

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B. Pharmacy Sem-II Examination June 2011**

**Subject code: 220006**

**Subject Name: Physical Pharmacy-I**

Date: 02/07/11

Total Marks: 80

Time: 10:30am-1:30pm

**Instructions:**

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

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|-------------|---|-----------|
| <b>Q.1</b>  | (a) Explain Phase equilibria for system containing two components.  | <b>06</b> |
|             | (b) Explain Liquid Crystalline State.   | <b>05</b> |
|             | (c) Explain Binding force between molecules.  | <b>05</b> |
|             |   |           |
| <b>Q.2</b>  | (a) Explain neutralization curves with necessary examples.  | <b>06</b> |
|             | (b) Explain Buffer Equation and Buffer Capacity.  | <b>05</b> |
|             | (c) Write Preparation of Pharmaceutical buffers and explain its Applications.   | <b>05</b> |
|             |   |           |
| <b>Q.3</b>  | (a) Explain Solubility of Liquid in Liquid.   | <b>06</b> |
|             | (b) Give general principles of Solubility.  | <b>05</b> |
|             | (c) Explain Law of Distribution.  | <b>05</b> |
|             |   |           |
| <b>Q.4</b>  | (a) Write about the nernst and zeta potential and give its importance in pharmaceutical systems.                          | <b>06</b> |
|             | (b) What is spreading Coefficient? Derive its equation.   | <b>05</b> |
|             | (c) Write a note on Surface Active Agents.  | <b>05</b> |
|             |   |           |
| <b>Q.5</b>  | (a) Write a note on physical stability of emulsion.   | <b>06</b> |
|             | (b) Explain kinetic properties of Colloids.   | <b>05</b> |
|             | (c) Write a note on Controlled Flocculation.  | <b>05</b> |
|             |   |           |
| <b>Q. 6</b> | (a) Discuss methods for determine Particle size and shape.  | <b>06</b> |
|             | (b) Name the two fundamental properties of powders. Explain the application of derived properties of powders in Pharmacy. | <b>05</b> |
|             | (c) Explain: Particle size and its distribution.  | <b>05</b> |
|             |   |           |
| <b>Q.7</b>  | (a) What a note on : Thixotropy and Negative Thixotropy   | <b>06</b> |
|             | (b) Explain Non Newtonian fluids with examples  | <b>05</b> |
|             | (c) How will you determine Rheological Properties?  | <b>05</b> |

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