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Worksheet

Chapter - 1

Leaf

A(i) Fill in the blanks.

(a) The underground part of the plant is called root.

(b) The part of the plant which grows above the soil is called shoot.

(c) Tap root system has a thick main root known as primary root.

(d) The part of the stem between two successive nodes is called internode.

(e) Buds in the top of the shoot is called Apical bud.

(f) Terminal buds are responsible for the vertical growth of the stem.

Date _____
Page _____

(G) The angle between the upper side of the leaf and the stem is known as axil.

(H) Buds found in the axil are called axillary buds.

(i) The basal part of the leaf is petiole.

(j) Leaves directly attached to the stem without a petiole is called sessile leaves.

(K) The green flat and broad of the leaf is called lamina.

(L) Petiole continues to the lamina as midrib.

(N) veins! Provides a skeleton or supportive frame work to the leaves.

(N) During photosynthesis water is combined with carbon dioxide to produce glucose and oxygen.

(O) Plants which trap insects to meet their nitrogen demand are called insectivorous plant.

(P) Leaves of Bryophyllum and Begonia produces buds along their margin.

(Q) Size of the pitcher varies from 10-20 cm.

(R) At the bottom of the pitcher, enzymatic juices are secreted.

(S) Pitcher plants found in Garo and Khasi hills in Meghalaya.

2. Give one word for the following.

(a) The outer edge of leaf - leaf margin

(b) The flat and green part of the shoot, that grows laterally from the nodes of the stem are called - The leaf

(c) The arrangement of leaves on a stem is called - Phyllotaxy

(d) Young tiny plants - seedling

(e) Plant that bears buds in leaves for propagation. - Bryophyllum

(B) Short question and answer.
Define the following.

(a) Autotrophic nutrition.

A- Autotrophic nutrition is the mode of nutrition in which the organisms make their own food and do not depend on other organism for food.

(b) Vegetative propagation.

A- New plants may also be produced from other parts of the plant such as the roots, stems and leaves. This type of reproduction is called vegetative propagation.

(c) Bladderwort.

A- An aquatic plant of north temperate regions, with small air-filled bladders which keep the plant afloat and trapping animals that provide additional nutrients.

(d) Shoot system

A- The part of a ~~part~~ plant which grows above the soil forms the shoot system. It is made up of stem, buds, leaves, flowers and fruits.

C. Long question and answers.

1. What are the functions of stem?

A- The primary functions of the stem are to support the leaves; to conduct water and minerals to the leaves, where they can be converted into usable products by photosynthesis; and to transport these products from the leaves to other parts of the plant, including the roots.

2. Mention the types of leaves on the basis of shape with examples.

A- Leaves divided into two types

- Simple leaves and compound leaves.
- On the basis of shape
- Needle shaped
ex - pine, onion

- Oval shaped
ex - guava, apple
- Heart-shaped
ex - peepal
- Oblong-shaped
ex - banana
- Circular-shaped
ex - lotus, nasturtium
- Lancing-shaped
ex - eucalyptus, ashoka

3. Mention the types of leaves on the basis margin with example.

A- Leaves divided into two types simple leaves and compound leaves.

On the basis of margin.

- Complete or entire margin
ex - peepal
- Toothed or serrated margin
ex - china rose, rose

