

JEE Main 2026 April 6 Shift 1 Chemistry

Question Paper

Conducted by National Testing Agency (NTA)



General Instructions

- (i) The test is of 3 hours duration.
- (ii) This test paper consists of 75 questions. Each subject (PCM) has 25 questions. The maximum marks are 300.
- (iii) This question paper contains Three Parts. Part-A is Physics, Part-B is Chemistry and Part-C is Mathematics. Each part has only two sections: Section-A and Section-B.
- (iv) Section - A : Attempt all questions.
- (v) Section - B : Attempt all questions.
- (vi) Section - A (01 – 20) contains 20 multiple choice questions which have only one correct answer. Each question carries +4 marks for correct answer and –1 mark for wrong answer.
- (vii) Section - B (21 – 25) contains 5 Numerical value based questions. The answer to each question should be rounded off to the nearest integer. Each question carries +4 marks for correct answer and –1 mark for wrong answer.

1. Hydrolysis of sucrose follows 1st order kinetics to produce glucose and fructose. If $t_{1/2}$ for decomposition of sucrose is 3 hr, find the % of sucrose left after 6 hr.

2. If at infinite dilution, molar conductivities of BaCl_2 , HCl , and H_2SO_4 are x_1 , x_2 , x_3 $\text{S cm}^2\text{mol}^{-1}$ respectively. Find the solubility product of BaSO_4 .

Given K_{BaSO_4} (specific conductance) = x S cm^{-1}

- (A) $\left(\frac{x}{x_1+x_3-2x_2}\right)^2 \times 10^6$
 (B) $\left(\frac{x_1+x_3-2x_2}{x}\right)^2 \times 10^6$
 (C) $\left(\frac{x}{x_1+x_3-x_2}\right)^2 \times 10^3$
 (D) $\left(\frac{x_1+x_3-x_2}{x}\right)^2 \times 10^6$
-

3. For given four processes compare magnitude of work:

Process	Work
(I) Isothermal multistep Expansion	$\rightarrow W_1$
(II) Isothermal single-step Expansion	$\rightarrow W_2$
(III) Isothermal single-step Compression	$\rightarrow W_3$
(II) Isothermal multi-step Compression	$\rightarrow W_4$

- (A) $|W_1| > |W_2| > |W_3| > |W_4|$
 (B) $|W_1| < |W_2| < |W_3| < |W_4|$
 (C) $|W_1| < |W_3| < |W_2| < |W_4|$
 (D) $|W_2| < |W_1| < |W_4| < |W_3|$
-

4. A solution contains 0.25 moles of non-volatile solute dissolved in one mole of solvent. Then calculate the % vapor pressure of solution relative to the vapor pressure of pure solvent.

- (A) 20
 (B) 40
 (C) 60
 (D) 80
-

5. 1 mole of He and 1 mole A are taken in a 10 L rigid container at 400 K, and equilibrium $A \rightleftharpoons B$ is established. Calculate the partial pressure of He and B at equilibrium if $K_c = 4$.

- (A) 3.28 atm, 2.62 atm
 - (B) 2.6 atm, 3.28 atm
 - (C) 2.6 atm, 2.6 atm
 - (D) 3.28 atm, 3.28 atm
-

6. An oxide of iron contains 69.9% iron. Find its empirical formula.

(Given: Atomic masses Fe = 56, O = 16)

- (A) Fe_3O_4
 - (B) Fe_2O_3
 - (C) FeO_3
 - (D) FeO
-

7. Column-I and Column-II are given below. Match the correct list:

Column-I	Column-II
(P) 2s	(i) Radial node = 2 Angular node = 1
(Q) 3s	(ii) Radial node = 0 Angular node = 2
(R) 4p	(iii) Radial node = 1 Angular node = 0
(S) 3d	(iv) Radial node = 2 Angular node = 0

- (A) P-(iv), Q-(iii), R-(ii), S-(i)
- (B) P-(iii), Q-(i), R-(ii), S-(ii)
- (C) P-(i), Q-(ii), R-(iii), S-(i)
- (D) P-(ii), Q-(i), R-(iv), S-(iii)

8. For the reversible reaction at 300 K, $\Delta H^\circ = 28.4 \text{ KJ/mole}$ and equilibrium constant $K = 1.8 \times 10^{-7}$, then calculate the magnitude of ΔS° in Joule/K-mole.

