

K. N. GOVT. ARTS COLLEGE FOR WOMEN (A), THANJAVUR – 7

DEPARTMENT OF CHEMISTRY

Minutes of the Board of studies (B.Sc. Chemistry) meeting held on 15.07.2025 at the Department of Chemistry, K.N.Govt. Arts College for Women (Autonomous), Thanjavur.

The following members were present


S.No.	Name	Designation
1	Dr. M. Vellaisamy	Head and Associate Professor of Chemistry
2	Dr. M. Subathra	Associate Professor of Chemistry
3	Dr. R. Geetha	Assistant Professor of Chemistry
4	Dr. E. Hema	Guest Lecturer
5	Dr. K. Rajamani	Guest Lecturer
6	Dr. R. Kavitha	Guest Lecturer
7	Dr. A. Sudha	Guest Lecturer
8	Mrs. N. Kavikala	Guest Lecturer
9	Mrs. S. Karthika	Guest Lecturer
10	Mrs. D. Madhavi	Guest Lecturer
11	Mrs. B. Menaka	Guest Lecturer
12	Dr. C. Aparna	Guest Lecturer
13	Mrs. B. Latha Maheswari	Guest Lecturer

Resolution


1. The already allotted credit and hours of 23K3CH1SEC5 – Agro Chemistry for 3rd semester of Second year (2024-2025 batch) is taken and it is given to Naan Mudhalvan course – **Foundation of Digital Marketing** for the same students.
2. In the 5th semester of the third year B.Sc. Chemistry Programme (2023-2024 Batch), a new course called '**Career Skill Enhancement and Employability Readiness Part 1**' is added. It is having two hours and two credits, which is taken each hour and credit from 23K5CH10 Inorganic Chemistry – I and 23K5CH12P Gravimetric analysis Practical. Moreover, the additional 2 credits will be added to the syllabus making a total of 145 credits.

Students who are not able to write/ fail to write "Naan Mudhalvan" paper they should write NMO paper. The credit of Naan Mudhalvan is given to NMO paper.

The Board resolved to accept the changes in the course structure of B.Sc. Chemistry Programme for the offering new courses under Naan Mudhalvan Scheme.


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THANJAVUR - 613 007, TN

Signature of the Members of the Board of Studies 15.07.2025

S.No.	Name	Signature
1	Dr. M. Vellaisamy	
2	Dr. M. Subathra	K. Sujan 15/7/25
3	Dr. R. Geetha	0.7.2025 15/7/25
4	Dr. E. Hema	Endre 15/7/25
5	Dr. K. Rajamani	
6	Dr. R. Kavitha	R. Kavitha 15/7/25
7	Dr. A. Sudha	A. Sudha 15/7/25
8	Mrs. N. Kavikala	N. Kavikala 15/7/25
9	Mrs. S. Karthika	S. Karthika 15/7/25
10	Mrs. D. Madhavi	D. Madhavi 15/7/25
11	Mrs. B. Menaga	B. Menaga 15/7/25
12	Dr. C. Aparna	C. Aparna 15/7/25
13	Mrs. B. Latha Maheswari	B. Latha Maheswari 15/7/25


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K. N. GOVT. ARTS COLLEGE FOR WOMEN (A), THANJAVUR – 7

DEPARTMENT OF CHEMISTRY





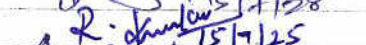
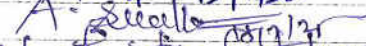







Minutes of the Board of studies (M.Sc. Chemistry) meeting held on 15.07.2025 at the Department of Chemistry, K.N. Govt. Arts College for Women (Autonomous), Thanjavur.

The following members were present

S.No.	Name	Designation
1	Dr. M. Vellaisamy	Head and Associate Professor of Chemistry
2	Dr. M. Subathra	Associate Professor of Chemistry
3	Dr. R. Geetha	Assistant Professor of Chemistry
4	Dr. E. Hema	Guest Lecturer
5	Dr. K. Rajamani	Guest Lecturer
6	Dr. R. Kavitha	Guest Lecturer
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9	Mrs. S. Karthika	Guest Lecturer
10	Mrs. D. Madhavi	Guest Lecturer
11	Mrs. B. Menaka	Guest Lecturer
12	Dr. C. Aparna	Guest Lecturer
13	Mrs. B. Latha Maheswari	Guest Lecturer

The whole syllabi were restructured and already discussed in the previous Board of Studies meeting. As there was no change in the syllabi, it was resolved to follow the same syllabi and the question paper pattern as decided by the college council.

