

UKA TARSADIA UNIVERSITY

B.Pharm. (1st Semester)

Subject :030020104 - Pharmaceutics I (Unit Operations I)

Duration: 3 Hours

Max. Marks: 70.

Instructions:

1. Attempt all questions.
2. Write each section in a separate answer book.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks allocated to that question.
5. Draw diagrams/figures whenever necessary.

Section-1

Q-1 (A) Do as directed.

[07]

- I) Write the objective of filtration.
- II) _____ is Known as porvic.
- III) Write the equation for "Darcy Law".
- IV) Write the equation for calculation of centrifugal effect.
- V) Enlist the equipment use for sedimentation type centrifuges.
- VI) Define Evaporation.
- VII) Write the statement of Raoult's Law.

Q-1 (B) Answer the following in brief. (Any 4)

[08]

- I) Enlist the factors affecting rate of filtration.
- II) What are filter aids? Give four examples.
- III) Draw neat and labeled diagram of Modified weir for liquid/liquid separation
- IV) Draw neat and labeled diagram of Falling-film Evaporator.
- V) Enlist the factors affecting rate of Evaporation.
- VI) Write the difference between Evaporation and Filtrations.

Q-2 Answer the following.

[10]

- A) Discuss the principle, construction, working, advantages, disadvantages and applications of Edge Filters.

OR

- A) Discuss the principle, construction, working, advantages, disadvantages and applications of Centrifugal Filter.
- B) Discuss the principle, construction, working, advantages, disadvantages and applications of Multiple Effect evaporator.

OR

- B) Discuss the principle, construction, working, advantages, disadvantages and uses of filter leaf.

Q-3 Answer the following in detail. (Any 2)

[10]

- A) Write the note on Sweetland filter.
- B) Explain the Principle of centrifugation.
- C) Write the pharmaceutical applications of evaporation.

Section-2

Q-4 (A) Do as directed.

[07]

- I) Write the equation for calculation of Drying rate.
- II) Explain Sorption
- III) Define the Ideal solution.
- IV) Define the Equilibrium Distillation.
- V) Write the two examples of hygroscopic substances.
- VI) Define Humidity.
- VII) Define the refrigeration.

Q-4 (B) Answer the following in brief. (Any 4)

[08]

- I) Write the applications of distillation in pharmaceutical Industries.
- II) Define Ideal Plate and Relative volatility.
- III) Enlist the method use for enhance the humidification and explain any one.
- IV) Explains the WBT and DBT.
- V) Write the difference between Distillation and Drying.
- VI) Write the Factors affecting the rate of drying.

Q-5 Answer the following.

[10]

- A) Discuss the principle, construction, working, advantages, disadvantages and applications of Simple Steam Distillation.

OR

- A) Discuss the principle, construction, working, advantages, disadvantages and applications of Fluidised Bed Dryer.
- B) Write the note on vapour compression cycle.

OR

- B) Discuss various equipments for measurement of humidity.

Q-6 Answer the following in detail. (Any 2)

[10]

- A) Write the note on Flash Distillation.
- B) Explain the mechanisms of drying.
- C) Write the Pharmaceuticals applications of humidification and dehumidification.
