

Seat No.: _____

Enrolment No. _____

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

Subject Code: 2240001

Date: 22-12-2014

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) Enlist factors affecting rate of filtration and explain any four factors in brief. | 06 |
| | (b) Explain stages involved in rotary drum filter.(Diagram is not required) | 05 |
| | (c) Explain theory of centrifugation process. | 05 |
| Q.2 | (a) Write a note on perforated basket centrifuge. | 06 |
| | (b) Define filter aid. Write ideal characteristics of filter aid used in filtration. | 05 |
| | (c) Give difference between batch filtration and continuous filtration. | 05 |
| Q.3 | (a) Explain working of fluidized bed dryer. Also write its applications in pharmaceutical industry. | 06 |
| | (b) Explain drying rate curve. | 05 |
| | (c) Which factors are to be considered for selection of dryers used in industry? | 05 |
| Q.4 | (a) Write a note on tray dryer. | 06 |
| | (b) Write Raoult's law and its limitation. | 05 |
| | (c) Explain general parts of distillation. | 05 |
| Q.5 | (a) Write a note on McCabe Thiele method for calculation of theoretical plates. | 06 |
| | (b) Explain Dühring's law. | 05 |
| | (c) Write a note on steam distillation. | 05 |
| Q.6 | (a) Write a note on one evaporator which works on principle of forced circulation. | 06 |
| | (b) Explain factors affecting rate of evaporation. | 05 |
| | (c) Explain design of HVAC system. | 05 |
| Q.7 | (a) Write a note on drum dryer. | 06 |
| | (b) Explain one equipment used for humidification process. | 05 |
| | (c) Explain two methods to determine humidity. | 05 |
