

Chapter - 2

Nutrition in Animals

- **Classification based on Eating Habits:**
 - (i) **Herbivorous:** animals that obtain their food only from plants. Example: cow, sheep, goat, deer, elephant, kangaroo, giraffe, etc.
 - (ii) **Carnivorous:** Animals that obtain their food by killing 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 the
 - (i) buccal cavity,
 - (ii) oesophagus,
 - (iii) stomach,
 - (iv) small intestine,
 - (v) large intestine ending in 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.