

Master of Science (Biotechnology)

(For AY2026-27 onwards)

Curriculum Version 1.00

Credit distribution among baskets (Minimum Credits to be earned = 80)		
Sl. No.	Baskets	Credit Contribution
1	School Core	16
2	Program Core	35
3	Discipline Elective	23
	Common Electives Basket	11
	Specialized Elective Baskets*	12
4	Open Elective	6
TOTAL CREDITS		80

Specialized Elective Baskets*		
Sl.No.	Name of the Basket	Minimum Credit Requirement
1	Protein Engineering	3
2	Industrial Biotechnology	3
3	Biopharmaceutics	3
4	Data Analytics	3
Total*		12

** Remaining Credits, if any, to satisfy Specialized Elective Baskets credit requirement can be taken from any Specialized Elective Basket*

Sl. No.	Course Code	Course Name	T	P	Credits
A. School Core - Minimum Credits to be earned from this basket (A+B+C) =					16
1	ENG5001	English Language and Communication Skills	0	2	1
2	BIT5040	Research Paper	-	-	2
3	BIT6001	M.Sc. Biotechnology Capstone Project	-	-	6
4	BIT6002	M.Sc. Biotechnology Internship	-	-	4
B. Foreign Languages Basket - Min. credits to be earned from this basket =					1
1	FRE1002	Communicative French	0	2	1
2	GER1002	Communicative German	0	2	1
C. Soft Skills Basket (All Courses in this basket are mandatory) - Minimum Credits =					2
1	PSY5124	Self-development and Interpersonal Skills	0	2	1
2	SSK2002	Being Corporate Ready	0	2	1
D. Program Core - Minimum Credits to be earned from this basket =					35
1	BIT5001	Advanced Microbiology	3	2	4
2	BIT5002	Advanced Cell and Molecular Biology	2	2	3
3	BIT5003	Advanced Biochemistry	3	2	4
4	BIT5004	Advanced Immunology	3	2	4
5	BIT5005	Applied Genetics	3	0	3
6	BIT5008	Biotechnology of Plants and Animals	3	0	3
7	BIT5007	Recombinant DNA Technology	2	2	3
8	BIT5009	Advanced Bioinformatics	3	2	4
9	BIT5010	Principles of Genomics and Proteomics	2	2	3
10	BIT5011	Bioprocess Engineering and Technology	3	2	4
E. Discipline Electives - Minimum Credits to be earned from both Common and Specialized elective baskets (F+G) =					23
F. Common Electives Basket - Minimum Credits to be earned from this basket =					11
1	MAT5010	Advanced Biostatistics	2	2	3
2	BIT5006	Industrial Biotechnology	3	2	4
3	BIT5012	Research Methodology for Biosciences	2	0	2
4	BIT5013	Bioentrepreneurship	2	0	2
5	PHS2002	Drug Formulation and Dosage Calculation	2	0	2
6	CSE1021	Python Programming	0	4	2
7	BIT5015	Pharmaceutical Biotechnology	2	0	2
8	BIT5016	Tissue Culture and Engineering	2	2	3
9	BIT5017	Microbial Technology	2	2	3
10	BIT5018	Nanobiotechnology	3	0	3
11	BIT5019	Cancer Biology	3	0	3
12	BIT5020	Environmental Biotechnology	3	0	3
13	BIT5021	Molecular Diagnostics Techniques	3	0	3

G. Specialized Electives Baskets - Minimum Credits to be earned from these baskets (H+I+J) =					12
H. Protein Engineering Basket - Minimum Credits to be earned from this basket =					3
1	BIT5022	Upstream and Downstream Process	2	2	3
2	BIT5023	Vaccines	2	2	3
3	BIT5024	Metabolomics	3	0	3
4	BIT5025	Protein Characterization Techniques	2	2	3
I. Industrial Biotechnology Basket - Minimum Credits to be earned from this basket =					3
1	BIT5026	Food and Beverage Biotechnology	3	0	3
2	BIT5027	Introduction to Veterinary Sciences	2	2	3
3	BIT5028	Quality Control and Quality Assurance	2	0	2
4	BIT5029	Environment, Health and Safety	3	0	3
J. Biopharmaceutics Basket - Minimum Credits to be earned from this basket =					3
1	PHS2001	Drug Discovery and Drug Development	2	2	3
2	BIT5031	Drug Manufacture and Biosimilars	2	2	3
3	BIT5032	Regulatory Affairs, IPR, Biosafety and Bioethics	3	0	3
4	BIT5033	Pharmacovigilance and Clinical Trials	3	0	3
5	BIT5034	Molecular Diagnosis of Clinical Samples	3	0	3
6	BIT5035	Clinical Data Management and Medical Writing	3	0	3
K. Data analytics Basket - Minimum Credits to be earned from this basket =					3
1	BIT5036	Biological Image Processing	2	2	3
2	BIT5037	R Programming and Data Visualization	2	2	3
3	BIT5038	Data Analytics for Biology	2	2	3
4	BIT5039	AI in Biology	2	2	3
Open Elective basket - Minimum Credits to be earned from this basket =					6
Any course from another 'eligible' curriculum					
Any unused Discipline Elective from his/ her 'own' curriculum					
Any stand-alone course declared as "Open Elective" by School for a specific 'eligible' degree					
School approved NPTEL/ Swayam courses for a maximum of 3-credits					