GUJARAT TECHNOLOGICAL UNIVERSITY
B.Ph SEM-III Examination- Dec.-2011

Subject code: 230001   **Date: 12/12/2011**
Subject Name: Physical Pharmaceutics -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.**

Q.1
   (a)   Write principle, construction & working of Beckmann`s freezing point apparatus.   **06**
   (b)   Describe Ostwald-Walker method of measuring the relative lowering of vapour pressure.   **05**
   (c)   Write principle, construction & working of Cottrell`s apparatus.   **05**

Q.2
   (a)   State Raoult`s law. Describe the positive & negative deviations from the law with suitable examples.   **06**
   (b)   Describe Berkeley and Hartely`s method of determination of osmotic pressure.   **05**
   (c)   Discuss various biological aspects of osmotic pressure.   **05**

Q.3
   (a)   Discuss Arrhenius theory of electrolytic dissociation with postulates.   **06**
   (b)   State & Explain Faraday`s laws of Electrolysis . What are its applications?   **05**
   (c)   Describe wheastone bridge method for conductance measurement.   **05**

Q.4
   (a)   Discuss various factors affecting on rate of reaction.   **06**
   (b)   Define first order reaction. Derive equations for first order reaction and its half- life.   **05**
   (c)   Discuss oxidative degradation of drugs.   **05**

Q.5
   (a)   Write applications of complexes in pharmacy.   **06**
   (b)   Write short note on "chelates".   **05**
   (c)   Discuss pharmaceutical applications of protein binding.   **05**

Q. 6
   (a)   Describe following methods to determine molecular weight of polymer. i) Light scattering   ii) Gel Permeation Chromatography.   **06**
   (b)   Write detail classification of polymers with examples.   **05**
   (c)   Write a short note on dissolution type I apparatus.   **05**

Q. 7
   (a)   Describe horizontal and vertical transport cell for studying the diffusion process.   **06**
   (b)   State and explain Fick`s second law of diffusion. Write its applications.   **05**
   (c)   Write short note on hydrogel drug delivery systems.   **05**

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