

Board of
Signature

S.No.	Members	Signature
1.	Dr. Indhumathy Ramasamy Assistant Professor & Head, Department of Chemistry NGM College, Pollachi.	<i>Indhumathy</i>
2.	University Nominee Dr. S. Ponnuswamy Associate Professor & Head, Govt Arts College Che	<i>S. Ponnuswamy</i> 28/6/23
3.	Prof. M. Sivakumar (Subject Expert & Academic Auditor) Associate Professor and Head PG & Research Department of Chemistry, Government Arts College Udumalpet - 642126 9489463508	<i>M. Sivakumar</i> 28/6/23
4.	Dr. R. Venkatesh (Subject Expert) Associate Professor of Chemistry Government Arts College Udumalpet - 642126 9894246997	<i>R. Venkatesh</i> 28/6/23
5.	Mr. C. Nandeeswaran (Alumni, PG Chemistry) School of Chemistry Bharathidasan University Trichy 9345464287	<i>C. Nandeeswaran</i> 28/6/23

Studies In Chemistry (28.06.2023) 10.00 am.

S.No.	Members	Signature
6.	Dr. Indhumathy Ramasamy (Chair person)	<i>Indhumathy</i>
7.	Dr. M. Anantha, Assistant Professor, M. A. Department of Chemistry, NGM College Pollachi	<i>M. Anantha</i> 28/6/23
8.	Dr. J. Gowrani, Assistant Professor, Department of Chemistry, NGM College Pollachi	<i>J. Gowrani</i> 28/6/23
9.	Dr. M. Selladurai, Assistant Professor, Department of Chemistry, NGM College, Pollachi	<i>M. Selladurai</i> 28/6/23
10.	Dr. N. Neelakandeswari Assistant Professor, Department of Chemistry, NGM College, Pollachi	<i>N. Neelakandeswari</i> 28/6/23

MINUTES of BOS.

S.No.	Members	Signature
1.	Dr. Indumathy Ramasamy (chair person)	Indumathy
2.	Dr. S. Ponnusamy University (Nominee)	S. Ponnusamy 28/6/23
3.	Prof. M. Sivakumar, (Subject Expert)	Prof. M. Sivakumar 28/6/23
4.	Dr. R. Venkatesh (Subject Expert)	Dr. R. Venkatesh 28/6/23
5.	Mr. C. Nandeeswarar (Alumni)	Mr. C. Nandeeswarar 28/6/23
6.	Dr. M. Amutha	M. Amutha 28/6/23
7.	Dr. T. Gowdaran	T. Gowdaran 28/6/23
8.	Dr. M. Selladurai	Dr. M. Selladurai 28/6/23
9.	Dr. N. Neelakandeeswarar	Dr. N. Neelakandeeswarar 28/6/23

DEPARTMENT OF CHEMISTRY

NALLAMUTHU GOUNDER MAHALINGAM COLLEGE
POLLACHI - 642001

38th Board of Studies Meeting in the Department of Chemistry

Date & Time & Venue: 28.06.2023 & 10.00 AM & Room No: A-114

AGENDA

BoS / CY 38.1	:	Welcome address and Opening Remarks by Chairman, Board of studies in the Department of Chemistry
BoS / CY 38.2	:	Confirmation of the Minutes of the 37 th / Previous meeting of Board of studies in the Department of Chemistry held on 04.06.2022 and Action taken report of 37 th meeting of Board of studies
BoS / CY 38.3	:	38.3.1 Syllabus of I BSc Chemistry under Regulation 2023
		38.3.2 Syllabus of II BSc Chemistry under Regulation 2023
		38.3.3 Syllabus of III BSc Chemistry under Regulation 2023
BoS / CY 38.4	:	Suggestions given by BOS Members
BoS / CY 38.5	:	Any other items



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DEPARTMENT OF CHEMISTRY- (UG Aided)

MINUTES OF BOS MEETING

The 38th Meeting of the Board of studies of the Department of Chemistry was held on 28.06.2023 in 10.00 a.m. at Room No: A-114, Department of Chemistry, Nallamuthu Gounder Mahalingam College, Pollachi – 642 001.

