Photosynthesis and Transpiration

A. Choose the Correct Answer:

1. What is the main purpose of photosynthesis in plants?

A) To absorb water from the soil
B) To produce food and oxygen
C) To release carbon dioxide
D) To store minerals

2. Which of the following is required for photosynthesis?

A) Oxygen
B) Sunlight
C) Soil
D) Rocks

3. What is the function of stomata in leaves?

A) To absorb water
B) To exchange gases
C) To transport food
D) To give support to the plant

4. Transpiration mainly occurs through which part of the plant?

A) Roots
B) Stem
C) Leaves
D) Flowers

5. What is the gas released by plants during photosynthesis?

A) Carbon dioxide
B) Nitrogen
C) Oxygen
D) Hydrogen

B. Fill in the Blanks:

1. Plants prepare their own food through a process called _____.
2. The green pigment in leaves that helps in photosynthesis is called _____.
3. During transpiration, plants lose water in the form of _____.
4. The main site of photosynthesis in a plant is the _____.
5. Stomata are tiny openings found on the _____ of leaves.

C. Case Study:

A group of students conducted an experiment on two potted plants. They placed Plant A in sunlight and watered it regularly. Plant B was kept in a dark room without water. After a few days, they observed that:

- Plant A remained green and healthy.
- Plant B started wilting, its leaves turned yellow, and it became weak.

Case Study Questions:

1. Why did Plant A remain healthy while Plant B started wilting?
2. What are the two main things required for photosynthesis that Plant B did not receive?
3. How does sunlight help in photosynthesis?
4. What would happen if all plants stopped performing photosynthesis?

D. Short Answer Questions:

1. What is photosynthesis?
2. How does transpiration help in the movement of water in plants?
3. What role do leaves play in photosynthesis?

E. Long Answer Questions:

1. Explain the process of photosynthesis with the help of a diagram.
2. What is transpiration? Why is it important for plants?
3. How do photosynthesis and transpiration work together to help plants grow?