

NAAC "C" Grade

"Jeevandeep Shaikshanik Sanstha Poi's"

ARTS, COMMERECE & SCIENCE COLLEGE, GOVELI

CRITERIA -II



NAAC "C" Grade

"Jeevandeep Shaikshanik Sanstha Poi's"

ARTS, COMMERECE & SCIENCE COLLEGE, GOVELI

TEACHING LEARNING AND EVALUATION



NAAC "C" Grade "Jeevandeep Shaikshanik Sanstha Poi's" ARTS, COMMERECE &SCIENCE COLLEGE, GOVELI

2.3. Teaching-Learning Processs

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2.3.1. STUDENT CENTRIC METHODS WRITE UP

2.3.1 Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences Response:

Learning at the college has always been student-centric. The focus is on knowledge of Transfer and learning through students' active participation and involvement. The faculty provides a platform for students to explore independently, learn through self-study and from their peers, guide them to develop effective and lifelong skills. The following latest teaching and learning methodologies are used to motivate students to learn for higher retention of knowledge through better understanding

Regular learning and experimental learning:

The faculty employs theoretical lecture methods, practical class-rooms seminars computer-assisted learning, fieldwork, and other ways whenever and wherever necessary for teaching-learning and evaluation of the students.

Participative or experiential learning:-

Field-based experiential learning like service learning and class-based experiential learning like role play, games, case studies, etc active learning. The faculty adopts active learning by involving students in the learning process directly through following activities like quizzes, debate, group discussions model making essay elocution, mini-project, etc.

Industrial tours/study tours:-

The management makes the students experience the real world by visiting the industry, study tours, and held work.

blem-based learning /project-based learning:-

In project/competition participating students are assigned different tasks, assignments, activities in which students engage in complex challenging problems and collaboratively work toward their solutions by using interdisciplinary knowledge. The institute also encourages and guides the students to participate in the co-curricular and extra co-curricular activities, and national-level competitions organized by other institutes and universities.

SR.NO.	COURSE	TEACHING METHOD USED
1.	F"	Demonstration work
	B.Sc.	You-tube
		z- library
		industrial visit
		participating learning
2.		ICT Enabled Teaching
	B.com	Problem solving method
	D.COM	You- tube
		PPT
3.		Group Discussion
	B.A	Game
		Case study
4.		ICT Enabled Teaching
	BAF	Problem solving method
	D/XI	You- tube
		PPT
_		Oral
5.	BMM	Group Discussion
		PPT
6.		Case Study
	BMS	Group Discussion
		industrial visit
		Group Discussion
		PPT
7.	IT	industrial visit
		Reachearch Project
		video lectures

8.		Group Discussion	
	M.A	Game	
	TATOTA	Reachearch Project	
0		Field project	
9.		ICT Enabled Teaching	
	M.COM	Problem solving method	
		You- tube	
		PPT	
		Guest lecture	
10.		Demonstration work	
		You-tube	
3756		z- library	
	M.Sc	industrial visit	
		participating learning	
		Field project	
		Reachearch Project	

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Estd. 2004 NAAC "C" Grade

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ARTS, COMMERECE &SCIENCE COLLEGE, GOVELI **LESSON PLAN TEACHERS LIST (2021-22)**

SR.NO	DEPARTMENT	DEPARTMENT
		PROF. H.V.SOSHATE
		PROF. D.G.KAMBLE
1.		PROF. B.G.PAWAR
		PROF. TEJAL BALERAO
		PROF. DIPALI TEMBHE
		PROF. S.KAKADE
	B.A	PROF. MEENA MULIK
	D.A	PROF. L.N. BHOIR
		PROF. V.HERODE
		PROF. R.R. KANSE
		PROF. GOURKSHANATH TARE
		PROF. NINAD BHARTI
		PROF. P. JADHAV
		PROF. JAYA DESHMUKH
	в.сом	PROF. B.C. CHAUDHARI
7		PROF. RUPALI TARE
2.		PROF. V.G.SONAR
		PROF. POOJA BIRAJDAR
		PROF. D.G. CHAVAN
		PROF. RUPALI TARE
3.	B.A.F	PROF. POOJA BIRAJDAR
		PROF. MAYURI KAMBLE
		PROF. RUCHI SHUKALA
		PROF. SHUBHAM CHAVAN
		PROF. A.S. GAIKAR
4.	B.SC	PROF. RUPALI MAGAR
	D. 5C	PROF. P.H.PATIL
		PROF. Y.B.TRIBHUVANE
		PROF. P.R.BHOSALE
		PROF. SUMIT FAWARE
		PROF. CHINMAY GURAV
5.	B.SC (IT)	PROF. VAIBHAV TARE
	D. 5C (11)	PROF. PRAVIN GHARE
		PROF. POOJA ISAME
		PROF. B.SINGH
6.	B.M.S	PROF. N.B.GHODVINDE
		PROF. U.B.GAIKAR
7.	B.M.M	PROF. GEETA GAIKAR
	TOOTATOTAT	PROF. RAHUL TAUR

