August-2007

[KR 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 × 15 = 30)

Answer any TWO questions.

1. Describe the methods of preparation and reactions naphthalene and phenanthrene. Name two medicinally important derivatives of each of these systems with their structures and uses.

2. Explain with mechanism of Hantzsch pyridine synthesis. Give four important chemical reactions with equations of pyridine. Write the structures, chemical names and uses of any TWO pyridine derivatives.

3. (a) Define Walden inversion. Explain the factors which affect its mechanism. (8)

(b) What is oxidation? Name four oxidizing agents and give specific examples of reactions in which they are used. (7)

4. (a) What are racemic modifications? Explain the different methods to resolve them. (10)

(b) Write a note on stereochemistry of Nitrogen compounds. (5)

II. Short notes : (8 × 5 = 40)

Answer any EIGHT questions.

1. Explain the mechanism involved in Skruap quinoline synthesis.

2. What is stereoisomerism? Write a note elements of symmetry.

3. Write two methods of preparations of each of anthracene and diphenyl methane.

4. Write an account of the baricities of pyrrole, pyridine and aliphatic amines.

5. Illustrate the sequence rules for assigning R and S configurations to an optically active compound.

6. Give a method of preparation and a medicinally important derivative with their structures of the following heterocyclics.

(a) Imidazole

(b) Acridine.

7. What is Beckmann rearrangement? Explain its mechanism with a suitable example.

8. Discuss reduction with hydrazine and its derivatives.

9. Write the structures and medicinal uses of the following :

(a) Diethyl carbamazine

(b) Naphazoline

(c) Mepacrine

(d) Sulphathiazole

(e) Mepyramine.

10. Define heterocyclic compounds giving their classification. How are monocyclic heterocyclics named by IUPAC system?

August-2007

[KR 741] **Sub. Code : 4232**

SECOND B.Pharm. DEGREE EXAMINATION.

(Regulations 2004)

Paper III — 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 : $(2 \times 15 = 30)$

Answer any TWO questions.

1. (a) Outline the preparation of Anthracene.

(b) Write the name and structure of the compounds formed when anthracene is

(i) subjected to Diel's-Alder reaction

(ii) subjected to Friedal Crafts acylation reaction.

2. What are recemic modifications? Describe the various methods available for the resolution of recemic forms.

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

(a) Meerwin – Pondroff reduction.

(b) Birch reduction.

(c) Beckmann rearrangement.

4. Outline the preparation and discuss the important chemical reactions of

(a) Indole

(b) Pyrrole

(c) Quinoline.

II. Short notes : (8 × 5 = 40)

Answer any EIGHT questions.

1. Write notes on elements of symmetry.

2. Write the synthesis of

(a) Hantzch pyridine synthesis.

(b) Reissert Indole synthesis.

3. Give the resonance forms of Furan.

4. Write a note on :

(a) Metal hydride reduction.

(b) Oxidation with perchloric acid.

5. Write the important reactions of Thiophene.

6. Illustrate the sequence rules for assigning R and S configurations to an optically active compound.

7. Electrophilic substitution in Pyrrole takes place at 2 position, whereas in Pyridine at 3 position – Explain.

8. Write the structure and uses of the following compounds :

(a) Primidone

(b) Nikethamide

(c) Isoniazid

(d) Primaquin.

9. Methods of structural Elucidation and pharmacological activity of Ergot, paperazine.

10. General properties and reaction of essential amino acids.

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