647510 **MSC4OrgC401x** **Seat No :_____**

M.Sc.(Chem.) Semester - 4 (*CBCS*) Examination
May/June-2021 (NEW COURSE)
Organic Synthesis: A Disconnection Approach (Core)

Time: 1:30 Hours **Marks: 42**

Instructions:

1. Figures to the right indicate marks.
2. There are five questions in the question paper.
3. Answer any three of the following questions.

Que-1(A) **Answer the following questions** (04)

1. What is retrosynthesis? Discuss order of event strategy with suitable example.
2. Give one example of each of the following synthon:

   (i) a^2 (ii) a^3 (iii) d^1 (iv) d^2

Que-1(B) **Answer any two questions out of three.** (10)

Discuss disconnection analysis and proposed synthesis of following commercial product:

1. Diclofenac
2. Dettol
3. Musk ambrette

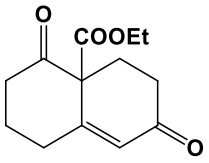
Que-2(A) **Answer the following questions** (04)

1. Explain disconnection strategies for secondary and tertiary alcohols with suitable example.
2. Discuss disconnection strategy for compounds having cyanohydrin functionalities with suitable example.

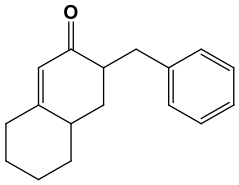
Que-2(B) **Answer any two questions out of three.** (10)

Discuss disconnection analysis and propose synthesis of following TM:

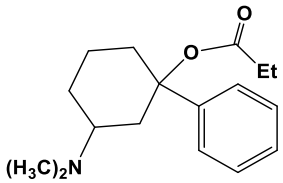
(1)



(2)



(3)



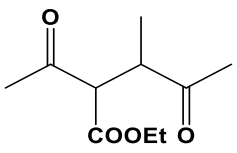
Que-3(A) **Answer the following questions** (04)

1. What is reversal of polarity? Give two examples.
2. Discuss reconnect strategy for disconnection of 1,6-dicarbonyl compounds with suitable example.

Que-3(B) **Answer any two questions out of three.** (10)

Discuss disconnection analysis and proposed synthesis of following TM:

(1)



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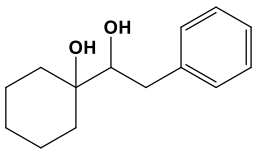
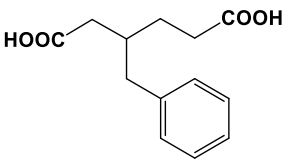
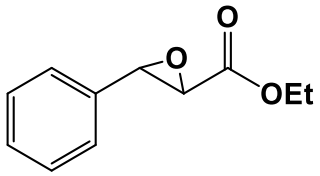


(3)



Que-4(A) **Answer the following question** (04)

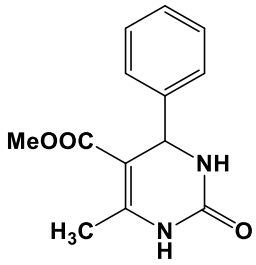
Discuss four different disconnection strategies for following TM:



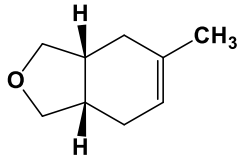
Que-4(B) **Answer any two questions out of three.** (10)

Discuss disconnection analysis and proposed synthesis of following TM

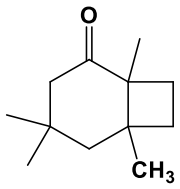
(1)



(2)



(3)

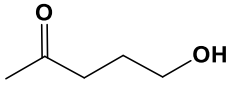


Que-5(A) **Answer the following questions** (04)

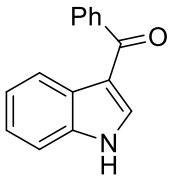
1. What are protecting groups? Why it requires?
2. Give structure of following protecting group: (i) BoC (ii) TMSCl (iii) CBz

Que-5(B) **Answer any two questions out of three.** (10)

1. Describe various protecting and deprotecting strategies for -NH_2 groups with examples.
2. Discuss disconnection strategy and proposed synthesis of following TM:



3. Discuss disconnection strategy and proposed synthesis of following TM:



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