

NATIONAL BOARD OF ACCREDITATION

Data Capturing Points of the Program Applied for NBA Accreditation– Tier I/II UG (Engineering) Institute Programs

Program Name : Biotechnology	Discipline: Engineering & Technology
Level : Under Graduate	Tier: 1
Application No: 11141	Date of Submission: 29-10-2025

PART A- Profile of the Institute

A1.Name of the Institute: CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY	
Year of Establishment : 1979-1994	Location of the Institute: httpswwwgooglecommapsplaceChaitanyaBharathiInstituteofTechnology17391978678316861917zdata4m141m73m61s0x3bcb94eba8ad7c870xb78f51ed556f7cc52sChaitanyaBharathiInstituteofTechnology8m23d1739197354d7831943
A2. Institute Address: CHAITANYA BHARATHI POST OFFICE KOKAPET VILLAGE GANDIPET HYDERABAD	
City:HYDERABAD	State:Andhra Pradesh
Pin Code:500075	Website:www.cbit.ac.in
Email:PRINCIPAL@CBIT.AC.IN	Phone No(with STD Code):040-24193276
A3. Name and Address of the Affiliating University (if any):	
Name of the University :	City: Hyderabad
State : Telangana	Pin Code: 500007
A4. Type of the Institution: Self-Supported Institute	
A5. Ownership Status: Self financing	

A6. Details of all Programs being Offered by the Institution:

- No. of UG programs: **13**
- No. of PG programs: **11**

Table No. A6.1: List of all programs offered by the Institute.

Sr.No.	Discipline	Level of program	Name of the program	Year of Start	Year of Closed	Name of The Department
1	Computer Application	PG	Master in Computer Applications	1991	--	Computer Application
2	Engineering & Technology	PG	Artificial Intelligence and Data Science	2020	--	Artificial Intelligence and Data Science
3	Engineering & Technology	UG	Artificial Intelligence and Data Science	2020	--	Artificial Intelligence and Data Science
4	Engineering & Technology	UG	Artificial Intelligence and Machine Learning	2021	2024	Artificial Intelligence and Machine Learning
5	Engineering & Technology	UG	Biotechnology	2005	--	Biotechnology
6	Engineering & Technology	PG	CAD/CAM	2002	--	Mechanical Engineering
7	Engineering & Technology	UG	Chemical Engineering	1995	--	Chemical Engineering
8	Engineering & Technology	UG	Civil Engineering	1979	--	Civil Engineering
9	Engineering & Technology	PG	Communication Engineering	2002	--	Electronics and Communication Engineering
10	Engineering & Technology	PG	Computer Science and Engineering	2002	--	Computer Science and Engineering
11	Engineering & Technology	UG	Computer Science and Engineering	1985	--	Computer Science and Engineering

12	Engineering & Technology	UG	Computer Science and Engineering (Artificial Intelligence & Machine Learning)	2020	--	Artificial Intelligence and Machine Learning
13	Engineering & Technology	UG	Computer Science and Engineering (Internet of Things and Cyber Security including Blockchain Technology)	2020	--	Computer Science and Engineering (Internet of Things and Cyber Security including Blockchain Technology)
14	Engineering & Technology	UG	Electrical & Electronics Engineering	1994	--	Electrical and Electronics Engineering
15	Engineering & Technology	UG	Electronics & Communication Engineering	1979	--	Electronics and Communication Engineering
16	Engineering & Technology	UG	Electronics Engineering (VLSI Design and Technology)	2024	--	Electronics and Communication Engineering
17	Engineering & Technology	PG	Embedded System & VLSI	2012	--	Electronics and Communication Engineering
18	Engineering & Technology	UG	Information Technology	2000	--	Information Technology
19	Engineering & Technology	PG	Information Technology (Artificial Intelligence and Robotics)	2024	--	Information Technology
20	Engineering & Technology	UG	Mechanical Engineering	1979	--	Mechanical Engineering
21	Engineering & Technology	PG	Power Systems & Power Electronics	2006	--	Electrical and Electronics Engineering
22	Engineering & Technology	PG	Structural Engineering	2002	--	Civil Engineering
23	Engineering & Technology	PG	Thermal Engineering	2012	2024	Mechanical Engineering
24	Management	PG	Masters in Business Administration	1996	--	Management

A7. Programs to be considered for Accreditation vide this Application:

Table No. A7.1: List of programs to be considered for accreditation.

Name of the Department	Having Allied Departments	Name of the Program	Program Level
Biotechnology	No	Biotechnology	UG

Table No. A7.2: Allied Department(s) to the Department of the program considered for accreditation as above.
Cluster ID. Name of the Department (in table no. A7.1) Name of allied Departments/Cluster (for table no. A7.1)

No Record

PART-B: Program information**B1. Provide the Required Information for the Program Applied For:**

Table No. B1: Program details.

A. List of the Programs Offered by the Department:

SR.NO.	PROGRAM NAME	PROGRAM APPLIED LEVEL	YEAR OF START / YEAR OF CLOSED	SANCTIONED INTAKE	INCREASE/ DECREASE INTAKE (if any)	YEAR OF INCREASE/ DECREASE	CURRENT INTAKE	YEAR OF AICTE APPROVAL	AICTE/COMPETENT AUTHORITY ARROVAL DETAILS	ACCREDITATION STATUS	FROM	TO	NO. OF TIMES PROGRAM ACCREDITED	PROGRAM DURATION
1	Biotechnology	UG	2005 / --	60	Yes	2024	120	2005	F. No South-Central/1-43665675940/2024/EOA/Cottigendum-1	Granted accreditation for 3 years for the period (specify period)	2017	2020	2	4

SR.NO.	PROGRAM NAME	PROGRAM APPLIED LEVEL	YEAR OF START / YEAR OF CLOSED	SANCTIONED INTAKE	INCREASE/ DECREASE INTAKE (if any)	YEAR OF INCREASE/ DECREASE	CURRENT INTAKE	YEAR OF AICTE APPROVAL	AICTE/COMPETENT AUTHORITY APPROVAL DETAILS	ACCREDITATION STATUS	FROM	TO	NO. OF TIMES PROGRAM ACCREDITED	PROGRAM DURATION
Sanctioned Intake for Last Five Years for the Biotechnology														
Academic Year			Sanctioned Intake											
2025-26			120											
2024-25			120											
2023-24			60											
2022-23			60											
2021-22			60											
2020-21			60											

List of the Allied Departments/Cluster and Programs:

B2. Detail of Head of the Department for the program under consideration:

A. Name of the HoD :	Dr.V. Aruna
B. Nature of appointment:	Regular
C. Qualification:	Ph.D

B3. Program Details

Table No.B3.1: Admission details for the program excluding those admitted through multiple entry and exit points.

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	2025-26 (CAY)	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)	2021-22 (CAYm4)	2020-21 (CAYm5)	2019-20 (CAYm6)
N=Sanctioned intake of the program (as per AICTE /Competent authority)	120	120	60	60	60	60	60
N1=Total no. of students admitted in the 1st year minus the no. of students, who migrated to other programs/ institutions plus no. of students, who migrated to this program	120	120	60	60	60	59	56
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	0	0	0	0	0	0
N3=Separate division if any	0	0	0	0	0	0	0
N4=Total no. of students admitted in the 1st year via all supernumerary quotas	8	9	4	3	3	0	0
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	128	129	64	63	63	59	56

CAY= Current Academic Year. CAYm1= Current Academic Year Minus 1 CAYm2= Current Academic Year Minus 2. LYG= Last Year Graduate. LYGm1= Last Year Graduate Minus 1. LYGm2= Last Year Graduate Minus 2.

B4. Enrolment Ratio in the First Year

Table No. B4.1: Student enrolment ratio in the 1st year.

Year of entry	N (From Table 4.1)	N1 (From Table 4.1)	N4 (From Table 4.1)	Enrollment Ratio [(N1/N)*100]
2025-26 (CAY)	120	120	8	106.67
2024-25 (CAYm1)	120	120	9	107.50
2023-24 (CAYm2)	60	60	4	106.67

Average [(ER1 + ER2 + ER3) / 3] = 106.95≅ 100

B5. Success Rate of the Students in the Stipulated Period of the Program

Table No.B5.1: The success rate in the stipulated period of a program.

