

Exercises:

(A) Fill in the blanks : (Ans.)

1. Cilia
2. Euglena
3. nervous
4. nervous system
5. Voluntary
6. 206
7. articulation
8. sutures

(B) Match the following : (Ans.)

1. ball and socket joint
2. slightly movable joints
3. gliding joint
4. Immovable joints
5. hinge joint
6. saddle joint

(C) choose the correct option :

1. The thigh bone and the hip bone make ---- joint.

Ans. Ball and socket joint

2. Tentacles are the locomotory organs in

Ans. hydra

3. The structure that attaches muscles to bone is

Ans. tendon

4. Skeleton helps in protecting

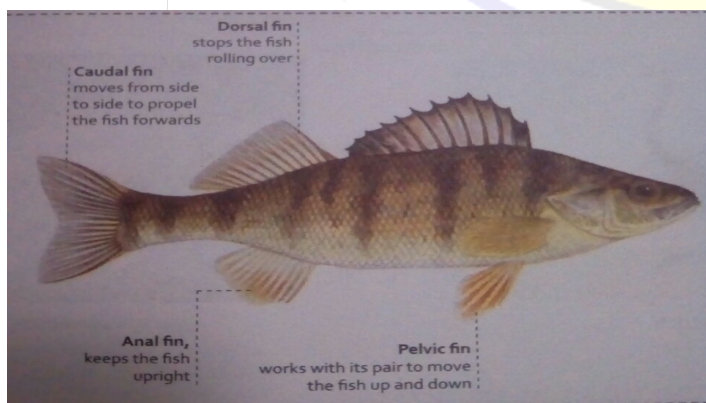
Ans. all the above

5. Setae are the locomotory organs in

Ans. Earthworm

(D) Draw the following:

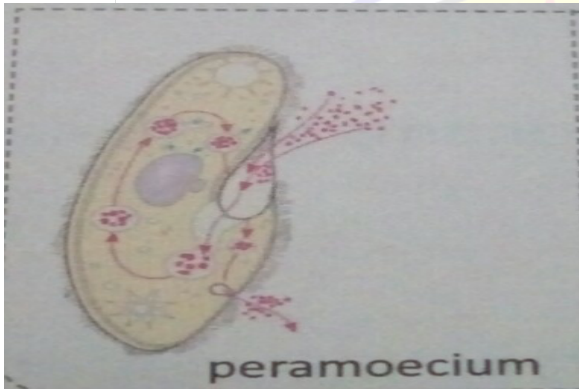
1. A fish in water



2. Ball and socket joint



3) Paramecium:



(E) Short ans. questions: (Answers)

1) Movement by which an Organisms changes place or locomotion.

2) Place where two bones articulate with each other.

3) The two types of muscles are:

(I) Voluntary muscles : These muscles can be controlled by the Organisms as per it's will.

(ii) Involuntary muscles : These muscles are not under the control of the Organisms. They work on their own.

4) Animals with backbone or vertebral column are known as vertebrate animals. Ex. Frog, dog

5) Bones are hard inelastic and tough organ , but cartilage is soft, elastic and flexible.

6) The body of fish is streamlined, this helps the fish to overcome the resistance offered by water.

7) Freely joints are movable and allow maximum articulation. These are also called synovial joints.

8) The ends of the legs have claws and adhesive pads which helps cockroach to climb and walk on the smooth surfaces.

9) Earthworm moves by crawling, produced by alternate contraction and relaxation of muscles of its body wall, setae provides grip to the body of earthworm to move easily.

(F) What will happen if : (Ans.)

1) The bones of the birds not hollow it will not help the birds to fly. Birds body is heavy.

2) Hydra moves from one place to another with the help of tentacles. If there is no tentacles hydra cannot move one place to another place.

- 3) The absent of synovial fluid to increase the friction between the articular synovial joints.
- 4) Tendons attache the muscles to bones.If there is tendon it will affect the movement of the body.
- 5) If the skull joints are movable then they can lead to shearing of brain. Layers and brain can damage.
- 6) Without tail birds cannot fly perfectly, and changing the directions also difficult.
- 7) If the ball and socket joint is replaced in shoulder by hinge joint, our hands can move only in one direction up to 180°.
- 8) The backbone is a single bone. We would not have been able to move or bend.

(G) Long answer type questions. (Ans.)

1) Joits can be classified into three types :

1) Freely movable joints - These joints are :

a) Ball and socket joint - e.g. shoulder joints

b) Hinge Joit -- e.g.. elbow and knee joints

c) pivot joint - e.g.The joint between the first and second vertebrae

d) Gliding joint - e.g. between the bones of the wrist & the bones of foot

e) Saddle joint - e.g. the bone below the thumb

2) Slightly movable joints - The presence of cartilage and the ligaments make the movement limited. Example - These joints are found in between the vertebrae and between the hip bones.

3) Immovable joints : These joints are seen between the bones of the skull and are known as sutures. They do not allow any movement .

2) The function of bones are :

a) Support - The skeleton system provides a framework to support all the organs and muscles.

b) Protection - skeleton protects soft organs. e.g. skull protects the brain.

c) Movement - Skeleton system help in movement.

d) Formation of blood cells - Blood cells are formed in bone marrow which is found inside the bone.

3) The adaptation in birds which help them to fly:

1) The body is boat shaped (streamlined).

2) forelimbs are modified into wings.

3)Small down feathers which helps the birds in preventing heat loss.The flight feathers help the birds to fly.

4)Bones are hollow and filled with us.

5)Tail helps to change the directions.

4) Twelve pairs of ribs make a cage like structure. Of the 12 pairs of ribs, the first 7 pairs of ribs are known as true ribs. They are attached to vertibrae at the back and the chest plate in front. 8th, 9th and 10th pairs ribs are attached at the back to the vertebrae but in front they join the 7th rib. The last two pairs are attached only at the back and free in the front. So ribs are known as floating ribs. Ribcage protects the most important organs like heart and lungs.

5) Snakes do not have limbs like other animals. Instead, they move using their flexible body, which consists of a long spine with upto 400 ribs attached. Muscles connected to the ribs help snakes crawl, climb and swim & wide belly scales help them grip surfaces.

6) They are connected to bones by touch cord like tissues called tendons, which allow the muscles to pull on bones. These muscles hold the skeleton together, give the body shape and help it with everyday movements known as voluntary muscles because we can control their movement.



