

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Pharm. – SEMESTER -VII– • EXAMINATION – WINTER -2021

Subject Code: : BP704TT

Date:01/12/2021

Subject Name: Novel Drug Delivery System

Time: 10:30 AM TO 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.**

- Q.1** (a) Explain the terms delayed release, extended release and controlled release. Discuss advantages of controlled release drug delivery systems. **06**
- (b) Classify controlled release drug delivery systems. Describe matrix systems. **05**
- (c) Describe the physicochemical properties of drug molecule required for controlled drug delivery system. **05**
- Q.2** (a) Explain glass transition temperature of polymer. Describe smart polymers with examples. **06**
- (b) Differentiate between microsphere and microcapsule. Discuss advantages and limitations of microencapsulation. **05**
- (c) Enlist methods of microencapsulation. Describe spray drying-spray congealing method. **05**
- Q.3** (a) What is mucosal drug delivery? Describe theories of muco/bio-adhesion. **06**
- (b) Discuss formulation approaches for buccal drug delivery systems. **05**
- (c) What is transdermal drug delivery system (TDDS)? Describe matrix formulation approach for TDDS. **05**
- Q.4** (a) What is implantable drug delivery? Describe Alzet osmotic pump with diagram. **06**
- (b) Describe the factors affecting permeation of drug through barrier of skin. **05**
- (c) What is targeted drug delivery? Describe passive and active targeting in detail. **05**
- Q.5** (a) Explain gastro-retentive drug delivery system (GRDDS). Describe advantages and limitations of GRDDS. **06**
- (b) Enlist approaches for gastric retention. Discuss high density and raft forming approaches. **05**
- (c) What are nanoparticles? Describe pharmaceutical applications of nanoparticles. **05**
- Q.6** (a) Compare and contrast metered dose inhalers and dry powder inhalers for drug delivery. **06**
- (b) Explain first, second and third- order targeting. Discuss advantages and disadvantages of liposomes as a drug carrier. **05**
- (c) Explain monoclonal antibodies. Describe their advantages, limitations and applications. **05**
- Q.7** (a) Name the intraocular barriers to drug permeation. Describe methods to overcome intra ocular barriers of the eye. **06**
- (b) What are intrauterine devices (IUDs)? Discuss hormone releasing IUDs. **05**
- (c) What is ophthalmic in situ gel? Describe different type of ocular inserts. **05**

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