

7. REDOX REACTIONS

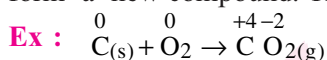
1 OMQ + 1 VSAQ + 1 SAQ [1 M + 2M + 4M = 7 M]

CONCEPTS & DEFINITIONS

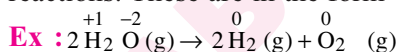
- Oxidation[LEO]:** Loss of Electrons is Oxidation (or) Addition of oxygen is called oxidation.
- Reduction [GER]:** Gain of Electrons is Reduction(or) Removal of oxygen is called reduction.
- Redox reaction:** It is the chemical reaction in which both oxidation and reduction occurs simultaneously.
- Oxidation number:** It is the number which indicates charge (or) possible charge that appears on an atom in a molecule (as per certain arbitrary rules) . It denotes the oxidation state of an element in a compound ascertained according to a set of rules. The rules are formulated on the basis that electron pair in a covalent bond belongs entirely to more electro negative element.
- Oxidising agent:** It is an acceptor of electrons. It increases the oxidation number of an element in a substance.
- Reducing agent:** It is a donor of electrons. It lowers the oxidation number of an element in a substance.

7. Types of Redox reactions:

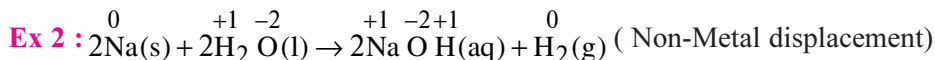
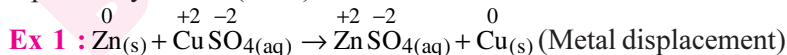
- i) **Combination reactions:** The redox reactions, in which two or more elements combine to form a new compound. These are in the form $A+B \rightarrow AB$



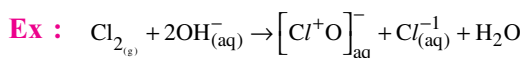
- ii) **Decomposition reactions:** The redox reactions, in which the chemical compounds chemically split into two or more simple substances. These are reverse of combination reactions. These are in the form $AB \rightarrow A + B$.



- iii) **Displacement reactions :** The redox reactions, in which an ion (atom) in a compound is replaced by an ion (atom) of another element. These are in the form $A + BC \rightarrow AC + B$



- iv) **Disproportionation reactions :** The redox reactions, in which an element in one oxidation state is simultaneously oxidised and reduced.



8. Balancing of Redox Reactions is done in 2 ways.

- a) Oxidation number method b) Half reduction method