Item	(2021-22) LYG	(2020-21) LYGm1	(2019-20) LYGm2
A*= (No. of students admitted in the 1st year of that batch and those actually admitted in the 2nd year via lateral entry, plus the number of students admitted through multiple entry (if any) and separate division if applicable, minus the number of students who exited through multiple entry (if any).	63.00	60.00	60.00
B=No. of students who graduated from the program in the stipulated course duration	59.00	55.00	52.00
Success Rate (SR)= (B/A) * 100	93.65	91.67	86.67

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 90.66

B6. Academic Performance of the First-Year Students of the Program

Table No.B6.1: Academic Performance of the First-Year Students of the Program.

Academic Performance	CAYm1(2024-25)	CAYm2(2023-24)	CAYm3 (2022-23)
Mean of CGPA or mean percentage of all successful students(X)	7.96	7.91	7.94
Y=Total no. of successful students	120.00	60.00	60.00
Z=Total no. of students appeared in the examination	120.00	60.00	60.00
API [X*(Y/Z)]	7.96	7.91	7.94

Average API[(AP1+AP2+AP3)/3] : 7.94

B7: Academic Performance of the Second Year Students of the Program

Table No.B7.1: Academic Performance of the Second Year Students of the Program.

Academic Performance	CAYm1 (2024-25)	CAYm2 (2023-24)	CAYm3 (2022-23)
X=(Mean of 2nd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 2rd year/10)	7.42	7.27	7.54
Y=Total no. of successful students	60.00	60.00	62.00
Z=Total no. of students appeared in the examination	61.00	60.00	62.00
API [X * (Y/Z)]	7.30	7.27	7.54

Average API [(AP1 + AP2 + AP3)/3] : 7.37

B8. Academic Performance of the Third Year Students of the Program

Table No.B8.1: Academic Performance of the Third Year Students of the Program

Academic Performance	CAYm1 (2024-25)	CAYm2 (2023-24)	CAYm3 (2022-23)
X=(Mean of 3rd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 3rd year/10)	7.54	7.39	6.98
Y=Total no. of successful students	60.00	62.00	57.00
Z=Total no. of students appeared in the examination	60.00	62.00	57.00
API [X*(Y/Z)]:	7.54	7.39	6.98

Average API [(AP1 + AP2 + AP3)/3] : 7.30

B9. Placement, Higher Studies, and Entrepreneurship

Table No.B9.1: Placement, higher studies, and entrepreneurship details.

Item	LYG (2021-22)	LYGm1(2020-21)	LYGm2(2019-20)
FS*=Total no. of final year students	62.00	60.00	60.00
X=No. of students placed	20.00	14.00	34.00
Y=No. of students admitted to higher studies	18.00	38.00	15.00
Z= No. of students taking up entrepreneurship	0.00	0.00	0.00

Placement Index(P) = (((X + Y + Z)/FS) * 100):	61.29	86.67	81.67
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Average Placement Index = (P_1 + P_2 + P_3)/3: 76.54 Placement Index Points:

PART C: Faculty Details in Department and Allied Departments

(Data to be filled in for the Department and Allied Departments)

C1. Faculty details of Department and Allied Departments

Table No.C1: Faculty details in the Department for the past 3 years including CAY

Sr.No	Name of the Faculty	PAN No.	Highest degree	University	Area of Specialization	Date of Joining in this Institution	Experience in years in current institute	Designation at Time Joining in this Institution	Present Designation	The date on which Designated as Professor/ Associate Professor if any	Nature of Association (Regular/ Contract/ Ad hoc)	Currently Associated (Y/N)	In case of NO, Date of Leaving	IS HOD?
1	Dr. Ashoutosh Panday	XXXXXXXX83N	Ph.D	University of Massachusetts, Amherst USA	Nanotechnology, Biomaterials	23/11/2022	2.11	Professor	Professor	23/11/2022	Regular	Yes		No
2	Dr.V. Aruna	XXXXXXXX74F	Ph.D	Sri Krishnadevaraya University, Anantapur, A.P	Plant Biotechnology	04/08/2006	19.2	Assistant Professor	Associate Professor	01/11/2022	Regular	Yes		Yes
3	Dr. G. Vijaya Laxmi	XXXXXXXX90N	Ph.D	Osmania University, Hyderabad, TG	Plant Biotechnology	10/11/2008	16.11	Assistant Professor	Associate Professor	28/02/2023	Regular	Yes		No
4	Dr. Rajasri Yadavalli	XXXXXXXX35H	Ph.D	JNTU Hyderabad	Bioprocess Engineering	30/05/2019	6.5	Associate Professor	Associate Professor	30/05/2019	Contractual Fulltime	Yes		No
5	Dr. C. Obula Reddy	XXXXXXXX63K	Ph.D	JNTU, Anantapur, AP	Microbial Biotechnology	14/08/2006	19.2	Assistant Professor	Assistant Professor		Regular	Yes		No
6	Dr. S. Sumithra	XXXXXXXX35J	Ph.D	Osmania University, Hyderabad, TG	Biochemical Engineering and Biotechnology	28/06/2010	15.4	Assistant Professor	Assistant Professor		Regular	Yes		No
7	Dr. B. Mishra	XXXXXXXX76K	Ph.D	VIT Vellore	Microbial Technology	02/07/2019	6.3	Assistant Professor	Assistant Professor		Regular	Yes		No
8	Dr. C. Nagendranatha Reddy	XXXXXXXX22C	Ph.D	Academy of Scientific and Innovative Research	Environmental Biotechnology	30/08/2019	6.2	Assistant Professor	Assistant Professor		Regular	Yes		No
9	Dr. K. Dharmalingam	XXXXXXXX35C	Ph.D	IIT Guwahati	Nanotechnology, Biomaterials, Drug Delivery	27/09/2021	4.1	Assistant Professor	Assistant Professor		Regular	Yes		No
10	Dr. Bapatla Sumithra	XXXXXXXX11F	Ph.D	NIT Warangal	Biosensor, Bioinformatics , Microbial Biotechnology	07/10/2021	4	Assistant Professor	Assistant Professor		Regular	Yes		No
11	Dr. Kiran Yellappa Vajanthri	XXXXXXXX55G	Ph.D	IIT (BHU), Varanasi, UP	Biomaterials, Tissue Engineering	08/10/2021	4	Assistant Professor	Assistant Professor		Regular	Yes		No
12	Dr. Sanjeeb Kumar Mandal	XXXXXXXX53R	Ph.D	VIT Vellore	Environmental Biotechnology	26/05/2021	4.5	Assistant Professor	Assistant Professor		Contractual Fulltime	Yes		No

Table No.C2: Faculty details of Allied Departments for the past 3 years including CAY.

C2. Student-Faculty Ratio (SFR)

No. of UG(Engineering) programs in Department including allied departments/ clusters (UGn):

UG1=1st UG program

UGn=nth UG program

B= No. of Students in UG 2nd year (ST)

C= No. of Students in UG 3rd year (ST)

D= No. of Students in UG 4th year (ST)

No. of PG (Engineering) programs in Department including allied departments/ clusters (PGm):

PG1=1st PG program.

PGm=mth PG program

A= No. of Students in PG 1st year

B= No. of Students in PG 2nd year

Student Faculty Ratio (**SFR**) = S/F

S= No. of students of all programs in the Department including all students of allied departments/clusters.

No. of students (ST)=Sanctioned Intake (SA)+ Actual admitted students via lateral entry including leftover seats (L) if any (limited to 10 % of SA)

Students who admitted under supernumerary quotas (SNQ, EWS, etc) will not be considered in calculating SFR value. Those students are exempted.

F=Total no. of regular or contractual faculty members (Full Time) in the Department, including allied departments/clusters (excluding first year faculty (The faculty members who have a 100% teaching load in the first-year courses)).

No. of UG Programs in the Department1 No. of PG Programs in the Department0

Table No.C2.1: Student-faculty ratio.

