

CBSE EXAMINATION PAPER-2023

CHEMISTRY

(Solved)

Time allowed : 3 hours

Maximum Marks : 10

General Instructions :

Read the following instructions carefully and follow them :

- i. This question paper contains **11 questions**. All questions are **compulsory**.
- ii. This question paper is divided into **3 sections**.
- iii. **Section A** – questions number **1 to 8** are multiple choice questions Each question carries **1 marks**.
- iv. **Section B** – questions number **9 to 9** are very short answer Each question carries **2 marks**.
- v. **Section C** – questions number **10 to 11** are case based questions
- vi. There is no overall choice given in the question paper. However, an internal choice has been provided in few questions.
- vii. Use of calculator is NOT allowed.

Section A

Question 1.

The colligative property used for the determination of molar mass of polymers and proteins is :

[1 Marks]

(A) Elevation in boiling point

(B) Depression in freezing point

(C) Relative lowering in vapour pressure

(D) Osmotic pressure

Question 2.

Low concentration of oxygen in the blood and tissues of people living at high altitude is due to :

[1 Marks]

(A) low atmospheric pressure

(B) both low temperature and high atmospheric pressure

(C) low temperature

(D) high atmospheric pressure

Question 3.

The correct cell to represent the following reaction is : $\text{Zn} + 2\text{Ag}^+ \rightarrow \text{Zn}^{2+} + 2\text{Ag}$

[1 Marks]

(A) $\text{Ag}^+ | \text{Ag} || \text{Zn}^{2+} | \text{Zn}$

(B) $\text{Ag} | \text{Ag}^+ || \text{Zn} | \text{Zn}^{2+}$

(C) $2\text{Ag} | \text{Ag}^+ || \text{Zn} | \text{Zn}^{2+}$

(D) $\text{Zn} | \text{Zn}^{2+} || \text{Ag}^+ | \text{Ag}$

Question 4.

The most common and stable oxidation state of a Lanthanoid is :

[1 Marks]

(A) + 4

(B) + 6

(C) + 3

(D) + 2

Question 5.

The compounds $[\text{Co}(\text{SO}_4)(\text{NH}_3)_5]\text{Br}$ and $[\text{Co}(\text{Br})(\text{NH}_3)_5]\text{SO}_4$ represent :

[1 Marks]

- (A) ionisation isomerism
- (B) linkage isomerism
- (C) coordination isomerism
- (D) optical isomerism

Question 6.

The synthesis of alkyl fluoride is best obtained from :

[1 Marks]

- (A) Sandmeyer reaction
- (B) Finkelstein reaction
- (C) Free radicals
- (D) Swartz reaction

Question 7.

An α - helix is a structural feature of :

[1 Marks]

- (A) Starch
- (B) Sucrose
- (C) Polypeptides
- (D) Nucleotides

Question 8.

Assertion (A) : Low spin tetrahedral complexes are rarely observed.

Reason (R) : Crystal field splitting energy is less than pairing energy for tetrahedral complexes.

[1 Marks]

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

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

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

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

Section B

Question 9.

What is Henry's law? Give one application of it.

[2 Marks]

Section C

Question 10. The rate of reaction is concerned with decrease in concentration of reactants or increase in the concentration of products per unit time. It can be expressed as instantaneous rate at a particular instant of time and average rate over a large interval of time. Mathematical representation of rate of reaction is given by rate law. Rate constant and order of a reaction can be determined from rate law or its integrated rate equation.

Question 11.

The rate of reaction is concerned with decrease in concentration of reactants or increase in the concentration of products per unit time. It can be expressed as instantaneous rate at a particular instant of time and average rate over a large interval of time. Mathematical representation of rate of reaction is given by rate law. Rate constant and order of a reaction can be determined from rate law or its integrated rate equation.
