Chapter- 1

Transportation in plants.

Sub- **Transportation, conducting tissues- xylem(tracheids,vessels ,wood parenchyma, wood fibre). Phloem (sieve tube, companion cells, phloem parenchyma, phloem ,phloem fibre).**

Period-1

Level-1 **1 Mark Questions**

Easy-Very Short Answers

1.If the xylem vessels of a plant are plugged:

a. The leaves will turn yellow

b. No food will be made

c. The plant will wilt (shrivel)

d. The plant will continue to grow

2. Name the plant tissue which helps in carrying the food to different parts

3. what is transportation.?

4. what is translocation.

Level-2 **2 Marks Questions**

Medium

1. What do xylem vessels carry?
2. What is the function of wood parenchyma and wood fibre?

Level-3 **3 Marks Questions**

1. Difference between xylem mand phloem.

Level-4 **5 Marks Questions**

HOTS Questions

1. Under what conditions do the plant transpire?

(a) more quickly and

(b) most slowly?

2. Briefly explain, how transpiration helps in upward conduction of water in plants?

Period-2

Sub- Water absorption by the roots, Root system of a plant, root hair, semi-permeable membrane, speciality of roothairs.

Level-1 **1 Mark Questions**

Easy-Very Short Answers

1. The root-hairs are suited for absorbing water from the soil because:

a. They have a large surface area

b. They have a large surface area

c. They contain a solution of higher concentration than the surrounding water.

d. All the three.

2. what is permeable?

Level-2 **2 Marks Questions**

Medium

1. How are roots useful to the plants? Give any two points.
2. Define the terms:

   (a) semi-permeable membrane

   (b) osmosis.
3. What is the function of root hair?

Level-3 **3 Marks Questions**

1. Given here is an enlarged diagram of a part of the root. Draw arrows on the diagram to show the movement of water passing through different parts.
2. Why plasma membrane is called semipermeable membrane?

Level-4 5 Marks Questions

HOTS Questions

1. Why is the structure of the root hair quite suitable for absorbing water from the soil?

Period-3

Sub- Movement of water and minerals, Active transport,
passive transport,osmosis,diffusion, ascent of sap,root pressure.

Level-1 **1 Mark Questions**

Easy-Very Short Answers

1. Diffusion occurs when molecules move:

a. from lower concentration to higher concentration.

b. from higher concentration to lower concentration through a membrane.

c. from higher concentration to lower concentration.

d. when energy is used.

2. Ascent of sap in plants takes place through.

a. Cortex

b. Epidermis

c. Xylem

d. Phloem

3. Force responsible for the ascent of sap is:

a. Capillary force b. Root pressure c. Transpirational pull d. All the three

Level-2 **2 Marks Questions**

Medium

1. With the help of well-labelled diagrams, describe the process of plasmolysis in plants, giving appropriate examples.
2. What is active transport?
3. What is passive transport?

Level-3 3 Marks Questions

1. What are the factors affecting the rate of diffusion?
2. Explain what will happen to a plant cell if it is kept in a solution having higher water potential

Level-4 **5 Marks Questions**

HOTS Questions

1. Explain why pure water has the maximum water potential
2. Difference between diffusion and osmosis.

Period-4

Sub-Transpiration, transpirational pull, capillary **force,cohesion and adhesion.factors affecting the rateof transpiration, importance of transpiration in plants, Micronutrients,Macronutrients.**

Level-1 **1 Mark Questions**

Easy-Very Short Answers

1. Transpiration is defined as:

a. the rise of water up to the stem of a plant.

b. the elimination of water with dissolved water products.

c. the loss of water as water vapour from the aerial parts of a plant.

d. the loss of water as water vapour from the roots as well as the leaves of the plant.

2. Which one of the following favours the fastest transpiration rate?

a. A cool, humid, windy day,

b. A hot, humid, windy day,

c. A hot, humid, still day,

d. A hot, dry, windy day.

Level-2 **2 Marks Questions**

Medium

1. Discuss the factors responsible for ascent of xylem sap in plants.

2. Explain why xylem transport is unidirectional and phloem transport bi-directional.

Level-3 **3 Marks Questions**

1. Difference between transpiration and evaporation.
2. What are the factors influencing transpiration? How is it useful to plants?

Level-4 **5 Marks Questions**

HOTS Questions

1. What role does root pressure play in water movement in plants?
2. Describe transpiration pull model of water transport in plants.
3. What causes the opening and closing of guard cells of stomata during transpiration?