Seat No.: _____ Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY

**M. Pharm. – SEMESTER – III • EXAMINATION – WINTER • 2015**

**Subject Code: 930108** **Date: 08-12-2015**

**Subject Name: Industrial Pharmacy - V**

**Time: 10:30 am - 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)** | What do you mean by lyophilization? Discuss basic mechanism to achieve a quality end product by this process. | **06** |
| | **(b)** | Write a note on limitations of this technology. | **05** |
| | **(c)** | Enlist the product classes developed by this technology which could not be otherwise. | **05** |
| **Q.2** | **(a)** | Define pellet and cellet. Discuss the application of extrusion-spheronization technique in development of release modulated pellets. | **06** |
| | **(b)** | Write a note on FFS/BFS technology. How terminal sterilization can become optional to these products in case of LVPs though it is a requirement of pharmacopoeia. | **05** |
| | **(c)** | Enlist the products available in pre-filled syringes and write a note on this technology. | **05** |
| **Q.3** | **(a)** | What is the difference between fluid bed granulator and fluid bed coater? | **06** |
| | **(b)** | Discuss the structure of aluminium foil used in Alu-Alu packaging. What are its advantages over blister or strip package | **05** |
| | **(c)** | Differentiate barcode and matrix code. Discuss the role of laser printing into it. | **05** |
| **Q.4** | **(a)** | Enlist the factors governing the design of C.R. dosage form. Which molecules are unsuitable to this purpose? | **06** |
| | **(b)** | Discuss the role of vesicular products, pelletization and particle engineering helps in modulating drug release. | **05** |
| | **(c)** | Write a flow chart of any one rate modulated delivery system. | **05** |
| **Q.5** | **(a)** | What are bio adhesives? What special precautions are needed to convert them for manufacturing muco adhesives? | **06** |
| | **(b)** | Differentiate transdermal film from transdermal patch. Give suitable diagram. | **05** |
| | **(c)** | Which molecules are preferred or modified to be incorporated into TDDS system? | **05** |
| **Q. 6** | **(a)** | What is Good Engineering Practice? Discuss scheduling for maintenance and cleaning of premises used as manufacturing facility. | **06** |
| | **(b)** | Write a note on SOP for equipment for any one in the Oral solid department. | **05** |
| | **(c)** | Write a note on electrostatic coating. | **05** |
| **Q.7** | **(a)** | What is the scope of capsule over tablet in developing osmotic or floating oral solid? | **06** |
| | **(b)** | Suggest suitable oral drug delivery for cinnarizine, a poorly soluble weakly basic drug. Suggest the different technologies to develop it for industrially feasible dosage form. | **05** |
| | **(c)** | What is the scope of combination drug therapy by TDDS (Transdermal)? | **05** |

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