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B.Sc. Chemistry (with Research) Semester II
End-term Examination 2023

Paper Name: Pharmaceutical Chemistry

Paper Code: BCH-MIC 201

Time: 3 hours

Maximum Marks: 60

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

Attempt *all* questions

10x1.5=15

- | | | | |
|---|---|---|---|
| 1. Write the structure and uses of cisplatin. | 2 | 1 | 1 |
| 2. Mention any two Hypoglycemic agents. | 3 | 1 | 1 |
| 3. What are Beta blockers? Give any one structure of them. | 2 | 2 | 1 |
| 4. Sketch the synthetic route for Aspirin. | 3 | 2 | 2 |
| 5. Write the characteristics of an ideal general anesthetic. | 4 | 2 | 1 |
| 6. What is Structure Activity Relationship? Write SAR of Cocaine. | 6 | 2 | 3 |
| 7. Write the aim and purpose of drug metabolism. | 3 | 2 | 2 |
| 8. What are acid-stable penicillins? Give ONE example. | 2 | 2 | 2 |
| 9. Differentiate between hypnotics and sedatives | 2 | 3 | 2 |
| 10. Differentiate between Aerobic and anaerobic fermentation. | 3 | 1 | 1 |

Section B

Attempt *any two* out of *four*

2x10=20

- | | | | |
|--|---|---|---|
| 1. Explain the SAR of amino benzoic acid derivatives as local anesthetics. | 4 | 5 | 2 |
| 2. What are ACE inhibitors? Discuss their SAR and mechanism of action. | 6 | 4 | 3 |

3. Discuss the Analgesics and Antipyretic drugs. Give synthesis of the following:

(i) paracetamol (ii) Ibuprofen 5 6 4

4. Classify antineoplastic agents with examples. Outline the synthesis of melphalan and Chlorambucil. 6 4 5

Section C

Attempt *all questions*, each question has an **Internal choice**

5x5=25

1. Write the classifications and SAR of Antihistaminic agents. Add their clinical uses.

2 2 2

OR

What are sulphonamides? Explain the chemistry of sulphonamides.

3 2 2

2. Write the structure and uses of ascorbic acid Write the synthesis of Cephalosporin.

4 4 5

OR

What are non-steroidal anti-inflammatory drugs? Discuss synthesis and mode of action of Indomethacin.

6 4 4

3. Explain the synthesis and uses of the following drugs:

6 6 5

i) Albendazole ii) Mebendazole

OR

(i) Sulphacetamide

(ii) Rifampicin

4. What are local anesthetics? Write the SAR of them. Write the synthesis of procaine.

5 4 3

OR

Define Antibiotic agents with examples. Write the SAR and mechanism of action of Streptomycin.

4 4 4

5. What are CNS agents? Discuss the synthesis of Phenobarbital and Diazepam.

4 3 3

OR

What is an Anticonvulsant drug? Discuss the mode of action of Phenytoin

5 3 3