

## Short Answer Questions – I

**Q. 1. Why locomotion is helpful to animals?**

**Ans. Locomotion is helpful to animals and enables them to:**

- (i) shift from unfavourable environment to favourable conditions.
- (ii) go in search of food, water and shelter.
- (iii) find its partner for reproduction and proper place for laying eggs or giving birth to young ones.
- (iv) Prevents from getting captured by predators.

**Q. 2. What do you understand by threshold stimulus for muscle contraction?**

**Ans. (i)** For contraction, muscle fibre always require a specific minimum strength or intensity of the stimulus or nerve impulse. This is called threshold stimulus.

**(ii)** If the stimulus or the nerve impulse is below this intensity the muscles fail to contract.

**Q. 3. Write about the two types of endoskeleton in humans.**

**Ans. The two types of endoskeleton are:**

**(i)** Axial skeleton: It is present on the median longitudinal axis of the body. It consists of skull, vertebral column, sternum and ribs.

**(ii)** Appendicular skeleton: It is situated at the lateral sides which actually extends outwards from the principal axis. It consists of pectoral and pelvic girdles and bones of arms and legs.

**Q. 4. What are the functions of skull?**

**Ans.** The important functions of skull are:

- (i)** It protects the brain by keeping it in the cranium.
- (ii)** It bears jaws which help the animal for cutting and masticating the food.
- (iii)** It also protects and supports the sense organs.
- (iv)** It provides the rigid walls of a respiratory passage through which air is inhaled into the lungs.

**Q. 5. How locomotion is different from movement?**

**Ans.** The movement of an individual from one place to another is called locomotion. It includes walking running, crawling, hopping, flying or, swimming. Movement is movement of body parts with respect to the body axis.

**Q. 6. Describe the functions of skeleton system,**

**Ans. Functions of skeleton system:**

- (i)** It forms framework for the body.
- (ii)** It gives shape and posture to the body.
- (iii)** The bones of the skeletal system protects delicate internal organs of the body.

- (iv) It provides attachment surface for the body muscle, tendons and other similar things and thus helps in movement.
- (v) With its help locomotion is performed.

**Q. 7. Mention the bones which form limbs.**

**Ans. The bones which make up arm are:**

1 humerus, 1 radius, 1 ulna, 8 carpal bones, 5 metacarpal, 5 digits (14 phalanges).

**The bones which make up leg are:**

1 femur, 1 tibia, 1 fibula, 1 patella (knee cap), 7 tarsal bones, 5 metatarsals, 5 digits (14 phalanges).

**Q. 8. What is the role of girdles in the skeleton?**

**Ans. There are two girdles: pectoral and pelvic.**

- (i) Apart from providing the glenoid cavity for articulating with the head of humerus, the pectoral girdle provides surface for attachment of the arm muscles.
- (ii) In addition of providing articulation with the legs, the pelvic girdle supports the posterior region of the trunk. It also provides surface for the attachment of the muscles of legs.

**Q. 9. Differentiate between A - band and I - band present in myofibril.**

**Ans.**

| S. No. | A-Band (Anisotropic band)                                  | I-Band (Isotropic band)                                 |
|--------|--|---|
| (i)    | It has wide H – Zone.                                      | It has thin Z – line.                                   |
| (ii)   | It gives dark appearance and hence also called dark band.  | It gives light appearance hence also called light band. |
| (iii)  | It contains myosin filaments and parts of actin filaments. | It shortens during muscle contraction.                  |
| (iv)   | Its length remain unchanged during muscle contraction.     | It shortens during muscle contraction.                  |

**Q.10. Identify the type of synovial joint present in the following parts of the human boy.**

- (i) Between axis and atlas vertebrae.
- (ii) Between humerus and pectoral girdle.
- (iii) Between carpal and metacarpal of thumb.
- (iv) Knee joint [KVS Silchar 2017]

**Ans. (i)** Pivot joint      **(ii)** Ball and Socket joint  
**(ii)** Gliding joint      **(iv)** Hinge Joint