NATIONAL BOARD OF ACCREDITATION

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

Program Name : Chemical Engineering	**Discipline**: Engineering & Technology
Level : Under Graduate	**Tier**: 1
Application No: 11376	**Date of Submission**: 29-10-2026

PART A- Profile of the Institute

A1.Name of the Institute: ERODE SENGUNTHAR ENGINEERING COLLEGE	
Year of Establishment : 1995	Location of the Institute: THUDUPATHI
A2. Institute Address:THUDUPATHI POST, PERUNDURAI TALUK	
City:Erode	State:Tamil Nadu
Pin Code:638057	Website:www.erodesengunthar.ac.in
Email:contact@esec.ac.in	Phone No(with STD Code):04294-232701
A3. Name and Address of the Affiliating University (if any):	
Name of the University : ANNA UNIVERSITY OF TECHNOLOGY, CHENNAI	City: Chennai
State : Tamil Nadu	Pin Code: 600025
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: **17**
- No. of PG programs: **10**

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	2004	--	Computer Application
2	Engineering & Technology	UG	Agricultural Engineering	2020	--	Agricultural Engineering
3	Engineering & Technology	PG	Applied Electronics	2013	--	Electronics and Communication Engineering
4	Engineering & Technology	UG	Artificial Intelligence and Data Science	2020	--	Computer Science and Engineering
5	Engineering & Technology	UG	Biomedical Engineering	2018	--	Biomedical Engineering
6	Engineering & Technology	UG	Biotechnology	2023	--	Biotechnology
7	Engineering & Technology	PG	Chemical Engineering	2018	--	Chemical Engineering
8	Engineering & Technology	UG	Chemical Engineering	1996	--	Chemical Engineering
9	Engineering & Technology	UG	Civil Engineering	2002	--	Civil Engineering
10	Engineering & Technology	UG	Computer Science and Design	2021	--	Computer Science and Engineering

11	Engineering & Technology	UG	Computer Science and Engineering	1999	--	Computer Science and Engineering
12	Engineering & Technology	PG	Computer Science and Engineering	2011	--	Computer Science and Engineering
13	Engineering & Technology	UG	Computer Science and Engineering (Artificial Intelligence & Machine Learning)	2024	--	Computer Science and Engineering
14	Engineering & Technology	UG	Computer Science and Engineering (Cyber Security)	2024	--	Computer Science and Engineering
15	Engineering & Technology	UG	Computer Science and Engineering (Internet of Things)	2025	--	Computer Science and Engineering
16	Engineering & Technology	UG	Electrical and Electronics Engineering	1996	--	Electrical and Electronics Engineering
17	Engineering & Technology	UG	Electronics & Communication Engineering	2000	--	Electronics and Communication Engineering
18	Engineering & Technology	UG	Electronics & Instrumentation Engineering	2001	--	Electronics and Instrumentation Engineering
19	Engineering & Technology	PG	Environmental Engineering	2012	--	Civil Engineering
20	Engineering & Technology	PG	Industrial Safety Engineering	2018	--	Mechanical Engineering
21	Engineering & Technology	UG	Information Technology	2019	--	Information Technology
22	Engineering & Technology	PG	Manufacturing Engineering	2004	--	Mechanical Engineering
23	Engineering & Technology	UG	Mechanical Engineering	1996	--	Mechanical Engineering
24	Engineering & Technology	PG	Power Electronics and Drives	2012	--	Electrical and Electronics Engineering
25	Engineering & Technology	UG	Robotics and Automation	2020	--	Robotics and Automation
26	Engineering & Technology	PG	Structural Engineering	2023	--	Civil Engineering
27	Management	PG	Master of Business Administration	2008	--	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

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	Chemical Engineering	UG	1996 / --	40	Yes	2025	60	2025	Southern/1-44643714103/2025/EOA	Granted accreditation for 3 years for the period (specify period)	2023	2026	5	4

Sanctioned Intake for Last Five Years for the Chemical Engineering	
Academic Year	**Sanctioned Intake**
2025-26	60
2024-25	90
2023-24	90
2022-23	90
2021-22	90
2020-21	90

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.P.Akilamudhan
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)	60	90	90	90	90	90	120
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	63	44	72	81	63	62	65
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	4	5	3	9	2	2
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.	63	48	77	84	72	64	67

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)	60	63	0	105.00
2024-25 (CAYm1)	90	44	0	48.89
2023-24 (CAYm2)	90	72	0	80.00

Average [(ER1 + ER2 + ER3) / 3] = 77.96≡ 14.00

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	(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).	99.00	92.00	122.00
B=No. of students who graduated from the program in the stipulated course duration	56.00	60.00	59.00
Success Rate (SR)= (B/A) * 100	56.57	65.22	48.36

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 56.72

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)	8.71	8.63	8.49
Y=Total no. of successful students	44.00	66.00	77.00
Z=Total no. of students appeared in the examination	44.00	66.00	77.00
API [X*(Y/Z)]	8.71	8.63	8.49

Average API[(AP1+AP2+AP3)/3] : 8.61

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)	8.89	8.69	8.42
Y=Total no. of successful students	68.00	80.00	68.00
Z=Total no. of students appeared in the examination	71.00	80.00	68.00
API [X * (Y/Z)]	8.51	8.69	8.42

Average API [(AP1 + AP2 + AP3)/3] : 8.54

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)	9.11	8.91	8.41
Y=Total no. of successful students	79.00	65.00	63.00
Z=Total no. of students appeared in the examination	80.00	68.00	63.00
API [X*(Y/Z)]:	9.00	8.52	8.41

Average API [(AP1 + AP2 + AP3)/3] : 8.64

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	99.00	92.00	122.00
X=No. of students placed	56.00	60.00	59.00
Y=No. of students admitted to higher studies	3.00	1.00	1.00
Z= No. of students taking up entrepreneurship	1.00	0.00	1.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	60.61	66.30	50.00

Average Placement Index = (P_1 + P_2 + P_3)/3: 58.97 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.P.Akilamudhan	XXXXXXX32M	Ph.D	ANNA UNIVERSITY	CHEMICAL ENGINEERING	12/02/2001	24.10	Lecturer	Professor	01/05/2012	Regular	Yes		Yes
2	Dr R PERUMAL	XXXXXXX65E	Ph.D	ANNA UNIVERSITY	CHEMICAL ENGINEERING	01/07/2021	4.1	Professor	Professor	01/07/2021	Regular	No	25/08/2025	No
3	Dr P DHANASEKARAN	XXXXXXX99J	Ph.D	IGCAR-HOMIBHABHA NATIONAL INSTITUTE	CHEMICAL ENGINEERING	01/07/2022	2.11	Professor	Professor	01/07/2022	Regular	No	05/06/2025	No
4	Dr T USHARANI	XXXXXXX10J	Ph.D	ANNA UNIVERSITY	CHEMICAL ENGINEERING	14/07/2008	17.5	Lecturer	Professor	01/07/2024	Regular	Yes		No
5	Dr P P SELVI	XXXXXXX72A	Ph.D	ANNA UNIVERSITY	CHEMICAL ENGINEERING	28/11/2024	1	Professor	Professor	28/11/2024	Regular	Yes		No

