

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM - SEMESTER- 7 EXAMINATION – SUMMER -2019

Subject Code: 2270001**Date: 06-05-2019****Subject Name: Dosage form Design I****Time: 02:30 PM TO 05:30 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 preformulation. Write a note on physicochemical properties related to solubility study in preformulation. **06**
- (b) Explain effect of pKa and pH on absorption parameter. **05**
- (c) Enumerate the drug degradation pathways and discuss Hydrolysis in detail. **05**
- Q.2** (a) Explain world climatic zones as per ICH guidelines. **06**
- (b) Discuss the effect of containers and closures on stability of pharmaceuticals. **05**
- (c) What do you understand by prodrug? Give its applications for improving stability of drug. **05**
- Q.3** (a) Enlist factors affecting gastro intestinal absorption. Discuss in detail effect of gastric emptying time on drug absorption. **06**
- (b) Write a short note on kinetics of protein-drug binding **05**
- (c) Discuss Matrixing and Bracketing Techniques **05**
- Q.4** (a) What do you understand by first pass metabolism? How would you avoid it? **06**
- (b) Write a note on similarity factor and dissimilarity factor. **05**
- (c) Enlist the theories of dissolution. Explain in detail Film Theory. **05**
- Q.5** (a) *“Hydrophylicity and lipophylicity property of a drug decide its absorption”* Comment with justification. **06**
- (b) Write a note on pharmaceutical excipients used as tablet binder and granulating agent. **05**
- (c) Explain various methods used for enhancement of bioavailability. **05**
- Q. 6** (a) Discuss the regulatory requirements for conduction of bio-equivalence studies. **06**
- (b) Write a note on volume of distribution. **05**
- (c) Explain renal clearance. **05**
- Q.7** (a) Classify the polymers. Discuss in brief about polymer properties. **06**
- (b) Write a note on Biodegradable polymers. **05**
- (c) Enlist the cellulosic derivative polymers and discuss its Phthalate derivatives. **05**
