

Q2. Consider the sequence of number $\left[n + \sqrt{2n} + \frac{1}{2} \right]$ for, $n \geq 1$ where $[.]$ means GIF.
If missing Z^+ in sequence are $n_1 < n_2 < n_3 < \dots$, find n_{12} .

A 29
B 5
C 78
D None of these

Q. If S_p denote sum of the series $1 + r^p + r^{2p} + \dots \infty$ and s_p denote the sum $1 - r^p + r^{2p} - r^{3p} + \dots \infty$, $|r| < 1$, then $S_p + s_p$ equals

A $2S_{2p}$
B 0
C $\frac{1}{2}S_{2p}$
D $-\frac{1}{2}S_{2p}$

Q. If $y = y(x)$ be the solution of differential equation $\frac{dy}{dx} + \tan x \cdot y = \sin x$. If $y(0) = 0$. Then $y\left(\frac{\pi}{4}\right) = ?$

For a damped oscillator, damping constant is 20 gm/s, mass is 500g. Find time taken for the amplitude to become half the initial?

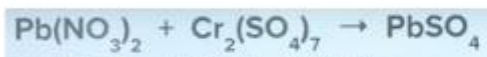
Answer C

- A** 50
- B** $\ln 2$
- C** $50 \ln 2$
- D** $\frac{25}{2} \ln 2$

Which of the following cannot be reduced by coke ?

A FeO

B Al_2O_3



$\text{Pb}(\text{NO}_3)_2 = 35 \text{ ml}, 0.15 \text{ M}$

$\text{Cr}_2(\text{SO}_4)_7 = 20 \text{ ml}, 0.12 \text{ M}$

Find the moles of PbSO_4

S₁ : Sodium hydride can be used as an oxidizing agent.

S₂ : Pyridine is base because of lone pair .

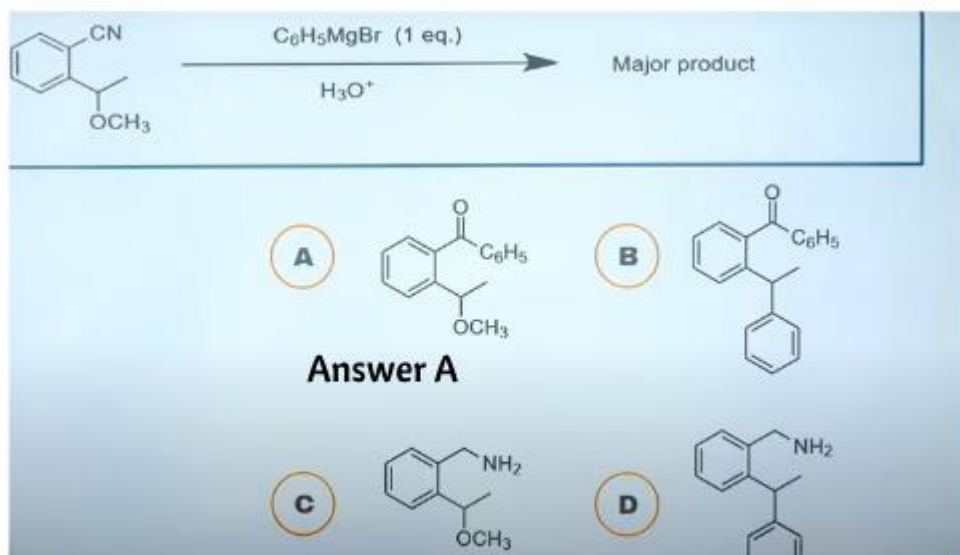
Which of the following is incorrect statement regarding H₂O₂ ?

- A** It is used both as oxidising agent and reducing agent
- B** It is used in effluents.
- C** Both hydroxyl groups are present in the same plane.

Answer C

The constituents of greenhouse gases :

- I** CO_2 **A** Only I
II H_2O **B** I and II
III CH_4 **C** I, II, III
IV O_3 **D** All of these
- Answer D**



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