1. Which reaction is **NOT** a redox reaction? **(2024)**

(a) $2KClO_3 + I_2 \rightarrow 2KIO_3 + Cl_2$
(b) $H_2 + Cl_2 \rightarrow 2HCl$
(c) $BaCl_2 + Na_2SO_4 \rightarrow BaSO_4 + 2NaCl$
(d) $Zn + CuSO_4 \rightarrow ZnSO_4 + Cu$

2. The correct option for a redox couple is: **(2023)**

(a) Both are oxidised forms involving same element.
(b) Both are reduced forms involving same element.
(c) Both the reduced and oxidised forms involve same element.
(d) Cathode and anode together.

3. On balancing the given redox reaction, $aCr_2O_7^{2-} + bSO_3^{2-}(aq) + cH^+(aq) \longrightarrow 2aCr^{3+}(aq) + bsO_4^{2-}(aq) + \frac{c}{2}H_2O(l)$, the coefficients a, b and c are found to be, respectively- **(2023)**

(a) 3, 8, 1 (b) 1, 8, 3
(c) 8, 1, 3 (d) 1, 3, 8

4. Which of the following reactions is a decomposition redox reaction? **(2022)**

(a) $P_4(s) + + 3OH^-(aq) + 3H_2O(l) \longrightarrow PH_3(g) + 3H_2PO_2^-(aq)$
(b) $2Pb(NO_3)_2(s) \longrightarrow 2PbO(s) + 4NO_2(g) + O_2(g)$
(c) $N_2(g) + O_2(g) \longrightarrow 2NO(g)$
(d) $Cl_2(g) + 2OH^-(aq) \longrightarrow ClO^-(aq) + Cl^-(aq) + 4H_2O(l)$

5. 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) $Fe + 2HCl \rightarrow FeCl_2 + H_2 \uparrow$
(c) $2Pb(NO_3)_2 \rightarrow 2PbO + 4NO_2 + O_2 \uparrow$
(d) $2KClO_3 \xrightarrow{\Delta} 2KCl + 3O_2$

6. 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

7. The oxidation number of the underlined atom in the following species.
Identify the incorrect option. **(2020 Covid Re-NEET)**

(a) $\underline{Cl}O_3^-$ is +5 (b) $K_2\underline{Cr_2}O_7$ is +6
(c) $H\underline{Au}Cl_4$ is +3 (d) $Cu_2\underline{O}$ is –1

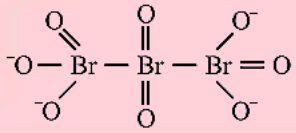
8. Which of the following reactions are disproportionation reaction? **(2019)**

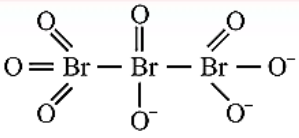
A. $2Cu^+ \rightarrow Cu^{2+} + Cu^0$
B. $3MnO_4^{2-} + 4H^+ \rightarrow 2MnO_4^- + MnO_2 + 2H_2O$
C. $2KMnO_4 \xrightarrow{\Delta} K_2MnO_4 + MnO_2 + O_2$
D. $2MnO_4^- + 3Mn^{2+} + 2H_2O \rightarrow 5MnO_2 + 4H^{\oplus}$

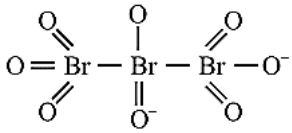
Select the correct option from the following
(a) A and B only
(b) A, B and C
(c) A, C and D
(d) A and D only

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

(a) 

(b) 

(c) 

(d) 

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

11. Hot concentrated sulphuric acid is a moderately strong oxidizing agent. Which of the following reactions does not show oxidizing behavior? **(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) $3S + 2H_2SO_4 \rightarrow 3SO_2 + 2H_2O$

12. Assuming complete ionization, same moles of which of the following compounds will require the least amount of acidified $KMnO_4$ for complete oxidation? **(2015 Re)**

(a) $Fe(NO_2)_2$ (b) $FeSO_4$

(c) $FeSO_3$ (d) FeC_2O_4

13. 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