6	Dr V SANTHOSH	XXXXXXX90K	Ph.D	ANNA UNIVERSITY	CHEMICAL ENGINEERING	13/06/2018	7.6	Assistant Professor	Associate Professor	01/01/2024	Regular	Yes		No
7	Dr M AYNUL RIFAYA	XXXXXXX20A	Ph.D	ANNAMALAI UNIVERSITY	CHEMICAL ENGINEERING	01/07/2021	4.5	Assistant Professor	Associate Professor	01/01/2024	Regular	Yes		No
8	Dr AMITA SHARMA	XXXXXXX18D	Ph.D	NIT, DURGAPUR	CHEMICAL ENGINEERING	05/10/2023	2.2	Assistant Professor	Associate Professor	01/01/2024	Regular	Yes		No
9	Mrs .N SRI GOKILAVANI	XXXXXXX94B	M.Tech	ANNA UNIVERSITY	CHEMICAL ENGINEERING	30/12/2015	9.11	Assistant Professor	Assistant Professor		Regular	Yes		No
10	Mr.S GOPALAKRISHNAN	XXXXXXX10H	M.Tech	ANNA UNIVERSITY	CHEMICAL ENGINEERING	26/12/2016	8.11	Assistant Professor	Assistant Professor		Regular	Yes		No
11	Mr. P SELVAPRAKASH	XXXXXXX57J	M.Tech	ANNA UNIVERSITY	CHEMICAL ENGINEERING	01/06/2019	6.6	Assistant Professor	Assistant Professor		Regular	Yes		No
12	Dr.S.VAISHNAVI	XXXXXXX83N	Ph.D	ANNA UNIVERSITY	CHEMICAL ENGINEERING	01/07/2020	5.5	Assistant Professor	Assistant Professor		Regular	Yes		No
13	Mrs. S.AKILANDESWARI	XXXXXXX69G	M.Tech	ANNA UNIVERSITY	CHEMICAL ENGINEERING	01/07/2020	5.5	Assistant Professor	Assistant Professor		Regular	Yes		No
14	Mrs. S GOKILA	XXXXXXX30K	M.Tech	ANNA UNIVERSITY	CHEMICAL ENGINEERING	01/07/2021	4.5	Assistant Professor	Assistant Professor		Regular	Yes		No
15	Mrs. P S KAAVIYA	XXXXXXX86P	M.Tech	ANNA UNIVERSITY	CHEMICAL ENGINEERING	01/07/2022	3.5	Assistant Professor	Assistant Professor		Regular	Yes		No
16	Mrs. G V AATRAL	XXXXXXX34G	M.Tech	ANNA UNIVERSITY	CHEMICAL ENGINEERING	02/09/2024	1.3	Assistant Professor	Assistant Professor		Regular	Yes		No
17	Ms.V S SREE BAVYA	XXXXXXX17P	M.Tech	UNIVERSITY OF CALICUT	CHEMICAL ENGINEERING	20/08/2025	0.3	Assistant Professor	Assistant Professor		Regular	Yes		No
18	Dr S A GOKULA KRISHNAN	XXXXXXX42Q	Ph.D	NIT TRICHY	CHEMICAL ENGINEERING	01/07/2024	0.10	Associate Professor	Associate Professor		Regular	No	31/05/2025	No
19	Mr.P AJAY	XXXXXXX16R	M.Tech	ANNA UNIVERSITY	CHEMICAL ENGINEERING	01/07/2022	1.11	Assistant Professor	Assistant Professor		Regular	No	28/06/2024	No
20	Dr G SASIREKA	XXXXXXX44H	Ph.D	ANNAMALAI UNIVERSITY	CHEMICAL ENGINEERING	06/01/2020	4.1	Associate Professor	Associate Professor	06/01/2020	Regular	No	01/03/2024	No
21	Mr.B SASI KUMAR	XXXXXXX00K	M.Tech	BHARATHIDASAN UNIVERSITY, TIRUCHIRAPPALI	PROCESS CONTROL AND INSTRUMENTATION	19/06/2023	0.10	Associate Professor	Associate Professor	19/06/2023	Regular	No	30/04/2024	No
22	Mr.N VENKATACHALAM	XXXXXXX47J	M.E.	ANNA UNIVERSITY	ENVIRONMENTAL ENGINEERING	01/07/2020	3.11	Assistant Professor	Assistant Professor		Regular	No	31/05/2024	No
23	Mr.V MOHANRAJ	XXXXXXX08L	M.Tech	ANNA UNIVERSITY	CHEMICAL ENGINEERING	01/07/2021	2.11	Assistant Professor	Assistant Professor		Regular	No	31/05/2024	No
24	Mr.M PREM KUMAR	XXXXXXX71E	M.Tech	ANNA UNIVERSITY	CHEMICAL ENGINEERING	01/07/2021	2.11	Assistant Professor	Assistant Professor		Regular	No	31/05/2024	No
25	Dr V P KAMALAKANNAN	XXXXXXX82M	Ph.D	ANNA UNIVERSITY	CHEMICAL ENGINEERING	01/06/2022	2	Assistant Professor	Assistant Professor		Regular	No	31/05/2024	No

26	Mr.K PRABHAKARAN	XXXXXXX09K	M.Tech	ANNA UNIVERSITY	PETROLEUM REFINERY AND PETROCHEMICALS	01/06/2022	2	Assistant Professor	Assistant Professor		Regular	No	31/05/2024	No
27	Ms.S DHANABAGYAVATHI	XXXXXXX18H	M.Tech	ANNA UNIVERSITY	CHEMICAL ENGINEERING	01/07/2022	1.11	Assistant Professor	Assistant Professor		Regular	No	31/05/2024	No
28	Mr.B MURALIRAJAN	XXXXXXX10D	M.Tech	ANNA UNIVERSITY	CHEMICAL ENGINEERING	01/07/2022	1.11	Assistant Professor	Assistant Professor		Regular	No	31/05/2024	No
29	Mr.M PRASANTH	XXXXXXX93L	M.Tech	ANNA UNIVERSITY	CHEMICAL ENGINEERING	01/07/2022	1.11	Assistant Professor	Assistant Professor		Regular	No	31/05/2024	No
30	Mr.P MAHESH	XXXXXXX77B	M.Tech	ANNA UNIVERSITY	CHEMICAL ENGINEERING	01/07/2022	1.11	Assistant Professor	Assistant Professor		Regular	No	31/05/2024	No
31	Ms.R MADHUMITHA	XXXXXXX33N	M.Tech	ANNA UNIVERSITY	CHEMICAL ENGINEERING	01/07/2022	1.11	Assistant Professor	Assistant Professor		Regular	No	31/05/2024	No
32	Ms.K MAHISHA VARSHINI	XXXXXXX44C	M.Tech	ANNA UNIVERSITY	CHEMICAL ENGINEERING	01/07/2022	1.11	Assistant Professor	Assistant Professor		Regular	No	31/05/2024	No
33	Mrs. S MEGALA	XXXXXXX51M	M.Tech	ANNA UNIVERSITY	CHEMICAL ENGINEERING	29/12/2025	0	Assistant Professor	Assistant Professor		Regular	Yes		No
34	Dr.J SRINITHI	XXXXXXX54P	Ph.D	Anna University	CHEMICAL ENGINEERING	29/12/2025	0	Associate Professor	Associate Professor	29/12/2025	Regular	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 Department1

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

Description	CAY(2025-26)	CAYm1 (2024-25)	CAYm2 (2023-24)
UG1.B	94	95	93
UG1.C	95	93	99
UG1.D	93	99	92

Description	CAY(2025-26)	CAYm1 (2024-25)	CAYm2 (2023-24)
UG1: Chemical Engineering	**282**	**287**	**284**
PG1.A	18	18	18
PG1.B	18	18	18
PG1: Chemical Engineering	**36**	**36**	**36**
DS=Total no. of students in all UG and PG programs in the Department	318	323	320
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=** 318	**S2=** 323	**S3=** 320
DF=Total no. of faculty members in the Department	15	15	26
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=** 15	**F2=** 15	**F3=** 26
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= 21.20**	**SFR2= 21.53**	**SFR3= 12.31**
Average SFR for 3 years	**SFR= 18.35**		

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)]
2025-26(CAY)	7	8	15.00	17.00
2024-25(CAYm1)	8	7	16.00	16.88
2023-24(CAYm2)	6	20	15.00	23.33

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
2025-26	2.00	3.00	4.00	3.00	11.00	9.00

2024-25	2.00	4.00	4.00	4.00	11.00	7.00
2023-24	2.00	3.00	4.00	1.00	11.00	22.00
Average	RF1=2.00	AF1=3.33	RF2=4.00	AF2=2.67	RF2=11.00	AF2=12.67

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	Mr.S.Boopathi Rajan	General Manager	Gram Enviro Solutions, Coimbatore	19CEY03 - Industrial Wastewater Treatment (IWT)	50.00
2	Mr.S.Prakash	Proprietor	Asian Aqua Park, Tiruppur	19MEY03- Industrial Safety Engineering (ISE)	50.00

(CAYm2)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Mr.S.Boopathi Rajan	General Manager	Gram Enviro Solutions, Coimbatore	19CHX04- Energy Engineering (EE)	50.00
2	Mr.S.Prakash	Proprietor	Asian Aqua Park, Tiruppur	19MEY03- Industrial Safety Engineering (ISE)	50.00

(CAYm3)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Mr.S.Boopathi Rajan	General Manager	Gram Enviro Solutions, Coimbatore	19CEY03-Industrial Waste Water Treatment (IWT)	50.00
2	Mr.S.Prakash	Proprietor	Asian Aqua Park, Tiruppur	19MEY03 - Industrial Safety Engineering (ISE)	50.00

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	9	9	5
2	No. of peer reviewed conference papers published	15	13	12
3	No. of books/book chapters published	2	2	5

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.S.A.Gokulakrishnan	-	Chemical	Treatment of Grey Water Using Activated Carbon-Infused Membranes	MSME	1 year	11.05
Dr.V.Santhosh	-	Chemical	Multifunctional nano bio adsorbents: synthesis from agricultural residues and applications in water purification	TNSCST	6 months	0.08
Mrs.S.Gokila	-	Chemical	Application of a triple metal doped TiO2 for photocatalytic dehydration of industrial wastewater treatment	TNSCST	6 months	0.08
Dr.Amita Sharma	-	Chemical	Production of Bioethanol with the help of nano silica	FAER	6 months	0.09
Dr.R.Perumal	-	Chemical	Multifunctional nano bio adsorbents: synthesis from agricultural residues and applications in water purification	TNSDC	6 months	0.10
Dr.V.Santhosh	-	Chemical	Bio synthesis of nano bioadsorbents: a sustainable approach for heavy metal ions adsorption in biomedical effluent treatment	TNSDC	6 months	0.10
						Amount received (Rs.):11.50

