

Assignment

Q1. Balance the following redox equations as per the medium given:

- A. $\text{CH}_3\text{OH} + \text{K}_2\text{Cr}_2\text{O}_7 \xrightarrow{\text{H}_2\text{SO}_4} \text{Cr}_2(\text{SO}_4)_3 + \text{CO}_2 + \text{K}_2\text{SO}_4 + \text{H}_2\text{O}$
- B. $\text{C}_2\text{H}_5\text{OH} + \text{K}_2\text{Cr}_2\text{O}_7 \xrightarrow{\text{H}_2\text{SO}_4} \text{Cr}_2(\text{SO}_4)_3 + \text{C}_2\text{H}_4\text{O}_2 + \text{K}_2\text{SO}_4 + \text{H}_2\text{O}$
- C. $\text{Mn}^{2+} + \text{S}_2\text{O}_8^{2-} \rightarrow \text{MnO}_4^{1-} + \text{HSO}_4^{1-}$ (in Acidic Medium)
- D. $\text{MnO}_4^{1-} + \text{As}_2\text{O}_3 \rightarrow \text{Mn}^{2+} + \text{H}_3\text{AsO}_4$ (in Acidic Medium)
- E. $\text{Cr}^{3+} + \text{MnO}_4^{1-} \rightarrow \text{Cr}_2\text{O}_7^{2-} + \text{Mn}^{2+}$ (in Acidic Medium)
- F. $\text{KMnO}_4 + \text{KCl} + \text{H}_2\text{SO}_4 \rightarrow \text{MnSO}_4 + \text{K}_2\text{SO}_4 + \text{H}_2\text{O} + \text{Cl}_2$
- G. $\text{Cr}_2\text{O}_7^{2-} + \text{I}^{1-} \rightarrow \text{Cr}^{3+} + \text{I}_2 + \text{H}_2\text{O}$ (in Acidic Medium)
- H. $\text{MnO}_4^{1-} + \text{Fe}^{2+} \rightarrow \text{Mn}^{2+} + \text{Fe}^{3+}$ (in Acidic Medium)
- I. $\text{H}_2\text{S} + \text{K}_2\text{Cr}_2\text{O}_7 \xrightarrow{\text{H}_2\text{SO}_4} \text{Cr}_2(\text{SO}_4)_3 + \text{S} + \text{K}_2\text{SO}_4 + \text{H}_2\text{O}$
- J. $\text{KMnO}_4 + \text{H}_2\text{SO}_4 + \text{H}_2\text{O}_2 \rightarrow \text{K}_2\text{SO}_4 + \text{MnSO}_4 + 8 \text{H}_2\text{O} + 5 \text{O}_2$
- K. $\text{Cr}_2\text{O}_7^{2-} + \text{SO}_3^{2-} \rightarrow \text{Cr}^{3+} + \text{SO}_4^{2-}$ (in Acidic Medium)
- L. $\text{Cr}_2\text{O}_7^{2-} + \text{S}^{2-} \rightarrow \text{Cr}^{3+} + \text{S}$ (in Acidic Medium)
- M. $\text{Cr}_2\text{O}_7^{2-} + \text{Sn}^{2+} \rightarrow \text{Cr}^{3+} + \text{Sn}^{4+}$ (in Acidic Medium)
- N. $\text{Cr}_2\text{O}_7^{2-} + \text{Fe}^{2+} \rightarrow \text{Cr}^{3+} + \text{Fe}^{+3}$ (in Acidic Medium)
- O. $\text{MnO}_4^{1-} + \text{NO}_2^{1-} \rightarrow \text{Mn}^{2+} + \text{NO}_3^{1-}$ (in Acidic Medium)
- P. $\text{MnO}_4^{1-} + \text{I}^{1-} \rightarrow \text{Mn}^{2+} + \text{I}_2$ (in Acidic Medium)
- Q. $\text{MnO}_4^{1-} + \text{C}_2\text{O}_4^{2-} \rightarrow \text{Mn}^{2+} + \text{CO}_2$ (in Acidic Medium)
- R. $\text{MnO}_4^{1-} + \text{S}^{2-} \rightarrow \text{Mn}^{2+} + \text{S}$ (in Acidic Medium)
- S. $\text{MnO}_4^{1-} + \text{I}^{1-} \rightarrow \text{MnO}_2 + \text{IO}_3^{1-} + \text{OH}^{1-}$ (in basic Medium)
- T. $\text{MnO}_4^{1-} + \text{S}_2\text{O}_3^{2-} \rightarrow \text{MnO}_2 + \text{SO}_4^{2-} + \text{OH}^{1-}$ (in basic Medium)
- U. $\text{MnO}_4^{1-} + \text{Mn}^{2+} \rightarrow \text{MnO}_2$ (in basic Medium)