NUTRITION IN PLANTS

NCERT Textbook Questions

Q.1. Why do organisms need to take food?

Ans. Food is required by all living organisms mainly for four reasons:

(1) Food helps a living organism to grow. If enough food is not given or if the food given is not of right kind, the organism will not have a proper growth.

(2) Food provides energy, which is required for all living organism for movements and other activities.

(3) Food is needed by living organisms for replacement and repairing of their damaged parts.

(4) Food provides us the power to fight against infections and diseases.

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

Ans.

Parasite	Saprotroph
It takes readymade food from the organism on which it feeds.	It secretes the digestive juices on the matter it lives, convert it into a solution and then absorb it.
It feeds on a living organism.	It feeds on dead and decaying organism.
The organism on which it feeds is called a host.	It does not feed on a living organism.
It deprives the host of valuable nutrients.	There is no host at all.

Q.3 How would you test the presence of starch in leaves?

Ans. The presence of starch in leaves can be tested by iodine test. When we put iodine in starch solution, it turns blue.

Q.4. Give a brief description of the process of synthesis of food in green plants.

Ans. The green plants have chlorophyll in the leaves. The leaves use carbon dioxide and water to make food in the presence of sunlight.

$$\text{Carbon dioxide} + \text{Water} \xrightarrow[\text{Chlorophyll}]{\text{Sunlight}} \underset{\text{(glucose)}}{\text{Carbohydrate}} + \text{Oxygen}$$

During photosynthesis oxygen is released.

Q.5. Show with the help of a sketch that the plants are the ultimate source of food.

Ans.

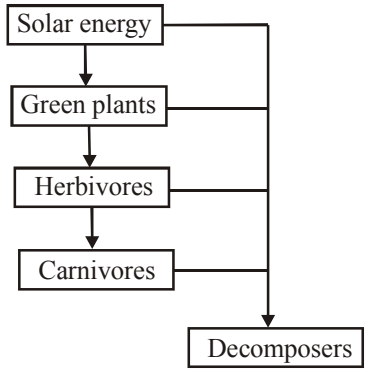

Figure : Sketch to show the plants are the ultimate source of food

Q.6. Fill in the blanks.

(a) Green plants are called _____ since they synthesise their own food.

(b) The foods synthesised 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.

Q.7. Name the following:

(i) A parasitic plant with yellow, slender, tubular stem

(ii) A plant that has both autotrophic and heterotrophic mode of nutrition

(iii) The pores through which leaves exchange gases

Ans. (i) Cascuta (ii) Insectivorous plants

(iii) Stomata

Q.8. Tick the correct answer.

(a) Amarbel is an example of:

(i) Autotroph (ii) Parasite

(iii) Saprotroph (iv) Host

(b) The plant which traps and feeds on insects is:

(i) Cuscuta (ii) China rose

(iii) Pitcher plant (iv) Rose

Ans: (a) Parasite (b) Pitcher Plant.

Q.9. Match the items in column I with those in column II.

	Column I		Column II
(A)	**Chlorophyll**	**(p)**	**Bacteria**
(B)	**Nitrogen**	**(q)**	**Heterotrophs**
(C)	**Amarbel**	**(r)**	**Pitcher Plant**
(D)	**Animals**	**(s)**	**Leaf**
(E)	**Insects**	**(t)**	**Parasite**

Ans. (A) – s, (B) – p,
(C) – t, (D) – q,
(E) – r.

Q.10 Mark "T" if the statement is true and "F" if it is false.

(i) Carbon dioxide is released during photosynthesis.

(ii) Plants which synthesise their food themselves are called saprotroph.

(iii) The product of photosynthesis is not a protein.

(iv) Solar energy is converted into chemical energy during photosynthesis.

Ans. (i) F (ii) F
(iii) T (iv) T

Q.11 Choose the correct option from the following:

Which part of the plant gets carbon dioxide from the air for photosynthesis?

(i) Root hair **(ii) Stomata**
(iii) Leaf veins **(iv) Sepals**

Ans. (ii) Stomata

Q.12 Which is the correct option in the following?

Plants take carbon dioxide from the atmosphere mainly through their:

(i) Roots **(ii) Stem**
(iii) Flowers **(iv) Leaves**

Ans. (iv) Leaves