

CBSE EXAMINATION PAPER-2022

CHEMISTRY

(Solved)

Time allowed : 3 hours

Maximum Marks : 14

General Instructions :

Read the following instructions carefully and follow them :

- i. This question paper contains **6 questions**. All questions are **compulsory**.
- ii. This question paper is divided into **3 sections**.
- iii. **Section A** – questions number **1 to 1** are very short answer Each question carries **2 marks**.
- iv. **Section B** – questions number **2 to 5** are short answer Each question carries **3 marks**.
- v. **Section C** – questions number **6 to 6** 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.

Define rate of reaction. Write two factors that affect the rate of reaction.

[2 Marks]

Section B

Question 2.

A first order reaction is 50% complete in 40 minutes. Calculate the time required for the completion of 90% of reaction.

[Given: $\log 2 = 0.3010$, $\log 10 = 1$]

[3 Marks]

Question 3.

Write the structures of A, B and C in the following reactions:

[3 Marks]

Question 4.

Define transition elements. Which of the d-block elements may not be regarded as the transition elements? Why transition metals generally form coloured compounds?

[3 Marks]

Question 5.

Write any three differences between physisorption and chemisorption..

[3 Marks]

Section C

Question 6. Aldehydes, ketones and carboxylic acids are some of the important classes of organic compounds containing the carbonyl group. These are highly polar molecules due to the higher electronegativity of oxygen relative to carbon in the carbonyl group.

Aldehydes are prepared by dehydrogenation or controlled oxidation of primary alcohols and controlled reduction of acyl halides. Ketones are prepared by oxidation of secondary alcohols and hydration of alkynes. Aldehydes and ketones undergo nucleophilic addition reactions onto the carbonyl group but carboxylic acids do not undergo nucleophilic addition reaction. The alpha (α) - hydrogens of aldehydes and ketones are acidic. Therefore, aldehydes and ketones having at least one α -hydrogen undergo Aldol condensation.
