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

MULTIPLE CHOICE QUESTION

1. What is the primary mechanism involved in the theory of filtration?

- A) Diffusion
- B) Sedimentation
- C) Adsorption
- D) Sieving

• **Answer: D) Sieving**

2. Which of the following factors affects the rate of filtration?

- A) Pressure
- B) Temperature
- C) pH
- D) All of the above

• **Answer: D) All of the above**

3. What is the purpose of using filter aids in filtration processes?

- A) To increase the surface area of the filter
- B) To enhance the flow rate of the filtrate
- C) To reduce the clogging of the filter medium
- D) To decrease the viscosity of the filtrate

• **Answer: C) To reduce the clogging of the filter medium**

4. Which of the following statements about cake filtration is true?

- A) It involves the passage of liquid through a pre-formed cake of solids.
- B) It relies on the size exclusion principle for separation.
- C) It is mainly used in gas filtration processes.
- D) It requires high pressure for efficient operation.

• **Answer: A) It involves the passage of liquid through a pre-formed cake of solids.**

5. What is the significance of the Darcy's law in filtration theory?

- A) It describes the relationship between pressure drop, flow rate, and filter area.
- B) It explains the mechanism of particle retention in the filter medium.
- C) It quantifies the effect of temperature on filtration efficiency.
- D) It determines the optimal pH for filtration processes.

• **Answer: A) It describes the relationship between pressure drop,**

flow rate, and filter area.

6. Which of the following factors does NOT affect the efficiency of depth filtration?

- A) Particle size
- B) Filter thickness
- C) Pressure gradient
- D) Particle density

• **Answer: D) Particle density**

7. What role does the filter medium play in the filtration process?

- A) It acts as a barrier to trap particles larger than its pore size.
- B) It facilitates the adsorption of impurities from the filtrate.
- C) It controls the temperature of the filtrate.
- D) It enhances the clarity of the filtrate.

• **Answer: A) It acts as a barrier to trap particles larger than its pore size.**

8. Which type of filtration is commonly used for the removal of bacteria and viruses from liquids?

- A) Depth filtration
- B) Membrane filtration
- C) Cake filtration
- D) Sieving filtration

• **Answer: B) Membrane filtration**

9. What is the primary disadvantage of using precoat filtration?

- A) Low filtration rate
- B) High energy consumption
- C) Difficulty in filter cleaning
- D) Limited scalability

• **Answer: C) Difficulty in filter cleaning**

10. How does cross-flow filtration differ from dead-end filtration?

- A) In cross-flow filtration, the feed flows perpendicular to the filter surface, while in dead-end filtration, the feed flows parallel to the filter surface.
- B) Cross-flow filtration operates at lower pressures compared to dead-end filtration.
- C) Dead-end filtration is more suitable for high-viscosity fluids than cross-flow filtration.
- D) Cross-flow filtration requires a thinner filter medium compared to dead-end filtration.

- **Answer: A) In cross-flow filtration, the feed flows perpendicular to the filter surface, while in dead-end filtration, the feed flows parallel to the filter surface.**