

AMITY INSTITUTE OF BIOTECHNOLOGY

FLEXILEARN

-Freedom to design your degree



PROGRAMME STRUCTURES

2018

AMITY UNIVERSITY HARYANA

GURGAON

B.Sc.-Biotechnology (Hons) (Total Credits-150)

Programme Structure-2018

FIRST SEMESTER

Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credits
BTH2101	Plant Sciences-I	2	1	-	3
BTH2102	Animal Sciences-I	2	1	-	3
BTH2103	Computers Applications	2	1	-	3
BTH2104	Plant Sciences-I Lab	-	-	2	1
BTH2105	Animal Sciences-I Lab	-	-	2	1
BTH2106	Computers Applications Lab	-	-	2	1
Concentration Electives					3
BTH2107	Microbial Biotechnology	3	-	-	3
BTH2108	Food Biotechnology	3	-	-	3
BTH2109	Agriculture Biotechnology	3	-	-	3
BTH2131	Term Paper	2	-	-	2
BTH2132	Project (with Presentation & Evaluation)	-	-	-	3
BTH2133	Workshop / Certification (Discipline Specific) (1credit per workshop)	-	-	-	1
BTH2134	Study Abroad	-	-	-	3
Open Electives					9*+3
LAN2151	Foreign Language-I*	3	-	-	3
LAN2152	French-I				
LAN2153	German-I				
LAN2154	Spanish-I				
LAN2155	Russian-I				
LAN2156	Chinese-I				
LAN2157	Portuguese-I				
LAN2158	Korean-I				
LAN2159	Japanese-I				
LAN2159	Hindi-I **				
CSS2151	Effective Listening*	1	-	-	1
BEH2151	Understanding Self Effectiveness*	1	-	-	1
ENV2152	Environmental Studies*	4	-	-	4
	Minor Track Course (Flexi)	-	-	-	3
TOTAL					27

** Hindi as Foreign Language for Foreign National Students

SECOND SEMESTER

Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credits
BTH2201	Plant Sciences-II	2	1	-	3
BTH2202	Animal Sciences-II	2	1	-	3
BTH2203	Animal Physiology	2	-	-	2
BTH2204	Plant Physiology	2	-	-	2
BTH2205	Plant sciences-II Lab	-	-	2	1
BTH2206	Animal sciences-II Lab	-	-	2	1
BTH2207	Plant Physiology Lab	-	-	2	1
BTH2208	Animal Physiology Lab	-	-	2	1
Concentration Electives					3
BTH2209	Molecular Modeling	3	-	-	3
BTH2210	Bio-safety and Bioethics	3	-	-	3
BTH2211	Bioinformatics	2	1	-	3
BTH2231	Term Paper	-	-	-	2
BTH2232	Project(with Presentation &Evaluation)	-	-	-	3
BTH2233	Workshop/ Certification (Discipline Specific) (1credit per workshop)	-	-	-	1
BTH2234	Study Abroad	-	-	-	3
Open Electives					5*+3
LAN2251	Foreign Language-II*	3	-	-	3
LAN2252	French-II				
LAN2253	German-II				
LAN2254	Spanish-II				
LAN2255	Russian-II				
LAN2256	Chinese-II				
LAN2257	Portuguese-II				
LAN2258	Korean-II				
LAN2259	Japanese-II				
LAN2259	Hindi-II				
CSS2251	Presentation Skills*	1	-	-	1
BEH2251	Problem Solving and Creative Thinking*	1	-	-	1
	Minor Track Course (Flexi)	-	-	-	3
TOTAL					25

