

Ch 7 Getting to Know Plants

Extra Question Answers

1. What do you mean by leaf venation? Explain various types of leaf venation with example.

Ans: Leaf venation: The design made by veins in a leaf is called leaf venation. There are the following two types of leaf venation:

(i) Reticulate venation: If the design of veins makes a net-like structure on both the sides of midrib then it is called reticulate venation. For example, mango leaf, gram leaf.

(ii) Parallel venation: If the veins are parallel to each other or to midrib then such type of venation is called parallel venation. For example, wheat leaf, barley leaf.

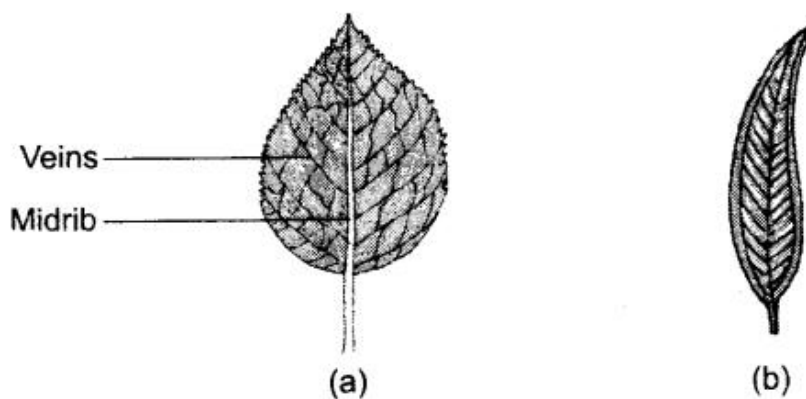


Fig. 7.14 Leaf venation—(a) Reticulate and (b) Parallel

2. Explain the main functions of leaf.

Ans: There are following three main functions of leaf:

1. Leaves carry on the process of photosynthesis. The process of manufacturing food by leaves is called photosynthesis. Leaves require sunlight, air, water, and chlorophyll for the formation of food.

2. Leaves bear small pores called stomata on their surfaces. Exchange of gases for respiration and photosynthesis takes place through stomata.

3. The excess amount of water of plant is given out through stomata in the form of vapour. This process is called as transpiration.

Transpiration helps the plant in the following ways:

(a) It helps in cooling the leaves, just as loss of water during sweating helps in keeping us cool.

(b) Transpiration helps in the transport of nutrients within the plant.

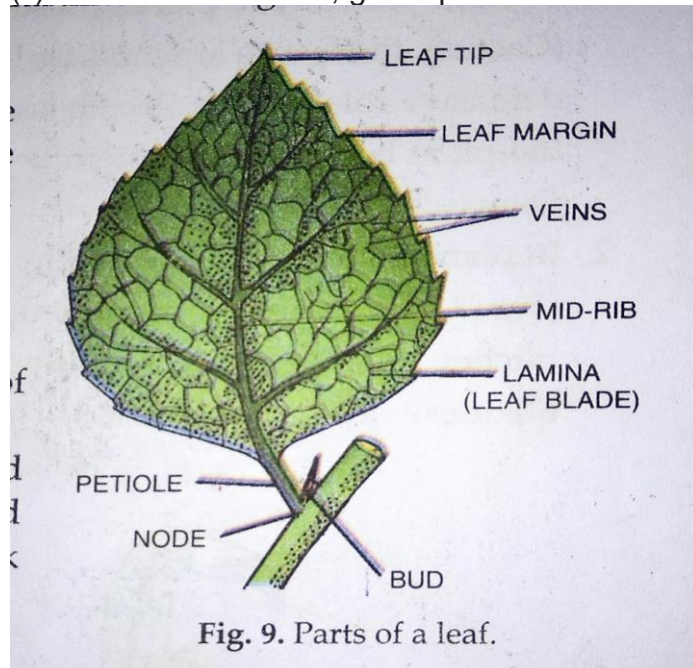
(c) Transpiration also plays an important role in the water cycle.

3. Explain the structure of a leaf with the help of a labelled diagram.

Ans: There are two main parts of leaf:

(i) **Petiole:** The part of the leaf by which it is attached to the stem is called petiole.

