EXERCISE

Q1) Define the term "tissue" ?

A tissue is defined as a cluster of cells which are similar in structure and work together to perform a particular function.

Q2) How many types of elements together make up the xylem tissue?

The xylem tissue is made up of four main elements :-

i) Vessels
ii) Tracheids
iii) xylem fibres
iv) xylem parenchyma

Q3) How are simple tissues different from complex tissues in plants?

ans

Simple tissues	Complex tissues
They are made up of a single type of cell that performs only one common function.	They are made up of more than one kind of a cell that coordinate to perform one particular function.

Q4) Differentiate between parenchyma, collenchyma and sclerenchyma on the basis of their cell wall.

parenchyma :- cell walls are thin and made up of cellulose.

collenchyma :- cell walls are thick at the edges due to the deposition of pectin.

Sclerenchyma :- cell walls are thick due to the deposition of lignin.

Q5) What are the functions of the stomata?

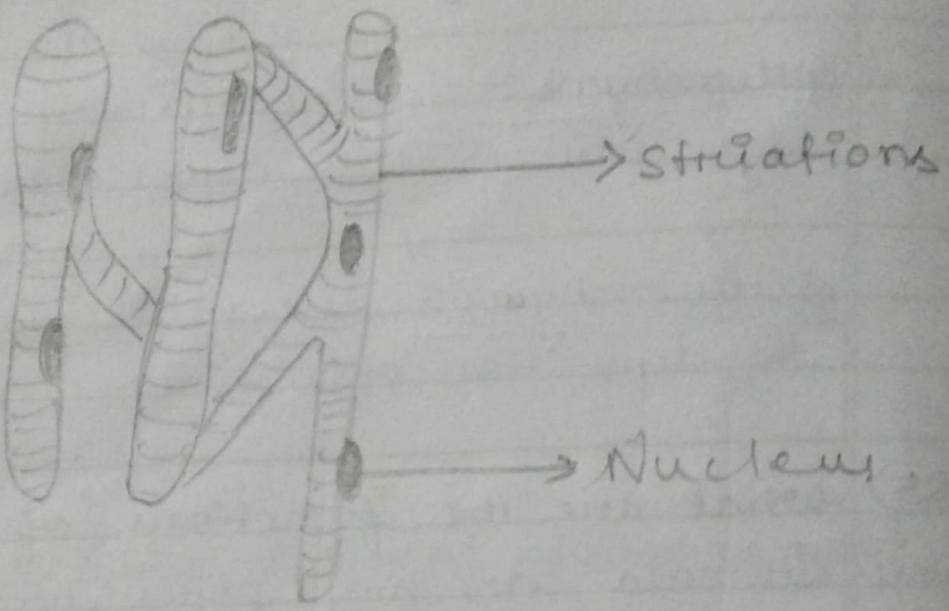
ans:- Stomata are tiny pores present on the outer layer of the cells, the epidermis. Stomata bring about the exchange of gases and transpiration.

Q6) Diagrammatically show the difference between the three types of muscle fibres.

ans. There are 3 types of muscle fibres, they are :-

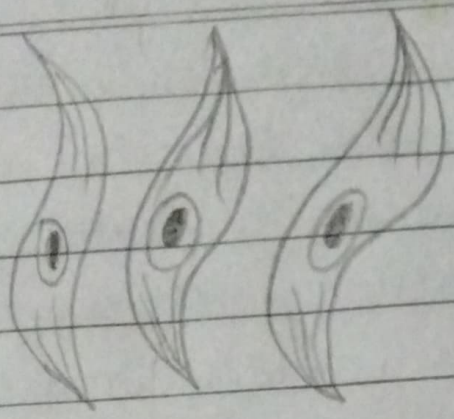
1. Cardiac muscles :-

* Present in heart
* Involuntary in nature.
* They have 1 nucleus.
* The muscle fibers are branched.



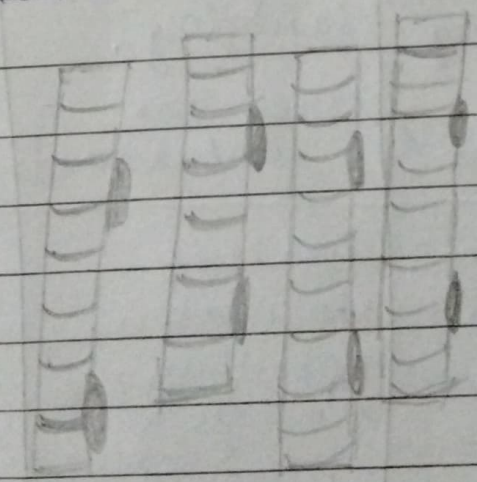
2. Smooth muscles :-

* Found in lungs and alimentary canal.
* Involuntary in nature.
* They have 1 nucleus
* They are spindle shaped.



