CHAPTER – 1
NUTRITION IN PLANTS

• **Nutrition:** It is the mode of taking food by an organism and its utilization by the body.
• **Nutrients:** The components of food that provide nourishment to the body.
• All organisms take food and utilise it to get energy for the growth and maintenance of their bodies.
• Green plants synthesise their food themselves by the process of photosynthesis. They are **autotrophs**.
• **Photosynthesis:** Green plants prepare their own food with the help of carbon dioxide and water taken from the environment in presence of sunlight called **chlorophyll (found in green plants)** for the manufacture of food. This process is known as photosynthesis.
• Plants use simple chemical substances like carbon dioxide, water and minerals for the synthesis of food.
• Chlorophyll and sunlight are the essential requirements for photosynthesis.
• Complex chemical substances such as carbohydrates are the products of photosynthesis.
• Solar energy is stored in the form of food in the leaves with the help of chlorophyll.
• Oxygen is produced during photosynthesis.
• Oxygen released in photosynthesis is utilised by living organisms for their survival.
• Fungi derive nutrition from dead, decaying matter. They are saprotrophs. Plants like Cuscuta are parasites. They take food from the host plant.
• A few plants and all animals are dependent on others for their nutrition and are called **heterotrophs**.
• **Parasitic:** Organisms that live on the body of other organisms.
• All parasitic plants feed on other plants as either:
  (i) **Partial Parasites:** Obtain some of their nutrition from the host, e.g. painted cup.
  (ii) **Total Parasites:** dependent completely on the host for nutrition, e.g. mistletoe.
• **Saprophytic:** Organisms that obtain nutrition from dead and decaying plant and animal matter.
• Mushrooms, moulds and certain types of fungi and bacteria.
Key Notes

- **Insectivorous Plants**: Green plants which obtain their nourishment partly from soil and atmosphere and partly from small insects. Example: pitcher plant, bladderwort, and venus fly trap.

- **Symbiosis**: Mode of nutrition in which two different individuals associate with each other to fulfil their requirement of food.

- Lichens found on tree trunks is the association between alga and fungus. Alga obtains water from fungus and it in turn obtains food from alga.