

2<sup>nd</sup> day work for 10<sup>th</sup> class

## eterotrophic Nutrition – Life Processes Class 10 Notes

The mode of nutrition in which an organism takes food from another organism is called heterotrophic nutrition. Organisms, other than green plants and blue-green algae follow the heterotrophic mode of nutrition. Heterotrophic nutrition can be further divided into three types, viz. saprophytic nutrition, holozoic nutrition, and parasitic.

**Saprophytic Nutrition:** In saprophytic nutrition, the organism secretes the digestive juices on the food. The food is digested while it is still to be ingested. The digested food is then ingested by the organism. All the decomposers follow saprophytic nutrition. Some insects, like houseflies, also follow this mode of nutrition.

**Holozoic Nutrition:** In holozoic nutrition, the digestion happens inside the body of the organism. i.e., after the food is ingested. Most of the animals follow this mode of nutrition.

**Parasitic Nutrition:** The organism which lives inside or outside another organism (host) and derives nutrition from it is known as parasites and this type of mode of nutrition is called parasitic nutrition. For example Cuscuta, tick etc.

### Nutrition in Amoeba

Amoeba is a unicellular animal which follows the holozoic mode of nutrition.

In holozoic nutrition, the digestion of food follows after the ingestion of food. Thus, digestion takes place inside the body of the organism.

Holozoic nutrition happens in five steps, viz. ingestion, digestion, absorption, assimilation and egestion.

#### Steps of Holozoic Nutrition:

**Ingestion:** The process of taking in the food is called ingestion.

**Digestion:** The process of breaking complex food substances into simple molecules is called digestion. Simple molecules, thus obtained, can be absorbed by the body.

**Absorption:** The process of absorption of digested food is called absorption.

**Assimilation:** The process of utilization of digested food, for energy and for growth and repair is called assimilation.

Egestion: The process of removing undigested food from the body is called egestion.

Amoeba is a unicellular animal which follows the holozoic mode of nutrition. The cell membrane of amoeba keeps on protruding into pseudopodia. Amoeba surrounds a food particle with pseudopodia and makes a food vacuole. The food vacuole contains food particle and water. Digestive enzymes are secreted in the food vacuole and digestion takes place. After that, digested food is absorbed from the food vacuole. Finally, the food vacuole moves near the cell membrane and undigested food is expelled out.