(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.Aynul Rifaya	-	Chemical	Wastewater management of textile industry using water pinch analysis	TNSCST	6 months	0.08
						Amount received (Rs.):0.08

(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
Mr.P.Selvaprakash	-	Chemical	Recovery of Sodium Sulphate and Sodium Carbonate Salts	TNSCST	6 months	0.08
						Amount received (Rs.):0.08

Total Amount (Lacs) Received for the Past 3 Years: 11.66

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.P.Akilamudhan	-	Chemical Engineering	Performance Evaluation and Optimization of Industrial Wastewater Treatment Systems for Enhanced COD and Colour Removal.	Kelvin Enterprises Limited, Erode	3 months	0.31
Dr.T.Usharani	-	Chemical Engineering	Industrial wastewater treatment using coconut shell	Asian Aquapark, Tirupur	3 months	0.17
Dr.Amita Sharma		Chemical Engineering	Development of Low-Cost Adsorbents for Industrial Wastewater Treatment.	Kelvin Enterprises Limited, Erode	3 months	0.25
Dr.S.Vaishnavi		Chemical Engineering	Development of an Integrated Wastewater Treatment System for Steel Industry Effluents	Sree Rengaraj Ispat industries private Limited, Perundurai	3 months	0.72
Dr.P.Akilamudhan		Chemical Engineering	Treatment of Textile water Using Activated Carbon	Kelvin Enterprises Limited, Erode	3 months	1.00
						Amount received (Rs.):2.45

(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.P.Akilamudhan	-	Chemical Engineering	Removal of Dyes from Wastewater by Adsorption onto Activated Carbon Prepared from Fruit Peel	Sri Lakshmi dyeing, Erode	3 months	0.31
Dr.R.Perumal	-	Chemical Engineering	Removal of Heavy Metals from Industrial Wastewater Using Activated Carbon Derived from Agricultural Waste	Asian Aquapark, Tirupur	3 months	1.00
Dr.P.Akilamudhan	-	Chemical Engineering	Eco-Friendly Fertilizers – Bio-based Formulations from Organic Substrate	Asian Aquapark, Tirupur	3 months	1.00
Dr.Amita Sharma	-	Chemical Engineering	Arsenic Removal from Drinking Water by Chemically Modified Peel	Kelvin Enterprises Limited, Erode	3 months	1.00
Dr.T.Usharani	-	Chemical Engineering	Triple-Doped TiO2 Photocatalyst for Industrial Wastewater Treatment	Asian Aquapark, Tirupur	3 months	1.00
Dr.T.Usharani	-	Chemical Engineering	Characterisation and Treatment of Wastewater Generated from Aquapark Activities	Asian Aquapark, Tirupur	3 months	0.53
Dr.V.Santhosh	-	Chemical Engineering	Application of Nanocomposite Materials for Heavy Metal Removal from Industrial Effluents.	Kelvin Enterprises Limited, Erode	3 months	0.50
Dr.Amita Sharma	-	Chemical Engineering	Development of Low-Cost Adsorbents for Removal of Heavy Metals from Steel Industry Wastewater	Sree Rengaraj Ispat industries private Limited, Perundurai	3 months	0.46
						Amount received (Rs.):5.80

(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.P.Akilamudhan	-	Chemical Engineering	Heat Exchanger design using HTRI	ICDD Coimbatore	3 months	1.55
Mrs.S.Vaishnavi	-	Chemical Engineering	Extraction of Alginate and from brown Algae	Sri Lakshmi dyeing, Erode	3 months	2.28
Dr.R.Perumal	-	Chemical Engineering	Optimization of Filtration, Disinfection and Water Circulation Systems	Asian Aquapark, Tirupur	3 months	1.61
Dr.P.Akilamudhan	-	Chemical Engineering	Development of a Compact Biological Treatment System for Aquapark Wastewater.	Sree Rengaraj Ispat industries private Limited, Perundurai	3 months	1.58
Ms.S.Vaishnavi	-	Chemical Engineering	Reduction of Freshwater Consumption through Advanced Water Conservation Strategies.	Asian Aquapark, Tirupur	3 months	0.43
Dr.R.Perumal	-	Chemical Engineering	Development of a Hybrid Biological and Physicochemical Treatment System for Industrial Effluent.	Kelvin Enterprises Limited, Erode	3 months	1.50
Dr.M.Aynul Rifaya	-	Chemical Engineering	Development of an Integrated Treatment System for Textile Dyeing Wastewater.	Sri Lakshmi dyeing, Erode	3 months	1.84
Dr.V.Santhosh	-	Chemical Engineering	Optimisation of Physicochemical Treatment Processes for COD and BOD Reduction.	Sri Sai Process, Erode	3 months	0.55
Dr.T.Usharani	-	Chemical Engineering	Comparison study of Aniline Adsorption using Molecular Sieve Zeolite and Activated Carbon	Sree Rengaraj Ispat industries private Limited, Perundurai	3 months	0.78
						Amount received (Rs.):12.12

Total amount (Lacs) received for the past 3 years: 20.37

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.M.Aynul Rifaya	Amelioration of Membraneless Microbial Fuel Cell Performance ti Walled Carbon Nanotube Biocatalyst	1 year	0.73	0.73	Journal publication
Dr.V.Santhosh	Utilization of Nanocellulose as an Eco-friendly Sustainable Nanomaterial	1 year	0.55	0.55	Journal publication
Dr. T. Usharani	Green Synthesis of Copper Nanoparticles Using Flower Extracts	1 year	0.45	0.45	Journal publication
Dr.P Dhanasekaran	Empowering lung cancer prediction: The enhanced artificial bee colony optimization (EABC) approach	1 year	0.37	0.37	Journal publication
			Amount received (Rs.): 2.10		

(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.P.Akilamudhan	Heavy metal removal by green synthesised nanoparticles	1 year	0.55	0.55	Journal publication
Dr.M.Aynul Rifaya	Development of Polypyrolr composites for biofuel cell	1 year	0.48	0.48	Journal publication
Dr.M.Aynul Rifaya	An integrated computational and experimental approach to formulate tamanu oil	1 year	0.68	0.68	Journal publication
Dr.T.Usharani	Synthesis of lead sulphide	1 year	0.25	0.25	Journal publication
			Amount received (Rs.): 1.96		

(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
Mrs.S.Vaishnavi	Phytoremediation potential of Elodea canadensis for reduction of chromium	1 Year	0.85	0.85	Journal publication
Dr.P.Akilamudhan	Carbon based Nanoadsorbents for the removal of Emerging Pollutants	1 Year	0.49	0.49	Journal publication
Dr.R.Perumal	Effectiveness of Ladies on blood glucose	1 Year	0.66	0.66	Journal publication
			Amount received (Rs.): 2.00		

Total amount (Lacs) received for the past 3 years : 6.06

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	Programming lab (CSE) Problem Solving and Python Programming Lab	30	Hardware: Acer, Core i3, 4GB RAM, 500 GB Hard Disk machine Software: Windows / Linux, Python Interpreter	6 Hours	Ms Nivetha N	Lab Technician	B.Sc Computer Science
2	Physics and Chemistry Laboratory	30	Torsion Pendulum, Lee's Disc Apparatus, Ultrasonic Interfero meter, Microscope, Spectrometer, pH	6 Hours	Ms Kalaivani S	Lab Technician	B.Sc Chemistry
3	Engineering Practices Laboratory	30	Assorted components for plumbing, Carpentry, Standard wood working tools, Demolition Hammer,	6 Hours	Mr M Sudharshan	Lab Technician	BE Mechanical
4	Chemical Analysis Laboratory	30	Silica Crucible, Heating Mantle, Muffle Furnace, Hot Air Oven, Desiccators,Vac uum Pump, Condenser,	6 Hours	Ms Kalaivani S	Lab Technician	B.Sc Chemistry
5	Electrical Engineering Laboratory	30	DC Shunt motor, DC Series motor, Single phase transformer, three-phase alternator, three- phase	6 Hours	Ms Mythili	Lab Technician	Diploma in EEE

