Subject Code: PCE31A/R13

M. Pharm I Semester Regular Examinations, March, 2014

BIOPHARMACEUTICS AND PHARMACOKINETICS

(Common to Pharmaceutics and Pharmaceutical Technology)

Time: 3 Hours **Max Marks: 60**

Answer any FIVE questions
All questions carry EQUAL marks
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1. Define Bioequivalence and therapeutic equivalence and explain different designs for bioequivalence studies with their limitations. 12 M

2. Explain one compartment open model and derive suitable expressions for pharmacokinetic parameters for a drug given extravascularly that follows one compartment open model first order absorption. 12 M

3. The following data is obtained after a single dosage of a drug taken by extravascular route. Then calculate $[AUC]_0^\infty$, elimination rate constant (K_E) and half life ($t_{1/2}$) 12 M

Time (hrs)	0	1	2	3	4	5	6	7	8
Drug Concentration (µg/ml)	0	7	10	5	2.5	1.25	0.6	0.2	0.1

4. Explain (6+6) M
   a) pH partition theory
   b) Altered kinetics in disease state.

5. Explain in detail about chronopharmacokinetics. 12 M

6. What are drug interactions and explain pharmacokinetic drug-drug interactions. 12 M

7. Write a note on (6+6) M
   a) Volume of distribution.
   b) Compartment models.

8. Discuss (6+6) M
   a) Non-linear kinetics.
   b) Methods of enhancing dissolution rate.

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