

**GUJARAT TECHNOLOGICAL UNIVERSITY****B. Pharmacy Sem-II Remedial Examination September 2009****Subject code: 220006****Date: 11/09/2009****Subject Name: Physical Pharmacy****Time: 10:30am- 1:30pm****Total Marks: 80****Instructions:**

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

<b>Q.1</b>	<b>(a)</b> Define Suspensions and differentiate between flocculated and deflocculated suspensions.	<b>04</b>
	<b>(b)</b> Explain the theory behind Stability of Emulsions.	<b>06</b>
<b>Q.2</b>	<b>(c)</b> Explain any 2 kinetic properties of Colloids.	<b>06</b>
	<b>(a)</b> Define Viscosity. Classify viscosity with suitable examples.	<b>04</b>
	<b>(b)</b> Explain Non Newtonian fluids with examples.	<b>06</b>
<b>Q.3</b>	<b>(c)</b> Explain any one single point and multipoint viscometer with advantages and disadvantages.	<b>06</b>
	<b>(a)</b> Explain any two binding forces between molecules.	<b>04</b>
	<b>(b)</b> Describe in brief Phase rule with an example for one component system and two component system.	<b>06</b>
<b>Q.4</b>	<b>(c)</b> Explain 2 component system in liquid phases with suitable examples for UCT and LCT and eutectic mixtures.	<b>06</b>
	<b>(a)</b> Define Micromeritics. What are the different methods in determining particle size? Explain any two methods in detail with necessary equations.	<b>06</b>
	<b>(b)</b> Explain two methods in determining particle surface area in detail with necessary equations.	<b>04</b>
<b>Q.5</b>	<b>(c)</b> Name the two fundamental properties of powders. Explain the application of derived properties of powders in Pharmacy.	<b>06</b>
	<b>(a)</b> What is the importance of buffers in Pharmaceutical and biologic systems?	<b>06</b>
	<b>(b)</b> Explain and derive buffer equation.	<b>04</b>
<b>Q.6</b>	<b>(c)</b> What are buffered isotonic solutions? Explain Class I method for adjusting tonicity and pH.	<b>06</b>
	<b>(a)</b> Differentiate between a saturated and supersaturated solution. Explain the solute solvent interactions for polar and nonpolar solvents.	<b>06</b>
	<b>(b)</b> Explain the effect of pressure, temperature and chemical reaction for solubility of gasses in liquids.	<b>05</b>
<b>Q.7</b>	<b>(c)</b> Differentiate between ideal and real solutions. Explain the influence of foreign substances in solubility of liquids in liquids	<b>05</b>
	<b>(a)</b> Define Surface tension and Interfacial tension. Explain the wire frame apparatus and its implication.	<b>05</b>
	<b>(b)</b> Explain Capillary rise method in determining Surface tension with necessary equations.	<b>05</b>
	<b>(c)</b> Write about the nernst and zeta potential and give its importance in pharmaceutical systems.	<b>06</b>

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