



Sri Srinivasa Educational & Charitab
SAPTHAGIRI COLLEGE OF ENGINEERING, BANGALORE - 57
 (Affiliated to VTU, Belagavi, and Recognized by AICTE, New Delhi)
 (ISO: 9001-2015 and ISO: 14001-2015 certified, NAAC accredited with A Grade)
 14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru-560057
DEPARTMENT OF BIOTECHNOLOGY

1.3.2 Number of courses that include experiential learning through project work/field work/internship during the year 2021 -22

Sl.No.	Program name	Program code	Name of the Course that include experiential learning through project work/field work/internship	Course code	Details of Experiential Learning through Projects/ Internship
FINAL YEAR					
1.	BIOTECHNOLOGY	BT	Bioprocess Engineering	18BT71	Microbial production of Polyhydroxy butyrate and Screening
2.	BIOTECHNOLOGY	BT	Clinical & Pharmaceutical BT	18BT72	Removal of phosphorus from waste water by using isolated bacterial strains in
3.	BIOTECHNOLOGY	BT	Bioreactor Design Concepts	18BT732	Effect of anti-inflammatory Potential of <i>Santalum album L</i> on Periodontal disease progress in rat models
4.	BIOTECHNOLOGY	BT	Agricultural Biotechnology	18BT742	Time killing studies and antimicrobial of <i>Vinca rosea leaf extract against pathogenic microbes</i>
5.	BIOTECHNOLOGY	BT	Bioprocess Engineering Laboratory	18BTL76	Determination of Antioxidant Activity of <i>Vetivoria Zizanioides</i> and <i>Centratherum anthelminticum</i>
6.	BIOTECHNOLOGY	BT	Project Work Phase – 1	18BTL77	Optimization studies on isolation of Protease enzyme catalytic activity on blood stain
7.	BIOTECHNOLOGY	BT	Internship	18BTP71	Antiglycation activity of <i>Garcinia camgogia</i>
8.	BIOTECHNOLOGY	BT	Regulatory Affairs In Biotech	18BT81	Identification of fermentation mediating mechanism carried out by naturally available yeast and commercially



Sri Srinivasa Educational & Charitable
SAPTHAGIRI COLLEGE OF ENGINEERING, BANGALORE - 57
 (Affiliated to VTU, Belagavi, and Recognized by AICTE, New Delhi)

(ISO: 9001-2015 and ISO: 14001-2015 certified, NAAC accredited with A Grade)

14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru-560057

DEPARTMENT OF BIOTECHNOLOGY

			Industry		available yeast under aerobic condition
9.	BIOTECHNOLOGY	BT	Environmental Biotechnology	18BT821	Aeroponics: Fabrication and Comparative study for agriculture in drought region
10.	BIOTECHNOLOGY	BT	Industrial Microbiology	18BT822	Comparison Analysis of 2D and 3D cell Culture in cancer cell line
11.	BIOTECHNOLOGY	BT	Project Work Phase - 2	18BTP83	Production and characterization of bioplastic from vegetable
12.	BIOTECHNOLOGY	BT	Technical Seminar	18BTS84	Fabrication of metal doped graphene based screen printed electrode for detection of glucose
13.	BIOTECHNOLOGY	BT	Internship	18BTI85	Isolation, identification and Characterization of Debittering enzymes from microbial source
14.	BIOTECHNOLOGY	BT			Production of activated carbon from coconut shell for the purification of water
15.	BIOTECHNOLOGY	BT			Screening of Phytochemicals and Insilico approach through drug design of Centella asiatica to cure SARs COV-2
THIRD YEAR					
16.	BIOTECHNOLOGY	BT	Chemical Reaction Engineering	18BT52	Effect of green inhibitor on corrosion
17.	BIOTECHNOLOGY	BT	Enzyme Technology & Biotransformation	18BT53	Bacterial fertilizers
18.	BIOTECHNOLOGY	BT	Genomics & Proteomics	18BT54	Microwave assisted green synthesis of carbon dots