The following members were present:

1.	Dr. INDUMATHY RAMASAMY Assistant Professor & Head	Chairman
2.	Dr. M. AMUTHA Assistant Professor of Chemistry	Internal Members
3.	Dr. T. GOWRANI Assistant Professor of Chemistry	
4.	Dr. M. SELLADURAI Assistant Professor of Chemistry	
5.	Dr. N. NEELAKANDESWARI Assistant Professor of Chemistry	
6.	Dr. S. PONNUSWAMY Associate Professor and Head, PG and Research Department of Chemistry, Government Arts College (Autonomous), Coimbatore – 641 018.	University Nominee
7.	Prof. M. SIVAKUMAR Associate Professor and Head, PG and Research Department of Chemistry, Government Arts College, Udumalpet – 642 126.	Subject Expert & Academic Auditor


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7.	Dr. R. VENCKATESH Associate Professor, PG and Research Department of Chemistry, Government Arts College, Udumalpet – 642 126.	Subject Expert
8.	Mr. C. NANDEESWARAN M.Sc., Chemistry (I Year), School of Chemistry, Bharathidasan University, Tiruchirappalli – 620 024.	Alumnus


HoD

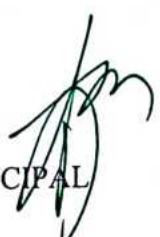
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CDC Co-ordinator

K. SRINIVASAN, M.C.A.,
Co-ordinator
Curriculum Development Cell (CDC)
NGM College (Autonomous)
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COE

Dr. R. MANICKA CHEZIAN, M.Sc., M.S. Ph.D.,
Controller of Examination.
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BoS/CY 38.1

WELCOME ADDRESS AND OPENING REMARKS BY CHAIRMAN,
BOARD OF STUDIES IN THE DEPARTMENT OF CHEMISTRY
The Chairman, BoS of the Department of Chemistry welcomed and introduced the members of 38th Board of Studies and thanked each one of them for sparing their valuable time to attend the meeting.

BoS/CY 38.2

TO CONFIRM THE MINUTES OF 37th BOS MEETING HELD ON 04.06.2022. The minutes of the 37th Board of Studies meeting held on 04.06.2022 were communicated to the members. The comments received have been incorporated and placed for confirmation. The same was approved by the PREVIOUS ACADEMIC MEETING NO – 37 Academic council.

~ Action Taken Report (Enclosed in Annexure 1)



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BoS/CY 38.3

BoS/CY 38.3.1

I B Sc CHEMISTRY (I & II SEMESTER)

The following papers from B Sc (Chemistry) were accepted by the experts fully without further suggestions

➤ **23UCY203 - Core Practical I : Inorganic Qualitative Analysis**

The presented syllabuses were accepted by the experts and a few suggestions were given as follows:

➤ **23UCY101 - Core - I : Inorganic and Organic Chemistry**

The subject expert has suggested to allot 20 periods for Unit-I and allot 16 periods for Unit - V. They have also suggested to remove "Furan" and to incorporate "Annulene" in Unit - V, Mechanism of Elimination reaction in Unit - III, Furan in Unit - V.

➤ **23UCY202 - Core - II : Organic and Physical Chemistry**

The subject expert suggested to incorporate "Acid base titration (Strong acid - strong base, weak acid - strong base only), Precipitation titration, complexometric titration and redox titration)" in Unit-II. In Unit-IV, subject expert suggested to remove "Limitations".

New Course Added: Nil

BoS/CY 38.3.2

II B Sc CHEMISTRY (III & IV SEMESTER)

The following papers from B Sc (Chemistry) were accepted by the experts fully without further suggestions

➤ **23UCY406 - Core Practical II : Volumetric and Organic Qualitative Analysis**

➤ **23UPS3A4/ 23UBY3A4/ 23UZY3A4 - Allied Chemistry Paper - I (Inorganic, Organic and Physical Chemistry)**

➤ **23UPS4A5/ 23UBY4A5/ 23UZY4A5 - Allied Chemistry Paper - II (Inorganic, Organic and Physical Chemistry)**

➤ **23UPS4A6/ 23UBY4A6/ 23UZY4A6 - Allied Chemistry Practical**



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The presented syllabuses were accepted by the experts and a few suggestions were given as follows:

➤ **23UCY304 - Core III : Inorganic and Physical Chemistry**

The subject expert and university nominee has suggested to remove Thermodynamic relations for chemical affinity from Unit-III (Chemical Equilibria) and also to remove Unit IV (Thermodynamics of solutions) from Core paper- III and suggested to incorporate Unit IV (Phase rule and Phase Equilibria) from Core paper IV to Core Paper III.

