

Date - 17-02-2025

Department of Botany - B.Sc part - II. Hon

Online class, P.T. College, Ara, Dr Sunil Pandey

Time - 9:00 - 10:00

E. Copy

Group - B. paper - III - Ecology -

Question → Discuss Carbon cycle? -1-

Ans - Carbon is the most important basic element of all organic Compounds. The main source of Carbon are free Carbondioxide ( $\text{CO}_2$ ) present in nature dissolved  $\text{CO}_2$  in water, rocks, coal deposites and volcanic activities etc.  $\text{CO}_2$  obtained from all these sources is present in about 0.03% in atmosphere. The movement of Carbon is also in cyclic order which involves the following main steps:

- (i) The green plants use  $\text{CO}_2$  for manufacture of food in presence of Sunlight. During the process  $\text{CO}_2$  is fixed to form Carbohydrate and other organic Compounds like protein, fats etc.
- (ii) When these plants are eaten by herbivores (animals - primary Consumers) and tertiary Consumers) get their the form of food through the food chain system.
- (iii) All living organism (plant and animals) contribute a good amount of  $\text{CO}_2$  to the atmosphere through respiration.
- (iv) Some proportion of organic matters contribute the formation of Coal deposites and rocks which release  $\text{CO}_2$  to the atmosphere.

In this way Carbon moves in the nature in the form of  $\text{CO}_2$  to green plants (producers), then animals (Consumers), then decomposers bacteria fungi and other micro-organism and finally return to the atmosphere through the decomposition of dead organic matters.

=

P. T. D