

Third Year B.Pharm Degree Supplementary Examinations – January 2016

**Pharmaceutics – IV**  
**(Biopharmaceutics and Pharmacokinetics)**  
**(2012 Scheme)**

**Time: 3 Hours**

**Total Marks: 100**

- Answer all Questions.
- Write equations wherever necessary.

**Essay**

**(3x10=30)**

1. Describe the various mechanisms of drug absorption
2. Discuss on the kinetics of two compartment open model IV bolus administration
3. What are the criteria for obtaining valid urinary excretion data. Explain the rate of excretion method for determination of excretion rate constant ( $K_e$ ) from a urinary excretion data.

**Short notes**

**(14x5=70)**

4. Enumerate the various physicochemical properties of drug substances affecting GI absorption
5. Determine the elimination rate constant for a drug administered as IV infusion
6. Explain the various factors that affect protein-drug binding
7. Glucuronidation reaction in biotransformation of drug
8. What are the physiological barriers for distribution of drugs
9. Explain the biliary excretion of drugs and various factors affecting it
10. Derive the equation to determine the  $K_m$  &  $V_{max}$
11. Explain the biopharmaceutical classification of drugs with salient examples
12. What is the mechanism of renal clearance and how to adjust the dose in renal failure
13. Method of residual for determination of  $K_a$
14. What do you understand by compartment models
15. Pharmacokinetic methods to measure the bioavailability of drugs
16. Oxidation of carbon-sulphur system with example
17. Explain the binding of drugs to blood components

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