

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.PHARM - SEMESTER- 6 EXAMINATION – SUMMER -2020**

**Subject Code: BP604TT****Date:29-10-2020****Subject Name: Biopharmaceutics and Pharmacokinetics****Time: 10:30 AM TO 1:30 PM****Total Marks: 80****Instructions:**

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

- Q.1 (a) Define drug absorption. Discuss the various factors influencing GI absorption of a drug. 06
- (b) Explain briefly about different mechanism of drug Absorption. 05
- (c) Discuss factors affecting Protein-Drug binding. 05
- Q.2 (a) Write a note on methods to enhance the bioavailability through enhancement of dissolution rate. 06
- (b) Define Bioavailability. Explain various methods used for determination of Bioavailability. 05
- (c) Write a short note on IVIVC 05
- Q.3 (a) Discuss Relative Bioavailability and absolute bioavailability 06
- (b) Discuss causes of non-linearity with example. 05
- (c) Write note on Apparent volume of distribution and its significance. 05
- Q.4 (a) Discuss in brief about calculation of loading dose and maintenance dose 06
- (b) Explain briefly the two compartmental open model extra vascular administrations. 05
- (c) Write factors affecting renal excretion of drugs. 05
- Q.5 (a) Write a brief note on pharmacokinetics. 06
- (b) Write a brief note on physiological models. 05
- (c) Discuss clinical significance of Protein binding of drugs 05
- Q.6 (a) Explain the factors affecting drug dissolution and dissolution rate. 06
- (b) Write the merits and demerits of non compartmental pharmacokinetics. 05
- (c) Describe open one compartment model IV bolus administration. 05
- Q.7 (a) Explain briefly Michaelis – Menton method for estimation of  $K_m$  and  $V_{max}$ . 06
- (b) Differentiate bioavailability and bioequivalence 05
- (c) Discuss protocol of bioequivalence study. 05

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