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Rajiv Gandhi University of Health Sciences, Karnataka

Fourth Year Pharm D Degree (Post Baccalaureate) Examination – Feb/March 2011

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. Discuss one compartment model after administration of an intravenous bolus. How do you determine pharmacokinetic parameters?
2. Explain in detail with examples, the importance of pH partition theory to explain passive absorption of drugs
3. Discuss Michaelis Menten equation along with estimation of K_m and V_{max}.

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

4. Explain in vitro- in vivo correlation
5. Discuss urinary excretion studies in determination of Bioavailability.
6. Discuss volume of distribution with significance.
7. Explain advantages of administering drug by constant rate intravenous infusion.
8. Describe glucuronic acid conjugation and its importance in drug metabolism
9. What are the experimental methods for studying absorption of drugs?
10. Discuss loading dose and maintenance dose
11. Drug X when administered at an intravenous bolus dose of 75 mg showed initial plasma concentration of 0.98 mcg/ml. the half life of the drug is 2.7 hours. Calculate volume of distribution and total clearance

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

12. Give the mechanism of pore transport in absorption of drugs
13. How dose composition of meal and body posture influence gastric emptying?
14. Define the terms Pharmacokinetics and Bioequivalence.
15. How dose diet affect drug distribution?
16. Quote advantages of Latin square design in bioequivalence experimental study.
17. In compartment modeling, what does the term ' open ' mean?
18. Define elimination half- life and give its equation.
19. What are the primary objectives of phase I reactions?
20. List two methods to improve stability of drug in gastrointestinal tract with examples
21. Enlist four applications of compartment pharmacokinetic models

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