

# Practice Test 06 — Answer Key

## Module 10: Tissues

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### Part A: Multiple Choice

1. **B** — A tissue is a group of similar cells performing a specific function.
2. **C** — The four main tissue types are Epithelial, Connective, Muscle, and Nervous.  
"Skeletal" is a type of muscle, not its own tissue category.
3. **B** — Epithelial tissue lines body cavities and covers surfaces.
4. **D** — Transitional epithelium (found in the bladder) can stretch and recoil.
5. **B** — Flat cells in a single layer = simple squamous epithelium.
6. **C** — Connective tissue has the most abundant extracellular matrix.
7. **C** — Blood is a connective tissue that transports oxygen and nutrients.
8. **A** — Skeletal muscle is voluntary and striated.
9. **B** — Cardiac muscle has intercalated discs, which help coordinate contraction.
10. **C** — Smooth muscle is found in the walls of hollow organs (stomach, blood vessels, intestines).
11. **A** — The neuron is the main functional (signaling) cell of the nervous system.
12. **B** — The axon carries signals away from the cell body.
13. **B** — Ligaments and tendons are dense regular connective tissue (parallel collagen fibers).
14. **B** — Fibroblasts produce the fibers (collagen, elastin) in connective tissue.
15. **C** — Epithelial tissue and cartilage are avascular (no direct blood supply).
16. **C** — Stratified squamous epithelium is multi-layered and found in areas subject to abrasion (e.g., skin, mouth, esophagus).

### Part B: Fill in the Blank

1. **Pseudostratified** (columnar) epithelium
2. **Adipose** tissue
3. **Osteocytes; Chondrocytes**

4. **Extracellular matrix** (or ground substance)
5. **Glial** (or Neuroglia)
6. **Basal** surface

## Part C: Short Answer

### 1. Four Major Tissue Types:

| Tissue Type       | Basic Function   |
|-------------------|--|
| <b>Epithelial</b> | Covers surfaces and lines body cavities; protection, absorption, secretion |
| <b>Connective</b> | Supports, connects, and protects organs; provides structure                |
| <b>Muscle</b>     | Contracts to produce movement  |
| <b>Nervous</b>    | Transmits electrical signals for communication and control                 |

### 2. Comparison of Three Muscle Types:

| Feature         | Skeletal          | Cardiac            | Smooth                 |
|-----------------|-------------------|--------------------|------------------------|
| Appearance      | Striated          | Striated           | Non-striated           |
| Control         | Voluntary         | Involuntary        | Involuntary            |
| Location        | Attached to bones | Heart only         | Walls of hollow organs |
| Special Feature | Multinucleated    | Intercalated discs | Spindle-shaped cells   |

3. **Simple Squamous Epithelium — Structure Fits Function:** Simple squamous epithelium consists of a single layer of very flat (thin) cells. This structure minimizes the distance substances must travel, making it ideal for rapid diffusion and filtration.

This is why it is found in the alveoli of the lungs (gas exchange), the lining of blood capillaries (nutrient/waste exchange), and the kidney glomerulus (filtration).