

**PARUL UNIVERSITY**  
**FACULTY OF PHARMACY**  
**B.Pharm. Summer 2018-19 Examination**

**Semester: 2**  
**Subject Code: 08101152**  
**Subject Name: Unit Operation-II**

**Date: 04/04/2019**  
**Time: 2:00 PM TO 5:00 PM**  
**Total Marks: 75**

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**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. With neat labeled diagram, described the principle, construction, working, advantage, disadvantage and use of cartridge filter.
2. Explain Factors affecting evaporation in detail.
3. Discuss construction, working and applications of spray dryer.

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

1. Explain: LOD and EMC. Describe the drying curve with various phases.
2. Explain application of humidity.
3. What is filter aid? Write its ideal properties.
4. Discuss application of distillation in pharmacy.
5. Write a short note on simple distillation.
6. Define Centrifugation. Explain theory of centrifugation.
7. Explain the principle, construction, working, advantages and disadvantages with labeled diagram of fluidized bed dryer (FBD).
8. Explain in detail psychometric charts.
9. Write about Mc-Cabe Thiele method for calculation of number of theoretical plates.

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

1. Define the following terms: Drying rate and CMC
2. Give the difference between single effect and multi effect evaporators.
3. Define following terms: Humidity, Relative humidity, Humid heat and Humid Volume.
4. Explain: WBT and DBT
5. Discuss advantages and disadvantages of lyophilization.
6. Brief on Raoult's Law.
7. Write a short note on filter media.
8. Differentiate between evaporation and distillation.
9. Brief on perforated basket centrifuge with diagram
10. Explain Types of refrigeration cycles.