DPP–6 Electrolytic Cell (Qualitative)

Chapter: Electrochemistry

"Don't try to finish everything. Just sit and solve for 10 minutes. Momentum will take care of the rest."

TYPE–1 : Products of Electrolysis

1. **During electrolysis of fused calcium hydride, the hydrogen is produced at :**
   (1) Cathode
   (2) Anode
   (3) Hydrogen is not liberated at all
   (4) H_2 produced reacts with oxygen to form water
2. **A solution of sodium sulphate in water is electrolysed using inert electrodes. The product at the cathode and anode are respectively :–**
   (1) H_2, SO_2 (2) O_2, H_2
   (3) O_2, Na (4) H_2, O_2
3. **The passage of current liberates H_2 at cathode and Cl_2 at anode the solution is :–**
   (1) $CuSO_4$ (aq) (2) $CuCl_2$ (aq.)
   (3) NaCl (aq.) (4) Water
4. **The products formed when an aqueous solution of NaBr is electrolyzed in a cell having inert electrodes are :-**
   (1) Na and Br_2 (2) Na and O_2
   (3) H_2, Br_2 and NaOH (4) H_2 and O_2
5. **The metal that cannot be obtained by electrolysis of an aqueous solution of its salts is:**
   (1) Cu (2) Cr
   (3) Ag (4) Ca
6. **A solution of sodium sulphate in water is electrolysed using inert electrodes. The products at the anode and cathode respectively are**
   (1) O_2, H_2 (2) H_2, O_2
   (3) O_2, Na (4) Na, O_2
7. **Electrolysis of dil. H_2SO_4 liberates gases at anode and cathode respectively**
   (1) O_2, SO_2 (2) SO_2, O_2
   (3) O_2, H_2 (4) H_2, SO_2

TYPE–2 : pH Change During Electrolysis

8. **When aqueous solution of KCl is electrolysed, resultant solution has**
   (1) pH > 7 (2) pH < 7
   (3) pH $= 7$ (4) Initially less than 7 then increases

9. **When aqueous solution of KBr is electrolysed using Pt electrodes, the resultant solution will have** **[NCERT Pg. 87]**
   (1) pH > 7 (2) pH < 7
   (3) pH $= 7$ (4) Any value of pH
10. **When dil HNO_3 is electrolysed**
   (1) $H_2(g)$ is formed at anode
   (2) O_2 gas is formed at anode
   (3) NO_2 is formed at cathode
   (4) N_2 is formed at anode
11. **During electrolysis of aqueous solution of a salt pH in the space near one of the electrodes is increased. Which of the following salt solution was electrolysed?**
   (1) KCl (2) $CuCl_2$
   (3) $Cu(NO_3)_2$ (4) $CuSO_4$
12. **Electrolysis of aq. $CuSO_4$ causes :–**
   (1) An increase in pH
   (2) A decrease in pH
   (3) Either decrease or increase
   (4) None

TYPE–3 : Electrode Behaviour & Special Cases

13. **After operating the electrolytic cell for sometime, if anode is removed then, what will happen?** **[NCERT Pg. 85]**
   (1) The cell will work as a capacitor
   (2) Ions will start moving randomly
   (3) Current will continue to flow for sometime
   (4) Cathode rod will start working as both anode and cathode
14. **In electrolysis of NaCl when Pt electrode is taken then H_2 is liberated at cathode while with Hg cathode it forms sodium amalgam**
   (1) Hg is more inert than Pt
   (2) More voltage is required to reduce H^+ at Hg than at Pt
   (3) Na is dissolved in Hg while it does not dissolve in Pt
   (4) Conc. of H^+ ions is larger when Pt electrode is taken

TYPE–4 : Concentrated Acid Electrolysis

15. **The product released at anode in the electrolysis of 50% concentrated H_2SO_4 is**
   (1) $H_2(g)$ (2) $O_2(g)$
   (3) $S_2O_8^{2-}$ (4) All of these
16. **Electrolysis of H_2SO_4 (conc.) gives the following at anode**
   (1) H_2 (2) O_2
   (3) $H_2S_2O_3$ (4) $H_2S_2O_8$