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M. Sc. Chemistry, III Semester
End-term Examination 2023

Paper Name: Medicinal Chemistry

Paper Code: MCHDCE-304

Time: 2:30 hrs

Maximum Marks: 60

Note: This paper has 3 sections A, B, and C. Attempt all the three sections

Section A: Answer *all* the questions; **Section B:** Answer *any 2* out of 4; **Section C:** Answer *all* the questions, each question has an *internal choice*

Abbreviations Used

CLO- Course Learning Outcome, PLO- Program learning Outcome, BTL- Bloom Taxonomy Level: BT level 1-Remember; BT level 2- Understand; BT level 3-Apply; BT level 4-Analyse; BT level 5-Evaluate, BT level 6-Create

Q. No.		BTL	CLO	PLO
SECTION A				
Very Short Type Questions (Attempt <u>all</u> questions)		10x1.5 = 15 Marks		
A 1.	What do you mean by hit to lead identification?	1	1-2	1
A 2.	What is meant by a drug?	1	1-2	1
A 3.	How will you increase the bioavailability of lead molecules?	2	2	2
A 4.	What are sulfa drugs?	2	2-3	2
A 5.	Briefly explain about drug resistance?	3	3	4
A 6.	What is prodrug and draw the structure of captopril?	1-4	2-4	4
A 7.	Briefly describe the Structure activity relationship?	1-4	2-4	5
A 8.	What are prostaglandins? Write any three prostaglandin inhibitors.	3	4	3
A 9.	List the infecting agents of Malaria and tuberculosis.	2	2	2
A 10.	What is QSAR?	5	5	5

SECTION B				
Long Type Questions (Attempt any two out of four)		2x10 = 20 Marks		
B 1.	What are therapeutic agents? Classify sulphonamides with example. Outline the synthesis of trimethoprim and sulphanilamide.	1-5	4-5	5-6
B 2.	What are beta lactam antibiotics? Give the degradation product of penicillins. Outline the synthesis of chloramphenicol.	2-4	3	4
B 3.	What are the phases of cancer? Give the classification of antineoplastic agents. Outline the synthesis of melphalan.	2-3	3	3
B 4.	What are anti-diabetic agents? Give the classification and outline the synthesis of tolbutamide.	2-6	2-6	2-6

SECTION C

Short Type Questions (Attempt all questions)

5x5 = 25 Marks

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| C 1. | Write a note on local anesthetic agents. Outline the synthesis of Lignocain. | 2-4 | 2-4 | 2-4 |
| OR | | | | |
| | Write about general anesthetic agents. Outline the synthesis of thiopental sodium. | 2-4 | 2-4 | 2-4 |
| C 2. | Write down the full process of drug discovery with each step. | 2-6 | 2-6 | 2-6 |
| OR | | | | |
| | Write about the drug receptor theory in details. | 4-6 | 4-6 | 4-6 |
| C 3. | What is bioavailability? Explain what parameters affects the bioavailability. | 1-6 | 1-6 | 1-6 |
| OR | | | | |
| | What is hypoglycemia? Explain fasting glucose level. Outline the synthesis of tolbutamide. | 1-6 | 1-6 | 1-6 |
| C 4. | What is tuberculosis? Explain the pathophysiology. Outline the synthesis of isoniazid. | 1-6 | 1-6 | 1-6 |
| OR | | | | |
| | Explain the ADME properties in detail. | 1-6 | 1-6 | 1-6 |
| C 5. | What is hammet equation? Write in details about the physicochemical parameters. | 5-6 | 5-6 | 5-6 |
| OR | | | | |
| | Describe the phases of clinical trials. | 1-6 | 1-6 | 1-6 |