3. Striated muscles :-

* They are connected with bones.
* Voluntary in nature.
* They are long and cylindrical muscle fibers.
* They possess many nuclei.
* Striated muscles are unbranched.



Q7) What is the specific function of the cardiac muscle?

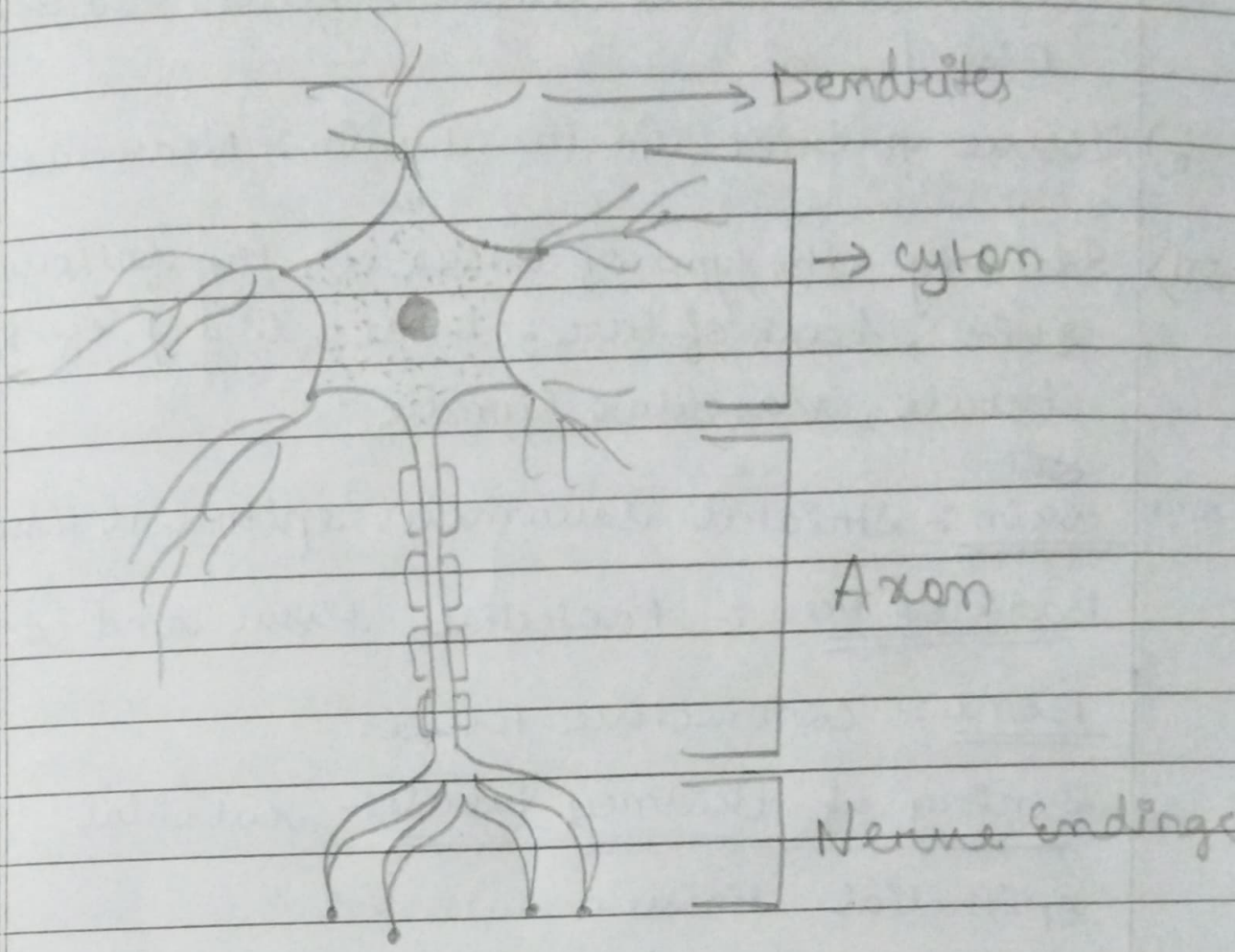
ans:- The cardiac muscles are branched and cylindrical. They are uninucleated and are involuntary in nature. Throughout One's lifetime, the cardiac muscles bring about the rythmic contraction and relaxation.

8) Differentiate between striated, unstriated and cardiac muscles on the basis of their structure and site/location in the body.

ans→

character	Striated	unstriated	Cardiac
Shape/ structure	Long cylindrical, non tapering. They are unbranched.	Long and tapering. They are unbranched.	cylindrical and non-tapering They are branched.
location in body	Hands, legs, and skeletal muscles.	wall of stomach, intestine, ureter & bronchi	Heart
Dark and light bands	Present	Absent	Present but less prominent

Q9) Draw a labelled diagram of a neuron.



