



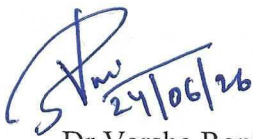
SANDIP
UNIVERSITY
UGC Recognised



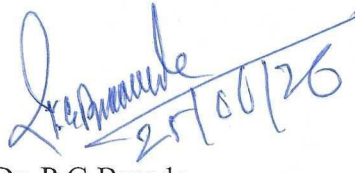
School of Engineering and Technology
Department of Biotechnology

This is to certify that the Course Structure and Syllabus for the B.Tech. Biotechnology program has been reviewed and endorsed by the Board of Studies on 12.06.2026. The syllabus has been thoroughly examined and is in full compliance with the academic and professional standards established by the University and the relevant regulatory authorities.

It is hereby recommended for implementation, effective from the academic year 2026-27 for batch 2024 and 2025 of B.Tech Biotechnology Programme. This certificate serves as formal approval of the contents of the syllabus and authorizes its distribution to students and faculty.


24/06/26

Dr. Varsha Rani
Chairperson, BoS,
Dept. of Biotechnology,
SoET, SUN


25/06/26

Dr. P.G. Burade
Dean Engineering
SOET, SUN


25/06/2026

Dr. D. D. Shinde
Dean Academics
SUN



Sandip University Nashik
School of Engineering and Technology
Department of Biotechnology

Programme Name : B.Tech in Biotechnology

Outcome Based Education (OBE) and Choice Based Credit System (CBCS) as per NEP 2020

Programme Code: BT
 Duration of Programme: 8 Semester
 Semester: III

With Effect From Academic Year: 2026-27
 (for Batch 2024 and 2025)

Sr.No	Course Category	Course Code	Course Title	Scheme of Study (Hours/Week)						Assessment Scheme (Marks)				Total Marks (TA+LA)
				Classroom Instruction (CI)		Lab Instruction (LI)	Hours (CIA+SL)	Total Notional Hours (CI+LI+CIA+SL)/ for 15 weeks)	Total Credits	Theory Assessment (TA)		Lab Assessment (LA)		
				L	T					Continuous Internal & Self-Learning Assessment (CIAs & SL)	End Semester Examination (ESE)	Continuous Internal & Self-Learning Assessment (CIAs & SL)	End Semester Examination (ESE)	
1	PCC	NYBT301	Microbial Biotechnology	3	0	0	3	6	3	50	50	--	--	100
2	PCC	NYBT302	Cell and Molecular Biology	3	0	0	3	6	3	50	50	--	--	100
3	PCC	NYBT303	Genetics	2	0	0	2	4	2	50	50	--	--	100
4	OE	-	Open Elective-I	3	0	0	3	6	3	50	50	--	--	100
5	MDM	-	Minor course I	2	0	0	2	4	2	50	50	--	--	100
6	HSSM	NYBTHS01	Engineering Economics	2	0	0	2	4	2	50	50	--	--	100
7	PCC	NYBT311	Microbial Biotechnology Laboratory	0	0	2	0	2	1	--	--	50	50	50
8	PCC	NYBT312	Cell and Molecular Biology Laboratory	0	0	2	0	2	1	--	--	50	50	50
9	VSEC	NYBT313	Genetics Laboratory	0	0	2	0	2	1	--	--	50	50	50
10	VEC	NYBTV01	Environmental Laws	2	0	0	2	4	2	50	50	--	--	100
11	CEP/FP	NYBT314 NYB315	Community Engagement Project*/Field Project*	0	0	4	0	4	2	--	--	50	50	50
Total				17	0	10	17	44	22	350	300	200	200	850
Value Added Program														
12	VAP	VAP	Biostatistics and Epidemiological Data Analysis	0	0	2	0	2	0	0	0	0	0	0

Legend:

