

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Ph. – SEMESTER VI • EXAMINATION – SUMMER -2022

Subject Code:BP604TT**Date:09/06/2022****Subject Name: Biopharmaceutics and Pharmacokinetics****Time: 10:30AM TO 01:30PM****Total Marks: 80****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

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| Q.1 | (a) Discuss the physicochemical factors affecting the GI absorption of drugs. | 06 |
| | (b) Explain barriers to drug distribution. | 05 |
| | (c) Describe Noyes-Whitney equation. | 05 |
| Q.2 | (a) Discuss the clinical significance of the Protein binding of drugs. | 06 |
| | (b) Write note on physicochemical properties influencing tissue permeability of drugs. | 05 |
| | (c) Write short notes on BCS. | 05 |
| Q.3 | (a) Discuss the importance of in vitro and in vivo correlation in the bioavailability studies. | 06 |
| | (b) Discuss the significance of non renal excretion of drugs. | 05 |
| | (c) Write short notes on Pharmaceutical equivalence. | 05 |
| Q.4 | (a) Explain method of residuals to calculate absorption rate constant of a drug following one compartment kinetics. | 06 |
| | (b) Discuss pharmacokinetic variables in disease states. | 05 |
| | (c) Write short notes on Volume of distribution. | 05 |
| Q.5 | (a) List out the various pharmacokinetic parameters and define. | 06 |
| | (b) Write concept of Loading dose and Maintenance dose. | 05 |
| | (c) Write short notes on Phase I reactions. | 05 |
| Q. 6 | (a) What are the causes of Non linearity? How will you determine the non linearity? | 06 |
| | (b) Explain Michaelis Menten equation. | 05 |
| | (c) How Blood brain barrier influence pharmacokinetic pattern of drug? | 05 |
| Q.7 | (a) Give the criteria for obtaining valid urinary excretion data. | 06 |
| | (b) Explain sigma minus method to calculate K_e for a drug given by IV bolus by following open compartment kinetics. | 05 |
| | (c) Discuss the various factors affecting distribution of drugs. | 05 |
