

GUJARAT TECHNOLOGICAL UNIVERSITY**B.PHARM. - SEMESTER– VIII • EXAMINATION – SUMMER-2016****Subject Code: 280001****Date: 28/04/2016****Subject Name: Dosage Form Design - II****Time: 10:30 AM to 1:30 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) | Enlist the factor affecting on design of oral sustained release systems and explain it. | 06 |
| | (b) | Discuss formulation of diffusion layer controlled drug delivery systems. | 05 |
| | (c) | Discuss the formulation of parenteral emulsions and suspensions. | 05 |
| Q.2 | (a) | Explain lag time, burst effect and reservoir systems with respect to control release formulations. | 06 |
| | (b) | Write a note on bioerodible and combination of diffusion and dissolution systems. | 05 |
| | (c) | Differentiate between microspheres and microcapsules. | 05 |
| Q.3 | (a) | Explain loading dose and maintenance dose used in controlled release formulation. | 06 |
| | (b) | Enlist different approaches for formulation of colon targeted drug delivery system and explain any two of them. | 05 |
| | (c) | How are liposomes classified? Why are considered versatile carriers for parenteral drug delivery. | 05 |
| Q.4 | (a) | Describe the floating drug delivery system. | 06 |
| | (b) | Write a note on ophthalmic controlled release systems. | 05 |
| | (c) | Explain formulation of different types of transdermal drug delivery system. | 05 |
| Q.5 | (a) | Explain the method of residuals for the calculation of absorption rate constant from oral data. | 06 |
| | (b) | Explain Sigma – Minus Method for determination of elimination rate constant. | 05 |
| | (c) | Explain pharmacokinetic drug interactions giving suitable examples. | 05 |
| Q.6 | (a) | Define clinical pharmacokinetics and explain dosage adjustment in patients with renal failure. | 06 |
| | (b) | Explain how one can detect nonlinear pharmacokinetics? Explain Michaelis Menten equation for capacity limited process. | 05 |
| | (c) | Define “Drug interaction”. Explain pharmacokinetic drug interactions giving suitable examples. | 05 |
| Q.7 | (a) | What are pharmacokinetic models? Explain in detail compartment models. | 06 |
| | (b) | Discuss extraction ratio and hepatic clearance in detail. | 05 |
| | (c) | Explain osmotic controlled drug delivery system. | 05 |