

GUJARAT TECHNOLOGICAL UNIVERSITY**B. Pharm. – SEMESTER – III (OLD Syllabus) • EXAMINATION – SUMMER • 2015****Subject Code: 230001****Date: 04-06-2015****Subject Name: Physical Pharmaceutics-II****Time: 02:30 pm - 05:30 pm****Total Marks: 80**

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) Define Raoult's law. Explain positive and negative deviations from Raoult's law. | 06 |
| | (b) Define: Molarity, Normality, Molality, Osmolality and Vapor Pressure. | 05 |
| | (c) Explain effect of dielectric constant on rate constant. | 05 |
| Q.2 | (a) Describe Arrhenius theory of electrolytic dissociation. | 06 |
| | (b) Explain Faraday's Law. | 05 |
| | (c) Explain Ostwald-Walker method of measuring the relative lowering of vapor pressure. | 05 |
| Q.3 | (a) Enumerate various methods to determine the order of reactions. Derive Michaelis-Menton equation. | 06 |
| | (b) Enumerate factors affecting the rate of reaction. Explain effect of temperature on it. | 05 |
| | (c) Define first order reaction. Derive equations for first order reaction and its half-life and self-life. | 05 |
| Q.4 | (a) Classify the complexes and explain importance of chelates in metal ion complexes. | 06 |
| | (b) Write applications of protein binding. | 05 |
| | (c) Write short note on inclusion complexes. | 05 |
| Q.5 | (a) Define Hydrogels. Classify and explain its role in drug delivery system. | 06 |
| | (b) Enlist synthetic polymers. Discuss any two general properties of polymer solutions. | 05 |
| | (c) Give Significance of polymers in Pharmacy. | 05 |
| Q. 6 | (a) What is sink condition? Discuss Steady-State Diffusion. | 06 |
| | (b) Define dissolution. Explain dissolution apparatus as per USP method I. | 05 |
| | (c) Explain Porosity and Tortuosity. | 05 |
| Q. 7 | (a) Write a short note on Accelerated stability study. | 06 |
| | (b) Discuss various biological aspects of osmotic pressure. | 05 |
| | (c) Write in brief on release of drug from various types of dosage forms. | 05 |