Principal
 Sapthagiri College of Engineering
 14/5, Chikkasandra, Hesaraghatta Main Road
 Bengaluru - 560 057

HOD, BT
 Sapthagiri College of Engineering
 No. 57/1, Chikkasandra
 Hesaraghatta Main Road
 Bangalore - 57



Sri Srinivasa Educational & Charitab
SAPTHAGIRI COLLEGE OF ENGINEERING, BANGALORE - 57
 (Affiliated to VTU, Belagavi, and Recognized by AICTE, New Delhi)
 (ISO: 9001-2015 and ISO: 14001-2015 certified, NAAC accredited with A Grade)

14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru-560057

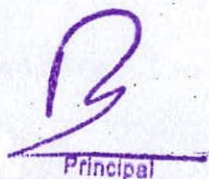
DEPARTMENT OF BIOTECHNOLOGY

19.	BIOTECHNOLOGY	BT	Bioanalytical Techniques	18BT55	Isolation identification and characterization of phosphate solubilising bacteria from soil and preparation of biofertilizer
20.	BIOTECHNOLOGY	BT	Genetic Engineering & Applications	18BT56	Isolation of bromelain enzyme from pineapple and estimation of its enzyme activity
21.	BIOTECHNOLOGY	BT	Biokinetics & Enzyme Technology Laboratory	18BTL57	characterization of keratinase enzyme from the microbial source
22.	BIOTECHNOLOGY	BT	Genetic Engineering and Cell Culture Laboratory	18BTL58	Isolation, characterization and determination of activity of gamma-CGTase from alkalophilic bacteria
23.	BIOTECHNOLOGY	BT	Process Control & Automation Chemical	18BT61	Bacterial contamination on the surface of mobile phones
24.	BIOTECHNOLOGY	BT	Bioinformatics	18BT63	Phytochemical analysis and total phenol and flavonoid content of the plant extract <i>Nasturtium officinale</i>
25.	BIOTECHNOLOGY	BT	Bioinformatics Laboratory	18BTL67	Green synthesis of silver nanoparticles using <i>Nasturtium officinale</i>
26.	BIOTECHNOLOGY	BT	Mini-project	18BTMP68	Elucidation of mass transfer rate of drug delivery and rate constant of antimicrobial activity: PVA encapsulated biopolymeric film using shrinking core model
27.	BIOTECHNOLOGY	BT			Transformation in bacteria by heat shock method
SECOND YEAR					
28.	BIOTECHNOLOGY	BT	Microbiology	18BT32	Production of ethanol



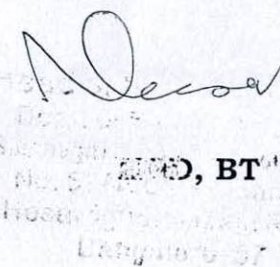
Sri Srinivasa Educational & Charitab
SAPTHAGIRI COLLEGE OF ENGINEERING, BANGALORE - 57
(Affiliated to VTU, Belagavi, and Recognized by AICTE, New Delhi)
(ISO: 9001-2015 and ISO: 14001-2015 certified, NAAC accredited with A Grade)
14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru-560057
DEPARTMENT OF BIOTECHNOLOGY

