

Second Year B.Pharm Degree Supplementary Examinations - July 2015

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

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

- Answer all Questions.
- Write equations wherever necessary.

**Essay****(3x10=30)**

1. Define reduction. Explain the mechanism involved in Clemmensen reduction and Meerwein Ponndorf reduction
2. Define and classify heterocyclic compounds. Mention the preparation and important reactions of pyrrole and imidazole
3. What are racemic modifications. Explain the different methods that are utilized for the resolution of racemic modification

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

4. Differentiate confirmation and configuration. How will you arrive at the absolute Configuration.
5. Elements of symmetry
6. Factors affecting mechanism of Walden inversion
7. Fischer indole synthesis
8. Stereochemistry of nitrogen compounds
9. What is meant by metal hydride reduction. Enumerate the advantage of metal hydride reduction over catalytic hydrogenation
10. Explain the following with examples: • Asymmetric carbon • Chirality • Asymmetric synthesis
11. Describe the preparation of naphthalene from benzene
12. The electrophilic substitution in naphthalene predominates at alpha position. Explain with examples
13. Explain how furan is synthesized. What happens when furan is treated with acetic anhydride and boron trifluoride.
14. Distinguish between enantiomers and diastereomers.
15. Outline the preparation and mention one important chemical reaction of phenothiazine
16. Explain Geometrical isomerism with suitable examples
17. • Pyridine + CH<sub>3</sub> I →
  - Quinoline + NaNH<sub>2</sub> →
  - Tetrahydrofuran in the presence of NH<sub>3</sub> →
  - Indole + HCHO + (CH<sub>3</sub>)<sub>2</sub> NH →
  - Thiophene in the presence of H<sub>2</sub> and Raney Ni →

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