THIRD SEMESTER

Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credits
BTH2301	Biochemistry	2	1	-	3
BTH2302	Microbiology	2	1	-	3
BTH2303	Enzymology	2	1	-	3
BTH2304	Genetics & Cell Biology	2	1	-	3
BTH2305	Biochemistry Lab	-	-	2	1
BTH2306	Microbiology Lab	-	-	2	1
BTH2307	Enzymology Lab	-	-	2	1
BTH2308	Genetics & Cell Biology Lab	-	-	2	1
Concentration Electives					3
BTH2309	Intellectual property rights	3	-	-	3
BTH2310	Pharmaceutical Biotechnology	3	-	-	3
BTH2311	Clinical Biotechnology	3	-	-	3
BTH2331	Term Paper	-	-	-	2
BTH2332	Project(with Presentation &Evaluation)	-	-	-	3
BTH2333	Workshop/ Certification (Discipline Specific) (1credit per workshop)	-	-	-	1
BTH2334	Study Abroad	-	-	-	3
Open Electives					4*+3
LAN2351	Foreign Language-III*	2	-	-	2
LAN2352	French-III				
LAN2353	German-III				
LAN2354	Spanish-III				
LAN2355	Russian-III				
LAN2356	Chinese-III				
LAN2357	Portuguese-III				
LAN2358	Korean-III				
LAN2359	Japanese-III				
LAN2359	Hindi-III				
CSS2351	Reading and Comprehension*	1	-	-	1
BEH2351	Group Dynamics and Team Buildings*	1	-	-	1
	Minor Track Course (Flexi)	-	-	-	3
TOTAL					26

FOURTH SEMESTER

Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credits
BTH2401	Molecular Biology	3	-	-	3
BTH2402	Introductory Immunology	3	-	-	3
BTH2403	Instrumentation & Bioanalytical techniques	2	-	-	2
BTH2404	Research Methodology	2	-	-	2
BTH2405	In Silico analysis of Biomolecules	2	-	-	2
BTH2406	Molecular Biology Lab	-	-	2	1
BTH2407	Introductory Immunology Lab	-	-	2	1
BTH2408	In Silico analysis of Biomolecules Lab	-	-	2	1
Concentration Electives					3
BTH2409	Nano Biotechnology	2	1	-	3
BTH2410	Forensic Biotechnology	2	1	-	3
BTH2411	Genetically Modified Organism	2	1	-	3
BTH2431	Term Paper	2	-	-	2
BTH2432	Project (with Presentation & Evaluation)	-	-	-	3
BTH2433	Workshop / Certification (Discipline Specific) (1credit per workshop)	-	-	-	1
BTH2434	Study Abroad	-	-	-	3
Open Electives					4*+3
LAN2451	Foreign Language-IV*	2	-	-	2
LAN2452	French-IV				
LAN2453	German-IV				
LAN2454	Spanish-IV				
LAN2455	Russian-IV				
LAN2456	Chinese-IV				
LAN2457	Portuguese-IV				
LAN2458	Korean-IV				
LAN2459	Japanese-IV				
LAN2459	Hindi-IV				
CSS2451	Corporate Communication*	1	-	-	1
BEH2451	Stress and Coping Strategies*	1	-	-	1
	Minor Track Course (Flexi)	-	-	-	3
TOTAL					25

FIFTH SEMESTER

Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credits
BTH2501	Animal Biotechnology	2	-	-	2

BTH2502	Plant Biotechnology	2	-	-	2
BTH2503	Stem Cell & Gene Therapy	3	-	-	3
BTH2504	Marine biotechnology	3	-	-	3
BTH2505	Biosensors	3	-	-	3
BTH2509	Animal Biotechnology Lab	-	-	2	1
BTH2510	Plant Biotechnology Lab	-	-	2	1
Concentration Electives					3
BTH2506	Modern Killer diseases	3	-	-	3
BTH2507	Biofuels and Green Biotechnology	3	-	-	3
BTH2508	Artificial Neural Network	3	-	-	3
BTH2531	Term Paper	2	-	-	2
BTH2532	Project (with Presentation & Evaluation)	-	-	-	3
BTH2533	Workshop / Certification (Discipline Specific) (1credit per workshop)	-	-	-	1
BTH2534	Study Abroad	-	-	-	3
Open Electives					4*+3
LAN2551	Foreign Language-V* French-V	2	-	-	2
LAN2552	German-V				
LAN2553	Spanish-V				
LAN2554	Russian-V				
LAN2555	Chinese-V				
LAN2556	Portuguese-V				
LAN2557	Korean-V				
LAN2558	Japanese-V				
LAN2559	Hindi-V				
CSS2551	Employability Skills*	1	-	-	1
BEH2551	Individual, Society and Nations*	1	-	-	1
	Minor Track Course (Flexi)	-	-	-	3
	TOTAL				25