Description	CAY(2025-26)	CAYm1 (2024-25)	CAYm2 (2023-24)
UG1.B	120	60	60
UG1.C	60	60	60
UG1.D	60	60	60
UG1: Biotechnology	240	180	180
DS=Total no. of students in all UG and PG programs in the Department	240	180	180
AS=Total no. of students of all UG and PG programs in allied departments	0	0	0
S=Total no. of students in the Department (DS) and allied departments (AS)	S1= 240	S2= 180	S3= 180
DF=Total no. of faculty members in the Department	12	12	12
AF= Total no. of faculty members in the allied Departments	0	0	0
F=Total no. of faculty members in the Department (DF) and allied Departments (AF)	F1= 12	F2= 12	F3= 12
FF=The faculty members in F who have a 100% teaching load in the first-year courses	0	0	0
Student Faculty Ratio (SFR)=S/(F-FF)	SFR1= 20.00	SFR2= 15.00	SFR3= 15.00
Average SFR for 3 years	SFR= 16.67		

C3. Faculty Qualification

- Faculty qualification index (FQI) = $2.5 * [(10X + 4Y)/RF]$ where
- X=No. of faculty members with Ph.D. degree or equivalent as per AICTE/UGC norms.
- Y=No. of faculty members with M. Tech. or ME degree or equivalent as per AICTE/ UGC norms.
- RF=No. of required faculty in the Department including allied Departments to adhere to the 20:1 Student-Faculty ratio, with calculations based on both student numbers and faculty requirements as per section C2 of this documents: (RF=S/20).

Table No.C3.1: Faculty qualification.

Year	X	Y	RF	FQ = $2.5 \times [(10X + 4Y) / RF]$
2025-26(CAY)	12	0	11.00	27.27
2024-25(CAYm1)	12	0	9.00	33.33
2023-24(CAYm2)	12	0	9.00	33.33

C4. Faculty Cadre Proportion

- Faculty Cadre Proportion is 1(RF1): 2(RF2): 6(RF3)
- RF1= No. of Professors required = $1/9 \times \text{No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S) as per C2 of this documents.}$
- RF2= No. of Associate Professors required = $2/9 \times \text{No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S) as per section C2 of this documents.}$
- RF3= No. of Assistant Professors required = $6/9 \times \text{No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S) as per section C2 of this documents.}$
- Faculty cadre and qualification and experience should be as per AICTE/UGC norms.

Table No.C4.1: Faculty cadre proportion details.

Year	Professors		Associate Professors		Assistant Professors	
	Required RF1	Available AF1	Required RF2	Available AF1	Required RF3	Available AF3
2025-26	1.00	1.00	2.00	2.00	8.00	7.00
2024-25	1.00	1.00	2.00	2.00	6.00	7.00
2023-24	1.00	1.00	2.00	2.00	6.00	7.00
Average	RF1=1.00	AF1=1.00	RF2=2.00	AF2=2.00	RF2=6.67	AF2=7.00

C5. Visiting/Adjunct Faculty/Professor of Practice

Table No. C5.1: List of visiting/adjunct faculty/professor of practice and their teaching and practical loads.

(CAYm1)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Dr Sandhya Kumaraswamy	Head, Quality Assurance	Tulsi Therapeutics, NIMS, Punjagutta	Regulatory Affairs and Clinical Trials	19.00
2	Dr Sandhya Kumaraswamy	Head, Quality Assurance	Tulsi Therapeutics, NIMS, Punjagutta	Intellectual Property Rights and Bioethics	8.00
3	Dr Sandhya Kumaraswamy	Head, Quality Assurance	Tulsi Therapeutics, NIMS, Punjagutta	Biosimilars Technology	13.00
4	Dr Sandhya Kumaraswamy	Head, Quality Assurance	Tulsi Therapeutics, NIMS, Punjagutta	Instrumental Methods in Biotechnology	4.00
5	Dr Sandhya Kumaraswamy	Head, Quality Assurance	Tulsi Therapeutics, NIMS, Punjagutta	Project Part 1	8.00

(CAYm2)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Nil	Nil	Nil	Nil	0.00

(CAYm3)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Nil	Nil	Nil	Nil	0.00

C6. Academic Research

Table No. C6.1: Faculty publication details.

S.No.	Item	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)
1	No. of peer reviewed journal papers published	11	12	10
2	No. of peer reviewed conference papers published	13	9	5
3	No. of books/book chapters published	9	17	14

C7. Sponsored Research Project

Table No. C7.1: List of sponsored research projects received from external agencies.

(CAYm1)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Nil	Nil	Nil	Nil	Nil	Nil	0.00
						Amount received (Rs.):0.00

(CAYm2)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Nil	Nil	Nil	Nil	Nil	Nil	0.00
						Amount received (Rs.):0.00

(CAYm3)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Nil	Nil	Nil	Nil	Nil	Nil	0.00
						Amount received (Rs.):0.00

Total Amount (Lacs) Received for the Past 3 Years: NIL**Note*:**

- Only sponsored research projects will be considered. Infrastructure-based projects will not be considered here.

C8. Consultancy Work

Table No. C8.1: List of consultancy projects received from external agencies.

(CAYm1)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. G. Vijaya Laxmi	Dr. Ashoutosh Panday	Department of Biotechnology, CBIT	Biorisk Assessment and Biohazard Mitigation of Common Plant Toxins in Laboratory and Industrial Environments	Health Security Partners	3 Months	3.55
						Amount received (Rs.):3.55

(CAYm2)

(CAYm3)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr Y. Rajasri		Department of Biotechnology, CBIT	A device to absorb Carbon Dioxide from the atmosphere	Neonflake Enterprises (OPC) Pvt Ltd	6 Months	0.72
						Amount received (Rs.):0.72

Total amount (Lacs) received for the past 3 years: 4.27**Note*:**

- Only consultancy projects will be considered. Infrastructure-based projects will not be considered here.

C9. Institution Seed Money or Internal Research Grant to its Faculty for Research Work

Table No. C9.1: List of faculty members received seed money or internal research grant from the Institution.

(CAYm1)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Dr. Rajasri Y and Dr K. Dharmalingam	Bioplastic from Sea Weeds for Food Packaging	1 Year	0.30	0.00	Nil
Dr. Ashoutosh Panday, Dr Bishwambhar Mishra, Dr S. Sumithra and Dr G. Vijaya Laxmi	Face cream characterization and Business model study for stop acne application	1 Year	0.28	0.00	Nil
Dr. C. Obula Reddy	Design of Nano-based cardiovascular device	1 Year	0.20	0.20	Paper Publication and International Conference presentations
Dr. C. Obula Reddy	Eco-revamping plaster of paris: waste: Transforming industrial by products	1 Year	1.15	0.00	Publication, patent and product(expected)
Dr. B. Mishra, Dr Y. Rajasri and Dr CN Reddy	Fabrication of Active food packaging system with Pullulan and selected plant extract	1 Year	1.00	0.00	Nil
Dr. C. Nagendranatha Reddy, Dr Y. Rajasri and Dr K. Dharmalingam	Biodegradation of Toxic and recalcitrant dye adsorbed hydrogel using BET system	1 Year	2.00	1.80	International Conference presentation
Dr. K Dharmalingam	Fabrication of organic acid cross linked polymer based film	1 Year	1.80	0.00	Nil
Dr. Kiran Y	Modification of thermoplastic 3D printer for bioprinting	1 Year	1.15	0.00	Journal Publication
Dr. Sanjeeb Kumar Mandal	Utilizing banana peduncle as an affordable bioadsorbent	1 Year	1.05	0.00	Nil
			Amount received (Rs.): 8.93		

(CAYm2)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Dr. Rajasri Yadavalli Dr. K Dharmalingam	Algae based Bioplastics for Sustainable Packaging	6 Months	1.00	1.00	Patent published
Dr. Sanjeeb Kumar Mandal	Isolation, characterization of Microbes having Probiotic activity	6 Months	0.31	0.31	International conference presentation
			Amount received (Rs.): 1.31		

(CAYm3)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Dr Y. Rajasri and Dr Bishwambhar Mishra	Antimicrobial coating on personal protective equipment	1 Year	0.10	0.00	Product developed
Dr K. Dharmalingam	Fabrication and characterization of stimuli responsive hydrogel films	1 year	0.10	0.00	Patent Published
Dr Y. Rajasri	PHB production and extraction	1 Year	0.10	0.00	Nil
Dr Y. Rajasri	Bioplastics from sea weeds	1 Year	0.10	0.00	Product developed
			Amount received (Rs.): 0.40		

Total amount (Lacs) received for the past 3 years : 10.64

PART D: Laboratory Infrastructure in the Department

(Data to be filled in for the Department)

D1. Adequate and Well-Equipped Laboratories, and Technical Manpower

Table No.D1.1: List of laboratories and technical manpower.

