

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM – SEMESTER – 3- EXAMINATION –WINTER - 2018

Subject Code:BP302TP**Date: 04/12/2018****Subject Name: Physical Pharmaceutics I****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) | What is distribution law? State its limitations and applications. | 06 |
| | (b) | Discuss factors affecting solubility of gases in liquids | 05 |
| | (c) | Define Raoult's Law. What do you mean by Real solutions and Ideal solutions? Discuss in detail. | 05 |
| Q.2 | (a) | Classify types of complexes. How chelates are different from organic molecular complexes? | 06 |
| | (b) | Write a note on drug complexes. | 05 |
| | (c) | Differentiate between clathrates and cyclodextrins | 05 |
| Q.3 | (a) | Explain different methods to determine surface tension | 06 |
| | (b) | Define surfactant. What is HLB scale? Classify surfactant activity based on HLB value. | 05 |
| | (c) | How is spreading co-efficient calculated? | 05 |
| Q.4 | (a) | What is kinetic molecular theory? Discuss. | 06 |
| | (b) | Define the phenomenon of polymorphism with suitable examples. | 05 |
| | (c) | Discuss the properties and significance of liquid crystals | 05 |
| Q.5 | (a) | Enlist different methods of analysis of complexes and discuss any one in detail. | 06 |
| | (b) | What is refractive index and how it is measured? How it used to identify a drug compound? | 05 |
| | (c) | What is critical solution temperature? Explain phenol-water system. | 05 |
| Q. 6 | (a) | What is common ion effect? Discuss buffer equation for weak acid and its salt. | 06 |
| | (b) | Write a short note on pharmaceutical buffers. | 05 |
| | (c) | What is maximum buffer capacity? Determine maximum buffer capacity of a phosphate buffer with a total concentration of 0.050 mole/litre. | 05 |
| Q.7 | (a) | Define aerosol? Write a brief note on it. | 06 |
| | (b) | Briefly discuss complete and partial miscibility. | 05 |
| | (c) | Write a note on factors affecting protein binding. | 05 |
