

# WORKSHEET 2

## CHAPTER 13 – SKIN STRUCTURE AND FUNCTIONS

### A. Name the following.

1. Middle layer of epidermis which consists of waterproof glycolipids.
2. An ectothermic animal.
3. Location of heat regulating centre of the body.
4. The dividing layer of the skin.
5. The excretory substances present in sweat.

### B. Give reasons.

1. Teenagers usually suffer from acne.
2. People usually shiver during winter.
3. Sweat pores are more on the palms.
4. People in Africa have dark-coloured skin while Europeans have light-coloured skin.
5. Skin helps in maintaining body temperature.

### C. State whether the following statements are True or False.

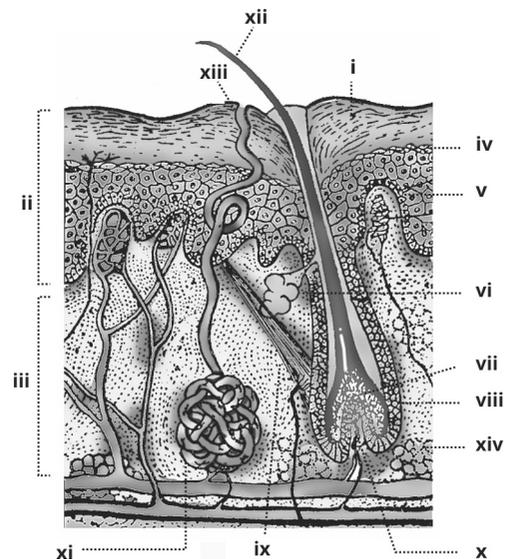
1. Skin is the largest organ.
2. Stratum malpighii is the middle layer of epidermis.
3. Apocrine gland is largely found in axillary and genital areas.
4. Melanin protects the skin from ultraviolet rays.
5. Mammary glands are modified sebaceous gland.

### D. Fill in the blanks.

1. \_\_\_\_\_ is the touch receptor.
2. Goose flesh is caused due to contraction of \_\_\_\_\_
3. Sebaceous glands secrete an oily secretion called \_\_\_\_\_
4. The composition of sweat is \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_
5. \_\_\_\_\_ may be due to psychic influences like fright and nervousness.

### E. Study the given figure and answer the following questions.

1. Name the given structure and mention two of its functions.
2. Label parts i – xiv.
3. State the function of parts v, vi, ix, and xiv.
4. State one modification of part xi.
5. Briefly explain the structure of hair.



Name: .....  
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Date: .....

# ANSWERS

## WORKSHEET 2

### A. Name the following.

1. Granular layer
2. Frogs
3. Hypothalamus
4. Dermis
5. Urea

### B. Give reasons.

1. At puberty, sex hormones are released in adolescents. Under the influence of hormones, there is inflammation in sebaceous gland which results in acne.
2. Due to rapid contraction and relaxation of muscles, shivering occurs in winter which results in heat production.
3. There are more sweat glands on palm to increase the surface tension for grip. Sweat glands keep these surfaces moist and provide better grip.
4. Skin colour is due to melanin pigment in the malpighian layer. Melanin provides skin colouration and absorbs the harmful ultraviolet rays, thus, protecting us. People in Africa are exposed to prolonged sunlight which causes substantial build up of melanin in their skin to protect the DNA of skin cell from UV radiation. Thus, their skin is dark coloured. Europeans, on the other hand, are exposed to less sunlight and hence less melanin is secreted in their skin and they are light coloured.
5. When temperature rises, skin helps to lose extra heat by sweating and dilation of blood vessels. When temperature falls, sweating reduces and blood vessels constricts.

### C. State whether the following statements are True or False.

1. True
2. False
3. True
4. True
5. False

### D. Fill in the blanks.

1. Meissner's corpuscles
2. arrector pili muscles
3. sebum
4. water, salt, urea
5. Cold sweat

### E. Study the given figure and answer the following questions.

1. Skin Functions
  - a. It regulates the body temperature.
  - b. It prevents excessive loss of water due to evaporation by holding body fluid inside.

2. i. Stratum corneum      ii. Epidermis      iii. Dermis      iv. Stratum granulosum  
 v. Stratum malpighii      vi. Sebaceous gland      vii. Hair bulb      viii. Hair follicle  
 ix. Arrector pili muscle      x. Hair papillae      xi. Sweat gland      xii. Hair shaft  
 xiii. Sweat pore      xiv. Adipose tissue

3. Functions

**Part v – Stratum malpighii**

Its cells divide to produce new cells to replace the worn out cells.

**Part vi – Sebaceous gland**

Secretes sebum that makes the skin oily.

**Part ix – Arrector pili muscle**

Lifts the hair into upright position by contraction.

**Part xi – Sweat gland**

Controls body temperature by sweating.

**Part xiv – Adipose tissue**

Stores fat which act as heat insulating layer.

4. **Part xi – Sweat gland**

Modification – Mammary gland

5. Hair has three chief regions – Shaft, root and bulb.

Hair shaft is the part which projects from the skin.

Hair root is the part embedded in the skin within the dermis.

Hair bulb is the lowest part enclosed by hair follicles. It is the only living tissue of the hair.