

PARUL UNIVERSITY
FACULTY OF PHARMACY
B.Pharm. Summer 2017-18 Examination

Semester: 6**Subject Code: 08101354****Subject Name: Biopharmaceutics & Pharmacokinetics-I****Date: 21/05/2018****Time: 10:00AM TO 01:00PM****Total Marks: 75****Instructions:**

1. Figures to the right indicate full marks.
2. Make suitable assumptions wherever necessary.

Q.1 Essay type Questions. (Any 2 out of 3) (10 marks each) (20)

1. Enumerate the factors affecting drug absorption from GIT. Discuss the effect of drug pKa and GI pH on drug absorption.
2. What are the physiologic barriers to distribution of drugs?
3. What is bioavailability? What are the objectives of Bioavailability studies? Enlist methods for measurement of Bioavailability. Explain pharmacokinetic methods.

Q.2 Short Essay type Questions. (Any 7 out of 9) (5 marks each) (35)

1. Short note on kinetics of protein drug binding.
2. Enlist phase I and phase II reaction. Explain any two phase II reaction.
3. Explain Clearance and Renal Clearance in detail.
4. Give regulatory requirements for conduction of bio-equivalent studies.
5. Write a note on Latin square cross over design.
6. Write a note on Wagner Nelson method for determination of absorption rate constant.
7. What are methods for analysis of pharmacokinetic data? Explain in detail non-compartmental approach.
8. What is nonlinear pharmacokinetics? Explain Michaelis-Mentan equation for the same.
9. Explain dosage adjustment in patients with hepatic failure.

Q.3 Answer in short. (2 marks each) (20)

1. Differentiate passive and active transport mechanisms.
2. Name the factors affecting gastric emptying of drugs.
3. How are drug classified according to the Biopharmaceutics Classification System?
4. Define term: Peak Plasma Concentration, Area Under the Curve.
5. Compare: Compartment Model and Physiological Models.
6. What is the basic difference between absolute and relative bioavailability?
7. Define apparent volume of distribution and therapeutic index.
8. What are solvates and hydrates?
9. What is extraction ratio? What is the influence of blood flow rate on total clearance of drugs with high ER values?
10. Define biopharmaceutics and clinical pharmacokinetics.