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## **MCH-604**

### **Drugs and Pharmaceuticals-I**

M.Sc. Chemistry (MSCCH)

3rd Semester Examination, 2023 (June)

**Time : 2 Hours]**

**[Max. Marks : 35**

**Note :** This paper is of Thirty Five (35) 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 Nine and Half (9½) marks each. Learners are required to answer any Two (02) questions only.

(2×9½=19)

1. Explain the Hansen method of QSAR studies.

2. Write a note on the mechanism of action of penicillin.
3. Explain the importance of X-ray crystallographic studies in drug design development.
4. What is the lead compound for sulphonamide antibacterial? Write the structure of sulphanilamides.
5. What is an agonists drug? Discuss briefly about the general principles involved in the design of agonists.

### **SECTION-B**

#### **(Short Answer Type Questions)**

**Note :** Section 'B' contains Eight (08) short answer type questions of Four (04) marks each. Learners are required to answer any Four (04) questions only. (4×4=16)

1. Explain why aspirin (acetyl salicylic acid) is used drug through salicylic acid itself is a good pain killer?
2. Write briefly about Taft's steric parameter.
3. What are the Hammett substituent constants(s) how are they helpful in drug discovery?

4. What is the difference between Gram positive (G +ve) and Gram negative (G -ve) bacteria?
  5. Write a short note on lipophilicity.
  6. Discuss in brief the kinetics of proton binding.
  7. How is cluster analysis useful in drug development?
  8. Write short notes any *two* of the following :
    - (a) Random screening.
    - (b) Non random screening.
    - (c) Simplification of structure.
    - (d) Rigidification of structure.
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