

# Chapter 8

## Redox Reactions

- Hot concentrated sulphuric acid is a moderately strong oxidizing agent. Which of the following reactions does not show oxidizing behaviour?
  - $\text{Cu} + 2\text{H}_2\text{SO}_4 \rightarrow \text{CuSO}_4 + \text{SO}_2 + 2\text{H}_2\text{O}$
  - $\text{S} + 2\text{H}_2\text{SO}_4 \rightarrow 3\text{SO}_2 + 2\text{H}_2\text{O}$
  - $\text{C} + 2\text{H}_2\text{SO}_4 \rightarrow \text{CO}_2 + 2\text{SO}_2 + 2\text{H}_2\text{O}$
  - $\text{CaF}_2 + \text{H}_2\text{SO}_4 \rightarrow \text{CaSO}_4 + 2\text{HF}$

(NEET-II 2016)
- The pair of compounds that can exist together is
  - $\text{FeCl}_3, \text{SnCl}_2$
  - $\text{HgCl}_2, \text{SnCl}_2$
  - $\text{FeCl}_2, \text{SnCl}_2$
  - $\text{FeCl}_3, \text{KI}$

(2014)
- $\text{H}_2\text{O}_2 + \text{O}_3 \rightarrow \text{H}_2\text{O} + 2\text{O}_2$
  - $\text{H}_2\text{O}_2 + \text{Ag}_2\text{O} \rightarrow 2\text{Ag} + \text{H}_2\text{O} + \text{O}_2$

Role of hydrogen peroxide in the above reactions is respectively

  - oxidizing in (I) and reducing in (II)
  - reducing in (I) and oxidizing in (II)
  - reducing in (I) and (II)
  - oxidizing in (I) and (II)

(2014)
- In acidic medium,  $\text{H}_2\text{O}_2$  changes  $\text{Cr}_2\text{O}_7^{2-}$  to  $\text{CrO}_5$  which has two ( $\text{—O—O—}$ ) bonds. Oxidation state of Cr in  $\text{CrO}_5$  is
  - +5
  - +3
  - +6
  - 10

(2014)
- When  $\text{Cl}_2$  gas reacts with hot and concentrated sodium hydroxide solution, the oxidation number of chlorine changes from
  - zero to +1 and zero to -5
  - zero to -1 and zero to +5
  - zero to -1 and zero to +3
  - zero to +1 and zero to -3

(2012)
- A mixture of potassium chlorate, oxalic acid and sulphuric acid is heated. During the reaction which element undergoes maximum change in the oxidation number?
  - S
  - H
  - Cl
  - C

(2012)
- Oxidation numbers of P in  $\text{PO}_4^{3-}$ , of S in  $\text{SO}_4^{2-}$  and that of Cr in  $\text{Cr}_2\text{O}_7^{2-}$  are respectively
  - +3, +6 and +5
  - +5, +3 and +6
  - 1, +6 and +6
  - +5, +6 and +6

(2009)
- Number of moles of  $\text{MnO}_4^-$  required to oxidize one mole of ferrous oxalate completely in acidic medium will be
  - 7.5 moles
  - 0.2 moles
  - 0.6 moles
  - 0.4 moles

(2008)
- Which is the best description of the behaviour of bromine in the reaction given below?  
 $\text{H}_2\text{O} + \text{Br}_2 \rightarrow \text{HOBr} + \text{HBr}$ 
  - Proton acceptor only
  - Both oxidised and reduced
  - Oxidised only
  - Reduced only

(2004)
- The oxidation states of sulphur in the anions  $\text{SO}_3^{2-}$ ,  $\text{S}_2\text{O}_4^{2-}$  and  $\text{S}_2\text{O}_6^{2-}$  follow the order
  - $\text{S}_2\text{O}_4^{2-} < \text{SO}_3^{2-} < \text{S}_2\text{O}_6^{2-}$
  - $\text{SO}_3^{2-} < \text{S}_2\text{O}_4^{2-} < \text{S}_2\text{O}_6^{2-}$
  - $\text{S}_2\text{O}_4^{2-} < \text{S}_2\text{O}_6^{2-} < \text{SO}_3^{2-}$
  - $\text{S}_2\text{O}_6^{2-} < \text{S}_2\text{O}_4^{2-} < \text{SO}_3^{2-}$

(2003)
- Oxidation state of Fe in  $\text{Fe}_3\text{O}_4$  is
  - $\frac{5}{4}$
  - $\frac{4}{5}$
  - $\frac{3}{2}$
  - $\frac{8}{3}$

(1999)