

CURRICULUM- B.Tech Biotechnology (Draft-I)

Semester-I

S. No	Course Code	Course Title	L	T	P	Credits
1		Introduction to Electrical Engineering	2	1	2	4
2		Introduction to Biotechnology	2	0	0	2
3		Basic Math (Calculus & Matrices) /Basic Biology*	3	1	0	4
4	CH 101	Chemistry (Physical & Organic)	2	1	2	4
5		Physics (Pre to Biophysics)	2	1	2	4
6	HS 1104	Introduction to Entrepreneurship	0	0	3	1
7	HS 1102	Media Project	0	0	3	1.5
		Total Credits				

*For students with Bio or Math in 10+2

Semester-II

S. No	Course Code	Course Title	L	T	P	Credits
1	CS 1201	Introduction to Computer Science	2	1	2	4
2		Microbial Systems	2	0	2	3
3		Biochemistry	2	0	2	3
4		Genetics	2	0	2	3
5		Plant Biology	1	0	2	2
6		Foundations of Entrepreneurship	3	0	0	3
7	ES 103	Earth and Environmental Sciences	2	0	0	2
8	HS 1201	Entrepreneurship practice	0	0	2	1
9	HS 1202	Professional Ethics	0	1	0	1
		Total Credits				

Semester -III

S. No	Course Code	Course Title	L	T	P	Total Credits
1		Immunology & Immunotechnology	2	0	2	3
2	CS 2102	Data Structures	2	2	2	5
3		Biophysics (incl statistical Thermodynamics)	2	1	2	4

4		Cellular Structures & Molecular Biology	3	1	2	5
5		Biophysics	2	1	2	4
6	HS 2101	Lean Start-up	0	0	3	1
7		Principles of Economics (7 wks)	3	0	0	1.5
		Total Credits				

Semester -IV

S. No	Course Code	Course Title	L	T	P	Total Credits
1		ML Techniques in Bioinformatics	2	1	2	4
2		Genes & Genomic Technologies	3	1	2	5
3		Bioprocess Technology	2	1	2	4
4		Intellectual Property Rights	1	0	0	1
5		Structural Biology	2	1	2	4
6	HS 2203	Financial Accounting (7 wks)	3	0	0	1.5
7	HS 2201	Design Thinking	1	0	2	2
		Total Credits				

Semester -V

S. No	Course Code	Course Title	L	T	P	Total Credits
1		Bioinformatics & Computational Biology	2	0	2	3
2		Cell and Tissue Culture Technologies	2	0	4	4
3		Data Analysis & Simulations	2	0	2	3
4		Bioprocess Design & Upscaling	3	0	4	5
5		Environment and Sustainability	3	0	0	3
6		HSS + Mgmt. - Elective – I	2	0	0	2
7		Elective – I	3	0	0	3
		Total Credits				

Semester -VI

S. No	Course Code	Course Title	L	T	P	Total Credits
-------	-------------	--------------	---	---	---	---------------

1	EBTY302L	Synthetic & Systems Biology	3	1	2	5
2		Animal & Plant Biotechnology	2	0	4	4
3		Good Manufacturing and Laboratory Practice	2	1	0	3
4	PR 301	Third year team project	-	-	-	2
5		Elective-II	3	0	0	3
6		Elective-III	3	0	0	3
7	HS 3214	Introduction to professional development and employability skills	2	0	0	2
8	HS E12	HSS and Management Elective II	2	0	0	2
		Total Credits				

Semester -VII

S. No	Course Code	Course Title	L	T	P	Total Credits
1	PR 4002	Final Year Project I	0	1	4	3
2		Elective-IV	3	0	0	3
3		Elective-V	3	0	0	3
4		Elective-VI	3	0	0	3
5		HSS and Management Elective III	2	0	0	2
		Total Credits				

Semester -VIII

S. No	Course Code	Course Title	L	T	P	Total Credits
1		Industrial/R&D Project	0	0	24	12

Specializations: To be done through Electives in Baskets