

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM - SEMESTER- 8 EXAMINATION – SUMMER -2019

Subject Code: 280001

Date: 04-05-2019

Subject Name: Dosage Form Design- II

Time: 10:30 AM TO 01:30 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) Enumerate various approaches for gastro retentive drug delivery system. Describe formulation and evaluation of any one. | 06 |
| | (b) Discuss Cube route dissolution equation with respect to drug release from modified release dosage forms. | 05 |
| | (c) Discuss erosion-controlled drug delivery system. | 05 |
| Q.2 | (a) Comment on following with reasons:
1. Osmotically controlled formulation system releases drug through zero order rate.
2. Liposomes are more stable as compared to niosomes. | 06 |
| | (b) Describe formulation and evaluation of transdermal drug delivery systems. | 05 |
| | (c) Discuss the impact of biological factors in designing modified release oral dosage forms | 05 |
| Q.3 | (a) Describe various formulation strategies for preparing liposomes. Describe sample formulation for liposome in brief. | 06 |
| | (b) Explain drug interaction. Discuss ADME drug interactions with suitable examples. | 05 |
| | (c) Enlist different pharmacokinetic models. What is compartment model? Mention advantages and disadvantages of the same. | 05 |
| Q.4 | (a) Discuss one compartment open model - i.v. infusion model and discuss the effect of loading i.v. injection dose | 06 |
| | (b) Describe in detail the formulation and evaluation of Hydrogels. | 05 |
| | (c) Describe with example preparation and evaluation of parenteral suspension. | 05 |
| Q.5 | (a) What is maintenance dose and loading dose for modified release drug delivery system. Write in brief the method to find them. | 06 |
| | (b) Write a note on osmotic ocular inserts. Mention the components of each part. | 05 |
| | (c) Explain the significance of Renal clearance and dosage regimen. | 05 |
| Q. 6 | (a) What are rationales for colon targeting? Name different approaches for colon targeting and discuss any one with example. | 06 |
| | (b) What is extraction ratio? Define clearance, total body clearance and organ clearance. | 05 |
| | (c) Enlist the methods for determination of absorption rate constant and explain any one in detail. | 05 |
| Q.7 | (a) Write in brief the formulation and evaluation of microspheres. | 06 |
| | (b) Explain non-linear pharmacokinetics using Michaelis Menten equation. | 05 |
| | (c) Classify methods for formulation of nanoparticles. Discuss any one in detail. | 05 |
