NY—258—2023

FACULTY OF SCIENCE

M.Sc. (Second Year) (Third Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

(New/CBCS Pattern)

ORGANIC CHEMISTRY

Paper XVIII CH-534/2A (OCH-514)

(Medicinal Chemistry)

(Tuesday, 12-12-2023)　　　　　　　　　　　**Time : 2.00 p.m. to 5.00 p.m.**

Time—Three Hours　　　　　　　　　　　　　　　*Maximum Marks—75*

N.B. :— (*i*) Attempt *all* questions.

(*ii*) Figures to the right indicate full marks.

1. Attempt any *three* of the following :　　　　　　　　　　　15

(*a*) Define coagulants. Describe mechanism of 'blood clotting'.

(*b*) Define Drug Assay. Describe Biological Assay.

(*c*) Explain "Drug Absorption" in pharmacokinetics.

(*d*) Describe the "Inhibition of Bacterial Protein Synthesis".

(*e*) Give synthesis and SAR of Acedapsone.

P.T.O.

2. Attempt any *three* of the following : 15

   (*a*) Explain oxidation involved in the Drug Metabolism.

   (*b*) Discuss Occupancy theory of Drug activity.

   (*c*) Explain process of structure based drug designing.

   (*d*) What are soft drugs ? Give their properties.

   (*e*) Offer the synthesis of Ethambutol.

3. (*a*) What is QSAR studies ? Explain Hansch method and Free Wilson
   methods. 8

   Or

   Discuss distribution and elimination of drugs with respect to
   pharmacokinetics.

   (*b*) Give synthesis of chloramphenicol. Explain its SAR. 7

   Or

   Define Antileprotic drugs. Explain SAR of sulphones.

4. (*a*) Explain the general procedure in Drug Designing. 8

   Or

   Explain about the Elementary Treatment of Enzyme Inhibition and
   membrane Active Drugs with respect to Pharmacodynamics.

(b) (i) What is Hammet equation ? Explain.

(ii) Explain lipophilicity effect to increase the oral activity of drugs. 7

Or

What are β-Lactum antibiotics ? Explain structure and activity of benzyl penicillin. 7

5. (a) Give the synthesis of 4-Hydroxy coumarin. 5

(b) Write short notes on any *two* : 10

(i) LD_{50} and ED_{50}

(ii) Surface active agents

(iii) Action of anticoagulant drugs.