

# JEE MAIN 2026

## SESSION-2 SHIFT-2 EVENING



SCAN ME

**VIDEO SOLUTION**  
**APRIL 06, 2026**  
**MONDAY**

**MEMORY BASED  
QUESTIONS**

**QN** Minimum deviation for an equilateral prism is  $30^\circ$ , refractive index is

- 1)  $\sqrt{2}$                       2)  $\sqrt{3/2}$                       3) 2                                  4) 4

**QN** If system is given below is released from rest, then find speed of 6kg block just before hitting ground. ( $g = 10\text{m/s}^2$ )



- 1) 6.20 m/s                      2) 7.74m/s                      3) 4.70m/s                      4) 5.20m/s

**QN** Find electric field, for given electrostatic potential field, at point p(2, 3);  $v = 5(x^2 - y^2)$ .

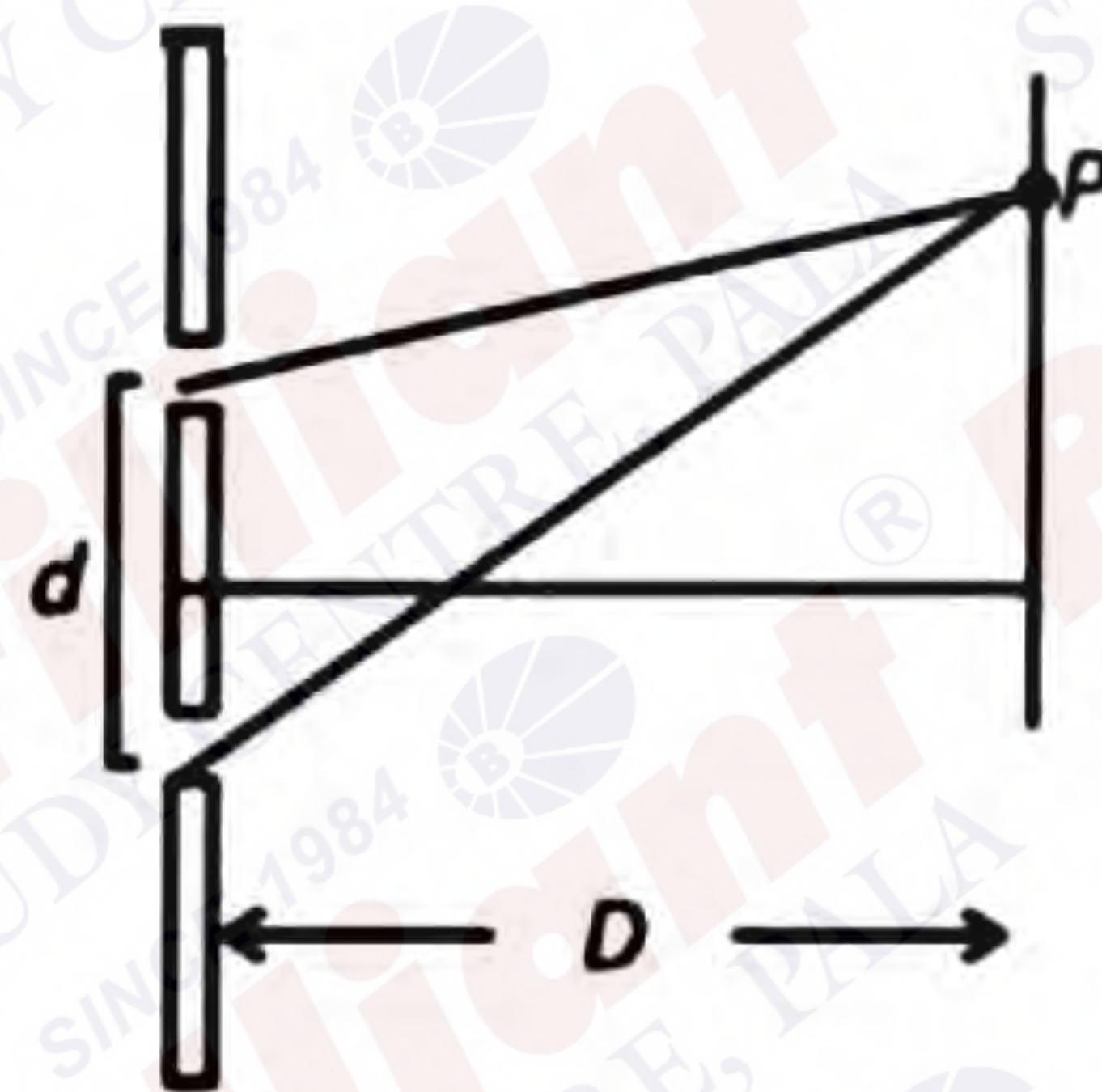
- 1)  $-20\hat{i} + 30\hat{j}$                       2)  $20\hat{i} + 30\hat{j}$                       3)  $30\hat{i} - 20\hat{j}$                       4)  $30\hat{i} + 20\hat{j}$

