

ELECTRO CHEMISTRY

1. What is the electrochemical equivalent (in g coulomb⁻¹) of silver? [M2005]
 1) 108F 2) 108/F 3) 108/96500 4) 96500/108
2. Which reaction is not feasible? (CBSE PMT)
 1) $2KI + Br_2 \rightarrow 2KBr + I_2$
 2) $2KBr + I_2 \rightarrow 2KI + Br_2$
 3) $2KBr + Cl_2 \rightarrow 2KCl + Br_2$
 4) $2H_2O + 2F_2 \rightarrow 4HF + O_2$
3. The standard Potentials at 25⁰ C for the half reactions are given against them below: (M-2009)
 $Zn^{2+} + 2e^- \rightarrow Zn; E^0 = -0.762V$, $Mg^{2+} + 2e^- \rightarrow Mg; E^0 = -2.37V$
 When Zn dust is added to a solution of $MgCl_2$
 1) Magnesium is precipitated
 2) Zinc dissolves in the solution
 3) Zinc chloride is formed
 4) No reaction takes place
4. For the following cell reaction (E-2009)
 $Ag/Ag^+/AgCl/Cl^-/Cl_2, Pt; \Delta G_f^0 (AgCl) = -109kJ/mol, \Delta G_f^0 (Cl^-) = -129KJ / mol$ and
 $\Delta G^0 f (Ag^+) = 78KJ / mol$. E^0 of the cell is:
 1) -0.60v 2) 0.60v 3) 6.0v 4) None
5. During the charging of a lead-acid storage battery, the cathode reaction is (M-2009)
 1) Formation of $PbSO_4$ 2) Reduction of Pb^{+2} to Pb
 3) Formation of PbO_2 4) Oxidation of Pb to Pb^{2+}
6. When 3.86 amperes current are passed through an electrolyte for 50 minutes, 2.4 grams of a divalent metal is deposited. The gram atomic weight of the metal (in grams) is (M-2007)
 1) 24 2) 12 3) 64 4) 40
7. What is the quantity of electricity (in coulombs) required to deposit all the silver from 250 ml of 1 M $AgNO_3$ solution? (Ag = 108) (E - 2005)
 1) 2412.5 2) 24125 3) 4825.0 4) 48250

KEY

- 1)3 2)2 3) 4 4) 2 5) 2 6) 4 7) 2