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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