[Given: $\log 2 = 0.3$, $\ln 10 = 2.3$, $R = 8.314 \text{ J/K.mole}$, $\log 3 = 0.47$]

9. If the minimum wavelength for H-atom in the Lyman series is 'x', then the maximum wavelength of the Balmer series of He^+ ion in terms of 'x' will be:

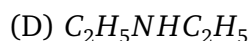
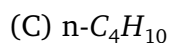
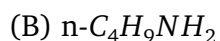
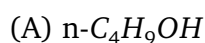
(A) $\frac{3}{4}x$

(B) x

(C) $\frac{9x}{5}$

(D) $\frac{5x}{9}$

10. Find the correct order of increasing boiling point in the following given molecules:



(A) $C < D < B < A$

(B) $A < B < D < C$

(C) $D < C < A < B$

(D) $B < C < D < A$

11. Match disease with the deficiency.

	Column-I		Column-I
(A)	Scurvy	(P)	Pyridoxine
(B)	Convulsions	(Q)	Vitamin-A
(C)	Cheilosis	(R)	Ascorbic acid
(D)	Xerophthalmia	(S)	Riboflavin

- (A) A-R ; B-P ; C-S ; D-Q
 (B) A-P ; B-R ; C-S ; D-Q
 (C) A-S ; B-P ; C-R ; D-Q
 (D) A-R ; B-S ; C-P ; D-Q

12. Statement-I: Al is more electropositive than Tl because, $E_{0Al^{3+}/Al}$ is negative and $E_{0Tl^{3+}/Tl}$ is positive.

Statement-II: For B-atom, the sum of the first three ionization energies is very high, thus it forms covalent compounds.

- (A) Both statement-I & statement-II are correct
 (B) Both statement-I & statement-II are incorrect
 (C) Statement-I is correct but statement-II is incorrect
 (D) Statement-I is incorrect but statement-II is correct

13. Which of the following pair of species have different Lewis structures?

- (A) SO_3^{2-} , CO_3^{2-}
 (B) O_2^{2-} , F_2
 (C) CN^- , CO
 (D) NH_3 , H_3O^+
 (E) MnO_4^- , CrO_4^{2-}

- (A) (A) only

- (B) (A) & (B) only
 - (C) (A) & (E) only
 - (D) (C) & (D) only
-

14. Consider the statements

- (A) In Zeigler-Natta catalyst, d-block central metal ion has spin magnetic moment of 2.84 BM.
- (B) In Zeigler-Natta catalyst, p-block element has +3 oxidation state.
- (C) Basic vanadium oxide is used in the production of H_2SO_4 .
- (D) Catalyst used in Wacker's process has central metal with d^8 configuration.

- (A) (A), (B) & (C) are correct
 - (B) (B) & (D) are correct
 - (C) (C) & (D) are correct
 - (D) (B), (C) & (D) are correct
-

15. Find the correct order of increasing boiling point in the following given molecules:

- (A) $n-C_4H_9OH$ (B) $n-C_4H_9NH_2$
- (C) $n-C_4H_{10}$ (D) $C_2H_5NHC_2H_5$

- (A) $C < D < B < A$
 - (B) $A < B < D < C$
 - (C) $D < C < A < B$
 - (D) $B < C < D < A$
-

16. Match disease with the deficiency.

	Column-I		Column-I
(A)	Scurvy	(P)	Pyridoxine
(B)	Convulsions	(Q)	Vitamin-A
(C)	Cheilosis	(R)	Ascorbic acid
(D)	Xerophthalmia	(S)	Riboflavin

