

Assess Yourself (Page 5)

1. The radicle comprises root system of a plant.
2. The plumule comprises shoot system of a plant.
3. The roots firmly hold the plants into the soil. They absorb water and minerals from the soil for the plant.
4. The stem bears all the vegetative parts such as leaves, fruits, buds and flowers of the plant.

Assess Yourself (Page 12)

1. (a) Petiole (b) Parallel venation (c) Photosynthesis
(d) Leaf tendril (e) Scale leaves (f) Bryophyllum
2. (a) stomata (b) entire (c) leaf tips
(d) spines (e) insectivorous

Evaluate Your Understanding

Recalling Ideas

- I. 1. (a) leaf blade 2. (a) simple leaf 3. (c) photosynthesis
4. (b) leaves 5. (a) nitrogen
6. (c) bryophyllum plant
- II. 1. shoot 2. bladderwort 3. parallel
4. leaflets 5. leaf margin
- III. 1. False. The leaves of a sweet pea plant are modified into tendrils.
2. True
3. False. The leaf tendrils and leaf spines are the examples of modification of leaves.
4. False. Insectivorous plants grow in a nutrient-deficient soil.
5. False. In banana leaves veins are arranged in parallel venation.
- IV. 1. (b) 2. (a) 3. (e) 4. (c) 5. (d)
- V. 1. **Leaf tendrils:** Provide suitable support in climbing of the weak stem.
2. **Leaf spines:** Provide protection from grazing animals and reduce water loss of desert plants like cactus.

Understanding Ideas

- I.
 1. Petiole
 2. Axillary bud
 3. Photosynthesis
 4. Transpiration
 5. Stomata
 6. Internode
 7. Leaf blade or lamina
 8. Insectivorous plants
- II.
 1. Leaf spines of cactus.
 2. Mango
 3. Parallel leaf venation
 4. Photosynthesis and transpiration
 5. Refers to page-8, Functions of Leaves.
 6. Pea plant and grapevine
 7. Refers to page-10, Leaf Spines.
 8. Pitcher plant and venus flytrap
 9. Leaf gets modified into spines in cactus plant.
- III.
 1. Cactus is grown in the desert areas where the scarcity of water is present. For checking the rate of transpiration, their leaves are reduced to spines.
 2. Green colour of plants is helpful to trap the energy of sun for performing the process of photosynthesis.
 3. Refer to page-8, Functions of Leaves.
 4. Plants that grow in places where the soil does not have enough minerals, especially nitrogen, are called insectivorous plants. Their leaves are modified and get nutrition from trapping and digesting the small insects.
 5. (a) Ginger and onion (b) Wild pea and glory lily
 6. Refer to page-8, Venations of Leaves.
 7. Refer to page-5, The Leaf.
 8. A leaf is a flat, thin, usually green structure that arises from the node of the stem.
Leaves are of two types:
 - Simple leaves which have only one leaf blade, e.g. leaves of mango and papaya.
 - Compound leaves in which the leaf blade is clearly divided into distinct leaflets, e.g. leaves of neem and gulmohar.
 9. (a) Photosynthesis is a process by which plants make their own food with the help of water and carbon dioxide inside the chlorophyll of leaves. The sunlight is essential for performing the process of photosynthesis.

(b) Stomata are tiny pores present on the lower surface of the leaves. They help in transpiration and gaseous exchange of the plants.

10. Refer to page-12, Vegetative Propagation in Leaves.

IV. 1. Refer to page-8, Venation of Leaves.

2. Refer to page-10, Modification of Leaves

3. Refer to page-7, Types of Leaves.

Think Critically

1. Refer to page-10, Leaf Spines.

2. Insectivorous plants feed on insects to get nutrients. It is because they grow in nutrient-deficient soil.

Diagram-based Question

1. The function of cactus leaves is to check the rate of transpiration and to protect the plant from grazing animals.