PRINCIPAL

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COURSE PLANNING

COURSE TITLE:- T.Y.B.Sc (ORGANIC CHEMISTRY CHEMISTRY-III)

❖ INTENT/RATIONALE:-

Organic chemistry is important because it is the study of life and all of the chemical reactions related to life. Several careers apply an understanding of organic chemistry, such as doctors, veterinarians, dentists, pharmacologists, chemical engineers, and chemists. Organic chemistry plays a part in the development of common household chemicals, foods, plastics, drugs, and fuels most of the chemicals part of daily life. Organic compounds are all around us. Many modern materials are at least partially composed of organic compounds. They're central to economic growth, and are foundational to the fields of biochemistry, biotechnology, and medicine. Examples of where you can find organic compounds include agrichemicals, coatings, cosmetics, detergent, dyestuff, food, fuel, petrochemicals, pharmaceuticals, plastics, and rubber.

COURSE OUTCOME:

COURSE NUMBER (CO)	DESCRIPTION OF COURSE OUTCOME
CO 1	To understand the Mechanism of organic reactions
CO 2	Difference between thermal and photochemical reactions. Jablonski diagram, singlet and triplet states, allowed and forbidden transitions, fate of excited molecules, photosensitization.
CO 3	Photochemistry of carbonyl compounds: Norrish I, Norrish II cleavages. Photo reduction
CO 4	General introduction & scope, meaning & examples of insecticides, herbicides, fungicide, rodenticide, pesticides, plant growth regulators
CO 5	Synthesis & application of IAA (Indole Acetic Acid) & Endosulphan
CO 6	Reactivity and preparation of pyridine-N-oxide, quinoline and iso-quionoline
CO 7	Reactions of quinoline and isoquinoline; oxidation, reduction, nitration, halogenation

* RELATED PROGRAM OUTCOME:

PROGRAM OUTCOME NUMBER (PO)	DESCRIPTION OF PROGRAM OUTCOME
PO 1	Demonstrate; solve an understanding of major concept in all discipline chemistry.
PO 2	Create an awareness of impact of chemistry on the environment, society and development outside the scientific development.
PO 3	To develop skill to work in chemical environment safely and correctly.
PO 4	Skill in Planning and conducting advanced chemical experiment and applying the structure chemical characterization techniques.
PO 5	Create an awareness of impact of chemistry on the environment, society and development outside the scientific development.
PO 6	Understanding various concept and theories providing the strong academic Foundation.
PO 7	To understanding the different organization criteria which is necessary to work in different position for example if candidate work in pharmaceutical company should have knowledge of FDA. If candidate worked in food industry it should have knowledge of FSSAI Guidelines

* COURSE OUTCOME & PROGRAM OUTCOME MAPPING:

COURSE OUTCOME NO.	DESCRIPTION OF COURSE OUTCOME	DESCRIPTION OF PROGRAM OUTCOME
CO 1	To understand the Mechanism of organic reactions	Demonstrate; solve an understanding of major concep in all discipline chemistry.
CO 2	Difference between thermal and photochemical reactions. Jablonski diagram, singlet and triplet states, allowed and forbidden transitions, fate of excited molecules, photosensitization.	Create an awareness of impact of chemistry on the environment, society and development outside the scientific development.
CO 3	Photochemistry of carbonyl compounds: Norrish I, Norrish II cleavages. Photo reduction	To develop skill to work in chemical environment safely and correctly.
CO 4	General introduction & scope, meaning & examples of insecticides, herbicides, fungicide, rodenticide, pesticides, plant growth regulators	Understanding various concept and theories providing the strong academic Foundation.
CO 5	Synthesis & application of IAA (Indole Acetic Acid) & Endosulphan	Skill in Planning and conducting advanced chemical experiment and applying the structure chemical characterization techniques.
CO 6	Reactivity and preparation of pyridine-Noxide, quinoline and iso-quionoline	Demonstrate; solve an understanding of major concept in all discipline chemistry.
CO 7	Reactions of quinoline and isoquinoline; oxidation,reduction,nitration,halogenation	To understanding the different organization criteria which is necessary to work in different position for example if candidate work in pharmaceutical company should have knowledge of FDA. If candidate worked in food industry it should have knowledge of FSSAI

