

# Chapter Seven: Human Physiology: Locomotion and Movement of Organ

## Creative Essay Type

1. ► The longest, strongest and heaviest bone of human skeleton is engaged with the production of RBC a 107.

[Millennium Scholastic School & College, Bogura]

- What do you mean by Robin Hood molecule? 1
- Write down the functions of hypothalamus. 2
- Write down the characteristics or anatomical structure of that bone. 3
- What does the stem indicate? Explain with different part of that bone. 4

Ans: See HSC EV Biology 2nd Paper 7th Chapter Note Ques. No. 6 of Answer Paper.

2. ►



(X)



(Y)



(Z)



(P)

[Mymensingh Girls' Cadet College, Mymensingh]

- What is periosteum? 1
- What do you mean by Haversian system? 2
- Explain the action of skeletal system as per stem (X), (Y) and (Z). 3
- Describe the symptoms and treatment of the problem in the picture (P). 4

Ans: See HSC EV Biology 2nd Paper 7th Chapter Note Ques. No. 7 of Answer Paper.

3. ► In a race competition Rony fall down after 430 meter as his left leg was stuck in a hole. He was admitted to hospital and the doctor found a fracture in the compact part of his Femur.

[Feni Girls' Cadet College, Feni]

- What is Helicotrema? 1
- What do you mean by Tropic hormone? 2
- Describe the structural unit or system of the fractured part of Rony. 3
- In the mentioned competition which types of lever were used by Rony? Discuss about it. 4

Ans: See HSC EV Biology 2nd Paper 7th Chapter Note Ques. No. 11 of Answer Paper.

4. ►



Figure- B

[Barishal Cadet College, Barishal]

- What is myology? 1
- Which muscle is called skeletal muscle and why? Explain. 2
- Explain the structure of the muscle which consists of A-marked organ. 3
- Analyze the lever of our body which is similar to Figure-B. 4

Ans: See HSC EV Biology 2nd Paper 7th Chapter Note Ques. No. 14 of Answer Paper.

► Question No. a (Knowledge based)

Ques-1. What is fasciculus? [All. B.18]

Ans: Bundle of cylindrical muscle fibre of voluntary muscle is fasciculus.

Ques-2. What is involuntary muscle? [R.B. 17]

Ans: The muscle which is not transverse liner and which cannot be controlled by human as their wish, is called involuntary muscle.

Ques-3. What is sinusitis? [C.B. 17]

Ans: The inflammation in the mucous membrane of the paranasal sinus that is inflected by fungus, virus and bacteria is called sinusitis.

► Question No. b (Comprehension based)

Ques-1. Which cartilage is strong as bone and why? [All. B.18]

Ans: Soft bones are called cartilage. There are four types of cartilages and calcified cartilage is one of them. Calcified cartilage is as strong as bone. Because calcium carbonate is found hugely in the matrix of it. As a result, these are not as soft as other cartilages. This cartilage is found in the head of humerus and femur. The existing calcium carbonate in it protects the bones by being strong.

Ques-2. What do you understand by Haversian system? [R.B. 17]

Ans: The structural unit of solid or rigid bone is called Haversian system. The matrix of rigid bones are organized into some layers (5-15). The layers are called lamellae. Lamellae is circularly arranged around an evident canal. This central canal is Haversian canal. Each Haversian canal and the lamellae around it, are combined to constitute a Haversian system.

**Ques-3. Mention the function of the lateral line.** [Dj.B.-17]

**Ans:** There are some small pores in a row on the both sides of a laberohita which is connected to a long shaft that is located below the flake. The lateral line or the lateral line system constitutes with the combination of this shaft or pores. The sensory cell in it receive chemical sensitivity about water quality from water waves.

**Ques-4. What do you mean by ovarian cycle?** [C.B. 17]

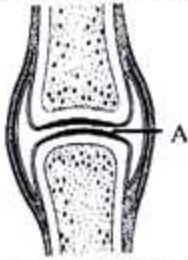
**Ans:** The continuous transformation that gradually occurs during the menstrual cycle in the ovary is called ovary cycle. As a result, follicle is established, ovulation starts and corpus luteum increases.

