QP Code: 624006 **Reg. No…….**

Sixth Semester B. Pharm Degree Supplementary Examinations
January 2022
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. Explain non-linear pharmacokinetics. What are the factors causing non-linearity. Explain the Michaelis – Menten method of estimating parameters.
2. Define renal excretion of drugs. Explain the factors affecting renal excretion of drugs.

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

3. Volume of drug distribution and its significance.
4. Explain the clinical significance of protein binding of drugs.
5. Explain the method of residuals to determine the absorption rate constant for a drug. Which follows one compartment open model extra vascular administration.
6. Explain in-vitro and in-vivo correlation.
7. Explain the concept of non-compartmental analysis and give its advantages and limitations.
8. Define pharmacokinetic terms Vd, $t_{½}$, AUC, CL_T and MRT.
9. Explain enterohepatic cycling of drugs. What is its significance on the excretion of drugs

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

10. Define elimination half-life.
11. Define bioavailability and bioequivalence.
12. Define biotransformation
13. Explain extraction ratio.
14. Explain the sigma minus method for estimating K_E from urinary excretion data following one-compartment open model.
15. Biopharmaceutical classification system.
16. Differentiate passive and active transport mechanisms.
17. Explain physiological modeling.
18. Explain loading dose and maintenance dose.
19. Explain the key features of any one official apparatus for dissolution studies.

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