Faraday's law of electrolysis

1. Amount of electricity that can deposit 108 gm of silver from $AgNO_3$ solution is
   (a) 1 ampere
   (b) 1 coulomb
   (c) 1 faraday
   (d) None of the above

2. When 9.65 coulombs of electricity is passed through a solution of silver nitrate (atomic weight of $Ag = 107.87$ taking as 108) the amount of silver deposited is
   (a) 10.8 mg (b) 5.4 mg
   (c) 16.2 mg (d) 21.2 mg

3. Three faradays electricity was passed through an aqueous solution of iron (II) bromide. The weight of iron metal (at. wt. = 56) deposited at the cathode (in gm) is
   (a) 56 (b) 84
   (c) 112 (d) 168

4. A silver cup is plated with silver by passing 965 coulombs of electricity, the amount of silver deposited is
   (a) 9.89 g (b) 107.87 g
   (c) 1.0787 g (d) 1.002 g

5. The atomic weight of Al is 27. When a current of 5 Faradays is passed through a solution of Al^{+++} ions, the weight of Al deposited is
   (a) 27 gm (b) 36 gm
   (c) 45 gm (d) 39 gm

6. An apparatus used for the measurement of quantity of electricity is known as a
   (a) Calorimeter
   (b) Cathetometer
   (c) Coulometer
   (d) Colorimeter

7. The unit of electrochemical equivalent is
   (a) $Gram$
   (b) $Gram/ampere$
   (c) $Gram/coulomb$
   (d) $Coulomb/gram$

8. A certain current liberated 0.504 gm of hydrogen in 2 hours. How many grams of copper can be liberated by the same current flowing for the same time in a copper sulphate solution
   (a) 12.7 gm (b) 15.9 gm
   (c) 31.8 gm (d) 63.5 gm

9. What weight of copper will be deposited by passing 2 Faradays of electricity through a cupric salt (Atomic weight of Cu = 63.5)
   (a) 2.0 gm (b) 3.175 gm

(c) 63.5 *gm* (d) 127.0 *gm*

(a) 40.65 *gm* (b) 4.065 *gm*

(c) 0.4065 *gm* (d) 65.04 *gm*

10. If the current is passed into the solution of an electrolyte
    (a) Anions move towards anode, cations towards cathode
    (b) Anions and cations both move towards anode
    (c) Anions move towards cathode, cations towards anode
    (d) No movement of ions takes place

11. Unit of Faraday is
    (a) Ampere
    (b) Coulomb
    (c) Coulomb $mole^{-1}$
    (d) Coulomb Sec^{-1}

12. On passing 0.1 Faraday of electricity through aluminium chloride, the amount of aluminium metal deposited on cathode is $(Al = 27)$
    (a) 0.9 *gm* (b) 0.3 *gm*
    (c) 0.27 *gm* (d) 2.7 *gm*

13. Which of the following represents the first law of Faraday
    (a) $E = mc^2$ (b) $E = hv$
    (c) $m = ect$ (d) $PV = nRT$

14. 5 amperes is passed through a solution of zinc sulphate for 40 minutes. Find the amount of zinc deposited at the cathode

15. In an electroplating experiment mg of silver is deposited, when 4 amperes of current flows for 2 minutes. The amount (in gms) of silver deposited by 6 amperes of current flowing for 40 seconds will be
    (a) $4m$ (b) $m/2$
    (c) $m/4$ (d) $2m$

16. On passing 3 *ampere* of electricity for 50 minutes, 1.8 *gram* metal deposits. The equivalent mass of metal is
    (a) 20.5 (b) 25.8
    (c) 19.3 (d) 30.7

17. The desired amount of charge for obtaining one mole of Al from Al^{3+}
    (a) $3 \times 96500C$ (b) $96500C$
    (c) $\frac{96500}{3}C$ (d) $\frac{96500}{2}C$

18. On passing one faraday of electricity through the electrolytic cells containing Ag^+, Ni^{+2} and Cr^{+3} ions solution, the deposited $Ag(At.wt. = 108), Ni(At.wt. = 59)$ and $Cr(At.wt. = 52)$ is

	Ag	Ni	Cr
(a)	108 *gm*	29.5 *gm*	17.3 *gm*
(b)	108 *gm*	59.0 *gm*	52.0 *gm*

(c) 108.0 *gm* 108.0 *gm* 108.0 *gm*

(d) 108 *gm* 117.5 *gm* 166.0 *gm*

19. One Faraday of electricity when passed through a solution of copper sulphate deposits

    (a) 1 *mole* of Cu

    (b) 1 *gm* atom of Cu

    (c) 1 *molecule* of Cu

    (d) 1 *gm* equivalent of Cu

20. When 1 coulomb of charge is passed through electrolyte solution, then the mass deposited is equal to

    (a) Equivalent weight

    (b) Atomic weight

    (c) Electrochemical equivalent

    (d) Chemical equivalent

21. The platinum electrodes were immersed in a solution of cupric sulphate and electric current passed through the solution. After some time it was found that colour of copper sulphate disappeared with evolution of gas at the electrode. The colourless solution contains

    (a) Platinum sulphate

    (b) Copper hydroxide

    (c) Copper sulphate

    (d) Sulphuric acid

22. On passing C ampere of electricity through a electrolyte solution for t

second, m *gram* metal deposits on cathode. The equivalent weight E of the metal is

(a) $E = \dfrac{C \times t}{m \times 96500}$

(b) $E = \dfrac{C \times m}{t \times 96500}$

(c) $E = \dfrac{96500 \times m}{C \times t}$

(d) $E = \dfrac{C \times t \times 96500}{m}$

23. How many Faradays are required to generate one gram atom of magnesium from $MgCl_2$

    (a) 1   (b) 2

    (c) 3   (d) 4

24. To deposit 0.6354 *gm* of copper by electrolysis of aqueous cupric sulphate solution, the amount of electricity required (in coulombs) is

    (a) 9650   (b) 4825

    (c) 3860   (d) 1930

25. In electrolysis of a fused salt, the weight of the deposit on an electrode will not depend on

    (a) Temperature of the bath

    (b) Current intensity

    (c) Electrochemical equivalent of ions

    (d) Time for electrolysis