

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Ph. - SEMESTER- II • EXAMINATION – SUMMER-2018**Subject Code: 220006****Date: 01/06/2018****Subject Name: Physical Pharmacy****Time: 10:30 AM TO 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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| Q.1 | (a) | Explain Phase rule in details. | 06 |
| | (b) | Explain Polymorphism with examples. | 05 |
| | (c) | Define tonicity, how will you measure tonicity of Pharmaceutical preparations? | 05 |
| Q.2 | (a) | Explain Capillary rise method in determining Surface tension with necessary equations. | 06 |
| | (b) | Give the general principles of solubility and solvent-solute interactions. | 05 |
| | (c) | Explain the effect of pressure, temperature and chemical reaction for solubility of gases in liquids. | 05 |
| Q.3 | (a) | Write Bunsen Absorption Coefficient with its applications. | 06 |
| | (b) | Explain Phase equilibrium for system containing two components (liquid + liquid) and represent diagrammatically with examples. | 05 |
| | (c) | How will you adjust tonicity of Pharmaceutical preparations? Explain with necessary examples. | 05 |
| Q.4 | (a) | Write a note on Surface Active Agents. | 06 |
| | (b) | Describe the method of calculation of HLB by different techniques. | 05 |
| | (c) | Explain Buffer Equation and Buffer Capacity. | 05 |
| Q.5 | (a) | Explain the theory behind Stability of Emulsions. | 06 |
| | (b) | Write in detailed note on non Newtonian systems. | 05 |
| | (c) | Enumerate Pharmaceutical applications of colloids. | 05 |
| Q.6 | (a) | Define Micromeritics. What are the different methods in determining particle size? Explain any two methods in detail with necessary equations. | 06 |
| | (b) | Discuss methods for determine Particle size and shape. | 05 |
| | (c) | Name the two fundamental properties of powders. Explain the application of derived properties of powders in Pharmacy. | 05 |
| Q.7 | (a) | Write notes on Sedimentation parameters for suspension. | 06 |
| | (b) | What a note on : Plastic and Pseudo plastic flow. | 05 |
| | (c) | What a note on : thixotropy and Negative thixotropy | 05 |