Sr. No	Name of the Laboratory	Number of students per set up(Batch Size)	Name of the Important Equipment	Weekly utilization status(all the courses for which the lab is utilized)	Technical Manpower Support		
					Name of the Technical staff	Designation	Qualification
1	Animal Biotechnology Lab	20	10KV UPS, Bench Top Centrifuge-R-8CBL, Co2 incubator, Absorbance Micro plate Reader, Refrigerator, Co2 Gas Cylinder, Biofuge cabinet, Hand Mixer	9 Hours	Mr. Mehaboob Basha.D	Lab Technician Gr-II	M. Sc (Biochemistry)
2	Bio Chemistry Lab	20	Digital Balance, pH Meter, Colori meter, Water bath, Cyclomixer, and Mini Incubator	9 Hours	Mrs.S.Kavitha	Lab Technician Gr III	B.Sc. (B.Z.C)P.G. Diploma
3	Bioinformatics and Computational Biology Lab	20	Desktop Computers - HP Pro Desk, HP 400G7, DELL 00E1910Hc, HP 3330, UPS 10KVA, HP LaserJet Printer- 4000, HP LaserJet M4004FD	9 Hours	Mr B.Sekhar	Computer operator	M.Sc(Computer science)
4	Bio separation Engineering Lab	20	Probe Sonicator, Homogenizers, and pH meter	9 Hours	Mrs. D.Madhavi Lata	Lab Technician GrII	Ph. D (Botany)
5	Fermentation Technology Lab	20	Hot air oven, Colorimeter, Magnetic Stirrer, Vacuum, pump, pH meter, and Bench top fermenter	9 Hours	Mrs. D.Madhavi Lata	Lab Technician Gr II	Ph. D (Botany)
6	Genetic Engineering Lab	20	PCR, High speed refrigerated micro centrifuge, Hot air oven, UV Trans illuminator, White light trans illuminator, Gel Box, Digital Balance, Gel Doc, Vacuum Mixer, Mini	9 Hours	Mrs.D.MadhaviLata	Lab Technician Gr-II	Ph. D (Botany)
7	Immunology Lab	20	Mini Gel Electrophoresis System, Hot plate, Magnetic Stirrer with Hot plate, Refrigerator, and Serological water bath	9 Hours	Mrs. S. Kavitha	Lab Technician GrIII	B.Sc. (B.Z.C)P.G.Diploma
8	Instrumentational methods in Biotechnology lab	20	Spectro photometer, pH meter, Nephelometer, Conductivity meter, Distillation unit, and Digital Photo Fluorometer	9 Hours	Mr. Mahaboob Basha.D	Lab Technician Gr-II	M. Sc (Biochemistry)
9	Microbiology Lab	20	Mr. Mahaboob Basha.D	9 Hours	Mr. Mahaboob Basha.D	Lab Technician Gr-II	M.Sc. (Biochemistry)
10	Plant Biotechnology Lab	20	Autoclave, Hot air Oven Laminar, Airflow, pH meter, Digital balance Distillation unit, Inverted LED Inverted Microscope and Bench top Orbit Shaking Incubator	9 Hours	Mr. Shaik Amir	Skilled Assistant	B.Sc. (B.Z.C)

D2. Safety Measures in Laboratories

Table No. D2.1: List of various safety measures in laboratories.

Sr. No	Laboratory Name	Safety Measures
1	Animal Biotechnology	1. Safety Rules & Regulation Charts are displayed 2. Fire extinguisher is provided to prevent the accidental burns. 3. First aid box is available. 4. Always wear a lab coat before entering the laboratory for protecting clothes from Contamination or accidental discoloration by staining solutions. 1. Keep the lab windows and doors closed during laboratory sessions to prevent contamination from air currents. 2. Do not place contaminated instrument such as inoculation loop, needles, and pipettes on bench top. 3. Do not smoke eat or drink in the lab. These activities are absolutely prohibited. 4. Tie back long hair to minimize its exposure to open flame. If a live culture is spilled, cover the area with a disinfectant solution for 15 min and then clean it. 5. In the event of personal injury such as cuts or burns, inform the instructor immediately.
2	Bio Chemistry Lab	1.Safety Rules & Regulation Charts are displayed 2.Fire extinguisher is provided 3.First aid box is available 4.Hand gloves, Nose Masks provided 5.Students are instructed to wear the aprons to avoid the accidental spillage of hazardous chemicals 6. Rubber bulbs for mouth pi petting of Hazardous chemicals 7.Antiseptic lotion and disinfectants are provided to treat the skin burns 8.Students are asked to wear the closed toe shoes in the laboratory 9. Do's Don'ts Placards are displayed

3	Bioinformatics and Computational Biology Lab	1.Safety Rules &Regulation Charts are displayed 2.Fire Extinguisher is provided to prevent the fire. 3.Personal computer systems provided with Antivirus software 4.To avoid the hang of computers due to the dust congestion students are requested to leave their shoes outside the lab.
4	Bio-separation Engineering Lab	1.Prevent Chemical and Solvent Exposure 2.Students are advised to handle the pathogenic microbes with care 3. Proper Waste and Sample Disposal
5	Fermentation Technology Lab	1.Safety Rules &Regulation Charts are displayed 2.Fire Extinguisher is available to prevent the fire. 3.students are advised to wear the Hand gloves, Nose Masks 4.Wear the Lab Coats 5.First Aid box is provided 6.Open shoes, such as sandals, should never be worn in the lab
6	Genetic Engineering Lab	1.Air curtains used to control pests 2.Fire extinguisher is provided 3.Hand gloves, Nose Masks provided 4.Students are instructed to wear the aprons to avoid the accidental spillage of Pathogenic microbes. 5.First aid box is available to treat the accidental cuts 6.Hand gloves and Nose masks are provided to avoid the accidental inhalation of aerobic microbes
7	Immunology Lab	1.Safety Rules &Regulation Charts are displayed. 2.Fire Extinguisher is provided. 3.Hand gloves, Nose Masks. 4.Students are asked to wear the Lab Coats. 5.First Aid box provided to treat the cuts.. 6.Disinfectants provided to rinse hands before and after the experiment while handling with Pathogens.
8	Instrumental methods in Biotechnology	1.Students are advised not exposed to Hazardous chemical like Ammonium per sulfate 2.Proper ventilation is provided for the proper aeration of pungent chemicals 3.Students are advised to wear mask and gloves 4.Avoid contact with strong Oxidizing agents.
9	Microbiology Lab	1.Air curtains used to control pests 2.Fire extinguisher is provided 3.Hand gloves, Nose Masks provided 4.Students are instructed to wear the aprons to avoid the accidental spillage of Pathogenic microbes. 5.First aid box is available 6.Hand gloves and Nose masks are provided to avoid the accidental inhalation of aerobic microbes
10	Plant Biotechnology Lab	1.Do not mouth pipette the pathogens 2.while handling with HgCl ₂ students are advised to remove gold ornaments 3.Do not inhale or suck the toxic chemicals 4.Students are advised to remove shoes while entering into the incubation room.
11	Research&Development Project Laboratory	1.Safety Rules &Regulation Charts are displayed 2.Hand gloves, Nose Masks are available to prevent intoxication. 3.First Aid box is available 4.Do's and Don't are displayed

D3. Project Laboratory/Research Laboratory

A. Availability of Project laboratories/Research Laboratories(05)**R and D Laboratory (20)** (Mention facilities & Utilization)

1. In today's Technology-dominated world, it has become necessary for budding engineers to carry out research work and development of
2. Products on their own. In this regard, the department has allocated a lab space/time for doing the mini projects right from 6th Semester onwards in their respective labs.
3. To carry out student's projects, an exclusive space is provided in the form of projects lab.

