

MT EDUCARE LTD.

ICSE X

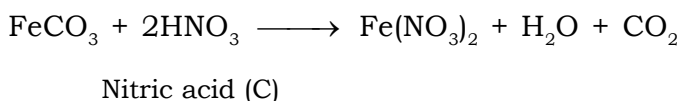
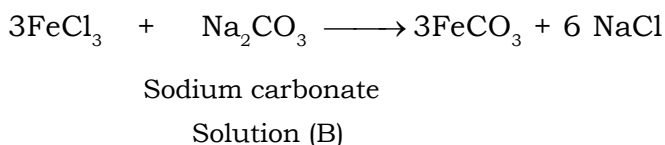
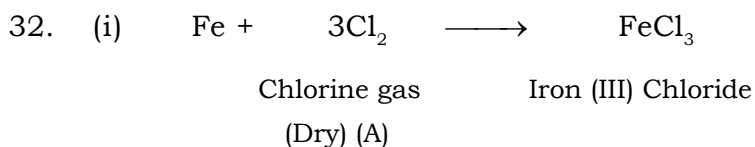
SUBJECT : **CHEMISTRY**

ELECTROLYSIS

Assignment Sheet

STEP UP ANSWERSHEET

24. (A) Liquid carbon tetrachloride [2013]
25. (i) Electrode on the left side is the oxidising electrode because copper atoms lose electrons at this electrode.
(ii) $\text{Cu} - 2\text{e}^- \longrightarrow \text{Cu}^{2+}$
(iii) Reddish brown copper metal is deposited at cathode and anode becomes thin and cathode grows thick gradually and blue colour of aqueous copper (II) sulphate solution remains unchanged. [2013]
26. (i) (C) A silver grey deposit at cathode and reddish brown fumes at anode.
(ii) (C) sodium argentocyanide solution. [2014]
27. Electroplating [2014]
28. Cathode becomes thick due to deposition of red copper metal. [2014]
29. Anode is the oxidising electrode because it takes electrons from anions. [2014]
30. (i) Electrovalent bond exists between M and O.
(ii) One electron is there in the outermost shell.
(iii) M belongs to group IA or group 1.
(iv) $\text{M}^+ + \text{e}^- \longrightarrow \text{M}$ (at cathode)
(v) Oxygen gas is liberated at the anode. [2014]
31. (i) This is because of the fact that aluminium has great affinity towards oxygen and so aluminium oxide cannot be reduced by reducing agents such as carbon monoxide or carbon or hydrogen.
(ii) This is because of the absence of free ions in the solution of carbon tetrachloride molecule.
(iii) This is because graphite rod is unaffected by the reactive bromine vapours.
(iv) This is because acetic acid being a weak acid partially dissociates and produces less ions in solution whereas sulphuric acid being a strong acid completely dissociates and produces more free ions in solution. Hence, conduction of electric current in acetic acid is less as compared to $\text{dil. H}_2\text{SO}_4$ at given concentration.
(v) This is because of the fact that during electrolysis of molten lead bromide, both reduction (at cathode) and oxidation (at anode) takes place. At cathode Pb^{2+} ions gain e^- s and get reduced white at anode Br^- ions lose e^- s and get oxidised. [2015]



(ii)

Strong Electrolyte	Weak Electrolyte
(i) They allow a large amount of electricity to flow through them i.e., they are good conductors of electricity.	(i) They allow small amount of electricity to flow through them i.e., they are poor conductors of electricity.
(ii) They almost completely dissociate in fused or aqueous solution state and contain only free mobile ions.	(ii) They partially dissociate in fused or aqueous solution state and contain ions as well as molecules.

[2015]

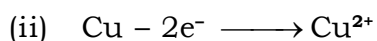
33. (1) To reduce the heat loss by radiation and to prevent burning of anode.
 (2) Iron sheets are coated with zinc during galvanization to prevent them from rusting.

[2015]

34.

(i)

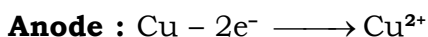
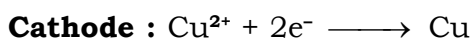
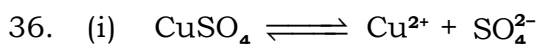
	Anode	Electrolyte
Purification of copper	Impure Block of copper	Copper sulphate solution

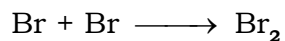
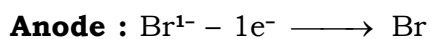
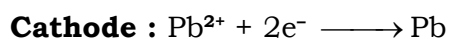
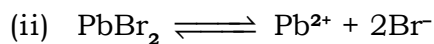


[2015]

35. (B) mainly ions

[2016]





[2016]

37. (i) O_2 (Oxygen)

(ii) Ag^+ ions must be present.

[2016]

38. (i) Solution of sodium argentocyanide.

(ii) Molecules.

[2017]

39. (i) Product at cathode:-lead metal (Silvery grey deposit)

Product at anode:- Bromine vapours(Reddish brown fumes)

[2017]

(ii) Product at cathode:-Copper metal

Product at anode :- Nil(Cu^{2+} ions formed)

[2017]

40. (i) OH^-

(ii) Ag^+

[2017]

