Roll No. ------------------

**CHE-554**

**Drugs and Pharmaceuticals**

M.Sc. Chemistry (MSCCH)

2nd Year Examination 2024 (Dec.)

**TIME: 2 Hours Max Marks: 70**

Note: This paper is of Seventy (70) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein. ***Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.***

**SECTION – A**

**Long-answer - type questions**

**Note: Section ‘A’ contains Five (05) long-answer-type questions of Nineteen (19) marks each. Learners are required to answer any two (02) questions only. (2×19=38)**

1. Give the classification of Cephalosporin drugs. Explain it by giving one example of each.
2. (a) What is DNA intercalating agents? Explain the mechanism of action.

(b) What are Chiral drugs? Explain their importance.

1. What are receptors? Explain the role of receptors in the regulation of physiological reactions.
2. (a) Discuss the salient features of the prodrug approach. Enumerate the fundamental concepts of prodrug with suitable examples.

(b) Discuss the mode of action of antipyretic by cutting the examples of some typical drugs which you have studied.

1. (a) Explain the importance of enzymes and enzyme products in drug discovery.

(b) Explain the concept of QSAR with suitable examples.

**SECTION – B**

**Short – answer – type questions**

**Note: Section ‘B’ contains eight (08) short- answer type questions of Eight (08) marks each. Learners are required to answer any Four (04) questions only. (4×8=32)**

1. Explain briefly about the Houghton's Tea Bag procedure.
2. What are isosteres and bioisosterer? Explain their role in drug design.
3. Write the synthesis of methyl Dopa.
4. Give the structure, chemical name and others names of the four naturally occurring penicillin.
5. (a) Discuss pharmacokinetics, pharmacodynamic and mode of action of antineoplastic agents.

(b) How is cluster analysis useful in drug development?

1. What are immunosuppressing agents? Give suitable examples.
2. Write short notes on the following:

(a) Simplification of structure

(b) Rigidification of structure

1. What is an Antibiotic? Discuss the synthesis of antibiotic having beta-lactam ring in its structure.