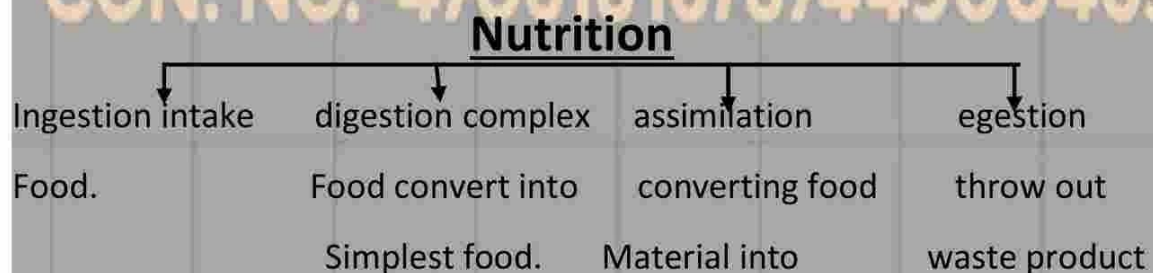
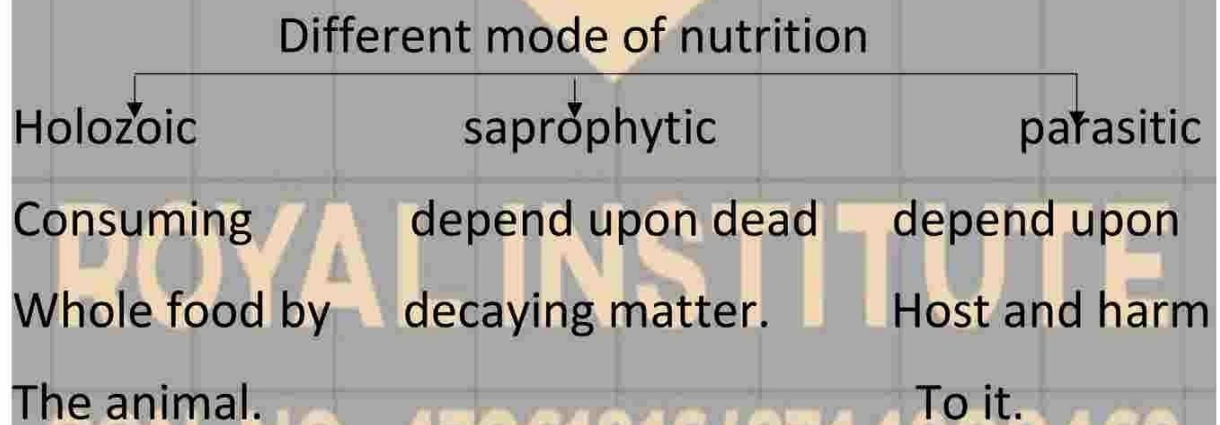
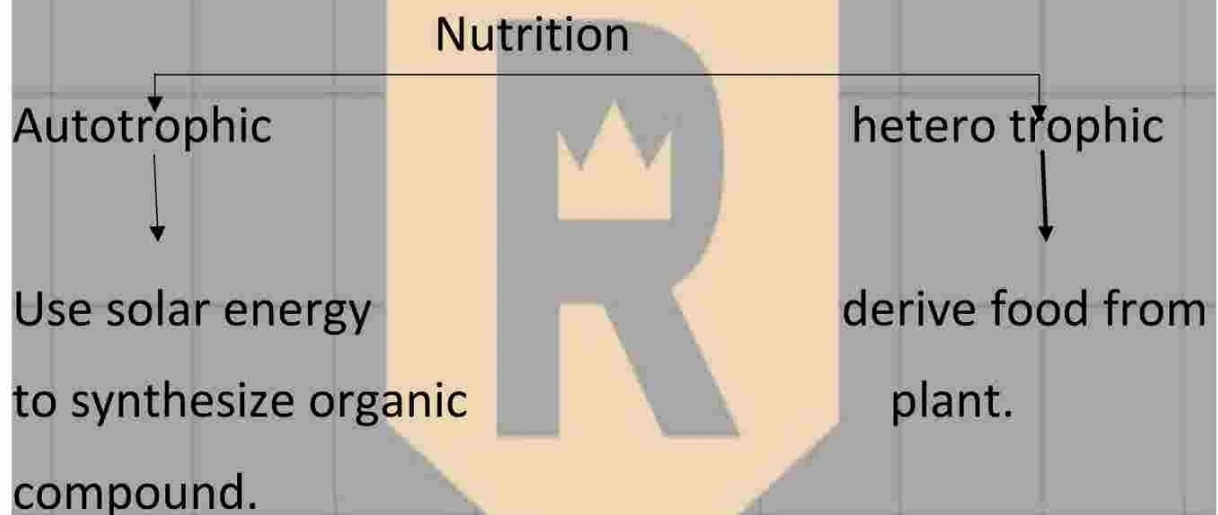


CLASS (X)

LIFE PROCESS

Nutrition living organism take food from surrounding which is necessary for growth maintenance and activities of a living body.