Signature of the Members of the Board of Studies 15.07.2025

S.No.	Name	Signature
1	Dr. M. Vellaisamy	
2	Dr. M. Subathra	 15/7/25
3	Dr. R. Geetha	 15/7/25
4	Dr. E. Hema	 15/7/25
5	Dr. K. Rajamani	 15/7/25
6	Dr. R. Kavitha	 15/7/25
7	Dr. A. Sudha	 15/7/25
8	Mrs. N. Kavikala	 15/7/25
9	Mrs. S. Karthika	 15/7/25
10	Mrs. D. Madhavi	 15/7/25
11	Mrs. B. Menaga	 15/7/25
12	Dr. C. Aparna	 15/7/25
13	Mrs. B. Latha Maheswari	 15/7/25


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15.7.25

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15/07/2025

Programme Structure

I - B.Sc. Chemistry Course CBSE Structure with OBE

(for the candidates admitted 2023-24)

Semeste	Part	Course	Existing Code	Title of the Paper	Inst. Hrs.	Credit	Exam Hrs.	Marks		Total
								Int.	Ext	
I	I	LC 1	23K1T1	Tamil – I	6	3	3	25	75	100
	II	ELC 1	23K1E1	English – I	6	3	3	25	75	100
		CC 1	23K1CH01	General Chemistry – I	5	5	3	25	75	100
		CC 2(P)	23K1CH02P	Chemistry Practical - I (Volumetric Analysis)	3	3	3	25	75	100
	III	EC 1	23K1CH/P/CSE CM1:1/23K1C H/BECZ1:1	Algebra and Calculus/ Elective Zoology I	4	4	3	25	75	100
			23K1CH/P/CSE CM1:2/23K1C H/BECZ1:2	Numerical Methods with Applications/ Radiation Biology						
		EC2		Differential equations and Laplace Transforms/ Elective Zoology Lab	2	-	-	-	-	-
	IV	SEC – 1	23K1CHSEC1	Role of Chemistry in daily life	2	2	3	25	75	100
			23K1CHFC	Basic Chemistry	2	2	3	25	75	100
	Total					30	22			
II	I	LC 2	23K2T2	Tamil – II	6	3	3	25	75	100
	II	ELC 2	23K2E2	English – II	6	3	3	25	75	100
		CC 3	23K2CH03	General Chemistry – II	5	5	3	25	75	100
		CC4(P)	23K2CH04P	Organic Analysis and Preparation of Organic Compounds	3	3	3	25	75	100
	III	EC 2	23K2CH/P/CSE CM2/23K2CH/ BECZ2P	Differential Equation and Laplace Transforms/ Elective Zoology Lab	2	2	3	25	75	100
			23K2CH/P/CSE CM3:1/23K2C H/BECZ3:1	Discrete Mathematics/ Elective Zoology II						
		EC 3	23K2CH/P/CSE CM3:2/23K2C H/BECZ3:2	Mathematical Statistics/ Agricultural Entomology	4	3	3	25	75	100
			SEC-2	23K2CHSEC2						
	IV	SEC-3	23K2CHSEC3	Cosmetic and personal grooming	2	2	3	25	75	100
	Total					30	23			
III	I	LC 3	23K3T3	Tamil – III	6	3	3	25	75	100
	II	ELC 3	23K3E3	English – III	6	3	3	25	75	100
		CC 5	23K3CH05	General Chemistry – III	5	5	3	25	75	100


