

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM - SEMESTER- 3 EXAMINATION – SUMMER -2019

Subject Code: BP302TP**Date: 30-05-2019****Subject Name: Physical Pharmaceutics I****Time: 02:30 PM TO 05:30 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) Describe Raoult's law with its application. | 06 |
| | (b) Define following terms
(i) Solution (ii) Solute (iii) Solvent (iv) Saturated solution (v) supersaturated solution. | 05 |
| | (c) Enumerate factors affecting solubility and discuss common ion effect in detail. | 05 |
| Q.2 | (a) Discuss the factors affecting solubility of gas in liquids. | 06 |
| | (b) What is polymorphism? Discuss it with suitable examples. | 05 |
| | (c) Briefly explain (i) Glassy state and (ii) Liquid crystals. | 05 |
| Q.3 | (a) Explain sublimation with suitable diagram. | 06 |
| | (b) What is the significance of specific rotation in pharmacy? | 05 |
| | (c) Write a note on Du Nouy Tensiometer. | 05 |
| Q.4 | (a) Explain spreading coefficient. | 06 |
| | (b) Give the range of HLB value of (i) Detergents (ii) wetting agents (iii) o/w emulsifying agents (iv) Antifoaming agents (v) Solubilizing agents | 05 |
| | (c) What is physisorption? Differentiate physisorption and chemisorptions. | 05 |
| Q.5 | (a) Explain the significance of protein binding. | 06 |
| | (b) Write a short note on Clathrates. | 05 |
| | (c) Write a short note on ligands. | 05 |
| Q. 6 | (a) Classify the complexes and explain chelates in detail. | 06 |
| | (b) Explain Sorensen's pH scale. | 05 |
| | (c) Write a note on pH determination. | 05 |
| Q.7 | (a) Explain Henderson-Hasselbalch equation. | 06 |
| | (b) What are the methods of adjusting tonicity? Discuss freezing point method in detail. | 05 |
| | (c) Explain the limitation of distribution law. | 05 |
