

GUJARAT TECHNOLOGICAL UNIVERSITY**B.Pharm. - SEMESTER– VIII • EXAMINATION – SUMMER-2016****Subject Code: 2280001****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.**

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|------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Q.1 | (a) | Discuss the merits and demerits of controlled release dosage forms. | 06 |
| | (b) | Write in brief the estimation of loading and maintenance dose for a controlled release formulation. | 05 |
| | (c) | Discuss the factors affecting the design of oral sustained release systems. | 05 |
| Q.2 | (a) | Discuss in detail the evaluation parameters for transdermal patches. | 06 |
| | (b) | Explain Ocuser [®] and Lacrisert [®] . | 05 |
| | (c) | Discuss the formulation development of osmotic tablets with example. | 05 |
| Q.3 | (a) | Enumerate various approaches employed for preparation of targeted drug delivery systems. Discuss any one in detail along with examples. | 06 |
| | (b) | Discuss Michaelis-Menten equation for nonlinear pharmacokinetics. | 05 |
| | (c) | Explain top down production of nanoparticles along with examples. | 05 |
| Q.4 | (a) | Justify the rationale for gastro retentive drug delivery systems and explain low density approach. | 06 |
| | (b) | Enumerate various methods for preparation of liposomes. Explain any one of them in detail. | 05 |
| | (c) | Discuss in brief the cube root dissolution equation for controlled release dosage forms. | 05 |
| Q.5 | (a) | Enumerate various approaches for colon targeted delivery of intact molecule. Explain any one of them with example. | 06 |
| | (b) | Mention the parameters and methods used for evaluation of microspheres. | 05 |
| | (c) | Comment with reasons | 05 |
| | | a) Niosomes are more stable than liposomes. | |
| | | b) Microspheres exhibit all or none phenomena | |
| Q.6 | (a) | Discuss Wagner-Nelson and Loo-Riegelman method. | 06 |
| | (b) | Explain and justify the importance of apparent volume of distribution. | 05 |
| | (c) | Enumerate the evaluation parameters for parenteral controlled release formulation. | 05 |
| Q.7 | (a) | What are pharmacokinetic models? Explain in detail one compartment model. | 06 |
| | (b) | Write a brief note on pharmacokinetic drug interactions. | 05 |
| | (c) | Discuss the importance of dosage regimen for patients with renal failure. | 05 |