- CI Classroom Instruction (Includes different instructional/implementation strategies, i.e., Lecture (L), Tutorial (T), Case method, Demonstrations, Video demonstration, Problem-based learning, Activity-based learning, Experiential learning etc., to deliver theoretical concepts)
- LI Laboratory Instruction (Includes experiments/practical performances /problem-based experiences in laboratory, workshop, field or other locations using different instructional/implementation strategies), Lab evaluation based on written+ performance+viva+spotting+lab book in ESE Examination and in internal assessment for practical course will be based on practical record book (30) and 20 for (attendance and performance in class)
- CIA Continuous Internal Assessment (includes assignments, seminars, micro projects, industrial visits, book reviews, and any other student activities)
- SL Self-learning, MOOCs, spoken tutorials, SWAYAMPRAKHA, online educational resources, institute LMS etc.
- Notional Hours Hours of engagement by learners, which include classroom instruction hours, laboratory instruction hours, continuous internal assessment hours, and self-learning hours.
- C Credits: 1 credit is equivalent to 30 Notional hrs.
- Note
- CIAs and SL have to be planned by the teacher and performed by the learner under the continuous guidance and feedback of the teacher to ensure the outcome of learning.
 - Notional Learning hours for the semester are (CL+LL+TL+SL) hrs* 15 Weeks.

[Signature]
 24/06/26
 Chairperson BOS, Biotechnology



[Signature]
 Dean, SOET

[Signature]
 25/06/2026
 Dean Academics

Sandip University Nashik
School of Engineering and Technology
Department of Biotechnology
Programme Name : B.Tech in Biotechnology

Outcome Based Education (OBE) and Choice Based Credit System (CBCS) as per NEP 2020

Programme Code: BT
Duration of Programme: 8 Semester
Semester: IV

With Effect From Academic Year: 2026-27
(for Batch 2024 and 2025)

Semester: IV				Scheme of Study (Hours/Week)						Assessment Scheme (Marks)				Total Marks (TA+LA)
Sr.No	Course Category	Course Code	Course Title	Classroom Instruction (CI)		Lab Instruction (LI)	Hours (CIA+ SL)	Total Notional Hours (CI+LI+CIA+SL) / for 15 weeks)	Total Credits	Theory Assessment (TA)		Lab Assessment (LA)		
				L	T					Continuous Internal & Self- Learning Assessment (CIAs & SL)	End Semester Examination (ESE)	Continuous Internal & Self- Learning Assessment (CIAs & SL)	End Semester Examination (ESE)	
1	PCC	NYBT401	Bioprocess Engineering	2	0	0	2	4	2	50	50	--	--	100
2	PCC	NYBT402	Techniques and Instrumentation in Biotechnology	2	0	0	2	4	2	50	50	--	--	100
3	PCC	NYBT403	Recombinant DNA Technology	2	0	0	2	4	2	50	50	--	--	100
4	PCC	NYBT404	Trends in Bioengineering	2	0	0	4	2	2	50	50	--	--	100
5	OE	-	Open Elective-II	3	0	0	3	6	3	50	50	--	--	100
6	MDM	-	Minor course 2	2	0	0	2	4	2	50	50	--	--	100
7	HSSM	-	Engineering Management	2	0	0	2	4	2	50	--	--	--	50
8	VSEC	NYBT411	Recombinant DNA Technology Laboratory	0	0	4	0	4	2	--	--	50	50	100
9	PCC	NYBT412	Bioprocess Engineering Laboratory	0	0	2	0	2	1	--	--	50	50	100
10	VSEC	NYBT413	Techniques and Instrumentation in Biotechnology Laboratory	0	0	2	0	2	1	--	--	50	50	100
11	AEC	-	Reasoning and Aptitude Development	1	1	0	2	4	2	-	--	50	50	100
12	VEC	-	Value Education course	2	0	0	2	4	2	50	50	--	--	100
Total				18	1	8	21	44	23	400	350	200	200	1150
Value Added Program														
13	VAP	VAP	Applied Bioinformatics	0	0	2	0	2	0	0	0	0	0	0

