

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

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

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.PHARM - SEMESTER-VIII • EXAMINATION – SUMMER-2018****Subject Code: 2280008****Date: 09/05/2018****Subject Name: Bioavailability and Therapeutic Drug Monitoring****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) Explain following terms: **06**  
(I) Bioequivalence.  
(II) First pass clearance.  
(III) Relative bioavailability.
- (b) Explain physicochemical factors affecting bioavailability. **05**
- (c) Enlist theories of dissolution and explain any one in detail. **05**
- Q.2** (a) What is TDM? Give its uses and recommendations. **06**
- (b) Explain in brief collection and storage condition of body fluid samples. **05**
- (c) Explain in detail radio immunoassay method. **05**
- Q.3** (a) Explain following techniques for in TDM of valproic acid: **06**  
(I) Sample collection.  
(II) Time of sample collection.
- (b) Explain following techniques for in TDM of phenytoin: **05**  
(I) Usual dosing parameters.  
(II) Clinical monitoring parameters.
- (c) Explain following techniques for in TDM of Immunosuppressants: **05**  
(I) Common toxicities.  
(II) Drug reaction and interactions.
- Q.4** (a) Explain in brief techniques for enhancing bioavailability. **06**
- (b) Write a short note on in vivo-in vitro correlation studies. **05**
- (c) Enlist pharmacodynamic models. Explain any one in detail. **05**
- Q.5** (a) What are the criteria for selection of method for TDM? Explain in brief sample related parameters. **06**
- (b) Enumerate elements of bioequivalence study protocol. Explain any one in detail. **05**
- (c) Enlist physical methods used in TDM. Explain any one in detail. **05**
- Q.6** (a) Write a short note on role of clinical pharmacist in TDM. **06**
- (b) Explain in detail ELISA Immuno assay. **05**
- (c) What is the objective of BA studies? **05**
- Q.7** (a) Enumerate immunoassay methods used in TDM. Explain FPIA in details. **06**
- (b) Give a full form of following terms: **05**  
(I) HPLC (II) HPTLC (III) GC (IV) EMITH (V)TDM
- (c) Write a short note on study of clinical pharmacokinetics and importance parameters for lidocaine. **05**

\*\*\*\*\*