

GUJARAT TECHNOLOGICAL UNIVERSITY

B.PHARM - SEMESTER– VIII • EXAMINATION – SUMMER-2016

Subject Code:2280008

Date: 10/05/2016

Subject Name: Bioavailability and Therapeutic Drug Monitoring

Time: 10:30 AM to 1:30 PM

Total Marks: 80

Instructions:

- 1. Attempt any five questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**

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|-------------|-----|---|-----------|
| Q.1 | (a) | Explain following terms: | 06 |
| | | 1. Relative Bioavailability | |
| | | 2. Absolute Bioavailability | |
| | | 3. First pass clearance | |
| | (b) | Define TDM. Explain objective of TDM. | 05 |
| | (c) | What is the role of clinical pharmacist in TDM? | 05 |
| Q.2 | (a) | Explain Invivo – Invitro correlation studies. | 06 |
| | (b) | Explain techniques of bioavailability enhancement through drug solubility. | 05 |
| | (c) | Explain methods and parameters of assessing bioavailability. | 05 |
| Q.3 | (a) | Enumerate bioequivalence study design. Explain any one in detail. | 06 |
| | (b) | Enumerate elements of bioequivalence study protocol. Explain subject selection in detail. | 05 |
| | (c) | Explain factors affecting bioavailability. | 05 |
| Q.4 | (a) | Explain collection and storage of body fluids samples. | 06 |
| | (b) | Explain problems of interference in biological matrix. | 05 |
| | (c) | Explain factor affecting in serum drug concentration. | 05 |
| Q.5 | (a) | Enumerate physical methods used in TDM. Explain any one in detail. | 06 |
| | (b) | Enumerate Immunoassay methods used in TDM. Explain ELISA in details. | 05 |
| | (c) | Explain Physiochemical parameter of drug for TDM. | 05 |
| Q. 6 | (a) | Write clinical monitoring and dosing parameter techniques for Digoxin. | 06 |
| | (b) | Explain algorithm for the interpretation of TDM result for drug used as prophylactic therapy. | 05 |
| | (c) | Write adverse drug reaction and drug interaction of Phenobarbitone. | 05 |
| Q.7 | (a) | Explain in detail the conditions when TDM should perform. | 06 |
| | (b) | Explain NIIA detection technique with respect to application for TDM. | 05 |
| | (c) | Write techniques used for estimation of addictive drugs. | 05 |
