Class 9 Science Chapter 6 - Tissues / High School Biology

Worksheet

A. Multiple Choice Questions (1 mark each)

1. Which tissue is responsible for increase in thickness of stems and roots?

2. The husk of coconut is made of:

3. The functional unit of nervous tissue is:

4. Which connective tissue connects muscle to bone?

5. Stomata are mainly responsible for:

B. Very Short Answer Questions (1-2 marks each)

1. Define tissue.

2. Name two functions of parenchyma.

3. Differentiate between xylem and phloem in one line.

4. Where is cardiac muscle found?

5. State one function of epidermis in plants.

C. Short Answer Questions (3-4 marks each)

1. Differentiate between striated, unstriated, and cardiac muscles (write any three points).

2. Explain how cork acts as a protective tissue in plants.

3. Write two differences between simple permanent and complex permanent tissues in plants.

4. Give the role of stomata in plants.

5. Write the functions of ligaments and tendons.

D. Long Answer Questions (5 marks each)

1. Explain the different types of meristematic tissues with examples.

2. Describe the structure and functions of xylem and phloem.

3. Explain epithelial tissue with its different types and functions.

E. Diagram Questions

1. Draw a well-labeled diagram of a neuron.

2. Show the difference between striated, unstriated, and cardiac muscles with diagrams.

3. Draw and label stomata.

4. Draw the distribution of plant tissues in a dicot stem (optional advanced).

Answer Key

A. Multiple Choice Questions

1. Lateral meristem

2. Sclerenchyma

3. Neuron

4. Tendon

5. Transpiration and gas exchange

B. Very Short Answer Questions

1. Tissue - A group of similar cells that perform a specific function.

2. Functions of Parenchyma - Storage of food, Photosynthesis, Buoyancy in aquatic plants.

3. Xylem transports water/minerals, Phloem transports food.

4. Cardiac muscle is found only in the walls of the heart.

5. Epidermis protects plant and prevents water loss.

C. Short Answer Questions

1. Striated: voluntary, striped, multinucleated, attached to bones.
   Unstriated: involuntary, spindle-shaped, in organs.
   Cardiac: involuntary, branched, rhythmic, in heart.

2. Cork - Dead cells with suberin, waterproof, prevents water loss, injury, pathogen entry.

3. Simple tissue - one cell type (parenchyma, collenchyma, sclerenchyma).
   Complex tissue - multiple cell types (xylem, phloem).

4. Stomata - Help in gas exchange and transpiration.

5. Ligaments - bone to bone (strong, flexible). Tendons - muscle to bone (strong, less flexible).

D. Long Answer Questions

1. Meristematic tissues: Apical (length), Intercalary (nodes, height), Lateral (thickness).
2. Xylem (tracheids, vessels, fibres, parenchyma) -> transports water.
   Phloem (sieve tubes, companion cells, fibres, parenchyma) -> transports food.
3. Epithelial tissues: Squamous (alveoli), Cuboidal (kidney tubules), Columnar (intestine),
   Ciliated (trachea), Glandular (glands).

E. Diagram Questions (labelled expectations)

1. Neuron - cell body, axon, dendrites.
2. Muscle fibres - striated, unstriated, cardiac.
3. Stomata - guard cells, stoma, epidermal cells.
4. Dicot stem - epidermis, cortex, phloem, xylem, pith, cambium.