

NAME \_\_\_\_\_

DATE \_\_\_\_\_

**SPMD 201 – Human Anatomy for Sports Medicine**  
**Integumentary System**  
Chapter 5

**Multiple Choice**

- \_\_\_\_\_1. Which of the following functions is associated with the skin?
- A. fat production
  - B. vitamin C production
  - C. regulation of body pH
  - D. protection against ultraviolet radiation from the sun.
- \_\_\_\_\_2. The layer of epithelium that covers the skin is called the:
- A. dermis.
  - B. epidermis.
  - C. hypodermis.
  - D. mesodermis.
- \_\_\_\_\_3. The dermis:
- A. contains no blood vessels.
  - B. functions as padding and insulation.
  - C. is divided into three distinct layers.
  - D. is responsible for most of the skin's structural strength.
- \_\_\_\_\_4. Keloid scars are raised, thick, and irregular in appearance. A possible cause of keloid scarring is an incision made across the:
- A. epidermis.
  - B. stratum spinosum.
  - C. cleavage lines of the dermis.
  - D. hypodermis.
- \_\_\_\_\_5. When comparing the dermis with the hypodermis,
- A. the dermis has more fat cells than the hypodermis.
  - B. the dermis has more vascular tissue than the hypodermis.
  - C. the dermis contains dense connective tissue; the hypodermis contains loose connective tissue.
  - D. the dermis contains melanocytes; the hypodermis does not.

- \_\_\_\_\_6. Keratinocytes:
- A. produce skin pigments in cell organelles called melanosomes.
  - B. are found in both the dermal and epidermal layers of the skin.
  - C. are special cells of the immune system.
  - D. are responsible for the permeability characteristics of the epidermis.
- \_\_\_\_\_7. The layer of epidermis that undergoes mitosis and forms new epidermal cells is the:
- A. stratum basale.
  - B. stratum granulosum.
  - C. stratum lucidum.
  - D. stratum corneum.
- \_\_\_\_\_8. Keratinization:
- A. occurs in the dermis.
  - B. results in the formation of new epidermal cells.
  - C. produces a layer of cells that resist abrasion.
  - D. determines skin color.
- \_\_\_\_\_9. Thick skin:
- A. has three different epidermal strata.
  - B. has fewer layers in the stratum corneum than thin skin.
  - C. is found covering most of the body.
  - D. is less flexible than thin skin.
- \_\_\_\_\_10. Fingerprints are produced by projections into the dermis called:
- A. striae.
  - B. cleavage lines.
  - C. reticular lines.
  - D. papillae.
- \_\_\_\_\_11. Melanin:
- A. is transferred to other cells by osmosis.
  - B. is increased with exposure to infrared light.
  - C. is absent in individuals known as albinos.
  - D. is a pigment produced by cells in the stratum corneum.

- \_\_\_\_\_12. Which of the following statements regarding melanin is true?
- A. During pregnancy melanin production is increased.
  - B. Both melanocytes and keratinocytes produce melanin.
  - C. In Addison's disease, less melanin is produced.
  - D. Men produce more melanin than women.
- \_\_\_\_\_13. The activity of apocrine sweat glands:
- A. produces cerumen.
  - B. leads to body odor.
  - C. gives skin a healthy glow.
  - D. produces sweat on the palm of the hand.
- \_\_\_\_\_14. Which of the following statements concerning vitamin D is false?
- A. Vitamin D is synthesized in the skin when the skin is exposed to ultraviolet light.
  - B. Vitamin D causes the kidney to excrete calcium.
  - C. Vitamin D is necessary for the uptake of calcium from the small intestine.
  - D. Vitamin D is necessary for the formation of bones and teeth.
- \_\_\_\_\_15. A victim of an automobile accident goes into shock which results in decreased blood flow. The victim's skin will:
- A. become pale.
  - B. have a reddish hue.
  - C. develop a yellow tint.
  - D. become bright red.

### **Alternate Choice**

1. Epithelial cells produce a protein mixture called melanin / keratin (circle one) that is responsible for the structural strength and permeability characteristics of the epidermis.
2. Insensible / Sensible (circle one) perspiration is produced by sweat glands.
3. Collagen and elastic fibers of the skin are oriented parallel / perpendicular (circle one) to the stress of normal movement.
4. Sebaceous glands are holocrine / merocrine (circle one) glands.
5. Another name for a sweat gland is a sebaceous / sudoriferous (circle one) gland.

6. The most superficial layer of the skin is called the epidermis / hypodermis (circle one).
7. The orange-yellow pigment inside epithelial cells is called carotene / melanin (circle one).
8. The reticular layer of the dermis is deep / superficial (circle one) to the papillary layer.
9. The subcutaneous layer of the integumentary system forms a(n) distinct / indistinct (circle one) boundary with the papillary layer of the dermis.
10. Langerhans cells / Melanocytes (circle one) are responsible for stimulating an immune defense against superficial skin cancers.

### Fill-In

1. The deep part of the cutaneous membrane is called the \_\_\_\_\_.
2. The subcutaneous layer of tissue (including the superficial fascia and subcutaneous fat) that is associated with the integumentary system and is important in stabilizing the position of the skin in relation to the underlying tissues is called the \_\_\_\_\_.
3. The protein mixture produced by epithelial cells that is responsible for the structural strength and permeability characteristics of the epidermis is called \_\_\_\_\_.
4. The change in shape and chemical composition of cells as they are pushed to the skin's surface is called \_\_\_\_\_.
5. A thickened area of scar tissue that goes beyond the requirements of normal tissue repair is called a \_\_\_\_\_.
6. The brown, yellow-brown, black pigment in skin is called \_\_\_\_\_.
7. The largest organ of the body is the \_\_\_\_\_.
8. Carotene in the skin can be converted to vitamin \_\_\_\_\_.

### Short Answer

1. Name the components of the integumentary system.
2. List the general functions of the integumentary system.
3. List the layers of the epidermis from deep to superficial.
4. Discuss why moderate exposure to sunlight is beneficial.

5. Name the two layers of the dermis and distinguish between them.
6. Compare and contrast thin and thick skin. Is hair found on thick or thin skin?
7. How do melanin, carotene, and blood supply affect skin color?
8. Where is cholcalciferol produced and then modified into vitamin D? What are the functions of vitamin D?

### Multiple Choice

- |      |       |       |
|------|-------|-------|
| 1. D | 6. D  | 11. C |
| 2. B | 7. A  | 12. A |
| 3. D | 8. C  | 13. B |
| 4. C | 9. D  | 14. B |
| 5. C | 10. D | 15. A |

### Alternate Choice

- |                 |                      |
|-----------------|----------------------|
| 1. keratin      | 6. epidermis         |
| 2. Sensible     | 7. carotene          |
| 3. parallel     | 8. deep              |
| 4. holocrine    | 9. indistinct        |
| 5. sudoriferous | 10. Langerhans cells |

### Fill-In

- |                   |            |
|-------------------|------------|
| 1. dermis         | 5. keloid  |
| 2. hypodermis     | 6. melanin |
| 3. keratin        | 7. skin    |
| 4. keratinization | 8. A       |