➤ **23UCY405 - Core IV : Inorganic, Organic and Physical Chemistry**

The subject expert and university nominee has suggested to remove Unit IV (Phase rule and Phase Equilibria) from Core paper IV and suggested to incorporate Unit IV (Thermodynamics of solutions) from Core paper- III to Core Paper IV.

New Course Added: Nil

BoS/CY 38.3.3

III B Sc CHEMISTRY (V & VI SEMESTER)

The following papers from B Sc (Chemistry) were accepted by the experts fully **without further suggestions**

- 23UCY507 - CC V : Coordination and Bioinorganic Chemistry
- 23UCY508 - CC VI : Organic Chemistry-I
- 23UCY509 - CC VII : Electrochemistry
- 23UCY510 - CC VIII : Dye Chemistry
- 23UCY5E1 - DSC - I : Analytical Chemistry – I
- 23UCY5S1 - SEC - III : Food Chemistry
- 23UCY5AL - Advanced Learner Course – I: Environmental Chemistry (Optional) Self Study
- 23UCY611 - CC IX : Physical Methods and Chemical Structure
- 23UCY612 - CC X : Organic Chemistry – II
- 23UCY613 - CC XI : Chemical Kinetics and Quantum Mechanics
- 23UCY6E4 - DSC - II : Polymer Chemistry
- 23UCY6E5 - DSC - II : Biochemistry
- 23UCY6E7 - DSC - III : Analytical Chemistry – II

- 23UCY614 - **CC Lab - III** : Gravimetric Analysis and Physical Chemistry Experiments
- 23UCY615 - **CC XII** : Summer Internship
- 23UCY6S1 - **SEC - IV** : Green Chemistry
- 23UCY6AL - Advanced Learner Course - II: Applications of Spectroscopy (Optional)
Self Study

New Course Added: Nil



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BoS/CY 38.4 SUGGESTIONS GIVEN BY THE BoS MEMBERS

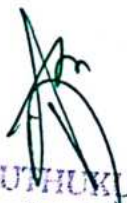
- 38.4.1: The subject expert has suggested to allot 20 periods for Unit-I and allot 16 periods for Unit – V. They have also suggested to remove “Furan” and to incorporate “Annulene” in Unit – V, Mechanism of Elimination reaction in Unit – III, Furan in Unit – V. (23UCY101)
- 38.4.2: The subject expert suggested to incorporate “Acid base titration (Strong acid – strong base, weak acid – strong base only), Precipitation titration, complexometric titration and redox titration)” in Unit-II. In Unit-IV, subject expert suggested to remove “Limitations” (23UCY202)
- 38.4.3: The subject expert and university nominee has suggested to remove Thermodynamic relations for chemical affinity from Unit-III (Chemical Equilibria) and also to remove Unit IV(Thermodynamics of solutions) from Core paper- III and suggested to incorporate Unit IV (Phase rule and Phase Equilibria) from Core paper IV to Core Paper III. (23UCY304)
- 38.4.4: The subject expert and university nominee has suggested to remove Unit IV(Phase rule and Phase Equilibria) from Core paper IV and suggested to incorporate Unit IV (Thermodynamics of solutions) from Core paper- III to Core Paper IV. (23UCY405)

The members had a brainstorming discussion and interaction among themselves. After discussion, fruitful suggestions were incorporated appropriately in the Curriculum and Syllabi.

Based on the suggestions given by the members, BOS resolved to recommend the following to the Academic Council for further approval.

