

# MAHESH PUBLIC SCHOOL JODHPUR

## Class 7 Science Revision Notes

### CH-1: Nutrition in plants

- **Nutrition:** It is the mode of taking food by an organism and its utilization by the body.
- **Nutrients:** The components of food that provide nourishment to the body.
- All organisms take food and utilise it to get energy for the growth and maintenance of their bodies.
- Green plants synthesise their food themselves by the process of photosynthesis. They are **autotrophs**.
- **Photosynthesis:** Green plants prepare their own food with the help of **chlorophyll (found in green plants)**, carbon dioxide and water taken from the environment in presence of sunlight. This process is known as photosynthesis.
- Plants use simple chemical substances like carbon dioxide, water and minerals for the synthesis of food.
- Chlorophyll and sunlight are the essential requirements for photosynthesis.
- Complex chemical substances such as carbohydrates are the products of photosynthesis.
- Solar energy is stored in the form of food in the leaves with the help of chlorophyll.
- Oxygen is produced during photosynthesis.
- Oxygen released in photosynthesis is utilised by living organisms for their survival.
- Fungi derive nutrition from dead, decaying matter. They are saprotrophs. Plants like *Cuscuta* are parasites. They take food from the host plant.
- A few plants and all animals are dependent on others for their nutrition and are called **heterotrophs**.
- **Parasitic:** Organisms that live on the body of other organisms.
- All parasitic plants feed on other plants as either:
  - (i) **Partial Parasites:** Obtain some of their nutrition from the host, e.g. painted cup
  - (ii) **Total Parasites:** dependent completely on the host for nutrition, e.g. mistletoe.
- **Saprophytic:** Organisms that obtain nutrition from dead and decaying plant and animal matter.
- Mushrooms, moulds and certain types of fungi and bacteria.
- **Insectivorous Plants:** Green plants which obtain their nourishment partly from soil and atmosphere and partly from small insects. Example: pitcher plant, bladderwort, and venus fly trap.
- **Symbiosis:** Mode of nutrition in which two different individuals associate with each other to fulfil their requirement of food.
- Lichens found on tree trunks are the association between algae and fungus. Algae obtain water from fungus and it in turn obtains food from algae.

**Worksheet-01**  
**Class – VII Science (Nutrition in Plants)**

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1. Plants prepare their food by the process of
  - a. Respiration
  - b. Photosynthesis
  - c. Transpiration
  - d. All of these.
2. The organism that can prepare their own food are called
  - a. Heterotrophs
  - b. Consumers
  - c. Decomposers
  - d. Autotrophs
3. Which of the following is not required by plant for food synthesis?
  - a. Water
  - b. Oxygen
  - c. Carbon dioxide
  - d. Chlorophyll
4. Which one is an insectivorous plant?
  - a. Banyan tree
  - b. Cuscuta
  - c. Pitcher plant
  - d. Neem plant
5. Match the following.

<u>Column A</u>	<u>Column B</u>
a. Autotrophs	i. Tiger
b. Heterotrophs	ii. Mushroom
c. Carnivores	iii. Cuscuta
d. Saprophytes	iv. Green plants
e. Parasite	v. Animals

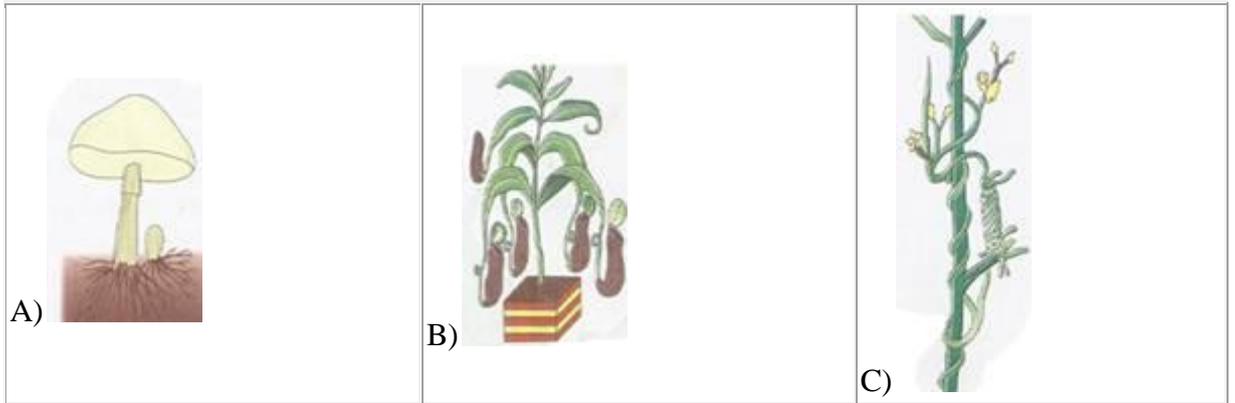
6. Fill in the blanks
  - a. Green plants are called \_\_\_\_\_, since they synthesize their own food.
  - b. Oxygen is released by plants during \_\_\_\_\_.
  - c. \_\_\_\_\_ live on dead and decaying animals.
  - d. \_\_\_\_\_ is the green coloured pigments present in leaves.
  - e. The food synthesized by the plants is stored as \_\_\_\_\_.
7. What is photosynthesis?
8. Distinguished between parasite and saprophytes.
9. What are insectivorous plants? Give two examples.
10. Observe the diagrams of organisms given below. Name them and write their category.

