Ch-1 WJ

The leaf

Worksheet

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A. Objective Questions

1. Fill in the blanks:

a) The underground part of the plant is called root system

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

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

buds

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

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 a stalk called petiole.

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

k) The green, flat and broad part of the leaf is called lamina or leaf blade.

l) Petiole continues to the lamina as midrib.

m) Veins provide a skeleton or supportive framework

to the leaves.

n) During photosynthesis, water is combined with carbon dioxide to produce ~~glucose~~ glucose and oxygen.

o) Plants which trap insects to meet their nitrogen demand are called insectivorous plants.

p) Leaves of bryophyllum and Begonia produces buds ~~at~~ 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 are found in Garo and Khasi hills in Meghalaya.

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2) Give one word for the following:

a) The ~~ete~~ outer edge of the leaf — leaf margin.

b) The flat and green part of the shoot, which laterally grows from the nodes of the stem are called — leaf

c) The arrangement of leaves on a stem is called — phyllotaxy

d) Young tiny plants — plantlets

e) Plant that bears buds in leaves for propagation — Bryophyllum

B. Short Questions and Answers.

Define the following.

a) Autotrophic nutrition: All green plants are able

to prepare their own food and are called autotrophes (auto= self; trophe= ~~self~~ nourish ment). This habbit of nutrition is called autotrophic nutrition.

b) Vegetative propagation: Some new plants can ~~grow from~~ reproduce from vegetative parts like stem, roots, and leaves. This type of reproduction is called vegetative propagation.

c) Bladderwort: Bladderwort is a plant with highly segmented leaves. Some of these segmented leaves form bladder like structure. The bladder has an entry point which can be closed. When an insect visits the bladder and enters into it,

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it can't go out of the leaf and remains trapped inside. The insect is then digested by the plant.

d) The Shoot System: The part of the plant that grows above the ground is called the shoot system. It contains leaves, buds, flowers, fruits, stem and branches.

C. Long Questions and Answers.

Answer the following:

1. What are the functions of the stem?

Ans- The functions of the stem are:

* Stem bears all the aerial parts like leaves, buds, flowers and fruits.

* Stems help in upward movement of water and minerals

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absorbed by the roots towards the leaves, flowers, fruits.

* Stem helps in the downward movement of food to the roots and other non-green parts of the plants.

* Stem also produces food when green and young.

2) Mention the types of leaves with example. on the basis of shape

Ans- The types of leaves on the basis of shape are as follows;

* Needle shaped. eg. onion and pine.

* Oval shaped eg. guava, apple.

* Heart-shaped eg. peepal

* Oblong, eg- banana

* Circular- eg. Lotus, Nasturtium.

* Tapering. eg. Eucalyptus, Ashoka

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

Ans- The classification of leaves on the basis of margin are:

* Complete or entire margin, eg, peepal
* Toothed or serrated margin, eg, China rose, rose
* Wavy margin. eg, Mango
* Spinous margin, eg, Prickly poppy

4) Describe the different types of arrangement of ~~the~~ leaves with example:

Ans- There are three different types of arrangement of leaves. ~~one~~ These are alternate arrangement, whorled arrangement and opposite arrangement.

* Alternate arrangement: In ~~at~~ alternate arrangement only one leaf arises from each node and the next leaf

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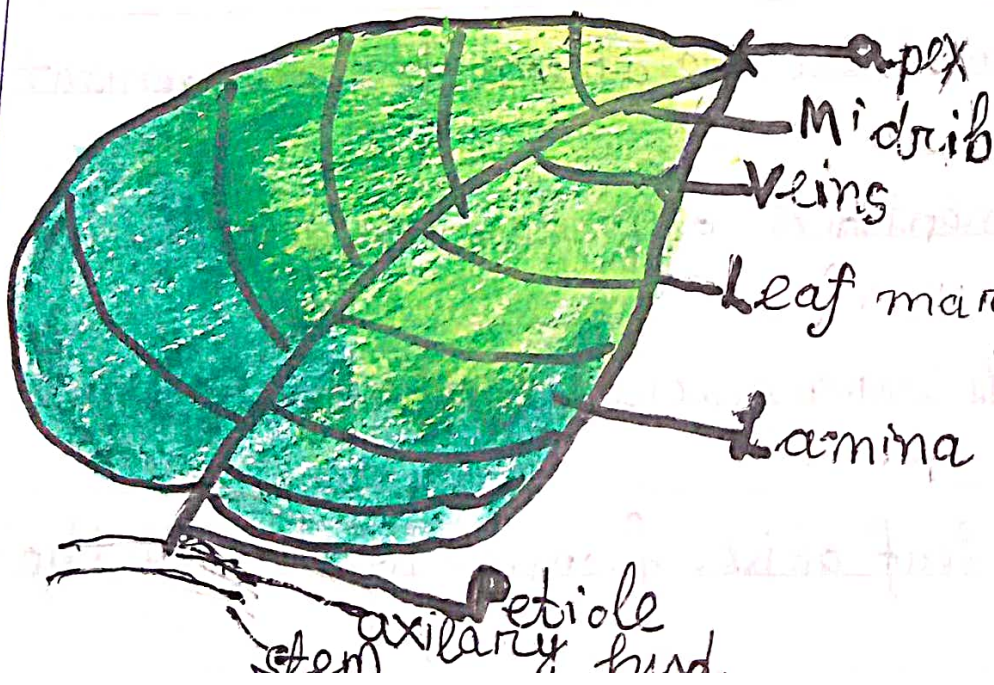
arises from the succeeding node in opposite direction. Examples – Mint, China rose, peepal.

* Opposite arrangement – In this type of arrangement, two leaves arise from each node in opposite direction. Example – Jasmine and guava.

* Whorled arrangement – In this type of arrangement, more than two leaves are attached at each node.

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



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Ans- The three main parts of leaves are petiole, midrib and lamina are leaf blade.

* Petiole - Petiole is the basal part of the leaf and attached to the stem at the node.

* Lamina - Lamina is the flat, green, and broad part of the leaf. The outer edge of the leaf blade is called the leaf margin.

* Midrib:- The petiole continues into the lamina as the midrib. It laterally gives out fine branches called veins, ~~veinlets~~ Petiole, midrib and veins conduct water and food.

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