

SINCE 1984  **Brilliant**[®]
STUDY CENTRE, PALA

JEE MAIN 2026

SESSION-2 SHIFT-2 EVENING



SCAN ME

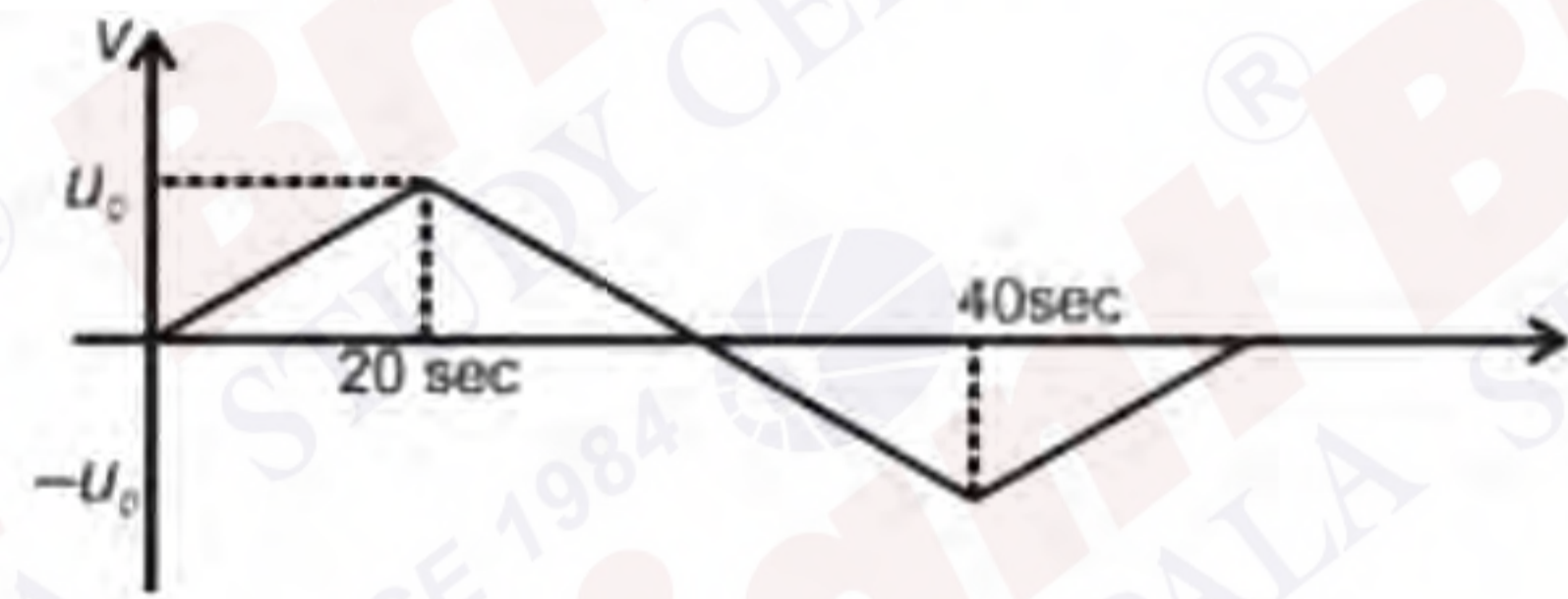
VIDEO SOLUTION APRIL 05, 2026 SUNDAY

MEMORY BASED QUESTIONS

QN Escape velocity on earth is $v_e = \sqrt{2gR}$. A planet of half the radius of earth will density equal to that of earth, the escape speed shall be $\frac{v_e}{N}$ then N is

QN Find dimensions of $\sqrt{\frac{Gh}{C^s}}$
 1) ML^2T^{-1} 2) $M^0L^0T^1$ 3) M^0LT^{-1} 4) $M^0L^0T^{-1}$

