CBSE Class 12 Chemistry Set 56/2/3 Question Paper 2026

| **Time Allowed :**3 Hours | **Maximum Marks :**30 | **Total Questions :**16 |

General Instructions

1. This question paper contains 33 questions. All questions are compulsory.

2. This question paper is divided into five sections - Section A, B, C, D and E.

3. Section A - questions number 1 to 16 are multiple choice type questions. Each question carries 1 mark.

4. Section B - questions number 17 to 21 are very short answer type questions. Each question carries 2 marks.

5. Section C - questions number 22 to 28 are short answer type questions. Each question carries 3 marks.

6. Section D - questions number 29 and 30 are case-based questions. Each question carries 4 marks.

7. Section E - questions number 31 to 33 are long answer type questions. Each question carries 5 marks.

8. There is no overall choice given in the question paper. However, an internal choice has been provided in few questions in all the sections except Section -A.

9. Kindly note that there is a separate question paper for Visually Impaired candidates.

10. Use of calculator is NOT allowed.

1. Identify the correct statement:
(A) Molecularity of a reaction is an experimental quantity.
(B) For complex reactions molecularity has no meaning.
(C) Molecularity of a reaction can be zero or even a fraction.
(D) Molecularity more than three is very common in chemical reactions.

---

2. Consider the following reaction:

$$Zn_{(s)} + Ag_2O_{(s)} + H_2O_{(l)} \rightarrow Zn^{2+}_{(aq)} + 2Ag_{(s)} + 2OH^-_{(aq)}$$
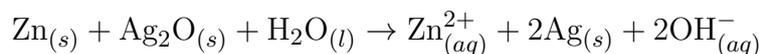
Given:

$$E^\circ_{Ag^+/Ag} = 0.80 \text{ V}$$

$$E^\circ_{Zn^{2+}/Zn} = -0.76 \text{ V}$$

$$1F = 96500 \text{ C mol}^{-1}$$
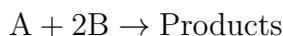
ΔG° for above reaction is:
(A) -301.080 kJ mol^{-1}
(B) $+310.080$ kJ mol^{-1}

(C) -326.070 kJ mol^{-1}
(D) 375.060 kJ mol^{-1}

---

3. Electronic configuration of chromium is:
(A) [Ar] $3d^4\,4s^1$
(B) [Ar] $3d^4\,4s^2$
(C) [Ar] $3d^5\,4s^1$
(D) [Ar] $3d^5\,4s^2$

---

4. The order for the given reaction is:

$$A + 2B \rightarrow Products$$

$$\text{Rate} = k[A]^{1/2}[B]^1$$

(A) 1.5
(B) 1
(C) 0.5
(D) 2

---

5. Which of the following is heteroleptic complex?
(A) $[Co(NH_3)_6]^{3+}$
(B) $[Cr(NH_3)_6]^{3+}$
(C) $[Ni(H_2O)_6]^{2+}$
(D) $[Co(NH_3)_4Cl_2]^+$

---

6. The correct IUPAC name of the complex $[Pt(NH_3)_2Cl_2]$ is:
(A) diamminedichloridoplatinum (IV)
(B) diamminedichloridoplatinum (II)
(C) dichloridodiammineplatinum (IV)
(D) dichloridodiammineplatinum (II)

---

7. Identify the correct increasing order of boiling points of the given compounds:
(A) Propan-1-ol < butan-1-ol < butan-2-ol < pentan-1-ol
(B) Pentan-1-ol < butan-1-ol < butan-2-ol < propan-1-ol
(C) Propan-1-ol < butan-2-ol < butan-1-ol < pentan-1-ol
(D) Butan-1-ol < butan-2-ol < propan-1-ol < pentan-1-ol

---

8. Which of the following molecule is chiral in nature?

(A) Propan-2-ol
(B) Butan-2-ol
(C) 1-Bromobutane
(D) 2-Bromopropane

---

9. The base which is present in DNA but not in RNA is:
(A) Guanine
(B) Cytosine
(C) Thymine
(D) Adenine

---

10. Identify the compound produced by the reduction of ethanenitrile with lithium aluminium hydride:
(A) Ethylamine
(B) Ethanal
(C) Propylamine
(D) Methylamine

---

11. Which of the following reactions is not explained by the open chain structure of glucose?
(A) Glucose on prolonged heating with HI forms n-hexane.
(B) Glucose reacts with hydroxylamine to form an oxime.
(C) Glucose gets oxidized to gluconic acid on reaction with bromine water.
(D) Glucose exists in two different crystalline forms, alpha (α) and beta (β).

---

12. Proteins are polymers of α-amino acids which are joined to each other by:
(A) Covalent Bond
(B) Peptide Bond
(C) Glycosidic Bond
(D) Coordinate Bond

**13. Assertion (A): Zinc, cadmium and mercury are not considered as transition elements.**
Reason (R): These elements have completely filled d orbitals in their ground state as well as in their common oxidation states.
Choose the correct option:
(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.

---

14. Assertion (A): The molecularity of the given reaction is 2.

$$2HI \rightarrow H_2 + I_2$$
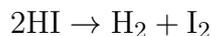
Reason (R): Two molecules of the reactants are involved in simultaneous collision between them.

Choose the correct option:

(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.

---

15. Assertion (A): Glucose gets oxidized to six carbon gluconic acid on reaction with bromine water.

Reason (R): The carbonyl group is absent in the open chain structure of glucose.

Choose the correct option:

(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.

---

16. Assertion (A): Aromatic primary amines can be prepared by Gabriel phthalimide synthesis.

Reason (R): Aryl halides do not undergo nucleophilic substitution with phthalimide ion.

Choose the correct option:

(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.

17(a). Define coordination number.

17(b). Indicate the type of isomerism exhibited by the following complex: $[Co(en)_3]Cl_3$

18(a). Define Effective collision.

18(b). Write the unit of (i) second order reaction and (ii) zero order reaction.

19(a). Why second ionization enthalpies of chromium and copper are exceptionally higher than those of their neighbouring elements?

19(b). Why transition elements form interstitial compounds?

20(A). The concentration of the reactant is reduced from 0.6 mol $\mathbf{L}^{-1}$ to 0.2 mol $\mathbf{L}^{-1}$ in **5 minutes** in a first order reaction. Calculate rate constant of the reaction. $(\log 3 = 0.48)$

20(B). Rate constant k for the first order reaction is 2.54×10^{-3} $\mathbf{s}^{-1}$. Calculate the time required for three-fourth of the reactant to decompose. $(\log 4 = 0.60)$