Printed Pages: 02
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.

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