

Code No: B132201

**R13****SET - 1****II B. Pharmacy II Semester Supplementary Examinations, April/May - 2019**  
**PHARMACEUTICAL UNIT OPERATIONS-II**

Time: 3 hours

Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)  
2. Answering the question in **Part-A** is Compulsory  
3. Answer any **THREE** Questions from **Part-B**

**PART -A**

1. a) Explain material and energy balancing in evaporation. (4M)
- b) Explain the terms volatility and relative volatility. (4M)
- c) What is EMC? Give its importance. (4M)
- d) Write short notes on mixing indices. (4M)
- e) State and explain Bond's theory. (3M)
- f) Explain mechanisms of heat transfers, dry radiation. (3M)

**PART -B**

2. a) Define evaporation. Give the application of multiple effect evaporation. (4M)
- b) Explain the principle, construction and working and applications of climbing film evaporator. (12M)
3. a) Discuss various types of boiling point diagrams. (8M)
- b) Write a note on distillation under reduced pressure. (8M)
4. a) Classify dryers with examples. Give applications of drying process. (6M)
- b) Explain the principle, construction, working and applications of freeze dryer. (10M)
5. a) Describe the construction and working of Colloidal mill. (8M)
- b) Describe the construction and working of planetary mixer. (8M)
6. a) Explain a factor relates to feed material influencing selection of mill. (10M)
- b) Discuss theories of size reduction. (6M)
7. a) State and explain Fourier's law and derive mathematical equation. (6M)
- b) Discuss about small scale heating elements used in laboratory. (10M)