



R-304002

Seat No. _____

M. Sc. (Sem. IV) Examination

April - 2022

MSC1C402 : Advanced Organic Synthesis
(New Course)

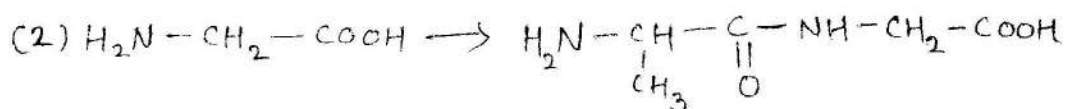
Time : 3 Hours]

[Total Marks : 70

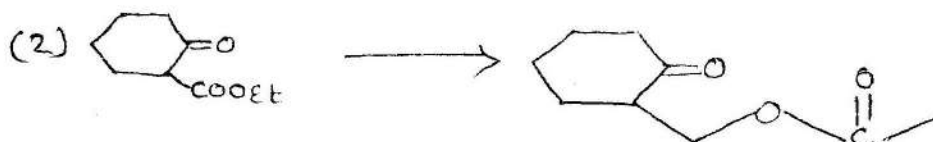
1 Answer any three :

14

- (A) Give method for protection and de-protection of alcohol.
(B) Give method for protection and de-protection of -COOH group.
(C) Complete the following conversions with suitable protecting group :



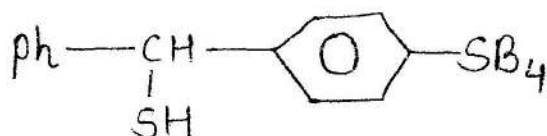
- (D) Complete the following conversions with suitable protecting group :



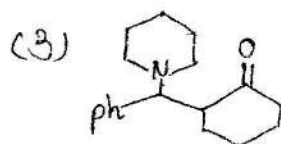
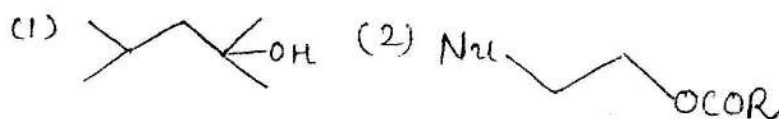
2 Answer any three :

14

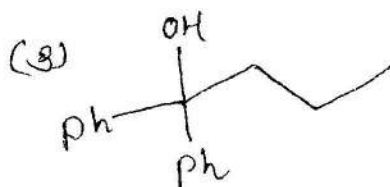
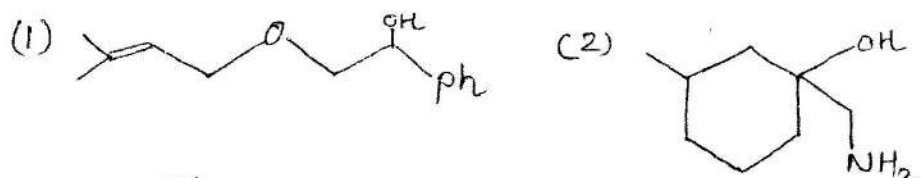
- (A) What is chemoselective reaction ? Outline the retrosynthesis of the following :



- (B) Explain the 1, 2 and 1, 3 two groups -C-X disconnection by example.
- (C) Do the disconnection and give the synthesis for the following molecules : (any two)



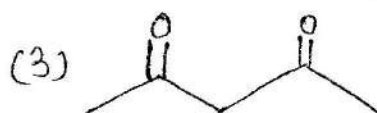
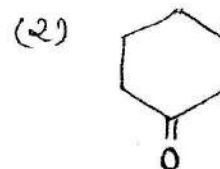
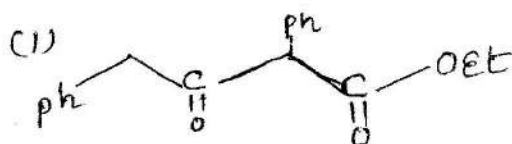
- (D) Do the disconnection and give the synthesis for the following molecules : (any two)



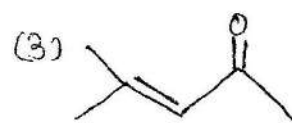
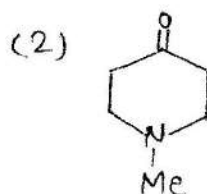
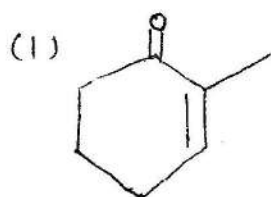
3 Answer any three :