29.	BIOTECHNOLOGY	BT	Unit Operations	18BT33	Hemodialysis
30.	BIOTECHNOLOGY	BT	Introduction to Biomolecules	18BT34	Diabetic nephropathy
31.	BIOTECHNOLOGY	BT	Microbiology Laboratory	18BTL37	Aquaponics
32.	BIOTECHNOLOGY	BT	Unit Operations Laboratory	18BTL38	Working model of Kidney
33.	BIOTECHNOLOGY	BT	Stoichiometry	18BT41	Bioreactor
34.	BIOTECHNOLOGY	BT	Molecular Biology	18BT42	Vertical farming
35.	BIOTECHNOLOGY	BT	Immunotechnology	18BT43	Pumping action of heart
36.	BIOTECHNOLOGY	BT	Cell Culture Techniques	18BT44	Wind solar hybrid system
37.	BIOTECHNOLOGY	BT	Clinical Biochemistry	18BT46	Slow sand filtration
38.	BIOTECHNOLOGY	BT	Biochemistry Laboratory	18BTL47	Water filtration
39.	BIOTECHNOLOGY	BT	Immunotechnology Laboratory	18BTL48	DNA recombination
40.	BIOTECHNOLOGY	BT			Working of heart
41.	BIOTECHNOLOGY	BT			Transcription


Principal

Sapthagiri College of Engineering
14/5, Chikkasandra, Hesaraghatta Main Road
Bengaluru - 560 057

RC


Head of Department, BT

VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELAGAVI



Scheme of Teaching and Examination
B.E. BIOTECHNOLOGY
III-VIII SEMESTER
(Effective from Academic year 2018-19)

III SEMESTER

Note: BSC: Basic Science, PCC: Professional Core, HSMC: Humanity and Social Science, NCMC: Non-credit mandatory course.

Course prescribed to lateral entry Diploma holders admitted to III semester of Engineering programs

(a) The mandatory non – credit courses Additional Mathematics I and II prescribed for III and IV semesters respectively, to the lateral entry Diploma holders admitted to III semester of BE/B. Tech. programs shall attend the classes during the respective semesters to complete all the formalities of the course and appear for the University examination. In case, any student fails to register for the said course/fails to secure the minimum 40 % of the prescribed CIE marks, he/she shall be deemed to have secured F grade. In such a case, the students have to fulfill the requirements during subsequent semester/s to appear for SEE.

(b) These Courses shall not be considered for vertical progression, but completion of the courses shall be mandatory for the award of degree.

Courses prescribed to lateral entry B.Sc. degree holders admitted to III semester of Engineering programs

Lateral entrant students from B.Sc. Stream, shall clear the non-credit courses Engineering Graphics and Elements of Civil Engineering and Mechanics of the First Year Engineering Programme. These Courses shall not be considered for vertical progression, but completion of the courses shall be mandatory for the award of degree.

AICTE Activity Points to be earned by students admitted to BE/B. Tech/B. Plan. day college programme (For more details refer to Chapter 6, AICTE Activity Point Programme, Model Internship Guidelines):

Over and above the academic grades, everyday College regular student admitted to the 4 years Degree programme and every student entering 4 years Degree programme through lateral entry, shall earn 100 and 75 Activity Points respectively for the award of degree through AICTE Activity Point Programme. Students transferred from other Universities to fifth semester are required to earn 50 Activity Points from the year of entry to VTU. The Activity Points earned shall be reflected on the student's eighth semester Grade Card.

The activities can be spread over the years, anytime during the semester weekends and holidays, as per the liking and convenience of the student from the year of entry to the programme. However, minimum hours' requirement should be fulfilled. Activity Points (non-credit) have no effect on SGPA/CGPA and shall not be considered for vertical progression.

In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

Programme: BIOTECHNOLOGY

III SEMESTER (continued)

Courses prescribed to lateral entry B.Sc. degree holders admitted to III semester of Engineering programs

Lateral entrant students from B.Sc. Stream, shall clear the non-credit courses Engineering Graphics and Elements of Civil Engineering and Mechanics of the First Year Engineering Programme. These Courses shall not be considered for vertical progression, but completion of the courses shall be mandatory for the award of degree.

AICTE Activity Points to be earned by students admitted to BE/B. Tech/B. Plan. day college programme (For more details refer to Chapter 6, AICTE Activity Point Programme, Model Internship Guidelines):

Over and above the academic grades, everyday College regular student admitted to the 4 years Degree programme and every student entering 4 years Degree programme through lateral entry, shall earn 100 and 75 Activity Points respectively for the award of degree through AICTE Activity Point Programme. Students transferred from other Universities to fifth semester are required to earn 50 Activity Points from the year of entry to VTU. The Activity Points earned shall be reflected on the student's eighth semester Grade Card.

