

[SG 707]

Sub. Code : 4182

SECOND B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

**Paper II — ADVANCED PHARMACEUTICAL
ORGANIC CHEMISTRY**

Time : Three hours Maximum : 90 marks
Two and a half hours Sec. A & Sec. B : 60 marks
for Sec. A and Sec. B Section C : 30 marks

Answer Sections A and B in separate answer books.

Answer Section C in the answer sheet provided.

SECTION A — (2 × 15 = 30 marks)

Answer any TWO questions.

1. (a) What are heterocyclic compounds? Write a note on classification nature numbering and nomenclature of heterocyclic compounds.

(b) Outline general method of synthesis for any THREE of the following :

- (i) Pyridine
- (ii) Pyrole
- (iii) Pyrimidine
- (iv) Imidazole.

Write the skeleton structure and medicinal uses of one important compound each of the above heterocyclics.

2. (a) What are geometrical isomers? Which type of compound can exhibit this isomerism? (5)
 - (b) Write a note on the nomenclature of geometrical isomers with suitable examples. (5)
 - (c) Discuss the stereochemistry of cyclic compounds. (5)
 3. Explain the following reactions :
 - (a) Birch reduction.
 - (b) Beckmann-rearrangement.

Meerwin - Ponderoff reduction.
 4. Discuss different methods of preparation and chemical reaction of TRI-PHENYL METHANE. How can it be converted to Tri-phenyl carbinol and Tri-phenyl methyl chloride? Give the skeleton structure of Triphenyl methane dyes. (4 + 4 + 2 + 2 + 3)
- SECTION B — (6 × 5 = 30 marks)
- Answer any SIX questions.
5. Explain chirality and optical activity.
 6. Compare aromaticity of the following with Benzene Pyrole Furan Thiophen.
 7. Write a note on stereochemistry of biphenyls.
 8. Write down the Fisher projection formula for lactic acid indicate the different isomers of tartaric acid by drawing structures. What is a diastereomers? Define and explain.
9. Describe the various conformational isomers of n butane and with energy diagram and Newmann's projection formula. Explain their stability. (5)
 10. Explain the following terms with suitable examples :
 - (a) Absolute configuration. (2)
 - (b) Resolution and racemisation. (1½)
 - (c) Cotton effect. (1½)
 11. Write the structure and use of
 - (a) Isoniazid.
 - (b) Mepacrine.
 - (c) Phenytoin.
 - (d) Piperazine.
 - (e) Chloroquine. (5 × 1)
 12. Asymmetric synthesis. (5)
 13. Discuss the stereochemistry of nitrogen compounds. (5)