Legend:

- CI Classroom Instruction (Includes different instructional/implementation strategies, i.e., Lecture (L), Tutorial (T), Case method, Demonstrations, Video demonstration, Problem-based learning, Activity-based learning, Experiential learning etc., to deliver theoretical concepts)
- LI Laboratory Instruction (Includes experiments/practical performances /problem-based experiences in laboratory, workshop, field or other locations using different instructional/implementation strategies), Lab evaluation based on written+ performance+viva+spotting+lab book in ESE Examination and in internal assessment for practical course will be based on practical record book (30) and 20 for (attendance and performance in class)
- CIA Continuous Internal Assessment (includes assignments, seminars, micro projects, industrial visits, book reviews, and any other student activities)
- SL Self-learning, MOOCs, spoken tutorials, SWAYAMPARBHA, online educational resources, institute LMS etc.
- Notional Hours Hours of engagement by learners, which include classroom instruction hours, laboratory instruction hours, continuous internal assessment hours, and self-learning hours.
- C Credits: 1 credit is equivalent to 30 Notional hrs.
- Note
- CIAs and SL have to be planned by the teacher and performed by the learner under the continuous guidance and feedback of the teacher to ensure the outcome of learning.
 - Notional Learning hours for the semester are (CL+LL+TL+SL) hrs* 15 Weeks.

Signature
Chairperson BOS, Biotechnology



Signature
Dean, SOET

Signature
Dean Academic

Sandip University Nashik
School of Engineering and Technology
Department of Biotechnology

Programme Name : B.Tech in Biotechnology

Outcome Based Education (OBE) and Choice Based Credit System (CBCS) as per NEP 2020

Programme Code: BT

Duration of Programme: 8 Semester

Semester: V

With Effect From Academic Year: 2026-27

(for Batch 2024 and 2025)

Sr.No	Course Category	Course Code	Course Title	Scheme of Study (Hours/Week)						Assessment Scheme (Marks)				Total Marks (TA+LA)
				Classroom Instruction (CI)		Lab Instruction (LI)	Hours (CIA+SL)	Total Notional Hours (CI+LI+CIA+SL)/ for 15 weeks)	Total Credits	Theory Assessment (TA)		Lab Assessment (LA)		
				L	T					Continuous Internal & Self-Learning Assessment (CIAs & SL)	End Semester Examination (ESE)	Continuous Internal & Self-Learning Assessment (CIAs & SL)	End Semester Examination (ESE)	
1	PCC	NYBT501	Enzyme Engineering Technology	2	0	0	2	4	2	50	50	--	--	100
2	PCC	NYBT502	Plant and Animal Biotechnology	3	0	0	3	6	3	50	50	--	--	100
3	PCC	NYBT503	Bioinformatics	2	0	0	2	4	2	50	50	--	--	100
4	PEC	NYBTE--	Program Elective 1	3	0	0	3	6	3	50	50	--	--	100
5	PEC	NYBTE--	Program Elective 2	3	0	0	3	6	3	50	50	--	--	100
6	OE	-	Open Elective-III	2	0	0	2	4	2	50	50	--	--	100
7	MDM	-	Minor course 3	4	0	0	4	8	4	50	50	--	--	100
8	PCC	NYBT511	Plant and Animal Biotechnology Laboratory	0	0	2	0	2	1	--	--	50	50*	100
9	PCC	NYBT512	Enzyme Engineering Technology Laboratory	0	0	2	0	2	1	--	--	50	50*	100
10	VSEC	NYBT513	Bioinformatics Lab	0	0	4	0	4	2	--	--	50	50*	100
Total				19	0	8	19	46	23	350	350	150	150	1000
Value Added Program														
11	VAP	VAP	Molecular Docking and Simulation	0	0	2	0	2	0	0	0	0	0	0

Legend:

