

## **FOREWORD**

I am happy to present the revised curricula and syllabi of the following four M.Sc. Chemistry courses of the School of Chemical Sciences (with effect from 2017 admission onwards) for favour of approval by the Faculty and Academic Council of the University.

1. M.Sc. Chemistry (Inorganic Chemistry)
2. M.Sc. Chemistry (Organic Chemistry)
3. M.Sc. Chemistry (Physical Chemistry)
4. M.Sc. Chemistry (Polymer Chemistry)

The BOS prepared draft proposals of revised curricula and syllabi for all the four M.Sc. courses in Chemistry in conformity with the Revised CSS Regulations by the Mahatma Gandhi University to suit the Credit and Semester System. The draft curricula and syllabi for all the programmes were discussed in a very effective manner in the Board of Studies of the School of Chemical Sciences. The BOS feels that appreciable updating could be done in keeping with the current developments and trends in Chemistry education.

(Prof. Suresh Mathew)  
Chairman, Board of Studies of the School of Chemical Sciences

### **Members of the Board of Studies of School of Chemical Sciences.**

1. Prof. Suresh Mathew (Chairman)
2. Prof. Sabu Thomas
3. Prof.A.S.Padmanabhan
4. Prof.Beena Mathew
5. Prof.K.S.Devaky
6. Dr. K. Pius
7. Prof.M.R.PrathapachandraKurup
8. Dr. P.K. Radhakrishnan
9. Prof.K..K.Aravindakshan

MAHATMA GANDHI UNIVERSITY  
SCHOOL OF CHEMICAL SCIENCES

PROGRAMME M Sc Chemistry (Inorganic Chemistry)  
 DURATION 2 years (2017 Admission onwards)  
 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.

**SEMESTER I**

Course Code	Course Title	Hours/Week			Credit
		L	T	P	
<b><u>Core Courses</u></b>					
SCSMIC1701	Chemistry of Main Group Elements	2	2	-	3
SCSMIC1702	Quantum Mechanics and Atomic Structure	2	2	-	3
SCSMIC1703	Chemical Thermodynamics and Surface Chemistry	2	2	-	3
SCSMIC1704	Equilibrium Statistical Mechanics	2	2	-	3
SCSMIC1705	Molecular Spectroscopy	2	2	-	3
SCSMIC1706	Inorganic Chemistry Lab-I	-	-	6	3
<b><u>*Elective Courses</u></b>					
SCSMIE1751	Reaction Mechanisms in Organic Chemistry	2	-	-	2
SCSMIE1752	Introduction to Polymer Chemistry	2	-	-	2
SCSMIE1753	Supramolecular Chemistry	2	-	-	2
SCSMIE1754	Polymer Physics	2	-	-	2
SCSMIE1755	Stereochemistry of Organic Compounds	2	-	-	2

**SEMESTER II**

Course Code	Course Title	Hours/Week			Credit
		L	T	P	
<b><u>Core Courses</u></b>					
SCSMIIC1707	Bioinorganic Chemistry	2	2	-	3
SCSMIIC1708	Coordination Chemistry	2	2	-	3
SCSMIIC1709	Structural and Solid State Chemistry	2	2	-	3
SCSMIIC1710	Photochemistry and Pericyclic Reactions	2	2	-	3
SCSMIIC1711	Chemical Bonding and Group Theory	2	2	-	3
SCSMIIC1712	Spectroscopic Methods in Chemistry	2	2	-	3

<b><u>* Elective Courses</u></b>					
SCSMIII1756	Common Reactions and Reagents in Organic Chemistry	2	-	-	2
SCSMIII1757	Basic Concepts of Non-Equilibrium Statistical Mechanics	2	-	-	2
SCSMIII1758	Biochemistry	2	-	-	2
SCSMIII1759	Instrumental Methods of Analysis	2	-	-	2
SCSMIII1760	Physical Chemistry Lab-1	-	-	6	2
SCSMIII1761	Organic Chemistry Lab-1	-	-	6	2

### SEMESTER III

Course Code	Course Title	Hours/Week			Credit
		L	T	P	
<b><u>Core Courses</u></b>					
SCSMIIIC1713	Organometallic Chemistry	2	2	-	3
SCSMIIIC1714	Analytical and Nuclear Chemistry	2	2	-	3
SCSMIIIC1715	Chemical Kinetics	2	2	-	3
SCSMIIIC1716	Chemistry of Nanomaterials	2	2	-	3
SCSMIIIC1717	Inorganic Chemistry Lab - II	-	-	6	3
<b><u>*Elective Courses</u></b>					
SCSMIIIE1762	Fundamentals of Electrochemistry	2	-	-	2
SCSMIIIE1763	Computational Methods in Chemistry	2	-	-	2
SCSMIIIE1764	Organic Synthesis	2	-	-	2
SCSMIIIE1765	Surface Chemistry and Catalysis	2	-	-	2
SCSMIIIE1766	Advanced Coordination Chemistry	2	-	-	2
<b><u>**Open Courses</u></b>					
SCSMIIIO1740	Environmental Chemistry	4	-	-	4
SCSMIIIO1741	Science and Creativity	4	-	-	4

### SEMESTER IV

Course Code	Course Title	Hours/Week			Credit
		L	T	P	
<b><u>Core Courses</u></b>					
SCSMIVC1745	Research Project	-	-	-	7
SCSMIVC1746	Project Seminar	-	-	-	3
SCSMIVC1747	Comprehensive Viva-Voce	-	-	-	3
<b><u>*Elective Courses</u></b>					
SCSMIVE1798	Review Report	-	-	-	2
SCSMIVE1799	Industry Visit Report	-	-	-	2