

CBSE TEST PAPER 02
CLASS XI CHEMISTRY
(Redox Reactions)

General Instruction:

- All questions are compulsory.
 - Marks are given alongwith their questions.
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1. Define oxidation in terms of electron transfer. [1]
2. What is meant by reduction? [1]
3. Define an oxidizing agent. Name the best reducing agent. [1]
4. What is meant by reducing? Name the best reducing agent. [1]
5. What is the oxidation number of Mn in KMnO_4 ? [1]
6. What happens to the oxidation number of an element in oxidation? [1]
7. Name one compound in which oxidation number of Cl is + 4. [1]
8. Indicate the oxidizing and reducing agents in the following reaction :
 $2\text{Cu}^{2+} + 4\text{I}^- \rightarrow 2\text{CuI} + \text{I}_2$. [1]
9. A metal ion M^{3+} loses 3 electrons. What will be its oxidation number? [1]
10. Find the oxidation state of sulphur in the following compounds :
 H_2S , H_2SO_4 , $\text{S}_2\text{O}_4^{2-}$, $\text{S}_2\text{O}_8^{2-}$ and HSO_3^- . [5]

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[ANSWERS]

Ans 1. Oxidation is a process in which loss of electrons takes place.

Ans 2. Reduction is a process in which gain of electrons take place.

Ans 3. Oxidising agent is a substance which can gain electrons easily. F_2 is the best oxidizing agent.

Ans 4. Reducing agent is a substance which can lose electrons easily. Li is the best reducing agent.

Ans 5. Let oxidation number of Mn be x

$$1 + x + 4(-2) = 0$$

$$\Rightarrow x = 7$$

Ans 6. It increases.

Ans 7. ClO_2

Ans 8. Cu^{2+} : Oxidising agent

I : Reducing agent.

Ans 9. Oxidaton number changes from +3 to + 6.

Ans 10 .

In H_2S

$$2 + x = 0$$

$$x = -2$$

In HSO_3^-

$$+1 + x - 6 = -1$$

$$\text{or } x - 5 = -1$$

$$\text{or } x = +4$$

In H_2SO_4

$$+2 + x - 8 = 0$$

$$\text{Or } x = +6$$

In $S_2O_5^{2-}$

There is peroxide linkage, thus
oxidation state of S is 6

In $S_2O_4^{2-}$

$$2x - 8 = -2$$

$$2x = 6$$

$$x = +3$$