- CI Classroom Instruction (Includes different instructional/implementation strategies, i.e., Lecture (L), Tutorial (T), Case method, Demonstrations, Video demonstration, Problem-based learning, Activity-based learning, Experiential learning etc., to deliver theoretical concepts)
- LI Laboratory Instruction (Includes experiments/practical performances /problem-based experiences in laboratory, workshop, field or other locations using different instructional/implementation strategies), Lab evaluation based on written+ performance+viva+spotting+lab book in ESE Examination and in internal assessment for practical course will be based on practical record book (30) and 20 for (attendance and performance in class)
- CIA Continuous Internal Assessment (includes assignments, seminars, micro projects, industrial visits, book reviews, and any other student activities)
- SL Self-learning, MOOCs, spoken tutorials, SWAYAMPARBHA, online educational resources, institute LMS etc.
- Notional Hours Hours of engagement by learners, which include classroom instruction hours, laboratory instruction hours, continuous internal assessment hours, and self-learning hours.
- C Credits: 1 credit is equivalent to 30 Notional hrs.
- Note
 - CIAs and SL have to be planned by the teacher and performed by the learner under the continuous guidance and feedback of the teacher to ensure the outcome of learning.
 - Notional Learning hours for the semester are (CI+LL+TL+SL) hrs* 15 Weeks.

[Signature]
 Chairperson BOS, Biotechnology

[Signature]
 Dean, SOET

[Signature]
 Dean Academics



Sandip University Nashik
School of Engineering and Technology
Department of Biotechnology
Programme Name : B.Tech in Biotechnology

Outcome Based Education (OBE) and Choice Based Credit System (CBCS) as per NEP 2020

Programme Code:BT
Duration of Programme: 8 Semester
Semester: VI

With Effect From Academic Year: 2026-27
(for Batch 2024 and 2025)

Sr.No	Course Category	Course Code	Course Title	Scheme of Study (Hours/Week)						Assessment Scheme (Marks)				Total Marks (TA+LA)
				Classroom Instruction (CI)		Lab Instruction (LI)	Hours (CIA+ SL)	Total Notional Hours (CI+LI+ CIA+SL)/ for 15 weeks)	Total Credits	Theory Assessment (TA)		Lab Assessment (LA)		
				L	T					Continuous Internal & Self-Learning Assessment (CIAs & SL)	End Semester Examination (ESE)	Continuous Internal & Self-Learning Assessment (CIAs & SL)	End Semester Examination (ESE)	
1	PCC	NYBT601	Immunology and Immunotechnology	2	0	0	2	4	2	50	50	--	--	100
2	PCC	NYBT602	Food Science and Technology	2	0	0	2	4	2	50	50	--	--	100
3	PCC	NYBT603	Protein Engineering	3	0	0	3	6	3	50	50	--	--	100
4	PEC	NYBTE--	Program Elective 3	3	0	0	3	6	3	50	50	--	--	100
5	PEC	NYBTE--	Program Elective 4	3	0	0	3	6	3	50	50	--	--	100
6	MDM		Minor course 4	3	0	0	3	6	3	50	50	--	--	100
7	PCC	NYBT611	Immunology and Immunotechnology Laboratory	0	0	2	0	2	1	--	--	50	50	100
8	PCC	NYBT612	Protein Engineering Laboratory	0	0	2	0	2	1	--	--	50	50	100
9	PCC	NYBT613	Food Science and Technology Laboratory	0	0	2	0	2	1	--	--	50	50	100
10	VSEC	NYBT614	Omics Technology Laboratory	0	0	2	0	2	1	--	--	50	50	100
Total				16	0	8	16	40	20	300	300	200	200	1000
Value Added Program														
11	VAP	VAP	Laboratory and Analytical Skill Development	0	0	2	0	2	0	0	0	0	0	0

Legend:

