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: 10495	**Date of Submission**: 17-04-2025

PART A- Profile of the Institute

A1.Name of the Institute: VEL TECH HIGH TECH DR. RANGARAJAN DR. SAKUNTHALA ENGINEERING COLLEGE	
Year of Establishment : 2002	Location of the Institute: Avadi
A2. Institute Address:No. 60, Avadi-Veltech Road, Avadi, Chennai	
City:Chennai	State:Tamil Nadu
Pin Code:600062	Website:www.velhightech.com
Email:principal@velhightech.com	Phone No(with STD Code):044-26840113
A3. Name and Address of the Affiliating University (if any):	
Name of the University : Anna University	City: Tiruvallur
State : Tamil Nadu	Pin Code: 0
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: **9**
- No. of PG programs: **2**

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	Engineering & Technology	UG	Artificial Intelligence and Data Science	2020	--	Artificial Intelligence and Data Science
2	Engineering & Technology	UG	Biotechnology	2006	--	Biotechnology
3	Engineering & Technology	UG	Chemical Engineering	2002	--	Chemical Engineering
4	Engineering & Technology	UG	Civil Engineering	2002	--	Civil Engineering
5	Engineering & Technology	UG	Computer Science and Engineering	2005	--	Computer Science and Engineering
6	Engineering & Technology	UG	Computer Science and Engineering (Artificial Intelligence & Machine Learning)	2022	--	Computer Science and Engineering (Artificial Intelligence and Machine Learning)
7	Engineering & Technology	UG	Electronics & Communication Engineering	2002	--	Electronics and Communication Engineering
8	Engineering & Technology	UG	Information Technology	2006	--	Information Technology
9	Engineering & Technology	UG	Mechanical Engineering	2009	--	Mechanical Engineering
10	Engineering & Technology	PG	Structural Engineering	2011	--	Civil Engineering

11	Management	PG	Masters in Business Administration	2006	--	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
Chemical Engineering	No	Chemical Engineering	UG
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	2006 / --	60	No	NA	60	2006	F.No. Southern/1-43663938704/2024/EOA Dated:22.05.24	Granted accreditation for 3 years for the period (specify period)	2022	2025	1	4

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 :	Gopinath M
B. Nature of appointment:	Regular
C. Qualification:	ME/M. Tech and PhD

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)	2024-25 (CAY)	2023-24 (CAYm1)	2022-23 (CAYm2)	2021-22 (CAYm3)	2020-21 (CAYm4)	2019-20 (CAYm5)	2018-19 (CAYm6)
N=Sanctioned intake of the program (as per AICTE /Competent authority)	60	60	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	49	48	50	53	40	58	39
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	0	0	1	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	0	0	0	0	0	0	0
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	49	48	50	54	40	58	39

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]
2024-25 (CAY)	60	49	0	81.67
2023-24 (CAYm1)	60	48	0	80.00
2022-23 (CAYm2)	60	50	0	83.33

Average [(ER1 + ER2 + ER3) / 3] = 81.67≡ 17.00

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	(2020-21) LYG	(2019-20) LYGm1	(2018-19) 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).	60.00	60.00	60.00
B=No. of students who graduated from the program in the stipulated course duration	40.00	58.00	39.00
Success Rate (SR)= (B/A) * 100	66.67	96.67	65.00

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 76.11

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(2023-24)	CAYm2(2022-23)	CAYm3 (2021-22)
Mean of CGPA or mean percentage of all successful students(X)	7.58	7.87	7.90
Y=Total no. of successful students	48.00	50.00	53.00
Z=Total no. of students appeared in the examination	48.00	50.00	53.00
API [X*(Y/Z)]	7.58	7.87	7.90

Average API[(AP1+AP2+AP3)/3] : 7.78

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 (2023-24)	CAYm2 (2022-23)	CAYm3 (2021-22)

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)	7.74	7.92	8.59
Y=Total no. of successful students	50.00	54.00	40.00
Z=Total no. of students appeared in the examination	50.00	54.00	40.00
API [X * (Y/Z)]	7.74	7.92	8.59

Average API [(AP1 + AP2 + AP3)/3] : 8.08

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 (2023-24)	CAYm2 (2022-23)	CAYm3 (2021-22)
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)	7.91	8.40	8.42
Y=Total no. of successful students	54.00	40.00	58.00
Z=Total no. of students appeared in the examination	54.00	40.00	58.00
API [X*(Y/Z)]:	7.91	8.40	8.42

