INDIAN SCHOOL AL WADI AL KABIR		
CLASS: VII	**DEPARTMENT: SCIENCE 2024-25**	**DATE: 21-04-2024**
TEXTBOOK Q & A	**TOPIC: NUTRITION IN PLANTS**	**NOTE: A4 FILE FORMAT**
NAME OF THE STUDENT:	**CLASS & SEC:**	**ROLL NO.**

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

1. **Ans - Organism needs food –**

a] to get the energy to do work.

b] to help in the growth and development of the body.

c] for the replacement and repair of damaged parts of the body.

d] to fight against diseases and protect us from infections.

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

Ans –

Parasite	Saprotroph
i. The organism that grows on the body of another organism and derives nutrients from it is known as a parasite.	i. The organism that obtains nutrients from the dead or decaying organic matter is called a saprotroph.
ii. Examples of parasites are Cuscuta and Rafflesia	ii. Examples of saprotrophs are fungi and some bacteria

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. First, we need to boil the leaf in water and then we remove the chlorophyll from the leaf by boiling it in alcohol. Then add 2 drops of iodine solution, if its colour changes to blue then it indicates the presence of starch.

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

Ans – Green plants are the only organisms that can prepare food for themselves.

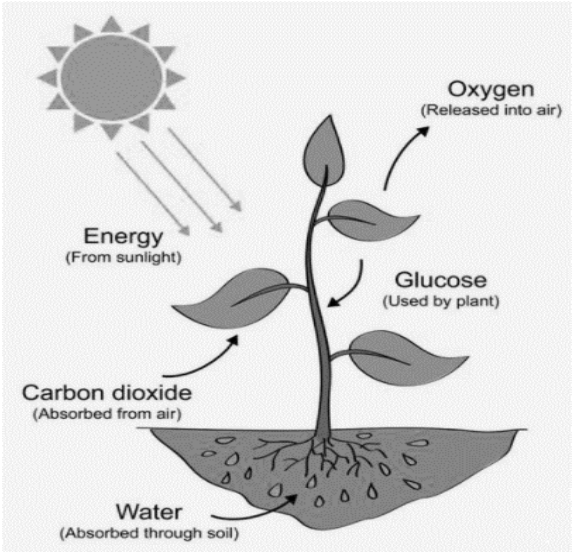
In green plants, the synthesis of food occurs by a process called photosynthesis. During photosynthesis, chlorophyll-containing cells of the leaves use carbon dioxide and water to synthesise carbohydrates (glucose) in the presence of sunlight. The process can be represented by an equation:

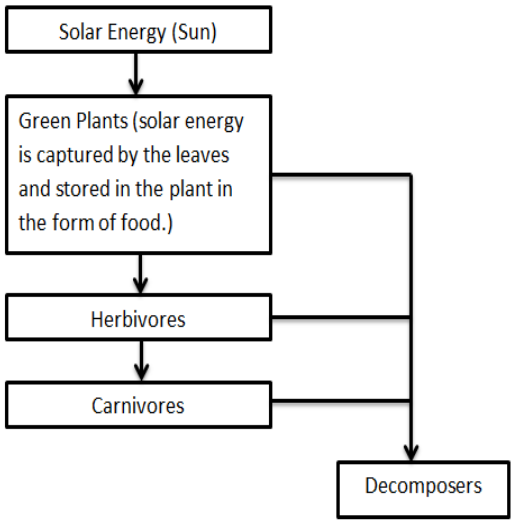
$$\text{Carbon dioxide} + \text{Water} \xrightarrow[\text{Chlorophyll}]{\text{Sunlight}} \text{Glucose} + \text{Oxygen}$$

During this process, oxygen is released. The carbohydrates formed ultimately get converted into starch.

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

Ans –





Q.6. Fill in the blanks:

a) Green plants are called **autotrophs** since they synthesise their own food.

b) The food synthesised by the plants is stored as **starch**.

c) In photosynthesis solar energy is captured by the pigment called **chlorophyll**.

d) During photosynthesis plants take in **carbon dioxide** and release **oxygen**.

Q.7. Name the following:

(i) A parasitic plant with yellow, slender, and tubular stem. - **Cuscuta**

(ii) A plant that has both autotrophic and heterotrophic modes of nutrition. - **Pitcher plant**

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

Q.8. Tick the correct answer:

a) Amarbel (Cuscuta) is an example of -

i) autotroph ii) parasite iii) saprotroph iv) host

[Ans - (ii) parasite]

b) The plant which traps and feeds on insects is -

i) Cuscuta ii) china rose iii) pitcher plant iv) rose

[Ans - (iii) pitcher plant]

Q.9. Match the items given in Column I with those in Column II:

Column I	***Column II***
Chlorophyll	Bacteria
Nitrogen	Heterotrophs
Amarbel	Pitcher plant
Animals	Leaf
Insects	Parasite

Ans -

Column I	***Column II***
Chlorophyll	**Leaf**
Nitrogen	**Bacteria**
Amarbel	**Parasite**
Animals	**Heterotrophs**
Insects	**Pitcher plant**

Q.10. Mark 'T' if the statement is true and 'F' if it is false:

i) Carbon dioxide is released during photosynthesis. **(F)**

ii) Plants that synthesise their food themselves are called saprotrophs. **(F)**

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

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

Q. 11. Choose the correct option from the following:

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

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

[Ans - (ii) Stomata]

Q.12. Choose the correct option from the following:

Plants take carbon dioxide from the atmosphere mainly through their:

(i) roots (ii) stem (iii) flowers (iv) leaves

[Ans - (iv) leaves]

Q.13. Why do farmers grow many fruits and vegetable crops inside large greenhouses? What are the advantages to the farmers? [Ans- Growing crops inside large greenhouses provides the required temperature for crops and protects crops from wind, cold, insects, etc. The advantages of farming in greenhouses are that it provides a better yield of crops and requires less effort from the farmer.]

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