DPP(MCQ) SEM-I ICSE Class X

Chemistry– Electrolysis

1. Which one of the following statements is NOT correct?

a) Pure water does not allow a current to flow through it.

b) The electrolyte only conducts when in the molten state.

c) Electrodes that react with the electrolytes are said to be "active".

d) Ions must be present in the electrolyte in order that it conducts electricity.

2. For electrolysis, we use the compound which should be a

a) Insulator

b) Conductor

c) Metalloid

d) All of them

3. The decomposition of liquid compound on passing an electric current through it is known as

a) Electroplating

b) Electrolysis

c) Magnetic effect

d) Electro-resistivity

4. Electrolysis is the process in which a chemical reaction takes place at the expense of

a) Chemical energy

b) Electrical energy

c) Heat energy

d) None of these

5. Which pair of electrolytes is not inert?

a) Mercury and Carbon

b) Mercury and Sodium

c) Silver and Carbon

d) Copper and Silver

6. Which of the following substance is not a good conductor of electricity?

a) Copper

b) Aluminum

c) Rubber

d) Mercury

7. Cathode production electrolysis of zinc iodide is

a) Iodine

b) Zinc

c) Zinc oxide

d) All of them

8. What are the ions present in water?

a) H and OH

b) H+ and OH-

c) H2

d) H2O

9. Most liquids that conduct electricity are solutions of

a) Acids

b) Bases

c) Salts

d) All of these

10. Selective discharge of ions depends on:

A. the nature of the electrode

B. the relative concentration of ions

C. the relative position of ions in the electrochemical (activity) series

D. all of the above

11. In electrolysis of pure ionic molten compounds, metal is formed at

a) Anode

b) Cathode

c) Inert electrode

d) Base of all apparatus

12. Which of these is not an application of electrolysis?

a) Rust removal

b) Electroplating

c) Making leather

d) Manufacture of bleach

13. When aqueous Solution of NaCl is electrolyzed

a) Cl_2 is evolved at the cathode

b) H_2 is evolved at cathode

c) Na is deposited at the cathode

d) Na appears at the anode

14. Which metal is used in electroplating cans to store food?

a) Ni

b) Sn

c) Cr

d) Ag

15. Anode is electrically

a) Positively Charged

b) Negatively Charged

c) Neutral

d) None of these

16. When fused $PbBr_2$ is electrolyzed

a) Bromine appears at cathode

b) Lead is deposited at the cathode

c) Lead appears at the anode

d) None of these happens

17. In the electrolysis of a Solution of potassium iodide with phenolphthalein indicator, a pink colour appears at the negative electrode. Which one of the following is the fact?

a) Oxygen gas is being produced at the cathode and iodine at anode

b) Hydrogen gas is being produced at the cathode and oxygen gas at anode

c) Hydrogen gas is being produced at the cathode and iodine at anode

d) Iodine is being produced at the cathode and oxygen gas at anode

18. Pure water is a good conductor of electricity. The statement is _.

a) Always true

b) False

c) Sometimes true

d) None of these

19. To prevent iron from corrosion it is electroplated with

a) Aluminium

b) Copper

c) Oxygen

d) Zinc

20. Complete systematic equipment set up for electrolysis is known as

a) Electrolytic cell

b) Electrolytic circuit

c) Electrolytic current

d) Electrolytic process

21. Cathode is electrically

a) Positively Charged

b) Negatively Charged

c) Neutral

d) None of these

22. An aqueous electrolyte consists of the ions mentioned in the list, the ion which could be discharged most readily during electrolysis.