	Guidelines	

❖ COURSE OUTCOME -TEACHING METHOD -ASSESSMENT METHOD:

(CO) NUMBER	DESCRIPTION OF COURSE OUTCOME	TEACHING METHOD	ASSESSMENT METHOD
CO 1	To understand the Mechanism of organic reactions	ICT	Assignment
CO 2	reactions. Jablonski diagram, singlet and triplet states, allowed and forbidden transitions, fate of excited molecules, photosensitization.		Class test
CO 3	Photochemistry of carbonyl compounds: Norrish I, Norrish II cleavages. Photo reduction	ish II cleavages. Photo reduction	
CO 4	General introduction & scope, meaning & examples of insecticides, herbicides, fungicide, rodenticide, pesticides, plant growth regulators	Project base learning	Project work
CO 5	Synthesis & application of IAA (Indole Acetic Acid) & Endosulphan	Integrated learning	Assignment
CO 6	Reactivity and preparation of pyridine-N-oxide, quinoline and iso-quionoline	ICT	Assignment
CO 7	Reactions of quinoline and isoquinoline; oxidation,reduction,nitration,halogenation	Self directed learning	Internal test

***** LEARNING ACTIVITIES:

(CO) NUMBER	DESCRIPTION OF COURSE OUTCOME	LEARNING ACTIVITY FOR EXTENSION OF OPPORTUNITY AND REHERSAL
CO 1	To understand the Mechanism of organic reactions	
CO 2	Difference between thermal and photochemical	Real time reaction
	reactions. Jablonski diagram, singlet and triplet states, allowed and forbidden transitions, fate of excited molecules, photosensitization.	Concept mapping
CO 3	Photochemistry of carbonyl compounds: Norrish I, Norrish II cleavages. Photo reduction	
CO 4	Conoral internal diagram	Group disscussion
CO 4	General introduction & scope, meaning & examples of insecticides, herbicides, fungicide, rodenticide, pesticides, plant growth regulators	
CO 5	Synthesis & application of IAA (Indole Acetic Acid) & Endosulphan	Internal test
		PPT

CO 6	Reactivity and preparation of pyridine-N-oxide, quinoline and iso-quionoline	
CO 7	Reactions of quinoline and isoquinoline;	Internal test
	oxidation, reduction, nitration, halogenation	Internal test

* REFERENCE BOOKS/JOURNAL/WEB SITE/YOU TUBE etc...

DECOL	The state of the cities of the
RESOURSES	NAME OF BOOKS / LINKS
BOOKS	HIMALAYA PUBLICATION AND SHET PUBLICATION
YOUTUBE VEDIOS	https://youtu.be/Ih7tQ7rY2Wc
	https://youtu.be/ IEWeanbfnQ
	https://youtu.be/JROZc-9DayM
	https://youtu.be/TOEusBA6G04
	https://youtu.be/KvQ8iVo3YbU
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LESSON PLAN

COURSE TITLE :- T.Y.B.Sc (ORGANIC CHEMISTRY-III)

SUBJECT:- (ORGANIC CHEMISTRY-III)

UNIT NO. 1 :- 1.1 Mechanism of organic reactions (10 L)