Average API [(AP1 + AP2 + AP3)/3] : 8.24

B9. Placement, Higher Studies, and Entrepreneurship

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

Item	LYG (2020-21)	LYGm1(2019-20)	LYGm2(2018-19)
FS*=Total no. of final year students	60.00	60.00	60.00
X=No. of students placed	31.00	35.00	32.00
Y=No. of students admitted to higher studies	7.00	15.00	6.00
Z=Total no. of students appeared in the examination	0.00	0.00	0.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	63.33	83.33	63.33

Average Placement Index = (P_1 + P_2 + P_3)/3: 70.00 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	Prathiba R	XXXXXXX38J	ME/M. Tech and PhD	Anna University	Environmental Engineering	19/07/2024	0.8	Associate Professor	Associate Professor		Regular	Yes		No

2	Sathya K	XXXXXXX85D	ME/M. Tech and PhD	Anna University	Biotechnology	13/07/2023	1.9	Assistant Professor	Assistant Professor		Regular	Yes		No
3	Vaishnavi S	XXXXXXX36B	Ph.D	Tzu Chi University	Cancer Biology	19/07/2024	0.8	Assistant Professor	Assistant Professor		Regular	Yes		No
4	Hanisha R	XXXXXXX55G	M.E/M.Tech	Anna University	Nanoscience and Technology	05/08/2020	4.8	Assistant Professor	Assistant Professor		Regular	Yes		No
5	Karunya T P	XXXXXXX19N	M.E/M.Tech	Karunya Institute of Science and Technology	Biotechnology	21/12/2021	3.3	Assistant Professor	Assistant Professor		Regular	Yes		No
6	Vijayalakshmi V	XXXXXXX81M	M.E/M.Tech	Anna University	Nanotechnology	07/02/2023	2.2	Assistant Professor	Assistant Professor		Regular	Yes		No
7	Priyashree S	XXXXXXX23C	M.E/M.Tech	Anna University	Biotechnology	20/07/2023	1.8	Assistant Professor	Assistant Professor		Regular	Yes		No
8	Dhivya S	XXXXXXX49E	M.E/M.Tech	Anna University	Biotechnology	14/08/2023	1.7	Assistant Professor	Assistant Professor		Regular	Yes		No
9	Lenita S	XXXXXXX50K	M.E/M.Tech	Anna University	Biopharmceutical Technology	31/08/2023	1.7	Assistant Professor	Assistant Professor		Regular	Yes		No
10	Shanmuga Pavithra K	XXXXXXX75A	M.E/M.Tech	Anna University	Biotechnology	31/08/2023	1.7	Assistant Professor	Assistant Professor		Regular	Yes		No
11	Sai Ramesh A	XXXXXXX01F	MS and PhD	VIT University	Biotechnology	22/06/2018	5.7	Assistant Professor	Associate Professor	26/09/2020	Regular	No	30/01/2024	No
12	Yuvaraj D	XXXXXXX55H	M.Sc. and PhD	Annamalai University	Marine Biology	03/06/2013	11	Professor	Professor		Regular	No	04/06/2024	No
13	Udayamathi M	XXXXXXX82C	MS	Anna University	Biotechnology	02/03/2020	4.4	Assistant Professor	Assistant Professor		Regular	No	15/07/2024	No
14	Gnanasekaran. R	XXXXXXX54H	ME/M. Tech and PhD	Anna University	Environmental Biotechnology	08/06/2017	6.1	Assistant Professor	Assistant Professor		Regular	No	03/08/2023	No
15	Gopinath M	XXXXXXX50G	ME/M. Tech and PhD	Annamalai University	Bio-Chemical Enigneering	17/06/2019	5.9	Associate Professor	Professor	26/07/2024	Regular	Yes		Yes
16	Abinaya K	XXXXXXX87H	M.E/M.Tech	Sathyabama University	Biotechnology	31/08/2021	1.9	Assistant Professor	Assistant Professor		Regular	No	12/06/2023	No
17	Bhavani sowndharya B	XXXXXXX12R	M.E/M.Tech	Sastra University	Industrial Biotechnology	02/12/2021	1.6	Assistant Professor	Assistant Professor		Regular	No	24/06/2023	No
18	Mathan muthu C M	XXXXXXX66G	M.E/M.Tech	SRM Institute of Science and Technology	Biotechnology	24/08/2022	0.9	Assistant Professor	Assistant Professor		Regular	No	19/06/2023	No
19	Anubha M	XXXXXXX77C	M.E/M.Tech	Anna University	Biotechnology	27/07/2022	0.6	Assistant Professor	Assistant Professor		Regular	No	03/02/2023	No
20	Linekha R	XXXXXXX26L	M.E/M.Tech	Anna University	Biotechnology	16/08/2022	0.5	Assistant Professor	Assistant Professor		Regular	No	21/01/2023	No
21	Iyyappan J	XXXXXXX86K	ME/M. Tech and PhD	ANNA UNIVERSITY	BIO PROCESS TECHNOLOGY	16/06/2015	6.4	Assistant Professor	Assistant Professor		Regular	No	25/10/2021	No

