

## Chapter No. 7 Structural Organisation In Animal

Q. 1. Describe various types of Epithelial Tissue & with the help of diagram?

→ This tissue has free surface, which faces either body fluid or the outside environment & thus provides a covering or a lining for some part of the body.

There are two types of epithelial tissue.

1] Simple epithelium -

- simple epithelium is composed of a single layer of cells & function as a lining for body cavities, ducts, & tubes.

- simple epithelium is further divided into three types.

Squamous epithelium - It is made of single thin layer of flattened cell with irregular boundaries.

They are found in the walls of blood vessels & air sacs of lungs & are involved in functions like forming diffusion boundary.

Cuboidal epithelium - It is composed of single layer of cube like cells.

This is commonly found in ducts of gland & tubular parts of nephrons in kidney & its main functions are secretion & absorption.

Columnar epithelium - It is composed of single layer of tall & slender cells.

They are found in the lining of stomach & intestine & help in secretion & absorption.

- If the columnar or cuboidal cells bear cilia on their free surface they are called ciliated epithelium.

Some of the columnar or cuboidal cells get specialised for secretion & are called glandular epithelium.

## 2] Compound Epithelium :-

- compound epithelium is made of more than one layer of cells & thus has a limited role in secretion & absorption.
- Their main function is to provide protection against chemical & mechanical stresses.
- They cover the dry surface of the skin, the moist surface of buccal cavity, pharynx, inner lining of ducts of salivary glands & of pancreatic ducts.

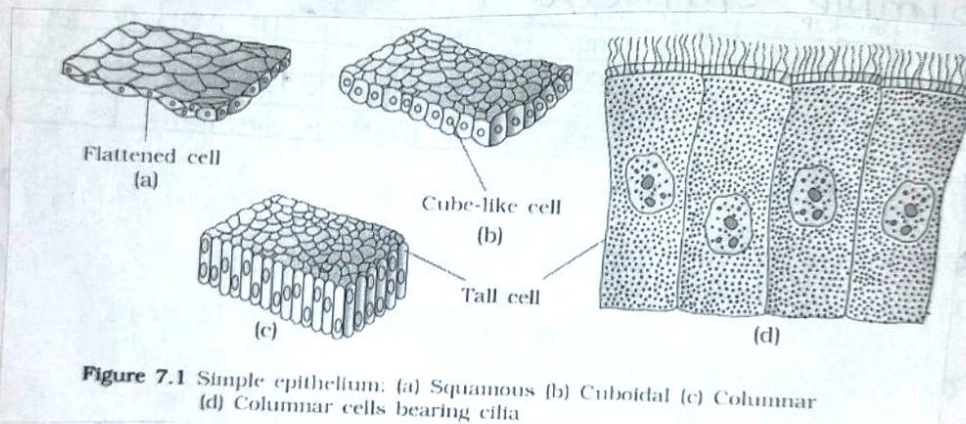


Figure 7.1 Simple epithelium: (a) Squamous (b) Cuboidal (c) Columnar (d) Columnar cells bearing cilia

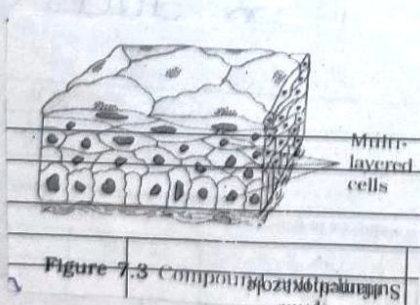


Figure 7.3 Compound epithelium

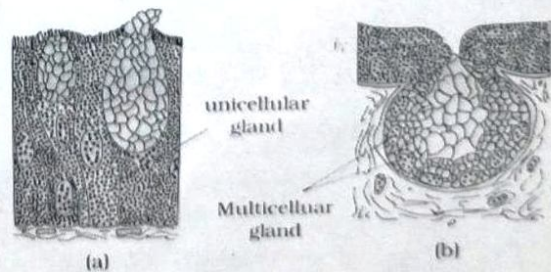


Figure 7.2 Glandular epithelium : (a) Unicellular (b) Multicellular

## Q. No. Digestive system of cockroach.

→ The alimentary canal is a straight tube & runs between first to last segment of the body

Mouth :- A terminal mouth opens into the bucal cavity, which leads into muscular pharynx

Oesophagus :- A small narrow tube oesophagus, continue into a muscular gizzard. It helps in grinding the soil particles & decaying leaves.

