Removal of Hydrogen:

Examples of Oxidation:

(i) $H_2S + Br_2 \rightarrow 2HBr + S$

Oxidised

[Sulphur gives/looses Hydrogen and gets oxidised]

(ii) $H_2S + I_2 \rightarrow 2HI + S$

Oxidised

[Sulphur gives/looses Hydrogen and gets oxidised]

Reduction Reaction: Reduction is the loss of oxygen or gain of hydrogen.
The addition of hydrogen to a substance or removal of oxygen from a substance or both is called reduction.
Example of reduction:

(i) $CuO + H_2 \rightarrow Cu + H_2O$

Reduced

(ii) $ZnO + C \rightarrow Zn + CO$

Reduced

However, both oxidation and reduction occur together.

Redox Reaction

Such reaction in which one reactant gets oxidised while the other gets reduced during a reaction is called **redox reaction**. When oxidation and reduction both take place in same reaction is known as redox reaction.

Example;

Oxidised

$ZnO + C \rightarrow Zn + CO$

Reduced

Here oxidation and reduction both reactions take place in same reaction.

Oxidising Agent/Oxidant/Oxidisers:
The substance which gives oxygen for oxidation or removes hydrogen for reduction is called oxidising agent.

Reducing agent:
The substances which is responsible for removing oxygen or gives Hydrogen for reduction called reducing agent.

Example;

Oxidised

$CuO + H_2 \rightarrow Cu + H_2O$

Reduced

Here in above example CuO is reduced to Cu so reduced substance is CuO. Hence CuO (copper oxide) gives oxygen for oxidation to oxidised H_2 therefore It is a **Oxidising Agent**.
And H_2 is oxidised to H_2O so H_2 Is Oxidised and it is responsible for removing oxygen from CuO (copper oxide) Therefore H_2 (Hydrogen) is Reducing Agent.
Summary:

(a) Oxidised substance : H_2 => **Which gains in Oxygen**
(b) Reduced substance: CuO => **Which looses Oxygen**
(c) Oxidising Agent : CuO => **Which provides Oxygen for oxidation**
(d) Reducing Agent : H_2 => **Which is responsible for removal of Oxygen**