Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER – V (NEW) EXAMINATION – WINTER 2015

Subject Code: 2153601 **Date:10/12/2015**

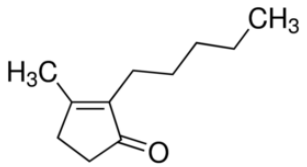
Subject Name: Pharmaceutical Chemistry

Time:10:30am to 1:00pm **Total Marks: 70**

Instructions:

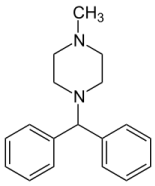
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1 **(a)** Give the synthon approach to the synthesis of Dihydrojasmone **07**



(b) What does Calcium homeostasis depend on? What three hormones regulate calcium? What two principle mechanisms does Calcitonin use to lower blood Ca concentration? What four principle mechanisms does PTH use to raise blood Ca concentration? **07**

Q.2 **(a)** What are FGI's? Give the synthon approach to the synthesis of Cyclizine **07**



(b) What are the major symptoms of Diabetes mellitus? Explain structure activity relationship of Sulfonylureas. **07**

OR

(b) What are short term and long term complications associated with Diabetes mellitus **07**

Q.3 **(a)** How do you classify oral anti-diabetic drugs? Discuss mechanism of action of Thiazolidinediones and Biguanides? **07**

(b) Explain in brief preparation of Isocynates from Phosgene. Write synthesis of 3-Ethyl-4-methyl-3-pyrroline-2-one a key intermediate of Glimepiride **07**

OR

Q.3 **(a)** Give synthesis of: Metformin, Pioglitazone HCl, Glibenclamide **07**

(b) What is difference between "Lente" and "Ultralente" Insulin? Describe in brief Insulin isolation from animal pancreas and its storage. **07**

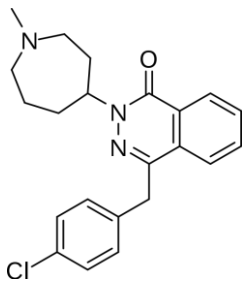
Q.4	**(a)**	Define synthon. Explain the rules for disconnection of heteroatoms in synthon approach with examples.	**07**
	(b)	What are hormones? Give classification and explain different male sex hormones.	**07**

OR

Q.4	**(a)**	Draw the structure of the following steroid showing its stereochemistry and substitution pattern of (a) **estra-1,3,5(10)-triene-3,17β-diol and (b) (3β,5α,17β)-Androstane-3,17-diol**	**07**
	(b)	Write short note on anti-thyroid drugs. Classify anti-thyroid drugs.	**07**
Q.5	**(a)**	Explain Biosynthesis, release and mode of action of thyroid hormones.	**07**
	(b)	Explain the treatment of iron deficiency anaemia	**07**

OR

Q.5	**(a)**	Draw the structure of the following steroid showing its stereochemistry and substitution pattern of (a) **17β -Hydroxyandrost-4-en-3-one (b) (3β)-cholest-5-en-3-ol**	**07**
	(b)	Give the synthon approach to the synthesis of azelastine	**07**



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