22	Iyyappan J	XXXXXXX86K	ME/M. Tech and PhD	ANNA UNIVERSITY	BIO PROCESS TECHNOLOGY	05/02/2025	0.2	Associate Professor	Associate Professor		Regular	Yes		No
23	Ramya K	XXXXXXX37P	M.E/M.Tech	Anna University	Nano Technology	27/06/2016	5.2	Assistant Professor	Assistant Professor		Regular	No	25/09/2021	No
24	Anli Dino A	XXXXXXX05P	M.E/M.Tech	Anna University	Biotechnology	21/01/2016	6.1	Assistant Professor	Assistant Professor		Regular	No	25/02/2022	No
25	Bavithra C	XXXXXXX89M	M.E/M.Tech	Dr. MGR Educational and Research Institute University	Genetic Engineering	02/03/2020	1.11	Assistant Professor	Assistant Professor		Regular	No	25/02/2022	No
26	Anusha Jeslin V	XXXXXXX39G	M.E/M.Tech	Sathyabama Institute of Science and Technology	Biopharmaceutical	02/03/2020	2.2	Assistant Professor	Assistant Professor		Regular	No	05/05/2022	No
27	Anu Priya A	XXXXXXX24D	M.E/M.Tech	Anna University	Biotechnology	12/08/2020	1.1	Assistant Professor	Assistant Professor		Regular	No	25/09/2021	No
28	Ragavy R	XXXXXXX81D	M.E/M.Tech	Anna University	Biomaterials	01/09/2021	0.9	Assistant Professor	Assistant Professor		Regular	No	27/06/2022	No
29	Sangeetha Gandhi S	XXXXXXX16L	M.E/M.Tech	Anna University	Nanotechnology	07/02/2022	0.5	Assistant Professor	Assistant Professor		Regular	No	04/08/2022	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(2024-25)	CAYm1 (2023-24)	CAYm2 (2022-23)
UG1.B	60	60	61
UG1.C	60	61	60

Description	CAY(2024-25)	CAYm1 (2023-24)	CAYm2 (2022-23)
UG1.D	61	60	60
UG1: Biotechnology	**181**	**181**	**181**
DS=Total no. of students in all UG and PG programs in the Department	181	181	181
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=** 181	**S2=** 181	**S3=** 181
DF=Total no. of faculty members in the Department	11	11	10
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=** 11	**F2=** 11	**F3=** 10
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= 16.45**	**SFR2= 16.45**	**SFR3= 18.10**
Average SFR for 3 years	**SFR= 17.00**		

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 x [(10X + 4Y) / RF)]
2024-25(CAY)	4	7	9.00	18.89
2023-24(CAYm1)	3	9	9.00	18.33
2022-23(CAYm2)	4	7	9.00	18.89

C4. Faculty Cadre Proportion

- Faculty Cadre Proportion is 1(RF1): 2(RF2): 6(RF3)
- RF1= No. of Professors required = 1/9 * 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 * 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 * 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
2024-25	1.00	1.00	2.00	1.00	6.00	9.00
2023-24	1.00	1.00	2.00	1.00	6.00	9.00
2022-23	1.00	1.00	2.00	2.00	6.00	7.00

