

Seat No.	
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M.Sc. (Part - I) (Semester - II) (CBCS) (NEP) Examination,  
March - 2023

CHEMISTRY (Paper - VI)

CH.2.2/APCH2.2/IND.2.2 :Organic Chemistry - II

Sub. Code : 90164/90074

Day and Date : Thursday, 15 - 06 - 2023

Total Marks : 80

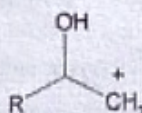
Time : 10.30 a.m. to 01.30 p.m.

- Instructions :
- 1) Question 1 is compulsory.
  - 2) Attempt any two questions from each section.
  - 3) Answers to the two sections must be written in the same answer book
  - 4) All questions carry equal marks.
  - 5) Figure to the right indicate marks.

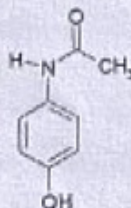
Q1) Answer the following: One mark each:

[16]

- a) Enlist any two hydroborating agents.
- b) Define Di- $\pi$  methane rearrangement.
- c) Write the synthetic equivalence for following synthon.

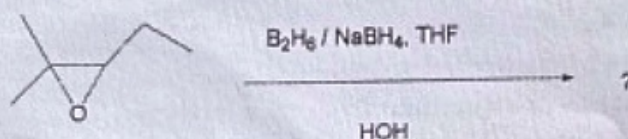


- d) Identify the coupling reaction in which terminal alkyne is coupled with aryl halide.
- e)  $\alpha$ ,  $\beta$ -unsaturated amines are known as \_\_\_\_\_.
- f) F-moc is protected form of which functional group?
- g) Write name of any two photosensitizers.
- h) Carry out retro synthetic analysis of following molecule.



P.T.O.

- i) What is Wilkinson catalyst? Write its geometry.
- j) Mention any two compounds used for photoreduction of ketones.
- k) Write any one application of  $H_2O_2$ .
- l) Identify the rearrangement which proceeds through isocyanate as an intermediate.
- m) Predict the product.



- n) What is Corey's reagent?
- o) Write steps involved in mechanism of Heck coupling.
- p) Define Synthons.

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**SECTION - I**

**Q2) Write the mechanism of following :**

**[16]**

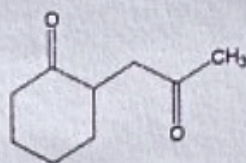
- Suzuki coupling
- Baeyer Villiger oxidation
- Curtius rearrangement
- Wittig rearrangement

**Q3) a) Explain following reductions with suitable examples.**

**[10]**

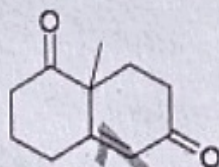
- Wolff-Kishner
  - Birch
- b) State the difference between Woodward and Prevost hydroxylation with suitable examples. **[6]**

- Q4) a) Explain need of protection and deprotection. Write different ways for protection of  $-OH$  functionality. [10]
- b) How will you carryout synthesis of following molecule *via* enamine formation? [6]



### SECTION - II

- Q5) a) Write terms and symbols used in retrosynthetic analysis. Carryout retrosynthetic analysis of following molecule. [10]



- b) Write applications of organo-lithium compounds. [6]
- Q6) a) Elaborate Norrish type-II reactions. [8]
- b) Describe Paterno Buchi reactions. [8]
- Q7) Write notes on any four of the following : [16]
- Gilman's reagent
  - Deprotection of THP ethers
  - Reversal of polarity
  - Borane as reducing agent
  - Corey's reagent

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