- CI Classroom Instruction (Includes different instructional/implementation strategies, i.e., Lecture (L), Tutorial (T), Case method, Demonstrations, Video demonstration, Problem-based learning, Activity-based learning, Experiential learning etc., to deliver theoretical concepts)
- LI Laboratory Instruction (Includes experiments/practical performances /problem-based experiences in laboratory, workshop, field or other locations using different instructional/Implementation strategies), Lab evaluation based on written+ performance+viva+spotting+lab book in ESE Examination and in internal assessment for practical course will be based on practical record book (30) and 20 for (attendance and performance in class)
- CIA Continuous Internal Assessment (includes assignments, seminars, micro projects, industrial visits, book reviews, and any other student activities)
- SL Self-learning, MOOCs, spoken tutorials, SWAYAMPRAKHA, online educational resources, institute LMS etc.
- Notional Hours C Hours of engagement by learners, which include classroom instruction hours, laboratory instruction hours, continuous internal assessment hours, and self-learning hours.
- C Credits: 1 credit is equivalent to 30 Notional hrs.
- Note
 - CIAs and SL have to be planned by the teacher and performed by the learner under the continuous guidance and feedback of the teacher to ensure the outcome of learning.
 - Notional Learning Hours for the semester are (CL+LL+TL+SL) hrs* 15 Weeks.

(Signature)
 Chairperson BOS, Biotechnology



(Signature)
 Dean, SOET

(Signature)
 Dean Academics

(Signature)
 25/06/2026

Sandip University Nashik
School of Engineering and Technology
Department of Biotechnology

Programme Name : B.Tech in Biotechnology

Outcome Based Education (OBE) and Choice Based Credit System (CBCS) as per NEP 2020

Programme Code: BT

Duration of Programme: 8 Semester

Semester: VII

With Effect From Academic Year: 2026-27
 (for Batch 2024 and 2025)

Sr.No	Course Category	Course Code	Course Title	Scheme of Study (Hours/Week)						Assessment Scheme (Marks)				Total Marks (TA+LA)
				Classroom Instruction (CI)		Lab Instruction (LI)	Hours (CIA+SL)	Total Notional Hours (CI+LI+ CIA+SL) for 15 weeks)	Total Credits	Theory Assessment (TA)		Lab Assessment (LA)		
				L	T					Continuous Internal & Self-Learning Assessment (CIAs & SL)	End Semester Examination (ESE)	Continuous Internal & Self-Learning Assessment (CIAs & SL)	End Semester Examination (ESE)	
1	PCC	NYBT701	Downstream Processing Technology	2	0	0	2	4	2	50	50	--	--	100
2	PCC	NYBT702	Machine Learning in Biotechnology	2	0	0	2	4	2	50	50	--	--	100
4	PCC	NYBT703	Bioseparation Technology	2	0	0	2	4	2	50	50	--	--	100
5	MDM		Minor course 5	3	0	0	3	6	3	50	50	--	--	100
2	PEC	NYBTE--	Program Elective-5	3	0	0	3	6	3	50	50	--	--	100
3	PEC	NYBTE--	Program Elective-6	3	0	0	3	6	3	50	50	--	--	100
6	ELC	NYBT704	Research Methodology	2	2	0	4	8	4	50	50	--	--	100
7	PCC	NYBT711	Downstream Processing Technology Laboratory	0	0	2	0	2	1	--	--	50	50	100
8	PCC	NYBT712	Artificial Intelligence and Machine Learning in Biotechnology Laboratory	0	0	2	0	2	1	--	--	50	50	100
9	PCC	NYBT713	Bioseparation Technology Laboratory	0	0	2	0	2	1	--	--	50	50	100
10	ELC	NYBT714	Project Stage-I	0	0	4	0	4	2	--	--	--	100	100
Total				17	2	10	19	48	24	350	350	150	250	1100
Value Added Program														
11	VAP	VAP	Scientific Writing & Referencing Tools	0	0	2	0	2	0	0	0	0	0	0

