UKA TARSADIA UNIVERSITY

B.Pharm. (6th Semester)

Subject :030020601-Biopharmaceutics

Time : **10 a**m to **1** pm Date : **15/05/**2014

Duration : 3 Hours **Max. Marks : 70.**

Instructions:

1. Attempt all questions.
2. Write each section in a separate answer book.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks allocated to that question.
5. Draw diagrams/figures whenever necessary.

SECTION – 1

Q-1 (A) Do as directed. **[07]**

I) Why Solid solutions dissolve faster than Eutectics?

II) Which physicochemical properties of drug limit its distribution?

III) Enlist the limitation of pH- Partition Hypothesis.

IV) Define MRT.

V) Enlist various methods for measurement of Bioavailability.

VI) What is gastric emptying?

VII) Define Clearance

Q-1 (B) Answer the following in brief. (Any 4) **[08]**

I) Define and explain Extraction ratio.

II) What are pharmacokinetic models?

III) What is the need of Bioavailability study?

IV) Why is HAS considered a versatile protein for drug binding?

V) How body tissues are classified on the basis of Perfusion rate?

VI) What is flip-flop phenomenon?

Q-2 Answer the following. **[10]**

A) Discuss the one compartment open model I.V. infusion model with the derivation of various pharmacokinetic parameters for the model.

OR

A) Explain Wagner-nelson method for determination of absorption rate constant (K_a).

B) Discuss the concept of volume of distribution.

OR

B) Describe various Passive transport processes for drug absorption.

Q-3 Answer the following in detail. (Any 2) **[10]**

A) Discuss Michaeles Menten equation.

B) Describe Latine square cross over design for bioequivalence study.

C) Discuss plasma protein drug binding.

SECTION – 2

Q-4 (A) Do as directed. **[07]**

I) Define Graded response.
II) What is Therapeutic drug monitoring?
III) Define Pharmacokinetic variability
IV) Enlist various factors affecting dissolution.
V) Define Intrinsic dissolution rate.
VI) What is Biorelavant media?
VII) Define Q value.

Q-4 (B) Answer the following in brief. (Any 4) **[08]**

I) State the Plateau Principle.
II) How does Obesity influence Vd of drug?
III) What are the factors affecting duration and intensity of drug action?
IV) Explain Hill model for concentration response relationship.
V) Give possible reason for reduction in dose of a drug in elderly patients.
VI) What are the objectives of IVIVC?

Q-5 Answer the following. **[10]**

A) Discuss various Dissolution theories.

OR

A) Describe the model independent method for comparison of dissolution profiles.
B) Explain the various levels of IVIVC.

OR

B) Discuss the Dissolution apparatus for various dosage forms.

Q-6 Answer the following in detail. (Any 2) **[10]**

A) Explain the dosing of drugs for patients with renal disease.
B) Write significance of BCS.
C) Discuss problems encountered in developing PK- PD relationship.