

MASTER OF SCIENCE (BIOCHEMISTRY)

Programme Code: BCM

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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BCMC101	Advanced Bio-organic Chemistry	4	-	-	30	70	100	4
BCMC102	Advanced Instrumentation and Analytical Techniques	4	-	-	30	70	100	4
BCMC103	Industrial Biochemistry	4	-	-	30	70	100	4
BCMC104	Research Methodology, Bio-statistics & Bio-informatics	4	-	-	30	70	100	4
BCMC191	Advanced Bio-organic Chemistry lab			2	15	35	50	2
BCMC192	Advanced Instrumentation and Analytical Techniques lab			2	15	35	50	2
BCMC193	Industrial Biochemistry lab			2	15	35	50	2
BCMC194	Research Methodology, Bio-statistics & Bio-informatics 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
BCMC 201	Genetic Engineering	4	-	-	30	70	100	4
BCMC 202	Immunology	4	-	-	30	70	100	4
BCMC203	Molecular biology	4	-	-	30	70	100	4
BCM C204	Enzymology	4	-	-	30	70	100	4
BCMC291	Genetic Engineering lab			2	15	35	50	2
BCMC292	Immunology lab			2	15	35	50	2
BCMC293	Molecular biology lab			2	15	35	50	2
BCMC294	Enzymology 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
BCMC301	Advanced Metabolism	4	-	-	30	70	100	4
BCMC302	Clinical and Pharmaceutical Biochemistry, Human Nutrition and Dietetics	4	-	-	30	70	100	4
BCME303	Elective - I	4	-	-	30	70	100	4
BCMS304	Special Paper – I	4	-	-	30	70	100	4
BCMC301	Advanced Metabolism lab			2	15	35	50	2
BCMC302	Clinical and Pharmaceutical Biochemistry, Human Nutrition and Dietetics lab			2	15	35	50	2
BCME303	Elective - I lab			2	15	35	50	2
BCMS304	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
BCMC401	Genomicsand Proteomics	4	-	-	30	70	100	4
BCME402	Elective – II	4	-	-	30	70	100	4
BCMS403	Special Paper – II	4	-	-	30	70	100	4
BCMC484	Project	8	-	-	40	140	200	8
BCMC491	Genomicsand Proteomics lab			2	15	35	50	2
BCMC493	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	BCME301+BCME391	Environmental Biotechnology	4-0-4	6
III	BCME302+BCME392	Food Biotechnology	4-0-4	6
III	BCME303+BCME392	Nanobiotechnology	4-0-4	6
III	BCME304+BCME392	Enzyme Biotechnology	4-0-4	6
IV	BCME401+BCME492	Metabolism	4-0-4	6
IV	BCME402+BCME492	Plant tissue culture	4-0-4	6
IV	BCME403+BCME492	Animal Biotechnology	4-0-4	6
IV	BCME404+BCME492	Bioinformatics	4-0-4	6
Special Papers				
III	BCMS301+BCMS391	IPR & Biosafety	4-0-4	6
III	BCMS302+BCMS392	Bioprocess & Fermentation technology	4-0-4	6
III	BCMS303+BCMS393	Research and communication	4-0-4	6
III	BCMS304+BCMS394	Pharmacogenomics	4-0-4	6
IV	BCMS401+BCMS491	Biotech entrepreneurship	4-0-4	6
IV	BCMS402+BCMS492	Agriculture Biotechnology	4-0-4	6
IV	BCMS403+BCMS493	Plant biochemistry	4-0-4	6
IV	BCMS404+BCMS494	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.