Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Winter Examination-2018

Subject Name : Disconnection Approach

Subject Code : 5SC03DAC1 **Branch : M.Sc. (Chemistry)**

Semester : 3 **Date : 27/11/2018** **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.

SECTION – I

Q-1 **Attempt the following questions** **(07)**

a. Define: Target Molecule **01**

b. Define: Functional group Interconversion (FGI) **01**

c. Describe the analysis process of disconnection by stepwise manner. **01**

d. Define synthon and explain with one example. **01**

e. Write only disconnection analysis for following TM. **01**

f. Write the reagents A and B in table used for aromatic side chain conversion by FGI process. **01**

-COR	-CH(OH)R	A
$-CH_2R$	-COOH	B

g. Write the Wittig reaction by using the ylide. **01**

Q-2 **Attempt all questions** **(14)**

a. Explain the Guideline 2 for disconnection of electron withdrawing substituents and Guideline 3 for importance of FGI in disconnection with synthesis. **05**

b. Describe Benzoin condensation reaction and do the disconnection analysis and plan the synthesis of following TM based on benzoin condensation reaction. **05**

c. Do the disconnection analysis and plan the synthesis. **04**

OR

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. **05**

b. Write the structure of primary amine required for the synthesis of coccinelline. Do the disconnection and plan the synthesis of that amine. **05**

c. Do the disconnection analysis and plan the synthesis. **04**

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.	Write the structures of synthon equivalents obtained by disconnection of 1,5-dicarbonyl compounds?	**01**
	b.	Do the disconnection analysis and plan the synthesis.	**01**
	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.	Draw the structures of R-OTHP and R-OMEM protecting groups.	**01**
	g.	Write the basic characteristic of 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 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 streospecificity, stereoselectivity and regioselectivity of Diels-Alder reactions with example. **07**

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