

GUJARAT TECHNOLOGICAL UNIVERSITY
B. Pharm. – SEMESTER – VIII • EXAMINATION – WINTER • 2016

Subject Code: 2280001**Date: 18-11-2016****Subject Name: Dosage Form Design-II****Time: 02:30 pm - 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) Explain loading and maintenance dose in control release formulations with their equations. **06**
(b) Describe the advantages and limitations of sustained release formulations. **05**
(c) Give the difference between conventional and controlled release system. Describe the evaluation of oral controlled drug delivery system. **05**
- Q.2** (a) Describe the key components of oral osmotic drug delivery system with examples. **06**
(b) Describe pharmacokinetic parameters to be considered in development of controlled release formulations. **05**
(c) Discuss limitations of ophthalmic formulations. Describe ophthalmic in situ gel. **05**
- Q.3** (a) Explain transdermal drug delivery. Describe formulation of transdermal drug delivery system. **06**
(b) When colon targeting is needed? Describe pH dependent approach for colon targeting. **05**
(c) Explain liposomes and niosomes. Describe any one method for their preparation. **05**
- Q.4** (a) Which are rationales for gastro-retentive drug delivery? Explain floating approach. **06**
(b) Describe preparation and evaluation of parenteral emulsion. **05**
(c) What is oromucosal drug delivery? Write a note on buccal drug delivery system. **05**
- Q.5** (a) Explain pharmacokinetics. Explain a typical plasma level time curve after single oral dose. **06**
(b) What are pharmacokinetic models? Explain in detail non-compartmental approach. **05**
(c) Describe Wagner-Nelson method for determination of absorption rate constant. **05**
- Q. 6** (a) What is nonlinear pharmacokinetics? Explain Michaelis-Mentan equation for the same. **06**
(b) What is extraction ratio? Define clearance, total body clearance and organ clearance. **05**
(c) Write a note on: Hydrogel. **05**
- Q.7** (a) Explain dosage adjustment in patients with hepatic failure. **06**
(b) Explain term: Drug interaction. Discuss ADME drug interactions with suitable examples. **05**
(c) Explain clinical pharmacokinetics? Enlist its applications in drug therapy. **05**
