

GUJARAT TECHNOLOGICAL UNIVERSITY
M. PHARM. - SEMESTER – III • EXAMINATION – WINTER 2012

Subject code: 930108**Date: 23/11/2012****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 is lyophilization? Describe advantages, disadvantages and desirable characteristics of lyophilized product. | 06 |
| | (b) Describe processing mechanism of electrostatic coating. | 05 |
| | (c) What is FFS? Describe significance of FFS technology. | 05 |
| Q.2 | (a) Discuss factors affecting on lyophilization process. | 06 |
| | (b) Describe various type of extruder with their schematic diagram. | 05 |
| | (c) Write a note on importance of laser printing in pharmaceutical industry. | 05 |
| Q.3 | (a) Describe various approaches of development of oral rate controlled drug delivery system. | 06 |
| | (b) Discuss processing steps of spheronization. | 05 |
| | (c) Differentiate liposome and niosome. Describe applications of niosome. | 05 |
| Q.4 | (a) Enlist various version of Fluid bed processor. Explain wurster air suspension. | 06 |
| | (b) Describe significance of nanoparticle in drug delivery system. | 05 |
| | (c) Describe spray drying technique for microparticle formulation. | 05 |
| Q.5 | (a) Classify types of liposome based on composition. Explain reverse phase evaporation method for manufacturing of liposome. | 06 |
| | (b) Describe process for cleaning of manufacturing area in pharmaceutical industry. | 05 |
| | (c) Describe various approaches for development of parenteral osmotic drug delivery system. | 05 |
| Q. 6 | (a) Describe electricity modulated drug delivery system for TDDS. | 06 |
| | (b) Classify type polymer used for development of mucoadhesion drug delivery system. Describe mechanism of mucoadhesion process. | 05 |
| | (c) Write a note on ALU-ALU packaging system. | 05 |
| Q.7 | (a) Describe criteria for drug selection for floating drug delivery. Explain effervescent approach of floating drug delivery. | 06 |
| | (b) Write a note on prefilled syringe technology. | 05 |
| | (c) Describe objectives of good engineering practice in pharmaceutical industry. | 05 |