

① Differentiate between sclerenchyma and parenchyma tissues. Draw well labelled diagram.

Ans: Sclerenchyma

→ These cells are found in mature parts of plants like woody plant.

→ This cell consists of thick cell wall and rigid cell wall.

→ Provides strength to the plants.

→ The cells contains tissues of dead cells.

→ The cell wall is made up of water-proofing lignin.

Parenchyma

→ These are the cells found in the soft part of plants such as leaves and fruits.

→ This cell consists of thin cell wall.

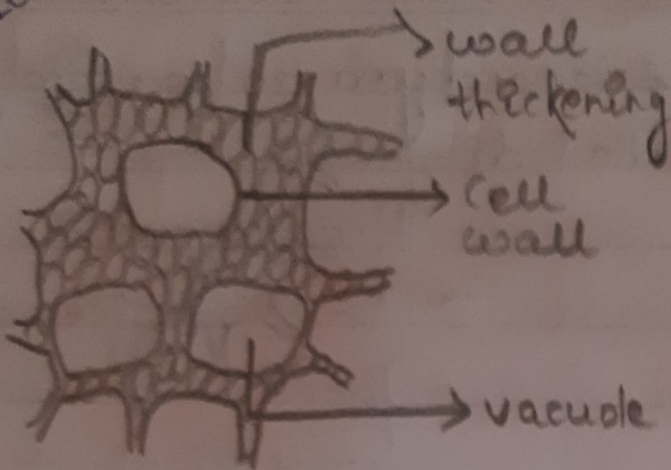
→ Stores nutrients and water in stems and roots.

→ They are living cells.

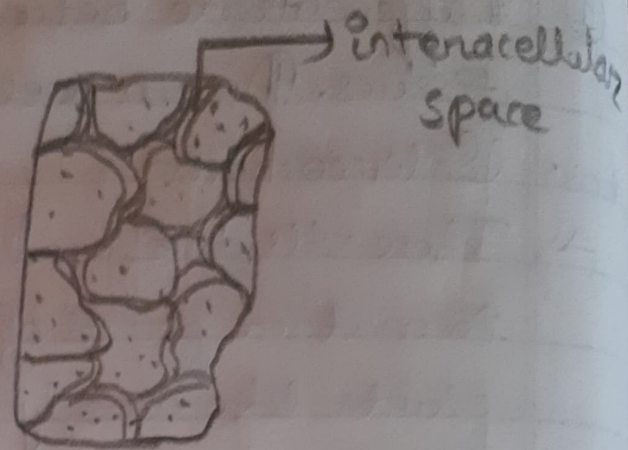
→ The cell wall is made up of cellulose.

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Sclerenchyma



Parenchyma

Q2. Water hyacinth floats on water surface.  
Explain.

Ans. Water hyacinth have large cavities in parenchyma tissue. In parenchyma's function, the intercellular spaces allow gaseous exchange. For this reason it floats on water. These specialized parenchyma tissue which is present in water hyacinth are called aerenchyma.

3 Why epidermis is important for the plants.

Ans: Epidermis is a single layer of cell that covers the leaves, flowers, roots and stems of plants.

It is important for the plants for the following:-

- It forms a boundary between the plant and the external environment, protecting from pathogens.
- It protects against water loss, regulate gas exchange, secretes metabolic compounds, and absorbs water and mineral nutrients.
- Its waxy cuticle layer provides a protective barrier against mechanical injury, water loss and infection.

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

Ans: Pear contains cell of sclerenchyma which are small, rounded and called stone cells. They are hard with highly thickened <sup>cell</sup> wall. These cells give the crunchy and granular feeling when we chew pear fruit.

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10-7-21

⑤ Why it is difficult to pull the husk of a coconut tree?

Ans. The husk of a coconut tree is hard to pull out because, it is made up of sclerenchyma tissues which is ade of dead cells. Sclerenchyma gives rigidity and stiffness to the plant and also due to the presence of lignin on the walls of the cells we find it tough to pull the husk out.