

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.

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| Q.1 | (a) Explain following terms:
(I) Bioequivalence.
(II) First pass clearance.
(III) Relative bioavailability. | 06 |
| | (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:
(I) Sample collection.
(II) Time of sample collection. | 06 |
| | (b) Explain following techniques for in TDM of phenytoin:
(I) Usual dosing parameters.
(II) Clinical monitoring parameters. | 05 |
| | (c) Explain following techniques for in TDM of Immunosuppressants:
(I) Common toxicities.
(II) Drug reaction and interactions. | 05 |
| 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:
(I) HPLC (II) HPTLC (III) GC (IV) EMITH (V)TDM | 05 |
| | (c) Write a short note on study of clinical pharmacokinetics and importance parameters for lidocaine. | 05 |