QN Velocity versus time graph

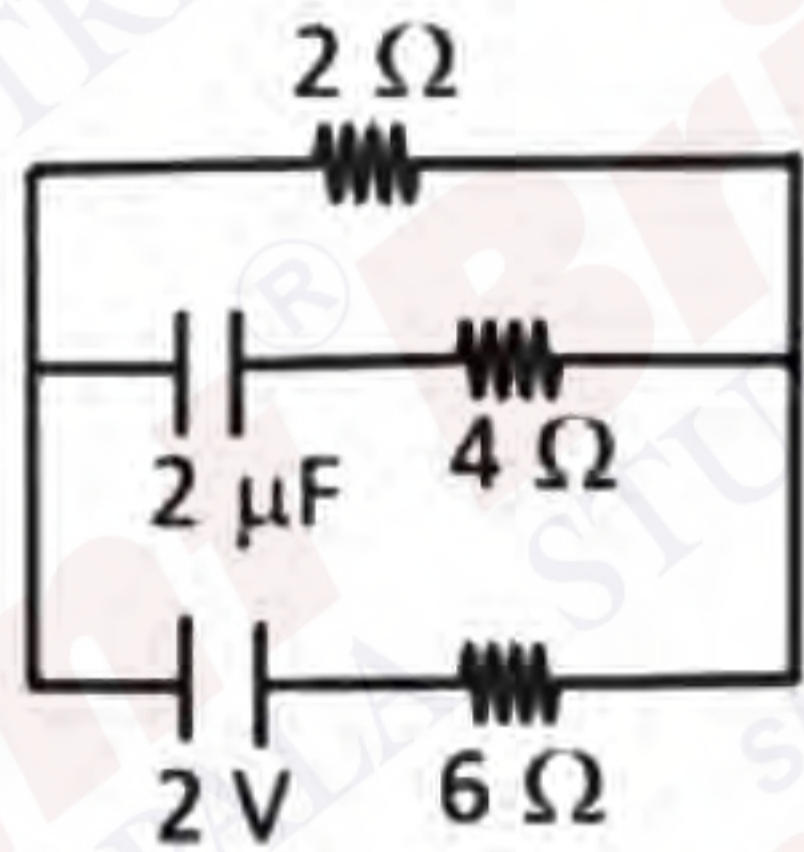


Find magnitude of acceleration of the particle at $t = 5$ sec

- 1) $u_0/10$ 2) $u_0/20$
 3) $u_0/5$ 4) $u_0/4$

QN 8Hg drops coalesce to form a new drop. Ratio of final surface energy of single drop to total surface energy of 8 drops is
 1) 1/4 2) 1/8 3) 1/2 4) 1