ESSON PLAN NO.	COURSE OUTCOME	TOPIC/SUB TOPIC NAME	TEACHING METHOD	TEACHING MATERIAL	FEED-BACK
1.	to differentiate fission and fusion term along with elecrophile and nucleophile	The basic terms & concepts: bond fission, reaction intermediates, electrophiles & nucleophiles, ligand, base, electrophilicity vs. acidity & nucleophilicity vs basicity.	ICT	PPT	students can listencarefully understand electrophilicity acidity & nucleophilicity vs basicity.
2.	to describe the neighbouring group participation with mechanism	Neighbouring group participation in nucleophilic substitution reactions: participation of lone pair of electrons, kinetics and stereochemical outcome.	Participator y learning	Board, Chalk and talk	students got knowledge about Neighbouring group participation
3.	to summarise the nucleophilic substitution reaction in acid and basic compound	Acyl nucleophilic substitution (Tetrahedral mechanism): Acid catalyzed esterification of carboxylic acids (AAC2)	Self directed learning	Youtube	Students can give answer asking related
4.	to understand the nucleophilic substitution reaction in acid and basic compound	Acyl nucleophilic substitution (Tetrahedral mechanism): base promoted hydrolysis of esters (BAC2).	Project base learning	Chalk and talk	students can show interest to clarify concept of Acyl nucleophilic
	to recall the pericyclc reaction and also describe the classification of pericyclic reaction	Pericyclic reactions, classification and nomenclature	Integrated learning	Videos	substitution students can listen carefully
	to differentiate Electro cyclic reactions	Electro cyclic reactions (ring opening and ring closing), cycloaddition, sigma tropic	Participator y learning	Board, Chalk and talk	students can listencarefully understand Electro cyclic reactions.
	to understand the Rearrangement, group transfer reactions	Rearrangement, group transfer reactions, cheletropic reaction	Participator y learning	Board, Chalk and talk	students got knowledge about, group transfer

8.	to describe the Pyrolytic elimination Cope, with mechanism	Pyrolytic elimination: Cope,	Integrated learning	Videos	reactions, cheletropic reaction students can listen carefully
9.	to recall the Pyrolytic elimination and also describe Chugaev reaction	Pyrolytic elimination Chugaev,	ICT	PPT	students can easily differentiate chugaev
10.	to describe Pyrolytic elimination pyrolysis of acetates	Pyrolytic elimination pyrolysis of acetates	ICT	PPT	reaction students can listen carefully

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LESSON PLAN

COURSE TITLE :- T.Y.B.Sc (ORGANIC CHEMISTRY-III) SUBJECT:- (ORGANIC CHEMISTRY-III)

UNIT NO. 1:- 1.2 Photochemistry (5L)

LESSON PLAN NO.	COURSE OUTCOME	TOPIC/SUB TOPIC NAME	TEACHING METHOD	TEACHING MATERIAL	FEED-BACK
1.	to describe the Jablonski diagram, singlet and triplet states, allowed and forbidden transitions,	Introduction: Difference between thermal and photochemical reactions. Jablonski diagram, singlet and triplet states, allowed and forbidden transitions,	Integrated learning	PPT	students can listencarefully understand Jablonski diagram
2.	to recall fate of excited molecules, photosensitization.	fate of excited molecules, photosensitization.	Participator y learning	Board, Chalk and talk	students got knowledge about photosensitizati
3.	to knows the photo isomerization, photochemical rearrangement of 1,4-dienes (di- π methane)	Photochemical reactions of olefins: photo isomerization, photochemical rearrangement of 1,4-dienes (di- π methane)	Self directed learning	You tube	on. Students can give answer asking related question
4.	to summarised Photochemistry of carbonylcompound Norrish I, Norrish II	Photochemistry of carbonylcompound Norrish I, Norrish II	Project base learning	Chalk and talk	Students can show interest to clarify concept of Norrish I, Norrish II
	reaction with suitable example.	Photochemistry of carbonylcompound Photo reduction (e.g.benzophenone to benzpinacol)	ICT	Videos	students can listen carefully

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LESSON PLAN

COURSE TITLE :- T.Y.B.Sc (ORGANIC CHEMISTRY-III)

SUBJECT:- (ORGANIC CHEMISTRY-III)

UNIT NO. 2:- 2.1 Stereochemistry I (5L)

