

BIJENDRA PUBLIC SCHOOL

Class - 7

Subject - SCIENCE

Chapter - 1 FOOD

A. Very Short Answer Questions : (Answer in one word)

1. Name the process by which green plants make their food.

Ans. Photosynthesis

2. What type of heterotroph is a frog?

Ans. Carnivore

3. What are the small pores on the under surface of the leaves called?

Ans. Stomata

4. What is the mode of nutrition in fungi?

Ans. Saprophytic

5. Where does the bacterium Rhizobium live?

Ans. Root nodules in a legume.

B. Short - Answer Questions : Answer in 10-15 words.

1. Why are the animals and human called heterotrophs?

Ans. The organisms that cannot make their own food are called heterotrophs. Since animals and humans cannot make their own food, so they are called heterotrophs.

2. Name the factors which affect photosynthesis.

Ans. The factors that affect photosynthesis are light intensity, nature of light, availability of carbon dioxide and water and temperature.

3. Name one each of

- a. totally parasitic
- b. partial parasitic plants.

Ans. a. Total parasitic plant: Cuscuta (Amarbel) and Apodauthes

- b. Partial parasitic plants: Mistletoe

4. How are the soil nutrients replenished?

Ans. Nutrients in the soil can be replenished by one or more of the following methods.

- * By using manure
- * By using fertilizers
- * By adopting crop-rotation method

5. What is crop-rotation method?

Ans. In crop-rotation method a cereal crop is sown alternately to a leguminous crop. This is done to replenish the nutrients (specially nitrogen) in the soil.

C. Long Answer Type Questions (Answer in 20-25 words)

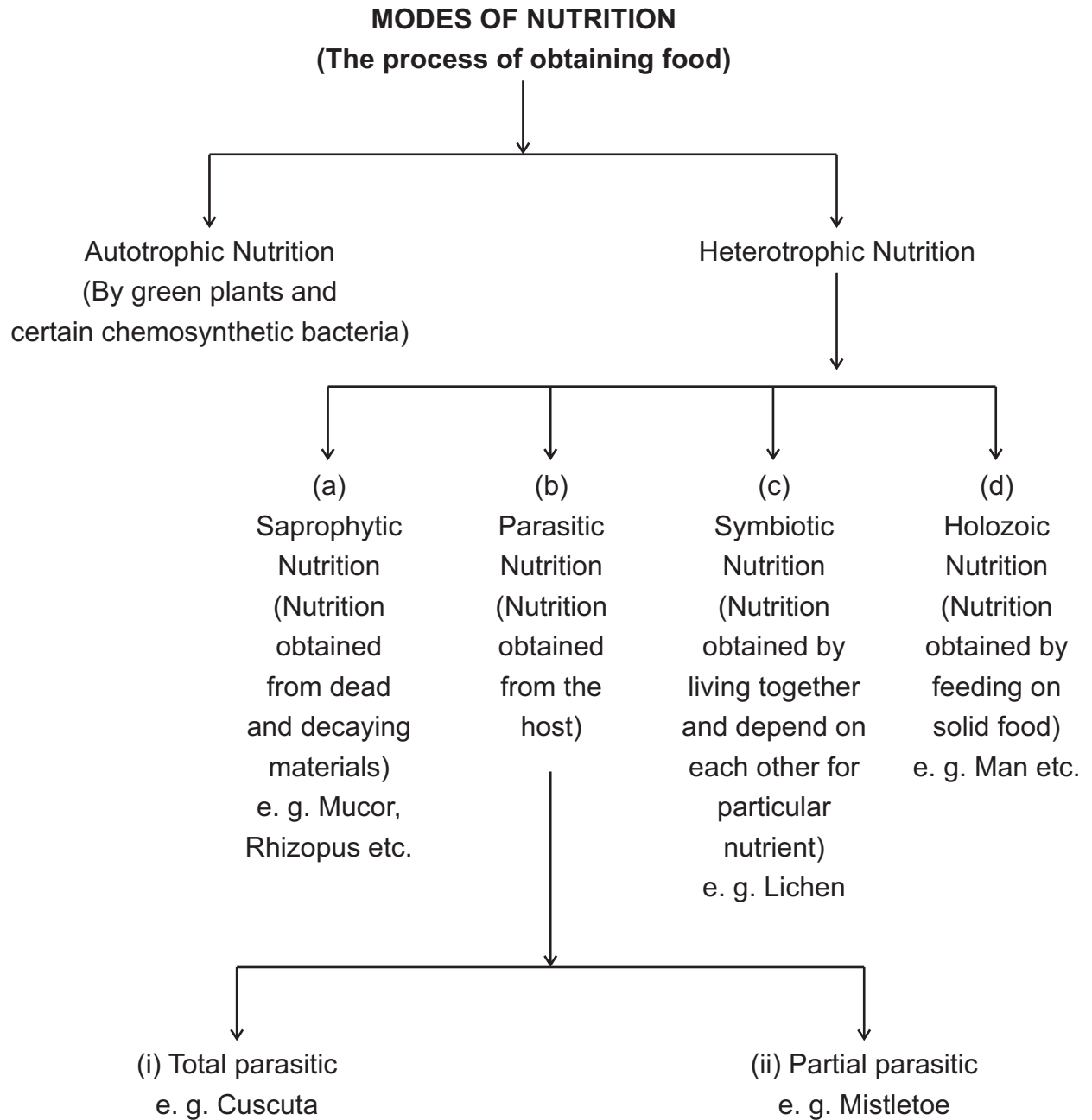
1. What are the functions of food?

