Hw 11 7 21

ODM CONNECT APP HOMEWORK

Date
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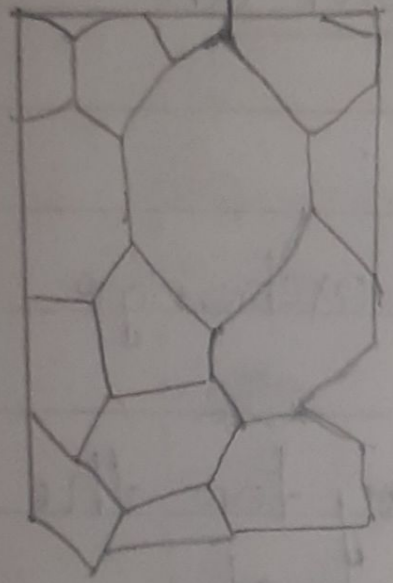
Q1. Differentiate between sclerenchyma and Parenchyma tissues. Draw well labelled diagram

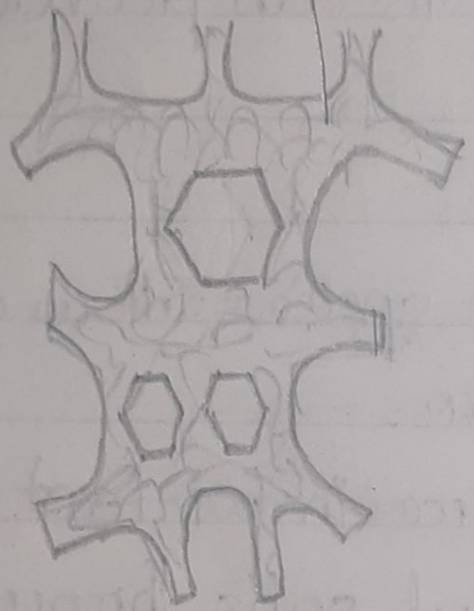
Ans)

Parenchyma tissue	Sclerenchyma tissue
1. It consists of living cells.	1. It consists of dead cells.
2. Intercellular spaces are present.	2. Intercellular spaces are absent.
3. Cell wall is thin without having secondary deposition.	3. Cell wall is thick as it has lignin deposition.
4. Cells contain cytoplasm.	4. Cells are devoid of cytoplasm.
5. They have vital functions like synthesis and storage of food.	5. It is chiefly a mechanical tissue.

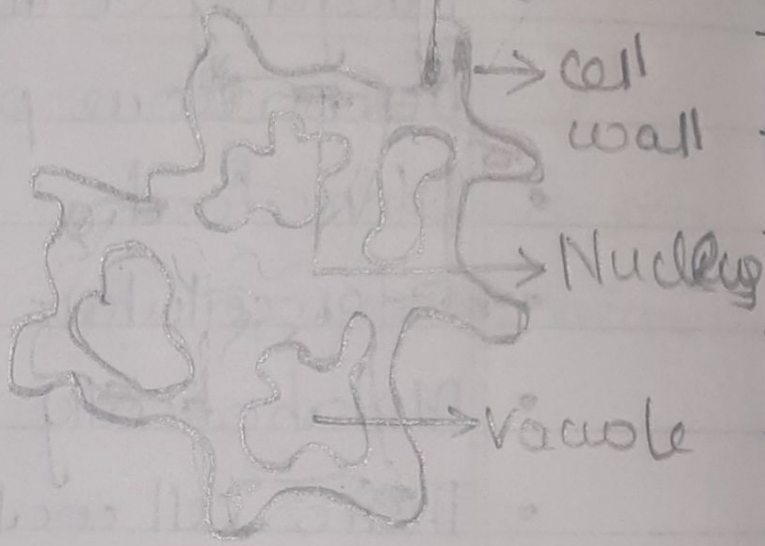
THE THREE SIMPLE PERMANENT TISSUES (Transverse section)



Parenchyma



Collenchyma



Sclerenchyma

Simple plant tissues

Q2. Water hyacinth floats on water surface. Explain.

Ans) water hyacinth floats on water due to the presence of large air cavities in the parenchyma tissue that give buoyancy to the plants which help them to float. These specialised parenchyma tissue are called as aerenchyma. Due to this reason, water hyacinth floats on water surface.

Q3. Why epidermis is important for the plants?

Ans) Epidermis is the protective covering of plant body, which is important for the plants due to the following reasons:-

- The main function of epidermis is to protect the plant from desiccation and infection.
- It also protect the plants from mechanical injury.
- Cuticle of epidermis cuts the rate of transpiration and evaporation of water and prevents wilting.
- Stomata in epidermis allow gaseous exchange to occur during photosynthesis and respiration.
- Stomata also helps in transpiration.

Q4. We get a crunchy and granular feeling, when we chew pear fruit. Give reason.

Ans) Sclerenchymatous cells are of 2 types - sclerenchyma fibers and sclereids (grit or stone cells). Sclereid cells are highly thickened and irregularly shaped dead cells. Such cells are also called as "stone cells" because of their hardness. Sclereids are present in pear fruit that provide strength to seed covering and give a gritty texture to the fruit. Hence, we get a crunchy and granular feeling when we chew pear fruit due to the presence of sclereids in sclerenchyma cells.

Q5. Why it is difficult to pull the husk of a coconut tree?

Ans) Sclerenchyma is dead, long, thin narrow cells. walls of Sclerenchyma cells are lignified, which make them

thick. This tissue makes the plant hard and stiff. Coconut husk is very hard and is made of such thickened, lignified cells. Such cells make it very hard to pull out the coconut husk.