PARUL UNIVERSITY
FACULTY OF PHARMACY
B.Pharm Winter 2019-20 Examination

Semester: 2	**Date: 28/11/2019**
Subject Code: 08101152	**Time: 2:00 pm to 5:00 pm**
Subject Name: Unit Operation-II	**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. Define filtration. Write the principle, construction, working, advantages, disadvantages and uses of rotary drum filter.
2. Classify the dryers. Explain the construction, working, advantages, disadvantages and application with labeled diagram of fluidized bed dryer.
3. Define and enlist objectives of evaporation. Discuss the factors affecting evaporation in detail.

Q.2 Short Essay type Questions. (Any 7 out of 9) (5 marks each)   **(35)**
1. Write in detail about steam distillation. Give its application in pharmacy.
2. Explain the theory and mechanism of Drying.
3. Discuss in brief about various types of industrial centrifuges.
4. Focus on single effect and multiple effect of evaporators.
5. Write a note on importance of humidification and dehumidification processes.
6. What do you mean by HVAC system? How it is applicable in pharmaceutical industry?
7. Explain the Raoult's Law with its limitations.
8. What is the meaning of rectification? Explain with suitable diagram.
9. Give the application of Plate and Frame Filter Press with labeled diagram.

Q.3 Answer in short. (2 marks each)   **(20)**
1. Give the pharmaceutical applications of centrifugation.
2. Define Humidity. List the equipments used for its measurement.
3. What do you mean by refrigeration cycle?
4. Define with example: Filter Media and Filter Aids
5. What is the meaning of Azeotropic mixture?
6. Explain the Moisture content and loss on drying.
7. Differentiate between the drying and evaporation.
8. Give the application of Air conditioning systems.
9. Explain in brief the Henry's law.
10. Draw a labeled diagram of laboratory Filtration assembly.