(ii) **Lamina:** The broad, green part of the leaf is called lamina.



The lamina contains following parts:

(i) **Veins:** There are various types of lines on the leaf. These lines are called veins

(ii) **Midrib:** There is a thick vein in the middle of the leaf. This vein is called midrib.

4. Differentiate between tap root and fibrous root.

Ans:

<i>Tap root</i>	<i>Fibrous root</i>
1. Tap root has only one main and long root. The smaller roots that grow from the main root are called <i>lateral roots</i> . 2. Tap root goes deep into the soil. 3. Tap roots are found in plants which have <i>reticulate venation</i> in their leaves.	Fibrous roots do not have a main root. All roots seem similar. They do not go deep into the soil. These are found in plants which have <i>parallel venation</i> in their leaves.

Taproot



Fibrous root



5. Explain the important function of root.

Ans The different functions of a root are

- i. Anchoring the plant: Root help to anchor the plant firmly into the ground
- ii. Absorption of water and nutrients from the soil: Roots help plants to absorb water and nutrients from the soil, which are essential for their survival.
- iii. Preventing soil erosion: Roots help to bind the soil particles together, thereby preventing them from being carried away by water or wind.
- iv. Sometimes roots are modified to perform various other functions such reproduction, nutrition, etc.

6. Explain the structure of a typical flower with the help of a diagram.

Ans: A typical flower contains the following parts:

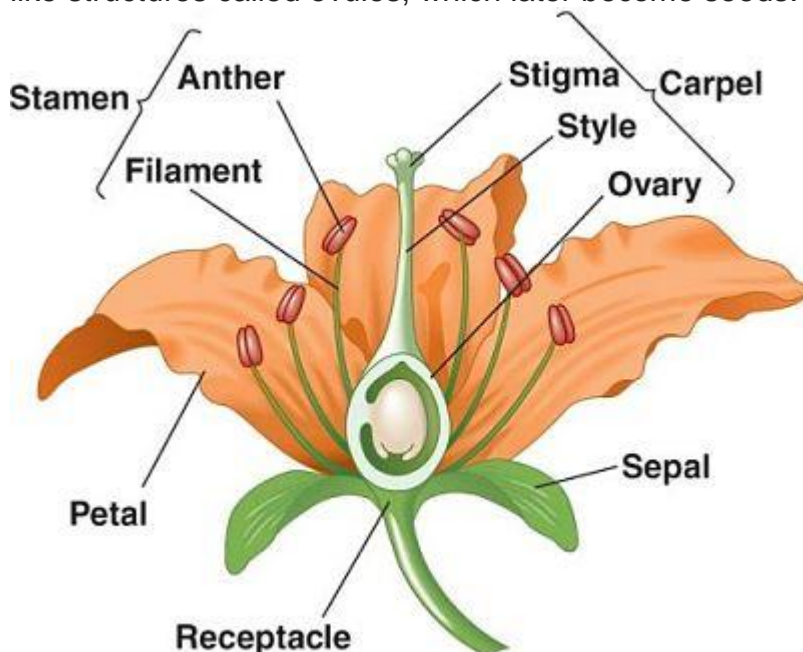
- (i) **Stalk:** The part by which a flower is attached to the branch is called stalk.

(ii) **Sepals:** The small green leaf-like structures of the flower are called sepals,

(iii) **Petals:** The big coloured leaf-like structures are called petals. Different flowers have petals of different colours.

(iv) **Stamen:** Stamens are the male reproductive parts of a flower. Each stamen has two parts: a thin stalk called filament and a knob-like structure called anther. The anther produces a powdery substance called pollen.

(v) **Pistil:** Carpel (pistil) is the female reproductive part of the flower. It has three parts: a top portion called stigma, an enlarged base called ovary, and a tube like structure called style that connects ovary and stigma. The ovary contains tiny ball-like structures called ovules, which later become seeds.



7. Define transpiration. How does it help a plant?

Ans Transpiration is the loss of water through the stomata. It helps plants in the following ways

i It helps in cooling the leaves, just as loss of water during sweating helps in keeping us cool

ii. Transpiration helps in the transport of nutrients within the plant.

iii. Transpiration also plays an important role in the water cycle