

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B. Ph. - SEMESTER-VII• EXAMINATION – WINTER-2019****Subject Code: 2270001****Date: 15/11/2019****Subject Name: Dosage Form Design I****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.

- Q.1** (a) Enlist various methods for measurement of bioavailability. Discuss any one in detail. **06**
- (b) What are similarity factor and dissimilarity factor, how are they calculated and give their significance. **05**
- (c) How the bioavailability of the drug can be improved. **05**
- Q.2** (a) Discuss the significance of protein binding of the drugs. **06**
- (b) What do you mean by prodrug. Give its applications for improving stability of the drug. **05**
- (c) Describe active transport as a mechanism for the passage of drug through biological membranes. **05**
- Q.3** (a) Discuss the physiological factors influencing the drug absorption. **06**
- (b) Explain the role of polymorphism and crystallinity in preformulation. Enlist the methods to identify polymorphism. **05**
- (c) Explain in detail film theory as one of the theories of dissolution. **05**
- Q.4** (a) Discuss the regulatory requirements for the conduction of bioequivalent studies. **06**
- (b) Write a note on Natural gums as pharmaceutical excipients. **05**
- (c) Discuss the influence of container and closures on product stability **05**
- Q.5** (a) Explain: self life, climatic zones, overages. **06**
- (b) Explain accelerated stability study as per ICH guidelines. **05**
- (c) Discuss the factors affecting stability of the drug. **05**
- Q.6** (a) Discuss the role of active tubular secretion and tubular reabsorption on renal drug excretion. **06**
- (b) Describe the influence of BBB and CSF barriers on distribution of drugs. **05**
- (c) Enlist the examples of semi synthetic cellulosic derivatives and discuss any two. **05**
- Q.7** (a) Explain the influence of chemical properties of drugs on formulation and stability of the products. **08**
- (b) Write a note on compendial *In-vitro* dissolution apparatus. **08**

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