

**VINAYAKA MISSION'S RESEARCH FOUNDATIONS, SALEM**  
**(Deemed to be University)**

**Pharm.D DEGREE EXAMINATION - August 2018**  
**Fourth Year**

**BIOPHARMACEUTICS AND PHARMACOKINETICS**

Time: Three hours

Maximum: 70 marks

I. Write essays on any **TWO** questions: (2 x 15 = 30)

1. Explain the different mechanisms involved in the drug absorption from GIT.
2. Derive the one compartment open model for intravenous bolus injection to determine the elimination constant.
3. Define bioequivalence. Explain the designing of protocol in bioequivalence studies.

II. Write short answers on any **SIX** questions: (6 x 5 = 30)

4. Barriers of drug distribution.
5. Factors causing Non-linearity pharmacokinetics.
6. Pharmacokinetic models and its application.
7. Add a note on statistical moment theory.
8. In vitro and in vivo correlation methods in bioavailability studies.
9. Phase I reactions in drug elimination.
10. Total body clearance and its significance.
11. Discuss about Sigma minus method.

III. Write short notes on any **FIVE** question: (5 x 2 = 10)

12. What are MRT and AUMC?
13. Define half life and its formula.
14. Name the plasma proteins.
15. Difference between First order kinetics and Zero order kinetics.
16. Define absolute bioavailability.
17. What is meant by therapeutic window?