Tissues

CHAPTER 6

NCERT FOCUS

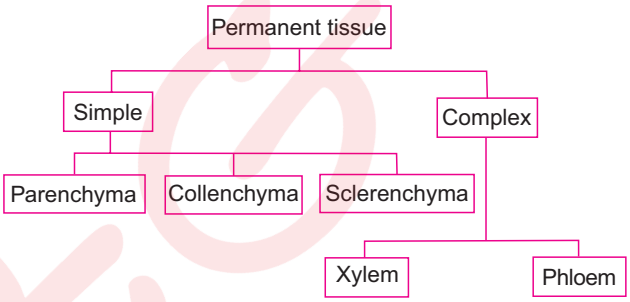
ANSWERS

Topic 2

1. Four types of elements together make up the xylem tissue, are tracheids, vessels, xylem parenchyma and xylem fibres.
2. Simple tissues are made up of only one type of cells, which look a like. On the other hand, complex tissues are made up of more than one type of cells. Parenchyma, collenchyma and sclerenchyma are the examples of simple plant tissue whereas xylem and phloem are examples of complex tissue.
3. On the basis of the cell wall, differences between parenchyma, collenchyma and sclerenchyma are–

S. No.	Parenchyma	Collenchyma	Sclerenchyma
(i)	Cell wall is thin.	Cell wall is thick.	Cell wall is hard, rigid, very thick.
(ii)	Made up of cellulose.	Made up of cellulose and pectin	Made up of lignin – a water proof material.

4. Stomata are necessary for gaseous exchange between the plant and the atmosphere. Transpiration (loss of water in the form of water vapour) also takes place through stomata.
5. In small herbaceous plants, parenchyma makes up the bulk of the plant body. It is mainly found in the cortex, pith, ground tissue of petioles, mesophyll of leaves and also in vascular bundles.
6. Epidermis protects internal tissues from mechanical injury, parasitic fungi, bacteria and also from cold or heat. Thick cuticle, wax and epidermal hair reduce loss of water from internal tissue. Epidermal cells of roots have hairs that increase the surface area for the absorption of water and nutrients.
7. The walls of cork cells are heavily thickened by the deposition of suberin. This structural characteristic helps the cork to protect and prevent from infection and mechanical injury. It also prevents desiccation, by preventing loss of water from the plant body.
8.



Topic 3

1. Three types of muscle fibres are as follows :

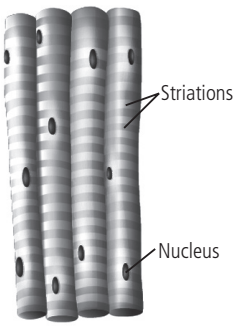


Fig. : Skeletal muscles

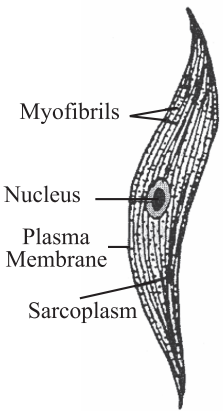


Fig.: Unstriated (smooth) muscle

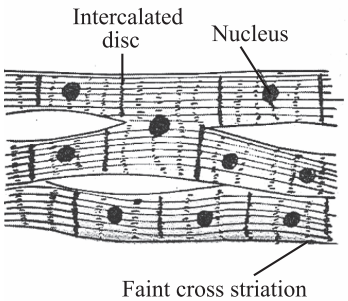


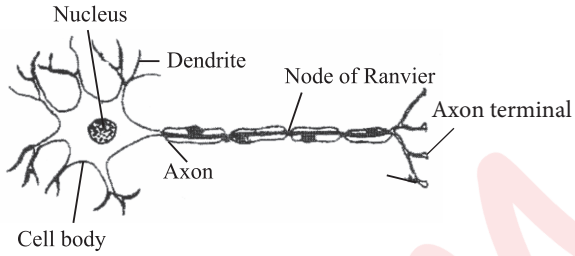
Fig.: Cardiac muscle fibre

2. The differences among striated, unstriated and cardiac muscles are as follows:

S. No.	Striated muscle	Unstriated muscles	Cardiac muscles
(i)	Each muscle fibre is elongated, cylindrical, unbranched, non-tapering and multinucleated.	Each muscle fibre is elontaged, flattened, spindle-shaped, tapering and uninucleated.	The fibres have centrally located one or two nuclei and transverse striations with light and dark bands. They are branched.
(ii)	Shows striations.	Does not show striations.	Shows faint transverse striations.
(iii)	Occur in the limbs, body wall, neck, etc.	Occur in the walls of all tubular organs such as the stomach, intestines, blood vessels, breathing passage and the urinogenital ducts.	Occur only in the walls of the heart.

3. The specific function of the cardiac muscle is rhythmic contraction and relaxation throughout life without getting fatigued.