Ans. The food performs the following functions in our body:

- i. It provides energy to do work and to maintain body health.
- ii. It provides materials for the growth of the body.

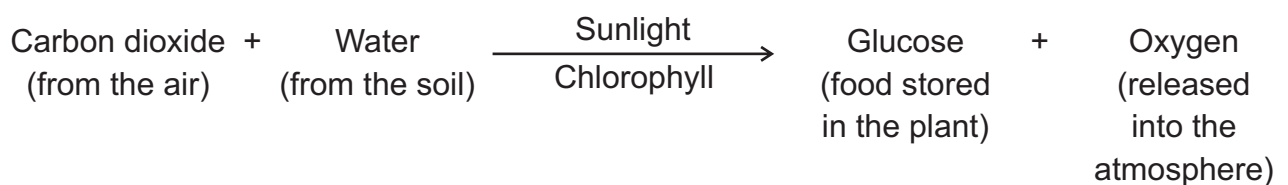
- iii. It provides materials for the repair of damaged cells and tissues of our body.
 - iv. It makes materials necessary for reproduction, and
 - v. It regulates body processes to maintain life.
2. What is meant by nutrition? Draw a chart showing classification of the modes of nutrition.

Ans. The process of taking food and its utilization by the body is called nutrition.



3. Describe photosynthesis. Name the various factors affecting photosynthesis.

Ans. Photosynthesis: The process by which green plants make their own food from carbon dioxide and water in the presence of chlorophyll and sunlight.



Factors Affecting Photosynthesis:-

- i. Light intensity :- As the light intensity is increased, the rate of photosynthesis increases almost linearly. At higher light intensity, the rate of photosynthesis becomes limiting.
- ii. nature of light :- The blue and red regions of the visible light are most effective for photosynthesis. If the light of some other colour is made to fall on the plants, then the rate of photosynthesis decreases.
- iii. Carbon dioxide and water :- Poor availability of CO_2 and H_2O lowers the extent / rate of photosynthesis.
- iv. Temperature :- The temperature does not affect the light reaction, but affects the dark reaction markedly. The effect of temperature on photosynthesis varies from plant to plant.

4. Describe the role of leaves in photosynthesis.

Ans. Leaves contain the green pigment chlorophyll which traps the solar energy. Plants get carbon dioxide gas from the air around them. The carbon dioxide enters the leaves of the plant through tiny pores in their surface called stomata. The stomata are present on the under surface of the leaves. This called dioxide is utilised in photosynthesis.

