

## M.Sc.(Chem.) Semester - 4 (CBCS) Examination

March/April - 2024 (NEW COURSE)

## Organic Synthesis: A Disconnection Approach (Core)

Time: 02:30 Hours

Marks: 70

## Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

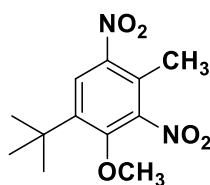
**Q.1 (A) Answer the following (04)**

- (1) What is Disconnection approach? Discuss FGR strategy with suitable example.
- (2) What are synthons? Give two examples of each of the following synthon:  
(i) Acceptor synthon (ii) Donor synthon

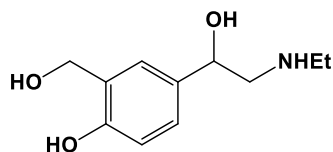
**Q.1 (B) Answer any two question out of three. (10)**

Discuss disconnection analysis and propose synthesis of following TM:

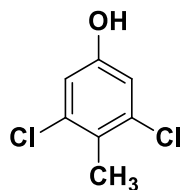
(1)



(2)



(3)

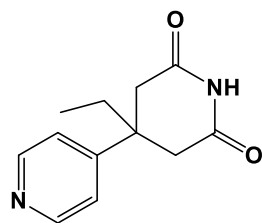
**Q.2 (A) Answer the following (04)**

- (1) Explain disconnection strategies for  $\beta$ -hydroxycarbonyl compounds with suitable example.
- (2) Discuss C-X disconnection strategy with suitable example.

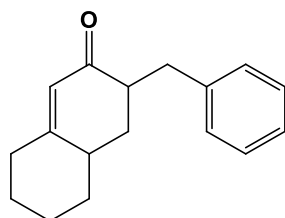
**Q.2 (B) Answer any two question out of three. (10)**

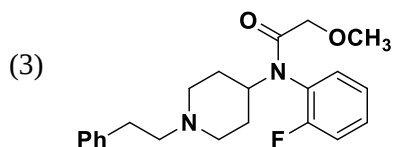
Discuss disconnection analysis and propose synthesis of following TM:

(1)



(2)





**Q.3 (A) Answer the following**

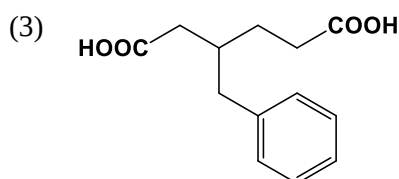
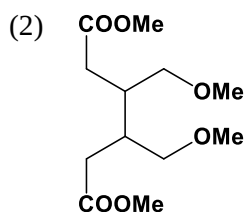
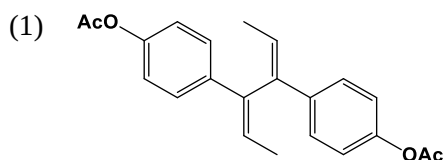
**(04)**

- (1) What is the dissonant polarity of compounds? Give suitable example.
- (2) Discuss reconnect strategy for disconnection of 1,6-dicarbonyl compounds with suitable example.

**Q.3 (B) Answer any two question out of three.**

**(10)**

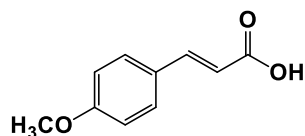
Discuss disconnection analysis and propose synthesis of following TM:



**Q.4 (A) Answer the following**

**(04)**

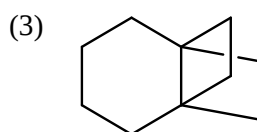
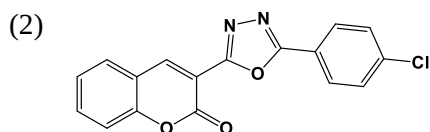
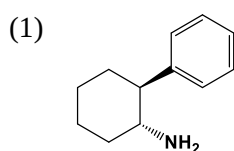
Discuss four different disconnection strategies for following TM:



**Q.4 (B) Answer any two question out of three.**

**(10)**

Discuss disconnection analysis and propose synthesis of following TM



**Q.5 (A) Answer the following**

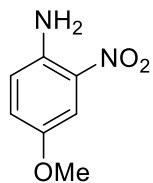
**(04)**

- (1) What are protecting groups? Why it requires?
- (2) Give structures of two protecting group used for hydroxy group.

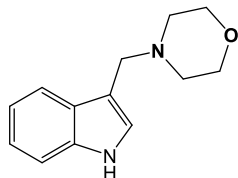
**Q.5 (B) Answer any two question out of three.**

**(10)**

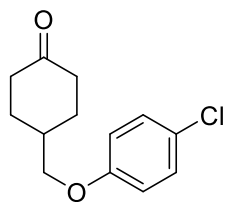
- (1) Discuss disconnection strategy and propose synthesis of following TM:



- (2) Discuss disconnection strategy and propose synthesis of following TM:



- (3) Discuss disconnection strategy and proposed synthesis of following TM:



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