

Board - CBSE

Class - 7

Topic - Nutrition in plants

1. Fill in the blanks:

- (a) Green plants are called _____ since they synthesize their own food.
- (b) The foods synthesized by the plants are stored as _____.
- (c) In photosynthesis solar energy is captured by the pigment called _____
- (d) During photosynthesis plants take in _____ and release _____

Ans:

- (a) Autotrophs
- (b) Starch
- (c) Chlorophyll
- (d) Carbon dioxide; oxygen

2. Name the following:

- (a) A parasitic plant with a yellow, slender, tubular stem
- (b) A plant that has both autotrophic and heterotrophic modes of nutrition
- (c) The pores through which leaves exchange gases
- (d) A plant that has both autotrophic as well as a heterotrophic mode of nutrition
- (e) An organism that lives in an association of an alga and a fungus
- (f) Amarbel is an example of
- (g) The plant which traps and feeds on insects is.

Ans:

- (a) Cuscuta
- (b) Insectivorous plants
- (c) Stomata
- (d) Pitcher plant
- (e) Lichen
- (f) Parasites
- (g) Pitcher plant

3. What are Nutrients?

Ans: Food is essential for all living organisms. Carbohydrates, proteins, fats, vitamins, and minerals are components of food. The chemical substance present in components of food is necessary for our body and is called nutrients.

4. How humans and animals are directly or indirectly dependent on plants?

Ans: All living organisms require food. Plants can make their food themselves but animals including humans cannot. They get it from plants or animals that eat plants. Thus, humans and animals are directly or indirectly dependent on plants.

5. Whether food is made in all parts of a plant or only in certain parts?

Ans: Only certain parts of plant-like leaves having green pigment chlorophyll. So Leaves are called the food factories of plants. Besides leaves, photosynthesis also takes place in other green parts of the plant — in green stems and green branches. The desert plants have scale- or spine-like leaves to reduce loss of water by transpiration. These plants have green stems which carry out photosynthesis.

6. What is a cell?

Ans: Cell is called the building block of a living organism. Cells can be seen only under the microscope. Some organisms are made of only one cell. They are called Unicellular Ex. Amoeba, Paramecium, etc Living organisms made up of many cells are called Multicellular like man, tree, etc.

7. What are the main requirements of photosynthesis?

Ans: Chlorophyll, sunlight, carbon dioxide, and water are necessary to carry out the process of Photosynthesis.

8. Why the sun is called the ultimate source of energy for all living organisms?

Ans: Solar energy is captured by the leaves and stored in the plant in the form of food and this is in turn used by other organisms to get food to obtain energy Thus; the sun is the ultimate source of energy for all living organisms.

9. Why algae are green in colour?

Ans: Algae contain chlorophyll which gives them the green colour. It can also prepare their own food by photosynthesis.

10. What is parasitic nutrition?

Ans: The mode of nutrition by which parasitic organisms get and synthesize their food is called parasitic nutrition. Example Cuscuta It does not have chlorophyll it takes readymade food from the plant on which it is climbing. The plant on which it climbs is called a host.

11. How do Pitcher plants get their nutrition?

Ans: There are a few plants which can trap insects and digest them. Such plants may be green or of some other colour. Such insect-eating plants are called insectivorous plants. Example Pitcher plant-when an insect lands in the pitcher, the lid closes and the trapped insect gets entangled into the hair. The insect is digested by the digestive juices secreted in the pitcher.

12. Why does the pitcher plant feed on insects though it is green?

Ans: The pitcher plant does not get all the required nutrients especially those of nitrogen from the soil, hence it feeds on insects.

13. What is saprotrophic nutrition? What is the mode of nutrition in fungi?

Ans: This mode of nutrition in which organisms take in nutrients in solution from dead and decaying matter is called saprotrophic nutrition. Plants which use a saprotrophic mode of nutrition are called saprotrophs. Example Fungi that secrete

digestive juices on the dead and decaying matter and convert it into a solution. Then they absorb the nutrients from it.

14. From where do the plants obtain nitrogen?

Ans: Soil has certain bacteria that convert gaseous nitrogen into a usable form and release it into the soil. These soluble forms are absorbed by the plants along with water. By adding fertilizers rich in nitrogen to the soil farmers also made nitrogen available for plants