

## **Questions from NCERT Textbook for Class 9 Science**

**Question 1.** Define the term “tissue”.

**Answer:**

Group of cells that are similar in structure and perform same function is called a tissue.

**Question 2.** How many types of elements together make up the xylem tissue? Name them.

**Answer:**

The xylem is made up of vessels, trachieds, xylem fiber and xylem parenchyma.

**Question 3.** How are simple tissues different from complex tissues in plants?

**Answer:**

Simple tissues are made up of one type of cells which coordinate to perform a common function.

Complex tissues are made up of more than one

type of cells. All these co-ordinates to perform a common function.

**Question 4. Differentiate between parenchyma, collenchyma and sclerenchyma on the basis of their cell wall.**

**Answer:**

Parenchyma: The cells have thin cell walls made up of cellulose. Collenchyma: The cells have cell walls thickened at the corners due to pectin deposition.

Sclerenchyma: Their walls are thickened due to lignin deposition.

**Question 5. What are the functions of stomata?**

**Answer:**

The outermost layer of the cell is called epidermis and is very porous. These pores are called stomata. These stomata help in transpiration and exchange of gases.

**Question 6. Diagrammatically show the difference between the three types of muscle fibres.**

**Answer:** Striated muscles

(1) They are connected to bones (Skeletal muscles).

(2) They are voluntary muscles.

(3) The cells are long, cylindrical with many nucleus and are unbranched.

Smooth muscles

(1) They are found in alimentary canal and lungs.

(2) They are involuntary muscles.

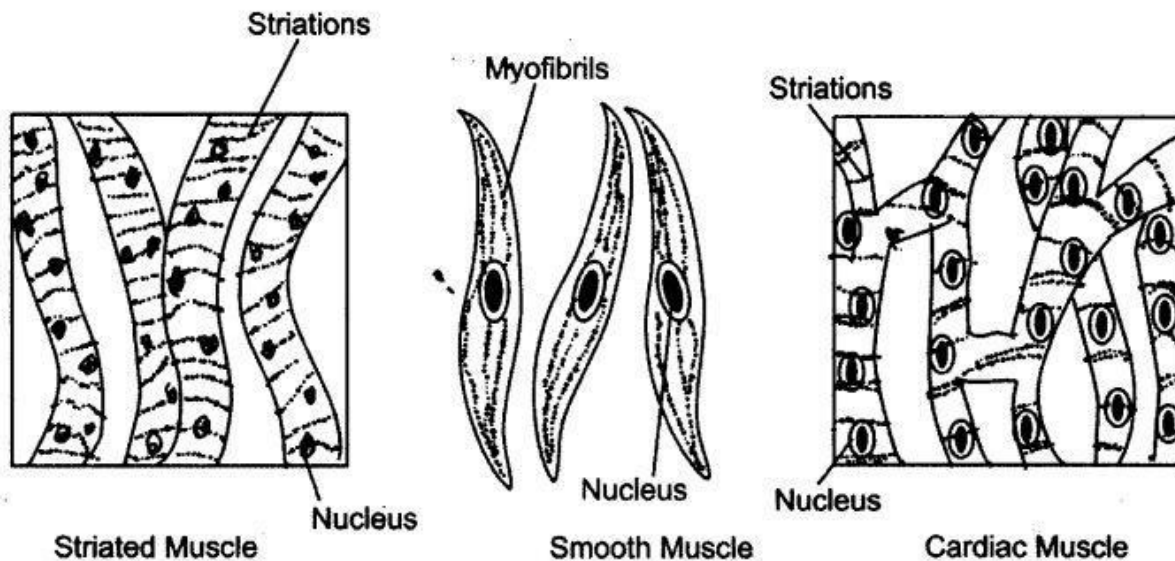
(3) They are spindle in shape and have single nucleus.

Cardiac muscles

(1) They are found in heart.

(2) They are involuntary in action.

(3) They are branched and have one nucleus.



**Question 7. What is the specific function of the cardiac muscle?**

**Answer:** (1) Cardiac muscles cells are cylindrical, branched and uninucleated.

(2) They are involuntary muscles.

(3) They show rhythmically contraction and relaxation throughout life.

(4) Their rhythmic contraction and relaxation helps in pumping action of heart.

