CBSE Class 12 Chemistry Compartment 2026

Question Paper PDF

Conducted by Central Board of Secondary Education (CBSE)

General Instructions

(i) This question paper contains **33 questions**. **All questions are compulsory.**

(ii) This question paper is divided into five sections – **Section A, B, C, D and E**.

(iii) **Section A** – questions number **1 to 16** are multiple choice type questions. Each question carries **1 mark**.

(iv) **Section B** – questions number **17 to 21** are very short answer type questions. Each question carries **2 marks**.

(v) **Section C** – questions number **22 to 28** are short answer type questions. Each question carries **3 marks**.

(vi) **Section D** – questions number **29 and 30** are case-based questions. Each question carries **4 marks**.

(vii) **Section E** – questions number **31 to 33** are long answer type questions. Each question carries **5 marks**.

1. Match Column I with Column II and choose the correct option :

Column I	Column II
Osmotic pressure	i. $\Delta T_f = K_f m$
Elevation of boiling point	ii. $\pi = CRT$
Depression of freezing point	iii. $\frac{P_1^0 - P_1}{P_1^0} = \frac{W_2 \times M_1}{M_2 \times W_1}$
Relative lowering of vapour pressure	iv. $\Delta T_b = K_b m$

(A) a-i, b-ii, c-iii, d-iv

(B) a-ii, b-i, c-iii, d-iv

(C) a-iv, b-iii, c-ii, d-i

(D) a-ii, b-iv, c-i, d-iii

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2. Functional groups present in amino acids are :

(A) $-NH_2$ and $-OH$

(B) $-OH$ and $-COOH$

(C) $-COOH$ and $-NH_2$

(D) $-NH_2$ and $-SO_3H$

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3. The correct order of reactivity of alcohols with Lucas reagent is :

(A) $3^\circ > 1^\circ > 2^\circ$

(B) $2^\circ > 1^\circ > 3^\circ$

(C) $1^\circ > 2^\circ > 3^\circ$

(D) $3^\circ > 2^\circ > 1^\circ$

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4. According to Alfred Werner, the secondary valence(s) of the central metal atom/ion in a complex :

(A) are non-ionisable

(B) are ionisable

(C) are satisfied by neutral molecules or negative ions

(D) is equal to the coordination number and is normally fixed for a metal

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5. Which of the following statements is true about a galvanic cell consisting of Cu and H_2 electrodes ?

[Given : $E^\circ_{Cu^{2+}/Cu} = +0.34$ V, $E^\circ_{H^+/H_2,Pt} = +0.00$ V]

(A) Oxidation occurs at copper electrode

(B) Reduction occurs at H_2 electrode

(C) H_2 is cathode and Cu is anode

(D) H_2 is anode and Cu is cathode

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6. The relationship between $E^{\circ}_{(\text{cell})}$ and $\Delta_r G^{\ominus}$ is :

(A) $\Delta_r G^{\ominus} = E^{\circ}_{(\text{cell})}$

(B) $\Delta_r G^{\ominus} = nFE^{\circ}_{(\text{cell})}$

(C) $\Delta_r G^{\ominus} = nE^{\circ}_{(\text{cell})}$

(D) $\Delta_r G^{\ominus} = -nFE^{\circ}_{(\text{cell})}$

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7. A galvanic cell functions like an electrolytic cell when :

(A) $E_{\text{cell}} = E_{\text{ext}}$

(B) $E_{\text{cell}} > E_{\text{ext}}$

(C) $E_{\text{ext}} > E_{\text{cell}}$

(D) $E_{\text{cell}} = 0$

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8. Phenol, on heating with conc. HNO_3, gives :

(A) o-Nitrophenol

(B) p-Nitrophenol

(C) Picric acid

(D) Sodium phenoxide

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9. The products of the following reaction are :

$$C_6H_5 - CH_2 - O - C_6H_5 \xrightarrow{HI} \text{Products}$$

(i) $C_6H_5 - CH_2I$ (ii) $C_6H_5 - OH$ (iii) $C_6H_5 - OCH_3$

(A) (i) and (ii)

(B) (i) and (iii)

(C) (ii) and (iii)

(D) (i), (ii) and (iii)

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10. The quantity of electricity in Faraday, required to reduce 1 mol of $Cr_2O_7^{2-}$ to Cr^{3+} is :

(A) 4F

(B) 3F

(C) 6F

(D) 5F

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11. Which of the following elements exhibits maximum number of oxidation states ?

(A) Scandium

(B) Zinc

(C) Manganese

(D) Cobalt

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12. Which of the following reactions is used for the preparation of Aniline ?

(A) Reaction of ethanolic NH_3 with C_6H_5Cl

(B) Reaction of Nitrobenzene with Hydrogen gas in presence of finely divided Nickel

(C) Reaction of Benzamide with $LiAlH_4$

(D) Reaction of Benzonitrile with $LiAlH_4$

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13. Assertion (A) : Out of $[Co(en)_3]^{3+}$ and $[Co(CN)_6]^{3-}$, coordination compound $[Co(en)_3]^{3+}$ is a more stable complex.

Reason (R) : Ethane-1,2-diamine is a chelating ligand.

(A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).

(B) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A).

(C) Assertion (A) is true, but Reason (R) is false.

(D) Assertion (A) is false, but Reason (R) is true.

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14. Assertion (A) : Phosphorus halides are preferred over thionyl chloride for the preparation of alkyl halides from alcohols.

Reason (R) : Reaction of alcohols with thionyl chloride forms pure alkyl halides.

(A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).

(B) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A).

(C) Assertion (A) is true, but Reason (R) is false.

(D) Assertion (A) is false, but Reason (R) is true.

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15. Assertion (A) : Aromatic carboxylic acids do not undergo Friedel-Crafts reaction.

Reason (R) : Carboxyl group is deactivating and the catalyst aluminium chloride gets bonded to carboxyl group.

(A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).

(B) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A).

(C) Assertion (A) is true, but Reason (R) is false.

(D) Assertion (A) is false, but Reason (R) is true.

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16. Assertion (A) : The volume of an ideal solution is equal to the sum of the volumes of the two components, i.e., $\Delta_{mix}V = 0$.

Reason (R) : The intermolecular forces of attraction between the solute-solvent molecules are weaker than those between the solute-solute and solvent-solvent molecules.

(A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).

(B) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A).

(C) Assertion (A) is true, but Reason (R) is false.

(D) Assertion (A) is false, but Reason (R) is true.