**QN** If percentage change in radius of sphere is 2%, then find % change in the volume of sphere

**QN**  $H_1^2 + H_1^2 \rightarrow He_2^4$  Binding energy per nucleon of  $H_1^2$  and  $H_2^4$  are 1.1 MeV and 7eV respectively. Find energy released in the nuclear reaction given above.

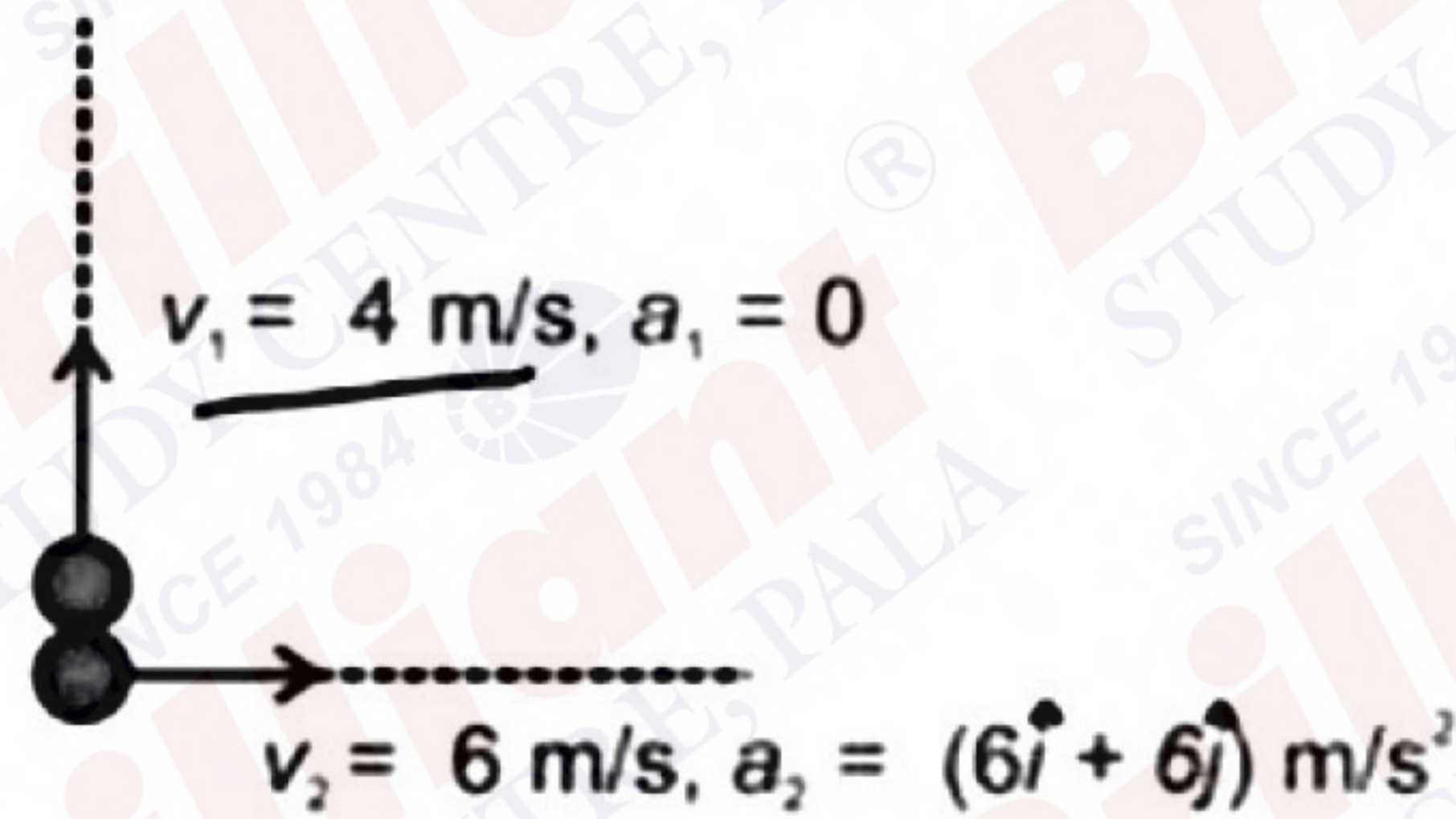
- 1) 23.6 MeV                      2) 24.a MeV                      3) 5.9 MeV                      4) 3 MeV

