

Practice Test 05 — Answer Key

Module 10: Tissues

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).

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
Epithelial	Covers surfaces and lines body cavities; protection, absorption, secretion
Connective	Supports, connects, and protects organs; provides structure
Muscle	Contracts to produce movement
Nervous	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) and the lining of blood capillaries (nutrient/waste exchange) and the kidney glomerulus (filtration).