

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

**Subject Code: BP302TP****Date: 16-11-2019****Subject Name: Physical Pharmaceutics I****Time: 10:30AM TO 01:30PM****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) | Define solubility. Explain the factors affecting on solubility of drug with suitable example.       | <b>06</b> |
|            | (b) | Discuss in detail Raoult's law and its deviations.  | <b>05</b> |
|            | (c) | Write a note on distribution law with its limitations and applications.                             | <b>05</b> |
| <b>Q.2</b> | (a) | Explain in brief (1) Eutectic mixture (2) Sublimation.  | <b>06</b> |
|            | (b) | Write a note on liquid crystals.  | <b>05</b> |
|            | (c) | Define refractive index. Explain the method used to determine refractive index.                     | <b>05</b> |
| <b>Q.3</b> | (a) | Enlist the methods used to measure the surface and interfacial tensions. Explain any one in detail. | <b>06</b> |
|            | (b) | Write a note on HLB scale.  | <b>05</b> |
|            | (c) | Explain in detail about surface active agents.  | <b>05</b> |
| <b>Q.4</b> | (a) | Define and classify the complexation. Write in detail about "chelates"                              | <b>06</b> |
|            | (b) | Describe the applications of complexation in field of pharmacy.                                     | <b>05</b> |
|            | (c) | Write a note on Protein drug binding kinetics.  | <b>05</b> |
| <b>Q.5</b> | (a) | Enlist the methods used to determine the pH. Discuss any one in detail.                             | <b>06</b> |
|            | (b) | Discuss in detail about Sorensen's pH scale.  | <b>05</b> |
|            | (c) | Write a short note on "Buffer Equation"   | <b>05</b> |
| <b>Q.6</b> | (a) | What is White – Vincent method of making isotonic solution? Discuss with suitable example.          | <b>06</b> |
|            | (b) | Discuss in detail about Aerosols.   | <b>05</b> |
|            | (c) | Give a note on spreading coefficient  | <b>05</b> |
| <b>Q.7</b> | (a) | Classify the crystals. Discuss about crystal habit.   | <b>06</b> |
|            | (b) | Explain in detail freundlich adsorption isotherm.   | <b>05</b> |
|            | (c) | Discuss in brief about buffer capacity.   | <b>05</b> |

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