6	Mechanical Engineering Laboratory	30	I.C Engine – 2 stroke and 4 stroke model, 4- stroke Diesel Engine with mechanical loading, Torsion cylinder	6 Hours	Mr M Sudharshan	Lab Technician	B.E Mechanical
7	Professional Communication	30	INTEL Core 2 Duo @2.66GHZ NVIDA MB,@GBDDR AM,160GBHD D,ATX Cabinet,Key Board,Optical	6 Hours	Mr Santhosh S	Lab Technician	B.E(CSE)
8	Fluid Mechanics Laboratory	30	Viscometer, Venturi meter, Orifice meter, Rotameter, Weir and Notches, Open drum with orifice, Pipes and	6 Hours	Mr Pretyus M	Lab Technician	Diploma in Mechanical En
9	Organic Chemistry Laboratory	30	Silica Crucible,Heatin g Mantle , Muffle furnace, Hot Air Oven, Desicator, Vacum pumpCondenser , Reflux	6 Hours	Ms Elakkiya E	Lab Technician	M.Sc Chemistry
10	Mechanical Operation Laboratory	30	Sieve shaker, Leaf filter, Plate and Frame Filter Press, Sedimentation Jar, Jaw Crusher, Ball Mill, Cyclone	6 Hours	Mr A Srinivasan	Lab Technician	B.E Mechanical
11	Heat Transfer Laboratory	30	Double Pipe Heat Exchanger, Shell and Tube heat exchanger, Bare and Finned Tube Heat Exchanger,	6 Hours	Mr A Srinivasan	Lab Technician	B.E Mechanical
12	Computational Engineering Practices Laboratory	30	MS Office (EXCEL), MATLAB, ASPEN PLUS, HYSYS, Latest Configuration System	6 Hours	Ms R Kiruthika	Lab Technician	B.Sc Chemistry
13	Process Control Laboratory	30	U tube manometer with controller, Interacting Tank, Non- Interacting Tank, Open loop control system,	6 Hours	Mr Pretyus M	Lab Technician	Diploma in Mechanical En
14	Mass Transfer Laboratory	30	Simple and Steam distillation setup, Packed column, Liquid -liquid extractor, Tray dryer, Rotary dryer, Ion-	6 Hours	Mr A Srinivasan	Lab Technician	B.E Mechanical
15	Chemical Reaction Engineering and Iron Sponge Laboratory	30	Batch Reactor, Semi batch reactor, Plug Flow Reactor, CSTR, Sono-	6 Hours	Ms Nithya R	Lab Technician	B.Sc Biochemistry

D2. Safety Measures in Laboratories

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

Sr. No	Laboratory Name	Safety Measures
1	Fluid Mechanics Laboratory	•Work with dry hands. •Do not open equipment casing or unplug electrical connections. •Maintain awareness of surroundings; walk only in aisles •Wipe spilled liquids immediately. •Wear safety eyewear when required. •Do not leave experiments unattended. •Use First Aid kit in emergencies
2	Heat Transfer Laboratory	•Be cautious of hot valves and steam lines; use insulated gloves •Open steam valves slowly. •Ensure hoses are placed correctly inside drains. •Stay clear of steam traps during startup. •Avoid touching uninsulated hot surfaces. •Secure areas near open floor drains •Clean water spills immediately. •Control inlet-side valves to avoid over-pressure. •Keep electrical devices away from water
3	Mass Transfer Laboratory	•Handle equipment gently and maintain cleanliness •Report equipment damage immediately. •Do not touch electric-shock victims until power is off. •Disconnect power during electrical fires; use fire extinguisher—never water. •Keep hands away from moving parts •Do not touch chemicals directly. •Always add acid to water—never water to acid. •Clean spills promptly as instructed. •Dispose chemicals properly. •Never smell, taste, or touch reagents.

4	Mechanical Operations Laboratory	•Handle equipment gently. •Keep workspace clean. •Report damage immediately. •Do not touch electric-shock victims under power. •Disconnect power during electrical fires; use extinguisher only. •Keep hands away from moving machinery. •Do not use water on electrical fires.
5	Physical Chemistry Laboratory	•Check labels before using chemicals. •Wear chemical-resistant gloves. •Use spatulas for solid reagents. •Do not touch chemicals with bare hands. •Avoid metal spatulas with peroxides. •Hold containers away from body when pouring. •Heat flammables only using hot water bath. •Add acid to water slowly. •Take only required chemical quantity; dispose excess properly. •Never smell, taste, or directly inhale chemicals. •Use fume hood when needed. •Clean spills promptly. •Dispose of chemicals as instructed. •Avoid handling heavy/wet bottles. •Use equipment only as instructed.
6	Organic Chemistry Laboratory	•Wear approved safety goggles at all times. •No food, drinks, or smoking allowed. •Closed-toe shoes are mandatory. •Work only during permitted lab hours •Use open flames only when instructed. •Know the location of fire safety equipment and emergency exits. •Unauthorized experiments are not allowed. •Do not use damaged glassware. •Avoid tasting or smelling chemicals. •Use gloves for chemical handling. •Dispose waste properly. •Clean work area and store equipment before leaving
7	Chemical Analysis Laboratory	•Wear gloves and goggles at all times. •Handle electrodes and probes gently. •Calibrate instruments before use. •Avoid touching chemicals directly •Never pipette by mouth—use pipette fillers. •Keep instruments away from water spills •Clean glassware before and after use •Dispose waste solutions in designated containers.
8	Technical Analysis Laboratory	•Handle heating coils and hot plates with insulated gloves •Avoid touching hot surfaces. •Ensure proper ventilation when fumes are produced. •Inspect electrical cords before use. •Keep flammables away from heat sources. •Do not leave hot equipment unattended. •Use tongs for handling hot vessels.
9	Computational Engineering Practices Laboratory	•Do not install unauthorized software. •Shut down systems properly. •Keep liquids away from computers •Report hardware/software issues immediately. •Avoid touching electrical components with wet hands. •Do not tamper with laboratory computers or peripherals
10	Chemical Reaction Engineering Laboratory	•Wear goggles and heat-resistant gloves. •Ensure reactors are depressurized before opening. •Handle catalysts carefully; avoid inhaling powders. •Do not touch hot reactor surfaces. •Check temperature and pressure gauges before operation. •Keep flammable chemicals away from heat •Shut off utilities after experiments.

D3. Project Laboratory/Research Laboratory

Table No. 7.5.1: List of project laboratory/research laboratory /Centre of Excellence.

Sl. No.	Name of the Laboratory	Purpose and Utilization (Chemical Engineering Focus)
1	Center for Excellence for Nanotechnology Laboratory	Utilized for synthesis, processing, and characterization of nanomaterials relevant to chemical engineering applications such as catalysis, separation, environmental remediation, energy storage, and biomedical applications. Supports undergraduate projects, research activities, and interdisciplinary innovation.
2	Centre of Excellence for Electric Battery Development	Utilized for chemical engineering–oriented studies on electrode materials, electrolytes, cell fabrication, testing, and performance evaluation. The laboratory supports learning in electrochemistry, materials engineering, process optimization, and sustainable energy systems.
3	3D Printing Laboratory	Utilized for design and fabrication of chemical engineering components such as reactor models, flow channels, mixing devices, and experimental setups. Supports rapid prototyping, process design visualization, research projects, and innovation in equipment development.
4	Unit Operation Laboratory	Utilized for imparting practical knowledge of core chemical engineering unit operations such as fluid flow, heat transfer, mass transfer, filtration, drying, distillation, and size reduction. The laboratory strengthens students' ability to analyze, design, and operate chemical process equipment as per the curriculum.

7.5.1Outcomes

The laboratories collectively enhance the core competencies of Chemical Engineering students by integrating theoretical knowledge with practical application. Through hands-on exposure in unit operations, nanotechnology, electric battery development, and additive manufacturing, students develop strong skills in process analysis, equipment operation, materials synthesis, characterization,electrochemical systems, and prototype development. These laboratories foster problem-solving ability, experimental design, data interpretation, and safety awareness, while also encouraging research orientation, innovation, and interdisciplinary thinking. Overall, the laboratories significantly contribute to achieving program outcomes related to engineering knowledge, modern tool usage,experimentation, sustainability, and lifelong learning, thereby improving students' employability,research readiness, and industry relevance in the field of Chemical Engineering.

