

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

**Subject Code: 230001****Date: 30-05-2019****Subject Name: Physical Pharmaceutics - II****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.

- |             |  |           |
|-------------|--|-----------|
| <b>Q.1</b>  | (a) Explain effect of dielectric constant on rate constant.  | <b>06</b> |
|             | (b) Write short note on: Beckmann's freezing point apparatus.  | <b>05</b> |
|             | (c) What are colligative properties? Describe boiling point elevation.                                       | <b>05</b> |
| <b>Q.2</b>  | (a) Discuss Arrhenius theory of electrolytic dissociation.   | <b>06</b> |
|             | (b) Discuss ideal and real solutions with suitable examples.   | <b>05</b> |
|             | (c) Explain: Molarity, Molality, Normality, Formality, Gram per liter.                                       | <b>05</b> |
| <b>Q.3</b>  | (a) Define first order reaction. Derive equations for first order reaction and its half-life and shelf-life. | <b>06</b> |
|             | (b) Enumerate factors affecting the rate of reaction. Explain effect of temperature on it.                   | <b>05</b> |
|             | (c) Define order of reaction. Describe methods used to determine the same.                                   | <b>05</b> |
| <b>Q.4</b>  | (a) What is accelerated stability analysis? Describe ICH guidelines for stability study.                     | <b>06</b> |
|             | (b) Describe the various drug decomposition pathways with remedial measures.                                 | <b>05</b> |
|             | (c) Define Hydrogels. Classify and explain its role in drug delivery system                                  | <b>05</b> |
| <b>Q.5</b>  | (a) Write detail about the applications of complexes in pharmacy.  | <b>06</b> |
|             | (b) Explain the kinetics of protein binding.   | <b>05</b> |
|             | (c) Classify the complexes and explain importance of chelates in metal ion complexes.                        | <b>05</b> |
| <b>Q. 6</b> | (a) Describe the pharmaceutical applications of polymers.  | <b>06</b> |
|             | (b) Define polymers. Give detailed classification of polymers.   | <b>05</b> |
|             | (c) Enlist synthetic polymers. Discuss any two general properties of polymer solutions.                      | <b>05</b> |
| <b>Q.7</b>  | (a) Describe the method for studying in vitro drug diffusion.  | <b>06</b> |
|             | (b) What is dissolution? Discuss its significance in drug therapy  | <b>05</b> |
|             | (c) Describe in vitro dissolution test apparatus as per Indian Pharmacopoeia.                                | <b>05</b> |

\*\*\*\*\*