

Course Structure For M.Sc. Chemistry (Session 2017-2019)

ADAMAS UNIVERSITY								
FACULTY OF SCIENCE								
DEPARTMENT OF CHEMISTRY – M.Sc. PROGRAM SEMESTER - I								
Type of the Paper	Paper Code	Theory / Practical	Brief Contents	Contact Hour Per Week	L	T	P	Credit
CORE	SCY51101	Theory (Physical I)	Equilibrium Thermodynamics and Surface Phenomena, Statistical Mechanics, Chemical Kinetics, Electrochemistry	4	3	1	0	4
CORE	SCY51103	Theory (Inorganic I)	Nature of Chemical Bonding, Coordination Chemistry: Structure , Stability and Function	4	3	1	0	4
CORE	SCY51105	Theory (Organic I)	Stereochemistry, Pericyclic Reaction, Reaction Mechanism	4	3	1	0	4
CORE	SCY51201	Practical I (Physical Lab I)	List of experiments will be provided separately	6	0	0	4	4
CORE	SCY51203	Practical II (Organic Lab I)	List of experiments will be provided separately	6	0	0	4	4
FOUNDATION	SGY51111	Theory (Environmental Science and Energy Resources)		3	3	0	0	3
FOUNDATION		English/ Foreign Language	English Language and Literature	2	2	0	0	0
Total				28				23

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DEPARTMENT OF CHEMISTRY – M.Sc. PROGRAM SEMESTER - II								
Type of the Paper	Paper Code	Theory / Practical	Brief Contents	Contact Hour Per Week	L	T	P	Credit
CORE	SCY51102	Theory (Physical II)	Quantum Mechanics, Atomic Structure, Molecular Spectroscopy and Molecular Interaction	4	3	1	0	4
CORE	SCY51104	Theory (Inorganic II)	Chemistry of d-Block and f-Block Elements, Organometallic Chemistry, Instrumental Methods of Analytical Chemistry	4	3	1	0	4
CORE	SCY51106	Theory (Organic II)	Synthetic Chemistry Strategy and Methodology, Heterocyclic Chemistry and Chemistry of Natural Products	4	3	1	0	4
CORE	SCY51202	Practical III (Inorganic Lab I)	List of experiments will be provided separately	6	0	0	4	5
CORE	SCY51204	Practical IV (Analytical Lab I)	List of experiments will be provided separately	6	0	0	4	5

Total				26				22
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DEPARTMENT OF CHEMISTRY- M.Sc. PROGRAM SEMESTER - III								
Type of the Paper	Paper Code	Theory / Practical	Brief Contents	Contact Hour Per Week	L	T	P	Credit
CORE	SCY52101	Theory (Group Theory and Spectroscopy I)	Symmetry and Group theory in Chemistry, Absorption Spectroscopy Photochemistry, Photophysics	4	3	1	0	4
CORE	SCY52103	Theory (Polymers and Molecules of Life)	Polymer Chemistry, Molecules of Life, Biophysical Chemistry	4	3	1	0	4
CORE	SCY52105	Theory (Spectroscopy II)	Magnetic Resonance Spectroscopy: NMR, ESR: Basics and Application, Photoelectron Spectroscopy, Mass Spectrometry, Mossbauer, FTIR, FTNMR, 2D NMR, Basic Electronics and Instrumentation	4	3	1	0	4
CORE	SCY52201	Practical V (Computational Chemistry Lab I)	List of experiments will be provided separately	6	0	0	4	4

CORE	SCY52203	Practical VI (Special I)	List of experiments will be provided separately	6	0	0	4	6
CORE	SCY52701	Project -I		3	0	0	4	4
FOUNDATION		Interaction with Industries and National Research Laboratories	Interaction with Industries and National Research Laboratories	2	0	0	2	2
Total				29				28

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DEPARTMENT OF CHEMISTRY – M.Sc. PROGRAM SEMESTER - IV								
Type of the Paper	Paper Code	Theory / Practical	Brief Contents	Contact Hour Per Week	L	T	P	Credit
CORE	SCY52102	Theory (Supramolecular Chemistry and Nano Science)	Molecular Recognition, Chemical Sensor, Solid State chemistry and Crystallography, Nano Materials	4	3	1	0	4
CORE	SCY52104	Theory (Advanced Special I)	Elective Paper	4	3	1	0	4
CORE	SCY52106	Theory (Advanced Special II)	Advance Paper II	4	3	1	0	4
CORE	SCY52202	Practical VII	Advanced Lab Experiments	6	0	0	5	5
CORE	SCY52702	Project/Dissertation and Comprehensive viva	Project Completion	12	0	0	8	10
Total				30				27
SPECIAL/ADVANCED SPECIAL (choose any one paper in Sem III/IV)*			SPECIAL/ADVANCED SPECIAL (choose any one paper in Sem III/IV)*					

1	Physical	1	Physical
2	Inorganic	2	Inorganic
3	Organic	3	Organic

* Offering of subjects will vary from year to year, subject to the infrastructure of the university

Total Credit for MSc Chemistry (2017-19) = (23+22+28+27) = 100