

Department of Biotechnology and Bioinformatics

4 year B.Tech Curricula for Biotechnology

B.Tech. I semester (B1)

S. No.	Subject Code	Subject	Contact hrs.	Credits
1	10B11PD111	Presentation and Communication Skill	3	3
2	10B11MA112	Mathematics-I/ (For Bio background students)	4	4
	13B11BT111	Fundamental Biology (For Maths background)*	3	3
3	10B11PH111	Physics-I	4	4
4	13B11BT112	Cell Biology	4	4
5	10B11CI111	Introduction to Computers and Basic Programing	4	4
6	10B17PH171	Physics Lab-1	2	1
7	13B17BT172	Cell Biology Lab	2	1
8	10B17CI171	Basic Computer programming Lab	4	2
9	13B17BT173	GLP and Instrumentation Lab	4	2
	13B17BT171	Fundamental Biology Lab*	2	1
		Total	33	25
NOTE:	10B11PD199	English** (**This subject will be offered as an audit course for students with less than 60% marks)		

B.Tech. II semester (B2)

S. No.	Subject Code	Subject	Contact hrs.	Credits
1	10B11PD211	Group and Cooperative Processes	3	3
2	10B11MA212	Basic Mathematics-II	4	4
3	10B11BT411	Genetics	4	4
4	14B11BT211	General Chemistry	4	4
5	14B21CI211	Basic Data Structures	4	4
6	10B17BT471	Genetics Lab	4	2
7	14B17BT271	Chemistry Lab	2	1
8	14B27CI271	Data structures & Computer programming Lab	4	2
		Total	29	24

B.Tech. III semester (B3)

S. No.	Subject Code	Subject	Contact hrs.	Credits
1	10B11PD311	Managerial 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	4	2
8	10B17BT373	Microbiology Lab	4	2
		Total	29	24

B.Tech. IV semester (B4)

S. No.	Subject Code	Subject	Contact hrs.	Credits
1	10B11PD411	Financial Management	3	3
2	15B11EC411	Basic Electronics	4	4
3	10B11PH212	Biophysical Techniques	4	4
4	10B11BT412	Cell Culture Technology	4	4
5	10B11BT413	Molecular Biology	4	4
6	10B11GE411	Environmental Studies	3	3
7	15B17EC471	Basic Electronics Lab	2	1
8	10B17BT472	Animal Tissue Culture Lab	2	1
9	10B17BT473	Plant Tissue Culture Lab	2	1
10	10B17BT474	Molecular Biology Lab	4	2
		Total	32	27

B.Tech. V semester (B5)

S. No.	Subject Code	Subject	Contact hrs.	Credits
1	10B11PD511	Introduction to Psychology	3	3
2	10B11BT511	Introduction to Bioinformatics	4	4
3	10B11BT512	Bioprocess Engineering	4	4
4	10B11BT513	Genetic Engineering	4	4
5	10B11BT514	Immunology	4	4
	10B17BT571	Bioinformatics Lab	2	1
7	10B17BT572	Bioprocess Engineering Lab	4	2
8	10B17BT573	Genetic Engineering Lab	4	2
9	10B17BT574	Immunology Lab	2	1
		Total	31	25

B.Tech. VI semester (B6)

S. No.	Subject Code	Subject	Contact hrs.	Credits
1	10B11PD611	Project Management	3	3
2	10B11BT611	Comparative and Functional genomics	4	4
3	10B11BT612	Food and Agricultural Biotechnology	4	4
4	10B11BT614	Downstream processing	4	4
5	10B11BT615	Diagnostics & Vaccine Manufacture Technologies	4	4
6	10B17BT671	Comparative and Functional Genomics Lab	4	2
7	10B17BT672	Food and Agricultural Biotechnology Lab	4	2
8	10B17BT674	Downstream Processing Lab	4	2
9	10B17BT675	Diagnostics & Vaccine Manufacture Technologies Lab	2	1

10	10B19GE698	Industrial Training	-	0
		Total	33	26

B.Tech. VII semester (B7)

S. No.	Subject Code	Subject	Contact hrs.	Credits
1		PD 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 PD Elective-I To be updated from time to time

Typical List of Departmental Elective Subjects for DE-I, DE-II and DE-III

To be updated from time to time

1	10B1WBT419	Cancer Biology	3	3
2	10I1WBT432	Antibody Engineering and Manufacturing Techniques	3	3
3	10I1WBT433	Gene Therapy	3	3
4	10B1WBT731	Stem Cells & Health Care	3	3
5	10B1WBT733	Bioterrorism	3	3
6	10B1WBT735	Industrial Plant Tissue Culture	3	3
7	10B1WBT736	Protein Engineering and Applications	3	3
8	10B13BI732	Microbial Genomics	3	3

B.Tech. VIII semester (B8)

S. No.	Subject Code	Subject	Contact hrs.	Credits
1		PD 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 PD Elective-II To be updated from time to time

Typical List of Departmental Elective Subjects for DE-IV, DE-V and DE-VI

To be updated from time to time

S. No.	Subject Code	Subject	Contact hrs.	Credits
1	11B1WBT832	Intellectual Property Rights and Bioethics	3	3
2	11B1WBT833	Industrial Enzymes	3	3
3	11B1WBT834	Fermented Food Production Technology	3	3
4	11B1WBT835	Stress Proteins in Medicine	3	3

5	11B1WBT836	Manufacturing Processes and Quality Control	3	3
6	11B1WBT837	Clinical Trials & Database Management	3	3
7	11B1WBT838	Genetic Counseling	3	3
8	11B2WBT851	System Biology	3	3
9	11B2WBT853	Immunoinformatics	3	3