

Curriculum of M.Sc. Life Sciences
With Specialization in
Microbial Biotechnology / Plant & Animal Biotechnology

First Semester

Sl. No.	Subject Code	Subject	L	T	P	CP/CH
1	BT1101	Biochemistry	3	1	0	4
2	BT1102	Microbiology	3	0	0	3
3	BT1103	Molecular Biology	3	1	0	4
4	BT1104	Classical & Molecular Genetics	3	0	0	3
5	BT1105	Chemistry for Biologists	3	0	0	3
6	BT1151	Biochemistry Laboratory	0	0	3	2
7	BT1152	Microbiology Laboratory	0	0	3	2
8	BT1153	Molecular Biology Laboratory	0	0	3	2
		Total Credit				23/26

Second Semester

Sl. No.	Subject Code	Subject	L	T	P	CP/CH
1	BT2101	Omics & Bioinformatics	3	1	0	4
2	BT2102	Immunology	3	1	0	4
3	BT2103	Biophysics & Structural Biology	3	1	0	4
4	BT2104	Genetic Engineering	3	0	0	3
5	BT2105	Cell Biology	3	0	0	3
6	BT2151	Omics & Bioinformatics Laboratory	0	0	3	2
7	BT2152	Immunology Laboratory	0	0	3	2
8	BT2153	Cell Biology Laboratory	0	0	3	2
		Total Credit				24/27

Third Semester

Sl. No.	Subject Code	Subject	L	T	P	CP/CH
1	BT91**	Elective I	3	0	0	3
2	BT91**	Elective II	3	0	0	3
3	BT3101	Programming for Biologists	3	0	0	3
4	BT3102	IPR, Biosafety & Bioethics	3	0	0	3
5	BT3103	Bio-entrepreneurship	2	1	0	3
6	BT3151	Genetic Engineering Laboratory	0	0	3	2
7	BT3152	Protein Purification Laboratory	0	0	3	2
8	BT3153	Project Work - I	0	0	4	4
9	BT3154	Project Seminar - I	0	0	1	1
		Total Credit				24/26

Fourth Semester

Sl. No.	Subject Code	Subject	L	T	P	CP/CH
1	BT91**	Elective III	3	0	0	3
2	BT91**	Elective IV	3	0	0	3
4	BT4151	Project Work – II	0	0	10	10
5	BT4152	Project Seminar - II	0	0	3	3
		Total Credit				19/19

Total Program Credit: 90

List of Electives:

**Elective basket for Microbial Biotechnology:
(For Elective I, II, III, and IV)**

Sl. No.	Code	Course Title
1	BT9143	Industrial Microbiology
2	BT9142	Environmental Biotechnology
3	BT9112	Enzymology & Bioenergetics
4	BT9141	Bioprocess Engineering & Technology
5	BT9133	Metabolic Engineering
6	BT9132	Nutraceuticals & Nutrigenomics

**Elective basket for Plant & Animal Biotechnology:
(For Elective I, II, III, and IV)**

Sl. No.	Code	Course Title
1	BT9149	Plant Biotechnology
2	BT9150	Plant Developmental Biology
3	BT9151	Genetic Engineering of Crop Plants
4	BT9152	Molecular Plant Pathogen Interactions
5	BT9145	Animal Biotechnology
6	BT9111	Cancer Biology
7	BT9146	Regenerative Medicine and Translational Research
8	BT9147	Drug Discovery and Development
9	BT9114	Protein Folding Misfolding and Diseases
10	BT9148	Vaccine technology
11	BT9122	Molecular Virology
12	BT9123	Host – Pathogen Interactions
13	BT9124	Infection Biology