**Class 7 Science**  
**Revision Notes**  
**Chapter – 2.Nutrition in Animals**

- **Classification based on Eating Habits:**
  - (i) **Herbivorous:** Animals that eat plants or plant products. Example: cow, sheep, goat, deer, elephant, kangaroo, giraffe, etc.
  - (ii) **Carnivorous:** Animals that eat only flesh of other animals. They never eat plants. Example: tiger, lizard, lion, etc.
  - (iii) **Omnivorous:** Animals consume plants as well as other animals as their food. Example: bear, dog, human being, etc.
  - (iv) **Parasites:** Organisms that obtain their food from other animals either by living inside (endoparasites) or outside (ectoparasites) their body. Example: tapeworm and roundworm (inside body), tick and lice (outside body).
  - (v) **Scavengers:** Animals which feed on the remains of dead animals preyed by predators. Example: vulture, crows, jackal, etc.
  
- Animal nutrition includes nutrient requirement, mode of intake of food and its utilisation in the body.
  
- The human digestive system consists of the alimentary canal and secretory glands. It consists of
  - (i) buccal cavity,
  - (ii) oesophagus,
  - (iii) stomach,
  - (iv) small intestine,
  - (v) large intestine ending in
  - (vi) rectum
  - (vi) anus.
  
- The main digestive glands which secrete digestive juices are
  - (i) the salivary glands,
  - (ii) the liver and
  - (iii) the pancreas.
  
- The stomach wall and the wall of the small intestine also secrete digestive juices.
- The modes of feeding vary in different organisms.
- Nutrition is a complex process involving:
  - (i) ingestion,
  - (ii) digestion,
  - (iii) absorption,
  - (a) assimilation and
  - (b) egestion.
  
- Digestion of carbohydrates, like starch, begins in the buccal cavity. The digestion of protein starts in the stomach. The bile secreted from the liver, the pancreatic juice from the pancreas and the digestive juice from the intestinal wall complete the digestion of all components of food in the small intestine. The digested food is absorbed in the blood vessels from the small intestine.
- The absorbed substances are transported to different parts of the body. Water and some salts are absorbed from the undigested food in the large intestine.
- The undigested and unabsorbed residues are expelled out of the body as faeces through the anus.
- The grazing animals like cows, buffaloes and deer are known as ruminants. They quickly ingest, swallow their leafy food and store it in the rumen. Later, the food

returns to the mouth and the animal chews it peacefully.

- **Amoeba** ingests its food with the help of its false feet or pseudopodia. The food is digested in the food vacuole. It pushes out finger-like pseudopodia which engulf the prey.



Chapter 2. Nutrition in Animals

Worksheet-02

1. What is the mode of nutrition in animals?  
a). Heterotrophic    b). Autotrophic    c). Symbiotic    d). All of these.
2. Which of the following is the longest part of the digestive system?  
a). Large intestine    b). Small intestine    c). Oesophagus    d). Rectum
3. Bile juice secreted by the liver plays an important role in the digestion of  
a). Protein    b). Carbohydrates    c). Cellulose    d). Fats
4. Finger-like projection called villi is found in the inner wall of  
a). Small intestine    b). Large intestine    c). Rectum    d). Pharynx
5. Match the following

Column A	Column B
a. Liver	i. Acid release
b. Large intestine	ii. Release of faecal matter
c. Rectum	iii. Absorption of digested food
d. Stomach	iv. Bile release
e. Villi	v. Absorption of water

6. Fill in the blanks.
  - a. Saliva is secreted in the mouth by -----.
  - b. Largest gland in human body is -----.
  - c. Tongue help in ----- and -----.
  - d. Insulin is released by -----.
  - e. HCl is released by ----- in the stomach.
7. What is mastication?
8. What are enzymes? Give one example.
9. What is digestion? Why it is important?
10. Name the enzyme released from the following glands in human digestive system.  
a. Salivary glands    b. Gastric glands    c. Pancreas    d. Liver

