

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

Oct/Nov -2020 [NEW COURSE]

Organic Synthesis: A Disconnection Approach (Core)

Time: 2:00 Hours

Marks: 56

Instructions:

1. Figures to the right indicate marks.
 2. There are five questions in the question paper.
 3. Answer any four of the following questions.
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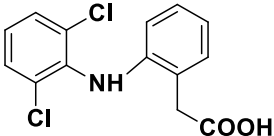
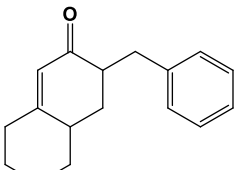
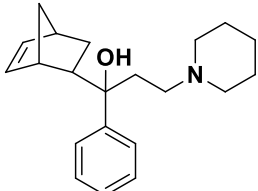
UNIT-1 (14 marks)

Answer ALL questions

- Q.1 (a) Answer the following** **Marks**
- (1) What is retrosynthesis? Discuss various criteria for good disconnection analysis. 2
 - (2) What is synthon? Explain with one example. 2
- Q.1 (b) Answer any two question out of three.** **Marks**
- Discuss disconnection analysis and proposed synthesis of following commercial product:
- (1) Ibuprofen 5
 - (2) Dettol 5
 - (3) Musk ambrette 5

UNIT-2 (14 marks)

Answer ALL questions

- Q.2 (a) Answer the following** **Marks**
- (1) Explain retrosynthesis of 1,5 di-carbonyl compound with suitable example. 2
 - (2) Discuss two group C-X disconnection strategy with suitable example. 2
- Q.2 (b) Answer any two question out of three.** **Marks**
- Discuss disconnection analysis and proposed synthesis of following TM:
- (1)  5
 - (2)  5
 - (3)  5

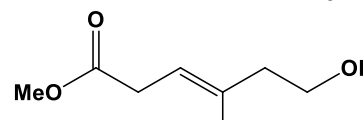
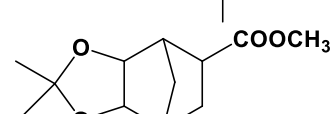
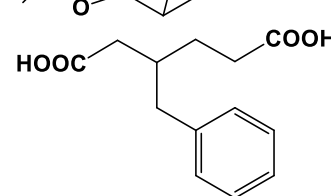
UNIT-3 (14 marks)

Answer ALL questions

- Q.3 (a) Answer the following** **Marks**
- (1) What is umpolung reagent ? Give two examples. 2
 - (2) How will you disconnect 1,2-diol compound? Explain with suitable example. 2

Q.3 (b) Answer any two question out of three. Marks

Discuss disconnection analysis and proposed synthesis of following TM:

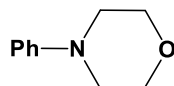
- (1)  5
- (2)  5
- (3)  5

UNIT-4 (14 marks)

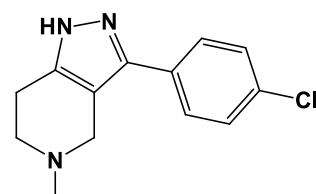
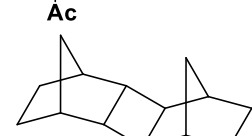
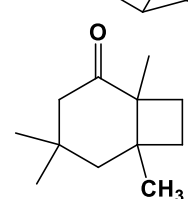
Answer ALL questions

Q.4 (a) Answer the following Marks

- (1) How will you disconnect epoxide ring ? Explain with suitable example. 2
- (2) Discuss two disconnection strategies for following TM: 2



Q.4 (b) Answer the following Marks

- (1)  5
- (2)  5
- (3)  5

UNIT-5 (14 marks)

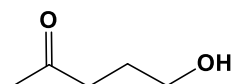
Answer ALL questions

Q.5 (a) Answer the following Marks

- (1) What are protecting groups? Give characteristics for ideal protecting group. 2
- (2) What is chemo selectivity? Give one example. 2

Q.5 (b) Answer the following Marks

- (1) Describe various protecting and deprotecting strategies for -NH₂ groups with examples. 5
- (2) Discuss disconnection strategy and proposed synthesis of following TM: 5



- (3) Discuss disconnection strategy and proposed synthesis of following TM: 5