14

- (A) Discuss the regioselectivity in Michael Reaction.
- (B) Discuss the use of acetylenes in organic synthesis.
- (C) Outline the retrosynthesis and plan the synthesis for the following molecules : (any two)



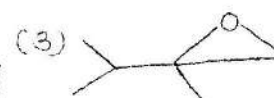
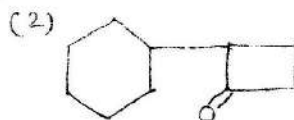
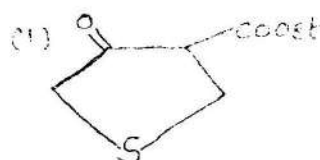
(D) Outline the retrosynthesis and plan the synthesis for the following molecules : (any **two**)



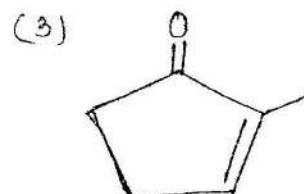
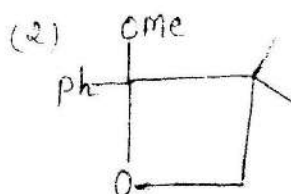
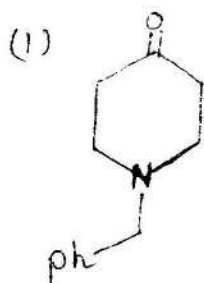
4 Answer any **three** :

14

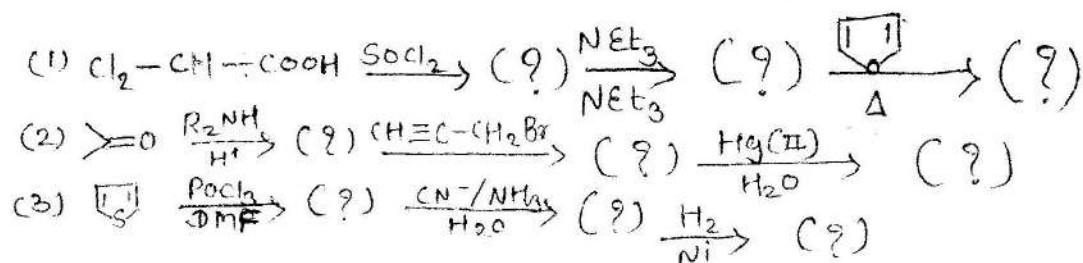
(A) Do the disconnection and the plan the synthesis for the following molecules : (any **two**)



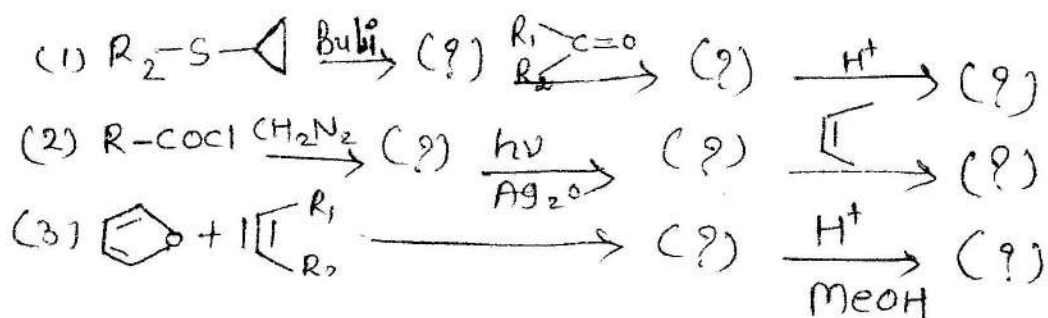
(B) Do the disconnection and the plan the synthesis for the following molecules : (any **two**)



(C) Complete the following synthesis : (any **two**)



(D) Complete the following synthesis : (any two)



5 Answer the following : (short questions)

14

Define :

1. FGI
2. Synthon
3. TM
4. Synthetic Equivalent Give the structure and uses
5. Trityl group
6. THF
7. THP
8. NBS
9. Give synthon of Ketone.
10. Give synthon of Epoxide.
11. Give example for 1, 2 C-C disconnection.
12. Common FGI approach for ester.
13. Give synthetic equivalent of NH_2
14. Complete the following reaction :

