

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM – SEMESTER – 7- EXAMINATION –WINTER - 2018**Subject Code:270001****Date: 15/11/2018****Subject Name: Dosage Form Design- I****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.**

- Q.1** (a) Define polymorphism. Give the characteristics of polymorphisms. **06**
(b) Enumerate the chemical properties of drug for preformulation. Explain oxidation and its prevention in drug formulation. **05**
(c) Give the importance of particle size of drug in preformulation study. **05**
- Q.2** (a) Define prodrug. Give the importance of prodrug in formulation. **06**
(b) Give the types of suspending agents used in suspension formulation. **05**
(c) Give the mechanisms and role of antioxidants in formulation. **05**
- Q.3** (a) What is adjuvant? Give its importance in formulations. Give the FDA approved colors and their interaction in drug formulations. **06**
(b) What are overages? How do they calculate? **05**
(c) Write a note on accelerated stability testing for drug product. **05**
- Q.4** (a) Explain the different types of climatic zone for drug stability. **06**
(b) How do the container and closure affect the drug stability? **05**
(c) Define half-life. Derive the equation for half-life for first order kinetic reaction. **05**
- Q.5** (a) Give the difference between active transport and passive transport. **06**
(b) Explain volume of distribution of drug. **05**
(c) Explain the anatomy and physiology of cell membrane. **05**
- Q. 6** (a) Enumerate the physiological factors for drug absorption and explain the gastric emptying time. **06**
(b) Define bioavailability. Explain the factors required to study the bioavailability. **05**
(c) Explain the BCS classification with suitable examples. **05**
- Q.7** (a) Define bioequivalent. Explain the single dose bioequivalence study. **06**
(b) Explain the dissolution apparatus type I and type II as per USP. **05**
(c) Explain similarity and dissimilarity factors for drug dissolution. **05**
