

2012 Scheme

QP CODE: 314006

Reg. No:

**Third Year B.Pharm Degree Supplementary Examinations
November 2019
Pharmaceutics - IV**

(Biopharmaceutics and Pharmacokinetics)

Time: 3 Hours

Total Marks: 100

- Answer all Questions.
- Write equations wherever necessary.

Essays

(3x10=30)

1. Enumerate the various physicochemical properties of drugs affecting GI absorption. Explain each factor in detail
2. Describe the kinetics of one compartment open model IV bolus administration and explain how the various kinetic parameters are determined.
3. Explain the reasons for non-linearity in pharmacokinetics. Describe the Michaelis-Menten equation and describe how V_{max} and K_m are determined.

Short notes

(14x5=70)

4. Draw the plasma drug concentration time profile graph for one compartment open model extra vascular administration and define the various pharmacokinetic and pharmacodynamic parameters
5. Explain conjugation of drugs with glucuronic acid
6. The transport mechanism across the membrane using energy
7. The binding of drug to blood components
8. What are the various factors that affect the protein binding of drugs
9. Explain the entero-hepatic cycling of drugs
10. Oxidation of carbon-nitrogen system and explain with examples
11. In vitro - In vivo correlation.
12. Derive the equation to determine the first order rate constant of absorption (K_a) for one compartment open model extravascular administration.
13. Define apparent volume of distribution and explain how the organ/tissue size and perfusion rate affects drug distribution
14. Explain glutathione conjugation.
15. Explain the official dissolution test methodology and acceptance criteria for immediate release of solid dosage forms
16. What are the physiological barriers to distribution of drugs.
17. Sigma minus method for determination of elimination rate constant for IV bolus administration.
