

**Electrolytes and Electrolysis**

26. Pure water does not conduct electricity because it
- Has a low boiling point
  - Is almost totally unionized
  - Is neutral
  - Is readily decomposed
27. Which is responsible for electrical conduction of molten sodium chloride
- Free electrons
  - Free ions
  - Free molecules
  - Atoms of sodium and chlorine
28. In electrolysis of aqueous copper sulphate, the gas at anode and cathode is
- |                     |                      |
|---------------------|----------------------|
| (a) $O_2$ and $H_2$ | (b) $SO_2$ and $H_2$ |
| (c) $H_2$ and $O_2$ | (d) $SO_3$ and $O_2$ |
29. Use of electrolysis is
- Electroplating
  - Electrorefining
  - (a) and (b) both
  - None of these
30. Sodium is made by the electrolysis of a molten mixture of about 40%  $NaCl$  and 60%  $CaCl_2$  because
- $CaCl_2$  helps in conduction of electricity
  - This mixture has a lower melting point than  $NaCl$
  - $Ca^{++}$  can displace  $Na$  from  $NaCl$
  - $Ca^{++}$  can reduce  $NaCl$  to  $Na$
31. Electrolysis is a process in which the cations and anions of the electrolyte are
- |              |                |
|--------------|----------------|
| (a) Hydrated | (b) Hydrolysed |
| (c) Charged  | (d) Discharged |
32. Degree of ionisation of a solution depends upon
- Temperature
  - Nature of the electrolyte
  - Nature of the solvent
  - None of these
33. Which of the following is non-electrolytes
- |                          |                |
|--------------------------|----------------|
| (a) $NaCl$               | (b) $CaCl_2$   |
| (c) $C_{12}H_{22}O_{11}$ | (d) $CH_3COOH$ |
34. When a molten ionic hydride is electrolysed
- Hydrogen is liberated at the cathode
  - Hydrogen is liberated at the anode
  - There is no reaction



- (d)  $H^-$  ions produced migrate to the cathode
35. During electrolysis, the species discharged at cathode are  
 (a) Ions (b) Cation  
 (c) Anion (d) All of these
36. Electrolysis of molten anhydrous calcium chloride produces  
 (a) Calcium (b) Phosphorus  
 (c) Sulphur (d) Sodium
37. Which of the following properties of pure metal makes it more useful than the corresponding alloy  
 (a) It is harder than corresponding alloy  
 (b) It has high density  
 (c) It can be extracted easily  
 (d) It conducts heat and electricity easily
38. Which of the following liberate hydrogen on reaction with dilute  $H_2SO_4$   
 (a) *Fe* (b) *Cu*  
 (c) *Al* (d) *Hg*
39. Which one of the following material conducts electricity  
 (a) Diamond  
 (b) Crystalline sodium chloride
- (c) Barium sulphate  
 (d) Fused potassium chloride  
 (e) Molten sulphur
40. Which of the following metals will give  $H_2$  on reaction with  $NaOH$   
 (a) *Mg* (b) *Ba*  
 (c) *Ca* (d) *Sr*
41. Which of the following is not a non electrolyte  
 (a) Acetic acid (b) Glucose  
 (c) Ethanol (d) Urea