(a) Fe^{2+}

(b) Cu^{2+}

(c) Pb^{2+}

(d) H^{+}

23. Reduction occurs at

a) Cathode

b) Anode

c) Base

d) None of these

24. Oxidation occurs at

a) Cathode

b) Anode

c) Base

d) None of these

25. A pink metal is deposited at the cathode during the electrolysis of the soln. of this salt-

a) Sulphur
b) Silver chloride
c) Hydrogen chloride
d) Copper [II] sulphate

26. The aqueous solution of the compounds which contains both ions and molecules is:

a) Sulphuric acid
b) Hydrochloric acid
c) Nitric acid
d) Acetic acid

27. Identify the weak electrolyte from the following:

a) Sodium Chloride solution
b) Dilute Hydrochloric acid
c) Dilute Sulphuric acid
d) Aqueous acetic acid

28. The particles present in strong electrolytes are:

a) only molecules
b) mainly ions
c) ions and molecules
d) only atoms

29. The vessel in which electrolysis of lead bromide is carried out is:

(a) Clay crucible
(b) Glass vessel
(c) Silica crucible
(d) Aluminium vessel

30. The current flow through electrolyte is due to the movement of

A. Ions
B. Holes
C. Electrons
D. None of these

31. Water is a poor electrolyte, so an acid is added to increase its conductivity. The acid is

A. hydrochloric acid
B. sulphuric acid
C. nitric acid
D. carbonic acid

32. During the electrolysis of concentrated sodium chloride using platinum electrodes, which of the following would be the correct observations at each electrode?

	Anode	Cathode
A	Greenish-yellow chlorine gas evolved.	A layer of grey solid coats around the cathode.
B	Greenish-yellow chlorine gas evolved.	Colourless, odourless gas evolved.
C	Colourless, odourless gas evolved.	Colourless, odourless gas evolved.
D	Colourless, odourless gas evolved.	A layer of grey solid coats around the cathode.

33. Which of the following equations represents the reaction that takes place at the cathode during the electrolysis of aqueous silver nitrate with carbon electrodes?

A $Ag^+ (aq) + e^- \rightarrow Ag (s)$

B $2H^+ (aq) + 2e^- \rightarrow H_2(Q)$

C $2N^{3-} (aq) \rightarrow N_2(aq) + 6e^-$

D $4OH^- (aq) \rightarrow O_2 (g) + 2H_2O (I) + 4e^-$

34. Electrolysis of the following electrolytes (using inert electrodes) give the same product at the cathode except

A. dilute sulfuric acid

B. aqueous sodium chloride

C. aqueous copper (II) sulphate

D. concentrated potassium hydroxide

35. Element X is extracted by the electrolysis of a molten compound of elements X and Y. The electrode reactions are as shown.
At the cathode: $X^{2+} (I) + 2e^- \rightarrow x (I)$
At the anode: $2Y^{2-} (I) \rightarrow Y_2 (g) + 4e^-$

A. Aluminium oxide

B. Calcium chloride

C. Magnesium oxide

D. Potassium chloride

36. A solid deposit of element R is formed at the cathode when an aqueous solution containing ions of R is electrolysed. Which statement about element R is correct?

A. Element R is below hydrogen in the reactivity series.

B. R gains electrons to form ions at the cathode.

C. Element R forms negatively charged ions.

D. Ions of R loses electrons at the cathode.

37. When fused lead bromide is electrolysed we observe:

(a) a silver grey deposit at anode and a reddish brown deposit at cathode
(b) a silver grey deposit at cathode and a reddish brown deposit at anode
(c) a silver grey deposit at cathode and reddish brown fumes at anode
(d) silver grey fumes at anode and reddish brown fumes at cathode.

38. A compound which liberates reddish brown gas around the anode during electrolysis in its molten state is:

(a) Sodium chloride
(b) Copper (II) oxide
(c) Copper (II) sulphate
(d) Lead (II) bromide

39. When dil. NaCl is electrolysed using graphite electrodes, the cation which is discharged at the cathode most readily

(a) Na^+
(b) OH^-
(c) H^+
(d) Cl^-

40. The ion which is discharged at the cathode during electrolysis of copper sulphate solution using coppern electrodes as anode and cathode.

(a) Cu^{2+}
(b) OH^-
(c) SO_4^{2-}
(d) H+