### Creative Multiple Choice

- How many skeletons are there in Axial Skeleton?** [D.B.-17]  
(a) 50 (b) 60 (c) 70 (d) 80 **(d)**
- Which one is the Hyaline Cartilage?** [R.B.-17]  
(a) Ear (b) Uvula (c) Respiratory Tract (d) Head of the Femur **(c)**
- Which one looks like a big stick?** [Dj.B.-17]  
(a) Tibia (b) Fibula (c) Femur (d) Humerus **(b)**
- How many Thoracic vertebrae are there in Human Body?** [Ctg.B.-17]  
(a) 4 (b) 5 (c) 7 (d) 12 **(d)**
- What type of cartilage is there in ear and respiratory tract?** [J.B.-17]  
a. Hyaline (b) Yellow fibrous (c) White fibrous (d) Calcified **(b)**
- How many bones form the Thoracic cage?** [D.B., S.B.-15]  
(a) 21 (b) 25 (c) 31 (d) 35 **(b)**
- Which type of cartilage is there in respiratory tract?** [D.B.-15]  
(a) Yellow fibrous (b) Hyaline (c) White fibrous (d) Calcified **(b)**
- Where is the Glenoid Cavity in the Human body?** [Dj.B.-15]  
(a) Forelimb (b) Hind limb (c) Pectoral Girdle (d) Pelvic Girdle **(c)**
- Which type of cartilage is there in the head of the femur and head of the humerus?** [Dj.B.-15]  
(a) Hyaline (b) Yellow fibrous (c) White fibrous (d) Calcified **(d)**
- In which organ of Human Skeletal System 3<sup>rd</sup> class lever is functional?** [Ctg.B.-15]  
(a) Movement of elbow (b) Movement of ankle (c) Movement of head (d) Movement of waist **(a)**
- How many facial bones are found in human?** [All Board-18]  
(a) 08 (b) 12 (c) 14 (d) 33 **(c)**
- Which is the paired cranial bones of the following?** [R.B., Dj.B., C.B., Ctg.B., S.B., J.B., B.B.-18]  
(a) Sphenoid (b) Occipital (c) Frontal (d) Parietal **(d)**
- How many bones are there in human face?**  
(a) 12 (b) 14 (c) 16 (d) 22 **(b)**
- Which is the main body of a typical vertebra?**  
(a) Centrum (b) Neural tube (c) Neural arch (d) Transverse Process **(a)**
- How many pairs of bones are there in the Thoracic cage?**  
(a) 10 (b) 11 (c) 12 (d) 13 **(c)**
- Which one the bone of hind limb?**  
(a) Humerus (b) Radius (c) Ulna (d) Femur **(d)**
- How many bones are there in the Thoracic cage of the human body?**  
(a) 24 (b) 25 (c) 33 (d) 60 **(b)**