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III	CC 6(P)	23K3CH06P	Qualitative Inorganic Analysis	3	3	3	25	75	100
	EC 4	23K3CHECP4:1	Allied Physics- I	4	4	3	25	75	100
		23K3CHECP4:2	Applied Physics - I						
	EC5		Allied Physics Practical	2	-	-	-	-	-
IV	SEC-4	23K3CHSEC4	Entrepreneurial Skills in Chemistry	1	1	3	25	75	100
	SEC-5	23K3CHSEC5	Agro Chemistry	2	2	3	25	75	100
			EVS	1	-				
	ECC1	23K3CHECC1:1	Food Chemistry (Self Study)	-	3	3			100
		23K3CHECC1:2	MOOC						
	ECC2	23K3CHECC2	Hydrochemistry (Add on Course)	-	4				
Total				30	21				700
I	LC 4	23K4T4	Tamil - IV	6	3	3	25	75	100
II	ELC 4	23K4E4	English - IV	6	3	3	25	75	100
III	CC 7	23K4CH07	General Chemistry - IV	4	4	3	25	75	100
	CC 8(P)	23K4CH08P	Physical Chemistry Practical	3	3	3	25	75	100
	EC5	23K4CHECP5P	Allied physics practical	2	2	3	25	75	100
	EC 6	23K4CHECP6:1	Allied Physics - II	4	3	3	25	75	100
		23K4CHECP6:2	Applied Physics - II						
IV	SEC - 6	23K4CHSEC6	Instrumental methods of Chemical Analysis	2	2	3	25	75	100
	SEC - 7	23K4CHSEC7	Forensic Science	2	2	3	25	75	100
		232K4EVS	EVS	1	2	3	25	75	100
	ECC3	23K4CHECC3:1	Pollution Control and its Measures (Self Study)	-	3	3			100
		23K4CHECC3:2	MOOC						
Total				30	24				900
V	CC 9	23K5CH09	Organic Chemistry - I	6	5	3	25	75	100
	CC 10	23K5CH10	Inorganic Chemistry - I	6	5	3	25	75	100
	CC 11	23K5CH11	Physical Chemistry - I	6	5	3	25	75	100
	CC12(P)	23K5CH12P	Gravimetric analysis Practical	6	4	3	25	75	100
	EC7	23K5CHECCH7:1	Analytical Chemistry	4	3	3	25	75	100
		23K5CHECCH7:2	Bio Chemistry						
			23K5VE	Value Education	2	2	3	25	75
		23K5I	Summer Internship/Industrial Training	-	2				
Total				30	26				600
VI	CC 13	23K6CH13	Organic Chemistry - II	7	6	3	25	75	100
	CC 14	23K6CH14	Inorganic Chemistry - II	7	6	3	25	75	100
	CC15	23K6CH15	Physical Chemistry - II	7	6	6	25	75	100
	EC8	23K6CHECCH 8:1	Molecular Spectroscopy	6	3	3	25	75	100
		23K6CHECCH 8:2	Polymer Science						

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V	SEC -8	23K6CHSEC8	Industrial Application of Chemistry	2	2	3	25	75	100
	GS	23K6GS	Gender Studies	1	1	3	25	75	100
		23K6EA	Extension Activity	-	1	-	-	-	-
Total				30	25				600
Grand Total				180	141				4300

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K.N.GOV'T ARTS COLLEGE FOR WOMEN (A), THANJAVUR - 7


DEPARTMENT OF CHEMISTRY

Programme Structure

II B.Sc. Chemistry Course CBSE Structure with OBE

(for the candidates admitted 2023-24)

Sem	Part	Course	Existing Code	Title of the Paper	Inst. Hrs.	Credit	Exam Hrs.	Marks		Total	
								Int.	Ext.		
I	I	LC 1	23K1T1	Tamil - I	6	3	3	25	75	100	
	II	ELC 1	23K1E1	English - I	6	3	3	25	75	100	
	III	CC 1	23K1CH01	General Chemistry - I	5	5	3	25	75	100	
		CC 2(P)	23K1CH02P	Chemistry Practical - I (Volumetric Analysis)	3	3	3	25	75	100	
		EC 1	23K1CH/P/CSEC M1:1/23K1B/CH ECZ1:1	Algebra and Calculus/ Elective Zoology I	4	4	3	25	75	100	
			23K1CH/P/CSEC M1:2/23K1B/CH ECZ1:2	Numerical Methods with Applications/ Radiation Biology							
		EC2		Differential equations and Laplace Transforms/ Elective Zoology Lab	2	-	-	-	-	-	
	IV	SEC - 1	23K1CHSEC1	Role of Chemistry in daily life	2	2	3	25	75	100	
		FC	23K1CHFC	Basic Chemistry	2	2	3	25	75	100	
	Total					30	22				700
	II	I	LC 2	23K2T2	Tamil - II	6	3	3	25	75	100
		II	ELC 2	23K2E2	English - II	4	3	3	25	75	100
III		CC 3	23K2CH03	General Chemistry - II	5	5	3	25	75	100	
		CC4(P)	23K2CH04P	Organic Analysis and Preparation of Organic Compounds	3	3	3	25	75	100	
		EC 2	23K2CH/P/CSEC M2:1/23K2CH/P/CSECM2:2/23K2B/CH ECZ2P	Differential Equation and Laplace Transforms/Number Theory/Elective Zoology Lab	2	2	3	25	75	100	
			23K2CH/P/CSEC M3:1/23K2B/CH ECZ3:1	Discrete Mathematics/ Elective Zoology II							
		EC 3	23K2CH/P/CSEC M3:2/23K2B/CH ECZ3:2	Mathematical Statistics/ Agricultural Entomology	4	3	3	25	75	100	
IV		SEC-2	23K2CHSEC2	Dairy Chemistry	2	2	3	25	75	100	
		SEC-3	23K2CHSEC3	Cosmetic and personal grooming	2	2	3	25	75	100	
		NM	23K2NM/ 23K2NMOCH	English Language Communication/Fuel Chemistry	2	2		25	75	100	
Total					30	25				900	