Stomach :- The stomach extends from 9-14 segment. The food of earthworm is decaying leaves & organic matter mix with soil. calciferous glands, present in the stomach.

Intestine :- Intestine starts from the 15<sup>th</sup> segment onward & continues intestinal caecae project from the intestine on the 26<sup>th</sup> segment.

- The characteristic feature of the intestine after 26<sup>th</sup> segment except the last 23<sup>rd</sup> - 25<sup>th</sup> segment is the presence of internal median fold of dorsal wall called typhlosole. This increase the effective area of absorption in the intestine.

- The alimentary canal opens to the exterior by a small rounded aperture called anus.

- The simpler molecules are absorbed through intestinal membrane & are utilised.

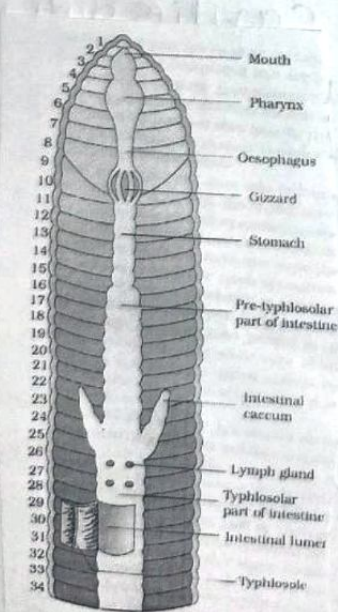


Figure 7.10 Alimentary canal of earthworm

Q. No. 3 Draw & neat lable Reproductive system of Earthworm. ?

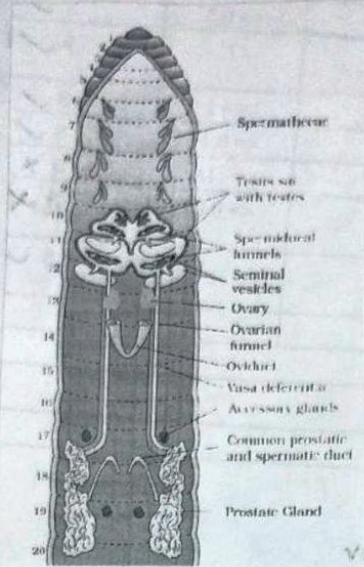


Figure 7.13 Reproductive system of earthworm.

Q. No. 4 what are the four types of animal tissues & their functions ?

→ There are four types of tissue.

① Epithelial Tissue - These are 2 type -

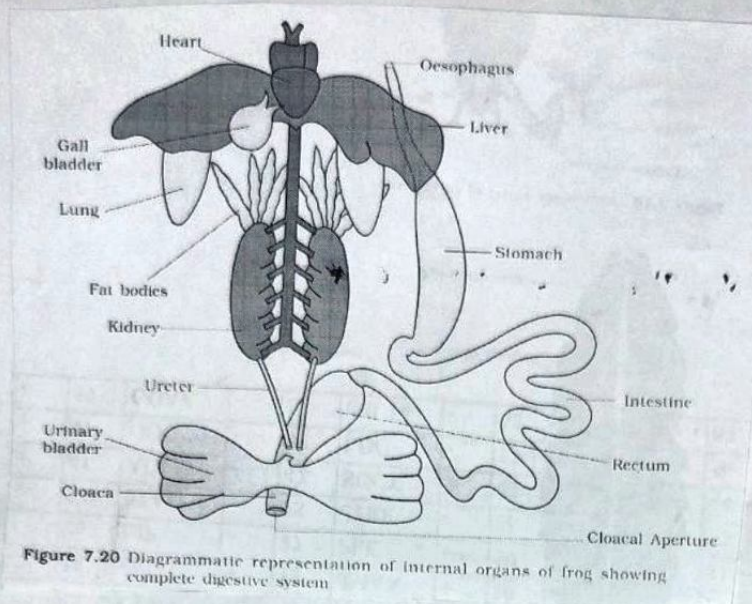
- simple epithelial tissue = function as lining of body cavities, duct & tube
- Compound epithelial tissue = function as protective over skin.