18. Which type of cartilage is there in between 2 vertebrae?  
 (a) Calcified (b) White fibrous  
 (c) Yellow fibrous (d) Hyaline **(b)**
19. Which one is the character of the firm connective tissue with periosteum?  
 (a) Constant  
 (b) This consists of Volkmann's canal  
 (c) This consists of chondrocytes  
 (d) This consists of mucoprotein **(b)**
20. Which one is the 2<sup>nd</sup> vertebra of the cervical region?  
 (a) Atlas (b) Centrum  
 (c) Axis (d) Neural arch **(c)**
21. Which cartilage's matrix consists of an abundance of Calcium carbonate?  
 (a) Hyaline cartilage  
 (b) Yellow fibrous cartilage  
 (c) White fibrous cartilage  
 (d) Calcified cartilage **(d)**
22. Axis is the vertebra of which region? [D.B.-18]  
 (a) Thoracic (b) Cervical  
 (c) Lumbar (d) Sacral **(b)**
23. Which information is appropriate for cardiac muscle?  
 i. If it's one cell is contracted, other cells are relaxed.  
 ii. Its sarcolemma is incomplete and indefinite.  
 iii. It has no structural syncytium.  
**Which is correct?**  
 (a) i & ii (b) i & iii  
 (c) ii & iii (d) i, ii & iii **(c)**
24. What is the character of Atlas?  
 i. Centrum is large in shape.  
 ii. Odontoid process is present.  
 iii. The transverse foramen is present.  
**Which is correct?**  
 (a) i & ii (b) ii  
 (c) iii (d) i, ii & iii **(c)**
25. In the upper part of xiphoid process —  
 i. There is one suprasternal notch.  
 ii. There are two clavicular notches.  
 iii. There are seven pairs of costal notches.  
**Which is correct?**  
 (a) i & ii (b) i & iii  
 (c) ii & iii (d) i, ii & iii **(a)**
26. Parts of pelvic girdle are — [R.B., Dj.B., C.B., Ctg.B., S.B., J.B., B.B.-18]  
 i. Ileum  
 ii. Pubis  
 iii. Ischium  
**Which one of the following is correct?**  
 (a) i and ii (b) i and iii  
 (c) ii and iii (d) i, ii and iii **(d)**
27. The character of synovial joint is—  
 i. The bones are connected to each other directly.  
 ii. There are connecting cartilages in the bone ends.  
 iii. There are synovial fluids in the cavity.  
**Which is correct?**  
 (a) i & ii (b) i & iii  
 (c) ii & iii (d) i, ii & iii **(c)**
28. The function of cartilage is—  
 i. To prevent the pressure of different organs.  
 ii. To protect the bones from friction.  
 iii. To give the organs a shape.  
**Which is correct?**  
 (a) i & ii (b) i & iii  
 (c) ii & iii (d) i, ii & iii **(d)**
- Read the given part below and answer the Q- 29 & 30**  
 Sabbir has observed the movement of some joints in his body. He has seen, the first joint has slightly moved, the second one has moved more than the first one and the third one has moved from all sides.
29. What is the name of Sabbir's 3<sup>rd</sup> joint?  
 (a) Elbow joint (b) Shoulder joint  
 (c) Atlanto-Axial joint (d) Knee joint **(b)**
30. In the structure of the joints of Sabbir's observation —  
 i. These joints have teeth like ends.  
 ii. These consist of articular capsule.  
 iii. These consist of mucopolysaccharide fluid.  
**Which is correct?**  
 (a) i & ii (b) i & iii  
 (c) ii & iii (d) i, ii & iii **(c)**

Observe the figure given below and answer Q. 31 & 32



31. What is the A marked part?

- (a) Bone marrow
- (b) Synovial bone
- (c) Synovial cavity
- (d) Periosteum

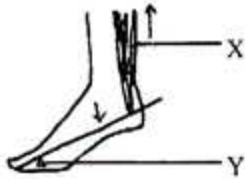
32. The character of the mentioned figure—

- i. This is surrounded by an articular capsule.
- ii. This is not separated from the periosteum.
- iii. This is connected by dense fibrous tissue.

Which is correct?

- (a) i & ii
- (b) i & iii
- (c) ii & iii
- (d) i, ii & iii

Answer the Q. 33 & 34 according to the mentioned figure.



33. What is the Y marked part in the figure?

- (a) Lever arm
- (b) Pivot
- (c) Attempt
- (d) Load

34. What is the role of X marked part in the figure?

- i. It creates folding in the knee joint.
- ii. It elevates the ankle.
- iii. It maintains the balance of the body.

Which is correct?

- (a) i & ii
- (b) i & iii
- (c) ii & iii
- (d) i, ii & iii

Answer the Q.35 & 36 by observing the mentioned figure—



35. What is the name of A marked part in the figure?

- (a) Pubic Symphysis
- (b) Glenoid Cavity
- (c) Acetabulum
- (d) Obturator Foramen

36. The function of mentioned part of figure?

- i. To support the lower part of gut.
- ii. To articulate with the head of the Femur.
- iii. To support the bones of forelimb.

Which is correct?

- (a) i & ii
- (b) ii & iii
- (c) i & iii
- (d) i, ii & iii