Roll No…….. **Total No. of Printed Pages: [01]**

Total No. of Questions: [13]

B. Pharmacy (Semester-6th)

BIOPHARMACEUTICS AND PHARMACOKINETICS

Subject Code: BP-604T

Paper ID: [17170132]

Time: 03 Hours **Maximum Marks: 75**

Instruction for candidates:

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 9 questions of 5 marks each. The student has to attempt any 7 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A **(2 marks each)**

Q1. Attempt the following:

a. Define *in-vitro-in-vivo* correlation?
b. Enumerate various factors causing non linearity?
c. Give examples of *any* two phase II reactions?
d. What do you mean by loading and maintenance dose?
e. Enumerate various factors affecting renal excretion of drugs?
f. Differentiate between absolute and relative bioavailability?
g. Write various objectives of bioavailability?
h. Enlist various factors influencing drug absorption though GIT?
i. Define extraction ratio? Give its significance?
j. Define the terms-*dose frequency* and *pharmaceutical equivalence*?

Section – B **(5 marks each)**

Q2. Write a brief account on non-compartmental analysis?
Q3. Discuss various methods to enhance the dissolution rates and bioavailability of poorly soluble drugs?
Q4. Discuss various types of pharmacokinetic models?
Q5. Outline the steady state level of drug on repeated dose administration?
Q6. Describe in brief about in vitro dissolution models?
Q7. Give a brief account on the elements of protocol for bioequivalence studies?
Q8. Write a brief account on the non-renal routes of drug excretion of drugs?
Q9. Write a brief note on clinical significance of protein binding of drugs?
Q10. Write a brief note on Wagner nelson method for the determination of Ka?

Section – C **(10 marks each)**

Q11. Define non-linear kinetics? Discuss in detail about Michaelis-Menton method of estimating parameters for one compartment analysis using suitable example of a drug?
Q12. Write an elaborated note on determination of pharmacokinetic parameters for two compartment open model IV bolus administration?
Q13. Describe in detail about the major principle mechanisms of transportation of drug molecule across various membranes?