PAPER ID-311139

Roll No:

BPHARM
(SEM VII) THEORY EXAMINATION 2023-24
PHARMACEUTICS-IX (BIOPHARMACEUTICS & PHARMACOKINETICS)
TIME: 3 HRS   **M.MARKS: 70**

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

SECTION A

1.   **Attempt *all* questions in brief.**   **2 x 7 = 14**

a.	Define elimination rate constant.
b.	What is the significance of protein binding?
c.	Elaborate the term IVIVC.
d.	What is clearance? Mention its units.
e.	How will you define clinical pharmacokinetics?
f.	Classify different types of pharmacokinetic models.
g.	Differentiate between bioavailability and bioequivalence.

SECTION B

2.   **Attempt any *three* of the following:**   **7 x 3 = 21**

a.	What are multicompartment models? Give its preliminary information.
b.	Discuss the role of biopharmaceutics and pharmacokinetics in formulation development.
c.	How will you carry out bioavailability studies? Discuss in detail.
d.	Write a detailed note on scope of clinical pharmacokinetics.
e.	How will you review regulatory requirements for conduction of bioequivalence studies?

SECTION C

3.   **Attempt any *one* part of the following:**   **7 x 1 = 7**

a.	Discuss pharmaceutical factors influencing absorption.
b.	What is volume of distribution? Emphasize its significance.

4.   **Attempt any *one* part of the following:**   **7 x 1 = 7**

a.	Derive the absorption rate constant using Methods of residuals.
b.	Compare compartment models and non-compartment models. Discuss their scope.

5.   **Attempt any *one* part of the following:**   **7 x 1 = 7**

a.	How will you calculate loading dose? Discuss its role in maintenance of dose.
b.	Calculate the various pharmacokinetic parameters after drug administration by intra venous bolus injection.

6.   **Attempt any *one* part of the following:**   **7 x 1 = 7**

a.	What is creatinine clearance? Discuss its calculation
b.	How will you adjust dose in case of patients with renal disease?

7.   **Attempt any *one* part of the following:**   **7 x 1 = 7**

a.	Write a detailed note on the significance of IVIVC correlation.
b.	Describe the significance of plasma drug concentration measurement.