



FC-144002

Seat No. _____

M. Sc. (Sem. IV) Examination

June / July - 2021

MSC0C402 : Organic Chemistry Advanced Organic Synthesis (Old Course)

Time : 2 Hours]

[Total Marks : 50

- Instructions :** (1) Answer only **three (3)** questions.
 (2) The examination will be for **two (02)** hours.
 (3) Q. No. **9** is **compulsory** and carries **14** marks.
 (4) Answer any **two** questions from questions No. 1 to 8. Each question carries 18 marks.

1 (a) Answer the following

Discuss the protection and de protection of the following functional groups :

- (i) Amines
 (ii) Alcohols

(b) Answer the following

Discuss the protection and de protection of the following functional groups :

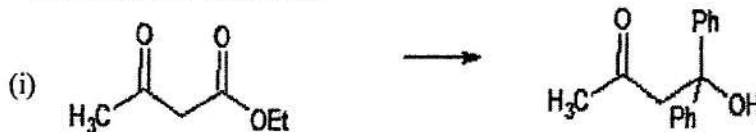
- (i) Carboxylic acid
 (ii) Aldehyde and ketone

2 (a) Answer the following

Showing the use of protecting group how will carry out the following transformation? (Any two)

**(b) Answer the following**

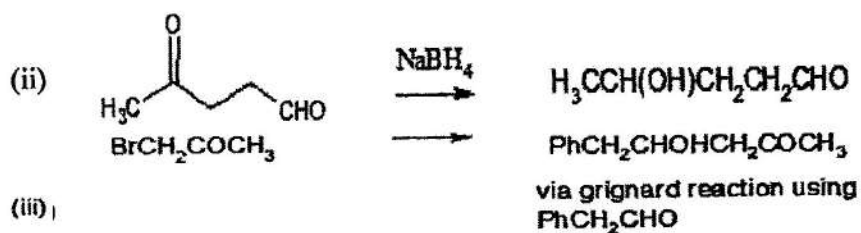
Showing the use of protecting group how will you carry out the following transformation ? (Any two)



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3 (a) **Answer the following**

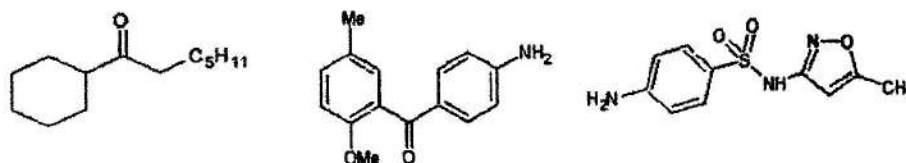
What is meant by retrosynthetic analysis? Giving example define the terms: Target molecule & synthetic equivalent.

(b) **Answer the following**

What is Chemoselectivity? Discuss the use of any three compounds as umpolung reagent.

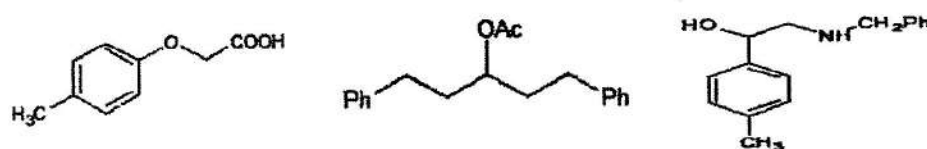
4 (a) **Answer the following**

Do the disconnections and give the synthesis for the following molecules: (Any two)



(b) **Answer the following**

Do the disconnections and give the synthesis for the following molecules: (Any two)



5 (a) **Answer the following**

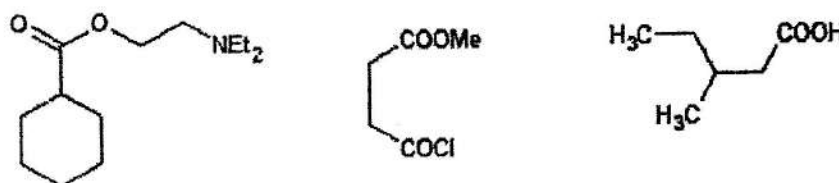
Discuss the use of acetylenes and nitro compounds in organic synthesis

(b) **Answer the following**

Discuss the regioselectivity in witting and michales reaction.

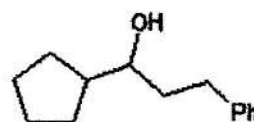
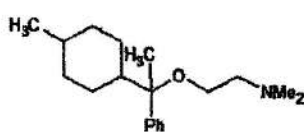
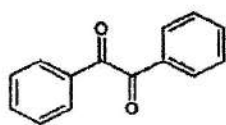
6 (a) **Answer the following**

Do the disconnections and plan the synthesis for the following molecules: (Any two)



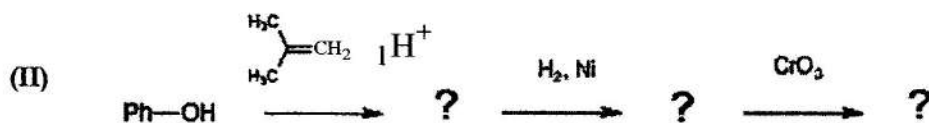
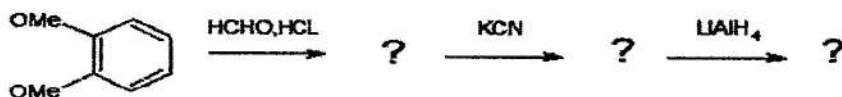
(b) Answer the following

Do the disconnections and plan the synthesis for the following molecules : (Any two)

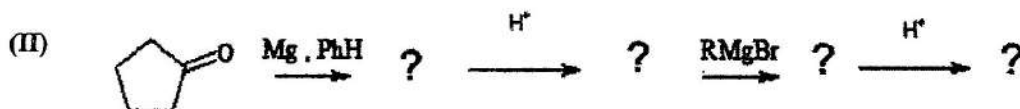
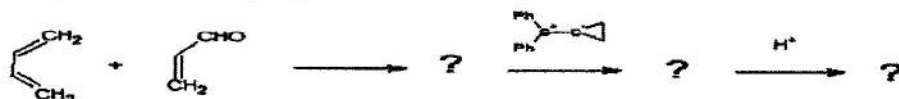


7 (a) Answer the following

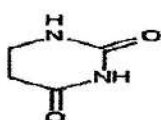
(i) Complete the following steps :



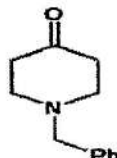
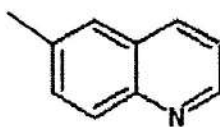
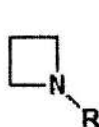
(b) (I) Complete the following steps :



8 (a) Do the disconnections and plan the synthesis for the following molecules : (Any two)



(b) Do the disconnections and plan the synthesis for the following molecules : (Any two)





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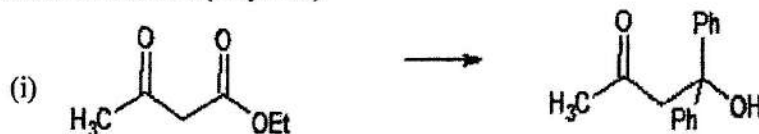
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**(b) Answer the following**

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