

B. Tech. (Biotechnology)
Program Structure 2025 onwards

Semester-III						Semester-IV					
Code	Course Name	L	T	P	C	Code	Course Name	L	T	P	C
BIT2104	Microbiology	3	1	0	4	MAS22xx	Probability and Statistics	3	0	0	3
MBB21xx/	Principles of Management/ Engineering Economics	3	0	0	3	MBB21xx/	Principles of Management/ Engineering Economics	3	0	0	3
BIT2105	Cell and Molecular Biology	3	1	0	4	BIT2203	Genetic Engineering	3	1	0	4
BIT2106	Biochemistry	3	1	0	4	BIT2204	Transport Processes in Biological Systems	3	0	0	3
BIT2107	Thermodynamics	3	1	0	4		Technical Report Writing				2
BIT2108	Process calculations	3	1	0	4	BIT2205	Bioreaction Engineering	3	0	0	3
BIT2132	Simulation lab	0	0	3	1	BIT2232	Genetic Engineering Lab	0	0	4	2
BIT2134	Microbiology Lab	0	0	3	1	BIT2271	Project-Based Learning - 1	0	0	6	3
Total		18	5	6	25	Total		15	1	10	23
Total contact hours		29				Total contact hours		26			
Semester-V						Semester-VI					
Code	Course Name	L	T	P	C	Code	Course Name	L	T	P	C
BIT3103	Bioprocess Engineering	3	1	0	4	BIT3203	Bio-separation Processes	3	1	0	4
BIT3104	Immunology	3	1	0	4	BIT3204	Instrumentation and Process Control	3	0	0	3
BIT3105	Animal and Plant Biotechnology	3	1	0	4	BIT3271	Project-Based Learning - 3	0	0	6	3
BIT3106	Bioinformatics	3	1	0	4	BIT32xx	Program Elective 2	3	0	0	3
BIT31xx	Program Elective 1	3	0	0	3	BIT32xx	Program Elective 3	3	0	0	3
BIT3134	Bioprocess Engineering Lab				1	BIT32xx	Program Elective 4	3	0	0	3
BIT3171	Project-Based Learning - 2	0	0	6	3		Open Elective	3	0	0	3
BIT3135	Bioinformatics Lab				1						
Total		15	4	6	24	Total		18	1	6	22
Total contact hours		25				Total contact hours		25			

Semester-VII						Semester-VIII					
Code	Course Name	L	T	P	C	Code	Course Name	L	T	P	C
	Open Elective	3	0	0	3	BIT42xx	Major Project	0	0	24	12
	Open Elective	3	0	0	3						
BIT41xx	Program Elective 5	3	0	0	3						
BIT41xx	Program Elective 6	3	0	0	3						
BIT4171	Internship (Industry/ Research/ Industry Certification)	0	0	4	2						
Total		12	0	4	14	Total		0	0	24	12
Total contact hours		16				Total contact hours		24			

Program Electives / Discipline Specific Electives			
Semester -V		Semester - VI	
Code	Course Name	Code	Course Name
BIT31xx	Enzyme Technology	BIT32xx	Bioprocess Modeling and Simulation
BIT31xx	Protein Engineering	BIT32xx	Bioreactor design and Analysis
BIT31xx	Metabolic Engineering	BIT32xx	Bioprocess Plant Design
BIT31xx	Genomics and Proteomics	BIT32xx	Bioremediation
BIT31xx	Biosensors	BIT32xx	Waste management
BIT31xx	Biomaterials	BIT32xx	Renewable energy and sustainable engineering
BIT31xx	Nano Biotechnology	BIT32xx	Stem Cell Engineering
BIT31xx	Entrepreneurship in Biotechnology	BIT32xx	Tissue Engineering
		BIT32xx	Cancer Biology
		BIT32xx	Biopharmaceutical Engineering
		BIT32xx	Molecular Modeling and Drug Design
		BIT32xx	Molecular Diagnostics
Semester -VII			
Code	Course Name		
BIT41xx	Industrial Biotechnology		
BIT41xx	Bioethics and Biosafety		
BIT41xx	Waste Water Treatment Technologies		
BIT41xx	Biotherapeutics		
BIT41xx	Principles of Synthetic Biology		