Enrollment No: _____ Exam Seat No: _____

C.U.SHAH UNIVERSITY

Summer Examination-2018

Subject Name: Disconnection Approach

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

Semester: 3 **Date: 20/03/2018** **Time: 02:30 To 05:30** **Marks: 70**

Instructions:

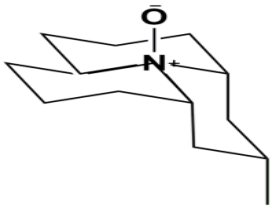
(1) Use of Programmable calculator and any other electronic instrument is prohibited.
(2) Instructions written on main answer book are strictly to be obeyed.
(3) Draw neat diagrams and figures (if necessary) at right places.
(4) Assume suitable data if needed.

SECTION – I

Q-1		**Attempt the Following questions**	**(07)**
	a	What is called a Target Molecule?	**01**
	b	Define the Synthon and Synthon equivalent with example.	**01**
	c	Draw reaction scheme for mannich base.	**01**
	d	Define: Functional group interconversion (FGI).	**01**
	e	What are the reagents used for reamer-Tiemann reaction of aromatic compounds?	**01**
	f	Write the disconnection products for t-Butyl Benzene.	**01**
	g	Draw reaction scheme of benzoin condensation.	**01**
Q-2		**Answer the following questions**	**(14)**
	a	Explain the application of Ritter reaction in synthesizingMeyer's type of base.	**05**
	b	Explain the Guideline for relationship of groups and electron withdrawing substituent's with synthesis in disconnection approach.	**05**
	c	Write the great utility of Witting reaction in organic synthesis.	**04**

OR

Q-2		**Answer the following questions**	**(14)**
	a	Write the structure of amine required for the synthesis of coccinelline. Do the disconnection and plan the synthesis of amine.	**05**



	b	What approach should be followed for adding two o,p-directing group; meta to each other on the aromatic ring? Explain guideline by giving suitable example.	**05**
	c	Do the disconnection and plan the synthesis for Piperonal.	**04**

Q-3		**Answer the following questions**	**(14)**
	a	Do the disconnection and plan the synthesis for the following.	**07**
	b	Do the disconnection and plan the synthesis for the following.	**07**

OR

Q-3		**Answer the following questions**	**(14)**
	a	Do the disconnection and plan the synthesis for the following.	**07**
	b	Do the disconnection and plan the synthesis for the following.	**07**

SECTION – II

Q-4		**Attempt the Following questions**	**(07)**
	a	Write the definition of Protecting group.	**01**
	b	Draw the reaction scheme of Diels-Elder reaction.	**01**
	c	Write the retro synthetic analysis for Triflurain B.	**01**
	d	Which reagents can react with acetal protected aldehyde group?	**01**
	e	How can 1,2-diol be synthesized from alkene?	**01**
	f	Write the basic requirements for a good protecting group.	**01**
	g	Define: Endo selectivity.	**01**
Q-5		**Answer the following questions**	**(14)**
	a	Explain in brief with example, the regioselectivity, stereoselectivity and stereospecificity were observed in Diels Elder reaction.	**07**
	b	Do the disconnection and plan the synthesis for the following.	**07**

OR

Q-5		**Answer the following questions**	**(14)**
	a	What is the structure of cyclohexenone intermediate obtained from Grandisol? Disconnect all possible intermediates and plan the synthesis.	**07**
	b	Do the disconnection and plan the synthesis for the following.	**07**
Q-6		**Answer the following questions**	**(14)**
	a	Write a note on deprotection of different types of ester.	**07**
	b	Do the disconnection and plan the synthesis for the following.	**07**

OR

Q-6		**Answer the following questions**	**(14)**
	a	Explain the application of protecting groups in dipeptide synthesis of ester of Asp-Phe-OCH_3.	**07**
	b	Do the disconnection and plan the synthesis for the following.	**07**