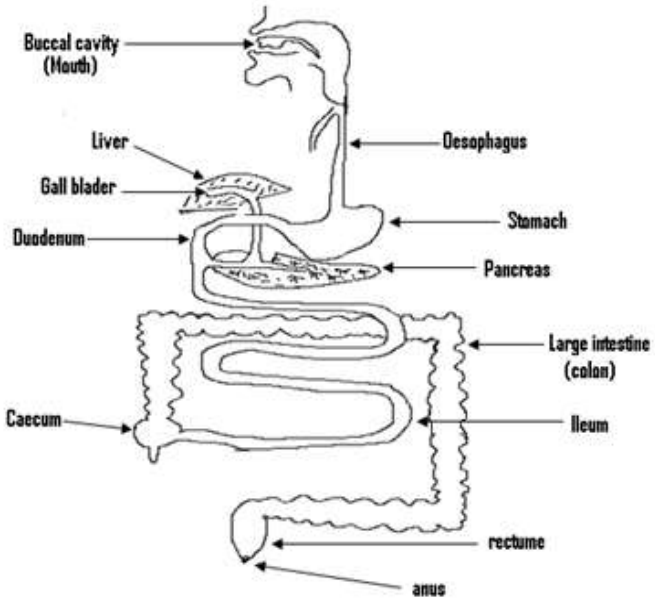
CHAPTER SIXTEEN

Digestion and Dentition



Digestion:

- Is the breaking down of the food we eat, with the help of enzymes into simple substances, so that the body can absorb them.

–In man digestion takes place in the alimentary canal or the digestive system.

–The digestive system is made up of the mouth, pharynx, oesophagus, the stomach, small intestines and the large intestines.

(1)Mouth:

- Digestion begins in the mouth.

–The food is first chewed and mixed with saliva.

–Saliva is secreted by the saliva gland.

–Saliva contains an enzyme called ptyalin, which breaks down cooked starch (carbohydrate) into a substance called maltose.

–The food then enters the stomach.

(2)Stomach:

–The stomach secretes the gastric juice, which contains enzymes called pepsin.

–The pepsin begins the digestion of protein within the food.

–The protein is changed or digested into peptone.

–The gastric juice also contains hydrochloric acid which kills the bacterias within the food.

- From the stomach, the food then enters the duodenum.

Duodenum:

– All the food substances i.e. protein, carbohydrate, fat and oil are digested within the duodenum.

–The duodenum receives two liquids i.e. one from the pancreas and the other from gall bladder.

–The liquid from the gall bladder is called the bile, and that from the pancreas is called the pancreatic juice.

– The bile emulsifies the fat within the food i.e. it splits it up into smaller particles.

–The pancreatic juice contains three enzymes, and these are:

(a) Trypsin.
(b) Amylase.
(c) Lipase.

–**Trypsin:** It converts any protein still in the food into peptone.

- Amylase: It digests cooked or uncooked starch into maltose.

–Lipase: It Converts emulsified fat into fatty acid and glycerol.

– Fatty acid and glycerol is the end product of fat digestion, i.e. the digestion of fat ends in the duodenum.

– From the duodenum, the food enters the ileum.

Ileum:

- Is the first part of the small intestine.

– The walls of the small intestines secrete the intestinal juice, which contains an enzyme.

– At this stage the protein had been digested into peptone.

–This enzyme completes the digestion of protein by converting the peptone into amino acid.

–The amino acid is the end product of protein digestion.

–Therefore the digestion of protein ends in the ileum.

- At this stage also, the carbohydrate had been changed into maltose.

– This enzyme also changes the maltose into simple sugar, which is the end product of the digestion of carbohydrate.

– Within the small intestine also, the absorption of amino acid, simple sugar, fatty acid and glycerol into the blood stream occurs.

–They are then carried into the liver where they are stored or kept.

- When any of these substances is needed by the body, the liver releases it into the body.

- Mineral salts and vitamins are not digested, but they are absorbed into the blood stream together with the food substances.

–The part of the food which the body does not need come out as faeces.

Egestion:

- This refers to the process, whereby undigested food comes out of the body through the anus.

- The undigested food is stored in the rectum for a period of time, after the excess water has been absorbed from it in the colon.

- It is this undigested food which comes out of the body as faeces.

Indigestion:

-This refers to the condition in which food is not properly digested.

Causes of indigestion:

- These causes are:

(1) Lack of roughage and fluid in the diet we eat.
(2) Eating too fast.
(3) Overeating.
(4) Sleeping immediately after a heavy meal.

Effects of indigestion:

- These are:
  (1)Nausea.
  (2)Stomach ache.
  (3)Severe abdominal pains.

Constipation:

- This refers to the irregular and difficult passage of faeces. It occurs when faeces remain in the rectum for too long, and a lot of water is removed from the faeces. This makes the faeces hard, dry and difficult to be expelled from the bowel.