

**CARMEL COLLEGE OF ARTS, SCIENCE & COMMERCE FOR  
WOMEN,  
NUVEM-GOA**

**SEMESTER END EXAMINATION JULY 2021**

Semester: VI of B.Sc. Course name & Code: Organic Chemistry CHC110

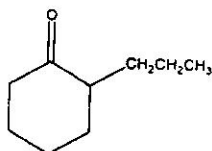
Total marks: 30 Date: 14/07/2021 Duration: 2 hours Total No of pages: 02

*Instructions: 1. All questions are compulsory  
2. Figures to the right indicate marks*

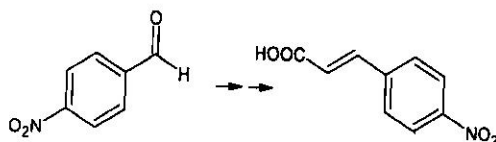
**Q1. Answer ANY FIVE of the following:**

(2×5=10)

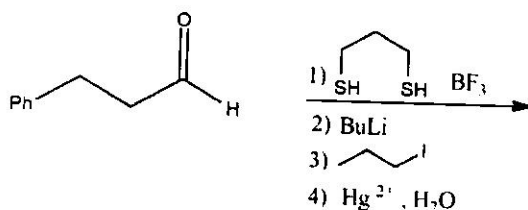
a) Describe how the following compound can be prepared using an enamine intermediate.



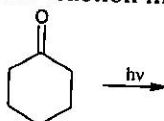
b) Identify the missing reagents and the name reaction involved in the following scheme:



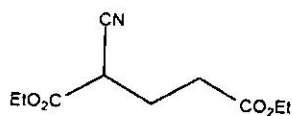
c) Complete the following reaction



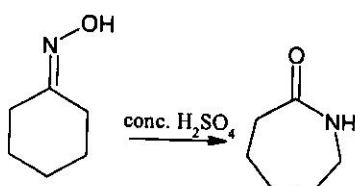
d) Write the Norrish reaction mechanism for the following compound



e) Propose a synthetic scheme for the synthesis of the following molecule.



f) Explain the mechanism for the following reaction. Also identify the name reaction involved.

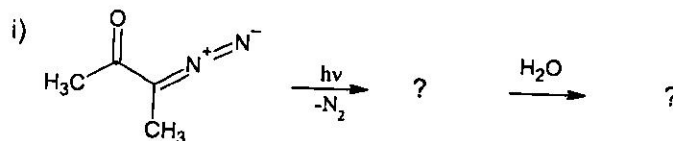


- g)  $\alpha$ -Pinene on hydration yields  $\alpha$ -Terpineol. State the analytical evidences obtained from this reaction in the structure elucidation of  $\alpha$ -Pinene.  
 h) Explain the stereochemical consequences in  $S_N1$  reaction mechanism with an example.

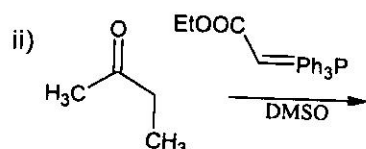
**Q2. Answer ANY FOUR of the following:**

(5×4=20)

- a) Predict the products and explain the reaction mechanism involved in the following schemes:



(3)



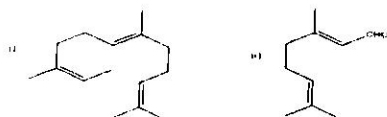
(2)

- b) Give analytical evidence for the following:

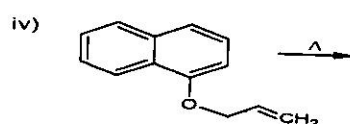
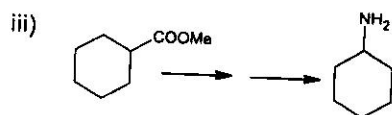
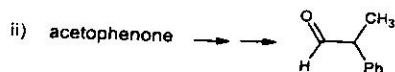
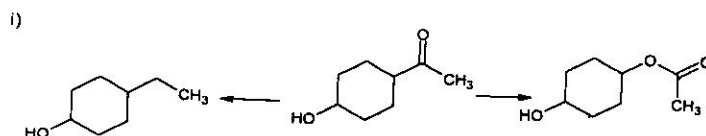
- i. Citral is  $\alpha, \beta$ -unsaturated aldehyde. (2)
- ii. Citral contains an isopropylidene group. (2)
- iii. Presence of one double bond in  $\alpha$ -terpineol (1)

- c) How are glycoside formed? Explain the utility of glycosides in determining the ring size in glucose.

- d) What is special isoprene rule? Write 'H' for Head and 'T' for Tail of the isoprene units present in the following terpenes:



- e) Complete the following reactions:



- f) Addition of halogen to alkenes is both stereoselective and stereospecific. Justify with an example.