② Connective tissue - They are named connective tissue because of their special function of linking & supporting other tissue/organ of the body.

③ muscle Tissue - They play an active role in all the movements of body.

④ Neural Tissue - The neuroglial cell which constitute the rest of the neural system protect & support neurons.

5 Q. NO Draw & Describe digestive system of frog.



- digestive sys consist of alimentary canal & digestive glands.
- mouth opens into buccal cavity that leads to the oesophagus ~~into the stomach~~ through pharynx.
- oesophagus is short tube that opens into stomach, which then continues as the intestine, rectum & finally opens outside by the cloaca.
- Liver secretes bile that is stored in gall bladder.
- pancreas, a digestive gland, produces pancreatic juice containing digestive enzymes.
- food is captured by the bilobed tongue.
- digestion of food takes place by the action of HCl & gastric juices secreted from the walls of the stomach.
- partially digested food called chyme is passed from stomach to the first of the small intestine, the duodenum.
- The duodenum receives bile from gall bladder & pancreatic juices from pancreas through a common bile duct.
- final digestion takes place in the intestine.

Q. NO.6. briefly Explain circulatory system of Earthworm?

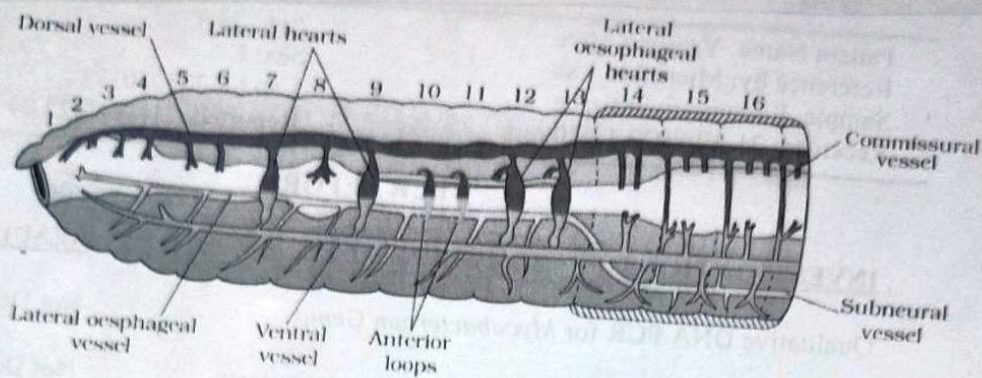


Figure 7.11 Closed circulatory system

- They exhibit a closed type of blood vascular system.
- consisting blood vessels, capillaries & heart.
- Blood is confined to the heart & blood vessels.
- Contractions keep blood circulating in one direction.
- Smaller blood vessels carry ~~are~~ oxygen & nutrients to the gut, nerve cord & body wall.
- Blood glands are present on the 4<sup>th</sup>, 5<sup>th</sup> & 6<sup>th</sup> segment.
- They produce blood cells & haemoglobin which is dissolved in blood plasma.
- Blood cells are phagocytic in nature.
- Earthworms lack specialised breathing devices.
- Respiratory Exchange occurs through moist body surface into their blood stream.