Transformation of Water States

A. Choose the correct answer:

- 1. What process is responsible for changing water into water vapor?
 - a) Freezing
 - b) Condensation
 - c) Evaporation
 - d) Melting

2. At what temperature does water boil and change into steam at sea level?

- a) 0°C
- b) 50°C
- c) 100°C
- d) 212°C

3. Which process occurs when water vapor cools down and turns into liquid?

- a) Evaporation
- b) Condensation
- c) Freezing
- d) Sublimation

B. Fill in the Blanks:

- 1. The process of changing water into ice is called ______.
- 2. Water changes into gas through the process of ______.
- The transformation of ice directly into vapor without turning into liquid is known as ______.

C. Case Study:

Riya conducted an experiment on water transformation by heating, cooling, and observing changes in its states. She took a bowl of ice and left it at room temperature. After some time, the ice melted into water. Then, she boiled the water and noticed steam rising from the surface. Later, she placed a lid over the container, and droplets of water formed on the lid.

She recorded her observations:

- Ice turned into water after some time.
- Water turned into steam when heated.
- Water droplets formed on the lid due to cooling of steam.

Questions & Answers:

- 1. Which process caused the ice to turn into water?
- 2. What happened when Riya boiled the water?
- 3. How did the water droplets form on the lid?
- 4. What can we learn from this experiment about the transformation of water states?

D. Short Answer Questions:

- 1. What is the difference between evaporation and condensation?
- 2. How does temperature affect the state of water?
- 3. What is sublimation? Give an example.

E. Long Answer Questions:

- 1. Explain the different states of water and the processes involved in their transformation.
- 2. How do temperature and pressure influence the change in states of water?
- 3. Discuss the importance of the water cycle and the role of water state transformations in nature.