PAPER ID-420235

Roll No: | | | | | | | | | | | | |

BPHARMA
(SEM VI) THEORY EXAMINATION 2021-22
BIOPHARMACEUTICS AND PHARMACOKINETICS – THEORY

Time: 3 Hours *Total 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.	Classify different types of pharmacokinetic models.
b.	Compare absolute bioavailability with relative bioavailability.
c.	Define clearance. What are its units?
d.	Define volume of distribution.
e.	What are the advantages of IV infusion injection?
f.	Enumerate the factors affecting drug absorption.
g.	Mention the non-renal routes of drug excretion of drugs.
h.	How will you define steady state drug levels?
i.	Define Nonlinear Pharmacokinetics.
j.	Enlist the various methods to enhance the dissolution rates of poorly soluble drugs.

SECTION B

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

a.	Discuss the various mechanisms of drug absorption through GIT.
b.	How will you calculate loading dose? Discuss its role in maintenance of dose.
c.	Describe Michaelis-menton method of estimating pharmacokinetic parameters.

SECTION C

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

a.	Describe the various factors causing nonlinearity.
b.	Write a detailed note on Wagner Nelson method for the calculation of absorption rate constant for extravascular administration.
c.	Explain in detail the plasma level time curve for a two compartment open model.
d.	What do you mean by drug metabolism? Explain factors affecting renal excretion of drugs.
e.	Enumerate the objectives of bioavailability. Discuss the direct methods for its assessment.
f.	Give the kinetics of protein binding along with its clinical significance.
g.	What is AUC? Describe the trapezoidal method for its calculation.

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Paper Id: 236325

Sub Code: BP -604 T
Roll No.

B PHARM
(SEM VI) THEORY EXAMINATION 2022-23
BIOPHARMACEUTICS AND PHARMACOKINETICS

Time: 3 Hours ***Total Marks: 75***

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

SECTION A

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

a. Explain renal clearance with formula.

b. Explain central and peripheral compartment model.

c. What is the significance of apparent volume of distribution?

d. Define absolute and relative bioavailability?

e. Explain the role of biopharmaceutics in formulation development.

f. What is nonlinear pharmacokinetics?

g. Define loading and maintenance dose.

h. How is renal dose of the drug adjusted in renal failure?

i. What is the purpose of Latin square cross over design?

j. Explain the role of drug dissolution in absorption of drug.

SECTION B

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

a. Calculate the various pharmacokinetic parameters after drug administration by intravenous bolus injection.

b. What is the various mechanism of drug absorption? Explain in detail using different diagrams.

c. Define bioavailability. What are the objectives of bioavailability studies? How bioavailability can be measured using urine data.

SECTION C

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

a. Write a detailed note on significance and kinetics of protein binding.

b. Discuss the causes of non-linearity in pharmacokinetics.

c. Illustrate Wagner nelson method using relevant graphs and equations.

PAPER ID-410060

Roll No: | | | | | | | | | | | | | |

BPHARM
(SEM VI) THEORY EXAMINATION 2023-24
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 elimination and excretionof drug
b.	Classify different pharmacokinetic models
c.	What is IVIVC studies
d.	Define renal clearance of drug
e.	What are the different site for binding of drug in case of human serum albumin
f.	What is apparent volume of distribution of drug
g.	Draw a model for one compartment open model I V infusion
h.	List out different non per oral route of absorption of drug
i.	What is maintenance and loading dose in multiple dosing of drug
j.	Explain the cause of non-linearity in case of absorption

SECTION B

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

a.	
b.	Calculate the valueof α,βandvolumeof distribution using Two compartmentopen model IV bolus using graph.
c.	What are the different Pharmacokinetic methods used for the measurement of bioavailability?
	Describe various pharmacokinetic and pharmacodynamic parameter used to measure plasma concentration time profile of a drug

SECTION C

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

a.	
b.	Enumerate the patient relatedfactorsaffecting drug absorption from GIT.
c.	Calculate elimination rate constant and half-life using one compartment open model I V bolus.
d.	What is the clinical significance of protein binding of drugs?
e.	Explain the different passive mechanism for absorption of drug with example.
f.	What are the different non renal route of drug excretion?
g.	How are steady state drug levels in case of multiple drug dosing calculated?
	Describe the Michaelis-menten method of estimating different pharmacokinetic parameters.

RollNo: | | | | | | | | | | | | | |

BPHARM
(SEM VI) THEORY EXAMINATION 2024-25
BIOPHARMACEUTICSANDPHARMACOKINETICS–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 thevarious 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.	
b.	Explain physicochemicalfactorsaffectingdrugabsorption in detail.
c.	Describe nonlinear kinetics in detail.
d.	Write a short note on IVIVC studies. Define different level in IVIVC.
e.	Give the kinetics of protein binding along with its clinical significance.
f.	Demonstrate Wagner nelson method using relevant graphs and equations.
g.	What do you mean by drug metabolism? Explain factors affecting renal excretion of drugs.
	Discuss in detail two compartment open model with suitable examples

Paper ID : 260842

Subject Code: BP604T

Roll No:

BPHARM

(SEM. VI) THEORY EXAMINATION 2025-26

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. **10x2 = 20**

(a) Mention the factors affecting protein-drug binding.

(b) Define Nonlinear Pharmacokinetics.

(c) Mention the non-per-oral extra-vascular routes.

(d) Define volume of distribution. What is its significance?

(e) How will you define bioavailability?

(f) Enumerate the factors affecting drug absorption.

(g) Classify different types of pharmacokinetic models.

(h) Define clearance. What are its units?

(i) Mention the objectives of bioavailability.

(j) Enlist the various methods to enhance the dissolution rates of poorly soluble drugs.

SECTION B

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

(a) Describe the active transport mechanisms of drug absorption through GIT.

(b) What is steady state concentration? How is steady state achieved? Mention the influence of R on steady state.

(c) Suggest the Clinical significance of protein binding of drugs.

SECTION C

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

(a) Elaborate the various factors causing non-linearity.

(b) Write a detailed note on the calculation of absorption rate constant for extravascular administration.

(c) Explain in detail the plasma level-time curve for a two compartment open model.

(d) What do you mean by drug metabolism? Explain factors affecting renal excretion of drugs.

(e) Discuss the various methods for the assessment of bioavailability.

(f) Discuss the pH partition theory in detail with its limitations.

(g) Describe the urinary excretion method for the estimation of elimination rate constant.