

Chemistry



9th Class

Sindh Board Notes

Chapter # 8

Electrochemistry



Fill In Blanks

پنجاب، سندھ، بلوچستان، خیبر پختونخواہ، بورڈز کے تمام نوٹس سابقہ پیپرز، اس ویب سائٹ سے فری ڈاؤن لوڈ کریں۔

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➔ ELECTROCHEMISTRY

1. The substance used for electrolysis is called **electrolyte**.
2. When molten sodium chloride is electrolyzed **Na** is formed at cathode.
3. One Faraday is equivalent to **96,500** coulombs.
4. The electrolyte in lead storage battery is **H₂SO₄**.
5. Dry cell is a **primary** cell.
6. The branch of chemistry that deals with the inter conversion of electrical energy and chemical energy is called **electrochemistry**.
7. The Chemical compounds which conduct electricity in molten condition or through its aqueous solution are called an **electrolytes**.
8. All **acids, bases** and **salts** are electrolytes in aqueous solutions or fused states.
9. All electrolytes are **ionic** compounds or **polar** compounds.
10. The chemical compounds which do not conduct electricity in molten or in aqueous solutions are called **non electrolytes**.
11. **Electrolysis** is a process in which movements of the ions take place towards their respective electrodes to undergo chemical changes under the influence of an applied electric field.
12. Sodium Chloride melts at **800°C**.
13. **Na⁺** ions move towards **cathode** and gain electrons to get neutralized
14. **Cl⁻** ions move towards the **anode** and lose their extra electrons forming neutral **chlorine** gas.
15. During the electrolysis of molten sodium chloride **sodium** metal at cathode and **Cl₂** gas at anode is liberated.

16. Water in the presence of few drops of acid ionizes into hydronium ions (H_3O^+) and hydroxide ion (OH^-).
17. During hydrolysis of water H_3O^+ ions move towards cathode.
18. During hydrolysis of water OH^- ions move towards anode.
19. Hydrogen gas is liberated at cathode in the electrolysis of water.
20. Oxygen gas is liberated at anode in the electrolysis of water.
21. Humphrey Davy was the first who did the electrolysis of water and confirmed that the formula of water is H_2O .
22. Faraday's first law of electrolysis states that the amount of any substance deposited or liberated at an electrode during electrolysis is directly proportional to the quantity of current passed through the electrolyte.
23. The weight of the substance deposited or liberated, when one coulomb of electric charge is passed through an electrolyte is called electrochemical equivalent.
24. According to Faraday's second law of electrolysis, the masses of different substances deposited or liberated, when same quantity of current is passed through different electrolytes connected in series are proportional to their chemical equivalent masses.
25. One Faraday is defined as the quantity of charge which deposits or liberates exactly one gram equivalent of a substance.
26. $1\text{F} = \underline{96500}$ coulombs.
27. Ampere is the unit of current.
28. Coulomb is the unit of electric charge.
29. The current when passed through a circuit for one second, can liberate 0.001118g or 1.118×10^{-5} Kg of Ag from silver nitrate is called ampere.
30. The quantity of charge when one ampere of current is passed for one second is called coulomb.
31. The process of electrolysis is used in the extraction, purification and electroplating of metals.

32. **Electroplating** is the process of electrolysis which is used to coat one metal onto the another.
33. The cell which is used to convert chemical energy into electrical energy or vice versa is call **electrochemical** cell.
34. An electrochemical cell which converts chemical energy into electrical energy is known as Galvanic or Voltaic cell.
35. **Daniell** cell is the simplest of galvanic or voltaic cells.
36. The voltage of **Daniell** cell is 1.10 volt.
37. A battery is an assembly of two or more **voltaic** cells connected together in **series**.
38. Dry cell is a **primary** cell.
39. Dry cell is an **irreversible** cell.
40. The cell is called a **dry** cell because there is no free flowing liquid.
41. Lead storage battery is a **secondary** cell.
42. Lead storage battery is a **reversible** cell.
43. In lead storage battery several **anodes** and several cathodes are connected together in **series**.
44. In lead storage battery **anodes** are the **lead alloy** and cathodes are made up of **red lead dioxide**.
45. In lead storage battery 30% dilute solution of **sulphuric acid** is used as an electrolyte.
46. In lead storage battery Cell reaction consists of repeated cycles of **discharging** and **recharging**.

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9th Class

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