

B.Tech-Biotechnology (4-Yr) Programme Course Structure

(For the Students Admitted in 2013 and earlier)

4 year B.Tech Curricula for Biotechnology				
First Semester (B1)				
SN	Sub Code	Subject	Contact hours	Credits
1	10B11PD111	Presentation and Communication Skill	3	3
2	10B11MA111/ 10B11MA112	Mathematics-I/Basic Mathematics I	4	4
3	10B11PH111	Physics-I	4	4
4	10B11EC111	Electrical Circuit Analysis	4	4
5	10B11CI111	Introduction to Computers and Programing	4	4
6	10B17PH171	Physics Lab-1	2	1
7	10B17EC171	Electrical Circuits Lab	2	1
8	10B17CI171	Computer Programming Lab	4	2
9	10B19GE199	Institutional Orientation	2	0
		Total	29	23
NOTE:	10B11PD199	English* (*English will be offered as an audit course for students with less than 60% marks)		
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Second Semester (B2)				
SN	Sub Code	Subject	Contact hours	Credits
1	10B11PD211	Group and Cooperative Processes	3	3
2	10B11MA201/1 0B11MA212	Mathematics-II/Basic Mathematics II	4	4
3	10B11PH212	Biophysical Techniques	4	4
4	10B11EC211	Basic Electronics Devices and Circuits	4	4
5	10B11CI211	Data Structures	4	4
6	10B17BT271	Basic Bioscience Lab	2	1

7	10B17EC271	Basic Electronics Lab	2	1
8	10B17CI271	Data structures & Computer Programming Lab	4	2
9	10B19BT299	Departmental Orientation	2	0
		Total	29	23

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Third Semester (B3)

SN	Sub Code	Subject	Contact hours	Credits
1	10B11PD311	Economics	3	3
2	10B11MA311	Probability & Statistics	4	4
3	10B11BT311	Thermodynamics & Chemical Processes	4	4
4	10B11BT312	Biochemistry	4	4
5	10B11BT313	Microbiology	4	4
6	10B17BT371	Thermodynamics & Chemical Processes Lab	2	1
7	10B17BT372	Biochemistry Lab	2	1
8	10B17BT373	Microbiology Lab	4	2
		Total	27	23

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Fourth Semester (B4)

SN	Sub Code	Subject	Contact hours	Credits
1	10B11PD411	Financial Management	3	3
2	10B11BT411	Genetics	4	4
3	10B11PH411	Biomaterial Science	4	4
4	10B11BT412	Cell Culture Technology	4	4
5	10B11BT413	Molecular Biology	4	4
6	10B11GE411	Environmental Studies	3	3
7	10B17BT471	Genetics Lab	2	2
8	10B17BT472	Animal Tissue Culture Lab	2	2
9	10B17BT473	Plant Tissue Culture Lab	2	2

10	10B17BT474	Molecular Biology Lab	2	2
		Total	30	26

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Fifth Semster (B5)

SN	Sub Code	Subject	Contact hours	Credits
1	10B11PD511	Social and Legal Issues	3	3
2	10B11BT511	Introduction to Bioinformatics	4	4
3	10B11BT512	Process Engineering	4	4
4	10B11BT513	Genetic Engineering	4	4
5	10B11BT514	Immunology	4	4
6	10B17BT571	Bioinformatics Lab	2	1
7	10B17BT572	Process Engineering Lab	2	1
8	10B17BT573	Genetic Engineering Lab	2	1
9	10B17BT574	Immunology Lab	2	1
10	10B19BT591	Minor Project I	10	5
		Total	37	28

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Sixth Semester (B6)

SN	Sub Code	Subject	Contact hours	Credits
1	10B11PD611	Project Management	3	3
2	10B11BT611	Comparative and Functional Genomics	4	4
3	10B11BT612	Food and Agricultural Biotechnology	4	4
4	10B11BT613	Cell and developmental Biology	4	4
5	10B11BT614	Fermentation Technology and Downstream Processing	4	4
6	10B17BT671	Comparative and Functional Genomics lab	2	1
7	10B17BT672	Food and Agricultural Biotechnology lab	2	1
8	10B17BT673	Cell and Developmental Biology Lab.	2	1

9	10B17BT674	Fermentation technology and Downstream Processing Lab.	2	1
10	10B19BT691	Minor Project II	10	5
11	10B19GE698	Industrial Training		
		Total	37	28

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Seventh Semester (B7)

SN	Sub Code	Subject	Contact hours	Credits
1		HSS Elective-I	3	3
2		DE-I	3	3
3		DE-II	3	3
4		DE-III	3	3
5	10B19BT791	Project Part I	20	10
		Total	32	22

List of Courses for HSS Elective-I

To be updated time to time as per academic requirements

SN	Sub Code	Subject		
1	10B1NPD732	Entrepreneurial Development		
2	10B1NPD733	Managing Marketing of Technology		
3	10B1NPD734	Customer Relationship Management		
4	10B1NPD735	Indian Financial System		
5	13B1NHS731	Technology and Culture		

List of Courses for Departmental Electives

To be updated time to time as per academic requirements

SN	Sub Code	Subject		
1	10B1NBT731	Biocomputing and Applications		
2	10B1NBT732	Clinical Trials and Database Management System		

3	10B1NBT733	Stem Cells and Healthcare		
4	10B1NBT734	Techno Economic Biofeasibility Reporting		
5	10B1NBT735	Enzymes in food processing		
6	11B1NBT731	Molecular Diagnostics		
7	10B1NPH731	Nanoscience and Technology		
8	11B1NMA731	Applied Linear Algebra		

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Eighth Semester (B8)

SN	Sub Code	Subject	Contact hours	Credits
1		HSS Elective-II	3	3
2		DE-IV	3	3
3		DE-V	3	3
4		DE-VI	3	3
5	10B19BT891	Project Part II	20	10
		Total	32	22

List of courses for HSS Elective-II

To be updated from time to time as per academic requirement

SN	Sub Code	Subject		
1	10B13PD831	Knowledge Management		
2	10B13PD832	Quality issues in Engineering		
3	12B1NHS831	Industrial Sociology		
4	13B1NHS831	Organization Psychology		

List of courses for Departmental Electives

To be updated time to time as per academic requirements

SN	Sub Code	Subject		
1	10B1NBT831	Cancer Biology		
2	10B1NBT833	Intellectual Property Rights and Bioethics		

3	10B1NBT834	Pharmacogenomics		
4	11B1NBT831	Molecular Ecology		
5	10B1NBT835	Machine Learning Tools in Bioinformatics		
6	11B1NPH833	Biophysics		
7	11B1NMA831	Operational Research		