



**SARDAR PATEL UNIVERSITY,  
VALLABH VIDYA NAGAR  
(Reaccredited with 'A' Grade by NAAC (CGPA3.11)  
Syllabus with effect from the Academic Year 2024-25**

**PROGRAMME STRUCTURE  
Master of Science in Bioinformatics  
Semester: II**

<p>Programme outcome (PO) -for MSc Bioinformatics programme</p>	<p>Master of Science program provides extended theoretical and practical knowledge of different science subjects. Master of Science at Sardar Patel University is designed to keep the overall background preparation in mind for the student to either seek a job or to become an entrepreneur. The students, after completion of the 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 the university).</p> <p><b>Programme outcomes: 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. Understand laboratory processes and use scientific equipment's 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 issues related to nature and environmental contexts and think rationally for sustainable development.</li><li>6. The students can handle the unexpected situation by critically analyzing the problems</li></ol>
<p>Program Specific Outcome (PSO) – For MSc Bioinformatics Science Semester-II</p>	<p>After completion of the program, students can apply their expertise in molecular design, drug discovery, genome sequencing, docking studies, database design and maintenance, proteomics, pharmacology, pharmacogenomics, clinical pharmacologist, informatics developer and computational chemist. It will enhance employability in institutions, industries and research centres in the health care sector</p>

Course Type	Course Code	Name Of Course	Theory/ Practical	Credit	Contact Hrs/Week	Exam Duration in hrs	Component of Marks		
							Internal	External	Total
							Total/ Passing	Total/ Passing	Total/ Passing
Core Course	PT02CBIC51	Molecular Biology & Sequence Analysis	Theory	4	4	3	30/12	70/28	100/40
	PT02CBIC52	Principles of Mathematics & Biostatistics	Theory	4	4	3	30/12	70/28	100/40
	PT02CBIC53	Databases in Life Sciences	Theory	4	4	3	30/12	70/28	100/40
	PT02CBIC54	Experimental Methods-III	Practical	4	6	3.5	30/12	70/28	100/40
	PT02CBIC55	Experimental Methods-IV	Practical	4	6	3.5	30/12	70/28	100/40
	PT02CBIC56	Comprehensive viva		1	2	-	-	50/20	50/20
Elective Course	PT02EBIC51	Web Application Development In Bioinformatics	Theory	4	4	3	30/12	70/28	100/40
	PT02EBIC52	Fundamentals of Algorithms	Theory	4	4	3	30/12	70/28	100/40

**Credits (per semester\*)**

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