SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)
(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai - 600 044.
M.Sc.Chemistry - END SEMESTER EXAMINATIONS - NOV' 2024
SEMESTER - III

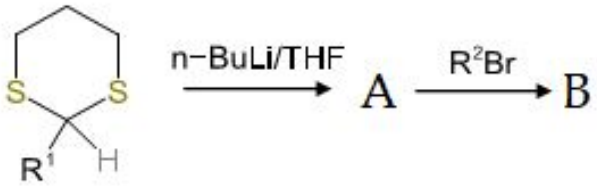
22PCHCT3007 - Retrosynthetic Analysis and Pericyclic Reactions

Total Duration : 2 Hrs. 30 Mins. Total Marks : 60

Section B

Answer any **SIX** questions $(6 \times 5 = 30$ Marks)

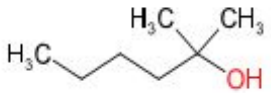
1. List the guidelines for the proper disconnection of a target molecule.
2. Sketch the protection and deprotection reactions for the carbonyl group and reduction reaction for the ester group in CH_3 - CO - CH_2 - CH_2 - CH_2 - COOEt.
3. Explain the synthetic applications of Gilman's reagent in organic synthesis.
4. Give an example and explain by FMO approach why the cheletropic reaction is thermally allowed.
5. What are non-radiative and radiative processes? Explain them with the help of Jablonski diagram.
6. Predict the products and write the mechanism.
   $(C_6H_5)_2C = O + (CH_3)_2C = CH_2 \xrightarrow{h\nu}$?
7. How is order of events and chemo selectivity used in organic synthesis?
8. Identify A & B in the following reaction and write the suitable mechanism.

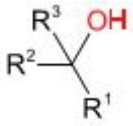


Section C

I - Answer any **TWO** questions $(2 \times 10 = 20$ Marks)

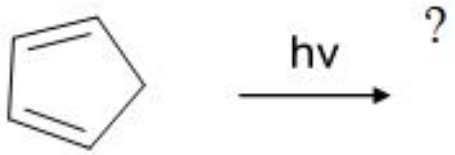
9. Explain the one group C - C disconnection of the following alcohols and suggest their synthesis.

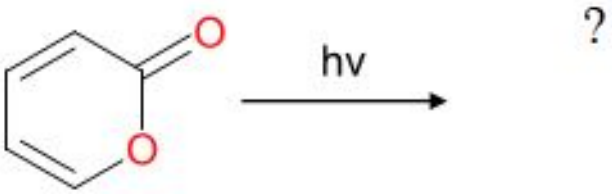
(a) 

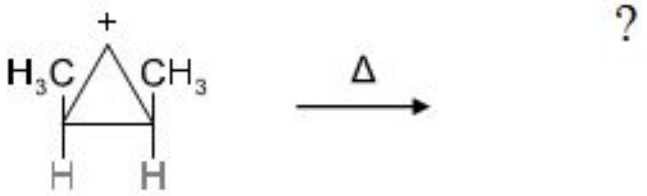
(b) 

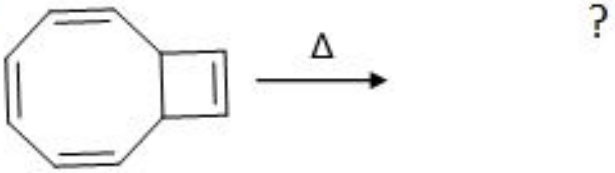
Contd...

10. (i) Explain stereospecificity in Diels-Alder reaction with suitable examples.
    (ii) Discuss the phthalimide protection of amines with an example.
11. Identify the product in each of the following reactions and justify it.

a) 

b) 

c) 

d) 

12. Differentiate Norrish type-I and Norrish type-II reactions with suitable examples.

II - Compulsory question $(1 \times 10 = 10$ Marks)

13. Discuss the synthetic applications of the following
    (i) Suzuki reaction (ii) Heck reaction

******