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LESSON PLAN NO.	COURSE OUTCOME	TOPIC/SUB TOPIC NAME	TEACHING METHOD	TEACHING MATERIAL	FEED-BACK
1.	to understand Molecular chirality and elements of symmetry	Molecular chirality and elements of symmetry:	ICT	Vedios	students can listencarefully andunderstand Molecular chirality
2.	Students would classify Mirror plane symmetry, inversion center	Mirror plane symmetry, inversion center,	Participatory learning	Board, Chalk and talk	students got knowledge about symmetry,
3.	to know the chirality of compound and stereogenic center	Chirality of compounds without a stereo genic center: cummulenes	Self directed learning	You tube	Students can give answer asking related question
4.	to differentiate the chirality of compound and stereogenic center biphenyls .	Chirality of compounds without a stereo genic center: biphenyls.	Project base learning	Chalk and talk	Students can show interest to clarify
5.	to describe the symmetry concept along with inversion centre	Molecular chirality and elements of symmetry:inversion center,	Integrated learning	Board Chalk	students can listen carefully

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LESSON PLAN

COURSE TITLE :- T.Y.B.Sc (ORGANIC CHEMISTRY-III)

SUBJECT:- (ORGANIC CHEMISTRY-III)

UNIT NO. 2:- 2.2 Agrochemicals (4L)

PLAN NO.	COURSE OUTCOME	TOPIC/SUB TOPIC NAME	TEACHING METHOD	TEACHING MATERIAL	FEED-BACK
1.	to explain General introduction & scope, meaning & examples of agrochemicals	General introduction & scope, meaning & examples of insecticides, herbicides, fungicide, rodenticide, pesticides, plant growth regulators.	Self directed learning	PPT	students can listen carefully and understand example of insecticides
2.	to understand Bio pesticides likes Neem oil & Karanj oil.	Bio pesticides – Neem oil & Karanj oil.	Participatory learning	Board, Chalk and talk	students got knowledge about Bio pesticides
3.	to memmorised Advantages & disadvantages of agrochemicals	Advantages & disadvantages of agrochemicals	ICT	Videos	students get interest to understand Advantages &disadvantage ofagrochemical
4	to explain the Synthesis & application of IAA (Indole Acetic Acid) & Endosulphan	Synthesis & application of IAA (Indole Acetic Acid) & Endosulphan,	Self directed learning		Students can give answer asking related question

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LESSON PLAN

COURSE TITLE :- T.Y.B.Sc (ORGANIC CHEMISTRY-III) SUBJECT:- (ORGANIC CHEMISTRY-III)

UNIT NO. 2:- 2.3 Heterocyclic chemistry: (6 L)

LESSON	COURSE OUTCOME	TOPIC/SUP TOPIC NAME			
PLAN NO.	COUNTRY OF TECHNIE	TOPIC/SUB TOPIC NAME	TEACHING METHOD	TEACHING MATERIAL	FEED-BACK
1.	to construct Reactivity of pyridine-N-oxide, quinoline and iso-quionoline.	Reactivity of pyridine-N-oxide, quinoline and iso-quionoline.	ICT	Videos	Students can give answer asking related question
2.	to formulate the synthesis pyridine-N-oxide, quinoline (Skraup synthesis)	Preparation of pyridine-N-oxide, quinoline (Skraup synthesis)	Participator y learning	Board, Chalk and talk	students can easily understood preparation of quinoline
3.	to describe the synthesis Preparation of iso- quinoline (Bischler- Napieralski synthesis).	Preparation of iso-quinoline (Bischler-Napieralski synthesis).	Self directed learning	Youtube	students can listen carefully and solve synthesis
4.	to explain the Reactions of of pyridine-N-oxide: halogenation, nitration and reaction with NaNH2/liq.NH3,	Reactions of pyridine-N-oxide: halogenation, nitration and reaction with NaNH2/liq.NH3,	Project base learning	Chalk and talk	students get interest to solve the problems.
5.	to diferentiate the Reactions of quinoline and isoquinoline	Reactions of quinoline and isoquinoline; oxidation, reduction, nitration,	Integrated learning	Board Chalk	students got knowledge about reaction of quinoline
6.	Students would be able to understand different Reactions of quinoline and isoquinoline; halogenation	Reactions of quinoline and isoquinoline; halogenation and reaction with NaNH2/liq.NH3,n-BuLi.	Descriptive leaning	PPT	Students can give answer asking related question

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LESSON PLAN

COURSE TITLE :- T.Y.B.Sc (ORGANIC CHEMISTRY-III)

