

**A-887**

Total Pages : 3

Roll No. ....

**CHE-554**

**M.Sc. CHEMISTRY (MSCCH)**

**(Drugs and Pharmaceuticals)**

2nd Year Examination, 2024 (June)

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.

**A-887/CHE-554**

( 1 )

P.T.O.

1. What is QSAR ? Explain the Hansch method of QSAR studies. Discuss the merits and demerits of QSAR ?
2. (a) What are prodrugs ? Write the principles of prodrug design ?  
(b) Write the structures and uses of Azathioprine and 6-mercaptopurine ?
3. (a) What is agonist drug ? Discuss briefly about the general principles involved in the design of agonist.  
(b) Write the structures for Calcium channel antagonists and Histamine antagonists.
4. (a) What are the vaccines ? Explain its importance ?  
(b) What is the importance ACE ? Explains the ACE inhibition.
5. Write the synthesis and uses of salbutamol and captopil.

### **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 an account on SAR studies of sulphonamides.
2. Write a short note on :
  - (a) Discovery of Penicillin
  - (b) Central nervous system
3. Write the structure of the following :
  - (a) Sulfomethoxazole
  - (b) Sulfadiazine
  - (c) Sulfisoxazole
  - (d) Sulfacetamide
4.
  - (a) What is genetic engineering process explain ?
  - (b) Explain Pfeiffer's rule.
5. Define the resin. What are the resins used in combinatorial synthesis ?
6. What are chiral drugs ? Discuss the structure and synthesis of any one chiral drug.
7. Discuss the quality control methods in drug formulation.
8. Discuss the role of pharmacokinetics in drug development.

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