PROGRAMME STRUCTURE
Master of Science in Applied Physics
M.Sc. (Applied Physics) Semester – I

Programme Outcome (PO) -For MSc Applied Physics 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 Applied Physics Semester-I	The Master's programme on Applied Physics 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 Applied Physics. The programme will ensure that the students develop the ability to critically evaluate, choose and use various Characterization techniques and tools. 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: • Understand various aspects of applied physics in addition to classical, quantum physics, mathematical physics, electrodynamics, statistics, condensed matter and nuclear physics. • Experiential learning through activities such as lab practical's, research project and workshops • Apply their learned knowledge in various branches of science, in Industries and Government sectors, in the field of Semiconductor, Vacuum technology, Sensor and Electronics, Laser and Optics, Renewable energy,

	Defence, Nanomaterials, etc. Apart from this, students are eligible for higher studies leading to M.Phil., Ph.D., in Physical Sciences. Also, appear for CSIR-UGC NET (JRF & Lectureship) and State Eligibility Test for Assistant Professor in Physical 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	PT01CAPC51	Basic Mathematical Tools	Theory	4	4	3	30/12	70/28	100/40
	PT01CAPC52	Physics of Atomic - Molecular Spectroscopy and Statistical Mechanics	Theory	4	4	3	30/12	70/28	100/40
	PT01CAPC53	Applied Electronics	Theory	4	4	3	30/12	70/28	100/40
	PT01CAPC54	Experimental Methods -I	Practical	4	8	3.5	30/12	70/28	100/40
	PT01CAPC55	Experimental Methods -II	Practical	4	8	3.5	30/12	70/28	100/40
	PT01CAPC56	Comprehensive Viva	---	1	2	--	-	50/20	50/20
Elective Course	PT01EAPC51	Nanoscience & Applied Materials	Theory	4	4	3	30/12	70/28	100/40
	PT01EAPC52	Numerical and Statistical Methods for Applied Physics	Theory	4	4	3	30/12	70/28	100/40

Credits (per semester)

Theory + Seminar : 16
Practical : 08
Comprehensive Viva : 01
Total : 25