

Chapter-5 Adaptation in Plants

I. Technical words

1. Adaptation :

It is the special feature or change in a living things that helps it live and survive in a particular environment

2. Breathing roots :

Special roots of mangroves which come out of the soil to take in air are called breathing roots or pneumatophores.

II Analogy

1. Duckweed : Floating plant :: Hydrilla : underwater plant

2. Mangrove : Marshy area :: Coconut : Coastal area

3. Cuscuta : Parasitic :: Indian pipe : Saprophytic

III Differentiate :

1. Differentiate between Aquatic plants and Terrestrial plants

Aquatic Plants

1. Plants that grow in water
2. They adapt themselves to survive in water
3. Example : Water hyacinth, Lotus, Hydrilla, Duckweed

Terrestrial Plants.

- Plants that grow on land
- They adapt themselves to survive on land
- Example : Neem, mango, banyan, Cactus.

IV Short Answer :

1. How does a cactus survive in the desert ?

- * A cactus survives in the desert by storing water in its thick, fleshy stem.
- * Its leaves are reduced to spines to prevent water loss and protect it from animals.
- * The green stem also makes food for the plant.

2. Write any two uses of plants of the grass family.

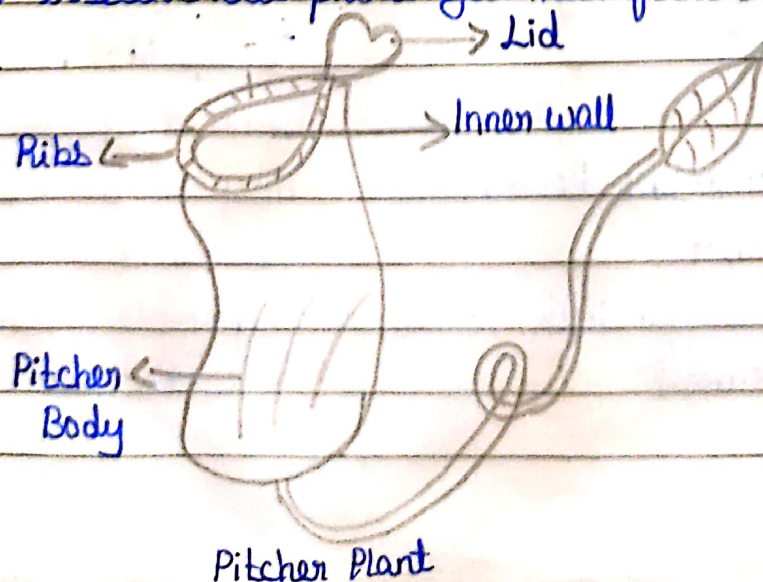
- * Grasses are used for building purpose.
- * People make huts from bamboo, reed, and palm leaves.
- * They also make mats and baskets from grasses.

3. Why do floating plants have air spaces in their roots, stems, and leaves ?

- * Floating plants have air spaces to make them light so, they can float on water.
- * These air pockets help the plant stay on the surface and get enough sunlight.
- * They also help the plant move easily.

V Long Answer :

1. How do insectivorous plants get their food ? Explain with example.



* Insectivorous plants get some of their nutrients by trapping and digesting insects.

* They also have chlorophyll and prepare their own food by photosynthesis.

* Example: The picture plant has a leaf modified into a pitcher with a lid. Insects fall into the pitcher, get trapped, and are digested by the plant to obtain nutrients.

VI Hot:

1. Mangrove plants grow in marshy areas with sticky soil. Why do they need special breathing roots while other plants do not?

Ans * Mangroves grow in muddy, waterlogged soil that has very little air.

* Their special breathing roots come out of the soil to take in oxygen.

* Plants in normal soil do not need these roots because their roots get enough air.

Chapter - 6

Plants in the surroundings and Environment

I Technical words :

1. Chlorophyll :

A green pigment present in leaves

2. Photosynthesis :

The process by which green plant make their own food.

II Name the following:

1. The thin stalk that attaches to the leaf to the main stem. -

Ans Petiole

2. The broad, flat green parts of a leaf. -

Ans Lamina

3. Plants with weak stem that need support to grow upward

Ans Climbers

III Differentiate :

1. Difference between tap root and fibrous root system

Ans Tap Root System

Fibrous Root System

1. It is thick Central root (primary root) growing vertically downwards

All the roots arise directly from base of plant.

