

NAME \_\_\_\_\_

DATE \_\_\_\_\_

**SPMD 201 – Human Anatomy for Sports Medicine**  
**Tissues**  
Chapter 4

**Multiple Choice**

- \_\_\_\_\_ 1. Epithelial tissue is distinguished from connective, muscular, or nervous tissue by its:
- A. large extracellular matrix.
  - B. contractility.
  - C. ability to carry an action potential.
  - D. basement membrane.
- \_\_\_\_\_ 2. The various types of epithelium are classified by:
- A. the size and shape of cells.
  - B. the shape of cells and number of cell layers.
  - C. the number of cell layers and size of the cells.
  - D. the size and location of cells.
- \_\_\_\_\_ 3. Stratified epithelium consists of:
- A. multiple layers of cells.
  - B. a single layer of cells.
  - C. a single layer of cells that changes shape when the tissue is stretched.
  - D. a multiple layer of cells that appears to change shape when the tissue is stretched.
- \_\_\_\_\_ 4. Which of the following is a function of epithelial tissue?
- A. conduction of action potentials
  - B. secretion and absorption of molecules
  - C. support other tissue types
  - D. contraction
- \_\_\_\_\_ 5. Unlike an exocrine gland, an endocrine gland:
- A. is a secretory organ.
  - B. sheds cells with its secretions.
  - C. has no ducts.
  - D. contains goblet cells.

- \_\_\_\_\_6. Glands whose ducts have few branches are called:
- A. simple.
  - B. compound.
  - C. acinar.
  - D. alveolar.
- \_\_\_\_\_7. Which of the following is classified as a holocrine gland?
- A. sweat gland
  - B. salivary gland
  - C. sebaceous gland
  - D. mammary gland
- \_\_\_\_\_8. Connective tissue is separated into subgroups based on the:
- A. cell type.
  - B. shape of the cells.
  - C. number of cell layers.
  - D. structure of the extracellular matrix.
- \_\_\_\_\_9. A cell that forms fibrous connective tissue would be called a:
- A. fibroblast.
  - B. fibroclast.
  - C. fibrocyte.
  - D. fibroid.
- \_\_\_\_\_10. The three types of protein fibers found in connective tissue are:
- A. hyaluronic acid, collagen, and reticular fibers.
  - B. proteoglycan, elastin, and reticular fibers.
  - C. collagen, elastin, and reticular fibers.
  - D. proteoglycan, elastin, and hyaluronic acid.
- \_\_\_\_\_11. Hyaluronic acid gives a very slippery quality to fluids that contain it. Hyaluronic acid:
- A. resists stretching.
  - B. functions as an insulator.
  - C. is a good lubricant for joint cavities.
  - D. promotes oxygen transport in the plasma.

- \_\_\_\_\_12. A tissue that has a fluid matrix is:
- A. blood.
  - B. adipose tissue.
  - C. areolar tissue.
  - D. cartilage.
- \_\_\_\_\_13. Which is associated with nervous tissue?
- A. axon
  - B. desmosome
  - C. intercalated disc
  - D. lacuna
- \_\_\_\_\_14. Movement of food through the digestive tract results from the action of:
- A. cardiac muscle.
  - B. smooth muscle.
  - C. skeletal muscle.
  - D. undifferentiated muscle.
- \_\_\_\_\_15. Muscle tissue is characterized by its:
- A. strength.
  - B. durability.
  - C. contractility.
  - D. rigidity.
- \_\_\_\_\_16. Which of the following is correctly matched?
- A. neurons—supportive cells of the nervous system
  - B. axons—conduct action potentials away from the cell body
  - C. neuroglia—the conducting cell of the nervous system
  - D. dentrite—rapidly dividing cell
- \_\_\_\_\_17. The type of membrane that lines freely movable joints is a \_\_\_\_\_ membrane.
- A. serous
  - B. synovial
  - C. mucous

- \_\_\_\_\_18. The type of membrane that protects internal organs from friction is a \_\_\_\_\_ membrane.
- A. serous
  - B. synovial
  - C. mucous
- \_\_\_\_\_19. The support and protection of neurons rests with:
- A. dendrites.
  - B. ligaments.
  - C. neuroglia.
  - D. neuroclasts.
- \_\_\_\_\_20. A unipolar neuron is characterized by the presence of:
- A. one dendrite.
  - B. two dendrites.
  - C. many dendrites.
  - D. no dendrites.

