

# **2012 Scheme**

**QP CODE: 314006**

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

## **Third Year B.Pharm Degree Supplementary Examinations May 2023 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. Define drug absorption. What are the mechanism of drug absorption. Explain active transport.
2. Explain one compartment open model for intravenous injection (bolus) and determine various pharmacokinetic parameters.
3. Explain the factors affecting distribution of drugs. Add a note on physiological barriers for drug distribution.

#### **Short notes**

**(14x5=70)**

4. Describe in-vitro drug dissolution testing models.
5. List the methods of measurement of bioavailability. Explain any one pharmacokinetic method.
6. How are drugs classified according to biopharmaceutical classification system. Explain.
7. List the factors influencing protein binding of drugs.
8. Explain biliary excretion of drugs with suitable examples.
9. Differentiate between absolute and relative bioavailability.
10. What are the applications and limitations of methods of residuals.
11. Explain kinetics of capacity limited processes using Michaelis-Menten equation.
12. Write about the effect of ionization of drugs on its absorption.
13. Explain any one bioequivalence study design.
14. Explain hepatic and renal clearance.
15. Explain in-vitro in-vivo correlation (IVIVC).
16. Explain any five phase – I oxidative biotransformation of drug with suitable examples.
17. Explain the determination of  $k_E$  (first order elimination rate constant from urinary excretion data).

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