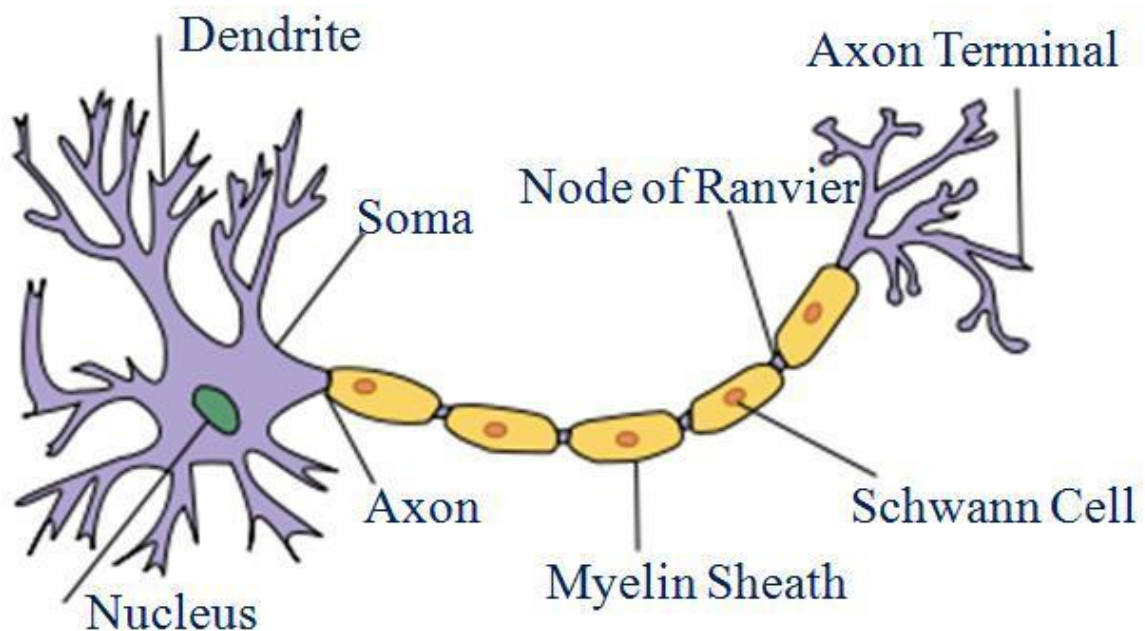
**Question 8. Differentiate between striated, unstriated and cardiac muscles on the basis of their structure and location in the body.**

**Answer:**

<b>Character</b>	<b>Striated Muscles</b>	<b>Unstriated Muscles</b>	<b>Cardiac Muscles</b>
1. Shape	Cells are long, cylindrical, non-tapering and are unbranched.	Cells are long with tapering ends and are unbranched.	Cells are non-tapering and cylindrical in shape and are branched.
2. Location in body	In hands, legs and skeletal muscles.	The wall of stomach, intestine, ureter and bronchi, etc.	In the heart.
3. Light and dark bands	Present.	Absent.	Present but less prominent.

**Question 9. Draw a labelled diagram of neuron.**

**Answer:**



**Question 10. Name the following:**

**(1) Tissue that forms the inner lining of our mouth.**

**(2) Tissue that connect muscle to bone in humans.**

**(3) Tissue that transport food in plants.**

**(4) Tissue that is found in our body.**

**(5) Connective tissue with a fluid matrix.**

**(6) Tissue present in the brain.**

**Answer:** (1) Squamous epithelium (2) Tendons

(3) Phloem (4) Areolar tissue

(5) Blood (6) Nervous tissue

**Question 11. Identify the type of tissue in the following: Skin, bark of tree, bone, lining of kidney tubule, vascular bundle.**

**Answer:** (a) Skin—Striated squamous epithelium

(b) Bark of tree—Cork, protective tissue

(c) Bone—Connective tissue

(d) Lining of kidney tubule—Cuboidal epithelium tissue

(e) Vascular bundle—Conducting tissue

**Question 12. Name the regions in which parenchyma tissue is present.**

**Answer:** In the pith of the roots and stems.

When it contains chlorophyll, it is called

chlorenchyma, found in green leaves. In aquatic plants, parenchyma contains large air cavities and help them to float. Such type of parenchyma is called aerenchyma.

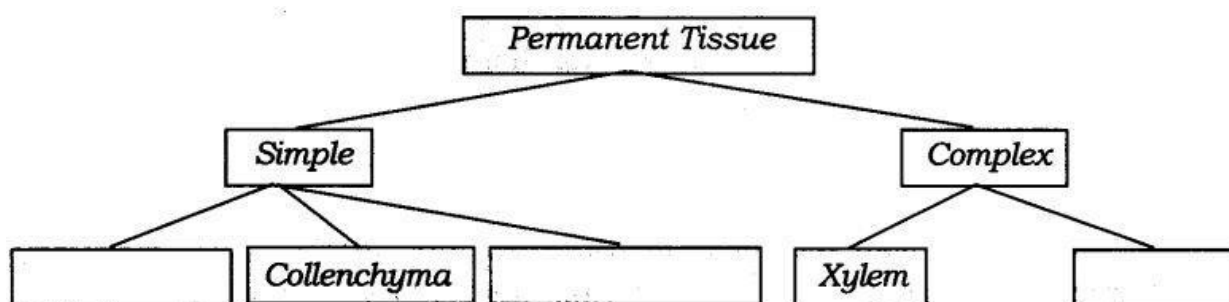
**Question 13. What is the role of epidermis in plants?**

**Answer:** Cells of epidermis forms a continuous layer without intercellular spaces. It protects all the parts of plants.

**Question 14. How does the cork act as a protective tissue?**

**Answer:** Cork acts as a protective tissue because its cells are dead and compactly arranged without intercellular spaces. They have deposition of suberin on the walls that make them impervious to gases and water.

**Question 15. Complete the table:**



**Answer:**

