

5 year Integrated M. Tech. Degree Course – Biotechnology w.e.f. 2023-24 Batch

Integrated M Tech Upto 6th Semester: Same as B Tech 127 credits

FIRST SEMESTER

Sr. No.	Course		Contact Hours				Credits
	No.	Title	L	T	P	Total	
1.	15B11MA112	Basic Mathematics-1	3	1	-	4	4
2.	15B11PH112	Physics for Biotechnology	3	1	-	4	4
3.	18B11CI111	Fundamentals of Computers & Programming - I	3	1	-	4	4
4.	15B11HS112	English	1	0	2	3	2
5.	15B17PH171	Physics Lab-1	-	-	2	2	1
6.	18B15CI111	Computer Programming Lab-I	-	-	4	4	2
7.	18B15GE112	Workshop	-	-	3	3	1.5
		TOTAL				24	18.5

SECOND SEMESTER

Sr. No.	Course		Contact Hours				Credits
	No.	Title	L	T	P	Total	
1.	15B11MA212	Basic Mathematics-2	3	1	-	4	4
2.	15B11PH212	Biophysical Techniques	3	1	-	4	4
3.	15B11EC111	Electrical Science-I	3	1	-	4	4
4.	18B11CI121	Fundamentals of Computers & Programming - II	3	1	-	4	4
5.	18B15BT111	Basic Bioscience Lab	-	-	2	2	1
6.	15B17EC171	Electrical Science Lab-I	-	-	2	2	1
7.	18B15CI121	Computer Programming Lab-II	-	-	2	2	1
8.	22B12HS111	Life Skills & Professional Communication Lab	-	-	2	2	0
9.	18B15GE111	Engineering Drawing & Design	-	-	3	3	1.5
		TOTAL				27	20.5

THIRD SEMESTER

Sr. No.	Course		Contact Hours				Credits
	No.	Title	L	T	P	Total	
1.	15B11MA412	Probability and Statistics	3	1	-	4	4
2.	15B11BT211	Biochemistry	3	1	-	4	4
3.	15B11BT311	Thermodynamics and Chemical Processes	3	1	-	4	4
4.	19B13BT211	Environmental Studies	3	-	-	3	Qualifying
5.	15B17BT271	Biochemical Techniques Lab	-	-	2	2	1
6.	15B17BT371	Thermodynamics and Chemical Processes Lab	-	-	2	2	1
7.	15B11EC211	Electrical Science-II	3	1	-	4	4
8.	15B17EC271	Electrical Science Lab-II	-	-	2	2	1
9.	15B11HS211	Economics	2	1	-	3	3
10.	22B15HS211	Professional Communication	-	-	2	2	Qualifyi

		Practice					ng
		TOTAL				30	22

FOURTH SEMESTER

Sr. No.	Course		Contact Hours				Credits
	No.	Title	L	T	P	Total	
1.	Xxxxxx	HSS Elective – 1	2	1	-	3	3
2.	15B11BT312	Microbiology	3	1	-	4	4
3.	15B11BT313	Genetics and Developmental Biology	3	1	-	4	4
4.	15B11BT411	Introduction to Bioinformatics	3	1	-	4	4
5.	15B17BT372	Microbiology Lab	-	-	2	2	1
6.	15B17BT373	Genetics and Developmental Biology Lab	-	-	2	2	1
7	15B17BT471	Bioinformatics Lab	-	-	2	2	1
8	Xxxxxxx	Universal human value(UHV)*	2	1	-	3	3
		TOTAL				24	21

