

# **2012 Scheme**

**QP CODE: 314006**

**Reg. No: .....**

## **Third Year B.Pharm Degree Supplementary Examinations March 2025 Pharmaceutics - IV**

### **(Biopharmaceutics and Pharmacokinetics)**

**Time: 3 Hours**

**Total Marks: 100**

- *Answer all questions to the point neatly and legibly* • *Do not leave any blank pages between answers* • *Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together* • *Leave sufficient space between answers*
- *Write chemical structures/equations wherever necessary.*

#### **Essays**

**(3x10=30)**

1. Explain in detail about various mechanisms of drug absorption through GI tract.
2. Describe the kinetics of protein drug binding.
3. Discuss the mechanism of renal drug clearance with a neat, labelled diagram.

#### **Short notes**

**(14x5=70)**

4. Briefly explain the effect of physicochemical properties of drug on tissue permeability and there by drug distribution.
5. Write short note on BCS classifications of drugs.
6. What are the applications and significance of method of residuals.
7. How the nature and type of dosage form affects drug absorption. Explain.
8. Explain first order drug absorption rate constant.
9. Explain the drug dissolution mechanism by Diffusion layer model.
10. Write short note on pH-Partition hypothesis in drug absorption through oral route.
11. What are the salient features of Phase I reaction of biotransformation of drugs.
12. Explain volume of distribution and its significance.
13. Describe entero-hepatic circulation of drugs with neat, labelled diagram.
14. Write about Michaelis-Menten equation to describe non-linear pharmacokinetics.
15. Explain Plasma level-time studies for measurement of bioavailability.
16. Write about Cross-over study design for bioequivalence study.
17. Explain in vitro-in vivo correlation

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