

CARBON CYCLE-

The carbon cycle is the bio geochemical cycle by which carbon is exchanged among the biosphere, geosphere, hydrosphere and atmosphere of the earth.

Carbon is the element that can form so many different compounds and is discussed in both inorganic and organic chemistry.

Carbon is one of the main building block / component of biological compounds as well as a major component of many minerals such as limestone etc.

It is because each carbon atom has four chemical bonds which combine with other chemical element to make various compounds.

Carbon which is present in carbon dioxide gas, available in atmosphere is absorbed during photosynthesis in their leaves and plant grows to grow fruits and vegetables.

Living animals and human being consumes fruits, vegetables and cereals to get energy and exhales carbon dioxide gas.

Over millions of year carbons present in trees and animals while buried under the earth get transformed into hydrocarbons and form Coal, Petroleum product which is known as long term carbon cycle.

To get heat energy which is used for producing electricity and propulsion purpose Coal and Petroleum is burnt in Boiler Furnace for steam production or fired in IC Engine or Gas Turbine.

During this process Carbon dioxide gas is emitted which goes to the atmosphere.

Major four steps of the Carbon cycle:-

- Photosynthesis.
- Decomposition.
- Respiration.
- Combustion.

Carbon takes up various forms which is recycled:-

- Carbon dioxide in the air.
- Glucose in plants.
- Hydrocarbons of the Fuel.

Salient steps of Carbon Cycle:-

- Carbon moves from the atmosphere to the plants.
- Carbon moves from plant to animals while they eat plants.
- Carbon moves from plants and animals to soils.
- Carbon moves from living things to atmosphere through respiration while carbon dioxide is exhaled.

- Carbon moves from fossil fuel to the atmosphere when it is burnt for heat generation.
- Carbon moves from the atmosphere to the hydrosphere (Oceans, rivers, lakes) by rain water reacting with atmospheric carbon dioxide to form carbonic acid.