In addition, latest equipment pertaining to a particular laboratory is made available to the students for carrying out their projects.

TableNo.7.5.1: List of project laboratory/ research laboratory / Centre of Excellence.

S.NO	Name of the Laboratory
1	R and D Laboratory

To carry out final year projects, the Biotech department R and D Laboratory has the following facilities.

Table 7.5.2 : List of the Project Laboratory Equipment /Facilities

Research &Development Project Laboratory	List of the Equipment available
	UV Visible Spectrophotometer
	Hot Air Oven
	Incubator
	Laminar Air Flow
	Colori meter
	Water bath
	Digital Weighing Balance
	Binocular Microscope
	Rotary Evaporator
	MAT lab software
	Turnitin plagiarism checker software
	Microbalance
	Ultra-Pure water system
	Probe sonicator
	-80°C Ultra Freezer
	Lyophilizer(Freeze dryer)

List of Project Equipment facilities available from other Department Laboratories:

Table 7.5.3: List of Project Equipment utilized from other Department Laboratories:

Name of the Department	Equipment Utilized	Outcome
Mechanical Engineering	UTM(To check the strength of Materials)	Faculty and students Published Patent

Mechanical Engineering	Muffle Furnace	For calcination, sintering of nanoparticles
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Fig: UTM Machine

B. Availability of center of excellence (05) - NIL

Utilization Project laboratory and R&D lab facilities as per the below scheduled timetable:


**Chaitanya Bharathi Institute of Technology (A)
Department of Biotechnology**

Individual Time Table for the Odd Semester Academic year 2025-26

Name of the Staff : Dr. Y. Rajasri / Dr. Ashutosh Panday/ Dr. C. Nageshwar Reddy
Designation : Associate Professor & Head
Email : rajasriy_biotech@cbit.ac.in
Mobile No : 9908994251

Date of Commencement of class work				Last day of Instruction			
I Sem		III Sem	16.07.2025	I Sem		III Sem	06.11.2025
V Sem	16.07.2025	VII Sem	16.07.2025	V Sem	06.11.2025	VII Sem	31.10.2025

DAY	9:10 - 10:10	10:10-11:10	11:15-12:15		1:00-2:00	2:00-3:00	3:05-4:05
MON				L U N C H		PP-I	
TUE							
WED							
THUR		PP-I					
FRI							
SAT							


Dr. V. Aruna
Time Table In-Charge


HEAD
Dept. of Bio-Technology
Chaitanya Bharathi Institute of Technology
Gandipet, Hyderabad-500 875.
Dr. Y. Rajasri
HOD, Biotechnology

Chaitanya Bharathi Institute of Technology (A)**Department of Biotechnology****Individual Time Table for the Even Semester Academic year 2024-25**

Name of the Staff : Dr. Y. Rajasri / Dr. G. Vijaya Laxmi / Dr. C. Nagendranatha Reddy
 Designation : Associate Professor & Head
 Email : rajasriy_biotech@cbi.ac.in
 Mobile No : 9908994251

Date of Commencement of class work				Last day of Instruction			
II Sem	03.02.2025	IV Sem	20.01.2025	II Sem	17.05.2025	IV Sem	30.04.2025
VI Sem	20.01.2025	VIII Sem	20.01.2025	VI Sem	30.04.2025	VIII Sem	30.04.2025

DAY	9:10 - 10:10	10:10-11:10	11:15-12:15		1:00-2:00	2:00-3:00	3:05-4:05
MON			PP-II	L	PP-II		
TUE				U		PP-II	
WED				N	PP-II		
THUR				C			
FRI				H			
SAT							



Dr. V. Aruna
Time Table In-Charge



HEAD
Dept. of Bio-Technology
Chaitanya Bharathi Institute of Technology
Gandipet, Hyderabad-500 878.

Dr. Y. Rajasri
HOD, Biotechnology

Chaitanya Bharathi Institute of Technology (A)

Department of Biotechnology

Individual Time Table for the Even Semester Academic year 2024-25

Name of the Staff : **Dr. S. Sumithra**
 Designation : Assistant Professor
 Email : ssumitra_biotech@cbit.ac.in
 Mobile No : 9963710844

Date of Commencement of class work				Last day of Instruction			
II Sem	03.02.2025	IV Sem	20.01.2025	II Sem	17.05.2025	IV Sem	30.04.2025
VI Sem	20.01.2025	VIII Sem	20.01.2025	V Sem	30.04.2025	VIII Sem	30.04.2025

DAY	9:10 - 10:10	10:10-11:10	11:15-12:15		1:00-2:00	2:00-3:00	3:05-4:05
MON				L			
TUE				U		MP	
WED				N			
THUR				C			
FRI			MP	H			
SAT							



Dr. V. Aruna
Time Table In-Charge



HEAD
Dept. of Bio-Technology
Chaitanya Bharathi Institute of Technology
Gundlapet, Hyderabad-500 875.

Dr. Y. Rajasri
HOD, Biotechnology

Project Laboratory Support and Innovation Platforms

CBIT provides dedicated **Project Laboratory Facilities** where students are encouraged to transform their innovative ideas into working prototypes. These laboratories are equipped with essential tools and computational resources to support experimentation, product design, and validation beyond the prescribed curriculum.

- Students regularly utilize these labs to develop prototypes showcased at prestigious platforms
- Students with interest in research-oriented or bio-based product development are encouraged to conduct **real-time experiments** and **proof-of-concept studies**. The Institute extends **financial assistance** to support meritorious and socially impactful student projects.
- The **Computer Laboratory** supporting research activities includes **23 high-performance systems**, fostering computational modeling and data analysis.
- A licensed version of **Turnitin** plagiarism detection software is employed to ensure academic integrity and originality of all student theses and project reports.

These integrated facilities and resources collectively enable students to conduct thorough literature reviews, engage in meaningful research, and contribute innovative solutions to contemporary biotechnological challenges.

The following table summarizes the students who utilized the Project Laboratory facilities and the outcomes achieved.

Table 7.5.4 : Sample List of students carried out project utilizing project laboratory facilities and their outcomes:

S. No	Name of the student	Roll Number	Academic year	Project Lab resources utilized	Project outcomes Product/Patent/ Publication
1	PRAVALLIKA, DIVYA SREE	160121805043, 160121805025	2021-25	Rota evaporator, Soxhlet Extractor, Turnitin software	Developed Hydrogel film for Diabetic wound healing

2	ADVAITH ROY	160121805047	2021-25	UV Spectro Photometer, Digital balance, Turnitin software	Developed organic acid-based Hydrogel film for wound healing
3	VENKAT KEERTHAN, SUNDAR, PRASANTH	160121805052, 160121805054, 160121805055	2021-25	Rota evaporator, Soxhlet Extractor, Turnitin software	Communicated Publication and Developed nano based biomedical device
4	ADITHI REDDI KAMANA	160120805001	2020-24	UV Spectrophotometer, Turnitin software	Developed Product on"Development of skin care products from natural ingredients"
5	BANALLA SHREYA, NITIN RATNAM BADHE	160120805027, 160120805043	2020-24	UV Spectrophotometer, Rota evaporator, Digital Weighing Balance, Turnitin software	Published Patent on 14-06-2014(Application No202441044350)
6	RAMAGALLA ASHISH	160120805042	2020-24	UV Spectrophotometer, Rota evaporator, Turnitin software	Developed Product on"Preparation of ion exchange chromatography kit contents for lysozyme isolation and purification"
7	DOOLAM BALAJI	160120805044	2020-24	UV Spectrophotometer, Turnitin software, Library Resources	Book chapter published(Bioenergy from Agricultural Residues) ISBN: 9780443247262
8	MATTA CHENNA KESHA CHARAN	160120805046	2020-24	UV Spectrophotometer, Turnitin software, Library Resources	Book chapter published(Bioenergy from Agricultural Residues) ISBN: 9780443247262
9	MALLEBOINA SAI SAHITHI	160119805021	2019-23	Hot Air Oven, Incubator, Laminar Air Flow Colori meter, Digital Weighing Balance, Binocular Microscope, Rotary Evaporator, Spectrophotometer, Library Resources	Published Patent on 19/04/24 (Application No.202441029006 A)

