[KZ 823] **OCTOBER 2011** **Sub. Code: 3823**

DOCTOR OF PHARMACY (PHARM. D / POST BACCALAUREATE)

DEGREE EXAMINATION

FOURTH YEAR

PAPER V – BIOPHARMACEUTICS AND PHARMACOKINETICS

Q.P. Code: 383823

Time: Three Hours **Maximum: 100 marks**

Answer ALL questions in the same order.

I. Elaborate on :	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. a) Define Absorption. Explain the various mechanisms of drug absorption.	17	40 min.	20
b) Explain the various models of pharmacokinetic analysis.			
2. a) Elaborate the various methods of improving bioavailability of poorly soluble drugs.	17	40 min.	20
b) Explain Oxidation – reduction cycle.			

II. Write notes on :			
1. Explain the BCS system?	4	10 min.	6
2. What are the objectives and approaches in developing in vitro-in vivo correlation?	4	10 min.	6
3. Pharmacodynamic methods for assessing bioavailability.	4	10 min.	6
4. What are the physiological barriers of distribution? Add a note on BBB.	4	10 min.	6
5. Describe briefly about plasma proteins	4	10 min.	6
6. Explain Wagner Nelson method for computing absorption rate constant	4	10 min.	6
7. Apparent volume of distribution and its significance	4	10 min.	6
8. Define dose-dependent kinetics. Give some tests to detect the same in a rate process.	4	10 min.	6
9. Explain the rate of excretion method for the determination of elimination rate constant.	4	10 min.	6
10. A drug was administered by IV infusion at a rate of 20mcg/hr. the volume of distribution and elimination rate constant was found to be 10L and $0.2hr^{-1}$. Calculate steady state concentration achieved by the drug and the loading dose to be administered for achieving steady state concentration.	4	10 min.	6