

**II B.Tech I Semester Supplementary Examinations, May 2005****ORGANIC CHEMISTRY****(Chemical Engineering)****Time: 3 hours****Max Marks: 80**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

\*\*\*\*\*

1. (a) What is resonance.  
(b) What are the necessary conditions for resonance.
2. (a) Explain the reaction mechanism of Friedel-craft reaction.  
(b) Explain the reaction mechanism of Clemmensen reduction.
3. (a) Discuss about Hell-volhard zelinsky reduction with its mechanism.  
(b) Describe the applications of above reaction.
4. (a) Which of the following compounds exhibit optical isomerism?
  - i. Nitromethane.
  - ii. Methyl chloride.
  - iii. Glyceraldehyde.
  - iv. Ethylene glycol.  
(b) Describe a method to determine the optical activity of an organic compound.
5. (a) How maleic acid and fumaric acid react with acetyl chloride? What inference you get from this reaction?  
(b) Write a note on E and Z configurations of geometrical isomers.
6. (a) What are reducing sugars? Give examples.  
(b) Explain the ring structure of glucose.
7. (a) How will you prepare Thiophene? Mention any two methods.  
(b) How does Quinoline react with the following reagents.
  - i. Sodamide in liquid ammonia.
  - ii. Fuming nitric acid in the presence of fuming sulphuric acid.
  - iii. Alkaline  $\text{KMnO}_4$ .
8. Explain the following terms :
  - (a) Chromophore.
  - (b) Auxochrome.
  - (c) Chromogen.
  - (d) Bathochromic shift.
  - (e) Hypochromic shift.

\*\*\*\*\*