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I	LC 3	23K3T3	Tamil – III	6	3	3	25	75	100
II	ELC 3	23K3E3	English – III	6	3	3	25	75	100
III	CC 5	23K3CH05	General Chemistry – III	5	5	3	25	75	100
	CC 6(P)	23K3CH06P	Qualitative Inorganic Analysis	3	3	3	25	75	100
	EC 4	23K3CHECP4:1	Allied Physics– I	4	4	3	25	75	100
		23K3CHECP4:2	Applied Physics – I						
EC5		Allied Physics Practical	2	-	-	-	-	-	
IV	SEC-4	23K3CHSEC4	Entrepreneurial Skills in Chemistry	1	1	3	25	75	100
	NM	23K3NM/ 23K3NMOCH	Foundation of Digital Marketing /Agrochemistry	2	2	3	25	75	100
			EVS	1	-				
ECC1	23K3CHECC1:1	Food Chemistry (Self Study)	-	3	3				100
	23K3CHECC1:2	MOOC							
ECC2	23K3CHECC2	Hydrochemistry (Add on Course)	-	4					
Total				30	21				700
I	LC 4	23K4T4	Tamil – IV	6	3	3	25	75	100
II	ELC 4	23K4E4	English – IV	6	3	3	25	75	100
III	CC 7	23K4CH07	General Chemistry – IV	4	4	3	25	75	100
	CC 8(P)	23K4CH08P	Physical Chemistry Practical	3	3	3	25	75	100
	EC5	23K4CHECP5P	Allied physics practical	2	2	3	25	75	100
	EC 6	23K4CHECP6:1	Allied Physics – II	4	3	3	25	75	100
23K4CHECP6:2		Applied Physics – II							
IV	SEC – 5	23K4CHSEC5	Instrumental methods of Chemical Analysis	2	2	3	25	75	100
	SEC – 6	23K4CHSEC6	Forensic Science	2	2	3	25	75	100
		232K4EVS	EVS	1	2	3	25	75	100
	ECC3	23K4CHECC3:1	Pollution Control and its Measures (Self Study)	-	3	3			100
23K4CHECC3:2		MOOC							
Total				30	24				900
III	CC 9	23K5CH09	Organic Chemistry – I	6	5	3	25	75	100
	CC 10	23K5CH10	Inorganic Chemistry – I	6	5	3	25	75	100
	CC 11	23K5CH11	Physical Chemistry – I	6	5	3	25	75	100
	CC12(P)	23K5CH12P	Gravimetric analysis Practical	6	4	3	25	75	100
	EC7	23K5CHECCH7:1	Analytical Chemistry	4	3	3	25	75	100
		23K5CHECCH7:2	Bio Chemistry						
		23K5VE	Value Education	2	2	3	25	75	100
	23K5I	Summer Internship/Industrial Training	-	2					
Total				30	26				600
EC8	CC 13	23K6CH13	Organic Chemistry – II	7	6	3	25	75	100
	CC 14	23K6CH14	Inorganic Chemistry – II	7	6	3	25	75	100
	CC15	23K6CH15	Physical Chemistry – II	7	6	6	25	75	100
	EC8	23K6CHECCH8: 1	Molecular Spectroscopy	6	3	3	25	75	100
		23K6CHECCH8:2	Polymer Science						

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	GS	23K6GS	Gender Studies	1	1		25	75	100
V	SEC -7	23K6CHSEC7	Industrial Application of Chemistry	2	2	3	25	75	100
		23K6EA	Extension Activity	-	1				
Total				30	25				600
Grand Total				180	143				4400