Substance used for nutrition is called nutrient.



Cellular component

For their utilisation.

Digestive system

Alimentary canal associated with three glands salivary gland, liver and pancreas.

Alimentary canal -it is canal because it is open at both ends.

Digestion starts from buccal cavity.

it has tongue,teeth

Teeth- types of teeth

1-humodent –all teeth of same type. e g: fishes reptiles.

2-heterodent – different type of teeth:- incisor, canine, pre molar, molar. eg: mammals.

3-Thecodent -teeth attaches with in socked. Eg: mammals, crocodile.

4-diphydent - two sets of teeth milk teeth and permanent teeth.

5-monophyodent – teeth formed only once in life time eg: kangaroo

6-polyphycodont – tooth formed and full many time Eg: fish, frog.

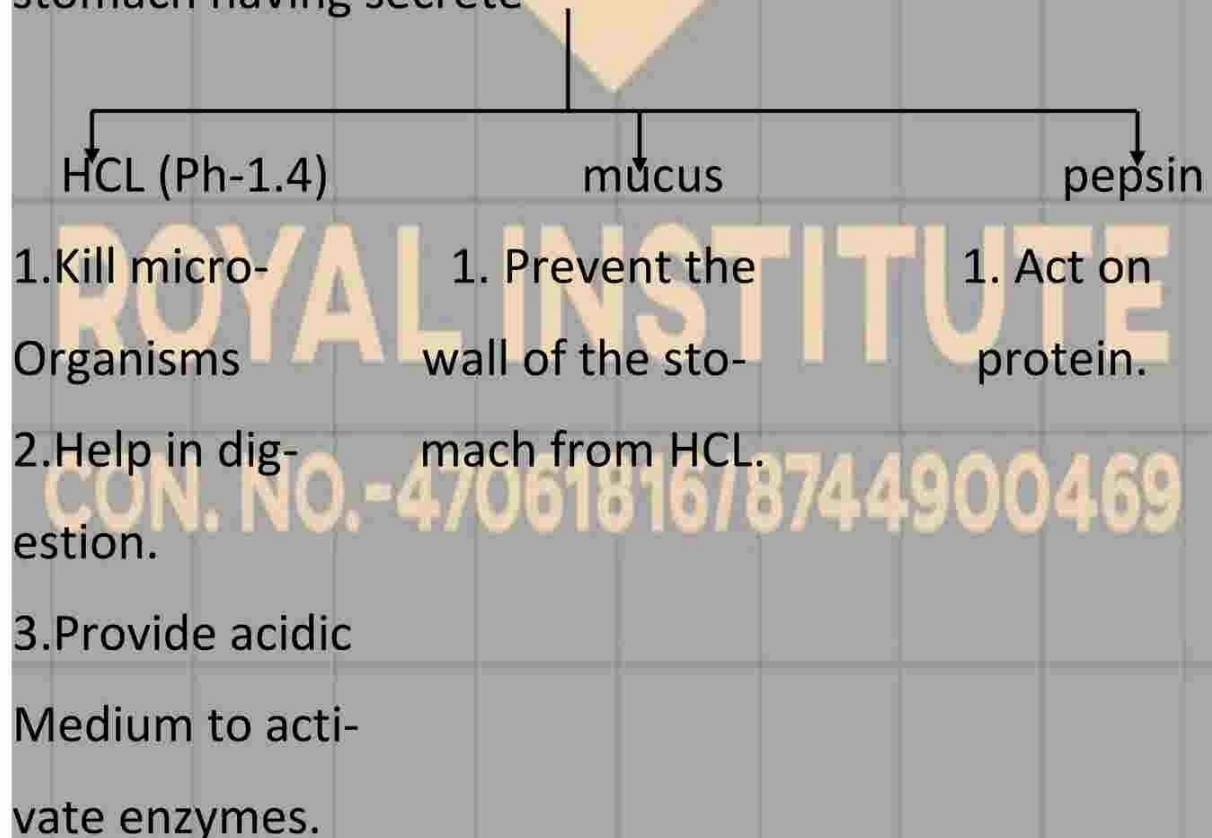
In buccal cavity saliva is present saliva has two enzymes pH is 6.8 to 7.2.

Lysozyme antibacterial Enzyme ptyalin (salivary amylase) convert starch into maltose.