4. The well labelled diagram of a neuron is as follows :



5. (a) Epithelial tissue—Simple squamous epithelium,
(b) Tendon
(c) Phloem
(d) Adipose tissue
(e) Fluid connective tissue — Blood
(f) Nervous tissue

6. Skin—Squamous epithelium
Bark of tree—Epidermal tissue/cork
Bone—Skeletal tissue
Lining of kidney tubule—Cuboidal epithelium
Vascular bundle—Xylem and phloem (conducting tissue)

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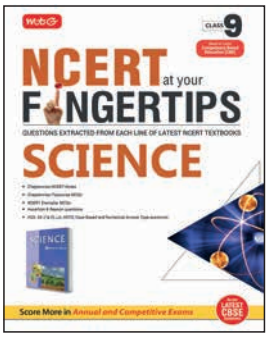

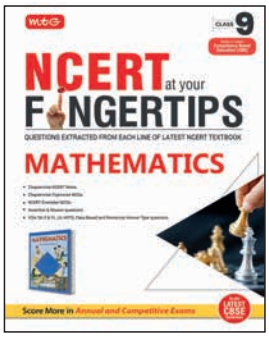

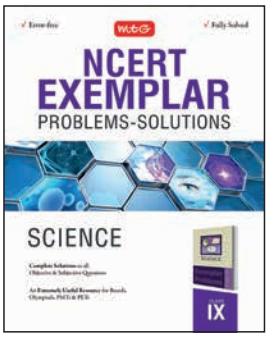

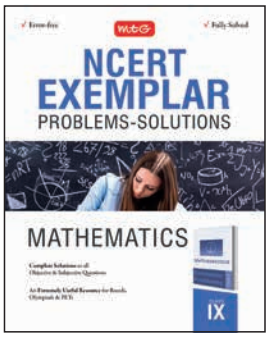

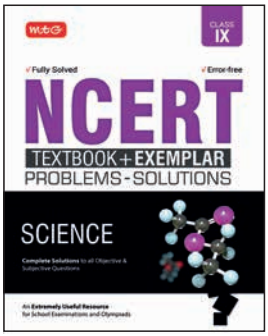

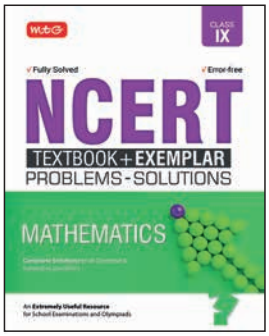

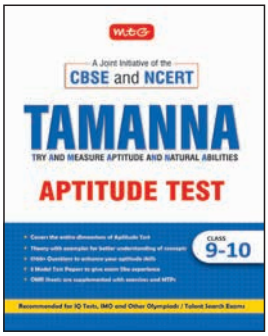

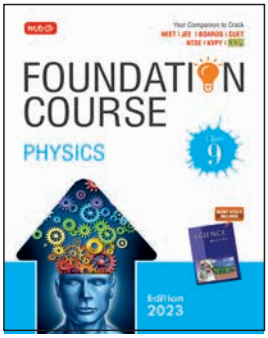

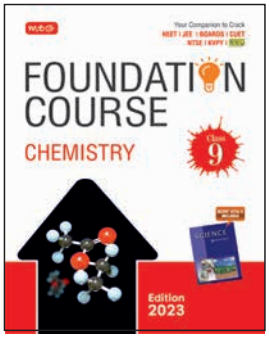

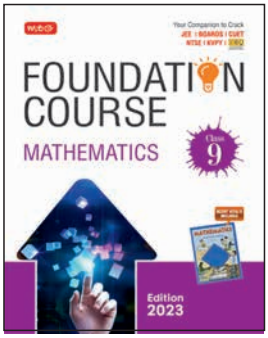

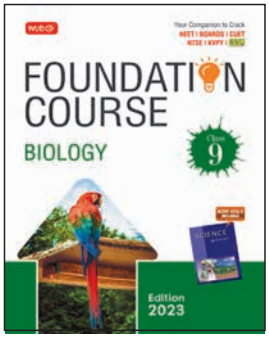

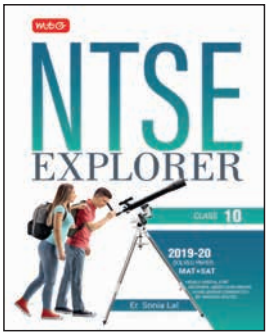

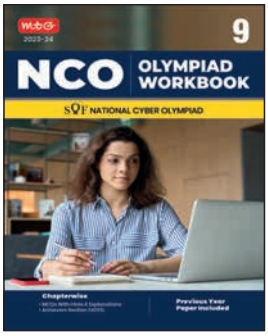

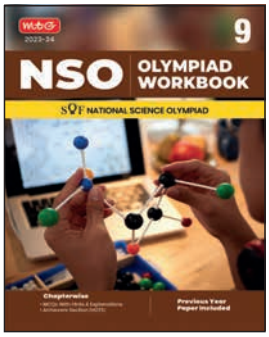

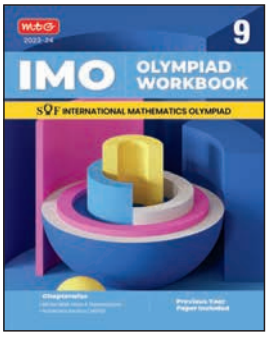

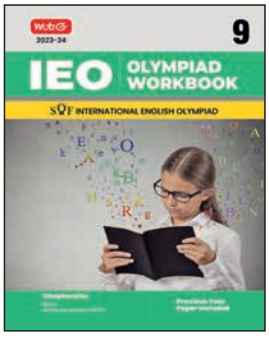

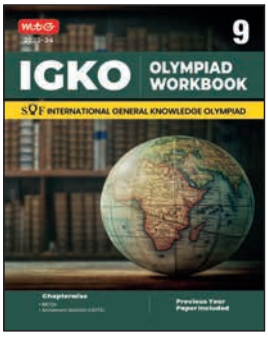

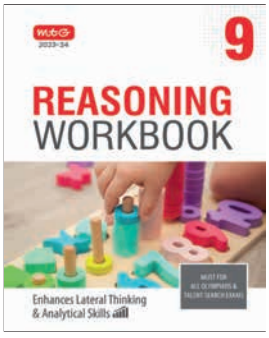

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