

JEE Main 2026 April 6 Shift 1 Chemistry

Question Paper (Memory Based)

Conducted by National Testing Agency (NTA)



General Instructions

- (i) **Duration:** The total duration of the examination is 1 hours (60 minutes).
- (ii) **Total Marks:** The complete Chemistry paper carries a maximum of 100 marks.
- (iii) **Structure:** The paper consists of two sections:
 - **Section A:** 20 Multiple Choice Questions (MCQs).
 - **Section B:** 5 Numerical Value Type Questions.
- (iv) **Compulsory Questions:** All 25 questions are compulsory.
- (v) Each question has four options. Only **one** option is correct.
- (vi) **Correct Answer:** +4 marks.
- (vii) **Incorrect Answer:** –1 mark (Negative marking).
- (viii) **Unanswered/Marked for Review:** 0 marks.

Chemistry

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

- (1) 50%
- (2) 25%
- (3) 12.5%
- (4) 75%

2. If at infinite dilution, molar conductivities of $BaCl_2$, HCl and H_2SO_4 , are x_1 , x_2 , $x_3 \text{ S} \cdot \text{cm}^2 \text{mol}^{-1}$ respectively. Find solubility product of $BaSO_4$. Given κ_{BaSO_4} (Specific conductance) $= xS \cdot \text{cm}^{-1}$

- (1) $\left(\frac{x}{x_1+x_3-2x_2}\right)^2 \times 10^6$
 (2) $\left(\frac{x_1+x_3-2x_2}{x}\right)^2 \times 10^6$
 (3) $\left(\frac{x}{x_1+x_3-x_2}\right)^2 \times 10^3$
 (4) $\left(\frac{x}{x_1+x_3-x_2}\right)^2 \times 10^6$
-

3. For given four processes compare magnitude of work

Process	Expansion/Compression	Work
(I)	Isothermal multistep Expansion	W_1
(II)	Isothermal single-step Expansion	W_2
(III)	Isothermal single-step Compression	W_3
(IV)	Isothermal multi-step Compression	W_4

Which of the following is correct option

- (1) $|W_1| > |W_2| > |W_3| > |W_4|$
 (2) $|W_1| < |W_2| < |W_3| < |W_4|$
 (3) $|W_1| < |W_3| < |W_2| < |W_4|$
 (4) $|W_2| < |W_1| < |W_4| < |W_3|$
-

4. A solution contain 0.25 moles of non-volatile solute dissolved in one mole of solvent. Then calculate % of vapour pressure of solution relative to vapour pressure of pure solvent?

- (1) 20
 (2) 40
 (3) 60
 (4) 80

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

- (1) 3.28 atm, 2.62 atm
- (2) 2.6 atm, 3.28 atm
- (3) 2.6 atm, 2.6 atm
- (4) 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)

- (1) Fe_3O_4
- (2) Fe_2O_3
- (3) FeO_3
- (4) FeO

7. Match Column-I with Column-II

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

Match the correct list -

- (1) P-(iv), Q-(iii), R-(ii), S-(i)
- (2) P-(iii), Q-(iv), R-(i), S-(ii)
- (3) P-(i), Q-(ii), R-(iii), S-(iv)
- (4) 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 magnitude of ΔS° in Joule/K-mole. [Given $\log 2 = 0.3$, $\ln 10 = 2.3$, $R = 8.314 \text{ J/K} \cdot \text{mole}$, $\log 3 = 0.47$]

- (1) 34 J/K-mole
 - (2) 44 J/K-mole
 - (3) 54 J/K-mole
 - (4) 24 J/K-mole
-

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

- (1) $\frac{3x}{4}$
 - (2) x
 - (3) $\frac{9x}{5}$
 - (4) $\frac{5x}{9}$
-

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

- (A) $n - \text{C}_4\text{H}_9\text{OH}$
- (B) $n - \text{C}_4\text{H}_9\text{NH}_2$
- (C) $n - \text{C}_4\text{H}_{10}$
- (D) $\text{C}_2\text{H}_5\text{NHC}_2\text{H}_5$

- (1) $\text{C} < \text{D} < \text{B} < \text{A}$
 - (2) $\text{A} < \text{B} < \text{D} < \text{C}$
 - (3) $\text{D} < \text{C} < \text{A} < \text{B}$
 - (4) $\text{B} < \text{C} < \text{D} < \text{A}$
-

