

QP Code: 106327

Reg No: .....

**First Year M.Pharm Degree Examinations – July 2015  
(Pharmaceutics)**

**Paper II – Biopharmaceutics and Pharmacokinetics**

**Time: 3 hrs**

**Maximum Marks: 100**

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

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

1. What is dose-dependent pharmacokinetics . Mention the causes of non – linearity. Add a note on Michaelis – Menten kinetics.
2. Explain various physicochemical and physiologic factors affecting systemic absorption of a drug.

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

3. What is trapezoidal rule : how do you estimate AUC, AUMC and mean residence time of a drug
4. Discuss the significance of plasma – concentration time curve and its relationship to the pharmacological activity of a drug. Explain feathering techniques for the determination of  $k_a$  of a drug administered orally
5. Explain the significance of apparent volume of distribution. How do you estimate  $V_d$  for a drug given by IV administration
6. Discuss the significance of solubility, thickness of hydrodynamic diffusion layer, partition coefficient and drug loading dose on the release rate of drugs from controlled release formulation.
7. What is meant by individualization of drug therapy. Narrate various methods of drug dosage adjustments in renal impairment
8. Explain excretion rate method and sigma-minus method for the determination of elimination rate constant

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