Legend:

- CI Classroom Instruction (Includes different instructional/implementation strategies, i.e., Lecture (L), Tutorial (T), Case method, Demonstrations, Video demonstration, Problem-based learning, Activity-based learning, Experiential learning etc., to deliver theoretical concepts)
- LI Laboratory Instruction (Includes experiments/practical performances /problem-based experiences in laboratory, workshop, field or other locations using different instructional/implementation strategies), Lab evaluation based on written+ performance+viva+spotting+lab book in ESE Examination and in internal assessment for practical course will be based on practical record book (30) and 20 for (attendance and performance in class)
- CIA Continuous Internal Assessment (includes assignments, seminars, micro projects, industrial visits, book reviews, and any other student activities)
- SL Self-learning, MOOCs, spoken tutorials, SWAYAMPRAKSHA, online educational resources, institute LMS etc.

Notional Hours Hours of engagement by learners, which include classroom instruction hours, laboratory instruction hours, continuous internal assessment hours, and self-learning hours.

Project stage 1 Project Stage-I (Semester VII): The evaluation shall focus on the identification of the research problem, review of literature, formulation of objectives, and development of the research methodology and work plan. The assessment shall comprise Synopsis and Literature Review (30 marks), Methodology and Work Plan (30 marks), Progress Seminar (20 marks), and Viva-Voce (20 marks), totaling 100 marks. The evaluation shall be conducted internally by the departmental faculty members/project evaluation committee.

C Credits: 1 credit is equivalent to 30 Notional hrs.

Note • CIAs and SL have to be planned by the teacher and performed by the learner under the continuous guidance and feedback of the teacher to ensure the outcome of learning.

• Notional Learning hours for the semester are (CL+LL+TL+SL) hrs.

[Signature]
 Chairperson BOS, Biotechnology



[Signature]
 Dean, SOET

[Signature]
 Dean Academics
 25/08/2026

Sandip University Nashik
School of Engineering and Technology
Department of Biotechnology

Programme Name : B.Tech in Biotechnology

Outcome Based Education (OBE) and Choice Based Credit System (CBCS) as per NEP 2020

Programme Code: BT

Duration of Programme: 8 Semester

Semester: VIII

With Effect From Academic Year: 2026-27

(for Batch 2024 and 2025)

Sr.No	Course Category	Course Code	Course Title	Scheme of Study (Hours/Week)						Assessment Scheme (Marks)				Total Marks (TA+LA)
				Classroom Instruction (CI)		Lab Instruction (LI)	Hours (CIA+ SL)	Total Notional Hours (CI+LI+CIA+SL) for 15 weeks	Total Credits	Theory Assessment (TA)		Lab Assessment (LA)		
				L	T					Continuous Internal & Self-Learning Assessment (CIAs & SL)	End Semester Examination (ESE)	Continuous Internal & Self-Learning Assessment (CIAs & SL)	End Semester Examination (ESE)	
5	ELC	NYBT811	Project Stage-II	0	0	4	0	4	2	--	--	--	100	100
6	INT/OJT	NYBT812	INTERNSHIP/OJT#	0	0	0	0	0	12	--	--	--	100	100
Total				0	0	4	0	4	14	0	0	0	200	200

Legend:

