

Rajiv Gandhi University of Health Sciences, Karnataka
IV Year Pharm-D / I Year Pharm-D Post Baccalaureate Degree Examination – 16-Nov-2023

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 physiological factors affecting drug absorption.
2. Discuss in detail one-compartment open model for a drug administered as IV infusion. Give the schematic representation, graphs and equations for the same.
3. Write in detail about protein bindings and its significance.

SHORT ESSAYS (Answer any Six)

6 x 5 = 30 Marks

4. Define volume of administration and give its significance.
5. How do you determine renal clearance of drugs?
6. Explain various pharmacokinetic parameters after oral administration of drug.
7. How do you estimate K_m and V_{max} ?
8. Explain about binding of drugs to Human Serum Albumin
9. What are the various methods for enhancement of bioavailability?
10. List out the various factors affecting biotransformation and discuss any two.
11. Explain the differences between passive diffusion and active transport.

SHORT ANSWERS

10 x 2 = 20 Marks

12. Name the various barriers for drug distribution
13. What do you understand by accumulation index and give the formula.
14. Define MRT and give its equation.
15. Give an example for Latin square cross over design for the conduct of bioequivalence study.
16. Give the formula for AUC_{0-t} & $AUC_{0-\infty}$.
17. Give the schematic representation of one compartment open model-IV bolus.
18. Classify Pharmacokinetic models.
19. Give the plasma concentration time – plot for multiple dosing of an IV bolus.
20. What are the factors influencing dosage regimen?
21. What is the difference between linear and non-linear PK?