• Wavy margin
ex - ashoka, mango

• Spinous margin
ex - prickly poppy

4. Describe the different types of arrangement of leaves with example

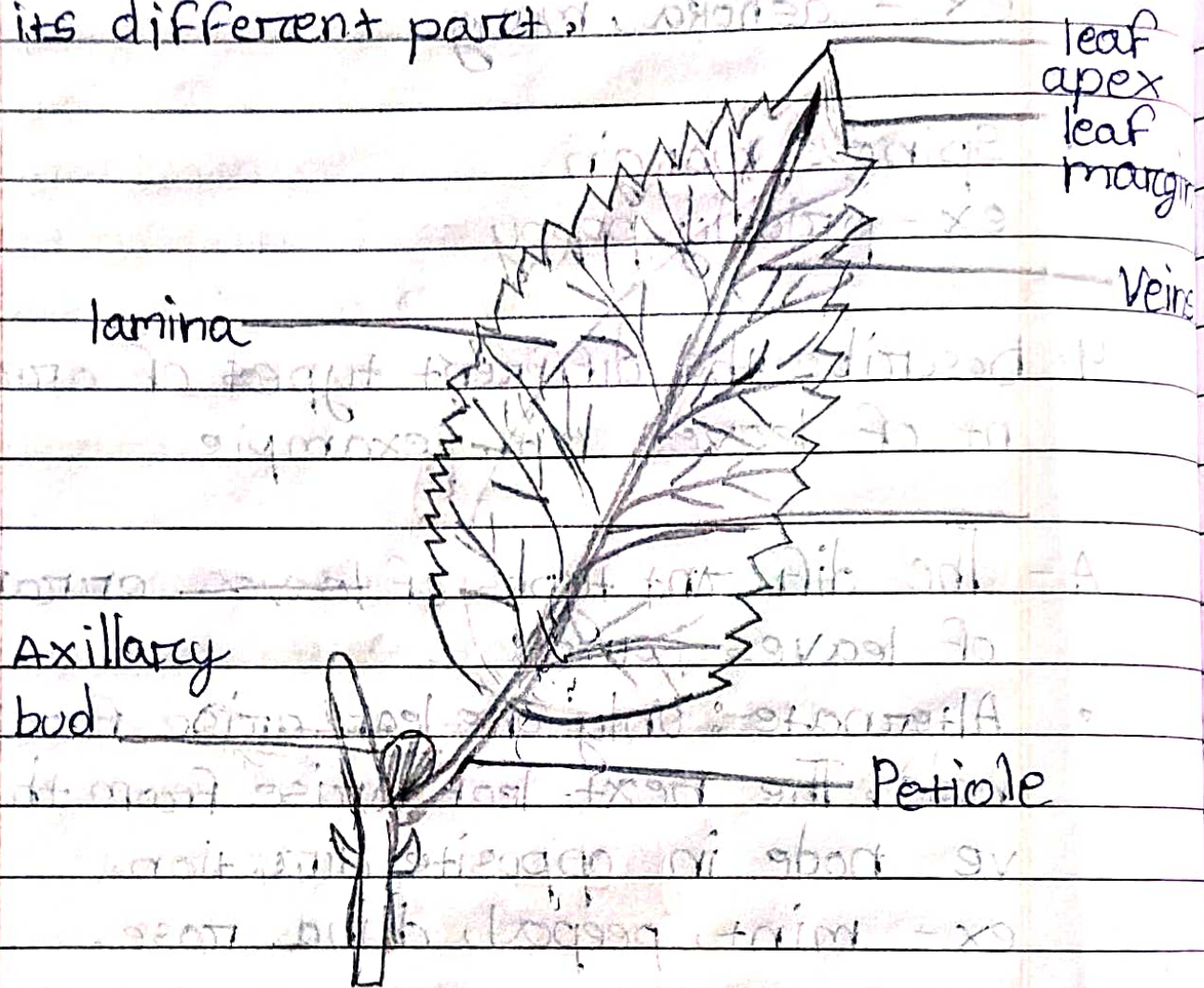
A - The different types of ~~leaves~~ arrangement of leaves are:

- Alternate: Only one leaf arise from each node. The next leaf arise from the successive node in opposite direction.
ex - mint, peepal, china rose.

- Opposite: In plants like Jasmine and guava, two leaves arise on each node opposite to each other.
ex - guava, Jasmine

- Whorled: More than two leaves are attached at each node, arranged in a whorl.
ex - Oleander

(9) Draw the structure of a leaf and describe its different parts.



A leaf has the following parts:

- **Petiole:** The basal part of a leaf is a stalk called petiole. It is attached the stem at the node.
- **Axillary bud:** An axillary bud is present in the ^{the} axil of the
- **Lamina:** The green, flat and broad

broad part of the leaf is called lamina or leaf blade.

- Leaf margin: lamina outer edge is called leaf margin.

- Midrib: Petiol continues into the lamina as the midrib. this laterally gives out fine branches called 'veins'.
Petiol, midrib, veins and veinlets conduct water and food.