BPHARM
(SEM VI) THEORY EXAMINATION 2024-25
BIOPHARMACEUTICS AND PHARMACOKINETICS – THEORY

TIME: 3 HRS **M.MARKS: 75**

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. **10 x 2 = 20**

a.	Define apparent volume of distribution with formula.
b.	Differentiate between absolute bioavailability and relative bioavailability.
c.	Classify different types of pharmacokinetic models.
d.	Enlist the physicochemical factors affecting drug absorption.
e.	Define loading dose and maintenance dose.
f.	What is the purpose of Latin square cross over design?
g.	Enumerate the techniques to enhance the dissolution rate of drug substance.
h.	What do you mean by steady state drug concentration?
i.	Mention the non-renal routes of drug excretion.
j.	Define protein binding of drug.

SECTION B

2. Attempt any *two*parts of the following: **2 x 10 = 20**

a.	Discuss the various mechanism of drug absorption with relevant diagrams.
b.	Define bioavailability. What are the objectives of bioavailability studies? How bioavailability can be measured using blood data.
c.	Describe Michaelis- menton method for estimation of pharmacokinetic parameters.

SECTION C

3. Attempt any *five*parts of the following: **7 x 5 = 35**

a.	Explain physicochemical factors affecting drug absorption in detail.
b.	Describe nonlinear kinetics in detail.
c.	Write a short note on IVIVC studies. Define different level in IVIVC.
d.	Give the kinetics of protein binding along with its clinical significance.
e.	Demonstrate Wagner nelson method using relevant graphs and equations.
f.	What do you mean by drug metabolism? Explain factors affecting renal excretion of drugs.
g.	Discuss in detail two compartment open model with suitable examples