

[KG 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 & Sec. B. Section C : 30 marks

Answer Section A and Section B in same answer books.

Answer Section C in the answer sheet provided.

SECTION A — (2 × 15 = 30 marks)

Answer any TWO questions.

- Outline the preparation of Anthracene.
 - Write the name and structure of the compounds formed when anthracene is
 - subjected to Diel's-Alder reaction
 - subjected to Friedal crafts acylation.
 - Give the synthesis of phenanthrene and mention the medicinal importance. (4 + 6 + 5 = 15)
- Explain what happens when the following occur. Also give the relevant equation.
 - Indole is treated with acetyl chloride in the presence of SnCl₄.
 - Thiophene is treated with a solution of nitric acid and acetic anhydride.

(iii) Furan is reduced by hydrogen in presence of nickel.

(iv) Pyrrole reacts with chloroform in the presence of alkali.

(v) Pyridine reacts with sodamide in liquid ammonia at 100°C

(b) Comment on the following structures :

(i) Thiophene behaves like an aromatic compound

(ii) Pyridine is more basic than pyrrole. (10 + 5 = 15)

3. Write notes on : (4 + 4 + 4 + 3 = 15)

(a) Configuration of biphenyl compound

(b) Elements of symmetry

(c) Conformational analysis

(d) Optical activity.

4. (a) What are heterocyclic compounds? Give a brief account of Indole synthesis by various routes.

(b) Write the important reaction of pyridine. (10 + 5 = 15)

SECTION B — (6 × 5 = 30 marks)

Answer any SIX questions.

5. Give one example of medicinally important compound from each of the following series :

- (a) pyridine derivative
- (b) pyrimidine derivative
- (c) Naphthalene derivative
- (d) Phenothiazine derivative
- (e) Quinoline derivative.

6. Write notes on :

- (a) Recemic modification
- (b) Meerwin-Pondroff reduction.

7. Write the synthesis

- (a) Hantzsch pyridine synthesis
- (b) Reissert indole synthesis.

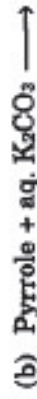
8. Write structure and uses of the following :

- (a) primidone
- (b) chloroquin
- (c) methyl thiouracil
- (d) nicotinic acid
- (e) piperazine.

9. Write notes on :

- (a) Metal hydride reduction
- (b) Beckmann rearrangement.

10. Write the product of the following reaction stating their condition :



11. Explain the modern theory of geometrical isomers.

12. Distinguish between enantiomers and diastereomers.

13. Give an account of the basicity of heterocyclic compound containing one nitrogen atom.