

Maulana Azad National Institute of Technology– Bhopal – 462003

Department of Chemistry

Program Structure M Sc. CHEMISTRY (2 years, 4 semesters)

1. SEMESTER I:

S. No.	COURSE CODE	Title of the Course	L	T	P	Credit
1.1	CHY 511	Physical Chemistry I (Quantum Chemistry and Basic Spectroscopy)	3	-	-	3
1.2	CHY 512	Inorganic Chemistry I (Group theory and Coordination Chemistry)	3	-	-	3
1.3	CHY 513	Organic Chemistry I (Basic stereochemistry and reaction mechanism)	3	-	-	3
1.4	CHY 514	Analytical Chemistry I (Methods for Chemical Analysis)	3	-	-	3
1.5		Elective- I	3	-	-	3
1.6	CHY 515	Inorganic Chemistry Lab I	-	-	2	1
1.7	CHY 516	Organic Chemistry Lab I	-	-	2	1
1.8	CHY 517	Physical Chemistry Lab I	-	-	2	1
1.9	CHY 518	Seminar- I	-	-	2	1
			Total Semester Credit			19

2. SEMESTER II:

S. No.	COURSE CODE	Title of the Course	L	T	P	Credit
2.1	CHY 521	Physical Chemistry II (Chemical Kinetics and Thermodynamics)	3	-	-	3
2.2	CHY 522	Inorganic Chemistry II (Main Group elements and Organometallic compounds)	3	-	-	3
2.3	CHY 523	Organic Chemistry II (Aromatic and Heterocyclic compounds)	3	-	-	3
2.4	CHY 524	Analytical Chemistry- II (Surface, Colloidal and Macromolecules)	3	-	-	3
2.5	CHY 525	Materials Chemistry (Nanomaterials and its properties)	3	-	-	3
2.6	CHY 526	Research Methodology	2	-	-	2
2.7	CHY 527	Inorganic Chemistry Lab II	-	-	2	1
2.8	CHY 528	Organic Chemistry Lab II	-	-	2	1
2.9	CHY 529	Physical Chemistry Lab II	-	-	2	1
	CHY 530	Seminar-II			2	1
			Total Semester Credit			21

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3. SEMESTER III:

S. No.	COURSE CODE	Title of the Course	L	T	P	Credit
3.1	CHY 611	Advanced Organic Spectroscopy	3	-	-	3
3.2	CHY 612	Environmental and Analytical Chemistry	3	-	-	3
3.3	CHY 613	Solid state and Nuclear Chemistry	3	-	-	3
3.3	CHY 614	Chemistry Lab-III	-	-	2	2
3.2		Elective -II	3	-	-	3
3.3		Elective -III	3	-	-	3
3.4		Elective -IV	3	-	-	3
			Total Semester Credit			20

4. SEMESTER IV:

S. No.	COURSE CODE	Title of the Course	L	T	P	Credit
4.1	CHY 621	Project Dissertation and Presentation	-	-	40	20
			Total Semester Credit			20

Total Credits = 80

List of Elective-I		List of Elective-II	
CHY 531	Mathematics in Chemistry	CHY 651	Statistical Thermodynamics
CHY 532	Biology in Chemistry	CHY 652	Industrial Chemistry
		CHY 653	Organic Reagents and Synthesis
List of Elective-III		List of Elective-IV	
CHY 654	Modern Optical Techniques	CHY 657	Advanced Electrochemistry
CHY 655	Advanced Organometallic Chemistry	CHY 658	Modern Inorganic Chemistry
CHY 656	Photochemistry and Pericyclic Reactions	CHY 659	Natural Products and Drug Design