QN In circuit below, find voltage across capacitor in steady state

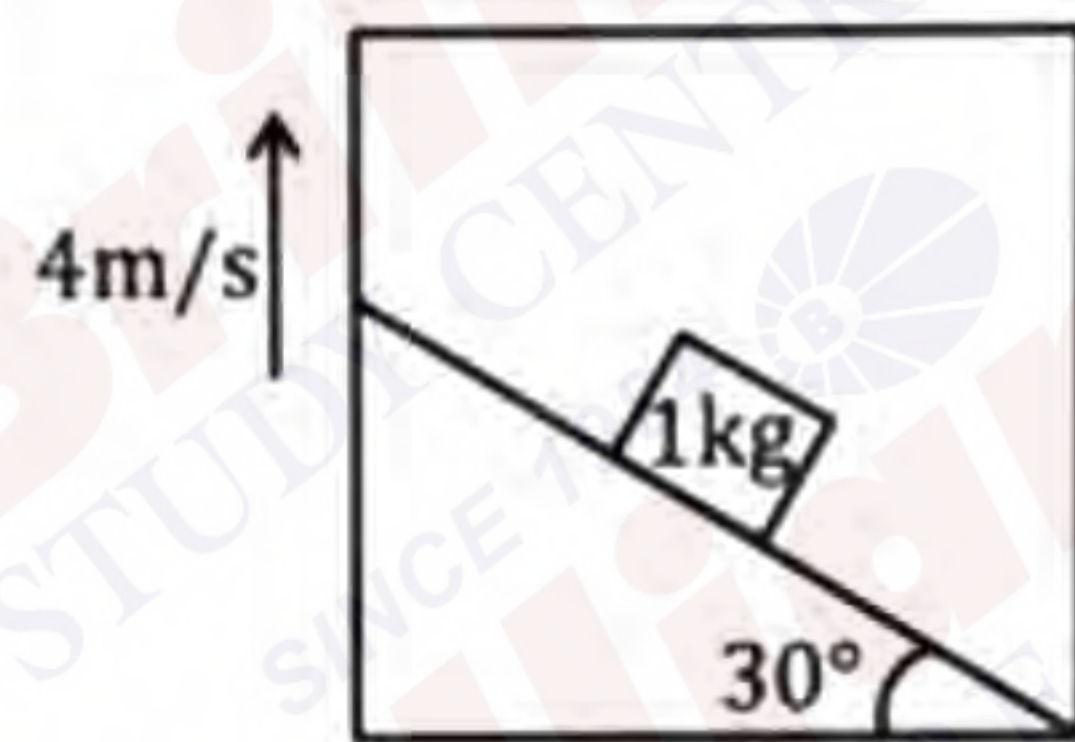


- 1) 1V 2) 0.5V 3) 3/2 V 4) 4V

QN If xgm of water at 50°C cools to 0°C, the heat released is H. If (100-x)gm of water at 50°C is completely vaporised, the heat required is also H. Find x
 1) 8gm 2) 20gm 3) 92.18gm 4) 80gm

QN 8 small liquid drops combined to form a bigger drop. Surface tension of liquid is T. Find change in surface potential energy
 1) $32\pi r^2 T$ 2) $16\pi r^2 T$ 3) $8\pi r^2 T$ 4) $6\pi r^2 T$

QN Friction is sufficient so that the block do not slide. Find work done by friction in 2 sec.



- (1) 45 (2) 40 (3) 20 (4) 10

QN A particle of mass m moves from height 2R above earth surface to surface of earth. Find change in P.E. (R is radius of earth)

- 1) $\frac{-2GMm}{3R}$ 2) $\frac{-GMm}{3R}$ 3) $\frac{-GMm}{R}$ 4) $\frac{GMm}{4R}$

