

M.Sc.(Chem.) Semester - 4 (CBCS) Examination
March/April - 2025 (As Per Syllabus Year June-2019)
Organic Synthesis: A Disconnection Approach (Core)

Time: 2:30 Hours

Marks: 70

Instructions:

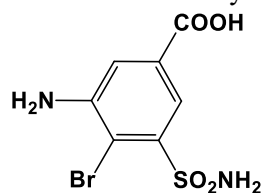
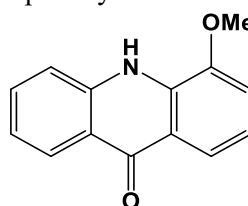
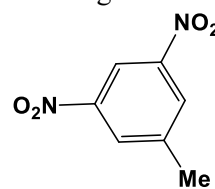
1. All questions are compulsory.
2. Figures to the right indicate marks.

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

1. What is retrosynthesis? Write its applications
2. Discuss FGI strategy with one example.

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

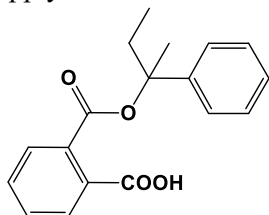
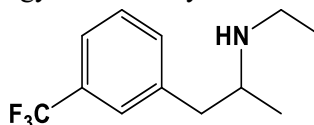
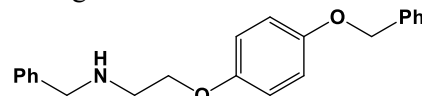
Write disconnection analysis and propose synthetic route for following TM:

**(I)****(II)****(III)****Que-2(A) Answer the following questions.****(04)**

1. Explain disconnection strategy for 1°, 2° and 3° alcohol with example.

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

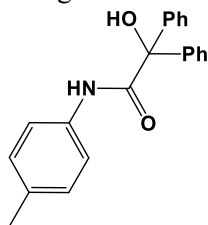
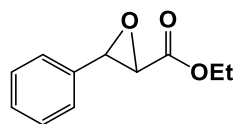
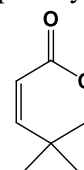
Apply C-X disconnection strategy and write synthesis of following:

**(I)****(II)****(III)****Que-3(A) Answer the following questions.****(04)**

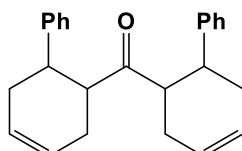
1. What is reversal of polarity? Explain any two umpolung synthon and reagent.

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

Apply the umpolung disconnection strategy for following TM and propose synthesis:

**(I)****(II)****(III)****Que-4(A) Answer the following questions.****(04)**

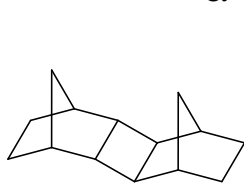
1. Describe disconnection strategy for following TM:



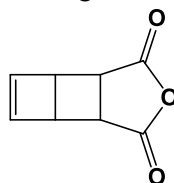
Que-4(B) Answer any two questions out of the following three questions.

(10)

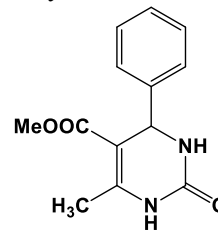
Explain the disconnection strategy for following TM and propose synthesis:



(I)



(II)



(III)

Que-5(A) Answer the following questions.

(04)

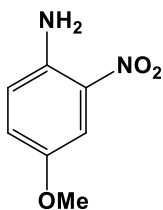
1. Discuss protection and deprotection strategy for following groups:

(I) R-NH₂, (II) R-OH (III) R-CHO (IV) R-COOH

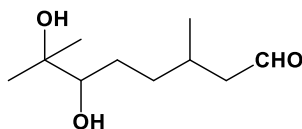
Que-5(B) Answer any two questions out of the following three questions.

(10)

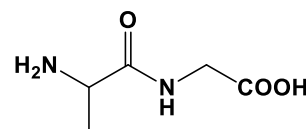
Explain the disconnection strategy for following TM and propose synthesis:



(I)



(II)



(III)
