Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharm. – SEMESTER II • EXAMINATION – WINTER 2015

Subject Code: 220006 **Date: 21/12/2015**

Subject Name: Physical Pharmacy

Time: 2.30 pm to 5.30 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)**	What is thixotropy and antithixotropy? Draw different types of thixotropic and antithixotropy curves and explain the mechanism for their behavior with suitable examples.	**06**
	(b)	Write a short note on Gel-Sol-Gel Transformation.	**05**
	(c)	Give the working principle of cup and bob viscometer with a labelled diagram.	**05**
Q.2	**(a)**	Discuss the capillary rise method for measuring surface tension.	**06**
	(b)	Write a short note on Spreading Coefficient.	**05**
	(c)	Discuss the electric properties of interfaces.	**05**
Q.3	**(a)**	Explain the particle volume measurement by coulter counter method.	**06**
	(b)	Explain derived properties of powders.	**05**
	(c)	Define Reynolds number. Write Stokes' equation. What are the applications in pharmacy?	**05**
Q.4	**(a)**	What are association colloids? Mention the mechanism of formation of micelles.	**06**
	(b)	Write a note on Controlled Flocculation.	**05**
	(c)	Write a note on Hydrophilic Lipophilic Balance.	**05**
Q.5	**(a)**	State the phase rule. Explain Phase equilibria for system containing two components.	**06**
	(b)	Write a note on polymorphism. Describe its importance with example.	**05**
	(c)	What are kinetic properties of colloids?	**05**
Q. 6	**(a)**	Discuss the effect of pressure, temperature and chemical reaction for solubility of gasses in liquids.	**06**
	(b)	Explain Buffer Equation. What is buffer capacity? How it is calculated.	**05**
	(c)	Write a note on physical stability of emulsion.	**05**
Q.7	**(a)**	Differentiate ideal and real solution. Explain the influence of foreign substances in solubility of liquids in liquids.	**06**
	(b)	Enlist the methods for adjusting tonicity and pH. Explain any one.	**05**
	(c)	Define suspension and differentiate between flocculated & deflocculated suspension.	**05**

****