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K.N.GOV'T ARTS COLLEGE FOR WOMEN (A), THANJAVUR – 7

DEPARTMENT OF CHEMISTRY

Programme Structure

III B.Sc. Chemistry Course CBSE Structure with OBE


(for the candidates admitted 2023-24)

Sem	Part	Course	Existing Code	Title of the Paper	Inst. Hrs.	Credit	Exam Hrs.	Marks		Total	
								Int.	Ext.		
I	I	LC 1	23K1T1	Tamil – I	6	3	3	25	75	100	
	II	ELC 1	23K1E1	English – I	6	3	3	25	75	100	
	III	CC 1	23K1CH01	General Chemistry – I	5	5	3	25	75	100	
		CC 2(P)	23K1CH02P	Chemistry Practical - I (Volumetric Analysis)	3	3	3	25	75	100	
		EC 1	23K1CH/P/CSEC M1:1/23K1B/CH ECZ1:1	Algebra and Calculus/ Elective Zoology I	4	4	3	25	75	100	
			23K1CH/P/CSEC M1:2/23K1B/CH ECZ1:2	Numerical Methods with Applications/ Radiation Biology							
	EC2		Differential equations and Laplace Transforms/ Elective Zoology Lab	2	-	-	-	-	-		
	IV	SEC – 1	23K1CHSEC1	Role of Chemistry in daily life	2	2	3	25	75	100	
		FC	23K1CHFC	Basic Chemistry	2	2	3	25	75	100	
	Total					30	22				700
	II	I	LC 2	23K2T2	Tamil – II	6	3	3	25	75	100
		II	ELC 2	23K2E2	English – II	4	3	3	25	75	100
III		CC 3	23K2CH03	General Chemistry – II	5	5	3	25	75	100	
		CC4(P)	23K2CH04P	Organic Analysis and Preparation of Organic Compounds	3	3	3	25	75	100	
		EC 2	23K2CH/P/CSEC M2:1/23K2CH/P/CSECM2:2/23K2B/CHECZ2P	Differential Equation and Laplace Transforms/Number Theory/Elective Zoology Lab	2	2	3	25	75	100	
			23K2CH/P/CSEC M3:1/23K2B/CH ECZ3:1	Discrete Mathematics/ Elective Zoology II							
EC 3		23K2CH/P/CSEC M3:2/23K2B/CH ECZ3:2	Mathematical Statistics/ Agricultural Entomology	4	3	3	25	75	100		
IV		SEC-2	23K2CHSEC2	Dairy Chemistry	2	2	3	25	75	100	
		SEC-3	23K2CHSEC3	Cosmetic and personal grooming	2	2	3	25	75	100	
		NM	23K2NM/23K2NMOCH	English Language Communication/Fuel Chemistry	2	2		25	75	100	
Total					30	25				900	

