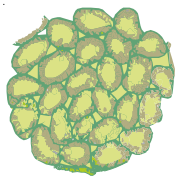
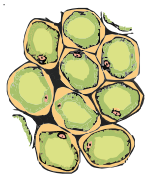
01 **Observe the figures given below and answer the following.**

(A)  **(B)**  **(C)** 

(a) **Identify the type of plant tissues A, B and C shown above. Give reasons for their identification.**

(b) **Identify the type of plant tissues and name them for their respective characteristics mentioned below:**

(i) **Tissue that is commercially exploited to obtain hemp and jute.**

(ii) **Tissue that provides mechanical strength and elasticity in growing stems.**

(iii) **Tissue that play a vital role in wound healing.**

(a) Types of plant tissues (A, B, C) identified to be as parenchyma (A), (B) Colenchyma and sclerenchyma - fibres (C) respectively. Reasons for their identification are as below:

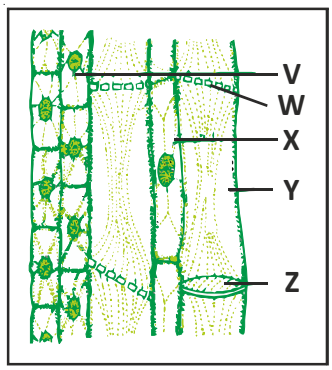
(A) Parenchyma	(B) Collenchyma	(C) Sclerenchyma-fibres
Cells are thin walled with dense cytoplasm, isodiametric in shape, intercellular spaces are not present.	Cells are thick walled, corners of cells are also thickened. Intercellular spaces are not observed.	Cells are thick, long narrow and pointed. Intercellular spaces are not observed.

(b) (i) Sclerenchyma - fibres

(ii) Collenchyma

(iii) Parenchyma

02 **Observe the given figure and answer the following questions.**



(a) Identify the type of plant tissue. Label its parts and state its function.

(b) What is the peculiarity observed with 'Y' ?

(c) Comment on – cell walls of phloem:

(a) The type of plant tissue is identified to be "L.S.of phloem".

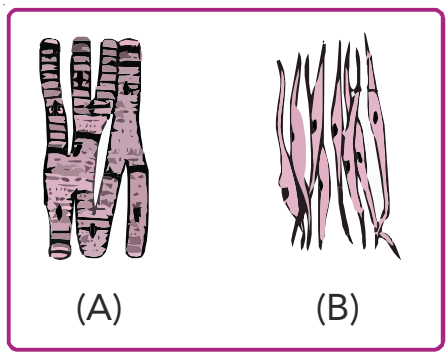
Labels: V - Phloem parenchyma cell; W - Seive pores; X - Companion cell; Y - Sieve tube cell; Z - Seive plate.

Functions of phloem: The main function of phloem is to conduct food material from leaves to the other regions of plant and also to storage organs.

(b) 'Y' is a sieve tube. Mature seive tube members are without nuclei but contain living protoplasm. This is a unique feature observed among plant cells.

(c) Cell walls of phloem have thin perforated areas i.e., seive pores. The solutes move through these pores from cell to cell. Also, the conducting cells of phloem, unlike of xylem are alive even at maturity.

03 **Observe the animal tissue 'A' and 'B'. Answer the following questions.**



(a) **Identify the types of animals tissues 'A' and 'B'. Given reasons for their identification.**

(b) **Identify the types of muscles based on the characteristics mentioned below**

(i) **Striped, voluntary muscles.**

(ii) **Involuntary muscles showing rhythmic contraction.**

(iii) **Muscles that help in pushing food down along the alimentary canal.**

(c) **What are myofibrils ?**

(a) Animal tissues (A, B) are identified as structures of cardiac and smooth muscles respectively. Reasons for their identification are discussed below:

'A' Structure of cardiac muscle	'B' Structure of smooth muscle
• Muscles fibres observed in fig 'A' have centrally located one or two nuclei. Traverse striations with light and dark bands are observed. • Intercalated discs are present at intervals in the fibres.	• Muscles fibres observed in fig 'B' are unstriated, smooth long, flattened, spindle- shaped, tapering and uninucleated (cells). Nucleus is centrally located

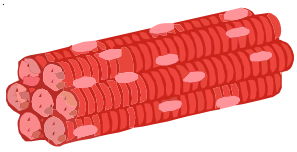
(b) (i) Skeletal muscles

(ii) Cardiac muscles

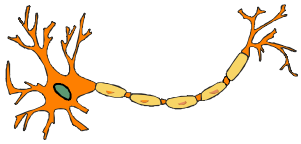
(iii) Smooth muscles

(c) Muscle fibres contain large number of fine longitudinally running fibrils called myofibrils. myofibrils are contractile.

04 **Observe the figure and answer the questions given below.**



(A)



(B)

(a) **Identify the type of animal cell shown.**

(b) **Label the parts – P, Q, R, S, T, U, V.**

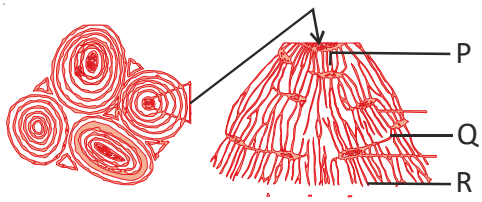
(c) **Why do axon of one neuron and dendrite of another neuron connect in end - to - end manner. What are the connective spots called as ?**

(a) The given figure is identified as a nerve cell (neuron).

(b) P) Dendron;
Q) Dendrite;
R) Nucleus;
S) Cell body;
T) Axon
U) Sheath of Schwann (myelin sheath);
V) Nodes of 'Ranvier'

(c) Neurons lie end-to-end in chains to carry impulses in the animal body. Each neuron receives an impulse through its dendrites and passes it to next neuron in the chain through its axon. Fresh impulses are set up in dendrites at there connection spots called as synapses.

05 **Observe the figure and answer the questions given below.**



(a) Identify the type of connective tissue shown. Label the parts - P, Q, R.

(b) Identify the type of tissue based on the hints given below. Write its functions.

(i) It is red, in colour.

(ii) It is soft and spongy.

(iii) It is also known as myeloid tissue.

(a) The diagram is identified to be **T.S. of a bone (a part)**.

Labels: P - Haversian canal; Q - Canaliculi; R - Lacuna

(b) The type of tissue identified is of **'bone marrow'.**

Functions: Bone marrow, also known as myeloid tissue, can be found in almost any spongy bone (trabecullar bone). RBCs are produced by cores of bone marrow by a process known as hematopoiesis.