

II B.Tech I Semester Supplementary Examinations, November 2005
ORGANIC CHEMISTRY
(Chemical Engineering)

Time: 3 hours**Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. Discuss the following effects of resonance
 - (a) Dipole moment.
 - (b) bond length.
 - (c) Strength of acids and bases.
 - (d) Stability of free radicals and carbonium ions. [4+4+4+4]
2. What is alkylation and acylation? Give at least three different examples of each. [16]
3. (a) How is phenol converted into salicylaldehyde and identify the name of the reaction and show its reaction mechanism.
(b) What happens in Reimer-Tieman reaction if CCl_4 is used instead of CHCl_3 ? [8+8]
4. (a) Draw the R and S configurations of the following:-
 - i. Bromochloriodomethane.
 - ii. sec- Butyl chloride. [4+4](b) Describe a method to determine the optical activity of organic molecules. [8]
5. (a) Which of the following compounds exhibit geometrical isomerism?
 - i. Propylene.
 - ii. 1- Butene.
 - iii. 2- Butene.
 - iv. isobutylene. [2+2+2+2](b) Describe a method to determine the configuration of geometrical isomers. [8]
6. (a) What are carbohydrates? How are they classified based upon hydrolysis reactions? Give examples for each type. [3+5]
(b) How will you prepare fructose from glucose and vice versa? [4+4]
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 KMnO_4 . [7+9]
8. What are azo dyes? Write down the method of preparation of any two of the azo dyes? How the structure of azo dyes are determined? [3+8+5]

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