

MAHATMA GANDHI UNIVERSITY
SCHOOL OF CHEMICAL SCIENCES

PROGRAMME M Sc Chemistry (Physical Chemistry)

DURATION 2 years (2020 Admission onwards)

Total Total credits required: 86 (for 4 semesters)

[Core: 64; Elective: 18; Open: 4]

- * The student has to choose **three elective courses** for semester I, **three elective courses** for semester II and **two elective courses** for semester III and **one elective course** for semester IV.
- ** The student has to choose **one open course** of 4 credits for semester III from any other School under the Faculty of Science.
- *** In the evaluation process internal –Continuous Assessment (CA) - accounts for 40% and the End- Semester Examination will account for the remaining 60%.

SEMESTER I

Course Code	Course Title	Hours/Week			Credit
		L	T	P	
<u>Core Courses</u>					
SCSMPC01	Chemistry of Main Group Elements	2	2	-	3
SCSMPC02	Quantum Mechanics and Atomic Structure	2	2	-	3
SCSMPC03	Chemical Thermodynamics and Surface Chemistry	2	2	-	3
SCSMPC04	Equilibrium Statistical Mechanics	2	2	-	3
SCSMPC05	Molecular Spectroscopy	2	2	-	3
SCSMPC06	Inorganic Chemistry Lab - I	-	-	6	3
<u>*Elective Courses</u>					
SCSMPE51	Reaction Mechanisms in Organic Chemistry	2	-	-	2
SCSMPE52	Introduction to Polymer Chemistry	2	-	-	2
SCSMPE53	Supramolecular Chemistry	2	-	-	2
SCSMPE54	Polymer Physics	2	-	-	2
SCSMPE55	Stereochemistry of Organic Compounds	2	-	-	2

SEMESTER II

Course Code	Course Title	Hours/Week			Credit
		L	T	P	
<u>Core Courses</u>					
SCSMPC08	Coordination Chemistry	2	2	-	3
SCSMPC09	Structural and Solid State Chemistry	2	2	-	3
SCSMPC11	Chemical Bonding and Group Theory	2	2	-	3
SCSMPC12	Spectroscopic Methods in Chemistry	2	2	-	3
SCSMPC18	Non-Equilibrium Statistical Mechanics	2	2	-	3
SCSMPC19	Physical Chemistry Lab - I	-	-	6	3

* Elective Courses					
SCSMPE56	Common Reactions and Reagents in Organic Chemistry	2	-	-	2
SCSMPE58	Biochemistry	2	-	-	2
SCSMPE59	Instrumental Methods of Analysis	2	-	-	2
SCSMPE61	Organic Chemistry Lab-I	-	-	6	2
SCSMPE67	Fundamentals of Photochemistry and Pericyclic Reactions	2	-	-	2
SCSMPE68	Inorganic Chemistry in Biological Systems	2	-	-	2

SEMESTER III

Course Code	Course Title	Hours/Week			Credit
		L	T	P	
<u>Core Courses</u>					
SCSMPC14	Analytical and Nuclear Chemistry	2	2	-	3
SCSMPC15	Chemical Kinetics	2	2	-	3
SCSMPC20	Electrochemistry	2	2	-	3
SCSMPC21	Computational and Numerical Methods in Chemistry	2	2	-	3
SCSMPC22	Applied Quantum Chemistry	2	2	-	3
<u>*Elective Courses</u>					
SCSMPE64	Organic Synthesis	2	-	-	2
SCSMPE65	Surface Chemistry and Catalysis	2	-	-	2
SCSMPE69	Physical Chemistry Lab-II	-	-	6	2
SCSMPE70	Organometallics	2	-	-	2
SCSMPE71	Nanomaterials	2	-	-	2
<u>**Open Courses</u>					
SCSMPO40	Environmental Chemistry	4	-	-	4
SCSMPO41	Science and Creativity	4	-	-	4

SEMESTER IV

Course Code	Course Title	Hours/Week			Credit
		L	T	P	
<u>Core Courses</u>					
SCSMPC45	Research Project	-	-	-	7
SCSMPC46	Project Seminar	-	-	-	3
SCSMPC47	Comprehensive Viva-Voce	-	-	-	3
<u>*Elective Courses</u>					
SCSMPE98	Review Report	-	-	-	2
SCSMPE99	Industry Visit Report	-	-	-	2