

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BPHARM – SEMESTER II (OLD Syllabus) • EXAMINATION – SUMMER • 2015

Subject code: 220003

Date: 04-06-2015

Subject Name: Pharm. Chemistry - II

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.

- Q.1** (a) What is an adsorption isotherm? Discuss the Freundlich adsorption isotherm. **06**
(b) What is Refractive Index? How is it determined? Discuss its applications. **05**
(c) Discuss the following terms – Partition coefficient, vapour pressure **05**
- Q.2** (a) Discuss the phase diagram of the sulphur system **06**
(b) Discuss the different methods useful for the estimation of surface tension. **05**
(c) Discuss the following terms - Degree of freedom, components **05**
- Q.3** (a) Derive the equation and give examples for the first and second order kinetics **06**
(b) Discuss different methods used for the determination of the order of reaction. **05**
(c) Discuss the following terms – Half life & Molecularity of a reaction. **05**
- Q.4** (a) Describe the two basic laws governing photochemical reactions. **06**
(b) Discuss the Jablonski diagram. **05**
(c) Differentiate between - Photochemical, Thermochemical reactions **05**
- Q.5** (a) Explain first law of thermodynamics **06**
(b) Differentiate between Reversible and irreversible thermodynamic processes. **05**
(c) Discuss the following terms- Adiabatic process, Entropy. **05**
- Q. 6** (a) Enlist the methods for measurements of Radioactivity? Discuss any two. **06**
(b) Discuss the Debye-Huckel Theory. **05**
(c) Discuss the following terms- Parachor, Optical activity. **05**
- Q.7** (a) What are colligative properties? Discuss any two. **06**
(b) Describe the nature and properties of alpha, beta and gamma rays. **05**
(c) Discuss - Zeroth Law of Thermodynamics, Dipole moment **05**
