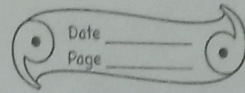


C.W  
4-4-23

Ch-1  
Nutrition in Plants



C) Short answer questions :-

1) What do you understand by the term nutrition?

A- The process by which a living organism takes in food and utilise it for growth and repair is known as nutrition. It is a critical part of health and development.

2) What are autotrophs?

A- Green plants are called autotrophs as they prepare their food themselves through the process of photosynthesis.

3) Give <sup>overall</sup> the reaction of photosynthesis.

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

Oxygen

From the reaction it can be observed that apart of food oxygen is also produced as a by product. It can be concluded that photosynthesis -



- provides food to the plants and all the organisms which are a part of the food chain.
- helps to produce oxygen which helps in maintaining the balance of oxygen and carbon dioxide in the atmosphere.

5) Name the components which are important for photosynthesis.

A- The important components of the photosynthesis are sunlight, water, carbon dioxide and chlorophyll.

6) What is a food chain?

A- Herbivores animals depend upon plants for nutrition. Carnivores animals depend upon the herbivores animals, carnivores animals also depend indirectly upon plants for nutrition. This type of arrangement of plants and animals in a series is known as food chain.

7) How do bacteria and fungi living in soil digest their food?



A- Bacteria and fungi show extracellular digestion i.e. they secrete digestive juices on the dead remains of plants and animals and convert the complex molecules present in them into simple molecules. These simple molecules are then absorbed by these plants for nutrition.

Q- What is starch test?

A- It refers to a test for the presence of starch. It is carried out by iodine solution to substance when it is carried out dark blue colour which indicate the presence of iodine.

Q- It refers to a test for the presence of starch. It is carried out when an iodine solution is applied to a substance or material that contains starch. When it is carried out a dark blue colour appears which indicate the presence of iodine.



D) Long answer questions:-

1) What are the two essential functions of photosynthesis? Describe them in detail.

A- The two essential functions of photosynthesis are :-

- It provides food to the plants and all the organisms which are a part of the food chain.
- It helps to produce oxygen which helps in maintaining the balance of oxygen and carbon dioxide in the atmosphere.

2) Differentiate between the following -

a) Herbivores and carnivores

A- Herbivores

Carnivores

i) The animals which eat plants and plant products are known as herbivores animal.

i) The animals which eat plants flesh of other animals are called carnivores animals

ii) Ex - Cow, buffalo, goat etc

ii) Ex - tiger, lion etc



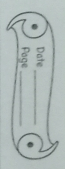
3) Explain the following with suitable examples.

a) Heterotrophic Nutrition - The mode of nutrition in which an organism depends on plant or other organisms is known as heterotrophic mode of nutrition. This type of nutrition is shown by animals, non-green plants and fungi. These organisms are commonly known as heterotrophs.

b) Symbiotic relation - This mode of nutrition one of the participants is a plant and the another one is a fungi. The fungi help to absorb nutrients and water from the substratum while the algal partner performs the process of photosynthesis to produce food. This type association is seen in case of lichens.

c) Food Web - Herbivores animals ~~like~~ depend upon plants for nutrition. Carnivores animals depend upon the herbivores animals, carnivores animals also depend indirectly upon plants for nutrition. This type of arrangement of plants and animals in a series is known as a food chain. Many food chains interact with each other to form a complex system known as the food web.





4) What are parasitic plants? Give a few examples. How are parasitic plants different from insectivorous?

A - The plants which do not have chlorophyll in them and they have haustoria (sucking or absorbing structures which absorb food and depend on the host plants) are called parasitic plants.  
Ex - Amaranth (dodder) are parasitic plants.

Insectivorous plants grow in the soil but deficient in nitrogen content thus they trap, kill and digest insects to derive nitrogen by digesting the proteins present in their body.  
These plants are known as insectivorous plants.  
Ex - Venus flytrap, Drosera and Pitcher plant.

2) b)

Producers

Decomposers

i) Producers are called autotrophs because they make their own food through photosynthesis.

ii) They capture the solar energy through chlorophyll to make food through photosynthesis.

i) Decomposers are saprotrophs that is they consume dead organic substance like dead plants or animals. They secrete chemicals or have enzymes that can break complex organic compounds into simpler components.

~~6/11/22~~