Table No. 7.5.2: List of Center for Excellence labs available and facilities inside

Lab Name	Facilities
Electric battery development Center for Excellence	• Lithium ion cell testers • Battery pack assembly • Performance testing(cell balancing)
Center for Excellence for Nanotechnology	• UV-Vis Spectrophotometers • Ultrasonication for material science applications • Microscopes. Incubator with shaker, Laminar chambers, Centrifuges, Rotary evaporator and Magnetic stirrer with hot plate

Center for Excellence for 3 D Printing	Advanced multi-material 3D printers capable of working with PLA, ABS, PETG, Carbon PETG, TPU, and other engineering-grade polymer



Fig:7.5.1Li-ion battery pack manufacturing lab



Fig:7.5.2 Li-ion cell testing& characterization unit

7.5.2 Centre for Excellence for Nanotechnology Laboratory Equipments



Fig:7.5.4 Double distillation unit



Fig:7.5.5 UV Sonicator



Fig:7.5.6 Incubation Shaker



Fig:7.5.7 UV Spectrophotometer

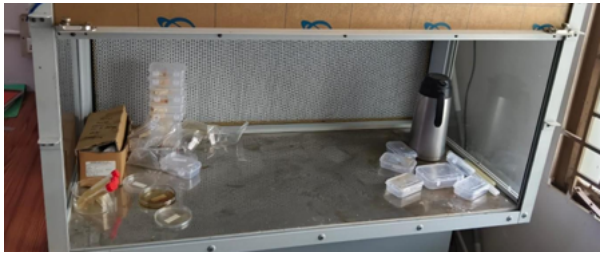


Fig:7.5.8 Laminar Chamber



Fig:7.5.9 Magnetic Stirrer with hot plate



Fig:7.5.10 Centrifuge

7.5.3 Center for Excellence for 3D printing

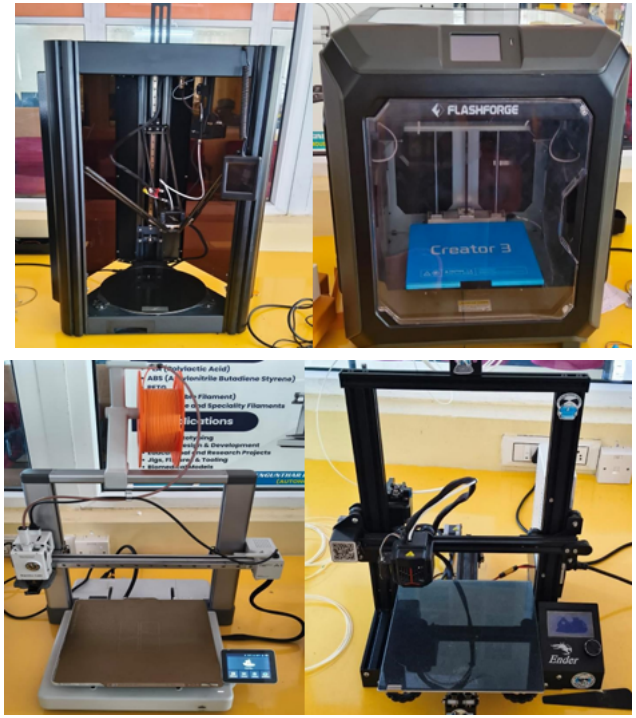


Fig:7.5.11 3D printers

7.5.4 Center for Excellence for Electric Battery Development



Fig:7.5.12 Lithium Ion Battery manufacturing unit

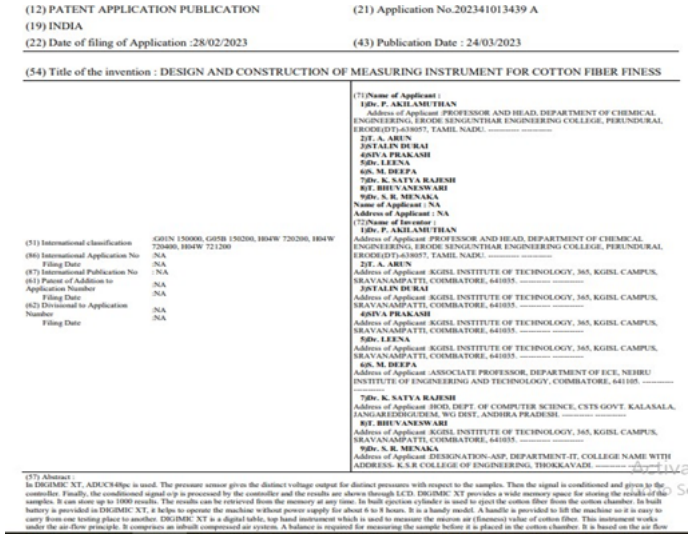


Fig:7.5.13 Battery Pack Construction

7.5.7 Patent

Table No. 7.5.3: List of patents (2022-2025

S.No.	Year	Title of the Patent	PO Mapping	PSO Mapping
1	2024	IOT-based Wastewater Treatment System Powered by Solar Energy	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11	PSO1, PSO2, PSO3
2	2024	Device for Detecting Harmful Chemicals in Beverages	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11	PSO1, PSO2, PSO3
3	2023	Design and construction of measuring instrument for cotton fiber finess	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11	PSO1, PSO2, PSO3



(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :28/02/2023

(21) Application No.202341013439 A
(43) Publication Date : 24/03/2023

(54) Title of the invention : DESIGN AND CONSTRUCTION OF MEASURING INSTRUMENT FOR COTTON FIBER FINESS

(51) International classification : G01N 150000, G05B 150200, H04W 720200, H04W 720400, H04W 721200
(86) International Application No : NA
Filing Date : NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number : NA
Filing Date : NA
(62) Divisional to Application Number : NA
Filing Date : NA

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(57) Abstract :
In DIGIMIC XT, ADUC848pc is used. The pressure sensor gives the distinct voltage output for distinct pressures with respect to the samples. Then the signal is conditioned and given to the controller. Finally, the conditioned signal o/p is processed by the controller and the results are shown through LCD. DIGIMIC XT provides a wide memory space for storing the results of the samples. It can store up to 1000 results. The results can be retrieved from the memory at any time. In built ejection cylinder is used to eject the cotton fiber from the cotton chamber. In built battery is provided in DIGIMIC XT, it helps to operate the machine without power supply for about 6 to 8 hours. It is a handy model. A handle is provided to lift the machine so it is easy to carry from one testing place to another. DIGIMIC XT is a digital table, top hand instrument which is used to measure the micron air (fineness) value of cotton fiber. This instrument works under the air-flow principle. It comprises an inbuilt compressed air system. A balance is required for measuring the sample before it is placed in the cotton chamber. It is based on the air flow

Figure 7.5.14 Design and Construction of measuring instrument for cotton fiber finess Competition

7.5.8 Students achievements based on project

Academic Year 2024-2025

Manivel P, Balraj, Muhammed Aslam, Ruban S from Final Year have successfully presented their FEAR project at Reva University, Bangalore.



Fig:7.5.14 Snap of Students attending FEAR project at Reva University,Bangalore.

Academic Year 2025-2026



Fig 7.5.15 Snap of students receiving the Second Prize for Paper Presentation on “Water Treatment Using Banana Peel and Nano-Silica”

7.5.9 List of sponsored research projects received from external agencies

S.No	PI Name	CoPI Names if any	Name of the project	Project title*	Name of the agency	Duration of the project	Amount (Lacs)
2024-2025							
1	Dr.S.A.Gokulakrishnan	-	Chemical	Treatment of Grey Water Using Activated Carbon-Infused Membranes	MSME	1 year	11.05
2	Dr.V.Santhosh	-	Chemical	Multifunctional nano bio adsorbents: synthesis from agricultural residues and applications in water purification	TNSCST	6 months	0.075
3	Ms.S.Gokila	-	Chemical	Application of a triple metal doped TiO2 for photocatalytic dehydration of industrial wastewater treatment	TNSCST	6 months	0.075
4	Dr.Amita Sharma	-	Chemical	Production of Bioethanol with the help of nano silica	FAER	6 months	0.9460

5	Dr.R.Perumal	-	Chemical	Multifunctional nano bio adsorbents: synthesis from agricultural residues and applications in water purification	TNSCST	6 months	0.1
6	Dr.V.Santhosh	-	Chemical	Bio synthesis of nano bioadsorbents: a sustainable approach for heavy metal ions adsorption in biomedical effluent treatment	TNSCST	6 months	0.1
						Amount received (Rs.)	12.34
			2023-2024				
1	Dr.M.Aynul Rifaya	-	Chemical	Wastewater management of textile industry using water pinch analysis	TNSCST	6 months	0.075
						Amount received (Rs.)	0.075
			2022-2023				
1	Mr.P.Selvaprakash	-	Chemical	Recovery of Sodium Sulphate and Sodium Carbonate Salts from Textile Effluent	TNSCST	6 months	0.075
						Amount received (Rs.)	0.075
						Total Amount (Lacs) Received for the Past 3 Years	12.49

Table 7.5.9.6 Faculty Research Activities and Prototype Development Supporting Student Projects

