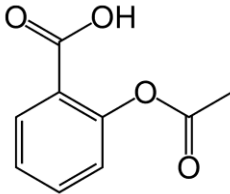
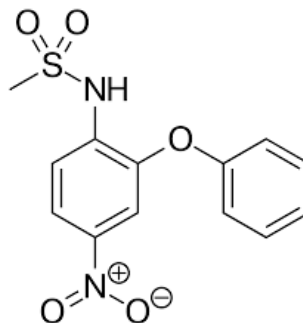


GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III(NEW) EXAMINATION – SUMMER 2023****Subject Code:3133601****Date:03-08-2023****Subject Name:Introduction to Medicinal Chemistry, Biochemistry & Physiology****Time:02:30 PM TO 05:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

	Marks
Q.1 (a) Define the terms: Medicinal Chemistry , drug & SAR	03
(b) Aspirin (acetylsalicylic acid) has a pKa of 3.5. (i) Calculate the ratio of ionized/unionized of the drug in the stomach where pH is 1. (ii) Calculate the ratio of ionized /unionized in the intestine where pH is 6. (iii) Based on these calculations- where is aspirin absorbed within the body?	04
(c) Discuss Phase –I & Phase-II reactions with suitable examples.	07
Q.2 (a) Enlist various routes of drug administration.	03
(b) What is cell organelles? Draw the diagram of a cell and label its different parts.	04
(c) Write the synthesis & MOA of the antifungal agent Econazole & Miconazole. Write a brief note on its process.	07
OR	
(c) Enlist classification of sulpha drugs. Give one example with MOA and SAR.	07
Q.3 (a) Write a short note on nephron.	03
(b) Enlist importance of GMP.	04
(c) Explain Tri Carboxylic Acid (TCA) cycle in detail.	07
OR	
Q.3 (a) Write a note on Cardiac cycle.	03
(b) Give synthesis and use of Following drug: Aspirin(structure given)	04
	
(c) Describe the reactions in the synthesis of urea (with cycle).	07
Q.4 (a) Write a note on drug distribution.	03
(b) Write the synthesis of Nimesulide (structure given)	04



- (c) Write the SAR of 8-amino Quinolines and its MOA. 07

OR

- Q.4 (a)** Write a note on blood and its composition. 03

- (b)** What is the medical condition called “Gout”? How the anti-gout agents work? Give suitable example with structures. 04

- (c)** What are anti-infective drugs? Explain antiseptic and disinfectants with example in each. 07

- Q.5 (a)** Describe Protein bio-synthesis. 03

- (b)** Write the mechanism of action of NSAIDs. 04

- (c)** Draw the diagram of upper respiratory system and label its different parts with function. 07

OR

- Q.5 (a)** Explain DNA, RNA, and Chromosome. 03

- (b)** Write the synthesis& MOA of Isoniazid-an anti-tubercular drug. 04

- (c)** Draw the diagram of different parts of urinary system with their function. 07

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