Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BPHARM – SEMESTER II • EXAMINATION – WINTER • 2014

Subject code: 220006 Date: 10-12-2014

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)	State the phase rule. Discuss two component systems containing liquid phases in brief.	**06**
	(b)	Write a brief note on liquid crystals.	**05**
	(c)	Discuss solubility of gases in liquids.	**05**
Q.2	(a)	What are buffers? Discuss buffer equation for weak acid and its salt.	**06**
	(b)	Enlist methods of adjusting tonicity. Discuss White-Vincent method in detail.	**05**
	(c)	What are colloids? Give their pharmaceutical applications.	**05**
Q.3	(a)	What is micromeritics? Discuss one method used to determine particle volume.	**06**
	(b)	Write a note on buffer capacity.	**05**
	(c)	What is stoke's diameter? How it is determined?	**05**
Q.4	(a)	Write a note on derived properties of powders.	**06**
	(b)	Discuss any one method for determining particle surface area.	**05**
	(c)	Write a note on thixotropy.	**05**
Q.5	(a)	Write a note on Non-Newtonian systems.	**06**
	(b)	Enlist methods of determining viscosity. Discuss any one in detail.	**05**
	(c)	Differentiate flocculated and deflocculated suspensions.	**05**
Q. 6	(a)	Enlist theories of emulsification. Discuss any two theories in detail.	**06**
	(b)	What is controlled flocculation? Write a note on flocculating agents.	**05**
	(c)	Discuss ideal gas law in detail.	**05**
Q.7	(a)	Write a note on optical properties of colloids.	**06**
	(b)	What is surface tension? Discuss any one technique of determining surface tension.	**05**
	(c)	Write a note on spreading coefficient.	**05**

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