

FEBRUARY - 2006

[KO 707]

Sub. Code : 4182

SECOND B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper II — ADVANCED PHARMACEUTICAL
ORGANIC CHEMISTRY

Time : Three hours Maximum : 90 marks

Theory : Two hours and
forty minutes Theory : 70 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

I. Long Essay :

(2 x 15 = 30)

Answer any TWO questions.

- (a) Describe with mechanism Skrusup quinoline synthesis. (5)
(b) Give two methods of synthesis of pyridine. Explain why pyridine under goes electrophilic substitution only under vigorous conditions. Write the structures and medicinal uses of Nikethamide and Isoniazid. (5 + 2 +3) = 10

2. Write the Haworth's synthesis of naphthalene. Explain the chemical reactions of naphthalene derivatives with their structures and uses. (5 + 7 +3)

3. (a) Define racemic modifications. Describe the methods used for the resolution of racemic modifications. (10)

(b) What is conformational analysis? Explain with an example. (5)

4. (a) What is Walden inversion? Discuss its mechanism with reference to the effects of solvent, reagent and substrate. (10)

(b) How do you define reduction? Give the mechanism involved in Meerwin-Pondoff reduction. (5)

II. Short notes on: (8 x 5 = 40)

Answer any EIGHT questions.

1. Define stereoisomerism. Write a note on elements of symmetry.
2. Give a method of preparation and three chemical reactions of anthracene.
3. What are R and S configurations? Explain with examples.
4. Write the different conformations and their relative stabilities of cyclohexane.

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5. Write a brief note on stereochemistry of nitrogen compounds.
6. Define Beckmann rearrangement. Explain its mechanism with an example.
7. Compare and explain the basicities of pyridine, pyrrole and aliphatic amines.
8. Give a method of preparation and a medically important derivative with their structures of each of the following.
 - (a) Indole.
 - (b) Isoquinidine.
9. What are heterocyclic compounds? Classify them with examples. How are simple heterocyclics named by IUPAC system?
10. Write the structures and medicinal uses of the following:
 - (a) Sulphathiazole
 - (b) Methylthiouracil
 - (c) Piperazine
 - (d) Phenytoin.