**QN** In standard YDSE wavelength  $\lambda = 7000 \text{ \AA}$ ,  $d = 5 \text{ mm}$ ;  $D = 50 \text{ cm}$ .  $I_0$  is the intensity due to individual source on the screen. P is the point on screen such that intensity of 'P' is equal to  $I_0$ . Find the minimum distance of 'P' from center of screen.



- 1)  $35 \mu\text{m}$                       2)  $\frac{70}{3} \mu\text{m}$                       3)  $17.5 \mu\text{m}$                       4)  $50 \mu\text{m}$

**QN** For two equal masses. One of the mass is having initial velocity  $v_1 = 4 \text{ m/s } \hat{j}$  and acceleration  $a_1 = 0 \text{ m/s}^2$ . Other having initial velocity of  $v_2 = 6 \text{ m/s } \hat{i}$  and acceleration  $= (6\hat{i} + 6\hat{j})\text{m/s}^2$ . Initially both were located at origin. Find the trajectory of centre of mass.



- 1) Circular                      2) Ellipse                      3) Parabolic                      4) Straight line

**QN** When mass 200 g hangs from ceiling via spring in equilibrium, the extension in the spring is observed to be 2 mm. Find angular frequency of its SHM & energy stored in spring in equilibrium position are respectively

- 1) 50 rad/s & 2 mJ                      2)  $50\sqrt{2}$  rad/s & 2 mJ  
3) 100 rad/s & 4 mJ                      4) 150 rad/s & 4 mJ

**QN** A galvanometer is used for making an ammeter of range 500 mA when a shunt of  $2\Omega$  is used. The same galvanometer is used for making a voltmeter of range 10V when a resistance of  $470 \Omega$  is used in series. Then find resistance of galvanometer.

- (1)  $30 \Omega$                       (2)  $50 \Omega$                       (3)  $10 \Omega$                       (4)  $100 \Omega$

**QN** moles of monoatomic ideal gas has temperature T and 6 moles of monoatomic ideal gas has temperature 2T. Find the temperature of mixture.

- (1)  $\frac{7T}{4}$                       (2)  $\frac{3T}{4}$                       (3)  $\frac{4T}{4}$                       (4) 7T

**QN** Solid sphere (1) of mass  $5M$ , hollow sphere (2) of mass  $M$  are pulled tangentially without slipping. Acceleration  $a_1$  and  $a_2$  are in ratio of \_\_\_\_\_. Radius are shown in diagram

- 1) 5/21                      2) 1                      3) 3/7                      4) 5/3

**QN** 2 moles of ideal mono-atomic gas at temperature T and 6 moles of ideal diatomic gas at temperature 2T are mixed together. Find the equilibrium temperature of mixture.

