

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B. Ph. – SEMESTER-VII – EXAMINATION – SUMMER -2022**

**Subject Code: BP704TT****Date: 09/06/2022****Subject Name: Novel Drug Delivery Systems****Time: 02:30PM TO 05:30PM****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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|-------------|-----|--|-----------|
| <b>Q.1</b>  | (a) | Discuss pH-partition hypothesis theory.  | <b>06</b> |
|             | (b) | Enlist the different physicochemical properties of the drug affecting the design of controlled drug delivery system. Explain the dissolution controlled dosage form. | <b>05</b> |
|             | (c) | Write the application of polymers in formulation of controlled release drug delivery systems.  | <b>05</b> |
| <b>Q.2</b>  | (a) | Discuss the spray drying method for the preparation of microencapsulation.   | <b>06</b> |
|             | (b) | Write the advantages, disadvantages and application of microsphere.  | <b>05</b> |
|             | (c) | Explain the principle of bioadhesion.  | <b>05</b> |
| <b>Q.3</b>  | (a) | Write the concept of implants and osmotic pump.  | <b>06</b> |
|             | (b) | Discuss the classification of polymer based on polymerization process.   | <b>05</b> |
|             | (c) | Explain the salient features of DPI and MDI.   | <b>05</b> |
| <b>Q.4</b>  | (a) | Explain the factors affecting the drug permeation through skin.  | <b>06</b> |
|             | (b) | Write a note on components of TDDS.  | <b>05</b> |
|             | (c) | List the different approaches of GRDDS and write a note on any one.  | <b>05</b> |
| <b>Q.5</b>  | (a) | Explain the concept and biological process involved in drug targeting.   | <b>06</b> |
|             | (b) | Differentiate Liposomes and Niosomes. Discuss the application of liposomes   | <b>05</b> |
|             | (c) | List the different method of preparation of nanoparticle. Explain any one in detail.   | <b>05</b> |
| <b>Q. 6</b> | (a) | Discuss the intra ocular barriers and methods to overcome it.  | <b>06</b> |
|             | (b) | Write the advantages of IUDs and its application.  | <b>05</b> |
|             | (c) | Write a note on ocuserts.  | <b>05</b> |
| <b>Q.7</b>  | (a) | Write the rational and application of GRDDS.   | <b>06</b> |
|             | (b) | Discuss the formulation considerations of buccal delivery systems  | <b>05</b> |
|             | (c) | Write the application of nasopulmonary drug delivery system.   | <b>05</b> |

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