- CI Classroom Instruction (Includes different instructional/implementation strategies, i.e., Lecture (L), Tutorial (T), Case method, Demonstrations, Video demonstration, Problem-based learning, Activity-based learning, Experiential learning etc., to deliver theoretical concepts)
- LI Laboratory Instruction (Includes experiments/practical performances /problem-based experiences in laboratory, workshop, field or other locations using different instructional/Implementation strategies)
- CIA Continuous Internal Assessment (includes assignments, seminars, micro projects, industrial visits, book reviews, and any other student activities)
- SL Self-learning, MOOCs, spoken tutorials, SWAYAMPRAKSHA, online educational resources, institute LMS etc.
- Notional Hours Hours of engagement by learners, which include classroom instruction hours, laboratory instruction hours, continuous internal assessment hours, and self-learning hours.
- Project stage II The evaluation shall focus on the execution of the research work, analysis and interpretation of results, preparation of the dissertation, and defense of the project. The assessment shall comprise Research Work and Results (40 marks), Dissertation/Project Report (25 marks), Presentation/Seminar (15 marks), and Viva-Voce (20 marks), totaling 100 marks. The final evaluation shall be conducted by an external examiner along with the internal examiner/guide to ensure objective and comprehensive assessment of the student's research work.
- C Credits: 1 credit is equivalent to 30 Notional hrs.
- Internship Internship Evaluation (100 Marks): Internship Performance by Host Organization Supervisor - 30 Marks, Internship Report -25 Marks, Presentation/Seminar - 15 Marks, and Viva-Voce -30 Marks. The Internship Report shall be evaluated by the Department, while the Presentation and Viva-Voce shall be conducted jointly by the Internal and External Examiners.
- Note
 - CIAs and SL have to be planned by the teacher and performed by the learner under the continuous guidance and feedback of the teacher to ensure the outcome of learning.
 - Notional Learning hours for the semester are (CL+LL+TL+SL) hrs* 15 Weeks.

[Signature]
 Chairperson BOS, Biotechnology

[Signature]
 Dean, SOET

[Signature]
 Dean Academics



School of Engineering and Technology
Department of Biotechnology
SUMMARY CREDIT DISTRIBUTION (AS PER GR NEP 2020)

Sr.No	Semester		Total Credits as per GR	I	II	III	IV	V	VI	VII	VIII	Total Credits SUN Civil
1	Basic Science Course	BSC/ESC	14-18	8	8							16
2	Engineering Science Course		16 to 12	6	6							12
3	Programme Core Course (PCC)	Program Courses	44-56		2	10	9	9	10	9		49
4	Programme Elective Course (PEC)		20					6	6	6		18
5	Multidisciplinary Minor (MD M)	Multidisciplinary Courses	14			2	2	4	3	3		14
6	Open Elective (OE) Other than a particular program		8			3	3	2				8
7	Vocational and Skill Enhancement Course (VSEC)	Skill Courses	8	3	3	1	3	2	1			13
8	Ability Enhancement Course (AEC -01, AEC-02)	Humanities Social Science and Management (HSSM)	4	2			2					4
9	Entrepreneurship/ Economics / Management Course		4			2	2					4
10	Indian knowledge System (IKS)		2		2							2
11	Value Education Course (VEC)		4			2	2					4
12	Research Methodology	Experiential Learning Courses	4							4		4
13	Comm. Engg. Project (CEP) / Field Project (FP)		2			2						2
14	Project		4							2	2	4
15	Internship/ OJT		12								12	12
16	Co-curricular Course (CC)	Liberal Learning Courses	4	2	2							4
	Total Credits (Major)		160-176									0
Total Credits (Major)				21	23	22	23	23	20	24	14	170


Chairperson BOS, Biotechnology

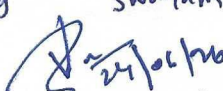


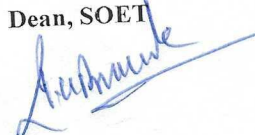

Dean, SOET

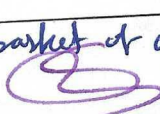

Dean Academics
25/4/26

Department of Biotechnology
School of Engineering and Technology
Sandip University Nashik
Programme Elective Core Basket

