

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.PHARM. - SEMESTER- VII• EXAMINATION – WINTER -2022**

**Subject Code:BP704TT****Date:29/12/2022****Subject Name: Novel Drug Delivery System****Time: 10:30am to 01:30pm****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) | Write a note on dissolution and diffusion-controlled release system.  | <b>06</b> |
|             | (b) | Explain biological factors affecting the design of oral sustained release drug delivery system.                     | <b>05</b> |
|             | (c) | Define loading and maintenance dose and show its calculation to prepare sustained release formulations              | <b>05</b> |
| <b>Q.2</b>  | (a) | Explain principles of bioadhesion. How to determine bioadhesive strength?   | <b>06</b> |
|             | (b) | Enlist methods of microencapsulation and discuss any one method in detail.  | <b>05</b> |
|             | (c) | Classify implantable drug delivery and write in detail about osmotic pump.  | <b>05</b> |
| <b>Q.3</b>  | (a) | Write in detail about MDI and DPI.  | <b>06</b> |
|             | (b) | Discuss the various approaches for floating drug delivery systems.  | <b>05</b> |
|             | (c) | Explain in detail, evaluation parameters of transdermal patch.  | <b>05</b> |
| <b>Q.4</b>  | (a) | Discuss method of preparation of nanoparticles.   | <b>06</b> |
|             | (b) | Discuss applications of targeted drug delivery system in brief.   | <b>05</b> |
|             | (c) | Justify: MoAbs are targeted delivery systems.   | <b>05</b> |
| <b>Q.5</b>  | (a) | Describe limitations of conventional Occular dosage forms. Explain modern approaches for the Occular drug delivery. | <b>06</b> |
|             | (b) | Discuss merits, demerits and application of Intra uterine devices (IUDs).   | <b>05</b> |
|             | (c) | What is ophthalmic in situ gel? Describe different type of ocular inserts.  | <b>05</b> |
| <b>Q. 6</b> | (a) | Explain non erodible and erodible control release system.   | <b>06</b> |
|             | (b) | Differentiate Polymer Membrane Permeation and Polymer Matrix Diffusion Controlled Drug Delivery.                    | <b>05</b> |
|             | (c) | Write a short note on microspheres.   | <b>05</b> |
| <b>Q.7</b>  | (a) | Write in detail about concept of implant with example.  | <b>06</b> |
|             | (b) | Explain the mechanism of particle deposition in pulmonary airway.   | <b>05</b> |
|             | (c) | Discuss Penetration enhancer in TDDS.   | <b>05</b> |

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