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The correct order of ionisation energy of Cl, S, P, Al, Si is

- a) $\text{Cl} > \text{P} > \text{S} > \text{Si} > \text{Al}$
- b) $\text{P} > \text{Cl} > \text{S} > \text{Al} > \text{Si}$
- c) $\text{Cl} > \text{S} > \text{P} > \text{Si} > \text{Al}$
- d) $\text{Cl} > \text{Al} > \text{Si} > \text{P} > \text{S}$

?

Given below are two statements.

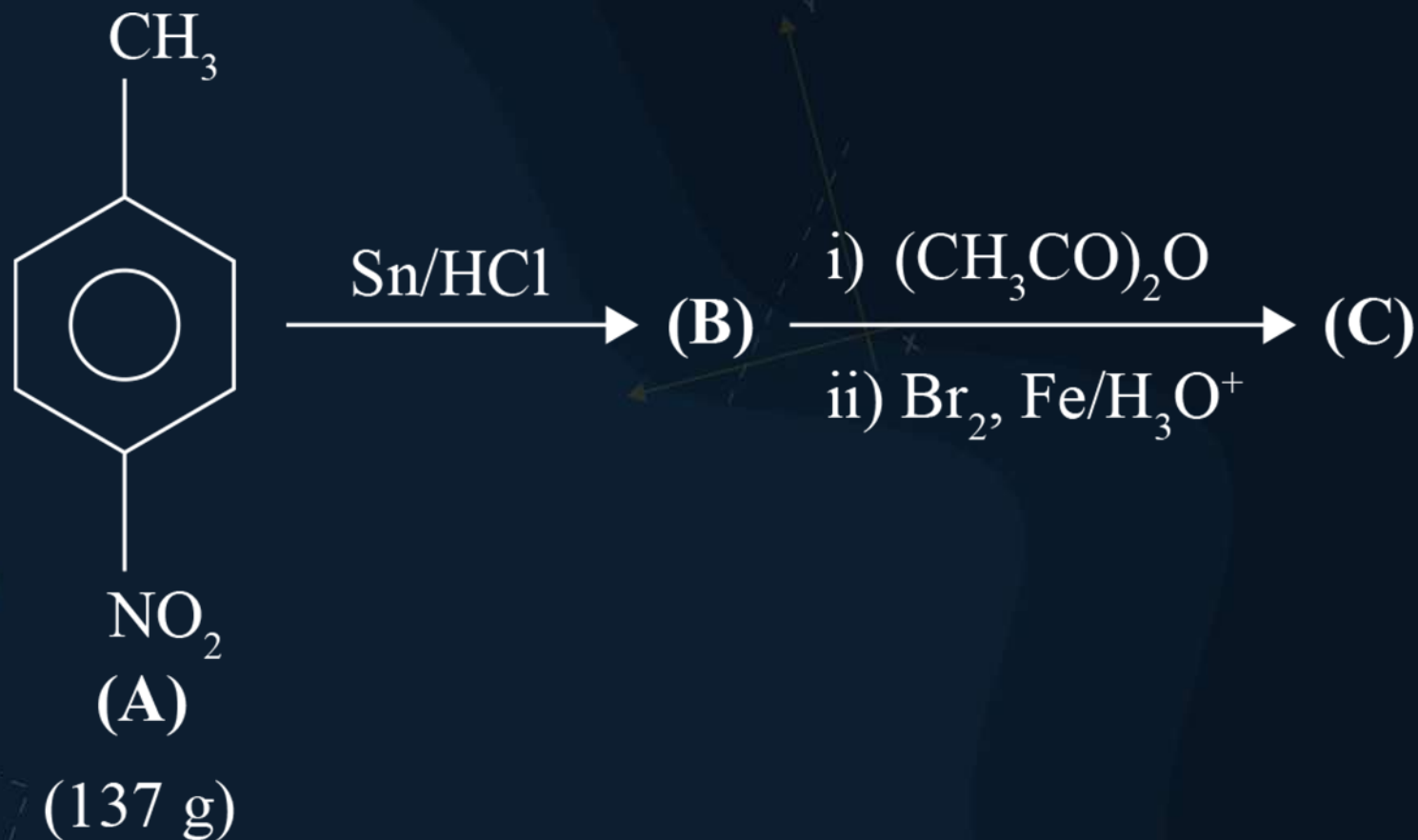
Statement I : $[\text{CoBr}_4]^{2-}$ absorbs lesser energy than $[\text{CoCl}_4]^{2-}$

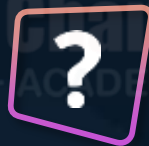
Statement II : $[\text{CoCl}_4]^{2-}$ has higher crystal field splitting energy than $[\text{CoBr}_4]^{2-}$

In the light of the above statements, which is the correct option.

