Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BPHARM – SEMESTER II • EXAMINATION – WINTER • 2016

Subject code: 2220001 **Date: 13-01-2017**
Subject Name: Physical Pharmacy
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)**	Write in brief on nature of the intra- and intermolecular forces involved in stabilizing molecular and physical structures.	**06**
	(b)	Discuss two component system containing phenol water liquid phases.	**05**
	(c)	Write a note on liquid crystals.	**05**
Q.2	**(a)**	Classify various viscometers. Describe a viscometer to find out viscosity of non-Newtonian fluids with labeled diagram.	**06**
	(b)	Define and differentiate: Plastic and Pseudo-plastic flow.	**05**
	(c)	What are applications of rheology in pharmaceutical industry?	**05**
Q.3	**(a)**	Give general principles of solubility.	**06**
	(b)	Write a note on spreading co-efficient.	**05**
	(c)	Explain solubility of solid in liquid.	**05**
Q.4	**(a)**	Describe methods of calculation of HLB value.	**06**
	(b)	Explain any one method for measurement of surface and interfacial tensions.	**05**
	(c)	Write a brief note on electric properties of interfaces.	**05**
Q.5	**(a)**	Define complexation. Discuss methods of analysis of complexes.	**06**
	(b)	Which factors affects complexation and protein binding? Discuss in brief.	**05**
	(c)	Describe cyclodextrin complexes including their application in pharmacy.	**05**
Q. 6	**(a)**	Discuss factors affecting powder flow.	**06**
	(b)	Enumerate derived properties of powder. How they affect pharmaceutical product manufacturing?	**05**
	(c)	Which are the methods used for particle size determination? Explain optical microscopy method.	**05**
Q.7	**(a)**	Differentiate hydrophilic and lipophilic colloids.	**06**
	(b)	Write in brief on properties of colloids.	**05**
	(c)	Write a note on factors affecting stability of suspension.	**05**

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