

**GUJARAT TECHNOLOGICAL UNIVERSITY****B. Pharm. – SEMESTER– II • EXAMINATION – SUMMER-2016****Subject Code: 220006****Date: 15/06/2016****Subject Name: Physical Pharmacy****Time: 10:30 AM to 1:30 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) Describe Newtonian and non-Newtonian system.  | <b>06</b> |
|            | (b) Classify various instruments for measurement of viscosity. Describe any one viscometer to find out viscosity of non-Newtonian fluids.     | <b>05</b> |
|            | (c) Explain protective colloidal action in detail.  | <b>05</b> |
| <b>Q.2</b> | (a) What are the methods for determining particle size of powder?   | <b>06</b> |
|            | (b) Enumerate the derived properties. How are they evaluated?   | <b>05</b> |
|            | (c) What is buffer capacity? Discuss methods to evaluate it in brief.   | <b>05</b> |
| <b>Q.3</b> | (a) Write a short note on spreading coefficient.  | <b>06</b> |
|            | (b) Write a note on surface active agents.  | <b>05</b> |
|            | (c) Discuss the methods of adjusting tonicity and pH of pharmaceutical systems.   | <b>05</b> |
| <b>Q.4</b> | (a) Which are the parameters of solubility of solid in liquids? How do you calculate the solubility of weak electrolytes as influenced by pH? | <b>06</b> |
|            | (b) Write a note on Liquefaction of the gases.  | <b>05</b> |
|            | (c) Explain: Phase rule and Partition coefficient.  | <b>05</b> |
| <b>Q.5</b> | (a) Write a short note on determination of rheological properties of liquid.  | <b>06</b> |
|            | (b) Discuss structure, properties & significance of liquid crystal.   | <b>05</b> |
|            | (c) Differentiate flocculated and deflocculated suspension.   | <b>05</b> |
| <b>Q.6</b> | (a) Describe the theory of emulsification.  | <b>06</b> |
|            | (b) Discuss the instability of an emulsion.   | <b>05</b> |
|            | (c) Differentiate between lyophilic and lyophobic colloids.   | <b>05</b> |
| <b>Q.7</b> | (a) Write a note on HLB scale with its importance in pharmacy.  | <b>06</b> |
|            | (b) What are the application of rheology in pharmacy  | <b>05</b> |
|            | (c) Write a note on Pharmaceutical Buffer.  | <b>05</b> |

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