CHAPTER 7

Redox Reactions

Redox Reactions (Oxidation and Reduction), Oxidation Number

1. What is the change in oxidation number of carbon in the following reaction? *(2020)*

$CH_4(g) + 4Cl_2(g) \rightarrow CCl_4(l) + 4HCl(g)$

a. 0 to + 4 b. –4 to + 4

c. 0 to –4 d. +4 to + 4

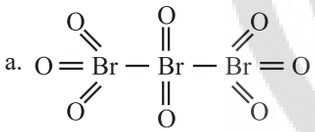
2. The oxidation number of the underlined atom in the following species *(2020-Covid)*

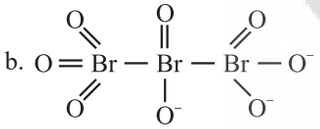
a. $\underline{Cl}O_3^-$ is +5 b. $K_2\underline{Cr}_2O_7$ is +6

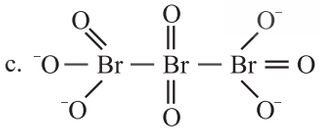
c. $H\underline{Au}Cl_4$ is +3 d. $Cu_2\underline{O}$ is –1

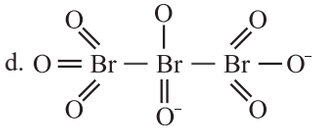
Identify the incorrect option

3. The correct structure of tribromooctaoxide is *(2019)*

a. 

b. 

c. 

d. 

4. Hot concentrated sulphuric acid is a moderately strong oxidising agent. Which of the following reactions does not show oxidising behaviour? *(2016 - I)*

a. $C + 2H_2SO_4 \rightarrow CO_2 + 2SO_2 + 2H_2O$

b. $CaF_2 + H_2SO_4 \rightarrow CaSO_4 + 2HF$

c. $Cu + 2H_2SO_4 \rightarrow CuSO_4 + SO_2 + 2H_2O$

d. $3S + 2H_2SO_4 \rightarrow 3SO_2 + 2H_2O$

5. In acidic medium, H_2O_2 changes $Cr_2O_7^{-2}$ to CrO_5 which has two (—O—O—) bonds. Oxidation state of Cr in CrO_5 is: *(2014)*

a. +3 b. +6

c. –10 d. +5

6. The pair of compounds that can exist together is *(2014)*

a. $FeCl_3$, $SnCl_2$

b. $HgCl_2$, $SnCl_2$

c. $FeCl_2$, $SnCl_2$

d. $FeCl_3$, KI

7. The oxidation state of Cr in CrO_5 is *(2014)*

a. –6 b. +12

c. +6 d. +4

Types of Redox Reactions and Balancing of Redox Reactions

8. Which of the following reactions is the metal displacement reaction? Choose the right option. *(2021)*

a. $Cr_2O_3 + 2Al \xrightarrow{\Delta} Al_2O_3 + 2Cr$

b. $Fe + 2HCl \longrightarrow FeCl_2 + H_2\uparrow$

c. $2Pb(NO_3)_2 \longrightarrow 2PbO + 4NO_2 + O_2\uparrow$

d. $2KClO_3 \xrightarrow{\Delta} 2KCl + 3O_2$

9. Which of the following reactions are disproportionation reaction? *(2019)*

A. $2Cu^+ \longrightarrow Cu^{2+} + Cu^0$

B. $3MnO_4^{2-} + 4H^+ \longrightarrow 2MnO^-_4 + MnO_2 + 2H_2O$

C. $2KMnO_4 \xrightarrow{\Delta} K_2MnO_4 + MnO_2 + O_2$

D. $2MnO_{ü}^- + 3Mn^{2+} + 2H\ O \longrightarrow 5MnO\ + 4H^{\oplus}$

Select the correct option from the following

a. (A) and (B) only

b. (A), (B) and (C)

c. (A), (C) and (D)

d. (A) and (D) only

10. For the redox reaction

$$MnO_4^- + C_2O_4^{2-} + H^+ \rightarrow Mn^{2+} + CO_2 + H_2O$$

The correct coefficients of the reactants for the balanced equation are: *(2018)*

	MnO_4^-	$C_2O_4^{2-}$	H^+
a.	16	5	2
b.	2	5	16
c.	5	16	2
d.	2	16	5

Answer Key

1	2	3	4	5	6	7	8	9	10
b	d	a	b	b	c	c	a	a	b