

CHAPTER 6: LIFE PROCESS

Nutrition	It is defined as the process by which the organism ingest, digests, transports and utilizes nutrients and disposes off their end products.	Mouth	The food is broken down into small pieces in the mouth. The saliva contains an enzyme called salivary amylase that breaks down starch which is a complex molecule to give sugar.
Autotrophic Nutrition	Autotrophic nutrition is a mode of nutrition in which the organism prepares or synthesizes its own food utilizing only the inorganic raw material. Eg green plants and autotrophic bacteria.	Oesophagus	The lining of canal has muscles that contract rhythmically in order to push the food forward. This is called peristaltic movement.
Heterotrophic Nutrition	Heterotrophic nutrition is a type of nutrition in which energy is derived from the intake and digestion of organic substances from plants and animals.	Stomach	Gastric gland release hydrochloric acid, a protein digesting enzyme called pepsin, and mucus. Pepsin becomes active in the acidic medium. The mucus protects the inner lining of the stomach from the acid. The protein is digested in the stomach. The exit of food is regulated by sphincter muscles.
Saprophytic nutrition	It is mode of nutrition in which organisms obtain nutrients from the dead and decaying organic matter. Eg. Fungi and bacteria.	Small Intestine	The small intestine is the site of the complete digestion of carbohydrates, proteins and fats. It receives the secretions of the liver and pancreas for this purpose. Bile juice from liver breaks down fats. Pancreas secretes pancreatic juice which contains enzymes like trypsin for digesting proteins and lipase for breaking down emulsified fats. Proteins is converted to amino acids, complex carbohydrates into glucose and fats into fatty acids and glycerol. The digested food is taken up by the walls of the intestine with the help of villi which are finger like projections inside the small intestine.
Parasitic nutrition	It is mode of obtaining food synthesized by others. The organism which obtains the food is called 'parasite' and the organism from which food is absorbed is called 'host'. Eg. Cuscuta, plasmodium and round worm.	Large intestine	The unabsorbed food is sent into the large intestine where more villi absorb water from this material.
Holozoic nutrition	It is mode of nutrition in which the feeding of complex organic matter by ingestion, which is subsequently digested and absorbed takes place. Eg. Amoeba, frog, human beings.	Anus	The rest of the material is removed from the body via the anus. The exit of this waste material is regulated by the anal sphincter.
Enzymes	Enzymes are biomolecules that catalyze (i.e., increase the rates of) chemical reactions.		
Photosynthesis	It is the process by which green plants synthesise organic food in the form of carbohydrates from Carbon Dioxide and water in the presence of sunlight.		
Phagocytosis	The process of obtaining food by Amoeba is called phagocytosis.		
Nutrition in Amoeba:	The various steps in nutrition are ingestion, digestion, assimilation and egestion.		
Ingestion	Amoeba engulfs the food by forming pseudopodia. When the food is completely encircled and the tips of encircling pseudopodia touch each other, the membrane at that point dissolves and the food is captured alongwith a few lysosomes into the food vacuole.		
Digestion	Inside the food vacuole, food gets digested by digestive enzymes.		
Assimilation	The digested food diffuses into the cytoplasm and is utilized by the cell.		
Egestion	The undigested food remains in the food vacuole, and is thrown out of the body.		
Human Digestive System	The alimentary canal is nearly nine meter long tube. It starts after the buccal cavity and ends at anus. Oesophagus, stomach, duodenum, ileum (small intestine), colon and rectum (large intestine) are sequential parts of the alimentary canal.		