SWOT INSTITUTE

REDOX REACTION (Class 10+1)

1. Assign oxidation number to the underlined elements in each of the following species : (4)

   (a) $NaH_2\underline{P}O_4$ (b) $NaH\underline{S}O_4$

   (c) $H_2\underline{P}_2O_7$ (d) $K_2\underline{Mn}O_4$

   (e) $Ca\underline{O}_2$ (f) $Na\underline{B}H_4$

   (g) $H_2\underline{S}_2O_7$ (h) $KAl(\underline{S}O_4)_2 \cdot 12H_2O$

2. What are the oxidation number of the underlined elements in each of the following and how do you rationalise your results ? (5)

   (a) $K\underline{I}_3$ (b) $H_2S_4O_6$

   (c) $\underline{Fe}_3O_4$ (d) $\underline{C}H_3\underline{C}H_2OH$

   (e) $\underline{C}H_3\underline{C}OOH$

3. Nitric acid acts only as an oxidizing agent while nitrous acid acts both as an oxidizing as well as reducing agent. Explain. (1)

4. What is disproportionation reaction give one example. (1)

5. The electrode reduction potentials of four metallic elements A, B, C and D are respectively +0.79, –0.74, 1.08 and –0.31 V. Arrange these in order of decreasing electropositive character. (2)

6. Balance the redox reaction given below : (2)

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