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I	LC 3	23K3T3	Tamil – III	6	3	3	25	75	100
II	ELC 3	23K3E3	English – III	6	3	3	25	75	100
III	CC 5	23K3CH05	General Chemistry – III	5	5	3	25	75	100
	CC 6(P)	23K3CH06P	Qualitative Inorganic Analysis	3	3	3	25	75	100
	EC 4	23K3CHECP4:1	Allied Physics–I	4	4	3	25	75	100
		23K3CHECP4:2	Applied Physics – I						
EC5		Allied Physics Practical	2	-	-	-	-	-	
IV	SEC-4	23K3CHSEC4	Entrepreneurial Skills in Chemistry	1	1	3	25	75	100
	NM	23K3NM/ 23K3NMOCH	Digital Skills for Employability/Agrochemistry	2	2	3	25	75	100
			EVS	1	-				
ECC1	23K3CHECC1:1	Food Chemistry (Self Study)	-	3	3				100
	23K3CHECC1:2	MOOC							
ECC2	23K3CHECC2	Hydrochemistry (Add on Course)	-	4					
Total				30	21				700
I	LC 4	23K4T4	Tamil – IV	6	3	3	25	75	100
II	ELC 4	23K4E4	English – IV	6	3	3	25	75	100
III	CC 7	23K4CH07	General Chemistry – IV	4	4	3	25	75	100
	CC 8(P)	23K4CH08P	Physical Chemistry Practical	3	3	3	25	75	100
	EC5	23K4CHECP5P	Allied physics practical	2	2	3	25	75	100
	EC 6	23K4CHECP6:1	Allied Physics – II	4	3	3	25	75	100
23K4CHECP6:2		Applied Physics – II							
IV	SEC – 5	23K4CHSEC5	Instrumental methods of Chemical Analysis	2	2	3	25	75	100
	NM	23K4NMCH/ 23K4NMOCH	Sustainability and Green Chemistry/ Forensic Science	2	2	3	25	75	100
			232K4EVS	EVS	1	2	3	25	75
	ECC3	23K4CHECC3:1	Pollution Control and its Measures (Self Study)	-	3	3			
23K4CHECC3:2		MOOC							
Total				30	24				900
III	CC 9	23K5CH09	Organic Chemistry – I	6	5	3	25	75	100
	CC 10	23K5CH10	Inorganic Chemistry – I	5	5	3	25	75	100
	CC 11	23K5CH11	Physical Chemistry – I	6	5	3	25	75	100
	CC12(P)	23K5CH12P	Gravimetric analysis Practical	5	4	3	25	75	100
	EC7	23K5CHECCH7:1	Analytical Chemistry	4	3	3	25	75	100
		23K5CHECCH7:2	Bio Chemistry						
		23K5VE	Value Education	2	2	3	25	75	100
		23K5I	Summer Internship/Industrial Training	-	2				
	23K5NM/23K5NMOCH	Career Skill Enhancement and Employability Readiness Part 1/ Water Quality Analysis	2	2	3	25	75	100	
Total				30	28				700
CC 13	23K6CH13	Organic Chemistry – II	7	6	3	25	75	100	


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VI	CC 14	23K6CH14	Inorganic Chemistry – II	7	6	3	25	75	100
	CC15	23K6CH15	Physical Chemistry – II	7	6	6	25	75	100
	EC8	23K6CHECCH8:1	Molecular Spectroscopy	6	3	3	25	75	100
		23K6CHECCH8:2	Polymer Science						
GS	23K6GS	Gender Studies	1	1		25	75	100	
V	SEC -6	23K6CHSEC6	Industrial Application of Chemistry	2	2	3	25	75	100
		23K6EA	Extension Activity	-	1				
Total				30	25				600
Grand Total				180	145				4500

Atkins
15.7.2015

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SEM III	SEC 5	AGRO CHEMISTRY	23K3NMOCH	Ins.Hrs.2	Credit:2
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Objective of the Course	<p>This course aims to providing the students</p> <ul style="list-style-type: none"> • Soil formation • Knowledge about the various types of pesticides and their toxicity. • To understand the accumulation of pesticides in the form of residues and its analysis. • Knowledge on choice of alternate and eco-friendly pesticides.
Course Outline	<p>UNIT-I Soil formation – factors influencing soil formation, Soil forming processes. Definition of soil. Soil Physical properties – Soil texture and structure – Bulk density, particle density, Porespace, soil air, soil temperature, soil water, soil consistence – significance of Physical properties to plant growth. Fertilizers Fertilizers- mixed fertilizers - role in plant life – methods of applying solid fertilizers and liquid fertilizers- economic value of fertilized crop. Nitrogenous, phosphatic and potash fertilizers. Urea, Super phosphate, Bone meal and potassium nitrate.</p>
	<p>UnitII Pesticidesresidues: Introduction – application of agrochemicals, dissemination pathways of pesticides, causes of pesticide residues, remedies. Pesticides residues in atmosphere - entry in to atmosphere, action of pesticides, effects on environments. Pesticides residues in water - Entry into water systems, action and effect in aquatic environment. Pesticides residues in soil. Entry into soil, absorption, retention and transport in soil, effects on microorganism, soil condition and fertility, decomposition and degradation by climatic factors and microorganism. Pesticide Residues effect and analysis: Effects of pesticides residue on human life, birds and animals- routes for exposure to pesticides, action of pesticides on living system. Analysis of pesticides residues –sample preparation, extraction of pesticides residues (soil, water and vegetables/fruits) simple methods and schemes of analysis, multi-residue analysis.</p>
	<p>Unit III Biopesticides: Pheromones, attractants, repellents – Introduction,</p>


