

GUJARAT TECHNOLOGICAL UNIVERSITY
BPHARM – SEMESTER I • EXAMINATION – SUMMER - 2013

Subject code: 2220001**Date: 07-06-2013****Subject Name: Physical Pharmacy****Time: 02:30 pm to 05:30 pm****Total Marks: 70****Instructions:**

- 1. Attempt all questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**

Q.1	(a)	Enlist the methods for determination of surface and interfacial tension. Explain capillary rise method.	06
	(b)	Define zeta potential. Explain Langmuir adsorption isotherm.	05
	(c)	Define HLB. Write any two methods for determination of HLB.	05
Q.2	(a)	Discuss the effect of pressure, temperature and salting out on the solubility of gases in liquids.	06
	(b)	Define solubility. Describe the influence of surfactants on solubility.	05
	(c)	Classify types of emulsion with suitable examples.	05
Q.3	(a)	Discuss features and properties of different types of colloidal dispersion systems.	06
	(b)	Explain sedimentation volume ratio and degree of flocculation.	05
	(c)	Enlist the physical instability markers of emulsion and explain any two.	05
Q.4	(a)	Enlist the methods for particle size determination. Explain conductivity method.	06
	(b)	Discuss angle of repose and give its relationship with powder flow	05
	(c)	Define: Projected diameter, Stokes' diameter, Dustiness, Surface free energy, Contact angle	05
Q.5	(a)	Explain the plastic and pseudoplastic flow curves with examples.	06
	(b)	Write the principle and working of Ostwald viscometer	05
	(c)	Define: Kinematic viscosity, Fluidity, Bulges, Rheopexy, Poise	05
Q. 6	(a)	Classify the complexes and explain chelates.	06
	(b)	Write applications of drug protein binding in drug activity.	05
	(c)	State: Henry's law, Bancroft's rule, Schulze-Hardy rule, Ideal gas law, Graham's law	05
Q.7	(a)	Define phase rule. Explain Phase diagram for one component system.	06
	(b)	Explain Polymorphism.	05
	(c)	Define Thixotropy. Discuss shear thinning system.	05