- The syllabus of First Year of B.Sc., Chemistry under Regulation 2023.
- The syllabus of Second Year of B.Sc., Chemistry under Regulation 2023.
- The syllabus of Third Year of B.Sc., Chemistry under Regulation 2023.
- Value added courses


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Members Present

Chairman

Dr. INDUMATHY RAMASAMY

Assistant Professor and Head

Indumathy

Internal Members

Dr. M. AMUTHA

Assistant Professor of Chemistry

M. Amutha

Dr. T. GOWRANI

Assistant Professor of Chemistry

T. Gowrani

Dr. M. SELLADURAI

Assistant Professor of Chemistry

M. Selladurai

Dr. N. NEELAKANDESWARI

Assistant Professor of Chemistry

N. Neelakandeswari

University Nominee

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Associate Professor and Head,
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Subject Expert & Academic Auditor

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Associate Professor and Head,
PG and Research Department of Chemistry,
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Subject Expert

Dr. R. VENCKATESH

Associate Professor,
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Alumnus

Mr. C. NANDEESWARAN

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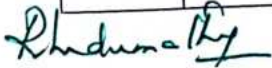

Principal

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ANNEXURE I

Minutes of the 37th Previous Meeting – Action Taken Report

S. No	Suggestion given by expert members	Action taken
1	The subject expert has suggested incorporated the “Non- covalent bond - Vander waals attraction” in Unit – I, Mechanism of Elimination reaction in Unit – III, Furan in Unit – V respectively (22UCY101)	Reviewed and Implemented
2	The concern course teacher added new topics “Physical significance of fugacity and activity coefficient and standard states in the Unit – III (22UCY304).	Implemented
3	The subject expert and university nominee has suggested to modify the title of the core paper IV as “General Chemistry” and Application of isotopes in chemistry, agriculture and medicine as self-study portion in Unit V (22UCY405).	Implemented
4	The concern course teacher incorporated new topics Preparation of phenol and Aromatic amines in the Unit – II & III respectively (22UCY405).	Implemented
5	The concern course teacher added new organic preparation in practical” Acetylation of Salicylic acid to acetyl salicylic acid” (22UCY406).	Implemented
6	The concern course teacher incorporated new topics “Factors affecting the stability of chelate complexes” in the Unit – I. “Color of transition metal complexes-visible spectrum of aqueous Ti (III) ion and Introduction to MOT – Sigma bonding only in the Unit-III. Introduction to Organomettalic chemistry – Electron counting. 18 electron rule in the Unit - V (22UCY507).	Implemented
7	The university nominee has suggested to modify Unit III as Unit IV and Unit IV as Unit III and incorporated Primary and Secondary Batteries and Lithium ion Battery” in Unit V (22UCY509).	Implemented
8	The subject expert has suggested introducing Faraday Balance in Unit V. (22UCY611).	Implemented


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9	The subject expert has suggested and incorporated the "Optical activity of amino acids and mode of action of sulpha drugs" in Unit II & V respectively. (22UCY612).	Implemented
10	The concern course teacher introduced Potassium persulphate oxidation and Redox titrations with FeSO ₄ and KMnO ₄ in the Lab manual (22UCY615).	Implemented
11	The concern course teacher added new topics "Disadvantage of hard water in Boiler" in Unit – I and "Benzene and its resonance structure" in Unit - III (22UPS3A4/ 22UBY3A4/ 22UZY3A4).	Implemented
12	The concern course teacher added new topics "Role of gypsum in setting of cement" in Unit – I (22UPS4A5/ 22UBY4A5/ 22UZY4A5).	Implemented


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**List of Courses having focus on local, national, regional and global developmental needs
offered by the Department of Chemistry (UG)**

DEPARTMENT OF CHEMISTRY(UG)						
Programme: B.Sc., Chemistry			Year : 2023 - 2026			
Course Code	Course Title	Need				Rationale
		Local	National	Regional	Global	
23UCY101	CC I : Inorganic and Organic chemistry				✓	Higher Education.
23UCY202	CC II : Organic and Physical Chemistry				✓	Teaching & Higher Education.
23UCY203	CC Lab - I : Inorganic Qualitative Analysis				✓	Higher Education.
23UCY304	CC III : Inorganic and Physical Chemistry				✓	Teaching, Higher Education & Industry.
23UCY405	CC IV : Inorganic, Organic and Physical Chemistry				✓	Teaching & Higher Education.
23UCY406	CC Lab - II : Volumetric and Organic Qualitative Analysis and Organic Preparations				✓	Teaching, Higher Education & Industry.
23UCY507	CC V : Coordination and Bioinorganic Chemistry				✓	Teaching, Higher Education & Industry.
23UCY508	CC VI : Organic Chemistry-I		✓		✓	Competitive exam like IIT JAM, CET, Higher education and for research.
23UCY509	CC VII : Electrochemistry				✓	Higher Education, Teaching, Research &