- 1)  $\frac{13}{6}T$                       2)  $\frac{11}{8}T$                       3)  $\frac{13}{8}T$                       4)  $\frac{11}{6}T$



QN

Consider the following statements and choose the correct option

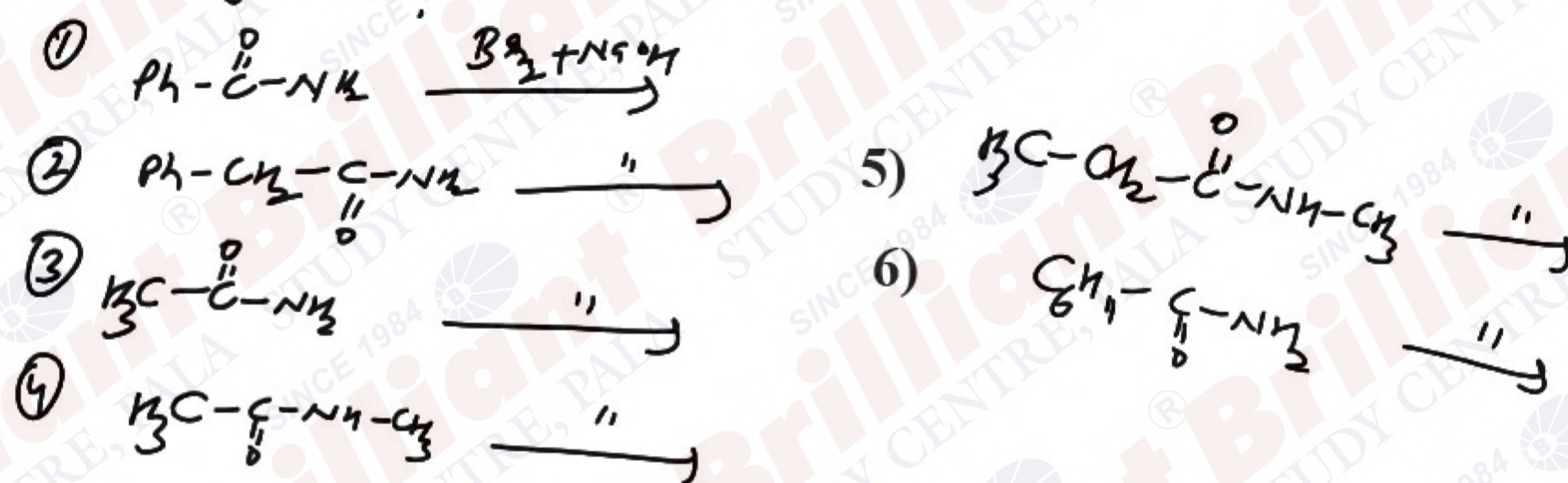
Statement I : Out of SF<sub>4</sub>, SF<sub>6</sub>, H<sub>2</sub>S, SO<sub>2</sub> and SO<sub>3</sub> molecules, only 4 molecules do not follow octet

Statement II : H<sub>2</sub>O, SO<sub>2</sub> and H<sub>2</sub>S have only 1 lone pair on central atom

