AVIRAL CLASSES
IIT-JEE | NEET | FOUNDATIONS

CHEMISTRY
CRASH COURSE

LECTURE - 06

TOPICS : Electrochemistry

1. The position of some metals in the electrochemical series in decreasing electropositive character is given as Mg > Al > Zn > Cu > Ag. What will happen if a copper spoon is used to stir a solution of aluminium nitrate?
   (a) The spoon will get coated with aluminium
   (b) An alloy of copper and aluminium is formed
   (c) The solution becomes blue.
   (d) There is no reaction.

2. The ionic conductances of Al^{3+} and SO_4^{2-} at infinite dilution are x and y $ohm^{-1}\ cm^2\ mol^{-1}$ respectively. If Kohlrausch's law is vaild, then molar conductance of aluminium sulphate at infinite dilution will be
   (a) 3x + 2y (b) 3y + 2x
   (c) 2x + 2y (d) 3x + 3y

3. A solution of sodium sulphate in water is electrolysed using inert electrodes. The products at the cathode and anode are respectively
   (a) H_2, O_2 (b) O_2, H_2
   (c) O_2, Na (d) O_2, SO_2

4. Saturated solution of KNO_3 is used to make 'salt-bridge' because
   (a) velocity of K^+ ions is greater than that of NO_3^- ions
   (b) Velocity of NO_3^- ions is greater than that of K^+ ions.
   (c) Velocities of both K^+ and NO_3^- ions are nearly the same
   (d) KNO_3 is highly soluble in water

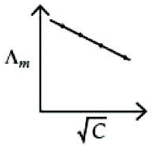
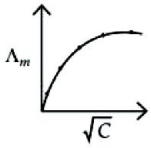
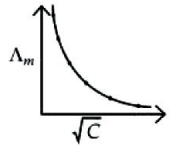
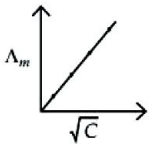
5. The quantity of electricity needed to electrolyse completely 1 M solution of $CuSO_4$, $Bi_2(SO_4)_3$, $AlCl_3$ and $AgNO_3$ each will be
   (a) 2F, 6F, 3F and 1 F respectively
   (b) 6F, 2F, 3F and 1 F respectively
   (c) 2F, 6F, 1F and 3 F respectively
   (d) None of these

6. How many minutes would be required to deposit copper in 500 mL of 0.25 N $CuSO_4$ by a current of 75 milliampere ?
   (a) 1340 min (b) 670 min
   (c) 2680 min (d) 5360 min

7. Standard electrode potentials for Fe electrode are given as
   $Fe^{2+} + 2e^- \rightarrow Fe$; $E° = -0.44$ V
   $Fe^{3+} + e^- \rightarrow Fe^{2+}$; $E° = +0.77$ V
   Fe^{2+}, Fe^{3+} and Fe blocks are kept together then
   (a) $[Fe^{3+}]$ decreases
   (b) $[Fe^{3+}]$ increases
   (c) $[Fe^{2+}/Fe^{3+}]$ remains unchanged
   (d) $[Fe^{2+}]$ decreases

8. Which one of the followng does not hold good for S.H.E ?
   (a) The pressure of hydrogen gas is 1.5 atmosphere
   (b) The concentration of H^+ in solution is 1 M
   (c) The temperature is 298 K
   (d) The surface of platinum electrode is coated with platinum black

9. Which of the following metals cannot be obtained by the electrolysis of the aqueous solution of their salts ?
   (a) Ag and Mg (b) Mg and Al
   (c) Ag and Al (d) Cu and Cr

10. Which of the following curve shows the variation of Λ_m of a weak acid with $\sqrt{C}$?
   (a) 
   (b) 
   (c) 
   (d)