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						Employment in electrical sectors.
23UCY510	CC VIII : Dye Chemistry				✓	Higher Education, Research & Employment in Textile Industry.
23UCY5E1	DSC - I : Analytical Chemistry - I				✓	Higher education, Research and Employment in analytical labs
23UCY5E2	DSC - II : Pharmaceutical Chemistry - I				✓	Higher education, Research and Employment in Pharma labs
23UCY5E3	DSC - III : Leather Chemistry				✓	Higher education, Research and Employment in Leather labs
23UCY5S1 / 23UCY5S2	SEC - III : Food Chemistry SEC - III : Nano Chemistry	✓	✓			Employment in food and Nano labs
23UCY5AL	Advanced Learner Course - I: Environmental Chemistry (Optional) Self Study		✓		✓	Higher education, Research and Employment in Pollution Control labs
23UCY611	CC IX : Physical Methods and Chemical Structure		✓		✓	Competitive exam like IIT JAM, CET, Higher education, research & employment

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23UCY612	CC X : Organic Chemistry - II				✓	Higher Education, Research & Employment in Pharmaceutical Industry
23UCY613	CC XI : Chemical Kinetics and Quantum Mechanics	✓			✓	Acquire inquisitive knowledge on chemical kinetics and fundamentals of quantum mechanics for Industry ready
23UCY6E4	DSC - II : Polymer Chemistry				✓	Higher Education, Teaching, Research & Employment
23UCY6E5	DSC - II : Biochemistry	✓				Employment in clinical lab
23UCY6E6	DSC - II : Industrial Chemistry	✓				Employment in chemical lab
23UCY6E7	DSC - III : Analytical Chemistry - II				✓	Higher education, Research and Employment in analytical labs
23UCY6E8	DSC - III : Pharmaceutical Chemistry - II				✓	Higher education, Research and Employment in Pharma labs
23UCY6E9	DSC - III : Agricultural Chemistry and Analytical Techniques for Agrochemicals		✓		✓	Higher education, Research and Employment in agrochemical Industry
23UCY614	CC Lab - III : Gravimetric Analysis		✓		✓	Higher education, Research, and

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	and Physical Chemistry Experiments					Employment in analytical labs
23UCY615	CC XII : Summer Internship				✓	Higher Education, and Research
23UCY6S1 / 23UCY6S2	SEC - IV : Green Chemistry / Clean Energy		✓		✓	Higher Education, Teaching & Research for sustainable development
23UCY6AL	Advanced Learner Course - II: Applications of Spectroscopy (Optional) Self Study				✓	Employment in analytical labs
23UPS3A4/ 23UBY3A4/ 23UZY3A4	Allied Chemistry Paper – I Inorganic, organic and physical chemistry				✓	Higher Education and Teaching for Basic chemistry
23UPS4A6/ 23UBY4A6/ 23UZY4A6	Allied Chemistry Paper – II Inorganic, organic and physical chemistry				✓	Higher Education and Teaching for Basic chemistry
23UPS4A5/ 23UBY4A5/ 23UZY4A5	Allied Chemistry Practical				✓	Higher Education and Teaching for Basic chemistry and Lab Skills



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**List of Courses having focus on employability/ entrepreneurship/ skill development offered
by the Department of Chemistry (UG)**

Department of Chemistry						
Programme: B.Sc., Chemistry					Year : 2023 - 2026	
Course Code	Course Title	Employability (EM) / Entrepreneurship (EN) / Skill Development (SD)			Focus	Year of Introduction
		EM	EN	SD		
23UCY101	CC I : Inorganic and Organic chemistry	✓		✓	Employability and Skill Development capability in industries such as mining, ceramics manufacturing.	2023
23UCY202	CC II : Organic and Physical Chemistry	✓			Employability in chemical industry.	2023
23UCY203	CC Lab - I : Inorganic Qualitative Analysis	✓		✓	Laboratory skill in separation of inorganic mixtures. Hands on experience in preparing inorganic compounds.	2023
23UCY304	CC III : Inorganic and Physical Chemistry	✓			Nurture the fundamental skills in petrochemical and fertilizer industries to succeed an entry-level position.	2023
23UCY405	CC IV : Inorganic, Organic and	✓		✓	Employability and skill development capability	2023