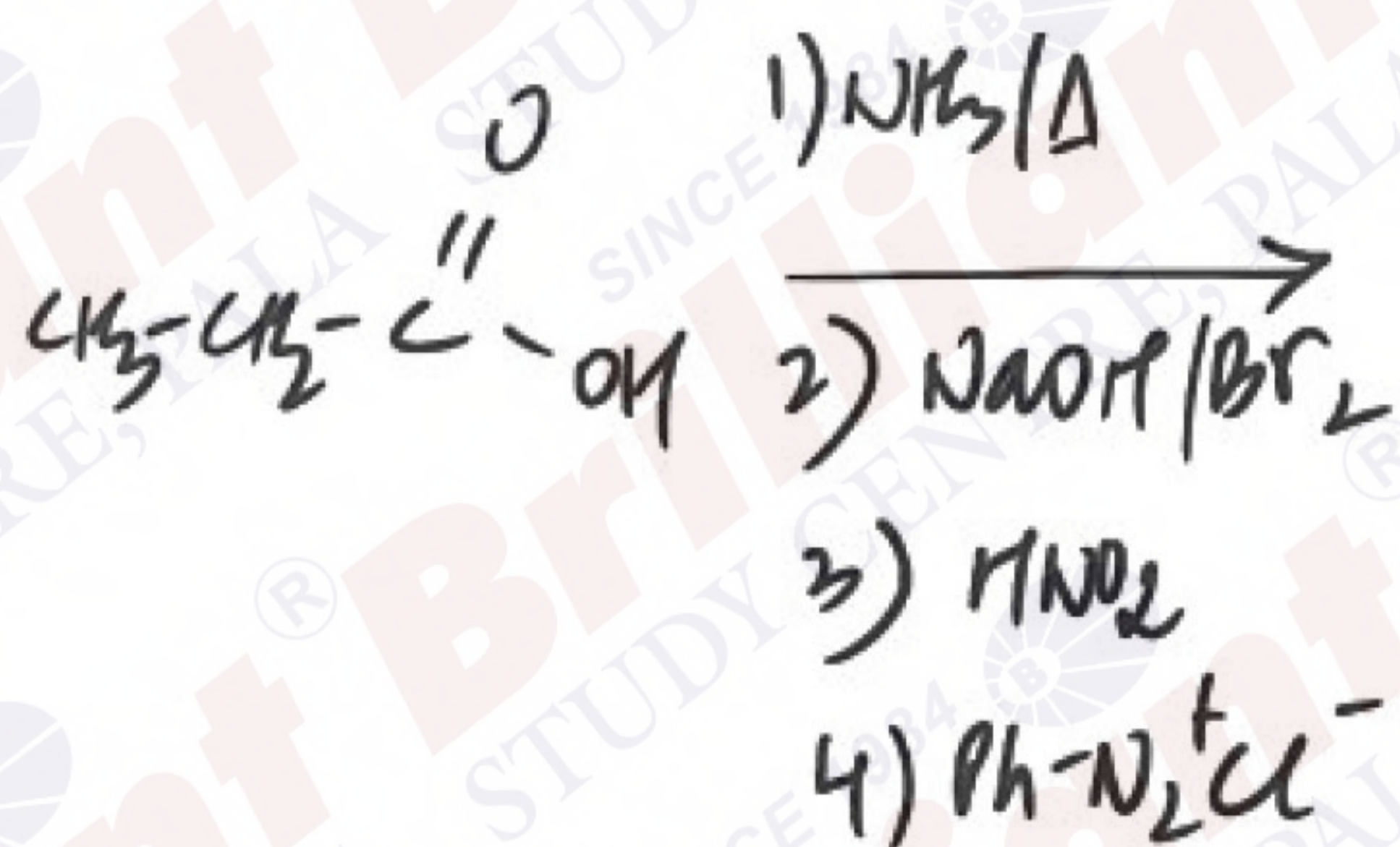
- 1 Statement I is correct, statement II is incorrect
- 2 Statement I is incorrect, statement II is correct
- 3 Both statement I and statement II are correct
- 4 Both statement I and statement II are incorrect

QN

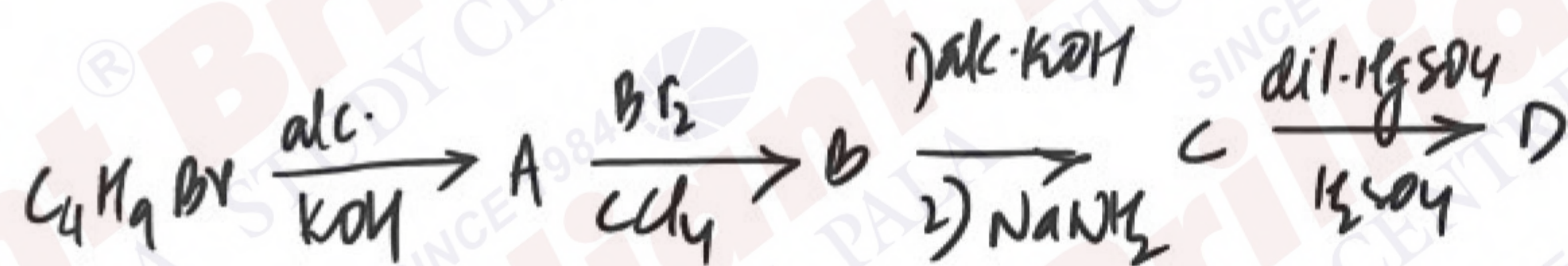
How many products are also formed by Gabriel phthalimide synthesis?