SIXTH SEMESTER

Course Code	Course Title	Lecture (L) Hours	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credits
BTH2601	Recombinant DNA Technology	3	-	-	3
BTH2602	Genomics & Proteomics	2	-	-	2
BTH2603	Industrial Biotechnology	3	-	-	3
BTH2604	Stress Biology	3	-	-	3
BTH2605	Recombinant DNA Technology Lab	-	-	4	2
BTH2609	Genomics & Proteomics Lab	-	-	2	1
Concentration Electives					3
BTH2606	Biosafety management	3	-	-	3
BTH2607	Drug design and Development	3	-	-	3

BTH2608	Bioprocess Technology	3	-	-	3
BTH2631	Term Paper	2	-	-	2
BTH2632	Project (with Presentation & Evaluation)	-	-	-	3
BTH2633	Workshop / Certification (Discipline Specific) (1credit per workshop)	-	-	-	1
BTH2634	Study Abroad	-	-	-	3
Open Electives					2*+3
CSS2651	Work Place Communication*	1	-	-	1
BEH2651	Interpersonal Communication and Relationship Management*	1	-	-	1
	Minor Track Course (Flexi)	-	-	-	3
	TOTAL				22

B.Sc. (Honors) Biological Science (Total Credits-150)

Programme Structure-2018

FIRST SEMESTER

Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BLS2101	Plant Diversity-I	3	-	-	3
BLS2102	Animal Diversity-I	3	-	-	3
BLS2103	Chemistry-I	2	1	-	3
BLS2104	Physics-I	2	1	-	3
BLS2105	Mathematics-I	2	1	-	3
BLS2106	Plant & Animal Diversity Lab-I	-	-	4	2
BLS2107	Chemistry Lab-I	-	-	2	1
BLS2108	Physics Lab-I	-	-	2	1
Open Electives					9*+3
LAN2151	Foreign Language-I*	3	-	-	3
LAN2152	French-I				
LAN2153	German-I				
LAN2154	Spanish-I				
LAN2155	Russian -I				
LAN2156	Chinese-I				
LAN2157	Portuguese-I				
LAN2158	Korean-I				
LAN2159	Japanese-I				
LAN2159	Hindi-I **				
CSS2151	Effective Listening*	1	-	-	1
BEH2151	Understanding Self for Effectiveness*	1	-	-	1
ENV2152	Environmental Studies *	4	-	-	4
	Minor Track Course (Flexi)	-	-	-	3
TOTAL					31

** Hindi as Foreign Language for Foreign National Students

SECOND SEMESTER

Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BLS2201	Plant Diversity II	3	-	-	3
BLS2202	Animal Diversity II	3	-	-	3
BLS2203	Chemistry II	2	1	-	3
BLS2204	Physics II	2	1	-	3
BLS2205	Mathematics II	2	1	-	3
BLS2206	Plant & Animal Diversity Lab II	-	-	4	2
BLS2207	Chemistry Lab II	-	-	2	1
BLS2208	Physics Lab II	-	-	2	1
Open Electives					5*+3
LAN2251	Foreign Language – II*	3	-	-	3
LAN2252	French-II				
LAN2253	German-II				
LAN2254	Spanish-II				
LAN2255	Russian -II				
LAN2256	Chinese-II				
LAN2257	Portuguese-II				
LAN2258	Korean-II				
LAN2259	Japanese-II				
LAN2259	Hindi-II				
CSS2251	Presentation Skills *	1	-	-	1
BEH2251	Problem Solving and Creative Thinking*	1	-	-	1
	Minor Track Course (Flexi)	-	-	-	3
TOTAL					27

THIRD SEMESTER

Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BLS2301	Plant Anatomy	2	-	-	2
BLS2302	Animal Anatomy	2	-	-	2
BLS2303	Cell Biology	3	-	-	3
BLS2304	Genetics	3	-	-	3
BLS2305	Plant & Animal Anatomy Lab	-	-	4	2
BLS2306	Cell biology & Genetics Lab	-	-	2	1