11. Match disease with the deficiency.

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

- (1) A-R ; B-P ; C-S ; D-Q
 (2) A-P ; B-R ; C-S ; D-Q
 (3) A-S ; B-P ; C-R ; D-Q
 (4) A-R ; B-S ; C-P ; D-Q

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

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

- (1) Both statement-I & statement-II are correct
 (2) Both statement-I & statement-II are incorrect
 (3) Statement-I is correct but statement-II is incorrect
 (4) Statement-I is incorrect but statement-II is correct

13. Which of the following pair of specie(s) have different lewis structure

- (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-}

- (1) (A) only
 (2) (A) & (B) only
 (3) (A) & (E) only

(4) (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 production of H_2SO_4

(D) Catalyst used in wacker's process has central metal with d^8 configuration

(1) (A), (B) & (C) are correct

(2) (B) & (D) are correct

(3) (C) & (D) are correct

(4) (B), (C) & (D) are correct

15. Find 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) $C_2H_5NHC_2H_5$

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

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

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

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

16. Match disease with the deficiency.

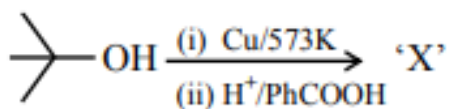
Column-I		Column-II	
(A)	Scurvy	(P)	Pyridoxine
(B)	Convulsions	(Q)	Vitamin-A
(C)	Cheilosis	(R)	Ascorbic acid
(D)	Xerophthalmia	(S)	Riboflavin

- (1) A-R ; B-P ; C-S ; D-Q
 (2) A-P ; B-R ; C-S ; D-Q
 (3) A-S ; B-P ; C-R ; D-Q
 (4) A-R ; B-S ; C-P ; D-Q

17. Match with tab test of amino acids.

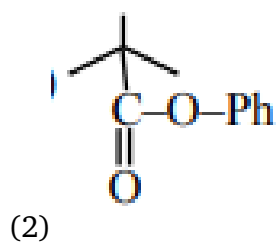
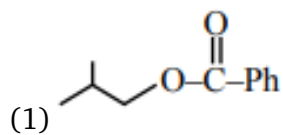
Column-I		Column-II	
A	Glutamine	I	Hinsberg test
B	Lysine	II	Neutral $FeCl_3$
C	Tyrosine	III	Cerric ammonium nitrate
D	Serine	IV	Hoffmann Bromamide

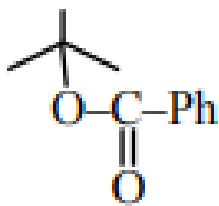
- (1) A – I, B-IV, C-III, D-II
 (2) A – IV, B-I, C-II, D-III
 (3) A – I, B-III, C-IV, D-II
 (4) A – IV, B-II, C-I, D-III



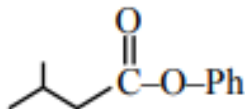
18.

'X' may be :





(3)



(4)

19. 4.7 g of phenol $\xrightarrow{Zn, \Delta}$ 'X'. If reaction goes to 60% yield of X. Find number of moles of 'X' $\times 10^{-2}$ are formed.

(1) 1

(2) 2

(3) 3

(4) 4

20. Given below are two statements :

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

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

(1) Statement-I and Statement-II both are correct.

(2) Statement-I and Statement-II both are incorrect.

(3) Statement-I is correct but Statement-II is incorrect.

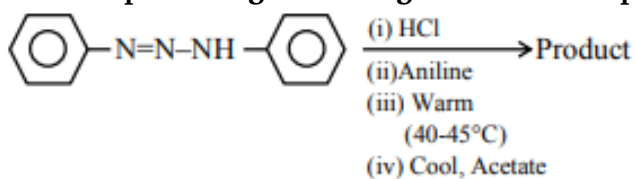
(4) Statement-I is incorrect but Statement-II is correct.

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

Statement-II : Aryl chloride and Aryl cyanide both can be formed by gattermann and sandmeyer reaction.

- (1) Both Statement I and Statement II are incorrect.
(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 correct.
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22. Find percentage of nitrogen in the final product.



- (1) 21.30%
(2) 15.20%
(3) 18.45%
(4) 25.10%
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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.

- (1) Both statement-I & statement-II are correct
(2) Both statement-I & statement-II are incorrect
(3) Statement-I is correct but statement-II is incorrect
(4) Statement-I is incorrect but statement-II is correct.
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