QN



QN



Which of the following test give confirmation of functional group in D :-

- a) Haloform test
- b) Benedict test
- c) Lucas test
- d) none

**QN** The area (in square units) of the region  $\{(x, y) : x^2 - 8xy - x\}$  is

- 1)  $\frac{343}{6}$       2)  $\frac{241}{6}$       3)  $\frac{221}{6}$       4)  $\frac{323}{6}$

**QN** Sum of  $1 + \frac{1}{2}(1^2 + 2^2) + \frac{1}{3}(1^2 + 2^2 + 3^2) + \dots$  to 10 terms is

- 1)  $\frac{313}{2}$       2)  $\frac{315}{2}$       3) 313      4) 315

**QN**  $\int_{-1}^1 \frac{x^3 + |x| + 1}{x^2 + |x| + 1} dx$

- 1)  $\ln 3 - \frac{\pi}{3\sqrt{3}}$       2)  $\ln 3 + \frac{\pi}{3\sqrt{3}}$       3)  $\frac{\pi}{3\sqrt{3}}$       4)  $\frac{-\pi}{3\sqrt{3}}$

**QN** The value of x for which  $\sin^{-1}\left(\frac{2}{3}\sqrt{1-x^2}\right) = \cot^{-1}(2\sqrt{x})$  is

- 1) 1/2      2) 1/4      3) 1/8      4) 1/9

**QN** Matrix  $A = \begin{bmatrix} 1 & 0 & 0 \\ 3 & 1 & 0 \\ 3 & 3 & 1 \end{bmatrix}$  and matrix  $[b_{ij}] = B = A^{99} - I_3$ , then the value of  $\left(\frac{b_{31} + b_{32}}{b_{21}}\right)$  is equal

to

**QN**  $\vec{a} = 2\hat{i} + 3\hat{j} + 3\hat{k}$        $\vec{b} = 6\hat{i} + 3\hat{j} + 3\hat{k}$

If  $2\vec{a} + 3\vec{b}$  and  $\vec{a} - \vec{b}$  are two adjacent side of a triangle the the square of area of triangle is

- 1) 1800      2) 900      3) 902      4)

**QN** If  $\alpha$  and  $\beta$  are the roots of the equation  $z^2 - \sqrt{6} iz - 3 = 0$ , then find  $\alpha^8 + \beta^8$

**QN** The shortest distance between the lines  $\frac{x-4}{1} = \frac{y-3}{2} = \frac{z-2}{-3}$  and  $\frac{x+2}{2} = \frac{y-6}{4} = \frac{z-5}{-5}$  is,

**QN** The sum of all possible values of  $\theta \in [0, 2\pi]$  for which the system of equations:

$$x \cos 3\theta - 8y - 12z = 0 \qquad x \cos 2\theta + 3y + 3z = 0 \qquad x + y + 3z = 0$$

has a non - trivial solution, is equal to

- 1)  $\pi$       2)  $3\pi$       3)  $2\pi$       4)  $4\pi$

**QN** Consider the function  $f: \mathbb{R} \rightarrow \mathbb{R}$  such that  $f(x) = \frac{2x^2 + x + 2}{3x^2 + 2x + 3}$  then  $f(x)$  is

- 1) one - one & onto      2) one-one & into      3) many one & onto      4) many one & into

**QN** A circle has centre in the 1<sup>st</sup> quadrant and touches the x-axis at a distance of 3 units from the origin and cutoff an intercept of  $6\sqrt{3}$  on y-axis. Then, the length of chord having ....  $x-y=1$  intercepted by the circle is

- 1)  $2\sqrt{7}$       2)  $3\sqrt{7}$       3)  $\sqrt{7}$       4)  $4\sqrt{7}$