Q10) Name the following :-

a) Tissue that forms the inner lining of our mouth :- Squamous epithelium

b) Tissue that connects muscle to bone in humans :- Tendon.

c) Tissue that ~~connects~~ transports food in plants :- Phloem

d) Tissue that stores fats in our body :-
Adipose tissue.

e) connective tissue with a fluid matrix :-
Blood.

b) Tissue present in the brain :- Nervous tissue.

Q11) Identify the type of tissue in the following:-
Skin, bark of tree, bone, lining of kidney tubule, Vascular bundle.

Ans:- Skin :- Striated squamous epithelial tissue.

Bark of tree :- Protective tissue and cork.

Bone :- connective tissue.

Lining of kidney tubule :- cuboidal epithelial tissue.

Vascular Bundle :- conducting tissue (xylem and phloem). complex permanent tissue.

Q12) Name the regions in which parenchyma tissue is present.

ans:- The parenchyma is found in :-

* The pith of stems and roots
* When parenchyma contains chlorophyll, it is found in green leaves.
* Parenchyma found in aquatic plants has large air cavities which enables them to float and are hence called aerenchyma.

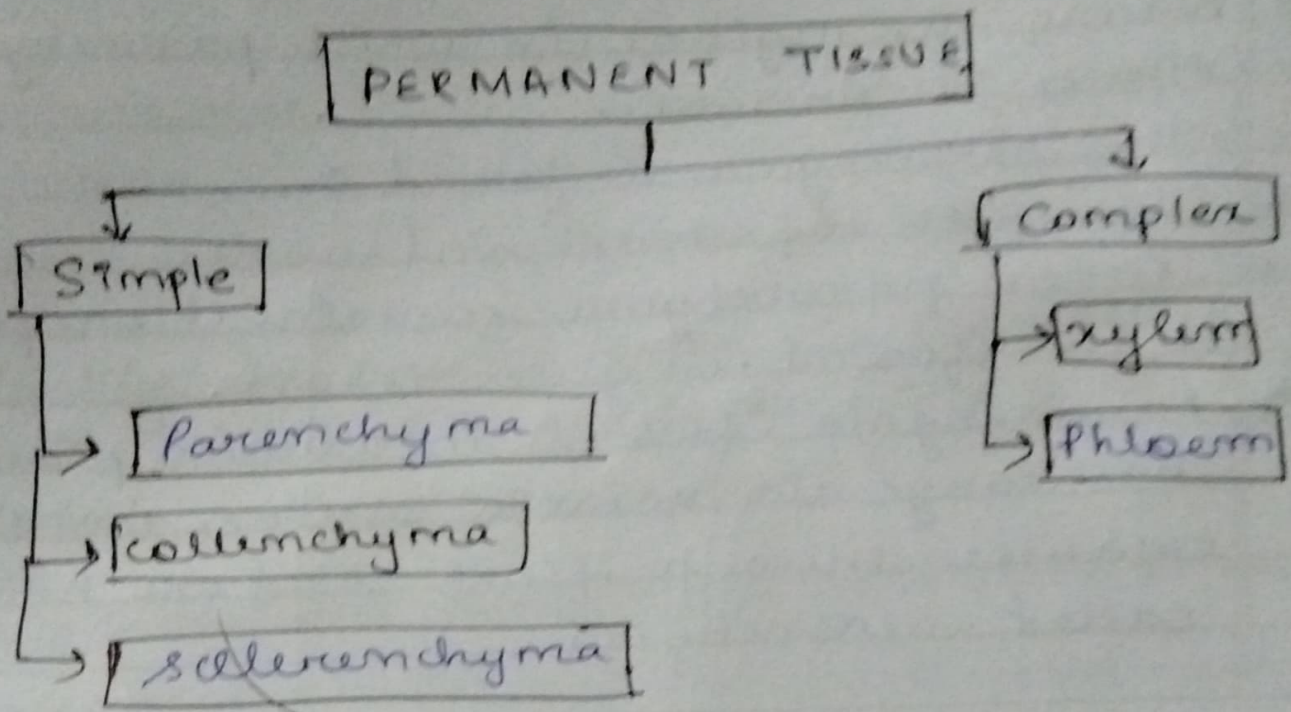
Q13) What is the role of epidermis in plants?

The epidermis in plants forms an uninterrupted and continuous layer that has no intercellular spaces. It provides protection.

Q14) How does the cork act as a protective tissue?

Cork cells are dead. The arrangement of cells is so dense, that there is no intercellular space. Deposition of suberin is observed on the walls of the cells that make them impervious to water and gases.

Q15)


PERMANENT TISSUE
Simple
Parenchyma
collenchyma
sclerenchyma
Complex
xylem
Phloem