

# Rajiv Gandhi University of Health Sciences, Karnataka

IV Year Pharm-D Degree (Post Baccalaureate) Examination – June 2014

**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. Distinguish between one and two compartmental models. Describe the kinetics of drug in two compartment open model following IV bolus administration.
2. Discuss the physicochemical factors influencing oral absorption of drugs.
3. Discuss method used for assessment of bioavailability.

### **SHORT ESSAYS (Answer any six)**

**6 x 5 = 30 Marks**

4. Explain Michaelis-Menten equation.
5. Write a note on bioavailability study protocol.
6. Distinguish between total body clearance and renal clearance, how they are determined.
7. Draw blood level curve and discuss the factors influencing blood level following extravascular administration.
8. Define volume of distribution and explain the factors influencing it.
9. Differentiate between mammillary and catenary model.
10. Write a note on dosage regimen.
- 11.

How are loading dose & maintenance dose calculated?

### **SHORT ANSWERS**

**10 x 2 = 20 Marks**

12. What are characteristic features of active transport?
13. Compare single dose and multiple dose bioavailability studies.
14. Define accumulation index.
15. What do you mean by therapeutic window? Give its significance.
16. Explain statistical moments theory
17. Mention the reasons for non-linearity in drug absorption.
18. Mention the factors that make drug distribution, perfusion rate limited.
19. Discuss the significance of pharmacokinetic studies.
20. Define elimination half-life & give its significance.
21. Define hepatic clearance and extraction ratio.

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