



**MAULANA AZAD
NATIONAL INSTITUTE OF TECHNOLOGY, BHOPAL-462003**

**Curriculum Profile of M.Sc. Chemistry
SCHEME OF STUDY (w.e.f. July 2022)**

First Semester:

Course Code	Subjects	Scheme of the studies period per week			Total Credits
		L	T	P	
CHY 511	Physical Chemistry I (Quantum Chemistry and Basic Spectroscopy)	3	-	-	3
CHY 512	Inorganic Chemistry I (Coordination Chemistry)	3	-	-	3
CHY 513	Organic Chemistry I (Basic Stereochemistry and Reaction Mechanism)	3	-	-	3
CHY 514	Analytical Chemistry (Principles, Practices and Applications)	3	-	-	3
	Elective- I	2	-	-	2
HUM-511	Communication Skills	2	-	-	2
CHY 515	Physical Chemistry Lab I	-	-	2	1
CHY 516	Inorganic Chemistry Lab I	-	-	2	1
CHY 517	Organic Chemistry Lab I	-	-	2	1
Total Hours: 22 Total Credits: 19		Total Semester Credits			19

Second Semester:

Course Code	Subjects	Scheme of the studies period per week			Total Credits
		L	T	P	
CHY 521	Physical Chemistry II (Chemical Kinetics and Thermodynamics)	3	-	-	3
CHY 522	Inorganic Chemistry II (General Chemistry & Group Theory)	3	-	-	3
CHY 523	Organic Chemistry II (Aromaticity and Heterocyclic Compounds)	3	-	-	3
CHY 524	Surfaces, Colloids and Macromolecules	3	-	-	3
CHY 525	Materials Chemistry (Materials Property and Applications)	3	-	-	3
CHY 526	Research Methodology	2	-	-	2
CHY 527	Physical Chemistry Lab II	-	-	2	1
CHY 528	Inorganic Chemistry Lab II	-	-	2	1
CHY 529	Organic Chemistry Lab II	-	-	2	1
CHY 530	Seminar-I			2	1
Total Hours: 25 Total Credits: 40		Total Semester Credits			21

Third Semester:

Course Code	Subjects	Scheme of the studies period per week			Total Credits
		L	T	P	
CHY 611	Advanced Electrochemistry	3	-	-	3
CHY 612	Main Group Elements and Organometallics	3	-	-	3
CHY 613	Advanced Organic Spectroscopy	3	-	-	3
CHY 614	Chemistry Lab-III	-	-	2	1
	Elective -II	3	-	-	3
	Elective -III	3	-	-	3
	Elective -IV	3	-	-	3
CHY615	Seminar-II	-	-	2	1
Total Hours: 22 Total Credits: 60		Total Semester Credits			20

Fourth Semester:

Course Code	Subjects	Scheme of the studies period per week			Total Credits
		L	T	P	
CHY 621	Project Dissertation and Presentation	-	-	40	20
Total Hours: 40 Total Credits: 80		Total Semester Credits			20

List of Elective-I		List of Elective-II	
CHY 531	Mathematics in Chemistry	CHY 651	Statistical Thermodynamics
CHY 532	Chemical Biology	CHY 652	Industrial Chemistry
		CHY 653	Organic Reagents and Synthesis
List of Elective-III		List of Elective-IV	
CHY 654	Modern Physical Photochemistry	CHY 657	Advanced Physical Spectroscopy
CHY 655	Advanced Solid State Chemistry	CHY 658	Radiations and Nuclear Chemistry
CHY 656	Photochemistry and Pericyclic Reactions	CHY 659	Natural Products and Medicinal Chemistry