Average	RF1=1.00	AF1=1.00	RF2=2.00	AF2=1.33	RF2=6.00	AF2=8.33

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 Immanuel Selvaraj	Founder, Director	i-EL Technologies	Innovation and Innovation management	8.00
2	Dr Sridhar S	Founder & CEO	Chandakaa	Equipping Biotechnology students for the demands of the industry	8.00
3	Mr Balaji G	Senior manager, Regulatory affairs R & D	Waycool foods and products Pvt ltd	Exploring carrier prospects for biotechnologists in the food industry	8.00
4	Dr Brindha R	Assistant Professor, Senior Grade	Department of Biotechnology, University College of Engineering, BIT campus, Anna University, Tiruchy	Chemical Reaction Equilibria	8.00
5	Mr. Godwin Immanuel	Founder & CMO	Bversity Hybrid School for Biosciences, Chennai	Understanding rising demand and map your carrier in bioinformatics	8.00
6	Ms. Saranya J	Founder & CEO	Ecstasi solutions, Chennai	Pathway to entrepreneurship through engineering innovation	8.00

(CAYm2)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Dr. Sivaramakrishnan R	Section Head & Consultant, Molecular Biologist,	Apollo Health and Lifestyle Limited, Chennai	Clinical Diagnostics	8.00
2	Dr. UdayaPrakash N K	Professor	Vels Institute of Science and Technology, Chennai	Bionanotechnology	8.00
3	Dr. Suresh Kumar A	Professor & Head	Vel Tech High Tech Dr Rangarajan Dr Sakunthala Engineering College	Entrepreneurship	8.00
4	Mr. Manikandan. A	IAS	Tamil Nadu	UPSC & TNPSC preparation	8.00
5	Dr. Nivedhita	Doctor	Newhope Medical Center	Medical Biotechnology	8.00
6	Dr. M. Michael Gromiha	Professor	IIT Madras	Bioinformatics Methodology	8.00

(CAYm3)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Dr Chandrasekaran V S	Principal Scientist	ICAR- CIBA	Marine Biotechnology	8.00
2	Dr Charles John Baskar T	Scientist & CEO	Geo Marine Technologies	Scope in Biotechnology post pandemic	8.00
3	Dr Thirupathi Chockalingam	REGISTERED RESPIRATORY THERAPIST	National Board for Respiratory care, USA	Life saving Strategies	8.00
4	Dr Sathya Narayana Gummadi N	Professor	IIT Madras	Online session on statistical Designing of Experiments and Bioprocess optimization	8.00
5	Dr Kathiresan K	Honorary Professor, Former Dean and Director of Marine Biology	Annamalai Univesrity	Collective action for the ocean	8.00
6	Dr Shreedevi M S	Research Officer	Central council for research in Siddha, Chennai	Scope of interdisciplinary research using Bioeengineering in Siddha	8.00

C6. Academic Research

Table No. C6.1: Faculty publication details.

S.No.	Item	2023-24 (CAYm1)	2022-23 (CAYm2)	2021-22 (CAYm3)
1	No. of peer reviewed journal papers published	19	19	15
2	No. of peer reviewed conference papers published	0	0	0
3	No. of books/book chapters published	2	2	3

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
Dr. M. Gopinath		Biotechnology	National Conference-Biotechnological Advancements for Sustainable Environment	DST-SERB	1	0.75
						Amount received (Rs.):0.75

(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
Dr. M. Gopinath		Biotechnology	Waste to Wealth: Emerging Trends in green energy for sustainable development	AICTE-ATAL	1	3.00
Dr. A. Sai ramesh		Biotechnology	Popular Lecture Series	DBT	1	0.24
Dr. M. Gopinath		Biotechnology	National Conference on Innovative Trends in Biotechnology	DBT	1	0.55
Dr. D. Yuvaraj		Biotechnology	Popular Lecture Series	DBT	1	0.24
						Amount received (Rs.):4.03

(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. A. Sairamesh		Biotechnology	Development of microbial fuel cell using exoelectrogenic bacteria E.Coli and industrial waste – A Novel approach towards sustainable power generation	TNSCST	1	0.08
Dr. A. Sairamesh		Biotechnology	Formulation of Nanobiopesticides from Charahydrophytes Gracilaria Edulis Cuscuta Sp.	TNSCST	1	0.08
						Amount received (Rs.):0.16

Total Amount (Lacs) Received for the Past 3 Years: 4.94

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)

(CAYm2)

(CAYm3)