The activities can be spread over the years, anytime during the semester weekends and holidays, as per the liking and convenience of the student from the year of entry to the programme. However, minimum hours' requirement should be fulfilled. Activity Points (non-credit) have no effect on SGPA/CGPA and shall not be considered for vertical progression.

In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

Programme: BIOTECHNOLOGY

IV SEMESTER

Sl. No	Course and Course Code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
1	PCC	18BT41	Stoichiometry	Chemical/Biotech	3	1	--	03	40	60	100	3
2	PCC	18BT42	Molecular Biology	Biotech	4	0	--	03	40	60	100	4
3	PCC	18BT43	Immunotechnology	Biotech	3	0	--	03	40	60	100	3
4	PCC	18BT44	Cell Culture Techniques	Biotech	3	0	--	03	40	60	100	3
5	PCC	18BT45	Biochemical Thermodynamics	Chemical/Biotech	3	1	--	03	40	60	100	3
6	PCC	18BT46	Clinical Biochemistry	Biotech	3	0	--	03	40	60	100	3
7	PCC	18BTL47	Biochemistry Laboratory	Biotech	--	2	2	03	40	60	100	2
8	PCC	18BTL48	Immunotechnology Laboratory	Biotech	--	2	2	03	40	60	100	2
9	HSMC	18KVK49	Vyavaharika Kannada (Kannada for communication)/	HSMC OR	--	2	--	--	100	--	100	1
		18KAK49	Aadalitha Kannada (Kannada for Administration)									
		18CPC49	Constitution of India, Professional Ethics and Cyber Law									
TOTAL					19	06	04	24	420	480	900	24
					OR	OR		OR	OR	OR		
					20	08		26	360	540		
					Examination is by objective type questions							

Note: BSC: Basic Science, PCC: Professional Core, HSMC: Humanity and Social Science, NCMC: Non-credit mandatory course.

18KVK49Vyavaharika Kannada (Kannada for communication) is for non-Kannada speaking, reading and writing students and 18KAK49 Aadalitha Kannada (Kannada for Administration) is for students who speak, read and write Kannada.

Course prescribed to lateral entry Diploma holders admitted to III semester of Engineering programs

10	NCMC	18MATDIP41	Additional Mathematics - II	Mathematics	02	01	--	03	40	60	100	0
----	------	------------	-----------------------------	-------------	----	----	----	----	----	----	-----	---

(a)The mandatory non – credit courses Additional Mathematics I and II prescribed for III and IV semesters respectively, to the lateral entry Diploma holders admitted to III semester of BE/B. Tech. Programs shall attend the classes during the respective semesters to complete all the formalities of the course and appear for the University examination. In case, any student fails to register for the said course/fails to secure the minimum 40 % of the prescribed CIE marks, he/she shall be deemed to have secured F grade. In such a case, the students have to fulfill the requirements during subsequent semester/s to appear for SEE.

(b)These Courses shall not be considered for vertical progression, but completion of the courses shall be mandatory for the award of degree.

Courses prescribed to lateral entry B.Sc. degree holders admitted to IV semester of Engineering programs

Lateral entrant students from B.Sc. Stream, shall clear the non-credit courses Engineering Graphics and Elements of Civil Engineering and Mechanics of the First Year Engineering Programme. These Courses shall not be considered for vertical progression, but completion of the courses shall be mandatory for the award of degree.

