

Chemistry - 11th Class Chemistry Short Questions Chapter 10 Preparation

Q1. Give some advantages of fuel cells?

Ans 1:

1. These cell run continuously as long as reactants are available.
2. These are light, portable and source of electricity.
3. These are very efficient. They convert about 75% of fuels energy into electricity.

Q2. Define standard electrode potential?

Ans 1: Standard electrode potential: The potential setup when an electrode is in contact with one molar solution of its own ions at 298 K is called standard electrode potential. It is denoted by E°

Q3. What is meant by electromotive force (emf) of cell?

Ans 1: Electromotive force (emf): The electric current obtained from galvanic cell is a result of electrons being pushed or forced from the negative electrode, throughout an external wire, to positive electrode. The force with which these electrons move throughout the wire is called electromotive force. It is also called potential. It is measured in volts.

Q4. What is Anodized Aluminum?

Ans 1: When a thin layer of oxide is formed over the surface of aluminium metal it is called anodized aluminium. Anodized aluminium is prepared by making it anode in an electrolyte cell containing sulphuric acid or chromic acid, which coats a thin layer of oxide on it. Aluminium oxide layer resists the attack by corrosive agents.

Q5. Differentiate between electrolytic and voltaic cells?

Ans 1: Electrolytic cell:

1. A cell in which electrical energy is converted into chemical energy.
2. Non-spontaneous redox reaction takes place here.
3. Example: Down's cell

Ans 2: Voltaic cell:

1. A cell in which chemical energy is converted into electrical energy.
2. Spontaneous redox reaction takes place here.
3. Example: Daniel cell

Q6. Write the importance of standard hydrogen electrode?

Ans 1: Standard hydrogen electrode (SHE) is used to determine the electrode potential of other electrode. It is used as reference electrode and its value is 0.0 volt. From SHE we derive electrochemical series.

Q7. Zn can displace iron from its solution, how?

Ans 1: Zn is a stronger reducing agent having standard reduction potential as (0.76) than iron which has standard reduction potential as (0.44). So Zn can displace iron from its solution.

Q8. Zn can displace hydrogen from dilute acid solution but copper cannot. Justify the statement?

Ans 1:

Q9. Differentiate between electrolysis and electrolytic conduction?

Ans 1: Electrolysis; The process in which electricity is used to carry out a non-spontaneous redox reaction is called electrolysis. Electrolytic Conduction: The conduction of electricity carried out by ions present in fused or aqueous solution of an electrolyte is called electrolytic conduction.

Q10. Give four rules for assigning of oxidation number?

Ans 1:

1. The oxidation number of free elements is zero. For example H, Mg, Na as charge on the ion.
 2. Oxidation number of hydrogen in all its compounds is +1 except metal hydride where it is -1
 3. In neutral molecules, the algebraic sum of oxidation number of all the elements is zero.
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