

Board – ICSE

Class – 9

Topic – SKIN

1. **Define Skin**

**Ans:**

Skin is the outermost protective covering of the body, stretched all over the body in the form of a layer.

2. **List the functions of skin.**

**Ans:**

Functions of skin

- (i) Protection
- (ii) Temperature regulation
- (iii) Perceive changes in the surroundings
- (iv) Synthesis of vitamin D
- (v) Helps in excretion

3. **List the four ways in which the skin serves as a protective body covering.**

**Ans:**

- (i) It protects the underlying tissues from mechanical injury.
- (ii) It protects the body from harmful ultraviolet rays (present in sunlight)
- (iii) It protects the entry of harmful germs into the body.
- (iv) It prevents desiccation i.e., loss of water from the body surface by evaporation

4. **Name the two main layers of skin.**

**Ans:**

- (i) An outer epidermis
- (ii) An inner dermis.

5. **Name the three regions of skin epidermis.**

**Ans:**

Three regions of epidermis:

- (i) The outermost cornified layer (stratum corneum),
- (ii) The middle granular layer, and
- (iii) The inner malpighian layer (germinative layer).

6. **Write in brief about the following:**

- (i) Epidermis
- (ii) Dermis

**Ans:**

(a) Epidermis consists of three regions :

(i) Outermost Cornified Layer (stratum corneum)

- The cells in this region are dead and are made of a horny protein called keratin.
- This layer forms a tough outer coat which prevents mechanical damage, does not allow the entry of germs into the body and reduces the loss of water by evaporation
- The cells of this layer are continually worn away and are replaced by cells from beneath (from the malpighian layer).

(b) Middle Granular Layer

- It consists of flattened living cells.
- Towards the outside, it gives way gradually to the cornified layer.

(c) Inner Malpighian Layer (germinative layer)

- The cells in this innermost region divide constantly and the cells so produced are pushed above towards the skin surface.
- The contents of these cells soon are converted into the tough keratin
- The dark-brown pigment, melanin, which determines skin colour, is present in this layer. Melanin acts as a screen against ultraviolet light.

(ii) Dermis

- Dermis, below the epidermis, is a much thicker layer than the epidermis.
- It consists of elastic connective tissue.
- Blood capillaries, lymph vessels, hair follicles, sweat glands, oil glands and nerve endings are present in this layer

**7. Name the pigment which imparts skin its colour.**

**Ans:** Melanin

**8. Mention the roles of the following:**

- Blood capillaries
- Oil glands
- Sweat glands

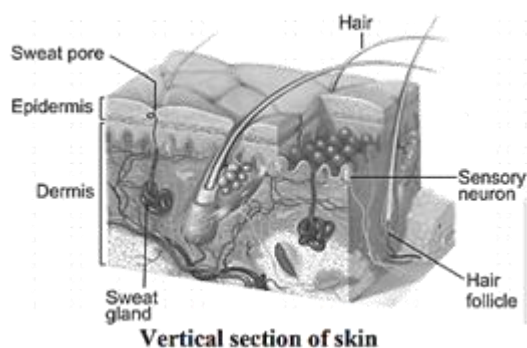
**Ans:**

- Blood Capillaries supply the skin with the necessary food and oxygen and remove its excretory products. The capillaries also play an important part in temperature regulation

- (ii) Oil glands (sebaceous glands) open into the hair follicles. The oily secretion from these glands keeps the hair waterproof and reduces the tendency to become too dry as a result of evaporation.
- (iii) Sweat glands are coiled tubular glands connected to the skin surface by ducts. The sweat produced is a weak solution of sodium chloride with small quantities of urea and lactic acid as well. When sweat passes to the skin epidermis, it evaporates and cools the skin.

9. **Draw a labelled diagram of the vertical section of skin showing its structure.**

**Ans:**



10. **Name any two glands found in human skin.**

**Ans:** Oil glands and sweat glands.

11. **What is keratin? Where is it found in the skin?**

**Ans:** Keratin is a hard-horny protein. It is found in the cells of the cornified layer of skin epidermis.

12. **Fill in the blanks:**

- (i) The three regions of skin epidermis are \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.
- (ii) Cells in the cornified layer are \_\_\_\_\_ and are made up of \_\_\_\_\_.
- (iii) The cells in the \_\_\_\_\_ layer divide constantly.
- (iv) Dermis is made up of \_\_\_\_\_ tissue.
- (v) Sweat glands are present in \_\_\_\_\_.

**Ans:**

- (i) Cornified layer, granular layer and malpighian layer.
- (ii) Dead, keratin
- (iii) Malpighian
- (iv) Connective
- (v) Dermis layer of the skin