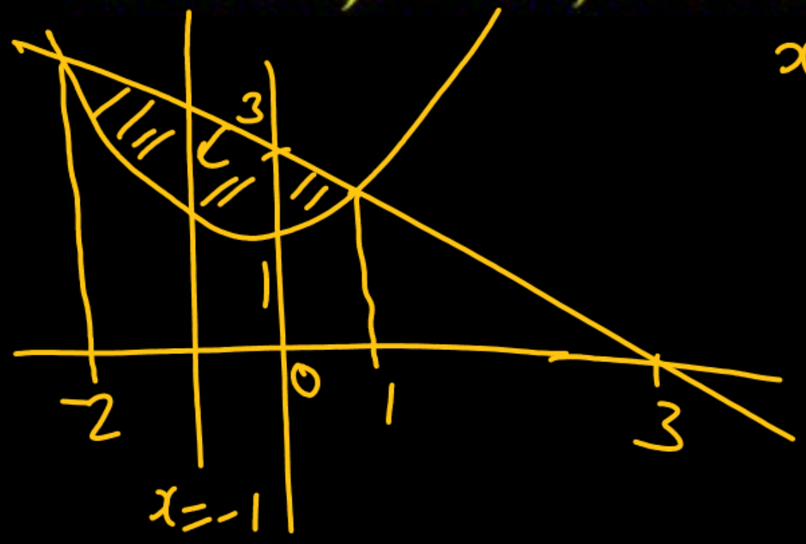
$$= \int (t^{-11/2} + t^{1/2} + 3t^{-7/2} + 3t^{-3/2}) dt$$

$$\frac{2t^{-9/2}}{-9} + \frac{2t^{3/2}}{3} + \frac{3(2)t^{-5/2}}{-5} + \frac{3(2)t^{-1/2}}{-1} + c$$

$$-\frac{2}{9}(\cot x)^{+9/2} + \frac{2}{3}(\cot x)^{3/2} - \frac{6}{5}(\cot x)^{5/2} - 6(\cot x)^{1/2} + c$$

$$\frac{15 \times (-2)(-2)(-6)(-6)}{9 \times 3 \times 5 \times 8} = 16$$

Q) If the area of the region $\{(x, y): x^2 + 1 \le y \le 3 - x\}$ is divided by the line $x = -1$ in the ratio m: n (where m and n are coprime natural numbers). Then, the value of m + n is



$x^2+1=3-x$

$x^2+x-2=0$

$(x+2)(x-1)=0$

$x=-2, 1$

$$\frac{m}{n}=\frac{\int_{-2}^{-1}(3-x-x^2-1)\,dx}{\int_{-1}^{1}(3-x-x^2-1)\,dx}=\frac{\frac{7}{6}}{\frac{10}{3}}$$

$$=\frac{7}{20}$$

$m+n=27$

Ans. (27)

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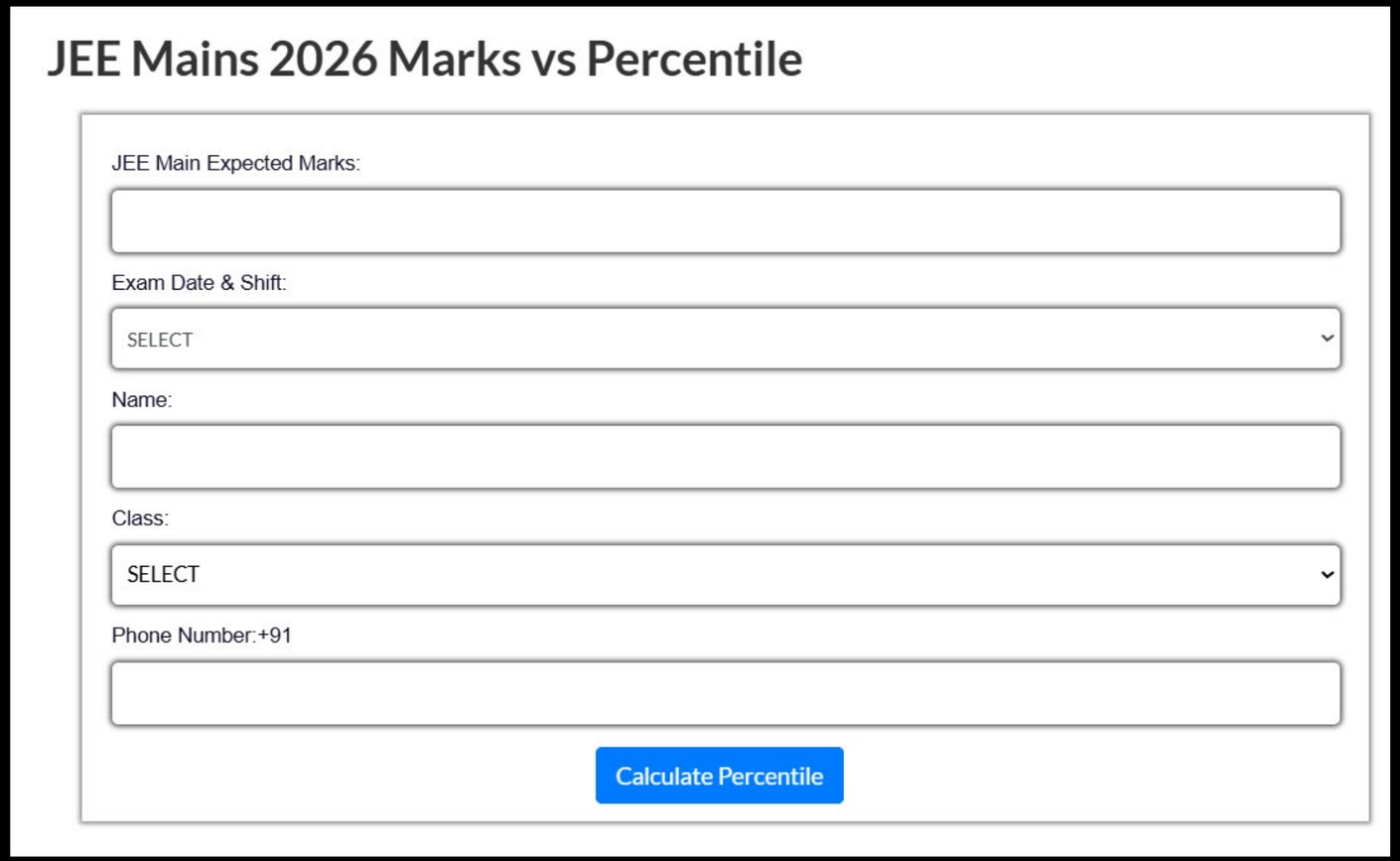

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