

**BELPAHAR ENGLISH MEDIUM SCHOOL,
BELPAHAR.
CLASS TEST**

**CLASS –X
SUB – CHEMISTRY**

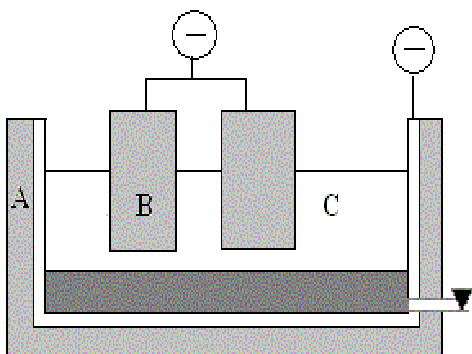
TIME – 40 MINTS

Electrolysis

1. Fill in the blanks

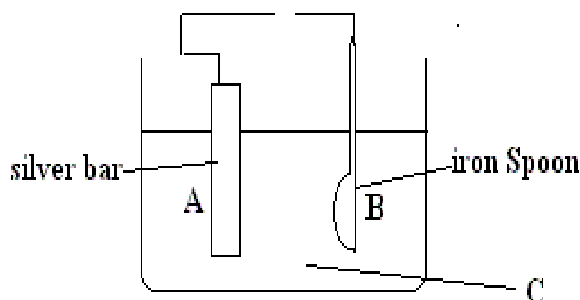
- (a) Electroplating of a silver spoon require ----- current.
- (b) Conventionally positive current enters the electrolyte through the -----.
- (c) The electrolytic process to remove the impurities from an impure metal is called -----.
- (d) The ions present in aq solution of $K_4Fe(CN)_6$ are -----.
- (e) Fused sodium chloride liberates ----- at cathode and ----- at anode , aq solution of sodium chloride liberates ----- at cathode and ----- at anode ,
- (f) Solid electrovalent compounds are ----- conductor of electricity.
- (g) With platinum electrodes hydrogen is liberated at the ----- and oxygen at the -- -- during electrolysis of acidified water.
- (h) With platinum electrodes acified solution of copper sulphate will liberate ----- at anode and ----- at the cathode.
- (i)) With silver electrodes acified solution of silver nitrate will liberate ----- at anode and ----- at the cathode.

2. (a) this is the diagram of a voltametre



Identify A,B,C

(b) The diagram shows the apparatus for silver plating of iron spoon. Answer the followings:



- Why the voltmeter blackened from the outside?
- Write down the probable molecular formula of C
- Name all the ions present there.
- State the ionic reactions taking place at cathode and anode
- State two precautions you will take to have firm deposit of silver

3. Comment on the strength of the electrolytes in the following cases:

- | | | |
|------------------------------------|-------------------------|------------------------------|
| (a) Dilute H_2SO_4 | (b) Turpentine oil | (c) CuSO_4 solution |
| (d) Ammonium hydroxide | (e) molten caustic soda | (f) toluene |
| (g) Molten lead bromide | (h) fused cryolite | (i) distilled water |
| (j) Gaseous HCl | | |

4. Prove that electrolysis is a kind of redox reaction.

5. Answer the followings (any five)

- Why is alternating current not used during electrolysis?
- Why are metals like sodium or aluminum always extracted by electrolysis?
- Why is an acid added to water before electrolysis?
- Copper is a good conductor of electricity but not an electrolyte. Why?
- Solution of HCl in water conduct electricity but solution of HCl in CCl_4 does not conduct electricity, why?

(vi) The blue colour of CuSO_4 fades when it is electrolysed using platinum electrodes?

6. Complete the following table

| electrolyte | Cathode | Anode | Product at cathode and relevant | Product at Anode and relevant |
|--------------------------------|----------|----------|---------------------------------|-------------------------------|
| Dilute H_2SO_4 | platinum | platinum | | |
| CuSO_4 solution | copper | copper | | |
| CuSO_4 solution | platinum | platinum | | |
| CuSO_4 solution | iron | iron | | |
| Fused MgCl_2 | iron | graphite | | |
| AgNO_3 solution | graphite | graphite | | |
| AgNO_3 solution | silver | silver | | |
| AgNO_3 solution | iron | iron | | |
| Fused lead bromide | copper | graphite | | |
| Fused PbBr_2 | graphite | graphite | | |