Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No .....

PY-604 (CBGS)

B.Pharm., VI Semester (Non-PCI Scheme)

Examination, May 2018

Choice Based Grading System (CBGS)

Biopharmaceutics and Pharmacokinetics

Time : Three Hours

Maximum Marks : 75

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. Derive mathematical equations used to calculate Pharmacokinetic parameters following I.V. bolus administration blood data, assuming the drug follows one compartment open model.

2. Explain the various mechanisms of drug absorption through GIT. Discuss about the factors which influence the drug absorption through GIT.

3. Mention the objective a bioavailability studies and describe the pharmacokinetic method of estimating bioavailability using plasma samples. Write a note on in vitro-in vivo correlations.

4. What do you mean by Non-linear Pharmacokinetics? Discuss the factors which lead to non-linearity. Explain how V_{max} and K_m are determined in patients.

5. Write in detail on volume of distribution and derive the equation indicating the relation between protein-drug binding and volume of distribution. Explain the various factors influencing the protein-drug binding.

6. a) What do you understand by Chronopharmacokinetics; explain its importance.

   b) Determine K_m and V_{max} by Lineweaver Burk plot and Woolf Eadie Augustinsson Hofstee plots.

7. Write short notes on:

   a) Renal Clearance

   b) Drug absorption through non per oral extra-vascular routes

   c) Compartment models

8. What are the two methods for calculating K_e from urinary excretion data? Compare their merits and demerits.

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