SARDAR PATEL UNIVERSITY
Vallabh Vidyanagar, Gujarat
(Reaccredited with 'A' Grade by NAAC (CGPA 3.25)
Syllabus with effect from the Academic Year 2021-2022

PROGRAMME STRUCTURE
M.Sc. Microbiology Semester: II

Programme Outcome (PO) - For M.Sc. Microbiology Programme	Students completing the MSc degree programme in Microbiology which is a two year full time program will be able to understand and explain various areas related to microbiology subjects like molecular biology, recombinant DNA technology and immunology. The student will be well versed with the concepts of aseptic handling techniques, maintenance and preservation of industrially as well as clinically important microbial cultures and correlate the molecular basis microbial physiology and ecology. The student will also be enlightened about application in different fields related to Microbial Technology Students will be able to design and establish a microbiology laboratory, they will be able to design the experiments related to basic microbiology, and perform biological assays using whole cells as well as enzymes and be able to identify microorganisms using biochemical as well as molecular identification techniques. Students will be able to execute a short project involving the knowledge and techniques of basic and advanced microbiology, biochemistry, cell biology and bioprocess engineering. The student will be skilled enough to be employed as microbiologist in fermentation industry, clinical laboratory, research and development organization, food and drugs administration, etc or purse doctoral studies in any field of Biological sciences.
Programme Specific Outcome (PSO) - For MSc Microbiology Semester - II	Students completing the MSc degree programme in Microbiology which is a two year full time program will be able to understand and explain various areas related to microbiology subject like molecular biology, recombinant DNA technology and immunology. The student will be well versed with the concepts of aseptic handling techniques, maintenance and preservation of industrially as well as clinically important microbial cultures and correlate the molecular basis microbial physiology and ecology. The student will also be enlightened about application in different fields related to Microbial Technology Student will be able to design and establish a microbiology laboratory, they will be able to design the experiments related to basic microbiology, and perform biological assays using whole cells as well as enzymes and able to identify microorganisms using biochemical as well as molecular identification techniques. Student will be able to execute a short project involving the knowledge and techniques of basic and advanced microbiology, biochemistry, cell biology and bioprocess engineering. The student will be skilled enough to be employed as microbiologist in fermentation industry, clinical laboratory, research and development organization, food and drugs administration, etc or purse doctoral studies in any field of Biological sciences.

To Pass	(1) At least 40% marks in each paper at the University Examination and 40% aggregate marks in Internal and External Assessment. (2) At least 33% Marks in each paper in Internal Assessment.

Course Type	Course Code	Name Of Course	Theory/ Practical	Credit	Exam Duration in hrs	Component of Marks		
						Internal Total	External Total	Total
Core Course	PS02CMIC51	Bioprocess and Biochemical Engineering	T	4	3	30	70	100
	PS02CMIC52	Microbial Genetics	T	4	3	30	70	100
	PS02CMIC53	Immunology	T	4	3	30	70	100
	PS02CMIC54	Practical	P	4	3	30	70	100
	PS02CMIC55	Practical	P	4	3	30	70	100
	PS02CMIC56	Viva-Voce	=	1	=	=	50	50
Elective Course (Any One)	PS02EMIC51	Principles of Ecology	T	4	3	30	70	100
	PS02EMIC52	Biostatistics	T	4	3	30	70	100
	PS02EMIC53	Medical Microbiology	T	4	3	30	70	100
	PS02EMIC54	Microtechniques	T	4	3	30	70	100