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	types and application (8- Dodecen-1-ol, 10-cis-12-hexadecadienoic, Trimedlure, Cue-lure, methyl eugenol, N,N- Diethyl-m-toluamide, Dimethyl phthalate, Icaridin). Baits- Metaldehyde, Iron (II) phosphate, Indoxacarb, Zinc Phosphide, Bromadiolone.
RecommendedText	1. Handa SK. Principles of pesticide chemistry. Agrobios (India); 2012. 2. Matolesy G, Nádasz M, Andriska V. Pesticide chemistry. Elsevier; 1989.
	3. J. Miyamoto and P. C. Kearney Pesticide Chemistry Human Welfare and the Environment vol. IV Pesticide Residue and Formulation Chemistry, Pergamon press, 1985. 4. R. Cremlyn: Pesticides, John Wiley. 5. <i>The nature and properties of soils</i> , Brady N.C., Eurasia Publishing House, (P) Ltd. 9 th Ed. 1984. 6. <i>Text book of soil science</i> , Biswas, T.D. and Mukherjee S.K. 1987 7. <i>Soil fertility and fertilizers</i> , Tisdale S.L., Nelson W.L., and Beaton J.D. Macmillan Publishing Company, New York, 1990. 5. 8. <i>Commercial fertilizers</i> , Colling G.H., McGraw Hill Publishing Co., New York, 1955.
ReferenceBooks	1. Roy N. K., Chemistry of Pesticides. CBS Publisher & Distributors P Ltd; 1st Ed. (2010). 2. Nollet L.M., Rathore H.S., Handbook of pesticides: methods of pesticide residues analysis. CRC press; 2016. 3. Ellerbrock R.H., Pesticide Residues: Significance, Management and Analysis, 2005
Websiteand-e-learningsource	1. http://www.khake.com/page75.html 2. Net.foxsm/list/284

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
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Course Learning Outcomes (for Mapping with POs and PSOs)

On completion of the course the student should be able to


CO1: learn about the soil forming process their physical properties, structure and its significance.

CO2: explain the preparation and property of pesticides

CO3: investigate the pesticide residues, prevention and care

CO4: demonstrate the extraction and analytical methods of pesticide residues

CO5: make awareness to the public on bio-pesticides.


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CO1	S	S	S	S	S	S	S	M	S	M
CO2	M	S	S	S	M	S	S	M	M	M
CO3	S	S	S	M	S	S	S	M	S	M
CO4	S	S	S	S	S	S	S	M	M	M
CO5	S	M	S	S	S	S	S	M	M	S

CO- PO Mapping

CO/PO	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3
CO2	3	3	3	3	3
CO3	3	3	3	3	3
CO4	3	3	3	3	3
CO5	3	3	3	3	3
Weightage	15	15	15	15	15
Weighted percentage of Course Contribution to POs	3.0	3.0	3.0	3.0	3.0

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Title of the Course	WATER QUALITY ANALYSIS						
Paper No.	NMO						
Category	Core	Year	III	Credits	2	Course Code	23K5NMOCH
		Semester	V				
Instructional hours per week	Lecture	Tutorial	Lab Practice		Total		
	2	-	-		2		
Prerequisites	Basic knowledge of Water Quality Analysis						
Objectives of the course	To objective the course is to give an in-depth understanding of water quality parameters, ground water and surface water pollution and its control measures. In addition, the students will also learn the water treatment methods, sewage and industrial effluent treatment methods and water resources management.						
Course Outline	<p>UNIT – I: Water quality parameters and their determination: Physical, chemical and biological standards significance of these contaminants over the quality and their determinations – Electrical conductivity – turbidity – pH, total solids, TDS – alkalinity – hardness – chlorides –DO – BOD – COD – TOC – nitrate – sulphate, fluoride.</p> <p>UNIT – II: Ground water and surface water pollution and control measures:Surface waterandGround. waterpollution – Harmful effects – pollution of major rivers – protecting ground water from pollution –ground waterpollution due to fluoride, Iron, Chromium and Arsenic – sources, its effects and treatment methods.</p> <p>UNIT – III: Water treatment methods: Treatment for community supply – screening, sedimentation, coagulation, filtration - removal of micro organisms – chlorination, adding bleaching powder, UV irradiation and ozonation.</p> <p>UNIT – IV:Sewage and industrial effluent treatment:Sewage - characteristics – purpose of sewage treatment – methods of sewage treatment- primary – secondary and tertiary – Role of algae in sewage treatment. Types of industrial wastes – treatment of effluents with organic and inorganic impurities.</p> <p>UNIT – V:Water Management: Water resources Management – rain water harvesting methods – percolation ponds – check dams – mof top collection methods – water management in industries.</p>						
Extended Professional Component (is a part of internal component only. Not to be included in the external examination)	<p>Questions related to the above topics, from various competitive examinations UPSC / TRB / NET/ UGC-CSIR / GATE /TNPSC others to be solved (To be discussed during the Tutorial hours)</p>						

