NOVEMBER - 2001

[KE 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 for Sec. A and Sec. B — Sec. A & Sec. B : 60 marks; Section C : 30 marks

Answer Sections A and B in same Answer Book.

Answer Section C in the answer sheet provided.

SECTION A — (2 × 15 = 30 marks)

Answer any TWO questions.

1. Outline the preparation and chemical reactions of diphenyl methane and triphenyl methane. Illustrate with suitable examples their medicinal importance.

2. (a) Give an account of the theoretical basis of optical and geometrical isomerism giving suitable examples.

(b) Describe the various methods available for the resolution of racemic mixtures.

3. Discuss the following reactions with special reference to their mechanism and synthetic applications :

(a) Birch reduction

(b) Schmidt rearrangement

(c) Meerwin–Pondorff reduction.

4. Describe the preparation and important reactions of (a) Pyrimidine and (b) Quinoline. Write a note on their medicinal importance giving examples.

SECTION B — (6 × 5 = 30 marks)

Answer any SIX questions.

5. Describe the Haworttis synthesis of naphthalene.

6. Discuss giving the relevant structures the important chemical reactions of anthracene.

7. Explain the *R* and *S* system of designating the configurations around a chiral centre giving suitable examples.

8. Write a note on the optical activity of biphenyls clearly stating the necessary and sufficient conditions for such molecules to exhibit enantomerism.

9. Discuss the mechanism and significance of Beckmann rearrangement.

10. Explain why electrophilic substitution in furan occurs preferentially at the alpha position.

11. Discuss the basicity of pyridine in comparision to aliphatic and aromatic amines.

12. Give the structure and medicinal uses of isoniazid, Diethyl carbamazine, sulphathizole, mepacrine and niketharnide.

13. How is thiophene synthesised? Account for its aromatic character.