10	CHERUKU SAMHITHA	160119805022	2019-23	Hot Air Oven, Incubator, Laminar Air Flow Colori meter, Digital Weighing Balance, Binocular Microscope, Rotary Evaporator, Spectrophotometer, Library Resources	Published Patent on 19/04/24 (Application No.20244 1029006 A)
11	NSV LAKSHMAIAH	160118805044	2018-22	Hot Air Oven, Incubator, Laminar Air Flow, Colori meter, Digital Weighing Balance, Binocular Microscope, Rotary Evaporator, Library Resources	Published Review Paper on "Antifungal Metabolites as Food Bio-Preservative: Innovation, Outlook, and Challenges" in Metabolites. 2021, Dec 23;12(1):12. doi:10.3390/metabo12010012. PMID: 35050134; PMCID: PMC8778586.
12	ALISHA CHUNDURI, S. DEEPAK MOHAN REDDY, M.JAHNAVI	160118805001, 160118805034, 160118805009	2018-22	Hot Air Oven, Incubator, Laminar Air Flow Colori meter, Digital Weighing Balance, Binocular Microscope, Library Resources	Published Review Paper on "Gut-Brain Axis, Neurodegeneration and Mental Health: A Personalized Medicine Perspective" in Indian journal of Microbiology
13	ANUM,J. SANANTHOSINI.H. Uzma.T	160118805001	2018-22	Hot Air Oven, Incubator, Laminar Air Flow Colori meter, Digital Weighing Balance, Binocular Microscope,	Deposited Streptomyces strain https://www.ncbi (https://www.ncbi). nlm.nih.gov/nuccore/ ON105505.1

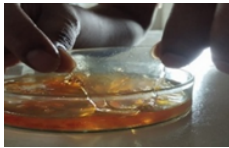
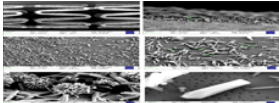


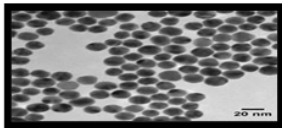
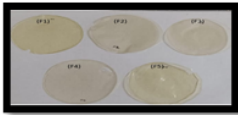
Students have developed innovative products, prototypes, and software solutions as part of their project work, demonstrating application of technical



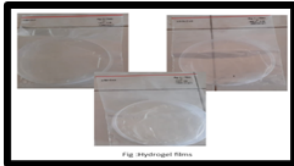

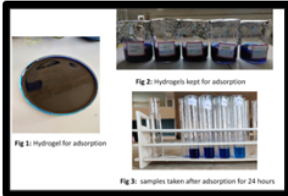
knowledge and creativity.

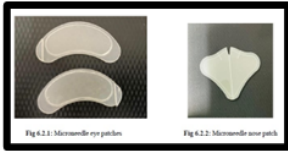
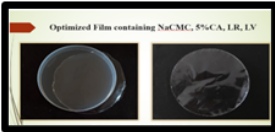




The following table presents the details of product developments and outcomes achieved



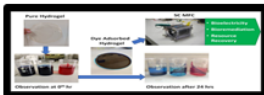
Table 7.5.5 : Product development as part of project work

S.No	Academic Year	Product Title	Sample Images	Impacts/Outcome
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1	2024-25	Carbomer based Hydrogel	 <p>Hydrogel film</p>	Presented paper in the SERB sponsored international conference on 4 th and 5 th April, 2025	
2	2024-25	Nano based cardiovascular devices	 <p>Nanocoated stent</p>	Communicated a paper to the JMBFS	
3	2023-24	Algae based bioplastics for sustainable packaging (Patent published)	 <p>Various algal extracts incorporated bioplastics</p>	Indian Patent Application No. 202441044350, Indian Publication date: June 14, 2024	
4	2023-24	Sargassums skincare potential: exploring, screening, extracting fucoidan, and validating its potent application in skincare	 <p>Extracted fucoidan for skin care applications</p>	This work Presented in Research Day with proceedings (ISBN:978-81-964979-5-8)	
5	2023-24	Synthesis of nanospheres drug delivery vehicles for the cancer treatment	 <p>TEM image of synthesized nano-sphere for drug delivery application</p>	Manuscript was communicated to Journal of Applied Biology & Biotechnology	
6	2023-24	Development of Multifunctional biomaterials: Nanocellulose from banana leaves for food packaging and wound dressing Applications	 <p>Various formulations of banana fiber and nanocellulose added for Food packaging and wound dressing application</p>	This product was exhibited in Research Day 2023, CBIT and was published in the proceedings (ISBN:978-81-964979-5-8)	

7	2023-24	Utilizing the Hydrochar Derived from Grape Fruit Waste for Supercapacitor and Super absorbent Applications.	 <p>Synthesized Hydrochar from grape fruits wastes</p>	The manuscript is under preparation and about to be communicated for publication
8	2022-23	Evaluating the antimicrobial properties of Algal polysaccharides and their applications	 <p>Pouch containing extracted algal polysaccharides</p>	This product was exhibited in Research Day 2023, CBIT and was published in the proceedings (ISBN:978-81-964979-5-8)
9	2022-23	Characterization of citric acid crosslinked carbopol-940 based hydrogels for wound healing applications (Patent published)	 <p>Various concentrations of citric acid cross-linked carbopol-940 based hydrogel films</p>	Indian Patent Application No.202441029006, Indian Publication date:19/04/2024
10	2022-23	Formulation and evaluation of transdermal patches of Atorvastatin calcium	 <p>Developed transdermal patches containing Atorvastatin calcium</p>	This product can be exhibited for using it as transdermal patches
11	2022-23	Optimization of carboxymethyl cellulose based hydrogel for efficient adsorption of methylene blue dye	 <p>Demonstration of CMC based hydrogel for methylene blue removal</p>	This product was exhibited in Research Day 2023, CBIT and was published in the proceedings (ISBN:978-81-964979-5-8)

12	2022-23	Experimental research on the development of sodium hyaluronic acid patch using microneedle technology	 <p>Developed patch incorporated with sodium hyaluronic acid</p>	This product was exhibited in research day 2022, CBIT, Hyderabad	
13	2022-23	Licorice infused cellulose based hydrogel films containing aroma compounds for potential application of wound healing	 <p>Cellulose-based hydrogel films infused with licorice and aromatic compounds for potential wound healing applications</p>	Presented and won best paper award at International Conference , Annamalai University, Tamil Nadu	
14	2022-23	Fabrication and characterization of stimuli-responsive hydrogel films for potential drug delivery applications (Patent published)	 <p>Characterization of stimuli-responsive hydrogel films for potential use in drug delivery applications</p>	Indian Patent Application No. 202341034437, Publication date:17/05/2023	
15	2021-22	Botanical Infusion of Kombucha for Enhanced Nutritional Composition	 <p>Prepared Kombucha for nutritional benefits</p>	This product can be displayed as a nutritionally enriched kombucha	
16	2021-22	Production and Optimization of Exo-Polysaccharide (Eps) By Usa1 Isolate of Streptomyces Sp.	 <p>Submitted gene sequence of Streptomyces</p>	A nucleotide sequence of the isolated micororganism was dummited to GENE BANK Nucleotide database and the sequence was published with Accn. No. ON105505.1	
17	2021-22	Fabrication Of Dye-Sensitized Solar Cells Containing Plant Chlorophyll and Algal Biomass as Sensitizers	 <p>Dye-Sensitized Solar Cells Containing Plant Chlorophyll and Algal biomass</p>	This producted was exhibited in Research Day 2022, CBIT	

18	2021-22	Essential Oil Based Micro Emulsion as Food Grade Preservatives	 <p>Antibacterial activity of Various formulation containing Micro Emulsion</p>	<p>A paper was published in "Biocatalysis and Agricultural Biotechnology" (IF: 3.4) (https://doi.org/10.1016/j.bcab.2023.102897 (https://doi.org/10.1016/j.bcab.2023.102897))</p>
19	2020-21	Green synthesis of silver nanoparticles and its medical applications	 <p>Biosynthesized silver nano particles</p>	<p>Presented in the International conference and published in the proceedings with ISBN: 978-81-946476-9-0</p>
20	2020-21	Integrated approach of Adsorption and Bioremediation for complete removal of Textile Dyes in Microbial Fuel Cell	 <p>An approach for dye removal using MFC</p>	<p>This product can be showcased for its dye removal capabilities</p>

The Department of Biotechnology at CBIT also promotes a culture of academic excellence and innovation by providing access to comprehensive institutional resources, including a well-equipped **central library** and **dedicated project laboratories**.

