

### Lesson at a Glance

- **Herbs:** The small plants with soft/tender, green, shorter stem are called *herbs*. Herbs hardly attain height more than 1.5 metres. Their stems are not woody and can be bent. A herb may or may not have branches, e.g. tomato, mint, paddy, mustard, etc.
- **Shrubs:** The medium-sized plants with hard and partly woody stem are called *shrubs*. Branches arise mostly from the base of the stem so the plant may have a bushy appearance without a clear trunk, e.g. china rose, duranta, lemon, jasmine, bougainvillea.
- **Trees:** *Trees* are very tall plants with height of several metres. They have stout trunks which mostly bear branches near the top. The trunk is very hard and woody, e.g. mango, eucalyptus, gulmohar.
- **Climbers:** Those plants that take support of neighbouring structures as their stems are weak and climb up are called *climbers*. Climbers may have special organs such as hooks, tendrils and petioles that help the plant to climb, e.g. pea plant.
- **Creepers:** Some plants which have weak stems which cannot stand upright and are spread on the ground are called *creepers*, e.g. pumpkin, watermelon.
- **Fibrous Roots:** The roots which do not have any main root but all the roots are similar are called *fibrous roots*.
- **Tap Roots:** The roots in which one root is the main root and other root branches grow on it are called *tap roots*.
- **Lateral Roots:** The smaller roots that grow on main root are called *lateral roots*.
- **Petiole:** The part (stalk) of a leaf by which it is attached to the stem is called *petiole*.
- **Lamina:** The broad green part of a leaf is called *lamina*.
- **Midrib:** A thick vein in the middle of the leaf is called *midrib*.

- **Veins:** The lines on the leaf are called *veins*.
- **Leaf Venation:** The design made by veins in a leaf is called *leaf venation*.
- **Sepals:** The small green coloured leaf-like structures seen in flowers are called *sepals*.
- **Petals:** The big coloured leaf-like structures seen in flowers are called *petals*.
- **Stamens:** When we remove sepals and petals then we see long filaments in a flower which are called *stamens*.
- **Pistil:** The innermost part of a flower which we can not see completely is called *pistil*. It consists of stigma, style and ovary.
- **Ovules:** There are small bead-like structures inside the ovary called *ovules*.
- **Ovary:** The lowermost and swollen part of the pistil is called *ovary*.
- **Transpiration:** The process by which water comes out from the leaves in the form of vapour is called *transpiration*.
- **Photosynthesis:** The process by which green leaves prepare their food in the presence of sunlight and a green-coloured substance (*chlorophyll*) present in them is called *photosynthesis*. For this, plant needs water and carbon dioxide (from air). *Oxygen* is given out in this process.
- **Reticulate Venation:** When design of veins is net-like on both the sides of the midrib, the venation is called *reticulate venation*, for example, leaves of peepal.
- **Parallel Venation:** When veins are designed parallel to one another it is called parallel venation. For example, in leaves of grass and wheat.

### TEXTBOOK QUESTIONS SOLVED

**Q.1.** Correct the following statements and rewrite them in your notebook.

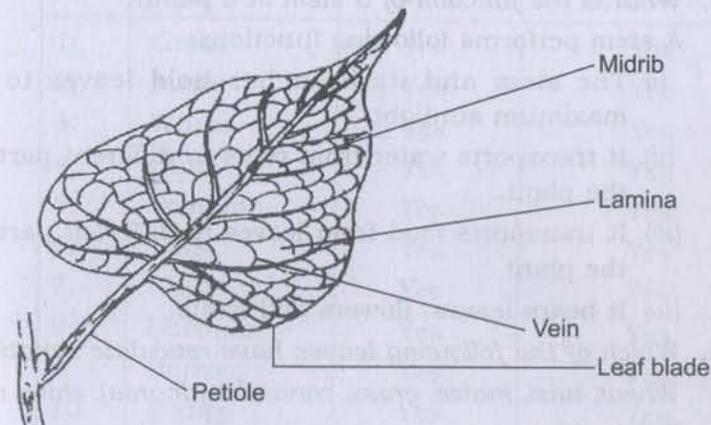
- Stem absorbs water and minerals from the soil.
- Leaves hold the plant upright.
- Roots conduct water to the leaves.
- The number of sepals and petals in a flower is always equal.

- If the sepals of a flower are joined together, its petals are also joined together.
- If the petals of a flower are joined together, then the pistil is joined to the petal.