S.No	Title of the prototype/working model	Description	Lab

1	Bioreactor	Functional model designed to cultivate microorganisms, cells, or tissues under highly controlled environmental condition	CRE Lab
2	Process Plant	It is used to test new technologies, validate chemical processes, optimize manufacturing efficiency, and produce small batches of products for market testing before investing in a full-scale plant.	Unit Operations Lab
3	Effluent Treatment plant	A model designed to treat industrial or domestic wastewater	Unit Operations Lab
4	Shell and Tube Heat exchanger	A thermal management device designed to transfer heat between two separate fluids	Heat Transfer Lab
5	Impellers	A model of a rotating machine component designed to test, validate, and optimize fluid flow characteristics, hydraulic performance, and structural integrity	Fluid Mechanics Lab
6	Baffles	A device used to optimize mixing in bioreactors	Heat Transfer Lab
7	Pitches	Used to optimize the trade-off between heat transfer coefficients and pressure drop.	Heat Transfer Lab
8	Waste to Resources - Lubricating oil from hostel waste cooling oil	Creating a cost-effective, biodegradable, and high-performance alternative to petro-based lubricants	Mass Transfer Lab
9	Waste to Resources - Biodiesel from hostel waste cooking oil	Production of biodiesel from hostel waste cooked oil	Mass Transfer Lab
10	Packing materials	A prototype used to study the interaction between gas and liquid phases	Mass Transfer Lab
11	Organic Mosquito Repellant	A prototype designed to replace synthetic chemicals	Organic Chemistry Lab
12	Herbal Soap, HandSanitizer	To create safe, eco-friendly antimicrobial products.	Organic Chemistry Lab

Faculty members actively engage in continuous research activities focused on addressing industrially relevant problems and mentoring student projects, leading to the development of functional prototypes and working models. These include bioreactors, process plants, effluent treatment systems, heat exchangers, fluid flow devices, and mass transfer equipment that strengthen core chemical engineering concepts. In addition, waste-to-resource initiatives such as biodiesel and lubricating oil production from hostel waste oils, along with eco-friendly products like organic mosquito repellents, herbal soaps, and hand sanitizers, demonstrate innovation, sustainability, and societal relevance.

7.5.10 Final Year Projects

7.5.10.1 Project done in academic year 2024-2025

S. No.	Roll No.	Name of the Student(s)	Guide	Topic	Mapped PO & PSO	Outcomes

1	730421203004, 730421203035, 730421203036, 730421203307	Arthish K, Muthukrishnan S, Nandiswaran P, Prakath Sena M	Ms. G. V. Aatral	Preparation and characterization of core – shell nanoparticle and enhancing catalytic activity by Photo- Sonocatalytic processes	PO1, PO2, PO3, PO4, PO5, PO7, PO9, PO10, PSO1, PSO2, PSO3	Paper Presented in Conference
2	730421203001, 730421203017, 730421203026, 730421203033	Aadhithan R, Hari Prasanth K, Krishnakumar G, Mohammed Sinan K N	Dr. P.Akilamudhan	Synthesis, structural characterization and third-order nonlinear optical properties of Tin(IV) based perovskite materials	PO1, PO2, PO4, PO5, PSO1, PSO2, PSO3	Paper Presented in Conference
3	730421203021, 730421203301, 730421203303, 730421203309	Kamesh G, Ajith M, Faizur Rahman B, Sneha M	Mr.P.Selvaprakash	Eco-friendly hydrothermal synthesis and photocatalytic evolution of Ca & Ba co-doped Zn_2SnO_4 nanoparticles	PO1, PO2, PO3, PO4, PO5, PO7, PO9,PSO1, PSO2, PSO3	Paper Presented in Conference
4	730421203013, 730421203051, 730421203058, 730421203302	Giri Prasad M D, Siddharth A, Vigneshwar R, Akanksha Parashar	Dr. M. Aynul Rifaya	Investigation of photocatalytic activity of $ZnTiO_3$ nanoparticles for degradation of organic dyes	PO1, PO2, PO4, PO5, PO7, PSO1, PSO2, PSO3	Paper Presented in Conference
5	730421203002, 730421203022, 730421203056, 730421203305	Abishek Annamalai T, Karthik Raja M, Uma Bharathy V, Mukesh Kumar R	Dr. T. Usharani	Carbon capture and energy optimization using monoethanolamine	PO1, PO2, PO3, PO4, PO7, PO11, PSO1, PSO3	Paper Presented in Conference

6	730421203003, 730421203054, 730421203306, 730421203308	Aravindh J, Sujith Kumar K, Packeer Mydeen M, Raksha A V R	Mr. P. Selvaprakash	Green hydrothermal synthesis and enhanced photocatalytic performance of Fe & Zn co doped Sr_2SnO_3 nanoparticles	PO1, PO2, PO4, PO5, PO7, PO9, PSO1, PSO2, PSO3	Paper Presented in Conference
7	730421203006, 730421203038, 730421203057, 730421203063	Balaji P, Naveen Manikandan S, Vasanth R, Varshini S	Ms. Gokila	Industrial wastewater treatment using coconut shell	PO1, PO2, PO3, PO6, PO7, PO9, PSO1, PSO3	Fund Received from TNSCST
8	730421203009, 730421203027, 730421203048, 730421203304	Brittovijay A, Lenin M, Saravanan R, Girish Raj M	Dr. P. Akilamudhan	Air quality monitor with data logger	PO1, PO2, PO3, PO5, PO6, PO10, PSO2, PSO3	Paper Presented in Conference
9	730421203010, 730421203024, 730421203034, 730421203044	Chinthanai Selvan S, Kaviya P I, Murugan J, Rathesh A	Dr. P.Dhanasekaran	Magnet ic nanoparticle for oil-water separation	PO1, PO2, PO3, PO4, PO7, PSO1, PSO2, PSO3	Paper Presented in Conference
10	730421203018, 730421203019, 730421203040, 730421203059	Harish Kumar A, Jannath Shirin V S, Pradeep M, Vibin M	Ms. S. Gokila	Nano urea incorporated with micronutrients and seaweed extract for plant growth	PO1, PO2, PO3, PO6, PO7, PSO1, PSO3	Paper Presented in Conference
11	730421203016, 730421203049, 730421203062	Hariharan S, Sathishkumar M, Pavendhan A	Dr. P. Dhanasekaran	Defluoridation of water using bentonite clay	PO1, PO2, PO3, PO6, PO7,PSO1, PSO3	Paper Presented in Conference

12	730421203006, 790421203030, 730421203031, 730421203045	Balraj S, Manivel P, Mohammed Aslam P K, Ruban A	Dr. Amita Sharma	Production of bioethanol using nano catalyst from agricultural residue	PO1, PO2, PO3, PO4, PO7, PO11, PSO1, PSO2, PSO3	Paper Presented in Conference
13	730421203015, 730421203025, 730421203032, 730421203037	Gowtham Karthick P, Kishore G, Mohammed Mishal VK Nashih A K	Dr. V. Santhosh	Biogenic synthesis of nano bio- adsorbents for heavy metal adsorption in biomedical effluent treatment	PO1, PO2, PO3, PO4, PO7, PSO1, PSO2, PSO3	Fund Received from TNSCST, NAANMUDHALVAN
14	730421203011, 730421203012, 730421203023, 730421203039	Dharsin Daniel J, Esakkiappan A, Kathirvel M, Parkavi B	Dr. R.Perumal & Dr. V. Santhosh	Numerical investigation and pharmacological characterization of Senna auriculata	PO1, PO2, PO4, PO5, PO8, PSO2	Fund Received from TNSCST, NAANMUDHALVAN
15	730421203014, 730421203055, 730421203020, 730421203050	Gokularasu M, Temy Johnson, Kaavin M K, Sathyamuthu S	Ms. S. Kanimozhi	Biopesticides from biowaste	PO1, PO2, PO3, PO6, PO7, PSO1, PSO3	Paper Presented in Conference
16	730421203008, 730421203028, 730421203042, 730421203060	Bharathi B, Manikandan V, Prasanna M V, Yuvangowtham M	Dr. P. P. Selvi	Extraction of pectin from orange peels and application	PO1, PO2, PO3, PO7, PO11, PSO1, PSO3	Paper Presented in Conference

Products Developed by utilizing nanotechnology lab by year 2024-2025



Fig:7.5.16 Nano bioadsorbant



Fig:7.5.17 Magnetic Nanoparticle

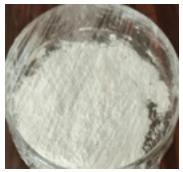


Fig:7.5.18 Fe & Zn co-dope nanoparticles

7.5.10.2 Project done in academic year 2023-2024

S. No.	Roll No.	Name of the Student(s)	Guide	Topic	Mapped PO & PSO	Outcomes
1	20203061, 20203302, 20203063, 20203006	Vishali S, Mynadharshini K, Viswanathan A, Arun S	Dr. M. Aynul Rifaya	Wastewater Management of a Textile Industry Using Water Pinch Analysis	PO1, PO2, PO3, PO4, PO7, PO11, PSO1, PSO3	TNSCST Approved
2	20203024, 20203005, 20203040, 20203049	Jayalakshmi U, Ari Sudhan S, Naveen Kumar, Sathish Selva Kumar	Ms. S. Gokila	Integrated Production of Antioxidant-Rich Cellulose, Hemicellulose, Lignin Capsule	PO1, PO2, PO3, PO4, PO7,PSO1, PSO2, PSO3	Paper Presented in Conference
3	20203019, 20203026, 20203008, 20203023	Harini S, Kabilan, Bala Keerthi, Jayasurya	Mr. B.Sasikumar	Extraction and Purification of Polar Bioactive Metabolites from Ruta graveolens Leaves	PO1, PO2, PO4, PO5, PO7, PSO2, PSO3	Paper Presented in Conference
4	20203003, 20203032, 20203041, 20203050	Ajay, Manikandan S, Nivas S, Selva Ajin M	Mr. P. Selvaprakash	Green Water (Wastewater Treatment)	PO1, PO2, PO3, PO6, PO7, PSO1, PSO3	Paper Presented in Conference
5	20203002, 20203010, 20203013, 20203037	Abinesh K, Bharath Kumar S, Dhamodharan S, Nalla Sivan Pillai S	Mr. P. Selvaprakash	Removal of Anionic Pollutant Using Sugarcane Bagasse–Chitosan Beads	PO1, PO2, PO3, PO4, PO7, PSO1, PSO3	Paper Presented in Conference

