

GUJARAT TECHNOLOGICAL UNIVERSITY
M.PHARM - SEMESTER-2 EXAMINATION – SUMMER-2019

Subject Code: MPH202T**Date: 29/05/2019****Subject Name: Advanced Biopharmaceutics & Pharmacokinetics****Time: 10:30 AM TO 01:30 PM****Total Marks: 80****Instructions:**

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

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|-------------|-----|--|-----------|
| Q.1 | (a) | Derive various pharmacokinetic parameters for a drug administered by i.v. infusion | 06 |
| | (b) | How to calculate absorption rate constant by method of residual? | 05 |
| | (c) | Write in brief about passive drug absorption. | 05 |
| Q.2 | (a) | Explain various physiological barriers for drug distribution. | 06 |
| | (b) | Discuss pH partition hypothesis in detail. | 05 |
| | (c) | Discuss the causes of non-linearity. | 05 |
| Q.3 | (a) | Discuss plasma method for assessment of bioavailability. | 06 |
| | (b) | Write a short note on various drug interactions. | 05 |
| | (c) | What are the various regulatory guidelines for bioequivalence study? | 05 |
| Q.4 | (a) | Explain cross over design for bio equivalency study. | 06 |
| | (b) | Give the significance of drug protein binding. | 05 |
| | (c) | Write note on <i>in vitro</i> - <i>in vivo</i> correlation. | 05 |
| Q.5 | (a) | Explain similarity and dissimilarity factor for comparison of dissolution profile. | 06 |
| | (b) | Write about protein and peptide drug delivery. | 05 |
| | (c) | Define and classify bioavailability. | 05 |
| Q. 6 | (a) | Explain Michaelis –Menten equation in detail. | 06 |
| | (b) | Write a note on volume of drug distribution. | 05 |
| | (c) | Give a brief account on immunotherapy. | 05 |
| Q.7 | (a) | Explain physiological factors which affect drug absorption. | 06 |
| | (b) | Discuss pharmacokinetics of modified release dosage forms. | 05 |
| | (c) | Give detailed classification of compartment. | 05 |