FIFTH SEMESTER

Sr. No.	Course		Contact Hours				Credits
	No.	Title	L	T	P	Total	
1.	Xxxxxx	HSS Elective-2	3	-	-	3	3
2.	15B11BT412	Molecular biology and Genetic Engineering	3	-	-	3	3
3.	Xxxxxx	Discipline Elective -1	3	-	-	3	3
4.	Xxxxxx	Science Elective	3	-	-	3	3
5.	15B19BT591	Minor Project – 1	-	-	4	4	2
6.	15B17BT472	Genetic Engineering Lab	-	-	2	2	1
7.	18B15BT311	Industrial Biotechnology Lab-1	-	-	2	2	1
8.	15B17BT571	Cell Culture Lab	-	-	2	2	1
9	15B11BT511	Cell Culture Technology	3	1	-	4	4
10	15B17CI577	IT Practice Lab	-	-	2	2	1
11	20B13HS311	Indian Constitution & Traditional Knowledge	3	-	-	3	Qualifying
		TOTAL				31	22

SIXTH SEMESTER

Sr. No.	Course		Contact Hours				Credits
	No.	Title	L	T	P	Total	
1.	15B11BT414	Immunology	3	-	-	3	3
2.	Xxxxxx	Discipline Elective – 2	3	-	-	3	3
3.	Xxxxxx	Discipline Elective - 3	3	-	-	3	3
4.	Xxxxxx	Open Elective - 1	3	-	-	3	3
		Selected Value Added Course	2	-	-	2	Audit
5.	15B17BT474	Immunology Lab	-	-	2	2	1
6.	15B19BT691	Minor Project-2	-	-	4	4	2
7	15B11BT611	Comparative and Functional Genomics	3	1	-	4	4
8	15B17BT671	Comparative and Functional Genomics Lab	-	-	2	2	1

9	Xxxxxx	HSS Elective - 3	2	1	-	3	3
		TOTAL				27/29	23

SEVENTH SEMESTER

Sr.No	Course Code	Course Name	Credits
1	xxxxxx	Discipline Elective-4 (as in B.Tech)	3
2	xxxxxx	Discipline Elective-5 (as in B.Tech)	3
3	xxxxxx	Discipline Elective-6 (as in B.Tech)	3
4	xxxxxx	Open Elective – 2	3
5	15B19BT794	Major Project Part-1	4
6	17M11BT111	Bio molecules and Cell Communication	3
7	17M12BT115	Environmental Biotechnology	3
8	15B19BT793	Summer Training Viva	Qualifying
		TOTAL	22 credits

EIGHTH SEMESTER

S.No.	Course Code	Course Name	Credits
1	xxxxxx	Open Elective – 3	3
2	15B19BT891	Major Project Part-2	8
3	17M11BT113	Bioprocess and Industrial Biotechnology	3
4	17M11BT114	Disease & Healthcare	3
5	xxxxxx	Discipline Elective-7 (as in M Tech)	3
6	xxxxxx	Discipline Elective-8 (as in M Tech)	3
		TOTAL	23 credits

NINTH SEMESTER Integrated (Summer)

S.No.	Course Code	Course Name	Credits
1	17M15BT112	M Tech Lab –II (Biotechniques Lab-II)	3
2	18M11GE111	Research Methodology and Intellectual Property Rights	2
3	xxxxxx	DE- 9(as in B. Tech)	3
4	xxxxxx	DE-10 (as in B. Tech)	3
		TOTAL	11 credits

TENTH SEMESTER Integrated

S.No.	Course Code	Course Name	Credits
1	xxxxxx	Discipline Elective-11 (as in M Tech)	3
2	xxxxxx	Discipline Elective-12 (as in M Tech)	3
3	xxxxxx	Discipline Elective-13 (as in M Tech)	3
4	xxxxxx	M Tech open Elective	3
5	17M17BT112	PBL-II	4
6	17M15BT111	M Tech Lab –I (Biotechniques Lab – I)	3

7	17M17BT211	Seminar and Term paper	4
8	xxxxx	M Tech Audit-II	Qualifying
	TOTAL		23 credits

Eleventh Semester Integrated

S.No.	Course Code	Course Name	Credits
1	17M17BT216/17M17BT217/17M17BT218	Dissertation/Industrial project	20
2	17M17BT111	PBL-I	2
	Total		22 credits
	Total credits	127+22+23+11+23+22	228 credits