

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B. Pharm. – SEMESTER – IV • EXAMINATION – SUMMER • 2014

Subject Code: 2240001

Date: 21-05-2014

Subject Name: Unit Operations-II

Time: 02:30 pm - 05:30 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) | Define filtration. Give its application in field of pharmacy. Explain mechanism of filtration | 06 |
| | (b) | Write a note on factors affecting filtration Process | 05 |
| | (c) | Explain principal, construction, working, uses and advantages with labeled diagram of filter leaf | 05 |
| Q.2 | (a) | Define centrifugation. explain theory of centrifugation | 06 |
| | (b) | Discuss in detail perforated basket type centrifuge | 05 |
| | (c) | Explain principal, construction, working, merits and demerits of continuous horizontal centrifuge with labeled diagram. | 05 |
| Q.3 | (a) | Explain factors affecting selection of dryers | 06 |
| | (b) | Write a note on theory of drying process | 05 |
| | (c) | Discuss in detail Fluidized bed dryer | 05 |
| Q.4 | (a) | Describe with lebeled diagram steam distillation | 06 |
| | (b) | Define distillation and discuss the application of distillation process in field of pharmacy | 05 |
| | (c) | Explain in detail about packed columns and plate columns with respected to distillation process | 05 |
| Q.5 | (a) | Explain principal, construction, working, merits and demerits of falling film evaporator with labeled diagram. | 06 |
| | (b) | Describes the factors influencing evaporation process | 05 |
| | (c) | Explain Raoult's law and Duhring's Rule for evaporation | 05 |
| Q. 6 | (a) | Write a note on psychometric charts with its utility | 06 |
| | (b) | Describe with labeled diagram compressed refrigeration cycle | 05 |
| | (c) | Define the following terms (i) Humidity (ii) Humid Heat (iii) Dew Point (iv) Humid volume (v) percentage Humidity | 05 |
| Q.7 | (a) | Explain principal, construction, working, uses, advantages and disadvantages of plate and frame filter press with labeled diagram. | 06 |
| | (b) | Describe with labeled diagram Tray Dryers | 05 |
| | (c) | Explain principles and working of air conditioner with labeled diagram | 05 |
