Seat No.:	Enrolment No
GUJARAT TECHNOLOGICAL UNIVERSITY	

M. Pharm. - SEMESTER - II • EXAMINATION - SUMMER • 2014 Subject Code: 2920201 Date: 31-05-2014 Subject Name: Drug Design and Discovery Time: 02:30 pm - 05:30 pm **Total Marks: 80 Instructions:** 1. Attempt any five questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks. Describe main features of competitive, non-competitive and irreversible **Q.1** 08 (a) inhibition of enzymes **(b)** What is QSAR? Give advantages and disadvantages of QSAR. 08 What is Bioisoterism? Give classification of bioisosters. Write applications of **Q.2** 08 (a) bioisoterism in designing of new drug molecule. **(b)** Explain comparative molecular field analysis in drug design along with its 08 pitfalls. **Q.3** (a) Write note on 2D QSAR descriptors. 08 **(b)** Explain various targets for drug action. 08 **Q.4** Which are the problems faced by pharmacokinetic phase of drug discovery? 08 (a) How prodrug concept can be helpful in solving these problems, explain with examples. Write brief note on following 08 **(b)** Pharmacophore-model-based virtual screening i. Pharmacophore-based de novo design ii. **Q.5** (a) Explain various approaches to mapping the molecular structure to activity. 08 **(b)** Explain Hantzsch analysis and Free Wilson analysis. 08 Q. 6 Discuss criterias that hit must satisfy to become drug. 08 (a) Discuss computer aided drug design in detail **(b) 08** Elaborate the 'rational approach to drug design' with regard to Quantum **Q.7** (a) 08 Mechanics, Molecular Orbital Theory, Molecular Connectivity and Linear Free-Energy Concepts. The first synthetic oestrogen *trans*-diethylstilbesterol came into existence by 08 applying the principle of 'drug-design through disjunction' from 'oestradiol'. Explain.
