Seat No.: _____   Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Ph. - SEMESTER– IV • EXAMINATION – SUMMER - 2018

Subject Code:2240001   **Date:18/05/2018**
Subject Name: Unit Operation 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.**

Q.1	**(a)**	Describe the plate & frame filter or drum filter.	**06**
	(b)	Define filter medium, write its ideal properties and explain factors affecting selection of filter medium.	**05**
	(c)	Define the filter aid. Give the example of filter aid.	**05**
Q.2	**(a)**	Write a note on principle & theory of centrifugation.	**06**
	(b)	Explain the conical disc centrifuge or De Laval Clarifier.	**05**
	(c)	Describe perforated & non-perforated basket centrifuge.	**05**
Q.3	**(a)**	Define: humidity, percent humidity, relative humidity, humid volume, humid heat, dew point, dry bulb temperature, wet bulb temperature.	**06**
	(b)	Discuss the applications of psychometric chart.	**05**
	(c)	Describe compression refrigeration cycle with diagram.	**05**
Q.4	**(a)**	Write short note on Azopropic distillation.	**06**
	(b)	Explain the molecular distillation.	**05**
	(c)	Define: Ideal solution, Real solution, Perfect solution.	**05**
Q.5	**(a)**	Explain the factor affecting on drying.	**06**
	(b)	Define the terms: bound moisture, unbound moisture, EMC, CMC, moisture content.	**05**
	(c)	Write short note on HETP & HTU in distillation process.	**05**
Q. 6	**(a)**	Define the evaporation and its importance in pharmacy.	**06**
	(b)	Explain the construction, working, advantages disadvantages and application with labeled diagram of Evaporating Pan.	**05**
	(c)	Describe with suitable diagram falling film evaporator.	**05**
Q.7	**(a)**	Explain Raoult's law and Dalton's law.	**06**
	(b)	Define humidification and dehumidification.	**05**
	(c)	Describe perforated & non-perforated basket centrifuge.	**05**

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