

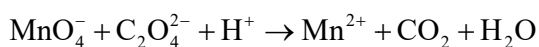
CHEMISTRY

Redox Reactions

31. Which of the following arrangements represent increasing oxidation number of the central atom?

- (1) CrO_2^- , ClO_3^- , CrO_4^{2-} , MnO_4^-
- (2) ClO_3^- , CrO_4^{2-} , MnO_4^- , CrO_2^-
- (3) CrO_2^- , ClO_3^- , MnO_4^- , CrO_4^{2-}
- (4) CrO_4^{2-} , MnO_4^- , CrO_2^- , ClO_3^-

32. For the redox reaction



| | MnO_4^- | $\text{C}_2\text{O}_4^{2-}$ | H^+ |
|-----|------------------|-----------------------------|--------------|
| (1) | 15 | 5 | 2 |
| (2) | 2 | 5 | 16 |
| (3) | 5 | 16 | 2 |
| (4) | 2 | 16 | 5 |

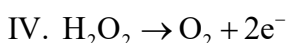
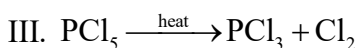
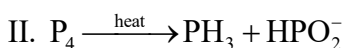
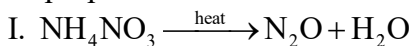
33. Which of the following reactions does not involve either oxidation or reduction?

- (1) $\text{VO}^{2+} \rightarrow \text{V}_2\text{O}_3$
- (2) $\text{Na} \rightarrow \text{Na}^+$
- (3) $\text{CrO}_4^{2-} \rightarrow \text{Cr}_2\text{O}_7^{2-}$
- (4) $\text{Zn}^{2+} \rightarrow \text{Zn}$

34. $\text{Cr}_2\text{O}_7^{2-} + x \xrightarrow{\text{H}^+} \text{Cr}^{3+} + \text{H}_2\text{O} +$ oxidised product of X, X in the above reaction cannot be

- (1) $\text{C}_2\text{O}_4^{2-}$
- (2) Fe^{2+}
- (3) SO_4^{2-}
- (4) S^{2-}

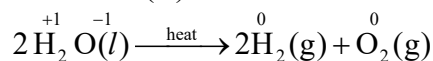
35. Which of the following is not a disproportionation reaction?



- (1) I, II
- (2) I, III, IV
- (3) II, IV
- (4) I, III

Redox Reactions and Electrode Processes

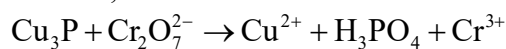
36. The reaction (B)



an example

- (1) addition reaction
- (2) decomposition reaction
- (3) displacement reaction
- (4) none of these

37. In the following unbalanced redox reaction,



equivalent weight of H_3PO_4 is

- (1) $\frac{M}{3}$
- (2) $\frac{M}{6}$
- (3) $\frac{M}{7}$
- (4) $\frac{M}{8}$

38. Oxidation state of hydrogen in KH, MgH_2 and NaH respectively would be

- (1) -1, -1 and -1
- (2) +1, +1 and +1
- (3) +2, +1 and -2
- (4) -2, -3 and -1

39. During the electrolysis of molten sodium chloride, the time required to produce 0.1 mol of chlorine gas using a current of 3 A in?

- (1) 55 minutes
- (2) 110 minutes
- (3) 220 minutes
- (4) 330 minutes

40. In which of the following reactions H_2O_2 acts as a reducing agent?

- (1) $\text{H}_2\text{O}_2 + 2\text{H}^+ + 2\text{e}^- \rightarrow 2\text{H}_2\text{O}$
- (2) $\text{H}_2\text{O}_2 + 2\text{e}^- \rightarrow \text{O}_2 + 2\text{H}^+$
- (3) $\text{H}_2\text{O}_2 + 2\text{e}^- \rightarrow 2\text{OH}^-$
- (4) $\text{H}_2\text{O}_2 + 2\text{OH}^- - 2\text{e}^- \rightarrow \text{O}_2 + 2\text{H}_2\text{O}$