BLS2332	Project (with Presentation & Evaluation)	-	-	-	4
Open Electives					4*+3
LAN2351	Foreign Language – III *	2	-	-	2
LAN2352	French-III				
LAN2353	German-III				
LAN2354	Spanish-III				
LAN2355	Russian -III				
LAN2356	Chinese-III				
LAN2357	Portuguese-III				
LAN2358	Korean-III				
LAN2359	Japanese-III				
	Hindi-III				
CSS2351	Reading & Comprehension*	1	-	-	1
BEH2351	Group Dynamics and Team Building*	1	-	-	1
	Minor Track Course (Flexi)	-	-	-	3
TOTAL					24

FOURTH SEMESTER

Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BLS2401	Plant Physiology	2	-	-	2
BLS2402	Animal Physiology	2	-	-	2
BLS2403	Microbiology	3	-	-	3
BLS2404	Biostats & Bioinformatics	2	1	-	3
BLS2405	Ecology & Evolution	3	-	-	3
BLS2406	Plant & Animal Physiology Lab	-	-	4	2
BLS2407	Microbiology Lab	-	-	2	1
Open Electives					4*+3
LAN2451	Foreign Language – IV*	2	-	-	2
LAN2452	French-IV				
LAN2453	German-IV				
LAN2454	Spanish-IV				
LAN2455	Russian -IV				
LAN2456	Chinese-IV				
LAN2457	Portuguese-IV				
LAN2458	Korean-IV				
LAN2459	Japanese-IV				
	Hindi-IV				
CSS2451	Corporate Communication*	1	-	-	1
BEH2451	Stress and Coping Strategies*	1	-	-	1
	Minor Track Course (Flexi)	-	-	-	3
TOTAL					23

SUMMER PROJECT

FIFTH SEMESTER

Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BLS2501	Molecular Biology	3	-	-	3
BLS2502	Biochemistry	3	-	-	3
BLS2503	Immunology	3	-	-	3
BLS2504	Bio-analytical & Biophysical Techniques	2	-	-	2
BLS2505	Biomaterials	2	-	-	2
BLS2506	Molecular Biology Lab	-	-	2	1
BLS2507	Immunology Lab	-	-	2	1
BLS2508	Biochemistry & Bio-analytical Lab	-	-	2	1
BLS2535	Summer Internship Project (Evaluation)	-	-	-	4
Open Electives					4*+3
LAN2551	Foreign Language-V* French-V	2	-	-	2
LAN2552	German-V				
LAN2553	Spanish-V				
LAN2554	Russian -V				
LAN2555	Chinese-V				
LAN2556	Portuguese-V				
LAN2557	Korean-V				
LAN2558	Japanese-V				
LAN2559	Hindi-V				
CSS2551	Employability Skills*	1	-	-	1
BEH2551	Individual, Society and Nations*	1	-	-	1
	Minor Track Course (Flexi)	-	-	-	3
	TOTAL				27

SIXTH SEMESTER

Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credit
BLS2601	Recombinant DNA Technology	3	-	-	3
BLS2602	Genomics & proteomics	3	-	-	3
BLS2603	IPR, Biosafety & Bioethics	2	-	-	2
BLS2604	Applied Biology	3	-	-	3

BLS2605	Recombinant DNA Technology Lab	-	-	2	1
BLS2606	Applied Biology Lab	-	-	2	1
Open Electives					2* + 3
CSS2651	Workplace Communication*	1	-	-	1
BEH2651	Interpersonal Communication and Relationship Management*	1	-	-	1
	Minor Track Course (Flexi)	-	-	-	3
	TOTAL				18

* Compulsory

B.Tech. - Biotechnology (Total Credits-195)

