Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI • EXAMINATION – SUMMER • 2015

Subject Code:163601 **Date:12/05/2015**

Subject Name: Medicinal Chemistry-I

Time:10.30AM-01.00PM **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)**	(i). Write a note on Antiarrhythmic drug. What are its classifications?	**03**
		(ii).Write the synthesis of any one antiarrhythmic drug. Write its mechanism of action.	**04**
	(b)	(i). Write the structure activity relation of Thiazide class of Diuretics. Give examples wherever required.	**05**
		(ii). What are Osmotic diuretics? What are its classifications? Give one example in each class.	**02**
Q.2	**(a)**	(i). What are Anticoagulats? What are its classification?. Give one example in each class with structure	**03**
		(ii). Write a note on: (1). Antiplatelet drugs, (2). Thrombolytics.	**04**
	(b)	(i).Write a note on transition state Inhibitors.	**07**
		OR	
	(b)	Write short notes: Reverse pharmacology or Fragment based drug design	**07**
Q.3	**(a)**	(i).Write the mode of action of Proton pump inhibitor anti ulcer drugs. Give two examples.	**02**
		(ii). Write the synthesis of any one antihistamine: (1). Chlorpheneramine maleate, (2). Chlorcyclizine HCl, (3). Pyrilamine maleate	**05**
	(b)	(i). What are General anaesthetics? What are its classifications?. Give two examples in each class	**03**
		(ii). Write the synthesis of (1). An inhalation general anaesthetic (2). An Intravenous general anaesthetic	**04**
		OR	
Q.3	**(a)**	(i). Write the structure activity relation of H1 receptor antagonist (antihistamine). Give suitable examples wherever required.	**05**
		(ii). Write a note on second generation non sedative antihistamine. Give one example..	**02**
	(b)	(i). What are local anaesthetics?. Give one example with structure. Write the synthesis of it.	**04**
		(ii). What are basal anaesthetic? Give one example with structure. Write its synthesis.	**03**
Q.4	**(a)**	(i)..What are Antiparkinsonism agent?. What are its classifications?. Give the names of any two drugs used for treating Parkinson disease.	**04**
		(ii). Write a note on drugs used for treating gout. Give one example. Write its mode of action	**03**
	(b)	(i). Write the mode of action of Non steroidal anti Infammatory drugs (NSAIDs). Why most of the NSAIDs are having gastric side effects?	**03**
		(ii). Write the synthesis with a brief process of any one NSAIDs: (1). Ibuprofen, (2). Piroxicam, (3). Nimesulide	**04**

OR

Q.4	**(a)**	(i)Explain the following: Hits and Leads, Privileged Structure, Toxicophore	**03**
		(ii) Aspirin has a pK_a of 3.4. What is the ratio of A^- to HA in: (a) the blood (pH = 7.4) (b) the stomach (pH = 1.4)	**04**
	(b)	Explain Lipinski's rule of 5 and explain with examples	**07**

Q.5	**(a)**	Compare traditional approach vs. rational approach (CADD) in drug discovery	**07**
	(b)	(i).What are drug like properties?	**03**
		(ii).What is the difference between"drug discovery" and "drug development" .	**04**

OR

Q.5	**(a)**	(i).List the different methods used in Structure based drug design. Explain the principle of any one in detail.	**07**
	(b)	Differentiate between development of Pharmacophore and 3D QSAR	**07**

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