Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.PHARM - SEMESTER– II. EXAMINATION – SUMMER-2016

Subject Code: 2220001 **Date: 15/06/2016**

Subject Name: Physical Pharmacy

Time: 10:30 AM to 1:30 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 phase rule. Explain Phase diagram for one component system.	**06**
	(b)	Describe the binding forces of molecules.	**05**
	(c)	Discuss the structure, properties and significance of liquid crystals.	**05**
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Q.2	**(a)**	Define solubility. Describe the influence of surfactants on solubility.	**06**
	(b)	State: Henry's law, Bancroft's rule, Schulze-Hardy rule, Ideal gas law, Graham's law.	**05**
	(c)	Explain Polymorphism.	**05**
Q.3	**(a)**	Write a short note on Spreading Coefficient.	**06**
	(b)	Discuss the electric properties of interfaces.	**05**
	(c)	Enlist the methods for determination of surface tension & explain capillary rise method.	**05**
Q.4	**(a)**	Classify the complexes and explain chelates.	**06**
	(b)	Differentiate between lyophillic and lyophobic colloids.	**05**
	(c)	Write applications of drug protein binding in drug activity.	**05**
Q.5	**(a)**	Discuss features and properties of different types of colloidal dispersion systems.	**06**
	(b)	What is meant by controlled flocculation? Discuss the various means by which controlled flocculation can be achieved.	**05**
	(c)	Write a note on physical stability of emulsion.	**05**
Q. 6	**(a)**	What are association colloids? Mention the mechanism of formation of micelles.	**06**
	(b)	Enlist the methods for particle size determination. Explain conductivity method.	**05**
	(c)	Discuss the derived properties of powder.	**05**
Q.7	**(a)**	Define rheology, give the application of rheology in pharmacy.	**06**
	(b)	Classify various instruments for measurement of viscosity. Describe any one viscometer to find out viscosity of Newtonian fluids.	**05**
	(c)	Explain the plastic and pseudoplastic flow curves with examples.	**05**

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