

Shivaji College, University of Delhi
Department of 'CHEMISTRY'
Internal Assignment
(Academic year 2023-24)

Name of Course: B.Sc.(L.S.) Semester-I

Name of Paper: Basic Concept of Organic Chemistry

M.M. = 40

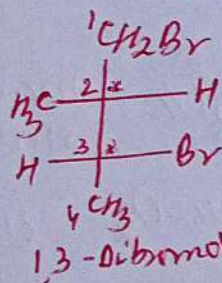
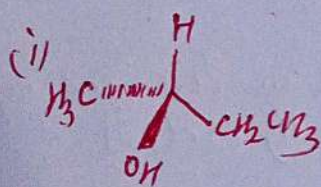
Name of Faculty: Dr. Nand Gopal Gini

Last Date of Submission: 20/11/2023

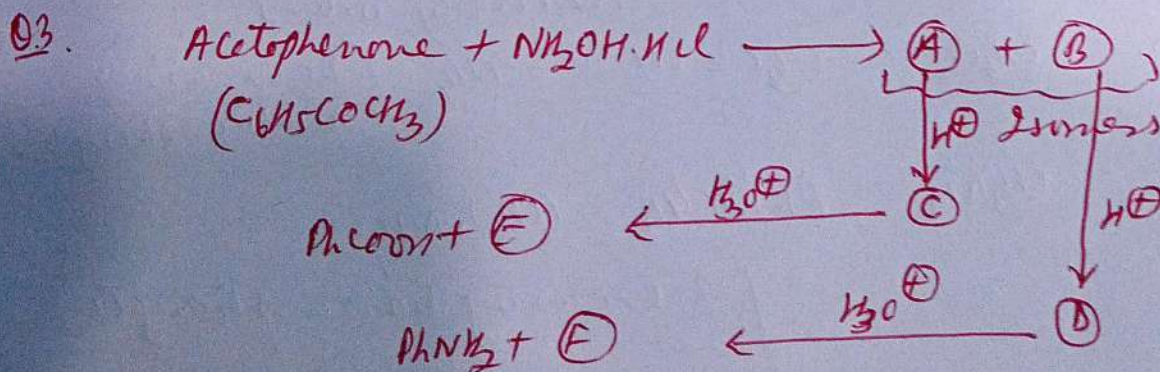
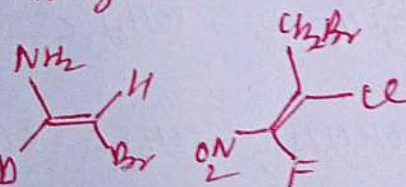
Attempt all Questions

Q1. Calculate the specific optical rotation of coniine if a solution containing 0.35g/10ml is measured in a 5cm tube. The optical rotation of solution is $+5^\circ$. What will be specific optical rotation of its enantiomer under similar condition. (4M)

Q2. (i) Assign R/S Configuration. (4M)



(ii) Assign E/Z Configuration



Write the structures of A to F.

(6M)

Q4. (i) Write the complete reaction of sulphonation to benzene, also explain its mechanism. (2m)

(ii) How would you convert benzene to m-bromonitro benzene? (2m)

Q5. Write notes in detail on any 4 of following.

Also write mechanism of reaction. (4x3m)

- (i) Benzoin Condensation
- (ii) Perkin reaction
- (iii) Aldol Condensation
- (iv) Pinacol - Pinacolone rearrangement
- (v) Michael Addition reaction
- (vi) Reimer-Tiemann reaction
- (vii) Williamson ether synthesis.

Q6. Explain with reason (10m)

- (i) CH_3CH_2^+ , $(\text{CH}_3)_3\text{C}^+$, $(\text{CH}_3)_2\text{CH}^+$ [Arrange in increasing stability order]
- (ii) $\text{CH}_2=\text{CHCH}_3$, $(\text{CH}_3)_2\text{C}=\text{C}(\text{CH}_3)_2$, $\text{CH}_2=\text{CH}_2$, $\text{CH}_3\text{CH}=\text{CHCH}_3$
[Arrange in increasing reactivity order]
- (iii) CH_3COOH , CH_3OH , $\text{CH}_3\text{C}\equiv\text{CH}$, CH_4 [Decreasing acidic strength]
- (iv) PhNH_2 , CH_3NH_2 , PhNHCH_3 , $(\text{CH}_3)_2\text{NH}$
[Increasing basic strength]