

Class _ VII

CHAPTER-1

FOOD

Nutrition

Nutrition is the mode of taking food by an organism and its utilisation by the body.

- Nutrition is very important as the nutrients from the food consumed enables living organisms to build their bodies and grow.
- Nutrition helps to repair damaged parts and organs.
- Nutrition also provides energy for carrying out various functions.

Autotrophs

Organisms that make their food themselves are called **autotrophs**.

- Plants are an example of autotrophs as they make their own food using carbon dioxide, water and light energy.

Heterotrophs

Organisms that depends on others and usually take in ready-made food made by the autotrophs are called **heterotrophs**.

- Animals and human beings are an example of heterotrophs as they depend on plants in many ways for their food.

Photosynthesis

Green plants make their food from carbon dioxide and water in the presence of chlorophyll and sunlight. This process is called photosynthesis. Oxygen is released in this process.

Photosynthesis is the process of synthesis of food by green plants.

- This process usually takes place in the leaves of plants.
- The process requires chlorophyll (green coloured pigment), sunlight, carbon dioxide and water.

Process of Photosynthesis

The process of photosynthesis takes place in the leaves, the “food factory” of the plants.

- Carbon dioxide is taken in through tiny pores on the leaves called stomata.
- Water and minerals that are required for the process are transported to the leaves from the roots through the stem.

- Chlorophyll helps the leaves use the energy from the sunlight to prepare food using the carbon dioxide, water and minerals.
- Oxygen is released as a by product of this process.

Other Modes of Nutrition

Symbiotic Nutrition

Organisms that live together and share their shelter and nutrients are said to be in a **symbiotic relationship**

For example Rhizobium bacteria,Lichens.

Parasitic Nutrition

A **parasite** is a heterotroph that completely depends on another organism for its food.
For example, Cuscuta (Amarbel)

The organism to which the parasite depends onto is called the **host**.

Saprotrophic Nutrition

Organisms which depends on dead and decaying matter for their food are called **Saprotrophs**.

This mode of nutrition is called **saprotrophic nutrition**.

For example, Fungi.

Insectivorous Plants

Plants that feed on insects are called **Insectivorous plants**.

- These plants are green and carry out photosynthesis.
- But they grow in nitrogen-deficient soils.
- So, in order to get nitrogen, they feed on insects.

For example, The pitcher plant.

Chapter-1
Question and Answers

Q.1. Why do organisms take food?

Ans 1:

All organisms require energy for their life processes. Plants prepare their food and acquire nutrients from abiotic components like soil, air, water and sunlight. On the other hand, animals need to get food from either plants or other animals to obtain nutrients; hence animals need to take food to acquire nutrients and energy.

Q.2. Distinguish between a parasite and a saprophyte.

Ans 2:

Saprophytes

Acquire nutrients from dead and decaying matter

Example: Fungi

Parasites

Parasites live on or in a host and get its food from its host

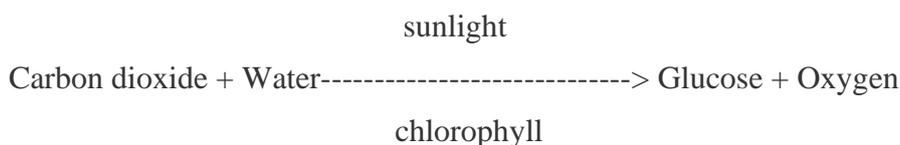
Example: roundworm

Q.3. Give a brief description of the process of synthesis of food in green plants

Ans.3

Green plants make their food from carbon dioxide and water in the presence of chlorophyll and sunlight. This process is called photosynthesis. Oxygen is released in this process.

- Photosynthesis is represented by the following equation.



Q.4: Fill in the blanks

- Green plants are called **autotrophs** since they synthesise their food.
- The food synthesised by plants is stored as **starch**.
- In photosynthesis, solar energy is absorbed by the pigment called **chlorophyll**.

(d) During photosynthesis, plants take in Carbon dioxide and release out Oxygen gas.

Q.5. Name the following:

Ans.5:

i) A parasitic plant with yellow, slender and branched stem.- Cuscuta

ii) A plant that is partially autotrophic.-Pitcher plant

iii) The pores through which leaves exchange gases.-Stomata

Q.6 Do following defines from the given notes:

a. Photosynthesis.

b. Saprotrophic Nutrition.

c. Nutrition.

d. Autotrophs.

e. Heterotrophs