

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM - SEMESTER- 4 EXAMINATION – SUMMER -2019

Subject Code: 2240001**Date: 13-05-2019****Subject Name: Unit Operations-II****Time: 10:30 AM TO 01:30 PM****Total Marks: 80****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

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|-------------|-----|--|-----------|
| Q.1 | (a) | Explain principal, construction, working, merits and demerits of multiple effect evaporator with labeled diagram. | 06 |
| | (b) | Explain Phase diagram. | 05 |
| | (c) | Differentiate steam distillation and flash distillation. | 05 |
| Q.2 | (a) | Classify Dryers. Write a note on Tray dryer. | 06 |
| | (b) | Explain Raoult's law with its limitation. | 05 |
| | (c) | Describes the factors influencing evaporation process. | 05 |
| Q.3 | (a) | Explain industrial centrifuges. | 06 |
| | (b) | Explain principles and working of air conditioner with labeled diagram. | 05 |
| | (c) | Define: HVAC and Explain the design of HVAC systems. | 05 |
| Q.4 | (a) | Explain principal, construction, working, uses, advantages and disadvantages of plate and frame filter press with labeled diagram. | 06 |
| | (b) | Describe with labeled diagram Tunnel Dryers. | 05 |
| | (c) | Give application of Filtration in field of pharmacy. | 05 |
| Q.5 | (a) | Write a theory and mechanism of drying. | 06 |
| | (b) | Discuss in detail Spray dryer. | 05 |
| | (c) | Explain in detail about packed columns and plate columns with respected to distillation process. | 05 |
| Q. 6 | (a) | Discuss rectification distillation columns and their efficiency. | 06 |
| | (b) | Write a short note on Radiant heat dryer. | 05 |
| | (c) | Write an application of Centrifugation in field of pharmacy. | 05 |
| Q.7 | (a) | Write a note on psychometric charts. | 06 |
| | (b) | Discuss in detail Fluidized bed dryer. | 05 |
| | (c) | Explain the concept of heat transfer in evaporators. | 05 |
