

A-0994

Total Pages : 3

Roll No.

MSCCH-608

M.Sc. Chemistry (MSCCH)

Medicinal Chemistry

Examination February, 2026

Time : 2:00 Hrs.

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 (2×19=38)

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.

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(1)

P.T.O.

1. Define and explain the steps involved in drug design. Discuss the importance of lead compound identification and modification in medicinal chemistry.
2. What are prodrugs and soft drugs ? Explain with suitable examples their advantages in pharmaceutical development.
3. Describe the pharmacokinetic parameters governing absorption, distribution, metabolism, and excretion (ADME) of drugs.
4. Discuss the role of alkylating agents and antimetabolites in cancer chemotherapy. Describe the synthesis of any two antineoplastic agents.
5. Explain the mechanism of action and synthesis of cardiovascular drugs such as amyl nitrate, verapamil, and atenolol.

Section–B

Short Answer Type Questions (4×8=32)

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.

1. Write a short note on QSAR and its importance in drug development.
2. What are the major physico-chemical parameters influencing bioactivity ?
3. Explain enzyme inhibition and enzyme stimulation with examples.
4. Define drug metabolism and describe its significance in drug design.
5. Write the synthesis and therapeutic use of cyclophosphamide.
6. Explain the terms LD_{50} and ED_{50} with their relevance in pharmacology.
7. Discuss the role of receptors in drug-receptor interactions.
8. Write a short note on the recent developments in cancer chemotherapy.
