

MASTER OF SCIENCE (BIOTECHNOLOGY)

Programme Code: BTM

Duration: 2 Years

SESSION: 2019-2020



**Programme Scheme
Faculty of Life and Basic Sciences**

**CHHATRAPATI SHIVAJI MAHARAJ
UNIVERSITY PANVEL, NAVI MUMBAI**

SEMESTER I

Course Code	Course Name	L	T	P	IA	UE	Marks	Credits
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BTMC101	Advanced Biochemistry	4	-	-	30	70	100	4
BTMC102	Microbiology	4	-	-	30	70	100	4
BTMC103	Techniques in Biotechnology	4	-	-	30	70	100	4
BTMC104	Cell Biology	4	-	-	30	70	100	4
BTMC191	Advanced biochemistry lab			2	15	35	50	2
BTMC192	Microbiology lab			2	15	35	50	2
BTMC193	Techniques in Biotechnology lab			2	15	35	50	2
BTMC194	Cell biology lab			2	15	35	50	2
	Total	16	0	08	180	320	600	24

SEMESTER II

Course Code	Course Name	L	T	P	IA	UE	Marks	Credits
BTMC 201	Genetic Engineering	4	-	-	30	70	100	4
BTMC 202	Immunology	4	-	-	30	70	100	4
BTMC203	Molecular biology	4	-	-	30	70	100	4
BTMC204	Bioinformatics and biostatistics	4	-	-	30	70	100	4
BTMC291	Genetic Engineering lab			2	15	35	50	2
BTMC292	Immunology lab			2	15	35	50	2
BTMC293	Molecular biology lab			2	15	35	50	2
BTMC294	Bioinformatics and biostatistics lab			2	15	35	50	2
	Total	16	0	08	180	320	600	24

SEMESTER III

Course Code	Course Name	L	T	P	IA	UE	Marks	Credits
BTMC301	Plant Biotechnology	4	-	-	30	70	100	4
BTMC302	Animal Biotechnology	4	-	-	30	70	100	4
BTME303	Elective - I	4	-	-	30	70	100	4
BTMS304	Special Paper – I	4	-	-	30	70	100	4
BTMC391	Plant Biotechnology lab			2	15	35	50	2
BTMC392	Animal Biotechnology lab			2	15	35	50	2
BTME393	Elective - I lab			2	15	35	50	2
BTMS394	Special Paper – I lab			2	15	35	50	2
	Total	16	0	08	180	320	600	24

SEMESTER IV

Course Code	Course Name	L	T	P	IA	UE	Marks	Credits
BTMC401	Genomicsand Proteomics	4	-	-	30	70	100	4
BTME402	Elective – II	4	-	-	30	70	100	4
BTMS403	Special Paper – II	4	-	-	30	70	100	4
BTMC484	Project	8	-	-	40	140	200	8
BTMC401	Genomicsand Proteomics lab			2	15	35	50	2
BTMS403	Special Paper – II lab			2	15	35	50	2
	Total	20	0	4	240	340	400	24

Total Marks: 2400

Total Credit: 96

List of Elective and Special Papers:

Semester	Course Code (T+P)	Course Name	(L-T-P)	Credits
Elective Papers				
III	BTME301	Environmental Biotechnology	4-0-4	6
III	BTME302	Food Biotechnology	4-0-4	6
III	BTME303	Nanobiotechnology	4-0-4	6
III	BTME304	Enzyme Biotechnology	4-0-4	6
IV	BTME401	Metabolism	4-0-4	6
IV	BTME402	Plant tissue culture	4-0-4	6
IV	BTME403	Animal Biotechnology	4-0-4	6
IV	BTME404	Bioinformatics	4-0-4	6
Special Papers				
III	BTMS301+BTMS391	IPR & Biosafety	4-0-4	6
III	BTMS302+BTMS392	Bioprocess & Fermentation technology	4-0-4	6
III	BTMS303+BTMS393	Research and communication	4-0-4	6
III	BTMS304+BTMS394	Pharmacogenomics	4-0-4	6
IV	BTMS401+BTMS491	Biotech entrepreneurship	4-0-4	6
IV	BTMS402+BTMS492	Agriculture Biotechnology	4-0-4	6
IV	BTMS403+BTMS493	Plant biochemistry	4-0-4	6
IV	BTMS404+BTMS494	Biochemical techniques	4-0-4	6

NOTE: Students have to choose two elective subjects for Semesters III, one from each group Elective I and Special Paper-I. In Semester-IV, the students have to choose two elective subjects, one from each group Elective-II and Special Paper-II. The Special Paper course must be chose in continuation to the course chosen in the previous semester. This choice-based system shall facilitate in development of specialized expertise in thrust areas of Biotechnology. Departmental committee will approve the topic of the project selected by students.