QP Code: 624006 **Reg. No……**

Sixth Semester B. Pharm Degree Supplementary Examinations
June 2025
Biopharmaceutics and Pharmacokinetics

(2017 Scheme)

Time: 3 Hours **Max. Marks: 75**

- ***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***
- ***Draw diagrams wherever necessary***

Essays **(2x10=20)**

1. Discuss the binding of drugs to plasma proteins. Give the clinical significance of protein binding of drugs.
2. Explain the pharmacokinetics of the one-compartment open model for intravenous infusion injection.

Short Notes **(7x5=35)**

3. Enlist and explain in brief patient-related factors influencing absorption of drugs in the GI tract.
4. Explain the in-vitro dissolution models.
5. Discuss the single-dose versus multiple-dose bioavailability studies.
6. Explain various levels of in vitro – in vivo correction.
7. Discuss the sigma minus method for determination of overall elimination rate constant and renal excretion rate constant.
8. Discuss the two-compartments open model for drug administered by intravenous bolus.
9. Describe factors causing non-linearity in drug absorption.

Answer Briefly **(10x2=20)**

10. What is a concentration gradient and passive diffusion.
11. How do the particle size and effective surface area influence drug absorption.
12. What is biotransformation. Enlist drug-metabolizing enzymes.
13. Define apparent volume of distribution. Write its significance.
14. Define absolute and relative bioavailability.
15. What is the enterohepatic cycle.
16. Write a brief on the individualization of dosage regimen.
17. Briefly explain drug distribution to the brain.
18. What is meant by mean residence time.
19. Write about the dose adjustment in renal failures.

****