

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.**

- 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**

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