- (A) A-R ; B-P ; C-S ; D-Q
 (B) A-P ; B-R ; C-S ; D-Q
 (C) A-S ; B-P ; C-R ; D-Q
 (D) A-R ; B-S ; C-P ; D-Q

17. Match with the tab test of amino acids.

Column-I

A → Glutamine

B → Lysine

C → Tyrosine

D → Serine

Column-II

I → Hinsberg test

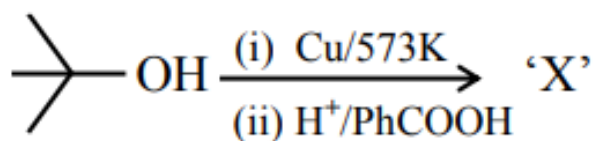
II → Neutral FeCl_3

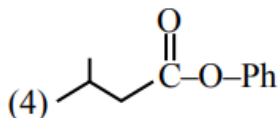
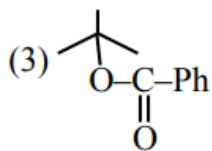
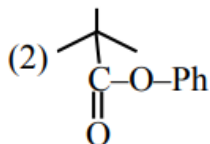
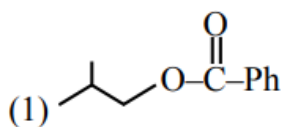
III → Ceric ammonium nitrate

IV → Hoffmann Bromamide

- (A) A → I, B → IV, C → III, D → II
 (B) A → IV, B → I, C → II, D → III
 (C) A → I, B → III, C → IV, D → II
 (D) A → IV, B → II, C → I, D → III

18. 'X' may be.





19. 4.7 g of phenol $\xrightarrow{Zn, \Delta}$ X

If the reaction goes to 60% yield of X, find the number of moles of 'X' formed.

20. Given below are two statements:

Statement-I: 2,4-Diethylcyclohexanone and 2-methyl-6-propylcyclohexanone are metameres.

Statement-II: 2,2,6,6-Tetraethylcyclohexanone will show tautomerism.

Choose the correct option:

- (A) Statement-I and Statement-II both are correct.
 - (B) Statement-I and Statement-II both are incorrect.
 - (C) Statement-I is correct but Statement-II is incorrect.
 - (D) Statement-I is incorrect but Statement-II is correct.
-

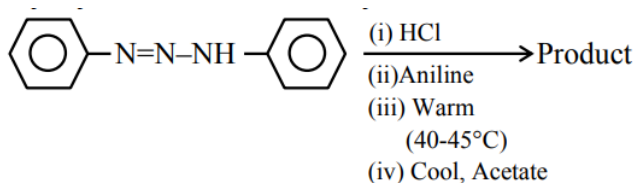
21. **Statement-I:** 3-Phenylprop-1-ene will react with HBr and give alkyl halide as the major product having 1 chiral carbon atom.

Statement-II: Aryl chloride and Aryl cyanide both can be formed by Gattermann and Sandmeyer reactions.

- (A) Both Statement I and Statement II are incorrect.
- (B) Statement I is correct but Statement II is incorrect.
- (C) Statement I is incorrect but Statement II is correct.

(D) Both Statement I and Statement II are correct.

22. Find the percentage of nitrogen in the final product.



23. Given below are two statements:

Statement-I: Methane can be prepared by decarboxylation of sodium acetate, by Kolbe's electrolysis, and by CH_3MgBr .

Statement-II: Methane can't be prepared by unsaturated hydrocarbon and by Wurtz reaction.

Choose the correct option:

- (A) Statement-I and Statement-II both are correct.
 - (B) Statement-I and Statement-II both are incorrect.
 - (C) Statement-I is correct but Statement-II is incorrect.
 - (D) Statement-I is incorrect but Statement-II is correct.
-