

Subject Code: CEU11

M.Pharmacy - I Semester Regular/Supplementary Examinations, April - 2012

**BIO-PHARMACEUTICS & PHARMACOKINETICS
(Pharmaceutics)**

Time: 3 Hours

Max Marks: 60

Answer any FIVE questions. All questions carry EQUAL marks.

1. a. Define the terms absolute bioavailability, Relative bioavailability. Write in detail about various study designs with merits and demerits.
b. Write notes on direct assessment of bioavailability. **[8M+4M]**
2. a. Explain the various techniques used to enhance the dissolution rate of a drug.
b. Explain the application of P^H Partition theory in predicting the drug absorption. **[8M+4M]**
3. Write a detailed note on formulation factors influencing the bioavailability in tablets and liquid orals. **[12M]**
4. a. Derive mathematical equations used to calculate Pharmacokinetic parameters following I.V bolus administration blood data, assuming the drug follows one compartment open model.
b. Explain the concept of clearance, giving emphasis on hepatic clearance. **[8M+4M]**
5. What do you mean by Non-linear Pharmacokinetics? Write linearised forms of Michaelis-Menton equations, Explain how V_{max} and K_m are determined in patients. **[12]**
6. a. What do you mean by Chronopharmacokinetics? Explain the importance of chronotheapeutics.
b. Differentiate sigma-minus method and rate excretion method. **[8M+4M]**
7. a. Discuss how liver and renal disease influence the pharmacokinetics of the drugs.
b. What do you mean by first pass metabolism? What is its importance? **[8M+4M]**
8. Explain drug-drug interaction mediated through distribution and metabolism. **[12M]**

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