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

Roll No .....

BP-604 T/PY-604 (CBGS)

B.Pharmacy VI Semester (PCI Scheme)/ (Non-PCI Scheme)

Examination, November 2019

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. a) Describe various mechanisms of drug absorption.
   b) Discuss Physico-chemical properties affecting drug absorption through GIT.

2. a) Discuss Kinetics of protein binding of drug and its significance.
   b) Describe factors affecting protein binding of drugs.

3. a) Discuss various routes of excretion of drugs.
   b) Discuss the basic pathways of drug metabolism.

4. a) Describe the methods to enhance dissolution rates and bioavailability of drugs.
   b) Discuss in-vitro drug dissolution models.

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5. a) Describe one compartment open model for determination of K_E, $t_{½}$, V_d and Cl_R after intravenous bolus administration.
   b) Discuss methods for determination of K_a for drugs following one compartment open model after extravascular administration.

6. a) What is Non-linear Pharmacokinetics? Explain factors causing Non-linearity.
   b) Describe methods for determination of K_m and V_{max} using Michaelis-Meten kinetics.

7. a) Explain steady state drug levels and time required to achieve it with suitable example.
   b) Discuss the calculation of loading and maintenance doses.

8. Write short notes on any three of the following:
   a) Absolute and relative bioavailability
   b) Non-compartmental models
   c) Apparent volume of distribution and its significance
   d) Physiological pharmacokinetic models

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