Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. Pharm. – SEMESTER – II • EXAMINATION – WINTER • 2014

Subject Code: 2920201 Date: 26-12-2014

Subject Name: Drug Design and Discovery

Time: 10:30 am - 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 importance of Drug Discovery concept along with various approaches to drug discovery.	**06**
	(b)	Explain in brief the concept of drug action and theory in terms of agonists and antagonists.	**05**
	(c)	What do you mean by pro drug? Explain various approaches for prodrug design.	**05**
Q.2	**(a)**	Write importance of stereochemistry and physicochemical properties in drug discovery.	**06**
	(b)	Explain following terms Isosterism b) Bio-isosterism	**05**
	(c)	What do you mean by Virtual Screening? Use of Pharmacophore mapping in virtual screening.	**05**
Q.3	**(a)**	Explain in brief various Parameters used in QSAR.	**06**
	(b)	Explain in brief various QSAR methods with suitable examples.	**05**
	(c)	Explain different statistical methods used in QSAR studies.	**05**
Q.4	**(a)**	What do you mean by QSAR? Explain in detail Hansch LFER Model.	**06**
	(b)	What do you mean by 3D QSAR? Explain the statistical methods used in 3D QSAR.	**05**
	(c)	Importance of Pharmacokinetics in Drug Discovery.	**05**
Q.5	**(a)**	Explain the following terms a) Quantum mechanics b) Molecular Mechanics	**06**
	(b)	What do you mean by Energy minimization? Explain different force fields used in energy minimization.	**05**
	(c)	What do you mean by Conformational analysis?	**05**
Q. 6	**(a)**	Explain in brief applications of CADD study.	**06**
	(b)	What do you mean by SBDD, explain its importance?	**05**
	(c)	Explain in detail various methods of Docking study.	**05**
Q.7	**(a)**	Explain use of X-ray crystallography in understanding Drug receptor interactions.	**06**
	(b)	Explain use of NMR technique in Drug Design.	**05**
	(c)	Explain importance of De-novo Drug design.	**05**

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