Library Facilities for Literature Review and Research Support;

The institutes central library houses an extensive collection of books authored by national and international experts, covering a broad spectrum of subjects relevant to biotechnology and allied disciplines. In addition to printed materials, students and faculty have access to an array of online journals and databases to support academic and research activities.

To facilitate high-quality **literature reviews** for student projects, mini/major theses, technical seminars, and research publications, CBIT has subscribed to premium journals from reputed publishers. Notably, the institute holds an active subscription to a curated list of **Springer journals**, with a significant focus on **Biotechnology and Life Sciences**. The relevant journals are highlighted in yellow in the catalog (pages 8–17), ensuring easy identification for users.

Methodology to Access Full-Length Publications:

1. Visit the institute's library portal: <https://www.library.cbit.ac.in> (<https://www.library.cbit.ac.in>)
2. Navigate to the Springer link that covers subject domains such as Engineering, Computer Science, Biomedical & Life Sciences, Chemistry & Materials Science, and Mathematics & Statistics.
3. You will be redirected to <https://link.springer.com> (<https://link.springer.com>), where full-length PDF articles can be accessed and downloaded to support literature review and project documentation.

CBIT-SWAYAM-NPTEL Local chapter:

Apart from Regular course curriculum students are encouraged to register for the Honors degree courses through CBIT-SWAYAM-NPTEL Local chapter Portal. To facilitate the students those are enthusiastic in getting additional degree, library center installed two operating systems exclusively to get the information regarding the list of the NPTEL courses available and video demonstration on how to enroll/Register for the courses and other necessary information like exam registration.

We strongly encourage students and faculty to leverage these valuable resources to strengthen their conceptual understanding and methodological framework for research and innovation.

D. Relevance to POs/PSOs (05):

The **Research Laboratory**, in the Department of Biotechnology is strategically developed and utilized to facilitate the attainment of the following **Program Outcomes (POs)** and **Program Specific Outcomes (PSOs)**:

Table 7.5.6: Sample List of students carried out project utilizing project laboratory facilities and their mapping to POs/PSOs

S. No.	Name of Student(s)	Project Lab resources utilized	PO Mapping	PSO Mapping	Justification
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1	Adithi Reddi Kamana	UV Spectrophotometer, Turnitin software	PO1, PO3, PO5, PO9, PO11	PSO1, PSO2	Applied scientific knowledge to develop natural skincare products (PO1, PO3); Used lab tools (PO5); Communicated product outcomes effectively (PO9); Demonstrated product-based learning (PO11); Addressed healthcare application (PSO1); Followed good lab practices (PSO2).
2	Banalla Shreya, Nitin Ratnam Badhe	UV Spectrophotometer, Rota evaporator, Digital Weighing Balance, Turnitin software	PO1, PO2, PO3, PO5, PO7, PO11	PSO1, PSO2	Patent filing reflects innovative problem-solving (PO2, PO3); Used advanced tools (PO5); Adhered to ethical and IP norms (PO7); Lifelong learning (PO11); Application in biotechnology domain (PSO1); Competent lab usage (PSO2).
3	Ramagalla Ashish	UV Spectrophotometer, Rota evaporator, Turnitin software	PO1, PO3, PO4, PO5, PO9	PSO1, PSO2	Product development with chromatography reflects experimental design (PO4); Effective use of instrumentation (PO5); Technical communication (PO9); Process optimization in biotech (PSO1); Followed SOPs (PSO2).
4	Doolam Balaji	UV Spectrophotometer, Turnitin software, Library Resources	PO1, PO4, PO6, PO9, PO11	PSO1	Book chapter requires research analysis (PO4), sustainable context (PO6); Good written communication (PO9); Independent work shows lifelong learning ability (PO11); Context in bioenergy application (PSO1).
5	Matta Chenna Keshava Charan	UV Spectrophotometer, Turnitin software, Library Resources	PO1, PO4, PO6, PO9, PO11	PSO1	Similar to S. No. 4 – contribution to book chapter on bioenergy with emphasis on sustainability (PO6) and strong research communication (PO9).

6	Malleboina Sai Sahithi	Hot Air Oven, Incubator, Laminar Air Flow, Colori meter, Digital Weighing Balance, Binocular Microscope, Rotary Evaporator, Turnitin software Spectrophotometer, Library Resources	PO1, PO2, PO3, PO4, PO5, PO11	PSO1, PSO2	Patent on biotechnology process (PO2, PO3); In-depth experimental work (PO4, PO5); Innovative thinking (PO11); Domain relevance and lab proficiency (PSO1, PSO2).
7	Cheruku Samhitha	Hot Air Oven, Incubator, Laminar Air Flow, Colori meter, Digital Weighing Balance, Binocular Microscope, Rotary Evaporator, Turnitin software, Spectrophotometer, Library Resources	PO1, PO2, PO3, PO4, PO5, PO11	PSO1, PSO2	Same patent and process as above; aligned mapping.
8	NSV Lakshmaiah	Hot Air Oven, Incubator, Laminar Air Flow, Colori meter, Digital Weighing Balance, Binocular Microscope, Rotary Evaporator, Library Resources	PO1, PO4, PO6, PO9, PO11	PSO1	Review paper writing reflects investigation and sustainable analysis (PO4, PO6); High-quality scientific communication (PO9); Demonstrates domain expertise (PSO1).
9	Alisha Chunduri, S. Deepak Mohan Reddy, M. Jahnvi	Hot Air Oven, Incubator, Laminar Air Flow, Colori meter, Digital Weighing Balance, Binocular Microscope, Library Resources, Turnitin software	PO1, PO4, PO6, PO9, PO11	PSO1	Neurodegeneration-related review paper reflects biomedical biotech focus (PSO1); In-depth analysis and multidisciplinary research (PO4, PO6); Scientific writing (PO9).
10	Anum J., Sannthosini H., Uzma T.	Hot Air Oven, Incubator, Laminar Air Flow, Colori meter, Digital Weighing Balance, Binocular Microscope, Turnitin software	PO1, PO4, PO5, PO7, PO11	PSO1, PSO2	Microbial strain isolation and deposition involves ethics and standard scientific process (PO4, PO7); Lifelong learning for strain deposition norms (PO11); Advanced microbial biotech (PSO1); Accurate lab handling (PSO2).

Table 7.5.7 Product development as part of project work mapped to POs/PSOs

S.No	Academic Year	Product Title	Mapped POs	Mapped PSOs
1	2024-25	Organic acid-based hydrogel films	PO1, PO2, PO4, PO6	PSO1
2	2024-25	Design of Nano based cardiovascular Devices	PO1, PO2, PO4, PO6	PSO1
3	2023–24	Algae-based bioplastics for sustainable packaging (<i>Patent published</i>)	PO1, PO2, PO3, PO5, PO6, PO11	PSO1

4	2023–24	Sargassums skincare potential: Fucoidan extraction and validation	PO1, PO2, PO4, PO6	PSO1
5	2023–24	Nanospheres for cancer drug delivery	PO1, PO2, PO3, PO4, PO5	PSO1
6	2023–24	Banana leaf nanocellulose for packaging and wound dressing	PO1, PO2, PO3, PO6	PSO1
7	2023–24	Hydrochar from grape waste for supercapacitor and adsorbent applications	PO1, PO2, PO5, PO6	PSO1
8	2022–23	Antimicrobial algal polysaccharides	PO1, PO2, PO4, PO6	PSO1
9	2022–23	Carbopol-940 hydrogels for wound healing (<i>Patent published</i>)	PO1, PO3, PO4, PO5, PO6	PSO1
10	2022–23	Transdermal patches with Atorvastatin calcium	PO1, PO3, PO5	PSO1
11	2022–23	CMC-based hydrogel for methylene blue dye adsorption	PO1, PO2, PO5, PO6	PSO1
12	2022–23	Sodium hyaluronic acid microneedle patch	PO1, PO2, PO3, PO5	PSO1
13	2022–23	Licorice-infused hydrogel films for wound healing	PO1, PO2, PO3, PO4, PO5, PO6	PSO1
14	2022–23	Stimuli-responsive hydrogel films for drug delivery (<i>Patent published</i>)	PO1, PO3, PO4, PO5, PO6	PSO1
15	2021–22	Nutritionally enriched Kombucha	PO1, PO2, PO3, PO6	PSO1
16	2021–22	EPS production from Streptomyces (USA1 isolate)	PO1, PO2, PO4, PO6	PSO1