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

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
D. Yuvaraj , Karunya T P	Reclamation of waste water to portable water	1 year	1.00	1.00	1 research article published
Dr M Gopinath,Mrs. V.Vijayalakshmi	Formulation and bio packaging of ecofriendly ready to use herbal hand wash capsules	1 year	1.00	1.00	1 research article accepted, 1 research article communicated
Dr R Gnanasekaran, Mrs M Udayamathi	Utilization of waste dry leaf litter ched vermicompost – a possibility of waste valorization	1 year	1.00	1.00	1 research article published
Dr A Sai Ramesh, Mr.C.M.Madhan Muthu	Hydrocarbon leaching using microorganisms isolated from oil spilled area	1 year	1.00	1.00	1 research article communicated
			Amount received (Rs.): 4.00		

(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
			Amount received (Rs.): 0		

(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
			Amount received (Rs.): 0		

Total amount (Lacs) received for the past 3 years : 4.00

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	Cell Biology Lab, Molecular Biology Lab, Genetic Engineering Lab	3	Autoclave Hot Air Oven Incubators Light Microscopes Incubator Shaker Colorimeter Laminar Flow Chamber Electrophoresis Kit PCR Centrifuge Spectrophotometer	24 h	Ms.Sarumathy	Lab Instructor	B.Tech
2	Applied Microbiology Lab, Principles of Immunology Lab	3	Autoclave Hot Air Oven Incubators Light Microscopes Incubator Shaker Colorimeter Laminar Flow Chamber Microwave oven Hot plate Table top refrigerated	12 h	Mr. M. Andrew Godwin Da	Lab Instructor	M.Sc

3	Biochemistry Lab, Analytical Techniques in Biotechnology Lab	3	UV-Visible Spectrophotometers pH meter Centrifuge Colorimeter	12 h	Mr.K.Kamalraj	Lab Instructor	B.E.
4	Bioprocess Lab, Principles of Bio Separation Processes Lab	3	High Performance Liquid Chromatography Electrophoresis Kit Reactors Incubators Light	12 h	Ms.Sarumathy	Lab Instructor	B.Tech
5	Chemical Engineering Laboratory	3	Colorimeter Filter leaf Orifice meter Venturimeter Rotameter	8 h	Mr.K.Kamalraj	Lab Instructor	B.E.
6	Computational Biology Lab	1	Hardware: HP Pro Toer PC with Intel Core i7, 12th Generation 2.1GHz Upto 4.9 GHz HP280PROMTG9,	8 h	Mr. M. Andrew Godwin Da	Lab Instructor	M.Sc

D2. Safety Measures in Laboratories

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

Sr. No	Laboratory Name	Safety Measures
1	BIOCHEMISTRY LABORATORY	1. Wear a lab coat, gloves, and safety goggles at all times. 2. Use face masks if working with powders, volatile substances, or infectious materials. 3. Label all samples and reagents clearly with name, concentration, and date. 4. Avoid cross-contamination by using clean pipette tips for each reagent/sample. 5. Use fume hoods when handling volatile substances or harmful fumes. 6. Follow manufacturer's instructions for spectrophotometers, pH meters, and centrifuges.
2	MICROBIOLOGY LABORATORY	1. Always wear a lab coat, gloves, and safety goggles. 2. Wear closed-toe shoes and tie back long hair. 3. Use flame sterilization (e.g., Bunsen burner) to sterilize tools like loops and needles. 4. Place all bio-hazardous materials (tips, plates, cultures) in auto-clavable bio-hazard bags. 5. Clean and disinfect microscopes and incubators after use. 6. Follow all Standard Operating Procedures (SOP's) and bio-safety protocols. 7. Maintain proper records in lab notebooks or electronic logs
3	CELL BIOLOGY LABORATORY	1. Wear appropriate PPE: Lab coat, gloves, and safety goggles. 2. Tie back long hair and avoid loose clothing or dangling accessories. 3. Label all reagents and solutions clearly with name, concentration, and date. 4. Handle all chemicals in a fume hood when necessary (e.g., fixatives like formaldehyde). 5. Use centrifuges with properly balanced tubes to prevent accidents. 6. Follow manufacturer's guidelines for operating microscopes, incubators, and other lab instruments. 7. Turn off electrical equipment when not in use.
4	CHEMICAL ENGINEERING LABORATORY	1. Label all containers with chemical name, concentration, hazard symbol, and date. 2. Handle acids, bases, solvents, and oxidizers with extreme caution, preferably under a fume hood. 3. Be cautious when working with hot plates, boilers, and heat exchangers—always assume surfaces may be hot. 4. Use thermal gloves for handling hot glassware or metal parts 5. Follow standard operating procedures (SOPs) for pumps, reactors, distillation columns, and other equipment. 6. Check connections, seals, and joints before starting any experiment involving fluid flow or gas lines.
5	MOLECULAR BIOLOGY LABORATORY	1. Wear a lab coat, gloves, and safety goggles at all times. 2. Handle ethidium bromide, SYBR Safe, phenol, chloroform, and β-mercaptoethanol in a fume hood. 3. Store hazardous chemicals in labeled, ventilated cabinets. 4. Use aseptic techniques to avoid contamination when working with nucleic acids or cell lines. 5. Do not open centrifuge lids until rotors come to a complete stop. 6. Do not pour chemicals like phenol or chloroform down the drain.
6	ANALYTICAL TECHNIQUES IN BIOTECHNOLOGY LABORATORY	1. Handle solvents (e.g., acetone, methanol, chloroform) and acids in a fume hood. 2. Read and follow standard operating procedures (SOPs) for each instrument (e.g., UV-Vis, HPLC, GC, AAS, FTIR). 3. Allow instruments to warm up properly before use, and shut them down safely after use. 4. Never touch optical components (like lenses, cuvettes) with bare hands. 5. Avoid using wet hands near power sources or instruments. 6. Keep instruments and work areas clean and dust-free. 7. Calibrate instruments regularly and report any malfunctions
7	BIOPROCESS LABORATORY	1. Use face masks or shields when working with aerosols or pressurized systems. 2. Wear closed-toe shoes and tie back long hair. 3. Ensure pressure relief valves and safety locks on bioreactors are functional. 4. Never open pressurized vessels without proper depressurization. 5. Monitor pH, DO (dissolved oxygen), temperature, agitation speed continuously and shut down in case of malfunction. 6. Do not override safety interlocks on fermenters or autoclaves.

