

PHARMACEUTICAL CHEMISTRY III
(Advanced Organic Chemistry)
(2010 SCHEME)

Time: 3 Hours**Total Marks: 100**

- Answer all Questions.
- Write equations wherever necessary.

Essay**(3x10=30)**

1. Explain the terms stereoisomerism and stereo mutation. Add a note on determination of configuration of geometrical isomers and conventions used in stereochemistry
2. Outline the preparation and discuss the important chemical reactions of isoquinoline and quinoline
3. Discuss the reduction with hydrazine and its derivatives. Explain how monocyclic heterocyclic are named by IUPAC system

Short notes**(14x5=70)**

4. Explain the modern theory of double bonds
5. Optical isomerism of tartaric acid
6. Define the following with examples: • Meso compounds • Racemic modifications
7. Aromaticity and basicity of pyridine
8. Explain the isomerism exhibited by oximes. How do you assign configuration for them.
9. What happens when the following occurs. Explain • Indole is treated with the acetyl chloride in the presence of stannous chloride • Pyrrole reacts with chloroform in the presence of alkali
10. Explain why pyrrole undergoes electrophilic substitution at 2- position.
11. What happens when naphthalene is treated with: • Acetyl chloride in the presence of $AlCl_3$ • Sodium and isopentanol and heated to its boiling point ($130^{\circ}C$)
12. Describe Haworth synthesis of anthracene
13. List the important properties of thiophene
14. Mention the different reagents used in the oxidation process. Discuss the mechanism of oxidation of any one.
15. Stereo selective synthesis
16. Mention the synthesis of : • Pyridine from tetra hydro furfuryl alcohol • Reissert indole synthesis
17. Mention the importance of following reactions as synthetic tools. • Mannich reaction • Michael addition reaction