DPP
DAILY PRACTICE PROBLEMS

Class : XIIth   **Subject : CHEMISTRY**
Date :   **DPP No. : 8**

Topic :- Electro Chemistry

1. Hydrogen gas is not liberated when the following metal is added to dil. HCl
   a) Ag   b) Zn   c) Mg   d) Sn

2. In Ahydrogen-oxygen fuel cell, combustion of hydrogen occurs to
   a) Generate heat
   b) Create potential difference between the two electrodes
   c) Produce high purity water
   d) Remove adsorbed oxygen from electrode surfaces.

3. The sum of the two transport number of ions for an electrolyte is always equal to :
   a) 1   b) 2   c) 1/2   d) None of these

4. On passing 0.5 F electricity through molten sodium chloride, sodium deposited at cathode will be
   a) 29.25 g   b) 11.50 g   c) 58.50 g   d) 0.00 g

5. A solution of $CuSO_4$ is electrolysed for 10 min with a current of 1.5 A. What is the mass of copper deposited at the cathode?
   a) 2.096 g   b) 0.296 g   c) 3.029 g   d) 2.906 g

6. The correct order of molar conductivity at infinite dilution of LiCl, NaCl and KCl is
   a) $LiCl > KCl > NaCl$ b) $KCl > NaCl > LiCl$ c) $LiCl > NaCl > KCl$ d) $NaCl > KCl > LiCl$

7. Salts of A (atomic weight 7), B (atomic weight 27) and C (atomic weight 48) were electrolyzed under identical conditions using the same quantity of electricity. It was found that when 2.1 g of A was deposited, the weights of B and C deposited were 2.7 g and 7.2 g. The valencies of A, B and C are respectively :
   a) 3,1 and 2   b) 1, 3 and 2   c) 3,1 and 3   d) 2,3 and 2

8. Indicator electrode is :
   a) SHE
   b) Calomel electrode
   c) Ag/AgCl electrode
   d) Quinhydrone electrode

9. Molar conductance of electrolytic solution Λ_m is
   a) $\propto l$ b) $\propto (1/A)$ c) $\propto (1/C)$ d) $\propto (\sqrt{C})$

10. Which metal is most readily corroded in moist air?
    a) Copper   b) Iron   c) Silver   d) Nickel

11. Electrolysis of dilute aqueous NaCl solution was carried out by passing 10mA current. The time required to liberate 0.01 mole of H_2 gas at the cathode is (1F = 96500 C mol^{-1})
    a) $9.65 \times 10^4 \, s$
    b) $19.3 \times 10^4 \, s$
    c) $28.95 \times 10^4 \, s$
    d) $38.6 \times 10^4 \, s$

12. The oxidation potential of Mg and Al are + 2.37 and + 1.66 volt respectively. The Mg in chemical reactions :
    a) Will be replaced by Al
    b) Will replace Al
    c) Will not be able to replace Al
    d) None of the above

13. The weight of silver (eq. wt. = 108) displaced by that quantity of current which displaced 5600 mL of hydrogen at STP is :
    a) 54 g
    b) 108 g
    c) 5.4 g
    d) None of these

14. When during electrolysis of a solution of a $AgNO_3$, 9650 C of charge pass through the electroplating bath, the mass of silver deposited on the cathode will be
    a) 1.08 g
    b) 10.8 g
    c) 21.6 g
    d) 108 g

15. The standard oxidation potentials of the electrodes Ag | Ag$^+$, Sn | Sn^{2+}, Ca | Ca^{2+}, Pb | Pb^{2+} are − 0.8, 0.136, 2.866 and 0.126 V respectively. The most powerful oxidising agent among these metal ions is :
    a) Pb^{2+}
    b) Ca^{2+}
    c) Sn^{2+}
    d) Ag$^+$

16. Pure water does not conduct electricity because it
    a) Is neutral
    b) Is readily decomposed
    c) Is almost totally unionized
    d) Has a low boiling point

17. The minimum equivalent conductance in fused state is shown by :
    a) $MgCl_2$
    b) $BeCl_2$
    c) $CaCl_2$
    d) $SrCl_2$

18. A cell necessarily does not contain :
    a) An anode
    b) A cathode
    c) An electrolyte or a fuel
    d) A porous diaphragm

19. The standard redox potentials for the reactions
$Mn^{2+} + 2e^- \rightarrow$ and $Mn^{3+} + e^- \rightarrow M^{2+}$ are -1.18 V and 1.51 V respectively. What is the redox potenital for the reaction
$Mn^{3+} + 3e^- \rightarrow$ Mn ?
    a) 0.33 V
    b) 1.69 V
    c) -0.28 V
    d) - 0.85

20. During electrolysis of fused CaH_2, H_2 is liberated at :
    a) Anode
    b) Cathode
    c) Either electrode
    d) Not at all