8	IMMUNOLOGY LABORATORY	1. Wear lab coats, disposable gloves, and safety goggles or face shields. 2. Use N95 masks or respirators if working with airborne pathogens. 3. Disinfect work surfaces before and after experiments. 4. Use sterile tools and reagents; maintain aseptic conditions during cell culture and ELISA procedures. 5. Change gloves frequently and avoid touching common surfaces with contaminated gloves. 6. Maintain a log of biological agents and incident reports.
9	GENETIC ENGINEERING LABORATORY	1. Always wear lab coats, gloves, and safety goggles. 2. Work in biosafety cabinets (Class II or higher) for handling GMOs or recombinant DNA. 3. Use aseptic techniques: sterilize tools, flame necks of tubes, and disinfect surfaces. 4. Autoclave all waste before disposal (e.g., media, cultures, GMOs). 5. Dispose of sharps in designated sharps containers.
10	DOWN STREAM PROCESSING LABORATORY	1. Properly dispose of used resins or regenerate them as per protocol. 2. Handle low pH or high-salt buffers with caution. 3. In case of spills, evacuate and follow proper spill response procedures. 4. Maintain a clean, organized workspace to prevent accidents or cross-contamination. 5. Wear gloves when handling resins, buffer solutions, and strong acids/bases. 6. Ensure rotors are balanced in centrifuges and lids are properly secured.

D3. Project Laboratory/Research Laboratory

The Department of Biotechnology at Vel Tech High Tech has established dedicated project and research laboratories given in Table 7.1 to foster innovation, interdisciplinary research, and support for final-year projects, internships, and startup activities.

These facilities are aligned with emerging areas such as bioenergy, nanobiotechnology, environmental remediation, and synthetic biology.

Project Laboratory

- Equipped with essential instruments and software for final year and mini-projects.
- Available to students beyond academic hours for design, prototyping, and experimental validation.
- Used extensively for multidisciplinary and problem-based learning projects.

Key Facilities

- Incubators, spectrophotometers, HPLC, PCR, microscopes, autoclave shown in Fig 7.6 to Fig 7.10
- Systems for waste-to-biochar conversion, enzyme assays, and microbial culture.

Research laboratory

- Supports faculty and students in executing projects and Ph.D. research given in Table 7.2.
- Hosts instrumentation-based training and sample analysis for real-time research.
- Encourages publications in Scopus/SCI journals through data-driven experimental work.