Programme Structure-2018

FIRST SEMESTER

Course Code	Course Title	Lectures (L) Hours Per Week	Tutorial (T) Hours Per Week	Practical (P) Hours Per Week	Total Credits
BTE2104	Introduction to Computers & Programming in 'C'	2	1	-	3
BTE2106	Electrical Science	2	1	-	3
BTE2108	Programming in C Lab	-	-	2	1
BTE2110	Electrical Science Lab	-	-	2	1
BTE2111	Engineering Mathematics-I	3	1	-	4
BTE2112	Engineering Chemistry	2	-	-	2
BTE2113	Engineering Chemistry Lab	-	-	2	1
Open Electives					5
CSS2152	English-I *	1	-	-	1
BEH2151	Understanding Self for Effectiveness*	1	-	-	1
LAN2170	Foreign Language-I*	3	-	-	3
LAN2152	French for Technology-I				
LAN2153	German-I				
LAN2154	Spanish-I				
LAN2155	Russian-I				
LAN2156	Chinese-I				
LAN2157	Portuguese-I				
LAN2158	Korean-I				
LAN2159	Japanese-I				
	Hindi-I **				
TOTAL					20

** Hindi as Foreign Language for Foreign National Students

SECOND SEMESTER

Course Code	Course Title	Lectures (L) Hours Per Week	Tutorial (T) Hours Per Week	Practical (P) Hours Per Week	Total Credits
BTE2203	Object Oriented Programming in C++	2	1	-	3
BTE2205	Object Oriented Programming in C++ Lab	-	-	2	1
BTE2206	Engineering Graphics Lab	-	-	2	1
BTE2207	Engineering Mathematics-II	3	1	-	4
BTE2208	Engineering Physics	2	1	-	3
BTE2209	Engineering Physics Lab	-	-	2	1

BTE2210	Life Sciences	3	-	-	3
Open Electives					9
CSS2252	English-II *	1	-	-	1
BEH2251	Problem Solving and Creative Thinking*	1	-	-	1
ENV2252	Environmental Studies*	4	-	-	4
LAN2270	Foreign Language – II*	3	-	-	3
LAN2252	French for Technology-II				
LAN2253	German-II				
LAN2254	Spanish-II				
LAN2255	Russian-II				
LAN2256	Chinese-II				
LAN2257	Portuguese-II				
LAN2258	Korean-II				
LAN2259	Japanese-II				
LAN2259	Hindi-II				
TOTAL					25

THIRD SEMESTER

Course Code	Course Title	Lectures (L) Hours Per Week	Tutorial (T) Hours Per Week	Practical (P) Hours Per Week	Total Credits
BTE2301	Cell Biology & Genetics	3	-	-	3
BTE2302	Biochemistry	3	-	-	3
BTE2303	Biostatistics	3	-	-	3
BTE2304	Database Management System	2	-	-	2
BTE2305	Chemical Biology	2	-	-	2
BTE2306	Biochemistry Lab	-	-	4	2
BTE2307	Cell Biology & Genetics Lab	-	1	2	2
BTE2308	Database Management System Lab	-	-	2	1
Concentration Electives					2
BTE2309	Industrial Biotechnology	2	-	-	2
BTE2310	Fermentation technology	2	-	-	2
BTE2311	Drug Design and Development	2	-	-	2
BTE2312	Recombinant DNA Technology	2	-	-	2
BTE2331	Term Paper	-	-	-	2
BTE2332	Project (with Presentation & Evaluation)	-	-	-	2
BTE2333	Workshop / Certification (Discipline Specific)	-	-	-	2
BTE2334	Study Abroad	-	-	-	2
Open Electives					4*+3
CSS2151	Effective Listening *	1	-	-	1
BEH2351	Group Dynamics and Team Building*	1	-	-	1

LAN2370	Foreign Language-III *	2	-	-	2
LAN2352	French for Technology- III				
LAN2353	German-III				
LAN2354	Spanish-III				
LAN2355	Russian-III				
LAN2356	Chinese-III				
LAN2357	Portuguese-III				
LAN2358	Korean-III				
LAN2359	Japanese-III				
	Hindi-III				
	Minor Track Course (Flexi)	-	-	-	3
TOTAL					27