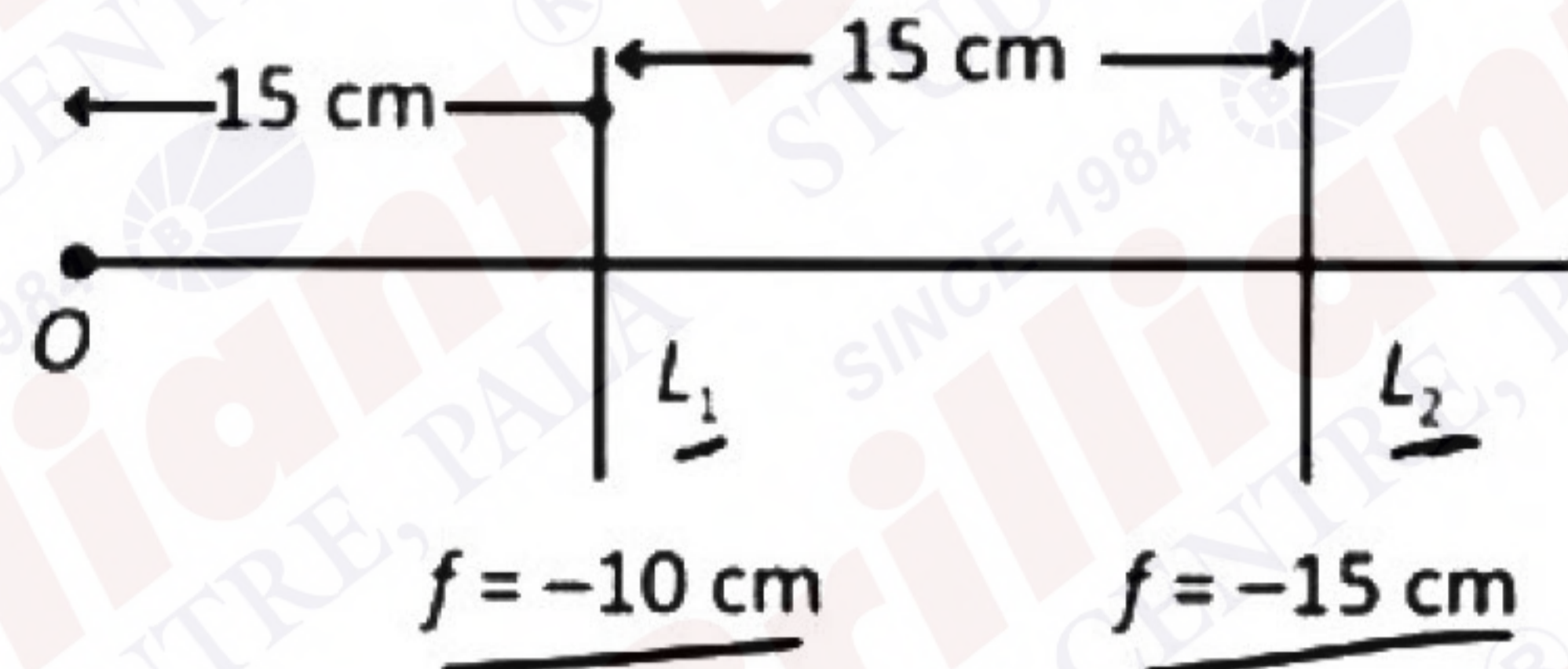
QN

Magnetic field $B = (2t^2 + 2t + 4)$ T is passing perpendicularly through a coil of radius $r = 20$ cm. Resistance of the coil is $R = 10 \Omega$. Find current through the coil at $t = 3$ sec.

- 1 $I = 8\pi \times 10^{-2}$ A 2 $I = 3.2\pi \times 10^{-2}$ A
 3 $I = 7.2\pi \times 10^{-2}$ A 4 $I = 5.6\pi \times 10^{-2}$ A

QN

Two concave lens are placed at separation of 15 cm, find final image of object O.



- 1 $\frac{35}{2}$ cm from L_2 & virtual 2 $\frac{17}{2}$ cm from L_1 & real
 3 $\frac{35}{4}$ cm from L_2 & virtual 4 $\frac{17}{2}$ cm from L_2 & real

If across a resistance, voltage applied is (20 ± 0.2) V and current passing through it is (10 ± 0.1) A. Find maximum errors in resistance :

QN

- (1) 0.04 (2) 0.05 (3) 0.06 (4) 0.07

QN

Magnetic field at a distance x from centre of rod is $B_0 e^{-\lambda x}$, find induced emf between ends of metallic rod.

- (1) $B_0 \omega (1 - e^{-\lambda L} (1 + \lambda L)) / \lambda^2$
 (2) $B_0 \omega (L - e^{-\lambda L} (1 + \lambda L)) / \lambda^2$
 (3) $B_0 \omega (L - e^{-2\lambda L} (1 + \lambda L)) / \lambda^2$
 (4) $B_0 \omega (2L - e^{-\lambda L} (1 + \lambda L)) / \lambda^2$

QN

Given below are two statements:

Statement I: Glucose is found to exist in two different anomeric form α and β

Statement II: In open chain structure C_2 , C_4 , C_5 of glucose & fructose both have same orientation

In the light of above statements choose the correct option.

- 1 Both statement I and statement II are correct
- 2 Statement I is correct but statement II is incorrect
- 3 Statement I is incorrect but statement II is correct
- 4 Both statement I and statement II are incorrect

QN

Given below are two statements:

Statement I: The shape of ICl_3^- is square planar

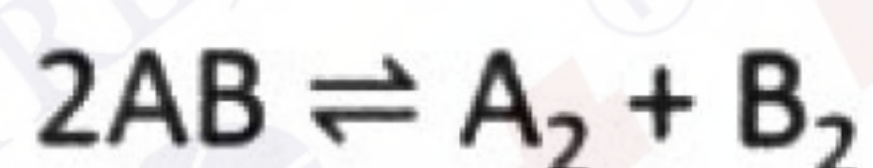
Statement II: The shape of $ClBr_2^-$ is pyramidal

In the light of above statements choose the correct option.

