

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharmacy Semester-II Examination June 2011

Subject code: 220003

Subject Name: Pharm.Chemistry-II

Date: 23/06/11

Total Marks: 80

Time: 10:30am-1:30pm

Instructions:

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Define and explain : Surface tension, Viscosity, Refractive index, and Optical activity. **08**
(b) Write notes on Dipole moment. **04**
(c) Discuss pharmaceutical applications of surface tension and refractive index **04**
- Q.2** (a) Explain: Additive, Constitutive and Colligative properties with suitable examples. **06**
(b) What is partition coefficient? How it can be practically measured? **05**
(c) State and explain Raoult's law and derive its equation. **05**
- Q.3** Explain, clearly, giving suitable example, wherever possible, each of the following terms. **16**
(i) Intrinsic property (ii) System (iii) Surrounding (iv) Adiabatic system (v) Thermodynamic property (vi) Enthalpy (vii) Entropy (viii) Heat of combustion.
- Q.4** (a) Explain method of calculating heat of a chemical reaction giving proper example **04**
(b) What is triple point for water? Explain its importance in changes of states. **04**
(c) Write notes on Gibbs' adsorption equation and isotherm. **04**
(d) Give applications of adsorption **04**
- Q.5** (a) Explain: Photochemistry: Quantum efficiency: Monochromator and Wavelength. **08**
(b) Discuss consequences of absorption of light by matter and their utility in pharmacy. **08**
- Q.6** (a) Explain: Kinetic, Order of reaction, Molecularity of reaction and Catalyst **08**
(b) Discuss methods used for determination of reactions. **04**
(c) Degradation of Paracetamol follows first order kinetic with half-life 230 days. Concentration on Today is 100mg. When it becomes less than 80mg, it is not safe for human use. Calculate expiry date in days and months. **04**
- Q.7** Write notes on (i) Characters of catalysts (ii) Units of radioactivity (iii) Applications of radioactivity (iv) Theories of chemical kinetics **16**
