Date
07-04-19

Lesson-1

Nutrition in plants

NOTES

Q1) What is Nutrition? Explain it.

Ans1) Nutrition is the process of taking food by an organism and its digestion, absorption and utilisation by the body.

Q2) How many nutrition in plants are there.

Ans2) There are two modes of nutrition in plants -

1- Autotrophic mode of Nutrition.

2- Heterotrophic mode of Nutrition.

Q3) What is autotrophic mode of nutrition?

Ans3) The mode of nutrition in which an organism makes its own food from simple substances like carbon dioxide, water and minerals present in the surroundings is called autotrophic mode of nutrition. All green plants are autotrophs plants.

Q4) What is heterotrophic mode of nutrition?

Ans4) The mode of nutrition in which an organism cannot make its own food from the simple substances but obtains ready-made food

made by the green plants directly or indirectly is called heterotrophic nutrition. Animals and non-green plants are called heterotrophic plants.

Qs:) What is photosynthesis?

Ans:) The process of making food in the presence of sunlight, food (glucose) from carbon dioxide, water and chlorophyll is called photosynthesis

Q6) Define the importance of photosyntheis?

Ans6):- Photosynthesis enables the green plants to make their own food. In the absence of photosynthesis, there would be no plants.

2- The survival of all animals in the world directly or indirectly depends upon the food made by plants.

3- Oxygen, which is essential for the survival of all organisms, is produced during photosynthesis. Carbon dioxide is used by plants during photosynthesis. So, we can say that photosynthesis maintains the balanced between oxygen and carbon dioxide in the atmosphere.

So, in the absence of photosynthesis, life on the earth would be impossible.

Q7) What is saprotrophic nutrition?

Ans7) The mode of nutrition in which the non-green plants obtain their nutrients from dead and decaying organic matter of plants and animals is saprotrophic mode of nutrition.

Q8) What is parasitic nutrition?

Ans8) The mode of nutrition in which some plants live in or on the body of other organisms and get their ready-made food from them is called parasitic nutrition.

D) Short answer type-I Questions:

Q1) What are autotrophs?

Ans1) Autotrophs is the mode of nutrition in which an organism make their own food from simple substances like carbon dioxide, water and minerals present in the surrounding is called autotrophs.

Q2) Why is cuscuta called parasite?

Ans2) The plant like cuscuta that obtains the ready-made food is called a parasite.

Q3) What is nutrition?

Ans3) Nutrition is the process of taking food by an organism and its digestion, absorption

and utilisation by the body.

Q4) Why do some plants feed on insects?

Ans) The few plants feed on insects for fulfilling their nitrogen requirement.

Q5) Define photosynthesis.

Ans) The process of making food is known as photosynthesis. At presence of carbon dioxide and water by using solar energy in the presence of chlorophyll is called photosynthesis.

(E- Short answer type -II. Question:-

Q1) How can you test the presence of starch in a leaf? What do you conclude when white patches do not turn blue-black on adding iodine solution?

Ans) Keep one plant in the presence of sun light for a few hours. Now, pluck a leaf of this plant and trance the leaf on a sheet of paper showing green and white patches. Remove the green coloured chlorophyll from the leaf by boiling it first in water and then in alcohol. (Do not heat the test tube ~~con~~ containing alcohol directly. Keep it in a beaker filled three-fourths with water.) In this way, you get a decolourised leaf. Wash the leaf with water. And then add some iodine solution and then you find ~~white~~ coloured patchs of the leaf dark

not turn blue-black starch is not formed in white part of leaf. The portion of leaf which was earlier green, turn blue-black starch is formed only in the green parts of the leaf. We conclude that chlorophyll is necessary for photosynthesis.

Q2) What is saprotrophic mode of nutrition? Give one example.

Ans2) The mode of nutrition in which the non-green plants obtain their nutrients from dead and decaying organic matter of plants and animals is called saprotrophic nutrition. Example:- Indian pipe and coral root.

Q3) How does the pitcher plant trap its food?

Ans3) When an insect lands in the pitcher, the lid closes and the trapped insect gets entangled in the hair.

Q4) Algae and fungi live together in lichens.

(a) What is this association called?

Ans) This association is called a lichen between them so that one object can send a massage to another or also know as symbiosis.

(b) What value do we learn from this association in nature?

Ans) Symbiosis is a close and long interaction between

two organisms of different species for mutual benefits.

Q5:- Discuss the importance of photosynthesis.

Ans5:- 1) Photosynthesis enables the green plants to make their own food. In the absence of photosynthesis, there would be no plants.

2) The survival of all animals in the world directly or indirectly depends upon the food made by plants.

3) Oxygen, which is essential for the survival of all organisms, is produced during photosynthesis. Carbon dioxide is used by plants during photosynthesis. So, we can say that photosynthesis maintains the balance between oxygen and carbon dioxide in the atmosphere.

F. Long Answers:-

Q1) Write an experiment to show sunlight is neccessary for photosynthesis.

Ans1:- Photosynthesis is a biochemical process by which green plants synthesize simple sugar in the presence of sunlight using carbon-dioxide from the atmosphere and water from the soil. This simple sugar (glucose) is later converted to starch. The most important factor for photosynthesis is light.

Q2.) How do Rhizobium bacteria and leguminous plants help each other in survival?

Ans2) Rhizobium converts atmospheric nitrogen into the soluble form, which can be then taken in by the leguminous plants. However since Rhizobium cannot prepare their own food, it establishes in the roots of the plant and provide them with nutrients. Plants is turn provide it with food and shelter.

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24/4/19