

COURSE SCHEME

M.Sc. Programme : two-year (four semester) under credit based system

SYLLABUS

M.Sc. (Chemistry) Programme

Credit requirement for completion of the Programme : 98 Credits

Core Courses: 66 Credits Programme Elective: 28 Credits

Open Elective: 4 Credits Total Credits : 98 (Grade D or above)

Semester I	Semester II	Semester III	Semester IV
26 Credits	28 Credits	23 Credits	21 Credits

Scheduling of Courses

S.No.	Course No.	Title	L P	Credits
Semester-I				
1.	CYL 511	Bonding and Properties of Inorganic Compounds	4 - 0	4
2.	CYL 512	Structure & Mechanism in Organic Chemistry – I	4 - 0	4
3.	CYL 513	Thermodynamics & Electrochemistry	4 - 0	4
4.	CYL 514(a)	Mathematics for Chemists	2 - 0	2
5.	CYL 514(b)	Biology for Chemists	2 - 0	2
6.	CYP 515	Inorganic Chemistry Lab. Course -I	0 - 8	4
7.	CYP 516	Organic Chemistry Lab. Course -I	0 - 8	4
8.	CYP 517	Physical Chemistry Lab. Course -I	0 - 8	4
Total Credits				26
Semester-II				
1.	CYL 521	Transition Metal Chemistry	4 - 0	4
2.	CYL 522	Structure & Mechanism in Organic Chemistry - II	4 - 0	4
3.	CYL 523	Quantum Chemistry & Molecular Reaction Dynamics	4 - 0	4
4.	CYL 524	Group Theory & Spectroscopy	4 - 0	4
5.	CYP 525	Inorganic Chemistry Lab. Course -II	0 - 8	4
6.	CYP 526	Organic Chemistry Lab. Course -II	0 - 8	4
7.	CYP 527	Physical Chemistry Lab. Course -II	0 - 8	4
Total Credits				28
Semester-III				
1.	CYL 531	Applications of Spectroscopy	4 - 0	4
2.	CYL 532	Spectroscopy & Diffraction Methods	3 - 0	3
3.	CYL 533	Program Elective-I	4 - 0	4
4.	CYL 534	Program Elective-II	4 - 0	4
5.	CYP 535	Lab. Course-Elective-I	0 - 8	4
6.	CYP 536	Lab. Course Elective-II	0 - 8	4
7.	571	Presentation & Communication skills	2 - 0	NC

8.	UCC 550	Introduction to Computers and Programming	3 - 2	NC
Total Credits				23
Semester- IV				
1.	CYL 541	General Polymer Chemistry	3 - 0	3
2.	CYL 542	Program Elective-III	4 - 0	4
3.	CYL 543	Program Elective-IV	4 - 0	4
4.	CYP 544	Lab Course Elective-III	0 - 8	4
5.	CYS 545	Seminar	2 - 0	2
6.		Open Elective-I	4 - 0	4
Total Credits				21

Note: CYL 512, CYL 524, CYL 531 may be considered as open electives.

List of Electives

Inorganic Chemistry

I	Organometallic Chemistry	CYL – 533 (I)
II	Spectroscopy & Photoinorganic Chemistry	CYL – 534 (I)
III	Inorganic Polymers	CYL – 542 (I)
IV	Bioinorganic Chemistry	CYL – 543 (I)

Organic Chemistry

I	Photochemistry and Bioorganic Chemistry	CYL – 533 (O)
II	Heterocyclic and Natural Product Chemistry	CYL – 534 (O)
III	Organic Synthesis	CYL – 542 (O)
IV	Medicinal Chemistry	CYL – 543 (O)

Physical Chemistry

I	Quantum Chemistry & Group theory	CYL – 533 (P)
II	Thermodynamics & Surface Chemistry	CYL – 534 (P)
III	Physical Polymers Chemistry	CYL - 543 (P)
IV	Solid State and Biophysical Chemistry	CYL – 544 (P)

Syllabus of Pre-Ph.D. Course

1.	Inorganic Chemistry	CYL-701
2.	Organic Chemistry	CYL-702
3.	Physical Chemistry	CYL-703