



TECHNO INDIA UNIVERSITY

W E S T B E N G A L

CURRICULUM FOR 2-YEARS M.Sc. CHEMISTRY



DEPARTMENT OF CHEMISTRY

Techno India University, West Bengal

EM-4, EM Block, Sector V, Bidhannagar,

Kolkata -700091, West Bengal

**First Semester**

Course Code	Course Title				Credit
		L	T	P	
TIU-PCH-T107	Analytical Chemistry	3	0	0	3
TIU-PCH-T105	Inorganic Chemistry	3	0	0	3
TIU-PCH-T103	Organic Chemistry	3	0	0	3
TIU-PCH-T101	Physical Chemistry	3	0	0	3
TIU-PCH-L115	Inorganic Chemistry Lab-I	0	0	4	2
TIU-PCH-L113	Organic Chemistry Lab-I	0	0	4	2
TIU-PCH-L111	Physical Chemistry Lab-I	0	0	4	2
TIU-PCH-L121	Fundamentals of AI in Chemistry	1	0	2	2
	Total	13	0	14	20

**Second Semester**

Course Code	Course Title				Credit
		L	T	P	
TIU-PCH-T132	Biological Chemistry	3	0	0	3
TIU-PCH-T106	Inorganic Chemistry	3	0	0	3
TIU-PCH-T104	Organic Chemistry	3	0	0	3
TIU-PCH-T102	Physical Chemistry	3	0	0	3
TIU-PCH-L116	Inorganic Chemistry Lab-II	0	0	4	2
TIU-PCH-L114	Organic Chemistry Lab-II	0	0	4	2
TIU-PCH-L112	Physical Chemistry Lab-II	0	0	4	2
TIU-PCH-L122	Application of AI in Chemistry	1	0	2	2
	Total	13	0	14	20

**Third Semester**

Course Code	Course Title				Credit
		L	T	P	
TIU-PCH-T223	Spectroscopy-I and Polymers	3	1	0	4
TIU-PCH-T231	Industrial Chemistry [#]	3	1	0	4
TIU-PCH-T233	Environmental Chemistry [#]				
TIU-PCH-T235	Green Chemistry [#]				
TIU-PCH-T215	Specialization Paper-I (I)*	3	1	0	4
TIU-PCH-T211	Specialization Paper-I (O)*				
TIU-PCH-T207	Specialization Paper-I (P)*				
TIU-PCH-T217	Specialization Paper-II (I)*	3	1	0	4
TIU-PCH-T213	Specialization Paper-II (O)*				
TIU-PCH-T209	Specialization Paper-II (P)*				
TIU-PCH-L211	Advance Inorganic Chemistry Lab (I)*	0	0	8	4
TIU-PCH-L213	Advance Organic Chemistry Lab (O)*				
TIU-PCH-L215	Advance Physical Chemistry Lab (P)*				
TIU-PCH-P291	Project-I	0	0	4	4
Total		12	4	12	24

* I-Inorganic Chemistry O-Organic Chemistry P-Physical Chemistry

Specialization Papers (I and II)*Physical Chemistry (P)**

1. TIU-PCH-T207: Quantum Mechanics and Chemical Applications of Group Theory
2. TIU-PCH-T209: Electrochemistry

Organic Chemistry (O)

1. TIU-PCH-T211: Advanced Organic Chemistry-I
2. TIU-PCH-T213: Advanced Organic Chemistry-II

Inorganic Chemistry (I)

1. TIU-PCH-T215: Organometallic Chemistry of Transition Metals
2. TIU-PCH-T217: Advanced Bioinorganic Chemistry

[#]Elective Paper-I:

1. Environmental Chemistry
2. Industrial Chemistry
3. Green Chemistry

**Fourth Semester**

Course Code	Course Title				Credit
		L	T	P	
TIU-PCH-T224	Spectroscopy-II and Supramolecules	3	1	0	4
TIU-PCH-T232	Advanced Materials Chemistry [#]	3	1	0	4
TIU-PCH-T234	Energy Conversion and Storage [#]				
TIU-PCH-T236	Chemical Biology [#]				
TIU-PCH-T238	Medicinal Chemistry [#]				
TIU-PCH-T210	Specialization Paper-III (I)*	3	1	0	4
TIU-PCH-T214	Specialization Paper-III (O)*				
TIU-PCH-T212	Specialization Paper-III (P)*				
TIU-PCH-P292	Project-II	0	0	12	6
	Total	9	3	12	18

Specialization Paper (III)*Physical Chemistry (I)**

TIU-PCH-T212: Advanced Solid State Chemistry and Spectroscopy

Organic Chemistry (O)

TIU-PCH-T214: Advanced Organic Chemistry-III

Inorganic Chemistry (I)

TIU-PCH-T210: Inorganic Rings, Chains, and Clusters

[#]Elective Paper-II:

1. Advanced Materials Chemistry
2. Energy Conversion and Storage
3. Chemical Biology
4. Medicinal Chemistry