FOURTH SEMESTER

Course Code	Course Title	Lectures (L) Hours Per Week	Tutorial (T) Hours Per Week	Practical (P) Hours Per Week	Total Credits
BTE2401	Microbiology	3	-	-	3
BTE2402	Data Structure & Algorithms	2	-	-	2
BTE2403	Enzymology & Enzyme Technology	3	-	-	3
BTE2404	Chemical Engineering Principles	2	-	-	2
BTE2405	Methods and Instrumentation in Biotechnology	3	-	-	3
BTE2406	Microbiology Lab	-	-	4	2
BTE2407	Data Structure & Algorithms Lab	-	-	2	1
BTE2408	Enzymology & Enzyme Technology Lab	-	-	2	1
BTE2409	Methods and Instrumentation in Biotechnology Lab	-	-	2	1
Concentration Electives					2
BTE2410	Marine Biotechnology	2	-	-	2
BTE2411	Vaccine Development	2	-	-	2
BTE2412	Agricultural Biotechnology	2	-	-	2
BTE2413	Natural products and medicinal chemistry	2	-	-	2
BTE2414	Stem cell Technology	2	-	-	2
BTE2431	Term Paper	-	-	-	2
BTE2432	Project (with Presentation & Evaluation)	-	-	-	2
BTE2433	Workshop / Certification (Discipline Specific)	-	-	-	2
BTE2434	Study Abroad	-	-	-	2
Open Electives					4*+3
CSS2251	Presentation Skills*	1	-	-	1

BEH2451	Stress and Coping Strategies*	1	-	-	1
LAN2470	Foreign Language-IV*	2	-	-	2
LAN2452	French for Technology-IV				
LAN2453	German-IV				
LAN2454	Spanish-IV				
LAN2455	Russian-IV				
LAN2456	Chinese-IV				
LAN2457	Portuguese-IV				
LAN2458	Korean-IV				
LAN2459	Japanese-IV				
	Hindi-IV				
	Minor Track Course (Flexi)	-	-	-	3
TOTAL					27

SUMMER INTERNSHIP FIFTH SEMESTER

Course Code	Course Title	Lectures (L) Hours Per Week	Tutorial (T) Hours Per Week	Practical (P) Hours Per Week	Total Credits
BTE2501	Molecular Biology	3	-	-	3
BTE2502	Animal Biotechnology	3	-	-	3
BTE2503	Plant Biotechnology	3	-	-	3
BTE2504	Bioinformatics	3	-	-	3
BTE2505	Molecular Biology Lab	-	-	2	1
BTE2506	Animal Biotechnology Lab	-	-	4	2
BTE2507	Plant Biotechnology Lab	-	-	4	2
BTE2508	Bioinformatics Lab	-	-	2	1
BTE2535	Summer Internship Evaluation-I	-	-	-	3
Concentration Electives					2
BTE2509	Biofuels & Green Technology	2	-	-	2
BTE2510	Stem Cells and Tissue Engineering	2	-	-	2
BTE2511	Java-I	1	-	2	2
BTE2531	Term Paper	-	-	-	2
BTE2532	Project (with Presentation & Evaluation)	-	-	-	2
BTE2533	Workshop / Certification (Discipline Specific)	-	-	-	2
BTE2534	Study Abroad	-	-	-	2
Open Electives					4*+3
CSS2351	Reading & Comprehension *	1	-	-	1
BEH2552	Personality, Nationalism and Human Values*	1	-	-	1

LAN2570	Foreign Language – V*	2	-	-	2
LAN2552	French for Technology-V				
LAN2553	German-V				
LAN2554	Spanish-V				
LAN2555	Russian-V				
LAN2556	Chinese-V				
LAN2557	Portuguese-V				
LAN2558	Korean-V				
LAN2559	Japanese-V				
LAN2559	Hindi-V				
	Minor Track Course (Flexi)	-	-	-	3
	TOTAL				30

