Electrolytes and Electrolysis

1. Which of the following will not conduct electricity in aqueous solution
(a) Copper sulphate
(b) Sugar
(c) Common salt
(d) None of these

2. Strong electrolytes are those which
(a) Dissolve readily in water
(b) Conduct electricity
(c) Dissociate into ions at high dilution
(d) Completely dissociate into ions at all dilutions

3. In aqueous solution, strong electrolytes
(a) Are partially ionized
(b) Do not ionise
(c) Ionise almost completely
(d) Form polymers

4. An electrolyte
(a) Forms complex ions in solution
(b) Gives ions only when electricity is passed
(c) Possesses ions even in solid state
(d) Gives ions only when dissolved in water

5. Electrolytes when dissolved in water dissociates into ions because
(a) They are unstable
(b) The water dissolves it
(c) The force of repulsion increases
(d) The forces of electrostatic attraction are broken down by water

6. Electrolyte can conduct electricity because
(a) Their molecules contain unpaired electrons, which are mobile
(b) Their molecules contain loosely held electrons which get free under the influence of voltage
(c) The molecules break up into ions when a voltage is applied
(d) The molecules are broken up into ions when the electrolyte is fused or is dissolved in the solvent

7. Which one of the following metals could not be obtained on electrolysis of aqueous solution of its salts
(a) Ag (b) Mg
(c) Cu (d) Cr

8. Which of the following aqueous solution will conduct an electric current quite well
(a) Glycerol (b) HCl
(c) Sugar (d) Pure water

9. On the electrolysis of aqueous solution of sodium sulphate, on cathode we get

(a) Na (b) H_2

(c) SO_2 (d) SO_3

10. Electrolysis involves oxidation and reduction respectively at

(a) Anode and cathode

(b) Cathode and anode

(c) At both the electrodes

(d) None of the above

11. Which of the following compounds will not undergo decomposition on passing electricity through aqueous solution

(a) Sugar

(b) Sodium Chloride

(c) Sodium Bromide

(d) Sodium Acetate

12. During the electrolysis of an electrolyte, the number of ions produced, is directly proportional to the

(a) Time consumed

(b) Electro chemical equivalent of electrolysis

(c) Quantity of electricity passed

(d) Mass of electrons

13. When the sample of copper with zinc impurity is to be purified by electrolysis, the appropriate electrodes are

	Cathode	**Anode**
(a)	Pure zinc	Pure copper
(b)	Impure sample	Pure copper
(c)	Impure zinc	Impure sample
(d)	Pure copper	Impure sample

14. In the electrolytic cell, flow of electrons is from

(a) Cathode to anode in solution

(b) Cathode to anode through external supply

(c) Cathode to anode through internal supply

(d) Anode to cathode through internal supply

15. An electric current is passed through an aqueous solution of the following. Which one shall decompose

(a) Urea (b) Glucose

(c) $AgNO_3$ (d) Ethyl alcohol

16. The electric conduction of a salt solution in water depends on the

(a) Shape of its molecules

(b) Size of its molecules

(c) Size of solvent molecules

(d) Extent of its ionization

17. 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

18. On electrolysing a solution of dilute H_2SO_4 between platinum electrodes, the gas evolved at the anode is

(a) SO_2 (b) IF_5

(c) O_2 (d) H_2

19. The addition of a polar solvent to a solid electrolyte results in

(a) Polarization

(b) Association

(c) Ionization

(d) Non-liberation of heat

20. During the electrolysis of fused $NaCl$, which reaction occurs at anode

(a) Chloride ions are oxidized

(b) Chloride ions are reduced

(c) Sodium ions are oxidised

(d) Sodium ions are reduced

21. The amount of ion discharged during electrolysis is not directly proportional to

(a) Resistance

(b) Time

(c) Current

(d) Chemical equivalent of the ion

22. Electrolysis of aqueous HCl solution produces

(a) H_2 gas at the anode

(b) H_2 gas at the cathode

(c) Cl_2 gas at the cathode

(d) Cl_2 and O_2 gases both at the anode

23. During electrolysis of $NaCl$ solution, part of the reaction is $Na^+ + e^- \rightarrow Na$. This is termed as

(a) Oxidation

(b) Reduction

(c) Deposition

(d) Cathode reaction

24. When a solution of an electrolyte is heated the conductance of the solution

(a) Increases because of the electrolyte conducts better

(b) Decreases because of the increased heat

(c) Decreases because of the dissociation of the electrolyte is suppressed

(d) Increases because the electrolyte is dissociated more

25. The passage of current liberates H_2 at cathode and Cl_2 at anode. The solution is

(a) Copper chloride in water

(b) $NaCl$ in water

(c) H_2SO_4

(d) Water