Key equipment

- Computers intel i7 configuration with 1 TB harddisk, PyMol, Clustal Omega, Docking Softwares, Swiss PDF Viewer, Chimera and High Speed Internet Facility.
- Photocatalytic Reactor and Photobioreactor

Innovation and Start-up Support

- Lab space is extended to support students engaged in:
  - EDC Cell activities, IIC projects, and Idea Lab incubation
  - Prototype development under seed money and TNSCST student project schemes
- Encourages participation in Smart India Hackathon, SIH, Techfests, and product pitching.

Outcomes

- Over 50 UG/PG projects completed annually using in-house facilities.
- Multiple student publications, patents published shown in Table 7.3, and MOUs signed with industry

Table 7.1 List of Research Laboratory/Project Laboratory

S No	Name of the laboratory
1	Smart Dock Research Laboratory
2	Bioresource Research Laboratory
3	Project Lab - 1
4	Project Lab - 2
5	Project Lab – 3
6	Project Lab - 4

Fig 7.6 Gas chromatography and atomic absorption spectroscopy

Fig 7.7 Thermocycler, HPLC and Hot air oven

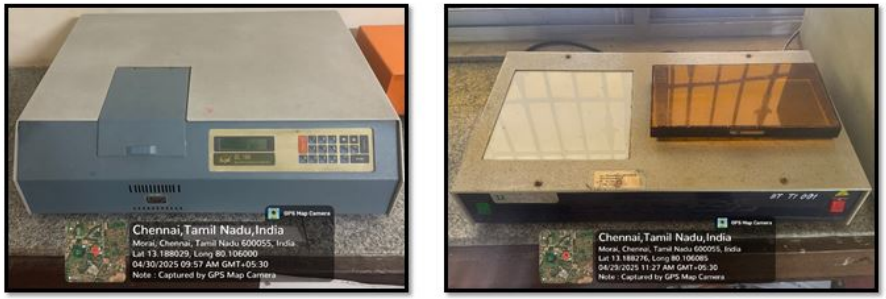

Fig 7.8 UV Visible spectrophotometer and UV transilluminator

Fig 7.9 Gel Documentation system and autoclave

Fig 7.10 Digital Colorimeter, Micro centrifuge and Light Microcope

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
2022-23(CAYm2)	810	40	29	36	76
2023-24(CAYm1)	810	40	28	40	76
2024-25(CAY)	930	46	44	51	99

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 2024-25	Actual Expenses in 2024-25 till	Budgeted in 2023-24	Actual Expenses in 2023-24 till	Budgeted in 2022-23	Actual Expenses in 2022-23 till	Budgeted in 2021-22	Actual Expenses in 2021-22 till
Infrastructure Built-Up	0	5157131	85000000	71859707	30000000	33384699	0	0
Library	1510000	1082587	1301100	1231548	1350000	1337480	750000	669936
Laboratory equipment	21028667	18181552	17279335	14392805	12500000	12187049	6750000	1421743
Teaching and non-teaching staff salary	221751313	168616542	140654276	135135473	120000000	113433926	100000000	84197003
Outreach Programs	0	0	0	0	0	0	0	0
R&D	3360000	258118	3828000	1266034	2500000	282033	2500000	2270126
Training, Placement and Industry linkage	1970800	2752938	2100000	1119947	3000000	2473951	3000000	2724284
SDGs	0	0	0	0	0	0	0	0
Entrepreneurship	0	0	0	0	0	0	0	0
Others, specify	95335220	125189367	106138165	88051681	24234069	64680755	37500000	34458243
Total	**344956000**	**321238235**	**356300876**	**313057195**	**193584069**	**227779893**	**150500000**	**125741335**

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 2024-25	Actual Expenses in 2024-25 till	Budgeted in 2023-24	Actual Expenses in 2023-24 till	Budgeted in 2022-23	Actual Expenses in 2022-23 till	Budgeted in 2021-22	Actual Expenses in 2021-22 till
Laboratory equipment	45000	47027	40000	41280	0	0	0	0
Software	0	0	0	0	0	0	0	0
SDGs	0	0	0	0	0	0	0	0
Support for faculty development	36000	85376	50000	23000	0	0	0	0
R & D	0	0	250000	0	150000	66950	100000	84469
Industrial Training, Industry expert, Internship	0	215791	200000	114298	250000	273810	250000	241152

Miscellaneous Expenses*	6919000	6009576	6800000	6305751	6500000	6305751	5000000	4266873
Total	**7000000**	**6357770**	**7340000**	**6484329**	**6900000**	**6646511**	**5350000**	**4592494**