AUGUST - 2004

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

SECOND B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper II — ADVANCED PHARMACEUTICAL ORGANIC CHEMISTRY

Time : Three hours Maximum : 90 marks

Sec. A & B : Two hours and forty minutes Sec. A & B : 70 marks

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

Answer Section A and B in the **SAME** Answer Book.

SECTION A — (2 × 15 = 30 marks)

Answer any TWO questions.

1. (a) Define Stereoisomerism. Distinguish between the two types of stereoisomerism you have studied.

(b) Write notes on Chiral, with suitable example. (10 + 5 = 15)

2. (a) Discuss the utility of the following reagent :

(i) Lithium Aluminium hydride.

(ii) Lead Tetra acetate.

(iii) Selenium oxide.

(b) Write notes on : (9 + 6 = 15)

(i) Catalytic hydrogenation.

(ii) Clemensen reduction.

3. (a) Give one example of medicinally important compound from each of the following series, and mention their structure and uses.

(i) Napthalene.

(ii) Anthracene.

(iii) Phenanthrene.

(b) Give the synthesis of (9 + 6 = 15)

(i) Diphenyl methane.

(ii) Triphenyl methane.

4. Write notes on :

(a) Stereochemistry of nitrogen compounds.

(b) Skraup synthesis of quinoline.

(c) Compare the reactivity of furan and pyrrole towards electrophilic substitution. (5 + 5 + 5 = 15)

SECTION B — (8 × 5 = 40 marks)

Answer any EIGHT questions.

5. Explain the stability of cis–trans isomerism.

6. Write notes on :

   (a) Dipole moment

   (b) Interconversion of Geometrical isomerism.

7. Give the synthesis of

   (a) Fischer's indole synthesis.

   (b) Hantzsch pyridine synthesis.

8. Write structure and uses of the

   (a) Mepacrine.

   (b) Sulphathiazole

   (c) Phenergan.

   (d) Phenytoin.

   (e) Isoniazid.

9. Write the products of the following reactions stating their condition :

   (a) Phenanthrene $\xrightarrow[H_2SO_4]{K_2Cr_2O_7}$

   (b) Anthracene $\xrightarrow{\text{(Oxidation)}}$

   (c) Pyridine + $NaNH_2$ ⟶

   (d) Pyrrole + $CHCl_3$ $\xrightarrow{KOH}$

   (e) Furan $\xrightarrow[Ni, Pt]{H_2}$

10. Enumerate briefly the configuration of Biphenyl molecule.

11. Give atleast three chemical properties of Furan.

12. What are the products, when Napthalene and Furan are subjected to

   (a) Friedal Crafts reaction.

   (b) Halogenation reaction.

13. Give a brief account of optical isomerism of Tartaric acid.

14. Explain modern theory of geometrical isomers.

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