

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B. Pharm. - SEMESTER-3 • EXAMINATION – SUMMER -2018**

**Subject Code: 230001****Date: 28/04/2018****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) | Describe the methods for determination of boiling point elevation.               | <b>06</b> |
|             | (b) | Describe osmotic pressure as a colligative property.                             | <b>05</b> |
|             | (c) | Define Raoult's law. Explain positive and negative deviations from Raoult's law. | <b>05</b> |
| <b>Q.2</b>  | (a) | Define: molarity, normality, molality, osmolality and vapor pressure.            | <b>06</b> |
|             | (b) | Describe Debye-Heckel theory for strong electrolytes.                            | <b>05</b> |
|             | (c) | Describe Arrhenius theory of electrolytic dissociation.                          | <b>05</b> |
| <b>Q.3</b>  | (a) | Describe properties of solutions of electrolytes.                                | <b>06</b> |
|             | (b) | Explain Faraday's law.   | <b>05</b> |
|             | (c) | Derive equations for first order reaction & its half-life.                       | <b>05</b> |
| <b>Q.4</b>  | (a) | Write a short note on accelerated stability study.                               | <b>06</b> |
|             | (b) | Describe the factors which govern the rate of a chemical reaction.               | <b>05</b> |
|             | (c) | Discuss various methods to determine the order of reactions.                     | <b>05</b> |
| <b>Q.5</b>  | (a) | Write applications of complexes in pharmacy.                                     | <b>06</b> |
|             | (b) | Write note on protein binding.   | <b>05</b> |
|             | (c) | Give classification of complexes.  | <b>05</b> |
| <b>Q. 6</b> | (a) | Write in short on metal complexes.   | <b>06</b> |
|             | (b) | Give detailed classification of polymers.  | <b>05</b> |
|             | (c) | Write a note on hydrogel drug delivery system.                                   | <b>05</b> |
| <b>Q.7</b>  | (a) | Describe pharmaceutical applications of polymers.                                | <b>06</b> |
|             | (b) | Explain Fick's first law of diffusion.   | <b>05</b> |
|             | (c) | Describe the USP type-II dissolution apparatus with labelled diagram.            | <b>05</b> |

\*\*\*\*\*