Any other relevant information:

Faculty and student projects are carried out in the laboratory space. Funded project details of faculty and students under faculty guidance are:

Table7.5.8 Assessment year 2025-26- Update seed funding projects

S. No	Faculty	Name of the Project	Duration	Funding Organization	Grant Amount (INR)
1	Dr. Rajasri Y	Bioplastic from Sea Weeds for Food Packaging	I year	CBIT	Rs 30,000
2	Dr. Ashoutosh Panday	Face cream characterization and Business model study for stop acne application	I year	CBIT	Rs28,000
3	Dr. C. Obula Reddy	Design of Nano-based cardiovascular device	I year	CBIT	Rs20,000

4	Dr. C. Obula Reddy	Eco-revamping plaster of Paris: waste: Transforming industrial by products	1 year	CBIT	Rs1,15,000
5	Dr. B. Mishra	Fabrication of Active food packaging system with Pullulan and selected plant extract	1 year	CBIT	Rs100,000
6	Dr. C.Nagendranath Reddy	Biodegradation of Toxic and recalcitrant dye adsorbed hydrogel using bio electrochemical treatment (BET) system with simultaneous value addition for environmental sustainability	1 year	CBIT	Rs1,80,000
7	Dr. K Dharmalingam	Fabrication of organic acid cross-linked polymer-based film	1 year	CBIT	Rs1,80,000
8	Dr. Kiran Y	Modification of thermoplastic 3D printer for bioprinting applications	1 year	CBIT	Rs1,15,000
9	Dr. Sanjeeb Kumar Mandal	Utilizing banana peduncle as an affordable bio adsorbent for efficient removal of heavy metals from the soil sample near industry	1 year	CBIT	Rs1,0,5000

Table 7.5.9:Assessment year 2024-25-Update seed funding projects(consultancy)

S.No	Faculty	Name of the Project	Duration	Funding Organization	Grant Amount(INR)
1	Dr. G. Vijaya Laxmi and Dr. Ashoutosh Panday	Bio risk Assessment and Biohazard Mitigation of Common Plant Toxins in Laboratory and Industrial Environments	2.5 Months (18 October - 31 December 2024)	Health security partners	Rs46,197/-

Table 7.5.10 Assessment year 2023-24

S.No	Faculty	Name of the Project	Duration	Funding Organization	Grant Amount(INR)
1	Dr Y. Rajasri (Coordinator), Dr Bishwambhar Mishra (Co-Coordinator) and Dr C. Nagendranath Reddy (Co-Coordinator)	BRSI Biotechnology Popularization and Skill Development Program for School Children	2 days sanctioned on 11.03.2024	BRSI Biotechnology Popularization and Skill Development Program for School Children	Rs. 26,000/-

2	Dr Y Rajasri, Dr K. Dharmalingam	Algae based bioplastics for sustainable packaging	One year sanctioned on 26.04.2024	CBIT Internal / Inhouse project	Rs 99,500
3	Dr Sanjeeb Kumar Mandal	Isolation, identification of microbes having potential probiotic activities	One year sanctioned on 26.04.2024	CBIT Internal / Inhouse project	Rs 31,447

Table 7.5.11 Assessment year 2022-23

S.No	Faculty	Name of the Project	Duration	Funding Organization	Grant Amount(INR)
1	Dr Y. Rajasri and DrBishwambhar Mishra	Antimicrobial coating on personal protective equipment	One year of sanctioned on13.03.2023	CBIT Students project	Rs 10,000
2	Dr K. Dharma lingam	Fabrication and characterization of stimuli responsive hydrogel films for potential applications in drug delivery	One year of sanctioned on 23.03.2023	CBIT Students project	Rs 10,000
3	Dr Y. Rajasri	PHB production and extraction	One year of sanctioned on 28.04.2023	CBIT Students project	Rs 10,000
4	Dr Y. Rajasri	Bioplastics from sea weeds	One year of sanctioned on 28.04.2023	CBIT Students project	Rs 10,000

PART E: First Year faculty and financial Resources

(Data to be filled in for the first year course faculty and budget allocation and utilization)

E1. First Year Student-Faculty Ratio (FYSFR)

Table No. E1.1: FYSFR details.

Year	Sanctioned intake of all UG programs (S4)	No. of required faculty (RF4= S4/20)	No. of faculty members in Basic Science Courses & Humanities and Social Sciences including Management courses (NS1)	No. of faculty members in Engineering Science Courses (NS2)	Percentage= No. of faculty members ((NS1*0.8)+(NS2*0.2))/(No. of required faculty (RF4)); Percentage=((NS1*0.8)+(NS2*0.2))/RF
2023-24(CAYm2)	1320	66	46	138	98
2024-25(CAYm1)	1560	78	51	150	91
2025-26(CAY)	1560	78	53	147	92

E2. Budget Allocation, Utilization, and Public Accounting at Institute Level

Table No. E2.1: Budget and actual expenditure incurred at Institute level.

Items	Budgeted in 2024-2025	Actual Expenses in 2024-2025 till	Budgeted in 2023-2024	Actual Expenses in 2023-2024 till	Budgeted in 2022-2023	Actual Expenses in 2022-2023 till	Budgeted in 2021-2022	Actual Expenses in 2021-2022 till
Infrastructure Built-Up	835556220	80677336	928758950	212278035	599360066	207743151	288638634	111189003
Library	16880500	463564	17250000	5269512	10000000	5121807	13276000	4998829
Laboratory equipment	106401725	5283213	103339208	29453684	84204700	24501833	79051533	22972555
Teaching and non-teaching staff salary	846012703	384381185	786362595	738018663	688541238	739784133	666289413	573580254
Outreach Programs	5950000	24032708	1997398	18457583	6511630	19228796	39420000	53028931
R&D	23620000	2429987	16800000	12170239	300000	25134005	500000	169797
Training, Placement and Industry linkage	350000	61941	80000	731941	44495	487643	58293	179770
SDGs	20000000	244252	30000000	1060578	10560000	1896549	50000000	401810
Entrepreneurship	4461000	0	6772000	4372671	5175500	5175500	5360000	0
Others, specify	186636709	12027206	39287466	15004932	32721311	3263498	48794249	5835583
Total	2045868857	509601392	1930647617	1036817838	1437418940	1032336915	1191388122	772356532

E3. Budget Allocation, Utilization, and Public Accounting at Program Specific Level

Table No. E3.1: Budget and actual expenditure incurred at program level.

Items	Budgeted in 2024-2025	Actual Expenses in 2024-2025 till	Budgeted in 2023-2024	Actual Expenses in 2023-2024 till	Budgeted in 2022-2023	Actual Expenses in 2022-2023 till	Budgeted in 2021-2022	Actual Expenses in 2021-2022 till
Laboratory equipment	6085000	1084420	4944000	1073800	3176000	0	2121000	1567122
Software	1800000	0	880000	0	550000	0	0	0

SDGs	0	0	0	0	0	0	0	0
Support for faculty development	200000	16500	0	18000	0	45000	0	0
R & D	873000	197000	177143	177143	40000	0	0	0
Industrial Training, Industry expert, Internship	0	19500	0	0	0	5453	0	0
Furniture, Staff Cost, and Laboratory Consumables	217885934	10975046	21680781	20763395	21130010	21302942	16730286	16058483
Total	226843934	12292466	27681924	22032338	24896010	21353395	18851286	17625605