



Rajiv Gandhi University of Health Sciences, Karnataka
IV Year Pharm-D / I Year Pharm-D (Post Baccalaureate) Degree Examination – NOV
2016

Time: Three Hours**Max. Marks: 70 Marks****BIOPHARMACEUTICS AND PHARMACOKINETICS****Q.P. CODE: 2871**

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. Define absorption. What are the various physicochemical factors affecting rate of absorption?
2. What is compartment modeling? State the assumptions of Two Compartment Model and explain Two Compartment Model with administration through i.v infusion.
3. What are non-linear pharmacokinetics? Discuss the various factors causing non-linearity.

SHORT ESSAYS (Answer any six)**6 x 5 = 30 Marks**

4. Explain Statistical Moment theory.
5. What is gastric emptying? Discuss the factors affecting gastric emptying of drugs.
6. Explain the influence of pharmaceutical ingredients on drug absorption.
7. What is renal clearance? Discuss any three factors affecting renal clearance.
8. Loading and maintenance dose
9. Discuss various methods to improve bioavailability of Class II drugs.
10. What is protein binding? Discuss the significance of protein binding with examples.
11. Influence of physiological barriers in drug distribution

SHORT ANSWERS**10 x 2 = 20 Marks**

12. Fick's first law of diffusion
13. Buffered Aspirin tablets are more suitable than sodium salt forms of the drug. Why?
14. Unlike glomerular filtration, active secretion of drug is unaffected by protein binding. Give reasons.
15. Define Pharmacokinetics. Mention its application in drug discovery.
16. Calculate the amount of drug in the body when the plasma concentration is 10ng/ml and volume of distribution of drug is 300lts.
17. Absorption window – mention its significance.
18. Demerits of Wagner Nelson method in calculating K_a
19. Define Pharmaceutical and biological equivalence.
20. What is Zero Order reaction? Give example.
21. What is AUC? Give the equation to calculate $\int_0^\infty AUC$.

