

Enrollment No: _____

Exam Seat No: _____

C.U.SHAH UNIVERSITY

Summer Examination-2019

Subject Name : Disconnection Approach

Subject Code : 5SC03DAC1

Semester : 3

Date : 11/03/2019

Branch : M.Sc. (Chemistry)

Time : 02:30 To 05:30

Marks : 70

Instructions:

- (1) Use of Programmable calculator and any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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SECTION – I

- Q-1 Attempt the following questions (07)**
- a. Define: Target Molecule (TM) **01**
 - b. Define: Functional group Interconversion (FGI) **01**
 - c. Define: Retrosynthesis Analysis **01**
 - d. Define synthon and explain it with one example. **01**
 - e. Write only disconnection analysis for following TM. **02**
- f. What are the synthons obtained by disconnection of 1,3-dicarbonyl compounds? **01**
- Q-2 Attempt all questions (14)**
- a. Explain the strategy used for adding two *o,p*-directing group; meta (*m*) to each other on the aromatic ring with suitable example. **07**
 - b. Do the disconnection analysis and plan the synthesis of following TM. **07**

OR

- Q-2 Attempt all questions (14)**
- a. Explain the Guideline 2 and Guideline 3 for disconnection with synthesis. **07**
 - b. Write the structure of primary amine required for the synthesis of coccinelline. **07**
Do the disconnection and plan the synthesis of that amine.



- Q-3** **Attempt all questions** **(14)**
- a. Do the disconnection analysis and plan the synthesis. **07**
- b. Do the disconnection analysis and plan the synthesis. **07**

OR

- Q-3** **Attempt all questions** **(14)**
- a. Do the disconnection analysis and plan the synthesis. **07**
- b. Do the disconnection analysis and plan the synthesis. **07**

SECTION – II

- Q-4** **Attempt the following questions** **(07)**
- a. How can 1,2-diol be synthesized from alkene? **01**
- b. Do the disconnection analysis and plan the synthesis. **02**
- c. Define: Protecting group **01**
- d. Draw the reaction scheme of Diels-Alder reaction. **01**
- e. Which reagents can react with acetal protected ketone group? **01**
- f. Write the basic characteristic of good protecting group. **01**
- Q-5** **Attempt all questions** **(14)**
- a. Do the disconnection and plan the synthesis of anticonvulsant Phensuximide. **06**



b. Do the disconnection analysis and plan the synthesis. **08**

OR

Q-5 **Attempt all questions** **(14)**

a. The diester (TM) required for the synthesis of the antibiotic pentalenolactone. Do the disconnection analysis and plan the synthesis of this diester. **06**

b. Do the disconnection analysis and plan the synthesis. **08**

Q-6 **Attempt all questions** **(14)**

a. Explain the use of protecting groups for synthesis of dipeptide ester Asp-Phe-OMe chain. **07**

b. Do the disconnection analysis and plan the synthesis. **07**

OR

Q-6 **Attempt all questions** **(14)**

a. Discuss the stereospecificity, stereoselectivity and regioselectivity for Diels-Alder reactions with example. **07**

b. Do the disconnection analysis and plan the synthesis. **07**