- 1 Both statement I and statement II are correct
- 2 Statement I is correct but statement II is incorrect
- 3 Statement I is incorrect but statement II is correct
- 4 Both statement I and statement II are incorrect

QN

Consider the following equilibrium -

If equilibrium pressure is P and degree of dissociation is α , then K_p is

1 $\frac{\alpha^2}{4(1-\alpha)^2}$

2 $\frac{\rho \cdot \alpha^2}{4(1-\alpha)}$

3 $\frac{\rho \cdot \alpha}{(1-\alpha)}$

4 $\frac{\rho \cdot \alpha}{4(1-\alpha)}$

QN

Which compound have total molecular mass of 72 with three primary carbons

1) n - pentane

2) 2,2-Dimethylbutane

3) 1,1-Dimethylcyclopropane

4) 2- methylbutane

QN

The order of acidic strength in following compounds is

A. Phenol

B. p - nitrophenol

C. Ethanol

D. p -methoxyphenol

1) B > A > D > C

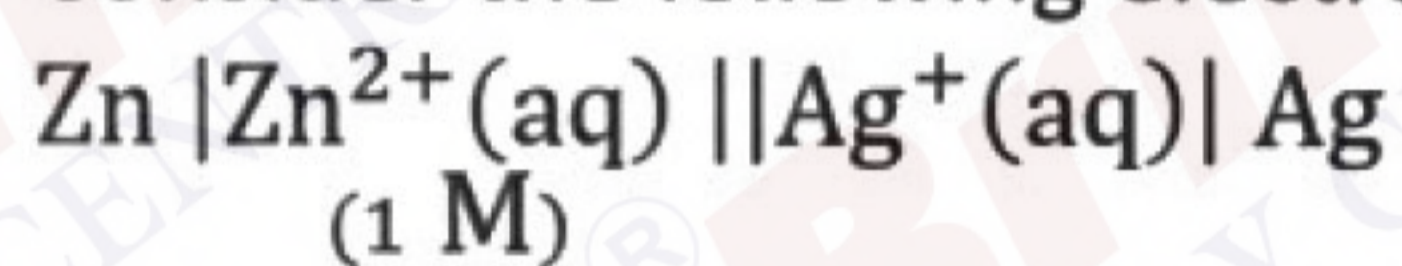
2) C > B > A > D

3) B > D > A > C

4) B > A > C > D

QN

Consider the following electrochemical cell

The E_{cell} was found to be 1.6 V.The value of $\log[\text{Ag}^+]$ isGiven $E_{\text{Zn}^{2+}/\text{Zn}}^{\circ} = -0.76 \text{ V}$, $E_{\text{Ag}^+/\text{Ag}}^{\circ} = -0.8 \text{ V}$

1 $\frac{1}{3}$

2 $\frac{2}{3}$

3 $\frac{3}{2}$

4 $\frac{4}{3}$

QNAq. solution of a compound 'X' is acidified with H_2SO_4 and SO_2 is passed through it. Turning the solution green. The compound 'X' is1) KMnO_4 2) $\text{Pb}(\text{CH}_3\text{COO})_2$ 3) $\text{K}_2\text{Cr}_2\text{O}_7$ 4) $\text{Fe}_2(\text{SO}_4)_3$ **QN** RMgX reacts with H_2O and release gas which has volume $1.4 \text{ dm}^3/\text{gm}$ at . The gas reacts with Na in presence of dry ether to form 'Y'. Find molar mass of x & y**QN**Benzamide on reaction with $\text{Br}_2 + \text{NaOH}$ gives benzenamine (Aniline) on nitration of aniline meta product is formed more than its ortho product**QN**