SUBJECT:- (ORGANIC CHEMISTRY-III)

<u>UNIT NO. 3 :- 3.1 IUPAC (5 L)</u>

PLAN NO.	COURSE OUTCOME	TOPIC/SUB TOPIC NAME	TEACHING METHOD	TEACHING MATERIAL	FEED-BACK
1.	Students would be able to reconcile different rules of Bicyclic compounds like spiro, fused compound	IUPAC Systematic nomenclature of Bicyclic compounds – spiro, fused	ICT	Vedios	Students can give answer asking related
2.	Students would be able to construct nomenclature of bridged (upto 11 carbon atoms) – saturated and unsaturated compounds.	IUPAC Systematic nomenclature of bridged (upto 11 carbon atoms) – saturated and unsaturated compounds.	Participatory learning	Board, Chalk and talk	question Students analysed bridged compound easily.
3.	to understand IUPAC Systematic nomenclature of Biphenyls.	IUPAC Systematic nomenclature of Biphenyls	Self directed learning	Youtube	student can
4.	to reconcile different rules for identification of cummulene with to triple bond	IUPAC Systematic nomenclature of Cummulenes with upto 3 double bonds	Project base learning	Chalk and talk	carefully. Students can give answer asking related
5.	to understand IUPAC Systematic nomenclature systematic rules.	IUPAC Systematic nomenclature of Quinolines and isoquinolines	Integrated learning		Student got information about nomenclature of Quinolines

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LESSON PLAN

COURSE TITLE :- T.Y.B.Sc (ORGANIC CHEMISTRY-III)

SUBJECT:- (ORGANIC CHEMISTRY-III)

<u>UNIT NO. 3</u>:- 3.2 Synthesis of organic compounds (10L)

LESSON PLAN NO.		TOPIC/SUB TOPIC NAME	TEACHING METHOD	TEACHING MATERIAL	
1.	To prepare Linear and convergent synthesis, To identify concept of chemoselectivity and regioselectivity.	Introduction: Linear and convergent synthesis, criteria for an ideal synthesis, concept of chemoselectivity and regioselectivity with examples, calculation of yields.	ICT	Videos	Student got information about Linear andconvergen synthesis,
2.	to construct Multicomponent Synthesis like Mannich reaction and Biginelli reaction	Multicomponent Synthesis: Mannich reaction and Biginelli reaction. Synthesis with examples(nomechanism)	Participatory learning	Board, Chalk and talk	Students can easily identify Mannich reaction and Biginelli
3.	to summarise the basic concept of green chemistry along with basic twelve principle	Green chemistry and synthesis:Introduction: Twelve principles of green chemistry,	Self directed learning	Youtube	reaction. Students can give answer asking related question
4.	To describe concept of atom economy and E-factor, calculations and their significance,	concept of atom economy and E-factor, calculations and their significance, numerical examples.	Project base learning	Chalk and talk	Students analysed economy and E factor easily.
5.	to memorised the green solvent and green starting materialand also distinguish between chemical and green solvent.	Green reagents: dimethyl carbonate. Green starting materials: D-glucose	Integrated learning		students get ide about Green starting materials : D-
	Students would be able to prepare contract account and understand treatment of profit on incomplete contracts.	iii) Green solvents : supercritical CO2	Discriptive leaning	PPT	glucose Student got information about Green solvents: supercritical CO2

7.	to understand the planning of synthesis of nitroaniline and effect of aniline	Planning of organic synthesis of nitroanilines. (o&p)	ICT	Videos	Students can easily identify Planning of organic synthesis ofnitroanilines (o&p)
8.	to prepare Planning of organic synthesis of halobenzoic acid.(o&p)	Planning of organic synthesis of halobenzoic acid.(o&p)	Integrated learning	Board Chalk	student listen carefully.
9.	to construct Planning of organic synthesis Alcohols (primary / secondary / tertiary) using Grignard reagents.	Planning of organic synthesis Alcohols (primary / secondary / tertiary) using Grignard reagents.	Descriptive leaning	PPT	Students can easily identify Planning of organic synthesis Alcohols
10.	Students would be able to prepare Planning of organic synthesis Alkanes (using organo lithium compounds)	Planning of organic synthesis Alkanes (using organo lithium compounds)	ICT	Videos	Students can give answer asking related question

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