

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

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

## GUJARAT TECHNOLOGICAL UNIVERSITY

B.PHARM- SEM-II-EXAMINATION – JUNE 2012

Subject code: 220006

Date: 20/06/2012

Subject Name: Physical Pharmacy

Time: 10:30 am – 01:30 pm

Total Marks: 80

### Instructions:

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

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|------------|--|-----------|
| <b>Q.1</b> | (a) Discuss Thermal Analysis of the substance.   | <b>06</b> |
|            | (b) Write a note on Liquefaction of the gases.   | <b>05</b> |
|            | (c) Write a note on Aerosols.  | <b>05</b> |
| <b>Q.2</b> | (a) Explain: Phase rule, Buffer capacity, Partition coefficient.   | <b>06</b> |
|            | (b) Discuss the influence of foreign substance, dielectric constant in solubility of liquids in liquids. | <b>05</b> |
|            | (c) Enlist the methods for adjusting tonicity and pH. Explain any one.                                   | <b>05</b> |
| <b>Q.3</b> | (a) What is the importance of buffers in Pharmaceutical and biological systems.                          | <b>06</b> |
|            | (b) Write a short note on Spreading Coefficient.   | <b>05</b> |
|            | (c) Discuss the capillary rise for measurement for measuring surface tension.                            | <b>05</b> |
| <b>Q.4</b> | (a) Explain: surface free energy, HLB  | <b>04</b> |
|            | (b) Write a note on physical stability of emulsion.  | <b>06</b> |
|            | (c) Explain sedimentation parameters of suspension in detail.  | <b>06</b> |
| <b>Q.5</b> | (a) Differentiate between lyophilic and lyophobic colloids.  | <b>06</b> |
|            | (b) Discuss the optical properties of the Colloids.  | <b>05</b> |
|            | (c) Explain: Kraft point, Cloud point.   | <b>05</b> |
| <b>Q.6</b> | (a) Define: Stokes diameter, Micromeritics.  | <b>04</b> |
|            | (b) Discuss the derived properties of powder.  | <b>07</b> |
|            | (c) Explain the particle volume measurement by coulter counter method.                                   | <b>05</b> |
| <b>Q.7</b> | (a) Explain Newtonian systems  | <b>04</b> |
|            | (b) Write a note on Thixotropy   | <b>06</b> |
|            | (c) What are the application of rheology in pharmacy   | <b>06</b> |

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