



## 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 – 14-Jan-2020**

**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. Define drug distribution. Describe the factors affecting distribution.
2. Discuss in detail two compartment open model for a drug administered as IV Bolus. Give the schematic representation, graphs and equations for the same.
3. Define bioavailability and mention the objectives of bioavailability studies. Explain the various methods of enhancement of bioavailability.

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

**6 x 5 = 30 Marks**

4. What do you understand by gastric emptying and discuss factors affecting the same.
5. Explain the assumptions of one-compartment open model.
6. What is biotransformation and explain its importance?
7. Explain statistical moment theory.
8. What do you mean by non-linear pharmacokinetics and write brief note on factors causing non-linearity.
9. Define and explain pharmacokinetic models and mention its significance.
10. Discuss Michaelis - Menton equation.
11. Explain phase I reactions.

#### **SHORT ANSWERS**

**10 x 2 = 20 Marks**

12. Give the formula for AUC determination.
13. Define dosing frequency.
14. Mention the significance of protein binding.
15. What is Total body clearance?
16. What is accumulation index?
17. List out the various drug transport mechanisms.
18. Explain principle of plateau or steady state.
19. What is renal clearance? Give its formula.
20. How do solvates and hydrates affect drug absorption?
21. Define biological half life.

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