6	20203022, 20203012, 20203028, 20203046	Jacini S, Chithirai Selvan S, Karthikeyan, Ramesh	Dr. P. Akilamudhan	Eco-Friendly Fertilizers – Bio- based Formulations from Organic Substrates	PO1, PO2, PO3, PO6, PO7, PSO1, PSO3	Paper Presented in Conference
7	20203030, 20203004, 20203035, 20203053	Kishore Kumar, Akash Raja, Megalishwaran, Srimanikandan	Dr. V. Santhosh	Ultrasound- Assisted Biodiesel Production from Moringa oleifera & Waste Cooking Oil	PO1, PO2, PO3, PO4, PO7, PO11, PSO1, PSO3	Paper Presented in Conference
8	20203039, 20203042, 20203045, 20203025	Kishore A, Parthiban, Ragul S, Jayaram J	Mr. P. Ajay	Performance Analysis of Double Pipe and Triple Pipe Heat Exchangers	PO1, PO2, PO4, PO5, PO11, PSO1, PSO2	Paper Presented in Conference
9	20203047, 20203048, 20203055	Ram Kumar, Santhosh, Srinath M	Dr. Amita Sharma	Arsenic Removal from Drinking Water by Chemically Modified Peel	PO1, PO2, PO3, PO6, PO7,PSO1, PSO3	Paper Presented in Conference
10	20203052, 20203018, 20203015, 20203060	Siva M, Hariharasudhan, Dinesh Kumar, Vinuhasan	Dr. M. Aynul Rifaya	Amoxicillin- Loaded Silver Nanoparticles for Drug Delivery and Antibacterial Activity	PO1, PO2, PO4, PO5, PO8, PSO2	Paper Presented in Conference
11	20203007, 20203038, 20203043	N. Bala Aravind, S. Nandha Kumar, Pradeesh T	Ms. S. Gokila	Triple Doped TiO_2 Photocatalyst for Industrial Wastewater Treatment	PO1, PO2, PO3, PO4, PO7, PSO1, PSO2, PSO3	Paper Presented in Conference
12	20203035, 20203054, 20203056, 20203028	Moulidharan, Srinath B, Suresh, Kavin	Dr. R. Perumal	CFD Analysis of Particle Size Effects in Fluidized Bed Dryer	PO1, PO2, PO4, PO5, PO11, PSO2	Paper Presented in Conference

13	20203001, 20203018, 20203062, 20203057	Abilash, Hariharavasan, Viswanath G N, Thanush Raja	Dr. T. Usharani	Green Synthesis of Nanoparticles from Biodegradable Waste Extracts	PO1, PO2, PO4, PO7, PSO1, PSO2, PSO3	Paper Presented in Conference
14	20203033, 20203020, 20203301, 20203039	Manoj Kumar, Harish, Lingesh, Naveen Kumar	Mr. P. Ajay	Performance Analysis of Point Drift Reactor	PO1, PO2, PO4, PO5, PO11, PSO1, PSO2	Paper Presented in Conference
15	20203044, 20203021, 20203011, 20203016	Praveen, Indhumathi, Chandru, Gurushankar	Dr. Amita Sharma	Design and Techno-Economic Analysis of Acetaldehyde Production	PO1, PO2, PO3, PO11, PSO1	Paper Presented in Conference
16	20203014, 20203031, 20203051	Dhivakar, Manikandan M, Shiyam	Mr. V. Santhosh	Ultrasound- Assisted Biodiesel Production from Ceiba pentandra Oil	PO1, PO2, PO3, PO4, PO7,PSO1, PSO3	Paper Presented in Conference

Products Developed by utilizing nanotechnology lab by year 2023-2024



Fig 7.5.19 Nanoparticle developed by using green synthesis

7.5.10.3 Project done in academic year 2022-2023

S. No.	Roll No.	Name of the Student(s)	Guide	Topic	Mapped PO & PSO	Outcomes
1	ES19CH38, ES19CH04, ES19CH52, ES20LCH01	Parthiban, Anandha Krishnan, Sathish, Amarnath	Dr. T. Usharani	Solution for Clogging of Sludge in ETP Pipelines	PO1, PO2, PO3, PO6, PO7,PSO1, PSO3	Paper Presented in Conference

2	ES19CH35, ES19CH07, ES19CH08, ES19CH59	Murali, Arun Kumar, Avani Praveen, Sundar	Dr. R. Perumal	Blood Glucose Level Analysis using Natural Sources	PO1, PO2, PO4, PO8,PSO2	Paper Presented in Conference
3	ES19CH44, ES19CH43, ES19CH17, ES19CH46	Roohulla, Ramprasath, Jayan, Sakthivel	Dr. R. Perumal	Aniline Adsorption using Zeolite & Activated Carbon	PO1, PO2, PO3, PO4, PO7,PSO1, PSO3	Paper Presented in Conference
4	ES19CH39, ES19CH31, ES19CH13	Perumal Samy, Mathivendan, Hari Sudhan	Dr. P. Dhanasekaran	Bioelectricity from Sugar Industry Effluents	PO1, PO2, PO3, PO7, PO11,PSO1, PSO3	Paper Presented in Conference
5	ES19CH61, ES19CH15, ES19CH25, ES19CH29	Thanalakshimi, Hari Ram, Kowsalya, Manoj Kumar	Dr. M. Aynul Rifaya	Green Synthesis of Copper Nanoparticles	PO1, PO2, PO4, PO5, PO7,PSO1, PSO2, PSO3	Paper Presented in Conference
6	ES19CH28, ES19CH45, ES19CH11, ES19CH34	Manju, Sabarish, Dhanusha, Moorthy	Dr. M. Aynul Rifaya	Shelf Life Enhancer using Chitin	PO1, PO2, PO3, PO6, PO7,PSO1, PSO3	Paper Presented in Conference
7	ES19CH41, ES19CH56, ES20LCH02, ES19CH47	Pulamadan, Sugul, Naveen, Sanjai	Mr. V. Santhosh	Extraction of Phenolic Acid from Coconut Coir	PO1, PO2, PO4, PO7,PSO1, PSO2, PSO3	Paper Presented in Conference
8	ES19CH50, ES19CH51, ES19CH32	Saravana R K, Saravanan S, Meenakshi S	Mr. V. Santhosh	Electricity from Wastewater using MFC	PO1, PO2, PO3, PO7, PO11,PSO1, PSO3	Paper Presented in Conference
9	ES19CH30, ES19CH03, ES19CH66, ES19CH62	Marikannan, Alex, Yogeshwaran, Vetha Vivin	Ms. S. Vaishnavi	Activated Carbon Foam for Dye Treatment	PO1, PO2, PO3, PO4, PO7,PSO1, PSO3	Paper Presented in Conference

10	ES19CH40, ES19CH20, ES19CH53, ES19CH58	Powleen Nesika, Kamali, Sanoj, Sundar	Ms. S. Vaishnavi	Sodium Alginate from Brown Algae	PO1, PO2, PO3, PO7,PSO1, PSO3	Paper Presented in Conference
11	ES19CH16, ES19CH06, ES19CH48, ES19CH60	Jagadeesan, Arshad, Santhosh Kumar, Suren	Mr. P. Selvaprakash	Distillation of Mint Oil Capsules	PO1, PO2, PO3, PO11,PSO1	Paper Presented in Conference
12	ES19CH49, ES19CH67, ES19CH19	Santhosh Kumar, Mohammed Sayis, John Son	Mr. P. Selvaprakash	Prototype Biomass Gasifier	PO1, PO2, PO3, PO7, PO11,PSO1, PSO3	Paper Presented in Conference
13	ES19CH55, ES19CH01, ES19CH54, ES19CH21	Sivathanush, Ahamed Ameer Ali, Shyju, Karan	Ms. S. Gokila	Dye Decolourization using Ag Nanoparticles	PO1, PO2, PO4, PO5, PO7,PSO1, PSO2, PSO3	Paper Presented in Conference
14	ES19CH23, ES19CH27, ES19CH02, ES19CH36	Kokul, Madhan Kumar, Ajay Varshan, Nandha Gopal	Ms. S. Gokila	Agricultural Application of Biochar	PO1, PO2, PO3, PO6, PO7,PSO1, PSO3	Paper Presented in Conference
15	ES19CH65, ES19CH57, ES19CH64, ES19CH26	Yogesh, Suman Sarathi, Vishal, Madhan	Mr. P. Ajay	Industrial Wastewater Treatment using Neem Leaves	PO1, PO2, PO3, PO6, PO7,PSO1, PSO3	Paper Presented in Conference
16	ES19CH10, ES19CH09, ES19CH37, ES19CH18	Chandru, Blessan Thyo Bless, Naveen Kumar, Jeevanantha M	Mr. P. Ajay	Natural Dyeing of Cotton Fabric	PO1, PO2, PO3, PO7,PSO1, PSO3	Paper Presented in Conference