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	Physical Chemistry				in nuclear chemist may work in academic, government laboratories and pharma industries.	
23UCY406	CC Lab - II : Volumetric and Organic Qualitative Analysis and Organic Preparations	✓	✓	✓	Hands on experience in analyzing and synthesizing organic compounds. As quality analyst in food and dye processing; water and soil analysis.	2023
23UCY507	CC V : Coordination and Bioinorganic Chemistry	✓	✓		Employability and Entrepreneurial capability as medical coder, analytical chemist and biotechnologist	2023
23UCY508	CC VI : Organic Chemistry-I	✓		✓	EM & SD: uses of reagents in functional group transformation,	2023
23UCY509	CC VII : Electrochemistry	✓		✓	Materials Synthesis and Battery Testing Technician in Industries	2023
23UCY510	CC VIII : Dye Chemistry	✓		✓	Employability and skill development as dye chemists in dyeing and textile industry	2023
23UCY5E1	DSC - I : Analytical Chemistry - I	✓		✓	As Analytical Chemistry Associate/Scientist and R&D Executive in industries	2023

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23UCY5E2	DSC - II : Pharmaceutical Chemistry - I	✓		✓	As quality analyst in pharmaceutical industry	2023
23UCY5E3	DSC - III : Leather Chemistry	✓			Employability in Leather industry.	2023
23UCY5S1	SEC - III : Food Chemistry	✓			Employability in Food industry	2023
23UCY5S2	SEC - III : Nano Chemistry	✓			Employability in Nano industry	2023
23UCY5AL	Advanced Learner Course - I: Environmental Chemistry (Optional) Self Study	✓			Employability in Pollution control organizations	2023
23UCY611	CC IX : Physical Methods and Chemical Structure	✓		✓	EM & SD: Know to operate spectroscopy instruments	2023
23UCY612	CC X : Organic Chemistry - II	✓			Employability in pharmaceutical industry and food industry. Chelating ability of amino acids are used in fertilizer industry for agriculture	2023
23UCY613	CC XI : Chemical Kinetics and Quantum Mechanics	✓		✓	Employability and Skill Development capability in various chemical industries	2023
23UCY6E4	DSC - II : Polymer Chemistry	✓			Employability in polymer industries,	2023

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					Polymer technician, Synthetic polymer chemist, Technical writer, Demographer, Teacher, Quality control specialist and few others.	
23UCY6E5	DSC - II : Biochemistry	✓			Employability in Clinical Lab	2023
23UCY6E6	DSC - II : Industrial Chemistry	✓			Employability in Analytical Lab	2023
23UCY6E7	DSC - III : Analytical Chemistry - II	✓		✓	As Analytical Chemistry Associate/Scientist in industries.	2023
23UCY6E8	DSC - III : Pharmaceutical Chemistry - II	✓		✓	As a researcher in Pharmaceutical Industries	2023
23UCY6E9	DSC - III : Agricultural Chemistry and Analytical Techniques for Agrochemicals	✓		✓	Employability in agrochemical Laboratories.	2023
23UCY614	CC Lab - III : Gravimetric Analysis and Physical Chemistry Experiments	✓	✓	✓	Hands on training	2023

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23UCY615	CC XII : Summer Internship					
23UCY6S1 / 23UCY6S2	SEC - IV : Green Chemistry / Clean Energy			✓	Skill development to carry greener reactions.	2023
23UCY6AL	Advanced Learner Course - II: Applications of Spectroscopy (Optional) Self Study	✓			Employability in Analytical Laboratories.	2023
23UPS3A4/ 23UBY3A4/ 23UZY3A4	Allied Chemistry Paper - I Inorganic, organic and physical chemistry			✓	Skill development for basic chemistry	2023
23UPS4A6/ 23UBY4A6/ 23UZY4A6	Allied Chemistry Paper - II Inorganic, organic and physical chemistry			✓	Skill development for basic chemistry	2023
23UPS4A5/ 23UBY4A5/ 23UZY4A5	Allied Chemistry Practical			✓	Skill development for basic chemistry practical	2023



HoD

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