Rajiv Gandhi University of Health Sciences, Karnataka

IV Year Pharm-D (I Year Pharm D Post Baccalaureate) / IV Year Pharm-D (Post Baccalaureate)
Degree Examination – JAN 2019

Time: Three Hours **Max. Marks: 70 Marks**

BIOPHARMACEUTICS AND PHARMACOKINETICS
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 physico-chemical factors affecting drug absorption.
2. Discuss in detail one-compartment open model for a drug administered as IV Bolus. Give the schematic representation, graphs and equations for the same.
3. Draw a typical plasma concentration time profile curve following oral IV bolus and IV infusion and explain the pharmacokinetic parameters that can be determined from the same.

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

4. Explain the kinetics of protein binding.
5. Explain glucuronic acid conjugation.
6. Explain how bioavailability is measured using urine data.
7. Write the applications of pharmacokinetic models.
8. Explain Michaelis –Menten equation in determining non-linearity.
9. Define bioequivalence. Explain various types of equivalence
10. Explain invitro methods for determining absorption of drugs.
11. How is drug distributed to CNS through blood brain barrier?

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

12. Define biotransformation
13. Give relation between loading dose and maintenance dose.
14. Give the equations to calculate the steady state maximum, minimum and average drug concentrations.
15. What is first order and zero order reaction?
16. What do mean by therapeutic index?
17. What is multi compartment model?
18. Name two parameters used in adjusting dosage regimen.
19. List out the reasons for non-linearity in PK studies.
20. Give the formula for AUMC and MRT.
21. Name any four methods for enhancing bio-availability of drugs

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