

**2006 KARNATAKA UNIVERSITY**

**CHEMISTRY DEPARTMENT III SEM. B.TECH. (CHEM. ENGG)  
ORGANIC CHEMISTRY (Elective) CY 205**

**AUG-2006**

**TIME: 1 HR.  
MARKS: 20**

1. The optical rotation observed with a polarimeter was  $12^{\circ} 30'$ , when its polarimeter tube of length 20 cm, was filled with a sample of sugar solution having concentration 0.1 g per ml. Under the similar conditions, distilled water showed rotation of only  $20'$ . If the specific rotation of pure sugar is  $+66.5^{\circ}$ , calculate the purity of sugar in the solution. Distinguish between diastereomers and enantiomers, giving suitable examples.

What do you mean by racemic modifications ? Explain any one method of resolution. Write the structures of possible stereoisomers for tartaric acid. Assign the R and S configurations for each asymmetric carbon atom in them.

Explain the stereochemistry of diphenyl compounds with specific examples.

Explain any three factors influencing conformational stability, with examples.

Write a brief note on conformational analysis of cyclohexane. Give the synthesis of the following compounds from diethyl malonate.

- (i) succinic acid
- (ii) adipic acid
- (iii) veronal.