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Course Name : D. Pharm
Year : First Year
Subject Name : Pharmaceutics
Topic Name : DRYING

MULTIPLE CHOICE QUESTION

1. What is the first step in the freeze-drying process?

- A) Sublimation
- B) Freezing
- C) Evaporation
- D) Condensation

Answer: B) Freezing

2. During freeze-drying, what happens to the water content in the material being dried?

- A) It is heated to remove water
- B) It is frozen and then removed by sublimation
- C) It is evaporated using high pressure
- D) It is absorbed by desiccants

Answer: B) It is frozen and then removed by sublimation

3. What is sublimation in the context of freeze-drying?

- A) The freezing of water molecules
- B) The direct conversion of ice to vapor without passing through the liquid phase
- C) The condensation of water vapor
- D) The removal of ice crystals by mechanical means

Answer: B) The direct conversion of ice to vapor without passing through the liquid phase

4. Which of the following is a key advantage of the freeze-drying process?

- A) Rapid drying time
- B) Low energy consumption
- C) Preservation of product quality
- D) High moisture content in the final product

Answer: C) Preservation of product quality

5. What role does vacuum play in the freeze-drying process?

- A) It prevents freezing
- B) It reduces the pressure to facilitate sublimation
- C) It heats the material to remove water
- D) It increases the pressure to condense water vapor

Answer: B) It reduces the pressure to facilitate sublimation

6. What is the purpose of the drying chamber in the freeze-drying process?

- A) To freeze the material
- B) To remove ice crystals
- C) To heat the material
- D) To provide a controlled environment for sublimation

Answer: D) To provide a controlled environment for sublimation

7. Which phase of the freeze-drying process involves gradually raising the temperature to remove any remaining bound water?

- A) Sublimation
- B) Freezing
- C) Desorption
- D) Reconstitution

Answer: C) Desorption

8. What is the final step in the freeze-drying process?

- A) Sublimation
- B) Freezing
- C) Evaporation
- D) Reconstitution

Answer: D) Reconstitution

9. Which of the following materials is commonly freeze-dried?

- A) Liquids
- B) Gases
- C) Solids
- D) Emulsions

Answer: C) Solids

10. What type of equipment is typically used for industrial-scale freeze-drying?

- A) Tray dryers
- B) Vacuum ovens
- C) Lyophilizers
- D) Fluidized bed dryers

Answer: C) Lyophilizers