

## Chapter 8 : Disaster management

### Question. 1. Fill in the blanks :

- (1) The place where two or more bones are connected is called a **joint**
- (2) Cells of the epidermis contain a pigment called **melanin**.
- (3) **Epidermis** and **Dermis** are the two layers of the human skin.
- (4) The human skeletal system is divided into **two** parts.
- (5) X-rays were discovered by **Wilhelm Conrad Roentgen**
- (6) **Calcium** imparts the strength to bones.
- (7) Ribs are joined to a flat bone called **sternum**.
- (8) The skin is an important **sensory organ of the body**.

### Q. 2. Match the pairs:

[1] Group 'A'	Answer	Group 'B'
(1) Ball and socket joint	Shoulder	(a) Knee
(2) Hinge joint	Knee	(b) Wrist
(3) Gliding joint	Wrist	(b) Shoulder

[2] Group 'A'	Answer	Group 'B'
(1) Axial skeleton	Sternum	(a) Femur
(2) Appendicular skeleton	Femur	(b) Cartilage
(3) Joints	Cartilage	(c) Spinal cord
(4) Vertebrae	Spinal cord	(d) Sternum

### Question. 3. Write whether the following statements are Right or wrong?

- (1) Bones are soft. **Wrong**
- (2) The human skeleton protects the internal organs. **Right**
- (3) All the bones of the body form the skeletal system. **Wrong**
- (4) The appendicular skeleton is situated symmetrically along the central vertical axis of the body. **Wrong**
- (5) Hinge joint moves in a 360° angle. **Wrong**
- (6) The outermost covering of the body is the skin. **Right**

### Question. 4. Put a mark at the proper places:

- (1) The system which gives a definite shape to our body.  
Excretory system                      **Skeletal system**  
Respiratory system                      Circulatory system
- (2) The \_\_\_\_\_ joint is seen in fingers and toes.  
**Hinge joint**                      Immovable joint  
Gliding joint                      Ball and socket joint

(3) The layer of skin below the network of blood vessels and nerve fibres is called

Epidermis

Dermis

**Subcutaneous layer**

Glandular layer

(4) The main function of sweat is to

**Reduce the body temperature**

Keep the skin moist

Remove the excess water

Making the body hot

**Question. 5. Answer the following questions in your own words :**

**(1) What are the functions of your skin?**

**Answer:** The skin serves several functions, including protecting the body from harmful pathogens and environmental damage, regulating body temperature through sweat and blood flow, and allowing for the sensation of touch, pain, and temperature. It also plays a role in producing vitamin D when exposed to sunlight.

**(2) What should you do to keep your bones strong and healthy?**

**Answer:** To keep your bones strong and healthy, you should consume a balanced diet rich in calcium and vitamin D, engage in regular weight-bearing exercises, and avoid smoking and excessive alcohol consumption. Staying active and maintaining a healthy weight also support bone health.

**(3) What are the functions of the human skeletal system?**

**Answer:** The human skeletal system provides structure and support to the body, protects vital organs, and facilitates movement by serving as an attachment point for muscles. It also produces blood cells in the bone marrow and stores important minerals like calcium and phosphorus.

**(4) Which are the various reasons due to which our bones might break?**

**Answer:** Our bones might break due to various reasons, including trauma from falls or accidents, overuse injuries from repetitive activities, certain medical conditions like osteoporosis that weaken bones, and age-related factors that reduce bone density. Additionally, nutritional deficiencies, such as lack of calcium and vitamin D, can also contribute to bone fragility.

**(5) What are the different types of bones? How many types are there?**

**Answer:** There are four main types of bones according to their shapes.

They are

(1) Flat bones

(2) Irregular Bones

(3) Small bones

(3) Long bones

**(6) Explain the structure of our skin in short.**

**Answer:** The structure of our skin consists of three main layers: the epidermis, which is the outermost layer that provides a protective barrier; the dermis, which contains blood vessels, nerves, hair follicles, and sweat glands; and the hypodermis (subcutaneous layer), which is made of fat and connective tissue that insulates the body and absorbs shock.

**Question. 6. What will happen if**

**(1) There are no joints in our body.**

**Answer:** If there are no joints in our body, we would not be able to move our limbs or bend any part of our body, leading to a rigid structure that would severely limit mobility and flexibility. This would make it difficult to perform everyday tasks and could lead to significant difficulties in movement and balance.

**(2) There is no melanin pigment in our skin**

**Answer:** If there is no melanin pigment in our skin, we would be more susceptible to sunburn and skin damage from ultraviolet (UV) radiation. Melanin helps protect the skin by absorbing UV rays, so a lack of it would increase the risk of skin cancer and other related health issues.

**(3) Instead of 33 vertebrae in our body we have one single and straight bone.**

**Answer:** If we had only one single and straight bone instead of 33 vertebrae, our spine would lack flexibility and support, making it difficult to bend, twist, or absorb shock. This would severely impair our ability to move and maintain an upright posture, leading to significant physical limitations and discomfort.

**Question. 7. Use your brain power! (Textbook page 62)**

**(1) Which colour of the skin will give greater protection from the sun's rays?**

**Answer:** Darker skin colors, which contain more melanin, provide greater protection from the sun's rays because melanin absorbs and reflects UV radiation, reducing the risk of sunburn and skin damage.

**(2) How does sweating help to lower the temperature of the body?**

**Answer:** Sweating helps lower the temperature of the body by releasing moisture onto the skin's surface, which evaporates and cools the skin. This process of evaporation removes excess heat from the body, helping to regulate body temperature.

**Question. 8. Write short notes on:**

**(1) Skull:** The skull is a bony structure that encases and protects the brain, consisting of 22 bones that are fused together. It also provides support for the face and houses the eyes, ears, and other sensory organs.

**(2) Rib cage:** The rib cage is a framework made up of 12 pairs of ribs that protect vital organs such as the heart and lungs. It is connected to the spine at the back and forms a protective cage that allows for the expansion and contraction of the lungs during breathing.

**(3) Appendicular skeleton:** The appendicular skeleton consists of the bones of the limbs and the girdles that attach them to the axial skeleton. This includes the bones of the arms, legs, shoulders, and pelvis, allowing for a wide range of movement and flexibility in the body.

**Question. 9. Give one main difference between the following pairs:**

**(1) Axial skeleton and Appendicular skeleton:**

Axial skeleton	Appendicular skeleton
Comprises the skull, vertebral column, and rib cage	Comprises the bones of the limbs and girdles
It provides support and protection for the brain and vital organs	It facilitates movement and flexibility in the body

**(2) Immovable joints and Movable joints:**

Immovable joints	Movable joints
Do not allow any movement	Permit a range of motion
Example:Sutures in the skull	Example:Knees and elbows

**(3) Hinge joint and Ball and Socket joint:**

<b>Hinge joint</b>	<b>Ball and Socket joint</b>
Allows movement in one direction (flexion/extension)	Allows multi-directional movement and rotation
Example:Elbow	Example:Shoulder