2. Secondary roots and root hairs branch outwards from primary root.

All roots look nearly similar, there is no central root.

3. Primary root is longer than other roots.

All roots are nearly same in length

IV Short Answer :

1. Write any two main functions of roots

- Ans
- * Roots absorb water from the soil.
 - * Root absorb nutrients and minerals from the soil.

2. What is transpiration?

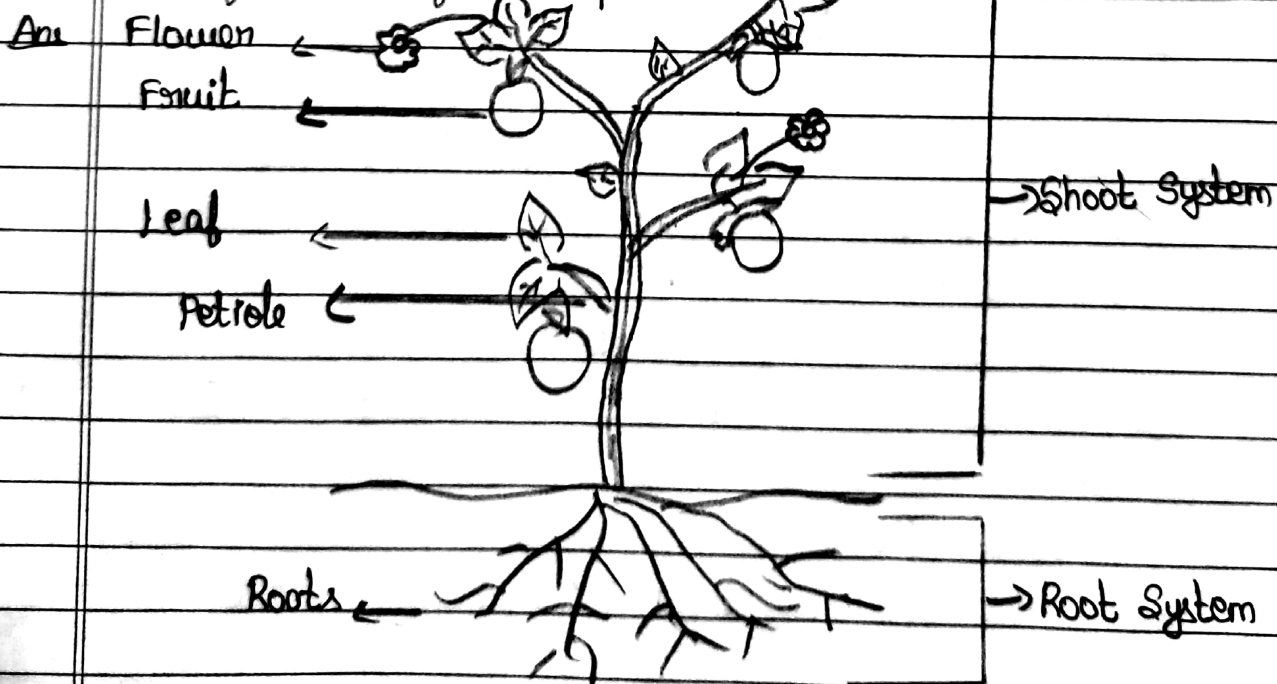
- * Transpiration is the process by which plants lose extra water from their leaves as water vapour.
- * It helps to keep the plant cool and moves water from the roots to the leaves

3. Name the three patterns in the arrangement of leaves

- Ans
- i) Alternate pattern
 - ii) Opposite pattern
 - iii) Whorled pattern

V Long Answer :

1. Draw and explain the parts of the shoot system and write one function of each part.



- a) Stem :
The stem is the main support system of a plant and it transports water and nutrients to different parts of the plant.
- b) Leaf :
The flat green structures growing out of the stem called leaves
- c) Flower :
A flower is the reproductive part of a plant and it helps in the formation of fruits and seeds.
- d) Fruits : Fruits grow from the flower and contain seeds, which help in reproduction.
- e) Petiole :
The petiole is the thin stalk that attaches the leaf to the main stem.

VI Hot :

1. Why do you think climbers like pea plants need support to grow, while trees like mango can stand on their own?

Ans * Climbers like pea plants have weak and thin stems, so they cannot hold themselves upright and need support such as sticks, walls, or other plants.

* Trees like mango have thick strong, woody stems (trunks) that help them stand straight without any support.

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