

Seat No.: _____

Enrolment No. _____

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 |
