Biopharmaceutics 2871_2012_2_S182.doc

Rajiv Gandhi University of Health Sciences, Karnataka
IV Year Pharma-D Degree (Post Baccalaureate) Examination – Sep 2012

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 drug absorption. Explain different mechanisms of drug absorption.

2. Explain concept of compartment kinetics. How do you determine kinetic constants following intravenous bolus of a drug confirming to two compartment model.

3. Define Bioavailability? Explain different methods to measure bioavailability.

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

4. Discuss drug accumulation during multiple dosing.

5. What are pharmacodynamic models? Explain few models used to quantify plasma concentration response relationship.

6. Explain organ clearance.

7. Explain two types of bioequivalence experimental study design

8. Explain biological factors affecting biotransformation of drugs

9. Explain limitations of pH partition hypothesis.

10. Explain any four dosage form characteristics that affect absorption of drugs.

11. If the initial plasma concentration of a drug is 0.49mcg/ml when administered at an intravenous bolus dose of 80mg, calculate volume of distribution and total clearance. The half life of the drug is 2.5 hours.

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

12. How do disease states influence gastric emptying?

13. Quote tests to determine nonlinearity in pharmacokinetics.

14. Enlist four biological factors affecting absorption of drugs.

15. Give examples for zero order rate processes.

16. Define first pass metabolism and enlist the three primary systems affecting first pass metabolism

17. Enlist the specialized physiological barriers to distribution of drugs.

18. Why is conjugation with glucuronic acid most common and important phase II reaction?

19. Give the advantages and disadvantages to noncompartmental approach.

20. How are body tissues broadly classified in the two compartment model?

21. Give significance of area under curve in pharmacokinetics.

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