AICTE Activity Points to be earned by students admitted to BE/B. Tech./B. Plan. day college programme (For more details refer to Chapter 6, AICTE Activity Point Programme, Model Internship Guidelines):
Over and above the academic grades, everyday College regular student admitted to the 4 years Degree programme and every student entering 4 years Degree programme through lateral entry, shall earn 100 and 75 Activity Points respectively for the award of degree through AICTE Activity Point Programme. Students transferred from other Universities to fifth semester are required to earn 50 Activity Points from the year of entry to VTU. The Activity Points earned shall be reflected on the student's eighth semester Grade Card.
The activities can be spread over the years, anytime during the semester weekends and holidays, as per the liking and convenience of the student from the year of entry to the programme. However, minimum hours' requirement should be fulfilled. Activity Points (non-credit) have no effect on SGPA/CGPA and shall not be considered for vertical progression.
In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.

V SEMESTER

Note: BSC: Basic Science, PCC: Professional Core, HSMC: Humanity and Social Science, NCMC: Non-credit mandatory course.

continued

Over and above the academic grades, everyday College regular student admitted to the 4 years Degree programme and every student entering 4 years Degree programme through lateral entry, shall earn 100 and 75 Activity Points respectively for the award of degree through AICTE Activity Point Programme. Students transferred from other Universities to fifth semester are required to earn 50 Activity Points from the year of entry to VTU. The Activity Points earned shall be reflected on the student's eighth semester Grade Card.

The activities can be spread over the years, anytime during the semester weekends and holidays, as per the liking and convenience of the student from the year of entry to the programme. However, minimum hours' requirement should be fulfilled. Activity Points (non-credit) have no effect on SGPA/CGPA and shall not be considered for vertical progression.

In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.

VI SEMESTER

VI SEMESTER												
Sl. No	Course and Course Code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
1	PCC	18BT61	Process Control & Automation	Chemical	4	1	--	03	40	60	100	4
2	PCC	18BT62	Bioprocess Equipment Design & CAED	Chemical	4	2	--	04	40	60	100	4
3	PCC	18BT63	Bioinformatics	Biotech	4	--	--	03	40	60	100	4
4	PEC	18BT64X	Professional Elective -I	Biotech	3	--	--	03	40	60	100	3
5	OEC	18BT65X	Open Elective -A	Biotech	3	--	--	03	40	60	100	3
6	PCC	18BTL66	Process Control & Automation Laboratory	Chemical	--	2	2	03	40	60	100	2
7	PCC	18BTL67	Bioinformatics Laboratory	Biotech	--	2	2	03	40	60	100	2
8	MP	18BTMP68	Mini-project	-	--	1	2	03	40	60	100	2
9	Internship	--	Internship		To be carried out during the vacation/s of VI and VII semesters and /or VII and VIII semesters.							
TOTAL					18	08	06	25	320	480	800	24

Note: PCC: Professional core, PEC: Professional Elective, OE: Open Elective, MP: Mini-project.

Mini-project work:

Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary Mini-project can be assigned to an individual student or to a group having not more than 4 students.

CIE procedure for Mini-project:

(i) **Single discipline:** The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide.

The CIE marks awarded for the Min-project work, shall be based on the evaluation of project report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

(ii) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college.

The CIE marks awarded for the Mini-project, shall be based on the evaluation of project report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI Scheme of Teaching and Examination 2018 – 19 Outcome Based Education(OBE) and Choice Based Credit System (CBCS) (Effective from the academic year 2018 – 19)	
Programme: BIOTECHNOLOGY	
VI SEMESTER (continued)	
SEE for Mini-project: (i) Single discipline: Contribution to the Mini-project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted at the department. (ii) Interdisciplinary: Contribution to the Mini-project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belongs to. Internship: All the students admitted to III year of BE/B.Tech. Shall have to undergo mandatory internship of 4 weeks during the vacation of VI and VII semesters and /or VII and VIII semesters. A University examination shall be conducted during VIII semester and the prescribed credit shall be included in VIII semester. Internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take-up/complete the internship shall be declared as failed and shall have to complete during subsequent University examination after satisfying the internship requirements.	
Professional Elective -1	
Course code under 18BT64X	Course Title
18BT641: Food Process Engineering	
18BT642: Phyto-Chemistry and Phyto-Harmones	
18BT643: Human Physiology	
Open Elective –A	
18BT651: Biology for Engineers	
18BT652: Biomaterials	
18BT653: Nanobiotechnology	
Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18BT65X). Selection of an open elective shall not be allowed if, <ul style="list-style-type: none"> • The candidate has studied the same course during the previous semesters of the programme. • The syllabus content of open elective is similar to that of Departmental core courses or professional electives. • A similar course, under any category, is prescribed in the higher semesters of the programme. Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.	
AICTE activity Points: In case a student fails to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points	