Column I

1) Simple distillation

2) Fractional distillation

3) Steam distillation

4) Distillation under reduced pressure

Column II

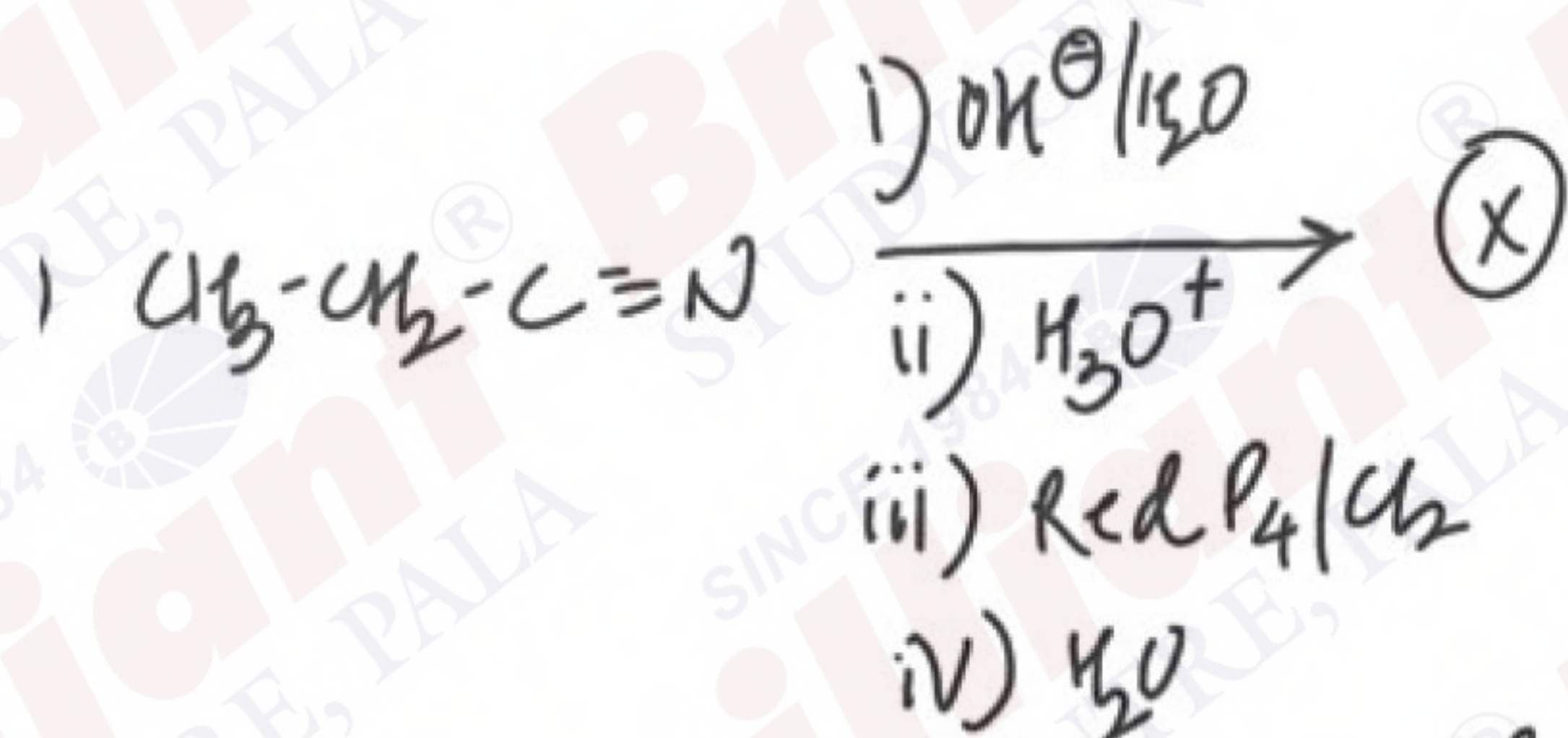
P) Steam volatile compound

Q) for liquids having nature of decomposition.

R) Between two liquids having low diff. in B.pt

S) Between two liquids having high diff. in B.pt.

QN



IUPAC name of major product is:-

- A) 2-chloropropanoic acid
- B) 3-chloropropanoic acid
- C) Propanoyl chloride
- D) 2-hydroxypropanoic acid

