First Year M.Pharm Degree Examinations– September 2014

(2011 Scheme)

(Pharmaceutics)

Paper II – Biopharmaceutics and Pharmacokinetics

Time: 3 hrs   **Maximum Marks: 100**

- *Answer all questions*
- *Draw diagrams wherever necessary*

Essays: **(2x20 =40)**

1. Explain flip-flop model. What are the various methods for estimation of absorption rate constant. Explain the method of residuals.

2. Discuss and compare the various approaches available for the pharmacokinetic analysis of the experimental data following intravenous infusion in one compartment model.

Short Essays: **(6x10=60)**

3. Explain Wagner-Nelson method. Mention its merits and demerits.

4. What is capacity limited kinetics. Explain the causes of non-linearity. Discuss the application of Michaelis-menton equation in non-linearity.

5. Discuss the methods used to assess the bioavailability of dosage form.

6. Serum concentrations of a new antibiotic after oral administration in a capsule dosage form are given below. Calculate MRT and Half life of the capsule

Time in hrs	0	0.102	0.303	0.5	1	1.5	2	3	4	6	8
Conc mg/ml	0	0.05	3.29	7.59	12.3	13.5	15.9	15.5	11.1	6.11	3.42

7. Describe the process of renal excretion of drugs and the factors influencing it. Add a note on adjustment of doses in renal impairment.

8. Elaborate the production of hepatitis B vaccine using r-DNA technology.

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