

Rajiv Gandhi University of Health Sciences, Karnataka
IV Year Pharm-D / I Year Pharm-D Post Baccalaureate Degree Examination – 12-Jun-2024

Time: Three Hours

Max. Marks: 70

BIOPHARMACEUTICS AND PHARMACOKINETICS (RS & RS-2)

Q.P. CODE: 2871 / 2888

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two)

2 x 10 = 20 Marks

1. Discuss in detail the various pharmaceutical factors affecting drug absorption.
2. Discuss in detail one-compartment open model for a drug administered as IV Bolus. Give the schematic representation, graphs and equations for the same.
3. What is clearance? Give the formula for the same. Explain organ clearance and hepatic extraction ratio.

SHORT ESSAYS (Answer any Six)

6 x 5 = 30 Marks

4. Briefly discuss binding of drugs to HSA (Human Serum Albumin).
5. Discuss the various study designs for performing bioavailability studies.
6. List out the various factors affecting excretion and discuss any two.
7. Give schematic representation of two and three compartment models with brief explanation.
8. What is mixed –order reaction? How do you test the non-linearity?
9. Explain how bioavailability is measured using Plasma concentration data.
10. Explain BCS classification of drugs.
11. Explain Phase I reactions.

SHORT ANSWERS

10 x 2 = 20 Marks

12. Define apparent volume of distribution
13. Give the plasma concentration time – plot for multiple dosing of an IV bolus.
14. Give statistical moments theory
15. What are the advantages of physiological model?
16. Define therapeutic equivalence and chemical equivalence.
17. Enlist different pharmacokinetic parameters.
18. Give the schematic representation of one compartment open model IV Infusion.
19. What is Zero order reaction? Give an example.
20. Define dosing frequency.
21. Give the equations to calculate the steady state maximum, minimum and average drug concentrations.
