

GUJARAT TECHNOLOGICAL UNIVERSITY**B. Pharm. - SEMESTER-II • EXAMINATION – SUMMER-2016****Subject Code: 220003****Date: 08/06/2016****Subject Name: Pharm. Chemistry-II****Time: 10:30 am – 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.**

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| Q.1 | (a) | Give types of intermolecular forces & discuss their effect on matter. | 06 |
| | (b) | Define dipole moments with its units. Discuss how dipole moment effects different physical properties. | 05 |
| | (c) | What is optical activity? Described instrument used to measure optical activity. | 05 |
| Q.2 | (a) | Give differences between additive, constitutive & colligative properties with examples. | 06 |
| | (b) | Define & explain surface tension, viscosity & refractive index. Discuss method of measurement of surface tension, viscosity. | 10 |
| Q.3 | (a) | What is true solution? Give units of expression of concentration. Define equivalent weight. | 06 |
| | (b) | Give differences between ideal & real solution. State & explain Raoult's law. | 05 |
| | (c) | Calculate freezing point of a solution containing 5.0 g sucrose (mol.wt 342) & 500 g of water. Freezing point depression constant is 1.86° | 05 |
| Q.4 | (a) | Explain extensive property, system, thermodynamic state, closed system. | 04 |
| | (b) | State and explain first law of thermodynamic giving equation under various conditions. | 06 |
| | (c) | Explain with suitable example heat of formation, heat of combustion and heat of reaction. | 06 |
| Q.5 | (a) | Explain adsorption, adsorption isotherm and amphiphile. | 06 |
| | (b) | Discuss application of kinetics in pharmacy | 05 |
| | (c) | Discuss application of adsorption. | 05 |
| Q.6 | (a) | Explain rate of reaction, order of reaction & molecularity of reaction. | 06 |
| | (b) | Discuss method of determining order of reaction. | 05 |
| | (c) | Aspirin undergoes first order decomposition. 250mg aspirin converted to 150mg in 40 hrs. Calculate half-life and rate constant. | 05 |
| Q.7 | (a) | Write notes on (i) Lambert – Beer's law (ii) Jablonski diagram (iii) Radioactivity (iv) Application of radio activity. | 16 |
