

PARUL UNIVERSITY
FACULTY OF PHARMACY
B.Pharm, Winter 2017-18 Examination

Semester: 2**Subject Code: 08101152****Subject Name: Unit Operation-II****Date: 21-12-2017****Time: 10.00am to 01.00 pm****Total Marks: 75****Instructions:**

1. Figures to the right indicate full marks.
2. Make suitable assumptions wherever necessary

Q.1 Essay type Questions. (Any 2 out of 3) (10 marks each) (20)

1. Classify the dryers. Explain the construction, working, advantages, disadvantages and application with labeled diagram of fluidized bed dryer
2. Enumerate the types of distillation. Define rectification, explain in brief about distillation columns and their efficiency
3. Explain the construction, working, advantages, disadvantages and application with labeled diagram of Plate and Frame Filter Press.

Q.2 Short Essay type Questions. (Any 7 out of 9) (5 marks each) (35)

1. Enumerate the factors affecting rate of filtration and discuss any three in detail.
2. Write a note of filter aids with its selection.
3. Classify the different types of industrial centrifuge. Explain principal of sedimentation type centrifuge .
4. Write a note on perforated basket centrifuge .
5. Discuss the factors affecting evaporation.
6. Explain the Dahring's rules and Raoult's Law.
7. Discuss the climbing film evaporator with labeled diagram and application .
8. Define volatility and relative volatility. Discuss vapor liquid equilibrium relationship.
9. Explain the theory and mechanism of drying.

Q.3 Answer in short. (2 marks each) (20)

1. List the equipments used for humidification. Discuss any one methods for Determination of humidity in short
2. List the applications of humidity control in pharmaceutical industry
3. Write the example of Filter Media and Filter Aids
4. Give the pharmaceutical applications of centrifugation process
5. Draw the labeled diagram of refrigeration cycle
6. Define following terms: Humidity, humid heat, Percentage Humidity and Relative Percentage Humidity
7. Differentiate drying and evaporation
8. Enlist the limitation of Raoult's law
9. Draw the labeled diagram of film evaporators
10. Give the application of air conditioning systems