Class 7 Science Ch - 2 Nutrition in Animals

II. Very short answer type questions
Give two examples for the following.

Q.1 Organisms made of a single cell.
Ans: a) Amoeba b) Paramecium
Q.2 Outgrowths that help unicellular animals to catch food.
Ans: a) Pseudopodia (in Amoeba) b) Cilia (in Paramecium)
Q.3 Digestive juices that aid in digestion.
Ans: a) Saliva b) Gastric juice
Q.4 Glands of the digestive system.
Ans: a) Salivary glands b) Liver

III. Short answer type questions

Q.1 How is ingestion different from egestion?
Ans: Ingestion is the process of taking food into the mouth, while egestion is the process of removing undigested waste materials from the body through the anus.
Q.2 Name the four types of teeth and their main functions in the human jaw.
Answer:
a) Incisors – used for cutting food
b) Canines – used for tearing food
c) Premolars – used for crushing and grinding food
d) Molars – used for grinding food
Q.3 How do villi help in small intestines of human beings?
Ans: Villi are finger-like projections in the small intestine that increase the surface area for absorption. They help in absorbing digested nutrients into the blood efficiently.
Q4 What is rumination?
Ans: Rumination is the process in which animals like cows bring back partially digested food from the stomach to the mouth to chew it again. This helps in better digestion.

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IV. Long answer type questions

Q1. With the help of a well-labelled diagram, describe how an Amoeba catches and digests its food.

Ans: Amoeba is a unicellular organism that obtains its food through a process called phagocytosis. When Amoeba comes in contact with food, it forms finger-like projections called pseudopodia around the food particle. These pseudopodia enclose the food and form a food vacuole.

Inside the food vacuole, digestive juices are secreted which break down the food into simpler substances. The digested nutrients are absorbed into the cytoplasm, and the undigested waste is thrown out of the body by moving to the surface and releasing it.

For diagram, refer Fig 2.1, page 23 of the book)

Q2. Explain the process of digestion in human beings.

Ans: Digestion in human beings is a complex process that takes place in a long tube called the alimentary canal. The process includes:

a) Mouth: Food is chewed and mixed with saliva, which contains the enzyme salivary amylase that starts breaking down starch into sugars.

b) Esophagus: The chewed food passes through the esophagus by muscular movement called peristalsis.

c) Stomach: The food enters the stomach, where gastric juices (containing hydrochloric acid and pepsin) break down proteins.

d) Small Intestine: The food then enters the small intestine where bile from the liver and digestive juices from the pancreas complete the digestion of fats, proteins, and carbohydrates.

e) Absorption: Digested nutrients are absorbed by the villi lining the walls of the small intestine.

f) Large Intestine: Water is absorbed, and the remaining waste is removed through the anus.

Q.3 How do nutrients get assimilated after digestion in the human body?

Ans: After digestion, the simpler forms of food such as glucose, amino acids, fatty acids, and glycerol are absorbed by the villi of the small intestine. These nutrients are then transported by the bloodstream to different parts of the body.

Once delivered, the nutrients are used by body cells to produce energy, build new tissues, and repair old ones. This process of using absorbed nutrients for energy and growth is called assimilation. For example, glucose is used by cells to produce energy through respiration.

Q.4 Describe in brief the process of digestion in ruminants..

Ans: Digestion is the process by which complex food is broken down into simpler, absorbable forms. It starts in the mouth, where food is chewed and mixed with saliva. It then moves through the esophagus into the stomach, where proteins are digested.

In the small intestine, enzymes from the pancreas and bile from the liver help digest fats, proteins, and carbohydrates completely. The digested food is then absorbed by villi in the small intestine. The remaining waste passes into the large intestine, where water is absorbed, and the rest is removed from the body as feces through the anus.