- a) Both statement-I and statement-II are correct
- b) Both statement-I and statement-II are incorrect
- c) Statement-I is correct and statement-II is incorrect
- d) Statement-I is incorrect and statement-II is correct

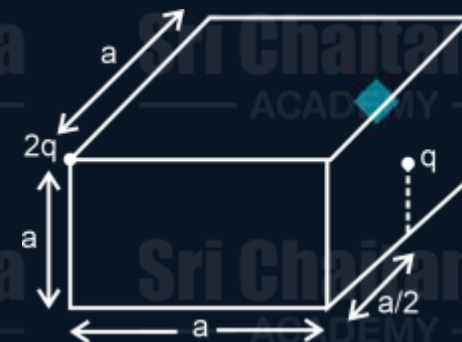
In the reaction sequence, what is the mass (in grams) of product (C) formed?





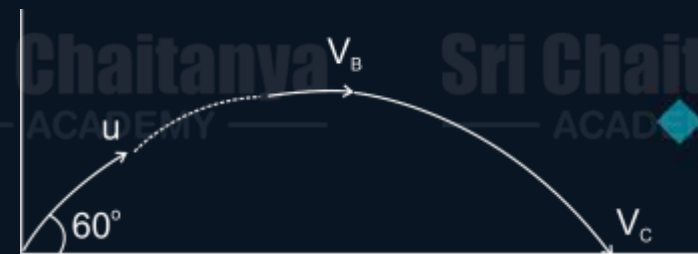
There are two point charges, one at vertex and other at face of a cube as shown in the figure. Find electric flux through the cube.

- A. $3q/\epsilon_0$
- B. q/ϵ_0
- C. $3q/4\epsilon_0$
- D. $5q/\epsilon_0$



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If a projectile is being launched with speed v and angle of projection is 60° with horizontal. Find the ratio of speed at highest point to the speed at final point.



23rd Jan. Shift-1

Memory Based Questions

?

Find de - broglie wavelength of O_2 molecule.Given mass of O_2 molecule is m_{O_2} and the Temp is 27°C .

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A rectangle is formed by lines $x = 0, y = 0, x = 3, y = 4$. A line perpendicular to $3x + 4y + 6 = 0$ divides the rectangle into two equal parts, then the distance of the line from $(-1, \frac{3}{2})$ is

A) 2

B) $\frac{17}{10}$ C) $\frac{6}{5}$ D) $\frac{8}{5}$

?

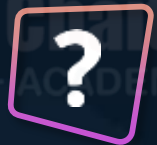
Number of 4 letters words with or without meaning formed from the letters of the word PQRSSSTTUVV is

- A) 1232
- B) 1400
- C) 1422
- D) 1162

$$? \cdot 50.100C_{50} + 51.100C_{51} + \dots + 100.100C_{100} =$$

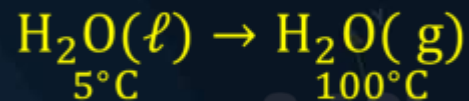
?

$$\int_{\frac{\pi}{24}}^{\frac{5\pi}{24}} \frac{dx}{1 + \sqrt[3]{\tan 2x}} =$$

 $\int \frac{(2-x^2)e^x}{\sqrt{1+x} \cdot (\sqrt{1-x})^3} dx =$

?

For the following change,



Select the correct answer:

1) $q = +\text{ve}, w = +\text{ve}, \Delta H = +\text{ve}$

2) $q = -\text{ve}, w = -\text{ve}, \Delta H = +\text{ve}$

3) $q = +\text{ve}, w = -\text{ve}, \Delta H = +\text{ve}$

4) $q = -\text{ve}, w = -\text{ve}, \Delta H = -\text{ve}$

?

- A) Ionic radii of trivalent cations of Group 13 elements decrease down the group.
- B) Electronegativity of Group 13 elements decreases down the group.
- C) Among the Group 13 elements, boron has the highest first ionisation enthalpy.
- D) The trichlorides and triiodides of Group 13 elements are covalent in nature.

Choose the correct answer from the options given below:

- 1) B and D only
- 2) A and D only
- 3) C and D only
- 4) A and C only

?

Given below are two statements.

Statement I : Sublimation is used for the separation and purification of compounds with low melting point.

Statement II : The boiling point of a liquid increases as the external pressure is reduced.

In the light of the above statements, which is the correct option.

- a) Both statement-I and statement-II are correct
- b) Both statement-I and statement-II are incorrect
- c) Statement-I is correct and statement-II is incorrect
- d) Statement-I is incorrect and statement-II is correct

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Given,

(A) $n=5, m_l=-1$

(B) $n=3, l=2, m_l=-1, m_s=+1/2$

The maximum number of electrons in an atom that can have the given quantum numbers in (A) and (B) respectively are:

1) 6 and 1

2) 4 and 1

3) 8 and 1

4) 2 and 4

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Correct order of +3 ionic radii among B, Al, Ga, In, Tl.