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI Scheme of Teaching and Examination 2018 – 19 Outcome Based Education(OBE) and Choice Based Credit System (CBCS) (Effective from the academic year 2018 – 19)			
Programme: BIOTECHNOLOGY			
VI SEMESTER (continued)			
Internship: All the students admitted to III year of BE/B. Tech. shall have to undergo mandatory internship of 4 weeks during the vacation of VI and VII semesters and /or VII and VIII semesters. A University examination shall be conducted during VIII semester and the prescribed credit shall be included in VIII semester. Internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take-up/complete the internship shall be declared as failed and shall have to complete during subsequent University examination after satisfying the internship requirements			
Professional Elective – 2		Professional Electives - 3	
Course code under 18BT73X	Course Title	Course code under 18BT74X	Course Title
18BT731	Process Equipment & Plant Design	18BT741	Bioethics, Biosafety & IPR
18BT732	Bioreactor Design Concepts	18BT742	Agricultural Biotechnology
18BT733	Transport Phenomena	18BT743	Tissue Engineering
Open Elective –B			
Course code under 18BT75X	Course Title		
18BT751	BT for sustainable Environment		
18BT752	Forensic Science		
18BT753	Biological Data Management		
Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives under 18BT75X). Selection of an open elective shall not be allowed if,			
<ul style="list-style-type: none">• The candidate has studied the same course during the previous semesters of the programme.• The syllabus content of open elective is similar to that of Departmental core course/s or professional electives.• A similar course, under any category, is prescribed in the higher semesters of the programme.• Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.			
AICTE activity Points: In case a student fails to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points.			

VIII SEMESTER

VII SEMESTER												
Sl. No	Course and Course Code		Course Title	Teaching Department	Teaching Hours/Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
1	PCC	18BT81	Regulatory Affairs in Biotech Industry	Biotech	3	--	--	03	40	60	100	3
2	PEC	18BT82X	Professional Elective - 4	Biotech	3	--	--	03	40	60	100	3
3	Project	18BTP83	Project Work Phase - 2	-	--	--	2	03	40	60	100	8
4	Seminar	18BTS84	Technical Seminar	-	--	--	2	03	100	--	100	1
5	Internship	18BTI85	Internship	Completed during the vacation/s of VI and VII semesters and/or VII and VIII semesters.				03	40	60	100	3
TOTAL					06	--	04	15	260	240	500	18

Note: PCC: Professional Core. PEC: Professional Elective.

Professional Electives - 4

Course code under 18BT82X	Course Title
18BT821	Environmental Biotechnology
18BT822	Industrial Microbiology
18BT823	Marine Biotechnology

CIE procedure for Project Work Phase - 2:

The CIE marks awarded for the project work phase -2, shall be based on the evaluation of project work phase -2 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

(ii) **Interdisciplinary:** Continuous Internal Evaluation shall be group wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable. The CIE marks awarded for the project work phase -2, shall be based on the evaluation of project work phase -2 Report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

(i) **Single discipline:** Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted at the department.

(ii) **Interdisciplinary:** Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belong to.

Internship: Those, who have not pursued /completed the internship, will be declared as failed and have to complete during subsequent University examination after satisfying the internship requirements.

AICTE activity Points: In case a student fails to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. The principals shall include the prescribed activity points earned by the students along with the CIE marks.