Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–III(New) • EXAMINATION – WINTER 2016

Subject Code:2133601 Date:02/01/2017

Subject Name:Introduction to Medicinal Chemistry & Biochemistry

Time:10:30 AM to 01:00 PM Total Marks: 70

Instructions:

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

			MARKS
Q.1		**Short Questions**	**14**
	1	What are Anthelmintics?	
	2	The smallest unit of life is_____	
	3	What are the two major types of cell?	
	4	Define "Drug"	
	5	Define "Co enzyme". Give one example.	
	6	Write the Henderson-Hasselbalch equation for expressing dissociation constant of weak electrolytes.	
	7	What is the main function of cell wall in a eukaryotic cell.?	
	8	Define Medicinal Chemistry.	
	9	Name the most important difference between a disinfectant & an antiseptic.	
	10	Which organelle contains digestive enzymes?	
	11	What are Diagnostic agents?	
	12	Define Pharmacodynamics & Pharmacokinetics.	
	13	What are Antineoplastic drugs?	
	14	Write down two differences between RNA & DNA.	
Q.2	**(a)**	How to interpret drug pKa value	**03**
	(b)	Briefly explain GMP in pharmaceutical industries. Mention its importance & application	**04**
	(c)	Write the synthesis, metabolism & MOA of anti tuberculosis drug Isoniazid. Give a brief process.	**07**
		OR	
	(c)	Write the synthesis, metabolism & MOA of anti tuberculosis drug Ethambutol. Give a brief process.	**07**
Q.3	**(a)**	Write the SAR of Salicylate class of NSAIDs.	**03**
	(b)	Write the mechanism of action of NSAIDs. Why most of NSAIDs are having gastrointestinal side effects?.	**04**
	(c)	Write in detail- the role of Vitamins as Co-enzymes.	**07**
		OR	
Q.3	**(a)**	What are the limitations in chemotherapy of cancer. Name two examples of anticancer drug obtained from plants.	**03**
	(b)	Explain DNA, RNA. Draw a neat labeled diagram of DNA.	**04**
	(c)	What are the concept & the importance of Drug metabolism. Briefly explain the drug metabolism pathways .	**07**
Q.4	**(a)**	Write the synthesis of Sulphanilamide with a brief note on the process.	**03**

	(b)	Write in detail the SAR of 4-amino substituted Quinoline	**04**
	(c)	Write the synthesis of the antifungal agent Econazole. Write a brief note on its process.	**07**
		OR	
Q.4	**(a)**	Describe the different mechanisms of anti gout agents. Mention one example in each class.	**03**
	(b)	What are the classifications of Anti HIV drugs? Give one example in each class. Write their MOA.	**04**
	(c)	Explain Tri Carboxylic Acid (TCA) cycle in detail	**07**
Q.5	**(a)**	Write the mode of action of Azole class of antifungal agent. Give one example with structure.	**03**
	(b)	Write the SAR of Sulphonamide class of antibacterials.	**04**
	(c)	Explain the biosynthesis of Protein in detail.	**07**
		OR	
Q.5	**(a)**	What are the classifications of anti amoebic drugs. Give suitable examples in each category.	**03**
	(b)	Describe the viral life cycle in detail. Write two examples of Nucleoside reverse transcriptase inhibitor antivirus drugs.	**04**
	(c)	Explain the Glycolysis pathway in detail.	**07**

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