Seat No: _____ **Enrollment No:_____**

PARUL UNIVERSITY
FACULTY OF PHARMACY
B.Pharm. Winter 2018-19 Examination

Semester: 6 **Date: 01/11/2018**
Subject Code: 08101354 **Time: 10:00 am to 1:00 pm**
Subject Name: Biopharmaceutics & Pharmacokinetics-I **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. Differentiate absolute and relative bioavailability. Discuss methods for the bioavailability measurement.
2. Explain in detail the determination of K_E from urinary excretion data by Sigma minus method.
3. Classify the chemical pathways of drug metabolism. Explain in detail any two phase-II reactions.

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

1. Explain BBB and Blood placental barrier to distribution of drug.
2. What is nonlinear pharmacokinetics? Explain Michaelis-Mentan equation for the same.
3. Explain in detail Noncompartmental analysis.
4. Describe the method of residuals for determination of absorption rate constant.
5. Using Noyes-Whitney's equation, discuss the diffusion layer theory and the variables that influence drug dissolution.
6. Explain dosage adjustment in patients with renal failure.
7. Explain briefly mechanism of absorption of drug.
8. What is clearance? Explain briefly hepatic clearance of drugs.
9. What is Gastric Emptying? For which drugs rapid GE is desirable and when should it be slow? Discuss briefly the factors affecting GE of drugs.

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

1. Name the specialized barriers to distribution of drugs.
2. Define: Onset time, Therapeutic Range
3. Define the rate determining step. What are the two major RDS' in the absorption of orally administered drugs?
4. Comment: volume of distribution has a true physiological meaning.
5. Outline the steps involved in the oxidation of xenobiotics.
6. Define: Biopharmaceutics and Absorption
7. What is Half –life($t_{1/2}$)? Give equation of half life for zero order process and first order process.
8. What are the objectives of dissolution profile comparison?
9. Differentiate passive and active transport mechanisms.
10. Define: Polymorphism and Amorphism.