5. Describe the term symbiosis. Give the name of a plant that exhibits symbiotic relationship.

Ans. The relationship between two different living creatures that live together and depend on each other in particular ways, each getting particular benefits from the other, is called symbiosis.

Lichens exhibits symbiotic relationship. A lichens is made up of a fungus and an alga living together. Alga (autotrophs) and fungus (saprophyte) depend on each other for their nutritional needs. The fungus supplies water and minerals to the alga. The alga being autotroph synthesises food by photosynthesis and supplies food to the fungus.

D. Tick (✓) The odd-one out giving reason.

1. Green plants, photosynthesis, producer, carnivores, carbon dioxide

Ans. Carnivores :- Others referred to green plants.

2. Starch, Iodine solution, Stomata, Saprophyte

Ans. Saprophyte :- Others are concerned with green plants.

3. Water, Chlorophyll, Root hair, Carbon dioxide

Ans. Root hair :- Photosynthesis takes place in the presence of chlorophyll, water and carbon dioxide.

4. Fungi, Mushroom, Saprophytes, Cuscuta

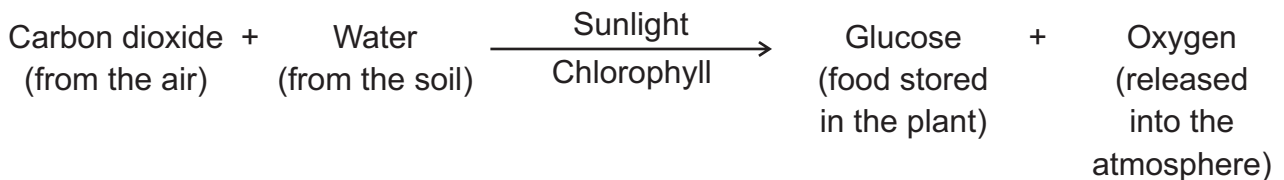
Ans. Cuscuta :- Cuscuta is totally parasitic.

5. Manure, Urea, Ammonium nitrate, Rhizobium

Ans. Rhizobium :- Others contains nitrogenous compounds, whereas Rhizobium fixes the atmospheric nitrogen.

E. Define the following terms.

1. Autotrophic nutrition :- The mode of nutrition in which the organism makes its food itself from simple inorganic substances is called autotrophic nutrition (auto means self and tropes means nourishment).
2. Parasitic nutrition :- The mode of nutrition in which the living creatures derive their food from the bodies of some other organisms is called parasitic nutrition. The organism which provides the food is called the host. The host may be a plant or an animal.
3. Omnivores :- The animals which consume both - plant food as well as flesh of other animals are called omnivores. e. g. - man
4. Photosynthesis :- It is the process by which the green plants manufacture their own food in the presence of sunlight and chlorophyll, in chloroplast using the raw material like CO₂ from air and water from soil.



5. Symbiosis :- The relationship between two different living organisms that live together and depend on each other in particular way, each getting particular benefits from the others, is called symbiosis.
e. g. - Lichens (Alga and fungus)

HOTS (High Order Thinking Skills):

1. Why can't animals and human make food from carbon dioxide and water in the presence of light?
Ans. Animals and humans cannot make food from carbon dioxide and water in the presence of light because the process of making food requires an essential components called chlorophyll which traps the Sun's energy. It is absent in humans and animals.
2. Why are the insectivores plants called partially heterotrophs?
Ans. The insectivores plants are sometimes called partial heterotrophs because they derive their nutrition partly from the raw materials from the atmosphere and partly from insects. These green plants make their own food but depend on insects for nitrogenous nutrients.
3. How is the association between fungi and algae beneficial to each other?
Ans. The association between algae and fungi results into the formation of lichens. Alga is an autotroph and hence it prepares its own food by the process of photosynthesis and makes it available to the fungus which is a heterotroph. The fungus in turn provides water, minerals and shelter to the alga.