2012 Scheme

QP CODE: 314006 **Reg. No: ……..**

Third Year B.Pharm Degree Supplementary Examinations
December 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 mechanisms of drugs absorption through gastrointestinal tract with examples.
2. Describe two compartment model for a drug administered as IV bolus. How are K_{21}, K_{12}, α and β are calculated.
3. Describe methods to determine V max and Km following IV bolus and IV infusion administration of drug assuming Nonlinear pharmacokinetics.

Short notes **(14x5=70)**

4. Phase – 1 biotransformation reactions.
5. Define bioavailability. What are the objectives of bioavailability studies.
6. What are the levels of In Vitro In Vivo Correlation(IVIVC).
7. What are the factors influencing volume of distribution of drug. Explain them with examples.
8. What are the factors influencing bioavailability of drugs.
9. Explain the factors influencing Elimination of drugs.
10. How are dose adjustment made in renal impaired cases.
11. Explain the rate of excretion method.
12. What are polymorphism, amorphism and pseudo polymorphism.
13. What are the biological barriers to drug absorption. Explain.
14. Explain the methods to determine AUC.
15. What are the direct and Indirect methods to determine bioavailability.
16. Describe Michaelis-Menten equation. Explain the situations when C>> Km, Km=C and C<<Km.
17. Describe Sigma Minus method to determine elimination and excretion rate constants.

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