Seat No.: _____ Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY

## B.PHARM – SEMESTER – VIII • EXAMINATION – WINTER – 2015

**Subject Code: 280001** **Date: 04/12/2015**

**Subject Name: Dosage Form Design II**

**Time: 2.30 PM to 5.30 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)** | What do you mean by release modulation of an API and why is it necessary in suitable dosage form? | **06** |
| | **(b)** | What biological and physicochemical factors are responsible with their optimum range to design oral controlled DDS? | **05** |
| | **(c)** | Give the example of hydrophilic matrix system and drug release mechanism from it. | **05** |
| **Q.2** | **(a)** | Differentiate Novel Drug Delivery System from Conventional Dosage Form. How is it beneficiary to patient? Explain giving illustration | **06** |
| | **(b)** | Enlist the systems designed and developed for oral modified release and describe any one of them in detail. | **05** |
| | **(c)** | Which are the parenteral drug delivery systems? Give the suitable API for novel DDS in parenteral form. | **05** |
| **Q.3** | **(a)** | What do you mean by site specific and targeted drug delivery system? Give suitable example describing these systems. | **06** |
| | **(b)** | Differentiate transdermal from transmucosal. Write a note on buccal dosage form. | **05** |
| | **(c)** | Write historical aspects of ophthalmic drug delivery system. Write a note on Occuserts. | **05** |
| **Q.4** | **(a)** | How the transdermal patch is being formulated? Explain giving illustrative diagram. | **06** |
| | **(b)** | Differentiate transdermal patch and transdermal film. Which one is used where and when? | **05** |
| | **(c)** | What is GRDDS? What are the important advice for patients taking this dosage form? | **05** |
| **Q.5** | **(a)** | How will you estimate loading dose and maintenance dose in sustained release dosage form? | **06** |
| | **(b)** | Write a note on CPOP with suitable API and its release mechanism. | **05** |
| | **(c)** | How will you incorporate nanostructures in suitable dosage form? | **05** |
| **Q. 6** | **(a)** | What do you mean by pharmacokinetic models? Discuss its importance and application of it. | **06** |
| | **(b)** | What is apparent volume of distribution? Write an equation to calculate it. | **05** |
| | **(c)** | What do you mean by method of residuals? Draw an illustrative diagram for that. | **05** |
| **Q.7** | **(a)** | Define Clinical Pharmacokinetics and Describe scope of it. | **06** |
| | **(b)** | What kind of dosage adjustment are needed in patients with and without renal and hepatic failure? | **05** |
| | **(c)** | What do you mean by combination therapy? What kind of drug interactions are possible, explain giving suitable examples. | **05** |

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