Total Number of Pages : 02

M.Sc.I FCYC701

7th Semester Regular / Back Examination 2019-20 ORGANIC CHEMISTRY-V

BRANCH: M.Sc.I(AC)
Time: 3 Hours
Max Marks: 70
Q.CODE: HRB088

Answer Question No.1 which is compulsory and any FIVE from the rest.

The figures in the right hand margin indicate marks.

Q1 Answer the following questions :

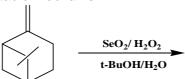
(2 x 10)

- a) Write the structure of DIBAL-H. Site an application of this reagent
- **b)** What is Raney-Nickel? Why it is important?
- c) Identify A and B in the following reaction.

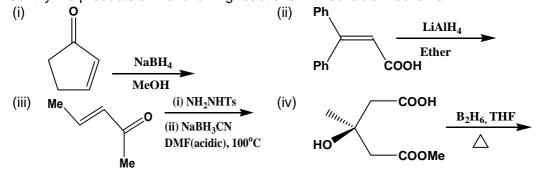
$$\begin{array}{c|c}
 & H \\
 & BH_3 \\
 & & A \\
 & \hline
 & NaOH/H_2O
\end{array}$$

d) Identify the product with suitable mechanism.

- e) What is Hell-Volhard-Zelinsky reaction?
- f) What is Baker's Yeast? Give one of its applications.
- g) What is Lemieux-Johnson reagent? Site one of its applications.
- h) What is Luche reduction?
- i) Identify the product with suitable mechanism.



- j) What is Migratory aptitude? Explain with example.
- **Q2** a) Give the mechanism of catalytic hydrogenation of alkenes. Discuss about the different types of catalysts used in this process. (5)
 - b) Give a brief account of the catalytic hydrogenation of alkynes and discuss the role of metal-liquid ammonia reduction with mechanism. (5)



- Q4 Identify the products of the following reactions with suitable mechanism
- (10)

(i)

(iii)

(iv)

(ii)

- DDQ Reflux
- Q5 Discuss the following naming reaction with their mechanism

(6)

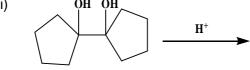
- (i) Claisen condensation (ii) Mannich reaction
- (iii) Swern oxidation
- Identify A, B, C in the following reaction and give their mechanism.

(4)

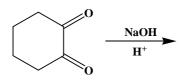
(10)

$$\begin{array}{c|c}
 & OH^{-} & A & Br_2/KOH \\
\hline
 & OH^{-} & A & Br_2/KOH
\end{array}$$

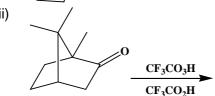
- Q6 Carryout the mechanism of the following reactions and determine the products.
 - (i)



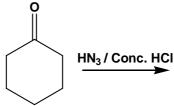
(ii)



(iii)



(iv)



Q7 Write notes on following naming reactions: (10)

a) Gabriel synthesis,

Reformatsky reaction,

c) Perkin reaction

- Openauer oxidation
- Q8 Write short answer on any FOUR:

 (2.5×4)

- Beckmann rearrangement
- b) Favorskii rearrangement
- Fries rearrangement c)
- Smiles rearrangement d)
- Sommelet-Hauser Rearrangement