SIXTH SEMESTER

Course Code	Course Title	Lectures (L) Hours Per Week	Tutorial (T) Hours Per Week	Practical (P) Hours Per Week	Total Credits
BTE2601	Recombinant DNA Technology	3	-	-	3
BTE2602	Bioprocess Technology	3	-	-	3
BTE2603	Immunology & Immunotechnology	3	-	-	3
BTE2604	Fundamentals of Biochemical Engineering	2	-	-	2
BTE2605	Recombinant DNA Technology Lab	-	-	4	2
BTE2606	Bioprocess Technology Lab	-	-	4	2
BTE2607	Immunology & Immunotechnology Lab	-	-	2	1
Concentration Electives					2
BTE2608	Pharmaceutical Biotechnology	2	-	-	2
BTE2609	Molecular modeling	2	-	-	2
BTE2610	Artificial Neural network	2	-	-	2
BTE2611	JAVA –II	1	-	2	2
BTE2631	Term Paper	-	-	-	2
BTE2632	Project (with Presentation & Evaluation)	-	-	-	2
BTE2633	Workshop / Certification (Discipline Specific)	-	-	-	2
BTE2634	Study Abroad	-	-	-	2
Open Electives					4*+3
CSS2451	Corporate Communication *	1	-	-	1
BEH2652	Interpersonal Communication	1	-	-	1

LAN2670	Foreign Language – VI*	2	-	-	2
LAN2652	French for Technology-VI				
LAN2653	German-VI				
LAN2654	Spanish-VI				
LAN2655	Russian-VI				
LAN2656	Chinese-VI				
LAN2656	Portuguese-VI				
LAN2657	Korean-VI				
LAN2658	Japanese-VI				
LAN2659	Hindi-VI				
	Minor Track Course (Flexi)	-	-	-	3
	TOTAL				25

SUMMER INTERNSHIP SEVENTH SEMESTER

Course Code	Course Title	Lectures (L) Hours Per Week	Tutorial (T) Hours Per Week	Practical (P) Hours Per Week	Total Credits
BTE2701	Genomics & Proteomics	3	-	-	3
BTE2702	IPR, Biosafety & Bioethics	2	-	-	2
BTE2703	Research Methodology & Report Writing	2	-	-	2
BTE2704	Genomics & Proteomics Lab	-	-	4	2
BTE2735	Summer Internship Evaluation-II	-	-	-	3
	Concentration Electives				2
BTE2705	Bioprocess Plant Designing	2	-	-	2
BTE2706	Molecular Medicine & Diagnosis	2	-	-	2
BTE2707	Applications of Plant Biotechnology	2	-	-	2
BTE2708	Bioenergy Engineering	2	-	-	2
BTE2731	Term Paper	-	-	-	2
BTE2732	Project (with Presentation & Evaluation)	-	-	-	2
BTE2733	Workshop/ Certification (Discipline Specific)	-	-	-	2
BTE2734	Study Abroad	-	-	-	2
	Open Electives				4*+3
CSS2551	Employability Skills*	1	-	-	1
BEH2751	Relationship Management*	1	-	-	1

LAN2770	Foreign Language-VII*	2	-	-	2
LAN2752	French for Technology-VII				
LAN2753	German-VII				
LAN2754	Spanish-VII				
LAN2755	Russian-VII				
LAN2756	Chinese-VII				
LAN2757	Portuguese-VII				
LAN2758	Korean-VII				
LAN2759	Japanese-VII				
	Hindi-VII				
	Minor Track Course (Flexi)	-	-	-	3
TOTAL					21

EIGHTH SEMESTER

Course Code	Course Title	Lectures (L) Hours Per Week	Tutorial (T) Hours Per Week	Practical (P) Hours Per Week	Total Credits
BTE2837	Dissertation / Project Report Presentation / Viva Voce	-	-	-	17
	Open Electives				3
	Minor Track Course (Flexi)	-	-	-	3
	TOTAL	-	-	-	20

M.Sc.- Biotechnology (Total Credits-100)