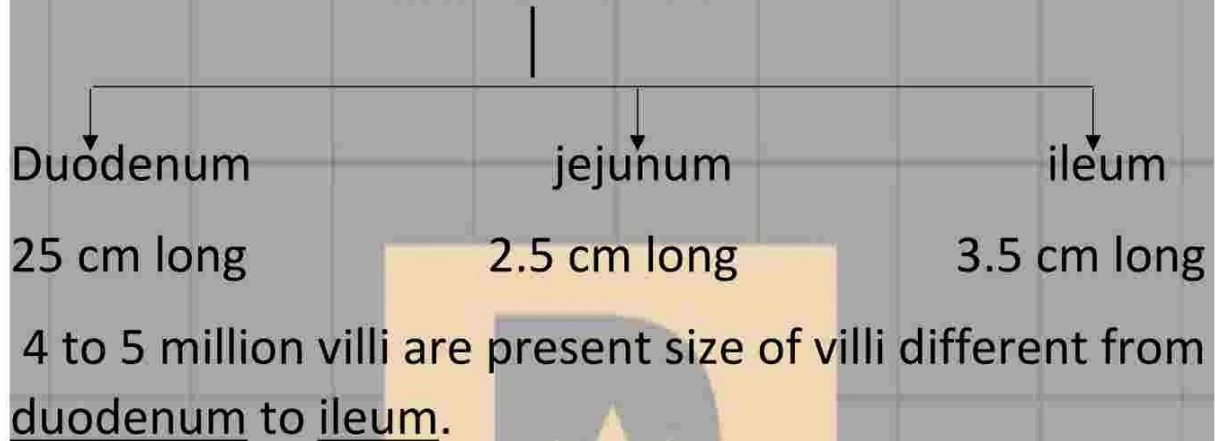
Pharynx – here epiglottis present made up of cartilage cover the glottis at the time of swallowing food.

ESOPHAGUS – push down the food into stomach by rhythmic contraction and expansion of thick muscular wall.

STOMACH – gastric gland present on the wall of stomach having secrete



SMALL INTESTINE



Liver (hepar)- it Act as chemical check post.

Homeostatic organ- to maintain the chemical balance of body.

Liver secrete bile stored in gall bladder.

Weight of human liver is **1.5 to 2 kg** and divided into three s.

Nature of bile – alkaline ph **9.0**

It has no enzyme but help in digestion.

Component of bile:- 1. Bile salt

2. bile pigment

Bile :- it is yellowish water fluid conc.in gall bladder .it contain water 85%. Salt of bile 1% bicarbonate and carbonate and chloride. 1.5 to 2% lipid two pigment bilirubin and biliverdin.

-Bilirubin is formed by daily destruction of haemoglobin due to death of 1% RBC every day

increase in bilirubin level beyond normal 0.1 to 0.9 ml in the blood is called jaundice. It is due to hepatic cell sick due to infection of bacterial infection.

Many animals like horse, pigeon, rat don't have gall bladder.

Function of liver-extra glucose convert into glycogen

ii) synthesis of glucose from carbohydrates

iii) lactic acid is formed in muscle is converted back to glycogen.

Liver also helps in synthesis of

1. Vitamin D from cholesterol
2. Plasma protein – heparin
3. Haemoglobin – formation of RBC in frog and embryonic mammals.

Pancreas

- It is Heterocrine gland.

- Exocrine part secretes many enzymes.

- Endocrine part has islets of Langerhans with 3 - type of cells secrete different hormones

α Cell – glucagon- Hyperglycemia

β cell – insulin – hypoglycemic

another cell - maintain balance between insulin and glycogen.

-Digestive enzyme secreted by pancreas activate in alkaline medium, there medium is alkaline due to secretion of bicarbonate ion .

Main three enzyme

Amylase

-Act on starch

lipase

-act on fat

trypsin act

-on protein

-Wall of small intestine also secrete some digestive juice contain enzyme.

-Sucus entricus which convert carbohydrate glucose.

2. fat – fatty acid and glycogen

3. protein -amino acid

Small intestine – bite of complete digestion of food. (carbohydrates, protein and fats)

-site for main absorption of digestion food.

-absorption-in small intestine -finger like projections (villi)

-Gives very larger surface area

-Help in rapid absorption of digested food.

-Goes into the blood

-assimilation -blood carries digested food to all parts of body assimilation as part of cell.

Assimilation- blood carries digested food to all parts of body. i.e. assimilation as art of the cell.

Fate of assimilation food

-used by body cells for
Energy, growth, repair.

-not used by our body
Immediately stored
As **glycogen** (in liver)

-on oxidation of assimilation
Food- released energy
(During respire)

can be used as source
of energy as and when
Required.

Egestion – act of expelling the faeces (undigested food)

Rectum (last part of large intestine)

Stores undigested food for some time

Passed out through anus.

Controlled by anal sphincter.