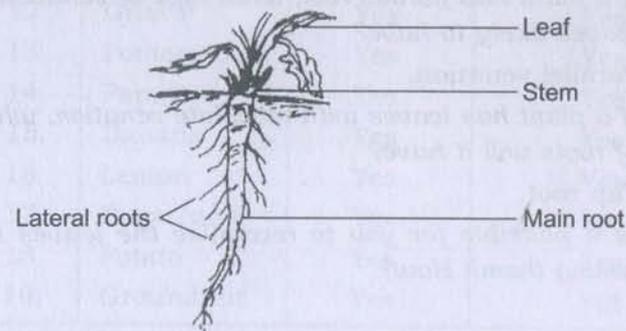
- Ans.**
- Roots absorb water and minerals from the soil.
  - Roots hold the plant upright.
  - Stem conducts water to the leaves.
  - The number of petals and sepals in a flower is usually equal.
  - If the sepals of a flower are joined together, its petals are not necessarily joined together.
  - If the petals of a flower are joined together, then the pistil is not necessarily joined to the petal.

**Q.2.** Draw (a) a leaf, (b) a tap root and (c) a flower, you have studied for Table 7.3 of the textbook.

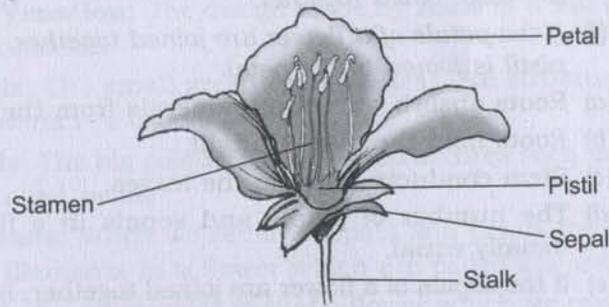
**Ans.** (a) **Leaf:**



(b) **Tap root:**



## (c) Flower:



**Q.3.** Can you find a plant in your house or in your neighbourhood which has a long but a weak stem? Write its name. In which category would you classify it?

**Ans.** Yes, we find a money plant in our house. It is a climber.

**Q.4.** What is the function of a stem in a plant?

**Ans.** A stem performs following functions:

- (i) The stem and its branches hold leaves to get maximum sunlight.
- (ii) It transports water from roots to different parts of the plant.
- (iii) It transports food from leaves to different parts of the plant.
- (iv) It bears leaves, flowers and fruits.

**Q.5.** Which of the following leaves have reticulate venation?  
Wheat, tulsi, maize, grass, coriander (dhanial), china rose.

**Ans.** Tulsi, china rose.

**Q.6.** If a plant has fibrous root, what type of venation are its leaves likely to have?

**Ans.** Parallel venation.

**Q.7.** If a plant has leaves with reticulate venation, what kind of roots will it have?

**Ans.** Tap root.

**Q.8.** Is it possible for you to recognise the leaves without seeing them? How?

**Ans.** We cannot exactly recognise the leaves without seeing them. We may be able to have some idea by touching and smelling them.

**Q.9.** Write the names of the parts of a flower in sequence, from outside to inside.

**Ans.** The names of various parts of a flower from outside to inside are:

- (i) Sepals (ii) Petals (iii) Stamens (iv) Pistil

**Q.10.** Which of the following plants have you seen? Of those that you have seen, which one have flowers?

Grass, maize, wheat, chilli, tomato, tulsi, pipal, shisham, banyan, mango, jamun, guava, pomegranate, papaya, banana, lemon, sugarcane, potato, groundnut.

**Ans.**

S. No.	Name of the plant	Whether seen	Whether have flowers
1.	Grass	Yes	Yes
2.	Maize	Yes	Yes
3.	Wheat	Yes	Yes
4.	Chilli	Yes	Yes
5.	Tomato	Yes	Yes
6.	Tulsi	Yes	Yes
7.	Pipal	Yes	Yes
8.	Shisham	Yes	Yes
9.	Banyan	Yes	Yes
10.	Mango	Yes	Yes
11.	Jamun	Yes	Yes
12.	Guava	Yes	Yes
13.	Pomegranate	Yes	Yes
14.	Papaya	Yes	Yes
15.	Banana	Yes	Yes
16.	Lemon	Yes	Yes
17.	Sugarcane	Yes	Yes
18.	Potato	Yes	Yes
19.	Groundnut	Yes	Yes

**Q.11.** Name the part of the plant which produces its food. Name this process.

**Ans.** Leaves produce food for the plant. This process is called photosynthesis.

**Q.12.** In which part of a flower you are likely to find the ovary?

**Ans.** We find ovary in pistil. It is the lowermost part of the pistil.

**Q.13.** Name two flowers, each with joined and separate sepals.

**Ans.** Flowers with joined sepals:

(i) Datura                      (ii) Loki

Flowers with separate sepals:

(i) Gurhal                      (ii) Mustard