February-2008

[KS 707] **Sub. Code : 4182**

SECOND B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper II — ADVANCED PHARMACEUTICAL ORGANIC CHEMISTRY

Q.P. Code : 564182

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. Explain Beckmann rearrangement with its mechanism and synthetic applications.

2. (a) Write in detail about elements of symmetry. $(7\frac{1}{2})$

(b) Explain stereochemistry of cyclic compounds. $(7\frac{1}{2})$

3. Write the Haworth's synthesis of naphthalene. Derivatives with their structures and uses.

4. (a) Explain synthesis and reaction of Furan and quinoline. (10)

(b) Write the structure; chemical name and use of the following compounds : (5)

(i) Isoniazid

(ii) Histamine

(iii) Phenytoin

(iv) Piperazine

(v) Mepacrine.

II. Short notes : (8 × 5 = 40)

Answer any EIGHT questions.

1. Explain about tetrahedral carbon atom.

2. Write a note on configuration of Biphenyl compounds.

3. Explain racemic modification and its properties.

4. Explain with mechanism of Clemensen reduction.

5. Write a note on Haworth synthesis of Naphthalene.

6. What are heterocyclic compounds and discuss the orbital structure of pyridine.

7. Explain E and Z nomenclature of geometrical isomerism.

8. Describe two methods used for resolving racemic mixtures into optically active forms.

9. Explain about A tropisomerism.

10. Give a method of preparation and medicinally important derivatives with their structure of the following heterocyclic compounds :

(a) Indole

(b) Pyrrole.

February-2008

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

SECOND B.Pharm. DEGREE EXAMINATION.

(Regulations 2004)

Paper III — ADVANCED PHARMACEUTICAL ORGANIC CHEMISTRY

Q.P. Code : 564232

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. (a) Define Walden inversion. Explain the factor which affect its mechanism.

(b) Explain Hybridisation of orbitals.

2. Discuss the following reaction with their mechanism and synthetic application :

(a) Schmidt rearrangement

(b) Birch reduction

(c) Darzen's reaction.

3. Outline the preparation and discuss the important chemical reaction of

(a) Pyridine

(b) Imidazole

(c) Isoquinoline.

4. Outline the general methods of structural elucidation, chemistry and pharmacological activity of

(a) Reserpine

(b) Caffeine

(c) Menthol.

II. Short notes : (8 × 5 = 40)

Answer any EIGHT questions.

1. Write a note on stereoisomerism and stereomutation.

2. Explain stereochemistry of cyclic compounds.

3. Write a note on :

(a) Metal hydrate reduction

(b) Oxidation with selenium oxide.

4. Describe the method of preparation and reaction of phenothiazine.

5. Define amino acid and write the classification of amino acid with examples.

6. Write the synthesis of

(a) Friedlander Synthesis of Quinoline

(b) Bischler-Napieralski synthesis of isoquinoline.

7. What are Heterocyclic compounds and explain why pyridine is more basic than pyrrole?

8. Explain method of structural elucidation and pharmacological activity of Ephedrine and Uric acid.

9. Explain method of preparation and reaction of Thiophene.

10. Explain method of structural elucidation and medicinal use of

(a) Theophylline

(b) Vitamin B_6.