

GUJARAT TECHNOLOGICAL UNIVERSITY
M. Pharm - SEMESTER- I • EXAMINATION – SUMMER 2017

Subject Code: 910102**Date: 29/04/2017****Subject Name: Pharmaceutical Formulation Development and Biopharmaceutics****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 method of Residuals for the estimation of K_a and K_E . **06**
(b) Comment: Time to reach steady state drug plasma concentration is dependent on elimination half life and rate of infusion of the drug when drug is administered by IV Infusion. **05**
(c) IVIVC can be improved by selecting appropriate dissolution media, in-vitro dissolution set up and dosage form. Comment and elaborate. **05**
- Q.2** (a) Explain: Discriminating media, Biorelevant media **06**
(b) What are CACO2 cell lines? Discuss merits, limitations and application of these cell lines. **05**
(c) Give the details of formulation and evaluation of face wash gel. **05**
- Q.3** (a) Discuss the formulation and evaluation of herbal tablet containing papaya leaf extract, Gaduchi and Tulsi for the treatment of dengue. **06**
(b) Discuss physical factors influencing formulation **05**
(c) Explain: AUC, Loading Dose. **05**
- Q.4** (a) Explain in detail solubility improvement of poorly soluble drugs using cosolvency and inclusion complex. **06**
(b) Give short note on “Organic Volatile Impurities”. **05**
(c) Explain the pharmaceutical factors affecting drug absorption **05**
- Q.5** (a) Discuss techniques for stabilization of product against the effect of various environmental factors. **06**
(b) Describe the methods to study bioavailability **05**
(c) What is ICH? Discuss different climatic zones in stability study **05**
- Q. 6** (a) Write a note on Drug-Excipient compatibility study with examples. **06**
(b) Explain the importance of BCS classification in Pharmaceutical Dosage form formulation and development. **05**
(c) Discuss the methods to establish IVIVC **05**
- Q.7** (a) Describe the dissolution apparatus for floating tablets and buccal tablets **08**
(b) Discuss the importance and application of solid state characterization in preformulation studies. **08**
