Transport in Plants

A. Choose the Correct Answer:

1. **Which tissue in plants is responsible for transporting water from roots to other parts of the plant?**
   A) Phloem
   B) Xylem
   C) Parenchyma
   D) Collenchyma
2. **What is the process by which water evaporates from the leaves of plants?**
   A) Transpiration
   B) Respiration
   C) Photosynthesis
   D) Germination
3. **Which of the following plays a major role in transporting food in plants?**
   A) Xylem
   B) Phloem
   C) Root hairs
   D) Stomata

B. Fill in the Blanks

1. The vascular tissues responsible for transportation in plants are _____ and _____.
2. Transpiration mainly occurs through tiny openings on leaves called _____.
3. The movement of water through the plant due to transpiration is known as the _____.

C. Case Study

A scientist conducted an experiment on two similar potted plants, Plant A and Plant B.

- **Plant A** was placed in normal conditions with adequate sunlight, water, and air circulation.
- **Plant B** was placed in a sealed container with very little air circulation and high humidity.

After a few days, the scientist observed the following results:

- **Plant A** remained healthy with firm stems and fresh leaves.
- **Plant B** showed signs of wilting, and its leaves appeared dull and droopy.

Case Study Questions:

1. What factor might have caused Plant B to wilt faster than Plant A?
2. How does transpiration help in maintaining plant health?
3. Why do plants need a continuous supply of water through their roots?
4. Based on this experiment, what is the importance of transpiration in plants?

D. Short Answer Questions

1. What is the role of xylem and phloem in plants?
2. How does root pressure help in water transport?
3. What factors affect the rate of transpiration in plants?

E. Long Answer Questions

1. Explain the process of transpiration and its significance in plants.
2. Describe how water and minerals are transported from the roots to different parts of the plant.
3. Discuss the impact of environmental factors like temperature, humidity, and wind on transpiration in plants.