M.Sc. Examination, 2018

Semester-I

Chemistry

Course: CH-704

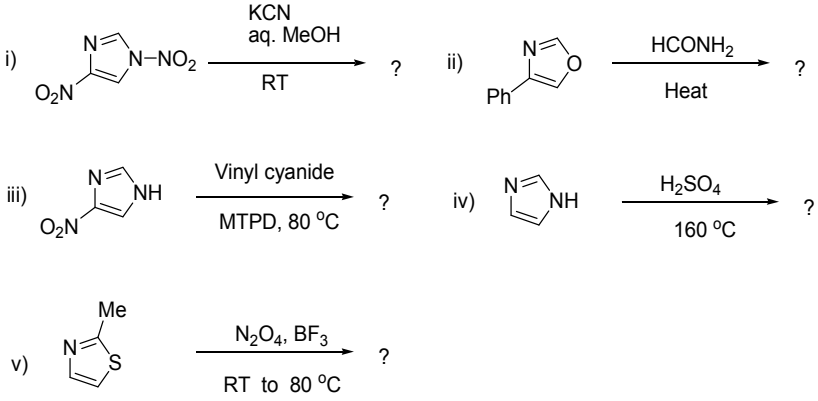
(Organic Chemistry)

Time: Three Hours **Full Marks: 40**

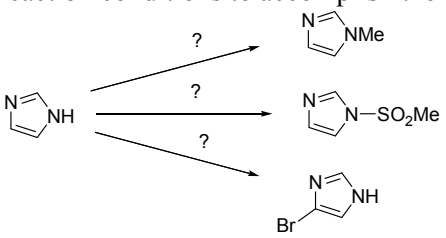
Questions are of value as indicated in the margin.

Answer ***any four*** questions, taking ***any two*** from ***Question No.1 to 3*** and another ***two*** from ***Question No. 4 to 6***.

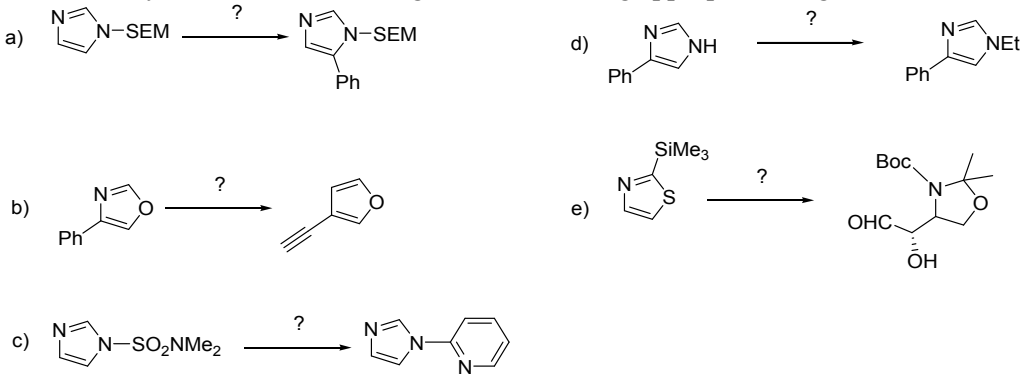
1. a) Write down the possible products of the following reactions (***any four***): 5



b) Write the reagents and reaction conditions to accomplish the following reactions: (1.5x2)+2



2. How would you make the following conversion using appropriate reagents: 5x2



3. a) What do you mean by atom economy of a chemical reaction? Calculate the (%) of atom economy of the following reactions: 1+2

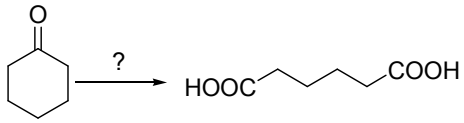
$CH_3CH_2COOCH_3 \rightarrow CH_2{=}CH_2 + CH_3COOH$

b) Give example of one ionic liquid. What are the advantages of using ionic liquid as solvent in organic reaction? 1+1

c) Solid alumina can be used as medium and catalyst in organic reactions. How can you establish the fact? 2

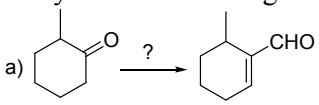
P.T.O.

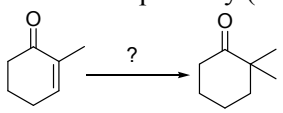
d) Suggest a green reagent combination for the following conversions: 1+1

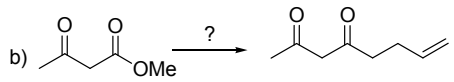
i) $CH_3CH_2COOH \xrightarrow{?} CH_3CH_2CH_2COOH$ ii) 

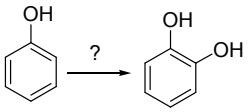
e) Carbon dioxide and water as SCF can be used as solvent in many reactions. Give one example for each. 0.5+0.5

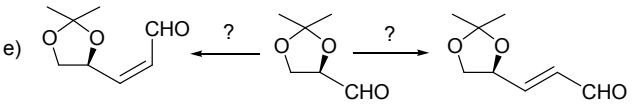
4. Carry out the following conversions showing mechanistic pathway (***any four***): 2.5x4

a) 

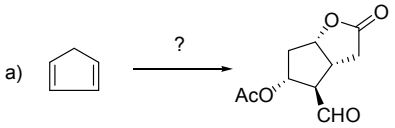
c) 

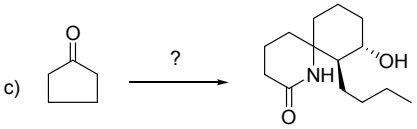
b) 

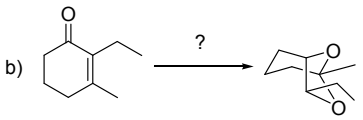
d) 

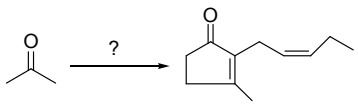
e) 

5. Suggest the possible reagents and conditions for the following conversion: 2.5x4

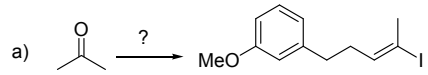
a) 

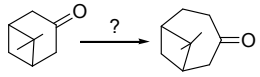
c) 

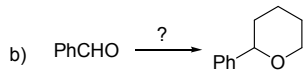
b) 

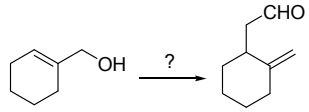
d) 

6. Carry out the following conversions showing mechanistic pathway: 2x5

a) 

d) 

b) 

e) 

c)