PROGRAMME STRUCTURE
Master of Science in Advanced Organic Chemistry
M.Sc. (Advanced Organic Chemistry) Semester – II

Programme Outcome (PO) -For MSc Advanced Organic Chemistry Programme	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). **Programme outcome: At the end of the program, the students will be able to** 1. Have a deep understanding of both the theoretical and practical concepts in the respective subject. 2. Understanding laboratory processes and use scientific equipment and work independently. 3. Develop research temperament as a consequence of their theory and practical learning. 4. Communicate scientific information in oral and written form. 5. Understand the issue related to nature and environment contexts and think rationally for sustainable development. 6. The students are able to handle unexpected situations by critically analysing the problem.
Programme Specific Outcomes (PSO)- For MSc Advanced Organic Chemistry Programme Semester-I	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: • Students will be equipped with the ability to critically analyze chemical problems, propose innovative solutions, and apply advanced theoretical knowledge to address complex challenges in organic chemistry research and industry. • Students will demonstrate competence in designing, executing, and interpreting results from research projects in organic chemistry, utilizing appropriate methodologies, instrumentation, and data analysis

	techniques. • Engage in self-directed learning activities, such as literature reviews, seminars, and workshops, to supplement classroom instruction and enhance professional development. • Apply their learned knowledge in various branches of science, in Industries and Government sectors, in the field of Research a& Development in various industries, Pharmaceuticals, Dyes, Sensors, Renewable energy, Nanomaterials, etc. Apart from this, students are eligible for higher studies leading to Ph.D., in Chemical Sciences. Also, appear for CSIR-UGC NET (JRF & Lectureship) and State Eligibility Test for Assistant Professor in Chemical Sciences.

Course Type	Course Code	Course Title	Theory/ Practical	Credit	Contact Hrs/ Week	Exam duration in Hrs.	Component of Marks		
							Internal	External	Total
							Total/ Passing	Total/ Passing	Total/ Passing
Core Course	**PT02CAOC51**	Organic Spectroscopy	Theory	4	4	3	30/12	70/28	100/40
	PT02CAOC52	Organic Reagents and Name Reactions	Theory	4	4	3	30/12	70/28	100/40
	PT02CAOC53	Molecular Orbital Theory and Pericyclic Reaction	Theory	4	4	3	30/12	70/28	100/40
	PT02CAOC54	Practical	Practical	4	8	3.5	30/12	70/28	100/40
	PT02CAOC55	Practical	Practical	4	8	3.5	30/12	70/28	100/40
	PT02CAOC56	Self-preparation and seminar presentation	---	1	2	--	-	50/20	50/20
Elective Course	**PT02EAOC51**	Polymer Chemistry	Theory	4	4	3	30/12	70/28	100/40
	PT02EAOC52	Green Chemistry	Theory	4	4	3	30/12	70/28	100/40
	PT02EAOC53	Chemoinformatic							

Credits (per semester)

Theory + Seminar	:	16
Practical	:	08
Self-preparation and seminar presentation	:	01
TOTAL		**25**