



**Question bank
Unit-II**

Part-A Two marks

1. Distinguish between primary battery and secondary battery.

Primary Battery (or) Primary Cells (or) Non-reversible Battery

In these cells, the electrode and the electrode reactions cannot be reversed by passing an external electric energy. The reactions occur only once and after use they become dead. Therefore, they are not chargeable.

Ex: Dry cell, Mercury cell

Secondary Battery (or) Secondary Cells (or) Reversible Battery

In these cells, the electrode and the electrode reactions can be reversed by passing an external electric energy. Therefore, they can be recharged by passing electric current and used again and again. These are also called storage cells or Accumulators.

Ex: Lead acid storage cell, Nickel –cadmium cell

2. Lithium ion battery is the cell of future. Why?

1. Its voltage is high 3.0V

2. Since Li is a light weight metal, only 7g (1mole) material is required to produce 1 mole of electrons.

3. Since Li has the most electronegative E° value, it generates a higher voltage than other types of cells.

4. Since all the constituents of the battery are solids there is no risk of leakage from the battery.

5. This battery can be made in a variety of sizes and shapes.

3. List out any applications of fuel cells.

H_2-O_2 fuel cells are used as auxiliary energy source in space vehicles, submarines (or) other military-vehicles.

In case of H_2-O_2 fuel cells, the product of water is proved to be a valuable source of fresh water by the astronauts.

4. List out the requirements of a battery.



1. It should be light and compact for easy transport.
2. It should have long life both when it is being used and when it is not used.
3. The voltage of the battery should not vary appreciably during its use.
5. What are fuel cells?

Fuel cell is a voltaic cell, which converts the chemical energy of the fuels directly into electricity without combustion.

6. Distinguish between cell and battery.

A Cell: It contains only one anode and cathode.

A Battery: It contains several anodes and cathodes.

7. What is meant by Reversible battery?

In these cells, the electrode and the electrode reactions can be reversed by passing an external electric energy. Therefore, they can be recharged by passing electric current and used again and again .These are also called storage cells or Accumulators.

8. Write the cell representation of lead acid battery.



9. Write the description of Zinc air battery.

Anode is composed of granulated zinc powder mixed with an aqueous solution 30% KOH and a gelling agent to immobilize the material. • Cathode is composed of mixture of carbon and the catalyst and a gelling agent held on a nickel coated steel matrix. • Several hydrophobic, gas permeable, thin layers of Teflon are provided to steady the air entry. • Electrolyte contains 30% KOH. • There is also vent for the entry of air or O₂ into the cell