

2012 Scheme

QP CODE: 314006

Reg. No:

Third Year B.Pharm Degree Supplementary Examinations June 2022 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 various physicochemical factors influencing drugs absorption through gastrointestinal tract with examples.
2. Explain the pharmacokinetics of drug administered by Intravenous Infusion assuming one compartment open model.
3. Describe methods to determine V_{max} and K_m following IV bolus administration of drug assuming Nonlinear pharmacokinetics.

(14x5=70)

4. How is first order absorption rate constant K_a determined by Method of Residuals. Mention its limitations.
5. What are the Direct and Indirect methods to determine bioavailability.
6. What are the objectives of In vitro- In vivo correlation (IVIVCs). Explain reasons for poor correlations.
7. Describe Phase II biotransformation with examples.
8. What are the factors affecting protein binding of drugs.
9. What are the factors influencing drug Elimination. Explain them with examples.
10. How are dose Size and Dose frequency modified/adjusted in renal impaired cases.
11. What are the criteria for valid Urinary excretion data.
12. Describe the pharmacokinetics of drug undergoing zero order absorption – one compartment open model.
13. Explain Hepatic and renal clearance.
14. Describe Sigma Minus method to determine elimination and excretion rate constants.
15. Differentiate passive and active drug absorption.
16. Describe Michaelis-Menten equation. Explain the three situations when $K_m = C$, $K_m \gg C$ and $K_m \ll C$.
17. Explain the methods to determine α and β assuming two compartment model (IV bolus).