Sr. No	Course Code	PEC-I
1	NYBTE01	Omics in Biotechnology
2	NYBTE02	Biophysics and Structural Biology
3	NYBTE03	Biodiversity and Conservation
Sr. No	Course Code	PEC-II
4	NYBTE04	Tissue Engineering
5	NYBTE05	Cancer Biology and Therapeutics
6	NYBTE06	Biosensors Technology
Sr. No	Course Code	PEC-III
7	NYBTE07	Stem cells Technology
8	NYBTE08	Agrobiotechnology
9	NYBTE09	Nanobiotechnology
Sr. No	Course Code	PEC-IV
10	NYBTE10	Metabolic Engineering
11	NYBTE11	Plant Hormones and Signaling
12	NYBTE12	Epigenetics In Plants
Sr. No	Course Code	PEC-V
13	NYBTE13	Human Physiology and Metabolic Disorders
14	NYBTE14	Therapeutic Compounds from Plants
15	NYBTE15	Food Safety and Quality Management
Sr. No	Course Code	PEC-VI
16	NYBTE16	Microbial Degradation and Bioremediation Technology
17	NYBTE17	Emerging Infectious Diseases
18	NYBTE18	Startup, Biobusiness & Bio-Entrepreneurship
19	Swagatam	Industrial Biotechnology or from the basket of offered course.


 Chairperson BOS, Biotechnology

Dean, SOET



 Dean Academics



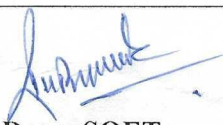
School of Engineering and Technology

Department of Biotechnology

Credit Distribution

Sr.No	Semester		Total Credits as per GR	Total Credits SUN Biotechnology
1	Basic Science Course	BSC/ESC	14-18	16
2	Engineering Science Course		16-12	12
3	Programme Core Course (PCC)	Program Courses	44-56	49
4	Programme Elective Course (PEC)		20	18
5	Multidisciplinary Minor (MD M)	Multidisciplinary Courses	14	14
6	Open Elective (OE) Other than a particular program		8	8
7	Vocational and Skill Enhancement Course (VSEC)	Skill Courses	8	13
8	Ability Enhancement Course (AEC -01, AEC-02)	Humanities Social Science and Management (HSSM)	4	4
9	Entrepreneurship/ Economics / Management Course		4	4
10	Indian knowledge System (IKS)		2	2
11	Value Education Course (VEC)		4	4
12	Research Methodology	Experiential Learning Courses	4	4
13	Comm. Engg. Project (CEP) / Field Project (FP)		2	2
14	Project		4	4
15	Internship/ OJT		12	12
16	Co-curricular Course (CC)	Liberal Learning Courses	4	4
Total Credits (Major)			160-176	170


Chairperson BOS, Biotechnology


Dean, SOET


Dean Academics



Department of Biotechnology

School of Engineering and Technology

Sandip University Nashik

Open Elective Basket offered by the Department of Biotechnology

Sr No	Course Code	Open Elective Courses	Scheme	Credit	Semester
1	NYBTO01	Cheminformatics and Medicinal Chemistry	3+0+0	3	III
2	NYBTO02	Biodiversity and Conservation	3+0+0	3	III
3	NYBTO03	Bioenergetics and Metabolic Engineering	3+0+0	3	IV
4	NYBTO04	Pharmaceutical Biotechnology	3+0+0	3	IV
5	NYBTO05	Medical Biotechnology	2+0+0	2	V
6	NYBTO06	Bioterrorism and National Security	2+0+0	2	V
Total Credit				8	

Mutidisciplinary Minor offered by Department of Biotechnology

Sr. No	Course Name	Code	Scheme	Credit	Semester
1	Biosafety, Bioethics and AI Governance	NYBTM01	2-0-0	2	3 rd
2	Artificial Intelligence in Biotechnology	NYBTM05	2-0-0	2	4 th
3	Biomanufacturing	NYBTM03	4-0-0	4	5 th
4	Python and R for Biologists	NYBTM04	3-0-0	3	6 th
5	IPR and Publication Ethics	NYBTM06	3-0-0	3	7 th
Total				14	

24/06/24

Chairperson BOS, Biotechnology

Dean, SOET

Dean Academics