question paper)	
Skills acquired from this course	Knowledge, Problem solving, Analytical ability, Professional Competency, Professional Communication and Transferable skills.
Reference Books	<ol style="list-style-type: none"> 1. Chemical and biological methods for Water Pollution Studies, R.K. Trivedy and P.K. Goel, Environmental Publications, 1986. 2. Engineering Chemistry, P.C. Jain and Monica Jain, Dhanpat Rai and Sons, 1993. 3. Environmental chemistry, B.K. Sharma, Goel Publishing House, Water Quality and DeFluoridation Techniques, Rajiv Gandhi National Drinking Water Mission Publication, 1994.



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Programme Structure
M.Sc. Chemistry Course CBSE Structure with OBE (for the candidates admitted 2023-24)

Sem	Course	Existing Code	Title of the Paper	Ins. Hrs	Credit	Exam Hrs.	Marks		Total
							Int.	Ext.	
I	CC 1	23KP1CH01	Inorganic Chemistry – I	7	5	3	25	75	100
	CC 2	23KP1CH02	Organic Chemistry –I	7	5	3	25	75	100
	CC 3(P)	23KP1CH03P	Inorganic Chemistry Practical–I	6	4	6	25	75	100
	EC 1	23KP1CHECCH1P	Organic Chemistry Practical– I	5	3	6	25	75	100
	EC 2	23KP1CHECCH2:1/ 23KP1CHECCH2:2	Electro Analytical Chemistry/ Nano materials and Nano technology	5	3	3	25	75	100
	Total				30	20			
II	CC 4	23KP2CH04	Organic Chemistry – II	6	5	3	25	75	100
	CC 5	23KP2CH05	Physical Chemistry – I	6	5	3	25	75	100
	CC 6 (P)	23KP2CH06P	Inorganic Chemistry Practical-II	6	4	6	25	75	100
	EC 3	23KP2CHECCH3P	Organic Chemistry Practical-II	4	3	6	25	75	100
	EC 4	23KP2CHECCH4:1/ 23KP2CHECCH4:2	Polymer Chemistry/Medicinal Chemistry	4	3	3	25	75	100
	SEC1	23KP2CHSEC1	Paint Chemistry	4	2	3	25	75	100
	ECC1	23KP2CHECC1:1	Fuel Chemistry	-	3	3	25	75	100
		23KP2CHECC1:2	MOOC						
ECC2	23KP2CHECC2	Water Quality Analysis	-	4					
Total				30	22				600
III	CC 7	23KP3CH07	Organic Chemistry – III	6	5	3	25	75	100
	CC 8	23KP3CH08	Inorganic Chemistry II	6	5	3	25	75	100
	CC 9	23KP3CH09	Spectroscopic Methods	6	5	3	25	75	100
	CC10 (P)	23KP3CH10P	Physical Chemistry Practical-I	6	4	6	25	75	100
	EC 5	23KP3CHECCH5:1/ 23KP3CHECCH5:2	Chemistry of Bio Molecules/Molecular Modeling and Drug Design	3	3	3	25	75	100
		SEC2	23KP3CHSEC2	Industrial Chemistry	3	2	3	25	75
		23KP3I	Internship/Industrial Activity	-	2				
	ECC3	23KP3CHECC3:1	Dye Chemistry	-	3	3	-	100	100
		23KP3CHECC3:2	MOOC						
Total				30	26				600
IV	CC 11	23KP4CH11	Physical Chemistry – II	6	5	3	25	75	100
	CC 12	23KP4CH12	Inorganic Chemistry – III	6	5	3	25	75	100
		23KP4CHPW	Project with viva voce	10	7	6	-	100	100
	EC 6 (P)	23KP4CHECH6P	Physical Chemistry Practical-II related to Industry	4	3	6	25	75	100
	SEC3	23KP4CHSEC3	Research Methodology For Chemistry	4	2	3	25	75	100
		23KP4EA	Extension Activity	-	1	-	-		
Total				30	23				500
Grand Total				120	91				2200