

**Proposed course structure
For
MSc in Biotechnology**

First Semester

Theory							
SL/No	Subject Code	Course Name	Contact hours per week				Credits
			L	T	P	Total	
1	BTM101	Biochemistry	3	-	-	3	3
2	BTM102	Cell and Molecular Biology	3	-	-	3	3
3	BTM103	Plant and Animal Biotechnology	3	-	-	3	3
4	BTM104	Microbiology	3	-	-	2	3
5	BTM105	Genetics	2	-	-	2	2
6	BTM106	Basics of Mathematics and Statistics	2	-	-	2	2
7	BTM107	Basics of Chemistry and Physics	2	-	-	2	2
<i>Total Theory</i>						18	18
Practical							
1	BTB111	Biochemistry and Analytical Techniques Lab	-	-	4	4	2
2	BTB112	Microbiology Lab	-	-	4	4	2
3	BTB113	Plant and Animal Biotechnology Lab	-	-	4	4	2
<i>Total Practical</i>						12	6
<i>Total of Semester</i>							24

Second Semester

Theory							
SL/No	Subject Code	Course Name	Contact hours per week				Credits
			L	T	P	Total	
1	BTM201	Genetic Engineering	3	-	-	3	3
2	BTM202	Immunology	3	-	-	3	3
3	BTM203	Bioinformatics	3	-	-	3	3
4	BTM204	Genomics and Proteomics	3	-	-	2	3
5	BTM205	Molecular Diagnostics	2	-	-	2	2
6	BTM206	Research Methodology and Scientific Communication Skills	2	-	-	2	2
7	BTM207	Elective I	2	-	-	2	2

<i>Total Theory</i>						18	18
Practical							
1	BTB211	Seminar	-	-	4	4	2
2	BTB212	Molecular Biology and Genetic Engineering Lab	-	-	4	4	2
3	BTB213	Immunology Lab	-	-	4	4	2
<i>Total Practical</i>						12	6
<i>Total of Semester</i>							24

Third Semester

Theory							
SL/No	Subject Code	Course Name	Contact hours per week				Credits
			L	T	P	Total	
1	BTM301	Bioprocess Engineering and Technology	3	-	-	3	3
2	BTM302	Emerging Technologies	3	-	-	3	3
3	BTM303	Critical Analysis of Classical Papers	2	1	-	3	3
4	BTM304	Bioentrepreneurship	2	-	-	2	2
5	BTM305	Intellectual Property Rights, Biosafety and Bioethics	3	-	-	2	3
6	BTM306	Project Proposal Preparation and Presentation	2	-	-	2	2
7	BTM307	Elective II	2	-	-	2	2
<i>Total Theory</i>						18	18
Practical							
1	BTB311	Bioprocess Engineering and Technology Lab	-	-	4	4	2
2	BTB312	Bioinformatics Lab	-	-	4	4	2
3	BTB313	Dissertation-I	-	-	4	4	2
<i>Total Practical</i>						12	6
<i>Total of Semester</i>							24

Fourth Semester

Practical							
SL/No	Subject Code	Course Name	Contact hours per week				Credits
			L	T	P	Total	
1	BTB411	Dissertation-II	-	-	48	48	24
<i>Total Practical</i>							24
<i>Total of Semester</i>							24

Electives:

1. Biological Imaging | 2. Computational Biology | 3. Drug Discovery and Development | 4. Environmental Biotechnology | 5. Microbial Technology | 6. Nanobiotechnology | 7. Protein Engineering | 8. Vaccines

Total Credit: 96