[KA 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 separate sheet provided.

SECTION A — (2 × 15 = 30 marks)

Answer any TWO questions only.

1. (a) How do you prepare TRIPHENYL METHANE? Give the mechanism of the reactions involved in this synthesis? Mention any two reactions of TRIPHENYL METHANE. (6)

(b) Give the skeletal structure along with numbering of phenanthrene molecule? Give one method for the synthesis and any two reactions of phenanthrene. (6)

(c) Give the structure and medicinal uses of any one compound each containing (i) Naphthalene (ii) Phenanthrene and (iii) Anthracene. (3)

2. (a) Describe SP^3 hybridisation with a suitable example. Give evidence for tetrahedral structure of methane molecule. (4)

(b) Explain the terms plane of symmetry, centre of symmetry and alternating axis of symmetry with suitable examples. (6)

(c) Write a note on conformational analysis. (5)

3. (a) Give one example for Waldane inversion? Describe the various factors which effect the mechanism of Waldane inversion. (6)

(b) Write a note on (i) Birch reduction (ii) Lead tetra acetate oxidation (iii) Schmidt rearrangement. (3 × 3 = 9)

4. (a) Give one method of synthesis, any two reactions and any one medicinal compound (along with its use) containing

(i) Pyrazole (ii) Acridine (iii) Phenothiazine (iv) Isoquinoline (v) Isoxazole. (5 × 3 = 15)

SECTION B — (6 × 5 = 30 marks)

Answer any SIX questions only.

5. Enumerate the methods available for resolving a recemic mixture and describe any one of them. (5)

6. (a) Define tautomerism and give any two examples exhibiting tautomerism. (3)

(b) How do you synthesise naphthalene? (2)

7. Describe partial assymetric synthesis and absolute assymetric synthesis with the help of one example each. (5)

8. Give one method of synthesis and any two reactions of thiazole. (5)

9. Give the structure and medicinal use of one compound containing the following heterocyclic rings : (5)

(a) Pyridine

(b) Indole

(c) Quinoline

(d) Piperazine

(e) Imidazole.

10. Give the structure and medicinal use of the following medicinal agents : (5)

(a) Methyl thiouracil

(b) Mepacrine

(c) Sulfathiazole

(d) Tolazoline

(e) Phenytoin.

11. Describe the type of isomerism exhibited by compounds containing C = N and methods to determine their configurations. (5)

12. Explain one method for the synthesis of pyrrole and give reasons for its aromatic character. (5)

13. Write a detailed note on Clemenson reduction and Meerwin Pondorf Reduction. (5)