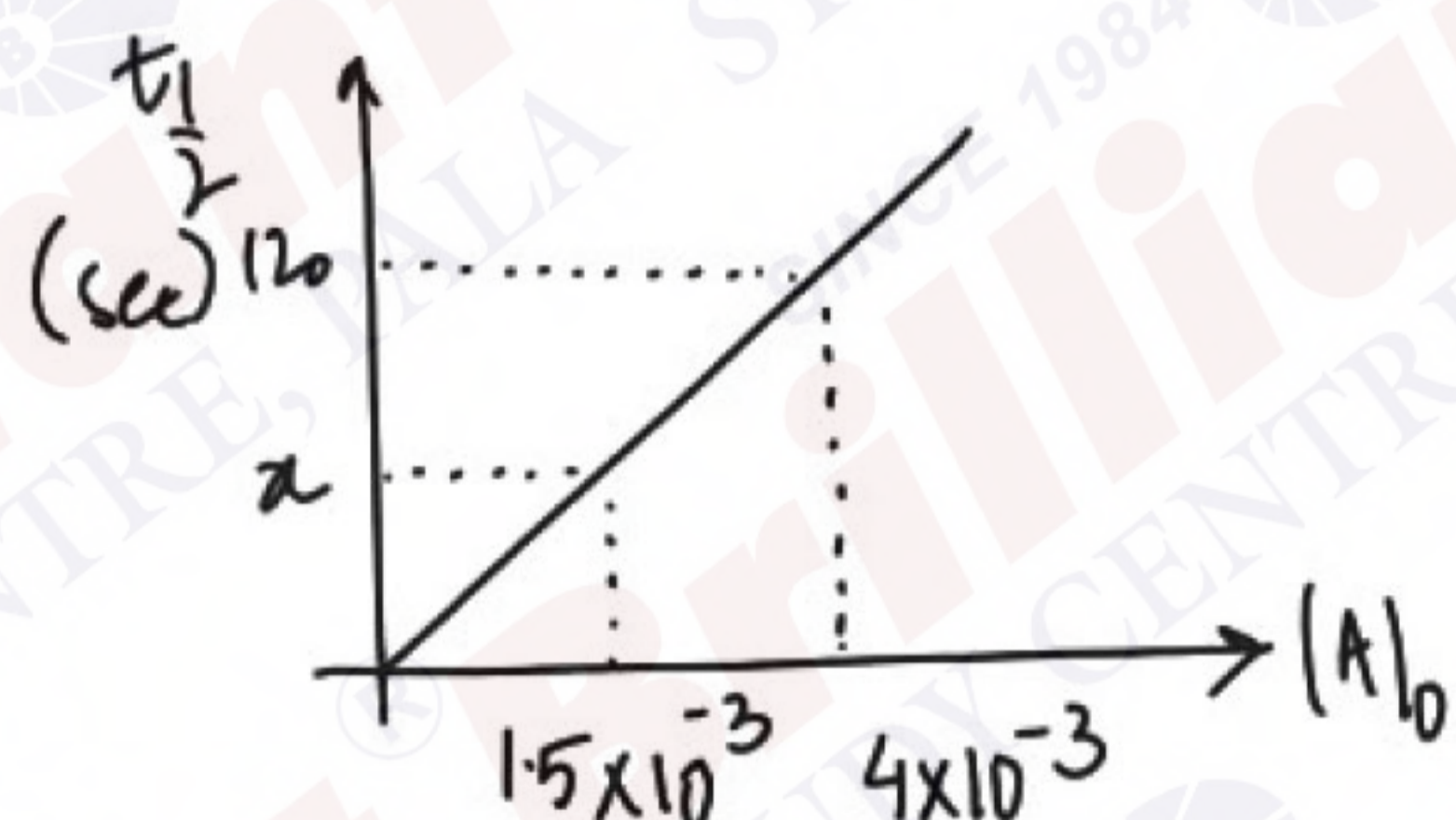
QN

Which compound has a total molecular mass of 77 with three primary carbons?

- 1) n-heptane 2) 2,2-Dimethyl butane 3) 1,1-Dimethylcyclopropane 4) 2-methyl butane

QN

For the reaction $A \rightarrow \text{product}$. Following graph is observed



Find 'x'

