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 shoot system

c) The 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 the axil.

h) Buds founds in the axil are called the 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 board part of the leaf is called lamina.

l) Petiole continues to the lamina as the midrib.

m) Veins provide a skeleton or supportive framework 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 - Margin.
b) The flat and green part of the shoot, that grows laterally from the nodes of the stem are called - Leaves
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 Question and answers.

Q. Define the following

a) Autotrophic nutrition: All green plants prepare their own food. They themselves prepare the nutrition for their use. This method of nutrition is called autotrophic nutrition.

b) Vegetative propagation: Some new plants can be produced from the vegetative parts of the plant such as roots, stems and leaves. This type of reproduction is called vegetative propagation.

c) Bladderwort: Bladder wort has highly segmented leaves. Some of the segments of these leaves form small bladder like structure. The bladder has an entry point which can be closed. The insects enter into it but cannot come out and are digested inside.

d) The shoot system: The part of the plant which grows above the soil is called shoot system. It is made up of Stem, Buds, Leaves, Flowers and Fruits.

C. Long Questions And Answers.

Q. Answer the following :

1. What are the functions of stem?

Ans- The functions of stem are-

a) Stem bears all aerial parts of the plant, buds, flowers and fruits.

b) Stem helps in the upward movement of water and minerals ~~abs~~ absorb by the root and transport them up to the leaves, flowers and fruits.

c) Food prepared by the leaves is conducted downwards to the roots and other non-green parts by the stem.

d) Stem also manufactures food when green and young.

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

Ans- On the basis of shape the leaves are classified as-

i) Needle shaped, e.g, pine, onion

ii) Oval, e.g, guave, apple

iii) Heart shaped, e.g, Peepal

iv) oblong, e.g, banana

v) Circular, e.g, lotus, naturtium

vi) Tapering, e.g, eucalyptus, ashoka.

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

Ans- On the basis of margin the leaves are classified as-
i) Complete or entire margin e.g - Peepal
ii) Toothed or serrated margin e.g - China rose, rose
iii) Wavy margin e.g. ashoka, mango
iv) Spionous margin e.g. Prickly Poppy.

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

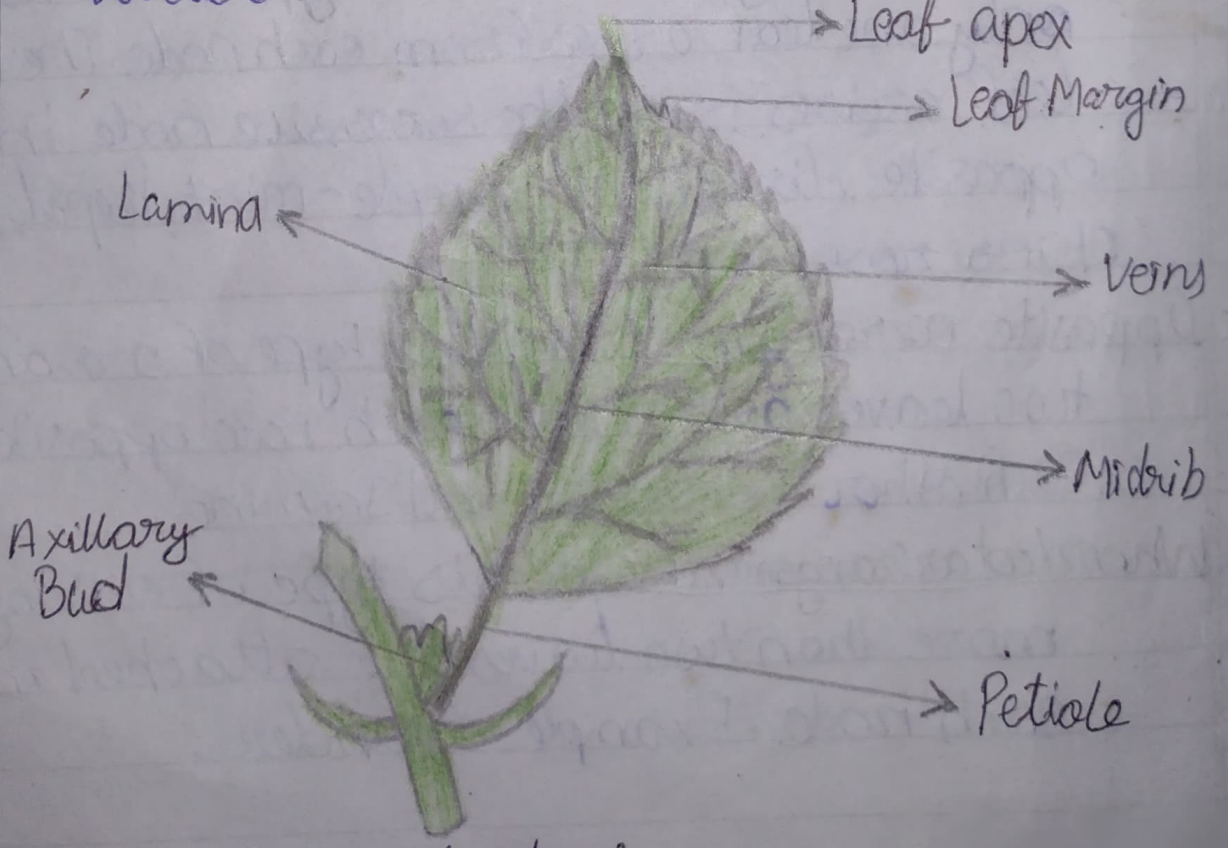
Ans- The different types of arrangement of leaves are- Alternate arrangement, opposite arrangement and whorled arrangement.

- Alternate arrangement - In this type of arrangement only one leaf arises from each node. The next leaf arises from the successive node in the opposite direction. Example - mint, Peepal, China rose.
- Opposite arrangement - In this type of arrangement two leaves arises from each node opposite to each other. Ex - Guava and Jasmine.
- Whorled arrangement - In this type of arrangement more than two leaves are attached in each node. Example - Oleander.

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

Ans- A leaf has three main parts, Petiole, Lamina or leaf blade and Midrib.

- Petiole - This is the basal part of the leaf. It is attached to the stem at the node.
- Leaf blade or lamina - The green flat and broad part of the leaf is known as lamina or leaf blade. The outer age of the leaf blade is called leaf margin.
- Midrib - Petiole continues to the lamina as midrib. This laterally gives out fine branches called veins, Petiole, midrib and veins conduct water and food.



Parts of a leaf