

**P-935**

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## **CHE-554**

### **Drugs and Pharmaceuticals**

M.Sc. Chemistry (MSCCH)

2nd Year Examination, 2023 (June)

**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 answer 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. What is QSAR? Discuss the conditions for applicability of QSAR. Explain the Hansen method of QSAR studies.

2. Explain the importance of enzymes and enzyme product in drug discovery.
3. Explain briefly about the pharmacokinetics based drug design.
4. (a) What is the importance of carbonic anhydrase? Explain the carbonic anhydrase inhibition.  
(b) Explain the importance of the X-ray crystallographic studies in drug design and development.
5. Attempt any *two* of the following :
  - (a) Central nervous system.
  - (b) Cholinergic receptor.
  - (c) Enzyme inhibitors.

## **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. Give the mechanism of the synthesis of (S) Ibuprofen
2. Write short note on the discovery of penicillin.

3. Explain genetic engineering process.
  4. Write short note on :
    - (a) Structural features of the sulfonamides.
    - (b) Angiotensin converting enzyme inhibitors.
  5. Write the mechanism, of the action of DNA-polymerase inhibitors.
  6. Attempt any *two* of the following :
    - (a) History of fermentation of drugs
    - (b) How the NMR and UV spectroscopy useful the drug analysis?
    - (c) Bioisosteres
  7. Write a short note on classification of nervous system.
  8. Discuss the development of captopril.
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