Seat No.:	Enrolment No.

Subject Code: 250004

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharm. - SEMESTER - V • EXAMINATION - WINTER • 2014

Date: 03-12-2014

	Time	ect Name: Pharmaceutical Chemistry-VI (Medicinal Chemistry) : 10:30 am - 01:30 pm Total Marks: 80 ctions:	
	IIISU U	 Attempt any five questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks. 	
Q.1	(a)	Define asthma. Classify the drugs used in treatment of asthma and discuss bronchodilators in detail.	06
	(b)	Write an informative note on partition coefficient and hydrogen bonding.	05
	(c)	Draw the structural formula of the following. (1) Isoxazole	05
		(2) 1,2-Diazine	
		(3) Benzo[b]pyrrole	
		(4) 2H-Pyrrole	
		(5) N-Methyl piperidine	
Q.2	(a)	Write the reaction and mechanism of the following.	06
	` ,	(1) Fisher Indole synthesis	
		(2) Skraup synthesis	
	(b)	Write a short note on expectorants and respiratory stimulants.	05
	(c)	Define following with suitable examples.	05
		(1) Prokinetic agent	
		(2) Carminative	
		(3) Laxative(4) Antacid	
		(5) Antidiarrheal agent	
Q.3	(a)	Give any two methods each for the synthesis of	06
	` /	(1) Thiazole	
		(2) Pyrimidine	
		(3) Pyrazole	
	(b)	Define bioisosterism. Discuss its classification and application with suitable	05
		examples.	
	(c)	Define and classify antiulcer drugs. Discuss how H ₂ receptor antagonists are	05
		evolved as antisecretory agents?	
Q.4	(a)	Outline the synthesis of following drugs.	06
		(1) Cetrizine	
		(2) Diphenhydramine	
	<i>a</i> >	(3) Omeprazole	
	(b)	Explain chemistry and reactions of pyridine in detail.	05
	(c)	Justify with suitable examples: Stereochemistry of drug molecule influences the biological activity.	05
Q.5	(a)	Enumerate the various physicochemical parameters which influence the	06
		biological activity and explain how ionization and solubility of drug affect the biological activity.	
	(b)	Define mucolytics and decongestants. Write a note on antitussive agents.	05

	(c)	Define and classify eicosanoids. Discuss clinical use of various eicosanoid derivatives.	05
Q. 6	(a)	Define and classify H_1 receptor antagonist with suitable example. Discuss SAR of H_1 receptor antagonist.	06
	(b)	Write a note on antiemetic and antispasmodic agents.	05
	(c)	Write name and structure of the heterocyclic ring present in the following drugs.	05
		(1) Ranitidine	
		(2) Promethazine	
		(3) Pantoprazole	
		(4) Histamine	
		(5) Zolamine	
Q. 7	(a)	Comment on the following. (1) Thiophene is more aromatic than oxole.	06
		(2) Five member heterocyclic rings are called π - excessive system.	
		(3) Furan gives Diels-Alder reaction.	
	(b)	Discuss various approaches of medicinal chemist towards drug discovery.	05
	(c)	Define and classify diagnostic agents. Give the synthesis of sodium iothalamate.	05