### **Alternate Choice**

1. Endocrine / Exocrine (circle one) glands secrete substances through ducts.
2. Serous membranes line cavities that do / do not (circle one) open to the exterior.
3. Connective / Epithelial (circle one) tissue consists almost entirely of cells with very little extracellular matrix between them.
4. The outermost layer of epithelial cells in the esophagus would be classified as keratinized / moist (circle one).
5. Pseudostratified / Transitional (circle one) epithelial cells change shape from cuboidal to flattened when stretched.
6. The basement membrane of epithelial cells does / does not (circle one) contain blood vessels.
7. Cells that break down the extracellular matrix of fibrous connective tissue are called fibroblasts / fibroclasts (circle one).
8. Neurons with no anatomical cues to distinguish dendrites from axons are called anaxonic / neuroglia (circle one).

9. Serous / Synovial (circle one) membranes line joint cavities.
10. Dendrites carry the action potential away from / toward (circle one) the cell body.

### Fill-In

1. Organs that secrete are called \_\_\_\_\_.
2. Neural tissue of the brain, spinal cord, and periphery contains supporting cells called \_\_\_\_\_ that nourish, protect, and insulate neurons.
3. Collections of similar cells and the substances surrounding them are called \_\_\_\_\_.
4. The extracellular material found in connective tissue is called \_\_\_\_\_.
5. A(n) \_\_\_\_\_ contains a structure called an axon.
6. A(n) \_\_\_\_\_ carries action potentials toward the cell body of a neuron.
7. A layer of tissue that covers a structure or lines a cavity is called a(n) \_\_\_\_\_.
8. Cells that *maintain* cartilage are called chondro-\_\_\_\_\_.

### Short Answer

1. List the four basic types of tissues.
2. Discuss the characteristics of epithelial tissues.
3. List the two ways by which epithelial cells are characterized.
4. Distinguish between *simple*, *stratified*, *pseudostratified*, and *transitional* epithelial tissues.
5. Distinguish between *cuboidal*, *columnar*, and *squamous* epithelial tissues.
6. Identify glands according to their structure (*compound* or *simple* and *acinar* or *tubular*).
7. Draw the basic shape of following neurons:
  - a. unipolar
  - b. bipolar
  - c. multipolar
  - d. anaxonic

### Multiple Choice

- |    |   |     |   |     |   |     |   |
|----|---|-----|---|-----|---|-----|---|
| 1. | D | 6.  | A | 11. | C | 16. | B |
| 2. | B | 7.  | C | 12. | A | 17. | B |
| 3. | A | 8.  | D | 13. | A | 18. | A |
| 4. | B | 9.  | A | 14. | B | 19. | C |
| 5. | C | 10. | C | 15. | C | 20. | D |

### Alternate Choice

- |    |              |     |             |
|----|--------------|-----|-------------|
| 1. | Exocrine     | 6.  | does not    |
| 2. | do not       | 7.  | fibroclasts |
| 3. | Epithelial   | 8.  | anaxonic    |
| 4. | moist        | 9.  | Synovial    |
| 5. | Transitional | 10. | toward      |

### Fill-In

- |    |           |    |          |
|----|-----------|----|----------|
| 1. | glands    | 5. | neuron   |
| 2. | neuroglia | 6. | dendrite |
| 3. | tissues   | 7. | membrane |
| 4. | matrix    | 8. | cytes    |