

**GL-144002**

Seat No. _____

M. Sc. (Sem. IV) Examination**March / April – 2019****MSCOC - 402 : Advance Organic Synthesis**

Time : 3 Hours]

[Total Marks : 70

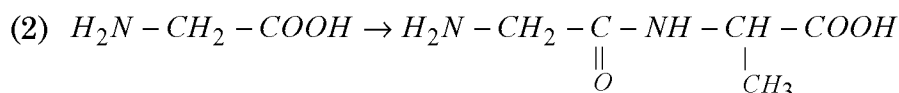
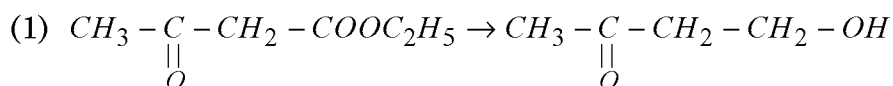
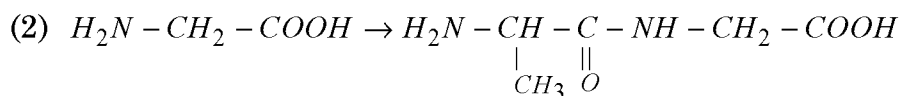
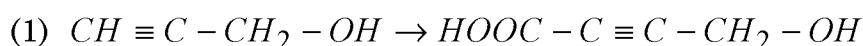
1 (a) Answer the following : 7

- (1) Give methods for protection and de-protection of Alcohol.
- (2) Discuss protection and de-protection of Carboxylic acids.

OR

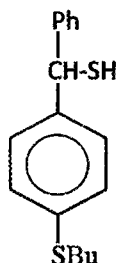
- (1) Give methods for protection and de-protection of Amines.
- (2) Discuss protection and de-protection of Carbonyl compound.

(b) Complete the following conversions with suitable protection groups : 7

**OR**

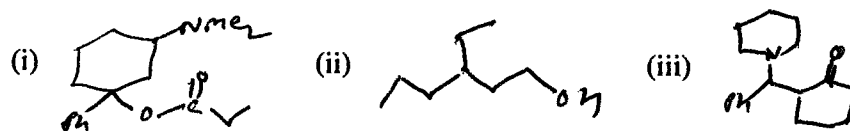
2 (a) Answer the following : 7

What is meant by retro synthetic analysis ? Outline the retro synthesis of the following :

**OR**

Explain 1,2 and 1,3 two group $C - X$ disconnection by suitable examples.

- (b) Do the disconnection and give the synthesis for the following molecules : (any two) 7

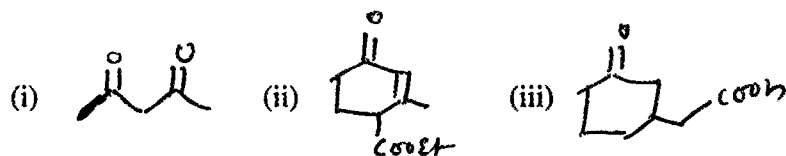


- 3 (a) Answer the following : 7

- (i) How will you involve FGI to convert Nitro to Keto group ?
(ii) Discuss region selectivity in Wittig Reaction.

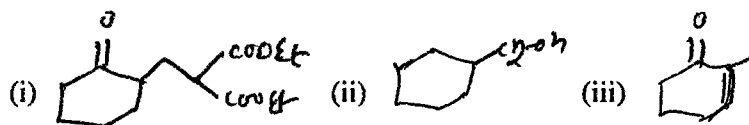
OR

- (i) Discuss the use of Grignard reagent in disconnection of carboxylic acids.
(ii) Discuss region selectivity in Michael Reaction.
(b) Outline the retro synthesis and plan the synthesis for the following molecules : (any two) 7

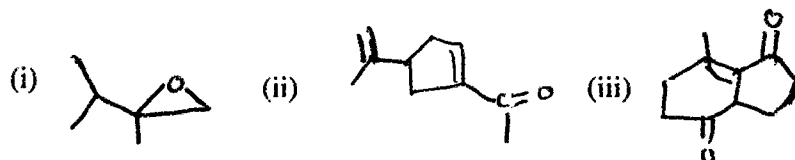


OR

Outline the retro synthesis and plan the synthesis for the following molecules : (any two)

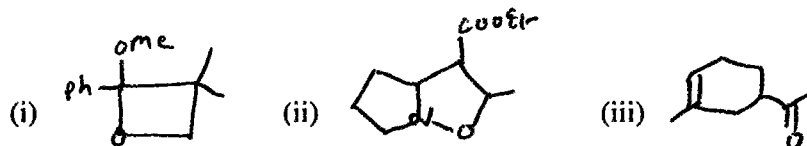


- 4 (a) Do the disconnections and plan the synthesis for the following molecules : (any two) 7

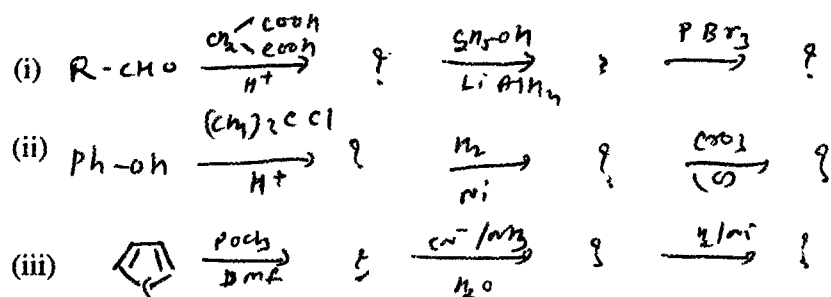


OR

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

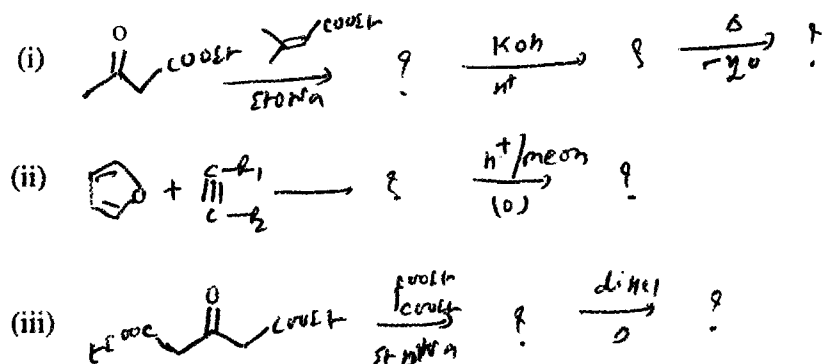


(b) Complete the following synthetic steps : (any two) 7



OR

Complete the following synthetic steps : (any two)



5 Answer the following : (Short Question)

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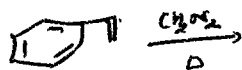
Define :

- (1) FGI
- (2) Synthons
- (3) TM
- (4) Illogical electrophile with one example.

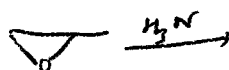
Give Structures and uses of

- (5) Trityl Group
- (6) Fmoc and THF
- (7) DMSO and THP
- (8) NBS and MCPBA

- (9) Give synthon for ketone
- (10) Give synthon for epoxide
- (11) Give common FGI approach for ester group.
- (12) Complete the following :



- (13) Complete the following :



- (14) Complete the following :

