GUJARAT TECHNOLOGICAL UNIVERSITY B.Pharm - SEMESTER-IV • EXAMINATION - SUMMER - 2021

Subject Code: BP402TP Subject Name: Medicinal Chemistry I Time: 10:30AM to 01:30PM **Instructions:**

Date: 04/08/2021

Total Marks: 80

- 1. Attempt any five questions.
- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks.

Q.1	(a)	Enumerate and define physicochemical properties of drug 0 molecules. Explain Ionization and Hydrogen bonding in detail.				
	(b)	What is Bioisosterism? Classify and Explain in brief with examples	05			
	(c)	Discuss importance of CYP450 in xenobiotics metabolism.	05			
Q.2	(a)	Define and classify sedative and hypnotics. Discuss SAR of	06			
	(h)	Barbiturates.	05			
	(b)	Classify anticholinergic agents and discuss SAR of cholinergic blocking agents.	05			
	(c)	What are parasympathomimetics? Classify them with suitable examples.	05			
Q.3	(a)	Give synthesis of:	06			
4	(4)	i) Diazepam	•••			
		ii) Phenytoin				
		iii) Propranlol				
	(b)	Give Sturcture and IUPAC name of following drugs:	05			
		i) Phenobarbital				
		ii) Loxapine succinate				
		iii) Naproxen				
		iv) Morphine sulphate				
		v) Thiopental sodium				
	. (c)	Give use and name the main heterocyclic ring present in the	05			
		following drugs.				
		i) Allopurinol				
		ii) Ibuprofen				
		iii) Halothane				
		iv) Amphetamine				
		v) Chlorpromazine				
Q.4	(a)	What are NSAIDs? Classify them with two examples of each class.	06			
		Write synthesis of one NSAID having one chiral center.				
	(b)	Give SAR of beta adrenergic blockers and benzodiazepines	05			
	(c)	Give chemical classification of Antipsychotics and discuss SAR of phenothiazine	05			
		1. 				

	Q.5	(a)	Comment on following statements:	06
		17	1. The more bulky the substituent on nitrogen, α -receptor activity	
			decreases and β -receptor activity increases in adrenergic series.	
			2. Barbituric acid itself is pharmacologically inactive but	
			barbiturates are used as hypnotic and sedative drugs.	
		(b)	Explain: Biosynthesis and catabolism of catecholamine.	05
		(c)	What are Analgesics? Write SAR and mode of action of morphine	05
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	Q. 6	(a)	Write short notes on general anesthetic agents. Give synthesis of	06
		()	Halothane	
		(b)	Explain the term epilepsy. Discuss types of epilepsy and write a note	05
		~ /	on Hydantoins.	
		(c)	Enumerate the structural features essential for directly acting	05
			Sympathomimetic agents.	
	Q.7	(a)	Write the advantages of selective COX-2 inhibitors over non-	06
			selective NSAIDs. Give synthesis of Salbutamol	
		(b)	Define Drug Therapy. Write a note on history of medicinal	05
			chemistry	
		(c)	Write the factors affecting drug metabolism including stereo	05
а 1		• •	chemical aspects.	
