



### PROGRAMME STRUCTURE

#### Master of Science in Advanced Organic Chemistry M.Sc. (Advanced Organic Chemistry) Semester – I

<p>Programme Outcome (PO) -For MSc Advanced Organic Chemistry Programme</p>	<p>Master of Science program provides extended and practical knowledge of different science subjects. Master of Science programme at Sardar Patel University is designed keeping the overall back ground preparation in mind for the student to either seek a job or to become an entrepreneur. The students, after completion of bachelor of science can select the Master's programme in the subject they have had at the final year or in a related discipline (depending upon eligibility criteria prescribed by university).</p> <p><b>Programme outcome: At the end of the program, the students will be able to</b></p> <ol style="list-style-type: none"><li>1. Have a deep understanding of both the theoretical and practical concepts in the respective subject.</li><li>2. Understanding laboratory processes and use scientific equipment and work independently.</li><li>3. Develop research temperament as a consequence of their theory and practical learning.</li><li>4. Communicate scientific information in oral and written form.</li><li>5. Understand the issue related to nature and environment contexts and think rationally for sustainable development.</li><li>6. The students are able to handle unexpected situations by critically analysing the problem.</li></ol>
<p>Programme Specific Outcomes (PSO)- For MSc Advanced Organic Chemistry Programme Semester-I</p>	<p>The Master's programme on Advanced Organic Chemistry offered in this department aims to produce competent Post-Graduate students with knowledge, skills and experience so as to enable them to become successful professionals in Advanced Organic Chemistry. The programme will demonstrate a deep understanding of advanced principles, theories, and methodologies in organic chemistry, including modern synthetic techniques, spectroscopic methods, and mechanistic studies. In addition, extensive practical training imparted will result in the students acquiring transferable skill set and make them suitable for employment and further research opportunities. On successful completion of this course students will be able to:</p> <ul style="list-style-type: none"><li>• Demonstrate a comprehensive understanding of fundamental organic chemistry principles, including nomenclature, structure, bonding, stereochemistry, and reactivity.</li><li>• Apply theoretical knowledge to predict and rationalize the outcome of organic reactions and mechanisms.</li><li>• Engage in self-directed learning activities, such as literature reviews, seminars, and workshops, to supplement classroom instruction and enhance professional development.</li></ul>





**SARDAR PATEL UNIVERSITY**  
**Vallabh Vidyanagar, Gujarat**  
**(Reaccredited with 'A' Grade by NAAC (CGPA 3.25))**  
**Syllabus with effect from the Academic Year 2024-2025**

	<ul style="list-style-type: none"> <li>Apply their learned knowledge in various branches of science, in Industries and Government sectors, in the field of Research a&amp; Development in various industries, Pharmaceuticals, Dyes, Sensors, Renewable energy, Nanomaterials, etc.</li> </ul> <p>Apart from this, students are eligible for higher studies leading to Ph.D., in Chemical Sciences. Also, appear for CSIR-UGC NET (JRF &amp; Lectureship) and State Eligibility Test for Assistant Professor in Chemical Sciences.</p>
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Course Type	Course Code	Course Title	Theory/ Practical	Credit	Contact Hrs/ Week	Exam durati on in Hrs.	Component of Marks		
							Internal	External	Total
							Total/ Passing	Total/ Passing	Total/ Passing
Core Course	PT01CAOC51	Conceptual Inorganic Chemistry	Theory	4	4	3	30/12	70/28	100/40
	PT01CAOC52	Principle of Organic Chemistry	Theory	4	4	3	30/12	70/28	100/40
	PT01CAOC53	Selected topics of Physical Chemistry	Theory	4	4	3	30/12	70/28	100/40
	PT01CAOC54	Practical	Practical	4	8	3.5	30/12	70/28	100/40
	PT01CAOC55	Practical	Practical	4	8	3.5	30/12	70/28	100/40
	PT01CAOC56	Self-preparation and seminar presentation	---	1	2	--	-	50/20	50/20
Elective Course	PT01EAOC51	Analytical Chemistry	Theory	4	4	3	30/12	70/28	100/40
	PT01EAOC52	Environmental Chemistry	Theory	4	4	3	30/12	70/28	100/40

**Credits (per semester)**

Theory + Seminar	:	16
Practical	:	08
Self-preparation and seminar presentation	:	01
<b>TOTAL</b>		<b>25</b>