Fig:7.5.20 Silver Nanoparticle



Fig:7.5.21 Copper Nanoparticle



Fig 7.5.22 Bioethanol produced using nano catalyst from agricultural residue

7.5.11 Industry collaborated final year project

Academic year 2022-2023



TAGROS

CHEMICALS AND INDIA LIMITED

PROJECT COMPLETION CERTIFICATE

14-02-2023

This is to certify that the following students: ***Yogesh, Suman Sarathi, Vishal, Madhan***

have succesfully undergone Industrial Training cum Project Work at **TAGROS CHEMICALS AND INDIA LIMITED** for a duration of 15 working days, from ***23 January 2023*** to ***13 February 2023***, as part of their academic curriculum.

During this period, the students carried out a project entitled:

"Industrial Wastewater Treatment Using Neem Leaves"

- Understanding the functioning of the **Effluent Treatment Plant** (ETP)
- **Collection** and preliminary analysis of wastewater samples
- **Laboratory-scale** study on the use of neem leaves-based **adsorbent** / bio-material as an eco-friendly and low-cost treatment option
- **Evaluation** of the effectiveness of neem leaves in the reduction of COD,colour, and organic pollutants
- **Interpretation** *of results for sustainable wastewater treatment applications*

The industrial exposure, wastewater sample collection, and practical analysis were conducted at TAGROS, while the remaining experimental work and documentation were completed as part of their academic requirements.

Throughout the training and project period, the students' performance, conduct, and discipline were found to be satisfactory.

We wish them every success in their future academic and professional endeavours.

For TAGROS CHEMICALS AND INDIA LIMITED,

Figure 7.5.22 Project completion certificate of 2022-2023 batch final year student

An industry–collaborated internship cum project was carried out by second-year undergraduate students during the academic year 2022–2023 to provide practical exposure to real-time industrial and research-oriented applications. The internship enabled students to apply theoretical knowledge to industrial wastewater treatment practices, including understanding of Effluent Treatment Plant (ETP) operations, wastewater analysis, and laboratory-scale experimentation.The project emphasized the use of neem leaf–based bio-material as a sustainable treatment option, focusing on the reduction of COD, colour, and organic pollutants. The internship contributed to the attainment of program outcomes by enhancing students' technical skills, problem-solving ability, teamwork, and awareness of industrial safety, quality standards, and environmental sustainability.

Academic year 2023-2024



Pon Pure Chemical India Private Limited

(Formerly Pon Pure Chem (P) Ltd)

Regd.Off: No.32, H – Block, 15th Main Road, Anna Nagar,Chennai – 600 040
Phone: 26161803-26161809 (7 Lines) Toll Free No: 18001 235220
Fax: 26161813/814 CIN: U24111TN1998PTC040872
E.mail:info@pure.chemical.com Website: www.pure.chemical.com
TIN No.33241061285 CST No 774396/19.09.01

05.02.2024

Project Completion Certificate

This is to certify that the following students:Abinesh K, Bharath Kumar S, Dhamodharan S and Nalla Sivan Pillai S have successfully completed their Industry Based Project titled:"Removal of Anionic Pollutant Using Sugarcane Bagasse–Chitosan Beads" at Pon Pure Chemicals India Private Limited, Chennai.

The project was carried out for a period of one month, from 05 January 2024 to 04 February 2024, as part of their academic curriculum.

During the project period, the students were exposed to industrial practices related to environmental pollution control, adsorption techniques, and sustainable wastewater treatment methods. They actively participated in the preparation of bio-adsorbent materials, experimental analysis, and interpretation of results. Their conduct, dedication, and performance throughout the project were found to be satisfactory.

We wish them every success in their future academic and professional pursuits.

Place: Chennai
Date: 05 February 2024

Authorized Signatory,

Pon Pure Chemicals India Private Limited

Figure 7.5.23 Industry collaborated final year project of the year 2023-2024

Academic year 2025-2026

As a part of the project, the students carried out an industry-based study at Pon Pure Chemicals India Private Limited, Chennai, titled "Removal of Anionic Pollutant Using Sugarcane Bagasse–Chitosan Beads." The project involved the preparation and application of bio-based adsorbents for sustainable wastewater treatment, along with experimental analysis and interpretation of results. Through this work, the students gained practical exposure to industrial environmental management practices and applied core chemical engineering principles. The project enhanced their technical competence, analytical skills, teamwork, and awareness of sustainable engineering solutions, contributing effectively to the attainment of relevant Program Outcomes.



CENTRE FOR ENERGY STORAGE TECHNOLOGIES

ANNA UNIVERSITY,CHENNAI-600025.

CEST

Dr.N BALASUBRAMANIAN
PROFESSOR & DIRECTOR

30.10.2025

CERTIFICATE

This is to certify that Mr.TARUN N **(ES23CH62)**, III – Year Student of **B.TECH (CHEMICAL ENGINEERING)** From **ERODE SENGUNTHAR ENGINEERING COLLEGE, PERUNDURAI** has successfully completed the **INTERNSHIP** Programme titled **"Carbon dioxide Sequestration from Biogas in a Sodium Hydroxide Scrubber"** under my supervision during the period from 6th October 2025 to 30th October 2025 at **CENTRE FOR ENERGY STORAGE TECHNOLOGIES , ANNA UNIVERSITY,CHENNAI-600025.**

30/10/25

Dr.N.BALASUBRAMANIAN
DIRECTOR(CEST)

Figure 7.5.24 Industry collaborated final year project of the year 2025-2026

An internship programme was successfully completed by a third-year undergraduate student during the academic year 2025–2026 at the Centre for Energy Storage Technologies (CEST), Anna University, Chennai. The internship provided practical exposure to research-oriented applications in energy and environmental engineering, with a focus on carbon dioxide sequestration from biogas using a sodium hydroxide scrubber.

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)	1140	57	44	19	68

2024-25(CAYm1)	1440	72	50	22	62
2025-26(CAY)	1530	76	57	21	66

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 2025-26	Actual Expenses in 2025-26 till	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
Infrastructure Built-Up	265000000	251988999	250000000	225294703	175000000	159757851	132000000	118157265
Library	2250000	1799815	1780000	1269047	1661000	1292799	1470000	1373170
Laboratory equipment	15250000	12212372	42000000	36615624	17900000	17864447	24750000	20848397
Teaching and non-teaching staff salary	210000000	205917277	172400000	163742912	122100000	119034857	107000000	98685697
Outreach Programs	1350000	1294219	1800000	1638025	1000000	800730	3000000	2641751
R&D	16000000	14679745	12400000	11904352	10550000	9937090	5335000	4749606
Training, Placement and Industry linkage	3700000	3583438	4725000	3790981	4605000	4048026	3275000	2351019
SDGs	16000000	15810939	10070000	9919802	8185000	7964860	6210000	5835394
Entrepreneurship	1800000	1756270	700000	597217	300000	247317	150000	97363
Others, specify	180845000	164789030	157690000	149870896	145475000	125798143	102295000	96045147
Total	**712195000**	**673832104**	**653565000**	**604643559**	**486776000**	**446746120**	**385485000**	**350784809**

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 2025-26	Actual Expenses in 2025-26 till	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
Laboratory equipment	1500000	1491576	300000	250160	1000000	827760	3000000	2734584
Software	250000	249946	290000	271708	250000	204649	250000	202760
SDGs	800000	764086	600000	546994	550000	460383	475000	452073
Support for faculty development	300000	256194	150000	146456	200000	228341	250000	226024

R & D	1000000	1003468	800000	763925	300000	282645	800000	764830
Industrial Training, Industry expert, Internship	300000	273175	350000	309041	325000	285483	300000	282135
Miscellaneous Expenses*	29025000	27636731	27275000	26980650	30850000	30118789	26050000	25653349
Total	**33175000**	**31675176**	**29765000**	**29268934**	**33475000**	**32408050**	**31125000**	**30315755**