Programme Structure-2018

FIRST SEMESTER

Course Code	Course Title	Lectures (L) Hours Per Week	Tutorial (T) Hours Per Week	Practical (P) Hours Per Week	Total Credits
BTH4101	Biochemistry	2	-	-	2
BTH4102	Plant & Animal Physiology	2	-	-	2
BTH4103	Microbiology	3	-	-	3
BTH4104	Genetics	3	-	-	3
BTH4105	Foundation Course - I (Mathematics)	2	-	-	2
BTH4106	Foundation Course - II (Physics)	2	-	-	2
BTH4107	Biochemistry Lab	-	-	4	2
BTH4108	Plant & Animal Physiology Lab	-	-	4	2
BTH4109	Microbiology Lab	-	-	2	1
BTH4110	Genetics Lab	-	-	2	1
Open Electives					5
CSS4151	Basics of Communication	1	-	-	1
BEH4151	Self Development & Interpersonal Skills	1	-	-	1
LAN4151	Foreign Business Language-I	3	-	-	3
LAN4152	French-I				
LAN4153	German-I				
LAN4154	Spanish-I				
LAN4155	Russian-I				
LAN4156	Chinese-I				
LAN4157	Portuguese-I				
LAN4158	Korean-I				
LAN4159	Japanese-I				
	Hindi-I **				
TOTAL					25

** Hindi as Foreign Language for Foreign National Students

SECOND SEMESTER

Course Code	Course Title	Lectures (L) Hours Per Week	Tutorial (T) Hours Per Week	Practical (P) Hours Per Week	Total Credits
BTH4201	Molecular Biology	2	-	-	2
BTH4202	Plant Biotechnology	2	-	-	2

BTH4203	Immunology	2	-	-	2
BTH4204	Environmental Biotechnology	2	-	-	2
BTH4205	Cell Biology	2	-	-	2
BTH4206	Biostatistics	2	-	-	2
BTH4207	Cell & Molecular Biology Lab	-	-	4	2
BTH4208	Plant Biotechnology Lab	-	-	2	1
BTH4209	Immunology Lab	-	-	4	2
BTH4231	Term Paper	-	-	-	2
	Open Electives				5
CSS4251	Corporate Communication	1	-	-	1
BEH4251	Behavioral Communication & Relationship Management	1	-	-	1
LAN4251	Foreign Business Language-II	3	-	-	3
LAN4252	French-II				
LAN4253	German-II				
LAN4254	Spanish-II				
LAN4255	Russian-II				
LAN4256	Chinese-II				
LAN4257	Portuguese-II				
LAN4258	Korean-II				
LAN4259	Japanese-II				
LAN4259	Hindi-II				
	TOTAL				24

SUMMER INTERNSHIP THIRD SEMESTER

Course Code	Course Title	Lectures (L) Hours Per Week	Tutorial (T) Hours Per Week	Practical (P) Hours Per Week	Total Credits
BTH4301	Animal Biotechnology	2	-	-	2
BTH4302	Biophysics & Structural Biology	2	-	-	2
BTH4303	Genomics & Proteomics	2	-	-	2
BTH4304	Recombinant DNA Technology	3	-	-	3
BTH4305	Bioinformatics & Computational Biology	2	-	-	2
BTH4306	IPR, Biosafety & Bioethics	2	-	-	2
BTH4307	Recombinant DNA Technology Lab			4	2
BTH4308	Animal Biotechnology Lab	-	-	2	1
BTH4309	Genomics & Proteomics Lab	-	-	4	2
BTH4310	Bioinformatics & Computational Biology Lab	-	-	2	1
BTH4335	Summer Internship Evaluation	-	-	-	6
	Elective (Select any One)				2
BTH4311	Pharmaceutical Biotechnology & Drug Design	2	-	-	2

BTH4312	Downstream Processing & Fermentation Technology	2	-	-	2
BTH4313	Stem Cell and Gene Therapy	2	-	-	2
BTH4314	Nanobiotechnology	2	-	-	2
	Open Electives				4
LAN4351	Foreign Business Language-III French-III German-III Spanish-III Russian-III Chinese-III Portuguese-III Korean-III Japanese-III Hindi-III	2	-	-	2
LAN4352					
LAN4353					
LAN4354					
LAN4355					
LAN4356					
LAN4357					
LAN4358					
LAN4359					
CSS4351	Interpersonal Communication	1	-	-	1
BEH4351	Leading Through Teams	1	-	-	1
	TOTAL				31

FOURTH SEMESTER

Course Code	Course Title	Lectures (L) Hours Per Week	Tutorial (T) Hours Per Week	Practical (P) Hours Per Week	Total Credits
BTH4437	Dissertation / Project Report Presentation / Viva Voce	-	-	-	20
	TOTAL	-	-	-	20