

GUJARAT TECHNOLOGICAL UNIVERSITY
M. Pharm – SEMESTER I • EXAMINATION – WINTER 2016

Subject Code:910102**Date: 02/01/2017****Subject Name: Pharmaceutical Formulation Development & Biopharmaceutics****Time: 10.30 AM – 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.

- Q.1** (a) State and explain with reasons about physicochemical and pharmaceutical factors to be considered while formulating Cefadroxil pediatric dry syrup. **06**
(b) How crystallinity affects dosage forms? **05**
(c) Write short notes on organic volatile impurities. **05**
- Q.2** (a) Differentiate solid solution and solid dispersion. Explain in detail mechanism of solid dispersion in solubility improvement of poorly soluble drug with appropriate examples. **06**
(b) What are the various factors affecting solubility? Explain. **05**
(c) Explain Super Critical Fluid technology as a tool for micronization. **05**
- Q.3** (a) Enumerate patient related factors influencing drug absorption. **06**
(b) How will you measure Bioavailability and Bioequivalence? **05**
(c) What is CACO₂ cell? Enlist the advantages, limitations of the same. **05**
- Q.4** (a) Define various pharmacokinetic terms. Explain different routes of clearance. **06**
(b) Describe the methods of determining protein binding. **05**
(c) How analysis of blood data can be done to get bioavailability of drug? **05**
- Q.5** (a) State the importance and applications of various pharmacokinetic models. **06**
(b) Explain one compartment open model_ IV bolus with the equations. **05**
(c) Detail out the Wagner- Nelson method of estimating K_a. **05**
- Q. 6** (a) Describe in brief the applications of IVIVC. **06**
(b) Write short notes on herbal shampoo and its evaluation methods. **05**
(c) Explain the utilization of micro calorimetry in stability study. **05**
- Q.7** (a) Explain the processing factors affecting stability study of solid dosage form with suitable examples. **06**
(b) How to determine the shelf life of a product by Free and Blythe theory method? **05**
(c) State and explain the guidelines for carrying out the stability study of Sparfloxacin containing dosage forms. **05**
