

Course Outline and Syllabus for Master of Science (M.Sc.) In Biotechnology
Under CBCS and CAGP

Semester	Code	Title of the course	Semester Exam	I A	Total	L	T	P	Credits
First	Hard Core								
	HCT 1.1	Biochemistry	80	20	100	4	0	0	4
	HCT 1.2	Cell and Developmental Biology	80	20	100	4	0	0	4
	HCT 1.3	Microbiology	80	20	100	4	0	0	4
	Soft Core (Any One)								
	SCT 1.1	Bio-Analytical Techniques	80	20	100	4	0	0	4
	SCT 1.2	Biodiversity, IPR and Bio Safety	80	20	100	4	0	0	4
	Practicals								
	HCP 1.1	Practicals based on HCT-1.1	40	10	50	0	0	2	2
	HCP 1.2	Practicals based on HCT-1.2	40	10	50	0	0	2	2
	HCP 1.3	Practicals based on HCT-1.3	40	10	50	0	0	2	2
	Soft Core (Any One)								
	SCP 1.1	Practicals based on SCT-1.1	40	10	50	0	0	2	2
	SCP 1.2	Practicals based on SCT-1.2	40	10	50	0	0	2	2
Total for First Semester			480	120	600			2	24

Semester	Code	Title of the course	Semester Exam	I A	Total	L	T	P	Credits
Second	Hard Core								
	HCT 2.1	Immunology	80	20	100	4	0	0	4
	HCT 2.2	Molecular Biology	80	20	100	4	0	0	4
	Soft Core (Any One)								
	SCT 2.1	Bioinformatics	80	20	100	4	0	0	4
	SCT 2.2	Genomics & Proteomics	80	20	100	4	0	0	4
	Open Elective (Any One)								
	OET 2.1	General Biotechnology	80	20	100	4	0	0	4
	OET 2.2	Environmental Biotechnology	80	20	100	4	0	0	4
	Practical								
	HCP 2.1	Practicals based on HCT-2.1	40	10	50	0	0	2	2
	HCP 2.2	Practicals based on HCT-2.2	40	10	50	0	0	2	2
	Soft Core (Any One)								
	SCP 2.1	Practicals based on SCT-2.1	40	10	50	0	0	2	2
	SCP 2.2	Practicals based on SCT-2.2	40	10	50	0	0	2	2
	Open Elective (Any One)								
OEP 2.1	Practicals based on OET-2.1	40	10	50	0	0	2	2	
OEP 2.2	Practicals based on OET-2.2	40	10	50	0	0	2	2	
Total for Second Semester			480	120	600			2	24

L = Lecture T = Tutorials, P = Practicals
 4 Credits of Theory = 4 Hours of teaching per week
 2 Credits of Practicals = 4 Hours per week



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Semester	Code	Title of the course	Semester Exam	IA	Total	L	T	P	Credits
Third		Hard Core							
	HCT 3.1	Animal Biotechnology	80	20	100	4	0	0	4
	HCT 3.2	Genetic Engineering	80	20	100	4	0	0	4
		Soft Core (Any One)							
	SCT 3.1	Microbial Biotechnology	80	20	100	4	0	0	4
	SCT 3.2	Bioprocess Engineering	80	20	100	4	0	0	4
		Open Elective (Any One)							
	OET 3.1	r – DNA Technology	80	20	100	4	0	0	4
	OET 3.2	Molecular Genetics	80	20	100	4	0	0	4
		Practicals							
	HCP 3.1	Practicals based on HCT-3,1	40	10	50	0	0	2	2
	HCP 3.2	Practicals based on HCT-3,2	40	10	50	0	0	2	2
		Soft Core (Any One)							
	SCP 3.1	Practicals based on SCT-3,1	40	10	50	0	0	2	2
	SCP 3.2	Practicals based on SCT-3,2	40	10	50	0	0	2	2
		Open Elective (Any One)							
	OET 3.1	Practicals based on OET-3,1	40	10	50	0	0	2	2
	OET 3.2	Practicals based on OET-3,2	40	10	50	0	0	2	2
		Total for Third Semester	480	120	600				24

Semester	Code	Title of the course	Semester Exam	IA	Total	L	T	P	Credits
Fourth		Hard Core							
	HCT 4.1	Plant Biotechnology	80	20	100	4	0	0	4
	HCT 4.2	Medical and Nanobiotechnology	80	20	100	4	0	0	4
		Soft Core (Any One)							
	SCT 4.1	Environmental Biotechnology	80	20	100	4	0	0	4
	SCT 4.2	Food biotechnology	80	20	100	4	0	0	4
		Practicals							
	HCP 4.1	Practicals based on HCT-4,1	40	10	50	0	0	2	2
	HCP 4.2	Practicals based on HCT-4,2	40	10	50	0	0	2	2
		Soft Core (Any One)							
	SCP 4.1	Practicals based on SCT-4,1	40	10	50	0	0	2	2
	SCP 4.2	Practicals based on SCT-4,2	40	10	50	0	0	2	2
	HCMP4.3	Major Project (72 Project Evaluation + 48 for Viva Voce + 30 IA = 150)	120 80	30 20	150	0	0	6	6
		Total for Fourth Semester	480	120	600				24

L = Lecture, T = Tutorials, P = Practicals
4 Credits of Theory = 4 Hours of teaching per week
2 Credits of Practicals = 4 Hours per week