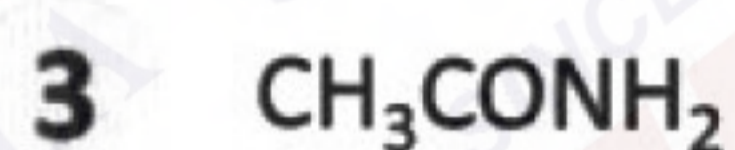
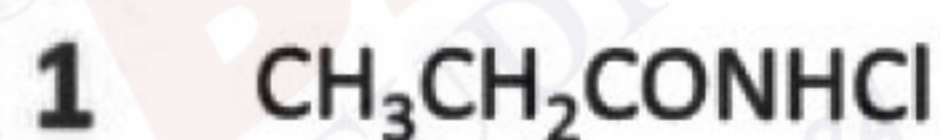
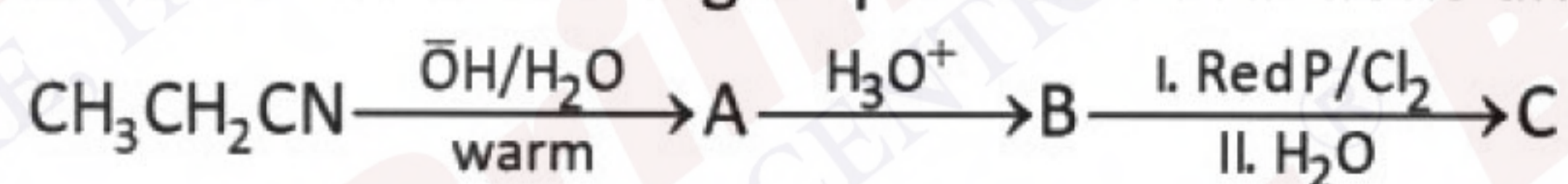
QN

Compare stability order

- 1) Cis-but-2-ene
- 2) 1,3-dimethyl but-2-ene
- 3) 2-methyl but-2-ene
- 4) propene

QN

Consider the following sequence of reactions and determine the final major product (C) is _____



QN The coefficient of x^2 in the binomial expansion of $\left(2x^2 + \frac{1}{x}\right)^{10}$ is

- 1) 3260 2) 3360 3) 1760 4) 1890

QN If it is given that probability of A, becoming captain of the team is 0.8 and B becomes captain is 0.4. If A becomes captain then chance of winning the match by the team is 0.6 and when B becomes captain then chances of team winning the match is 0.7. Then the probability that team wins the match is

- 1) 0.76 2) .78 3) 0.74 4) 0.84

QN Let $A = \{2, 3\}$ and $B = \{5, 6\}$. Then, the number of relations from $A \times B$ to $A \times B$ are

- 1) 2^{12} 2) 2^{16} 3) 2^{10} 4) 2^{15}

QN A bag contains 4 red balls, 6 yellow balls and 5 blue balls. In how many ways we can select 8 balls such that we get at least two balls of each colour, is

QN Let $A_1, A_2, A_3, \dots, A_{49}$ be 49 AM's between 49 and 149. Then the mean of A_1, A_{25}, A_{47} and A_{49} is

- 1) 110 2) 120 3) 130 4) 140

QN The value of $\sum_{r=1}^{10} \frac{r}{4+r^4}$ is equal to

- 1) $\frac{4832}{123565}$ 2) $\frac{4565}{12322}$ 3) $\frac{4565}{12321}$ 4) $\frac{4564}{12321}$

QN If α, β are the roots of the equation $x^2 - 4x + p = 0$ and γ and δ are the roots of the equation $x^2 - x + q = 0$. When $\alpha, \beta, \gamma, \delta$ form a GP with positive common ratio, then the value of $p + q$ is

- 1) $\frac{22}{9}$ 2) $\frac{33}{9}$ 3) $\frac{21}{9}$ 4) $\frac{34}{9}$

QN Foci of hyperbola are $(3, 5)$ and $(3, -4)$. Eccentricity of hyperbola satisfied by $3c^2 - 11c - 6 = 0$, find LR of hyperbola

QN If Z_1 and Z_2 are roots of equation $Z^2 + 4Z - (1 + 12i) = 0$, where $Z \in$ complex number, then the value of $|Z_1|^2 + |Z_2|^2$ is

- 1) 34 2) 37 3) 42 4) 45

QN Let $f(x) = \lim_{y \rightarrow 0} \frac{(1 - \cos(xy)) \tan(xy)}{y^3}$ then the number of point of intersection of $f(x) = \sin x$ is

- 1) 1 2) 2 3) 3 4) 4

QN If distance of point $(a, 2, 5)$ from image of point $(1, 2, 7)$ in the line $\frac{x}{1} = \frac{y-1}{1} = \frac{z-2}{2}$ is 4, then sum of all possible values of a is

- 1) 4 2) 5 3) 6 4) 8