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: 10454	**Date of Submission**: 22-03-2025

PART A- Profile of the Institute

A1.Name of the Institute: ST. JOSEPH'S COLLEGE OF ENGINEERING	
Year of Establishment : 1994	Location of the Institute: Chennai
A2. Institute Address:JAPPIAAR NAGAR, OLD MAMALLAPURAM ROAD, CHEMMACHERY	
City:Chennai	State:Tamil Nadu
Pin Code:600119	Website:www. stjosephs.ac.in
Email:JPRSTJOSEPHS@STJOSEPHS.AC.IN	Phone No(with STD Code):044-24503237
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: 600119
A4. Type of the Institution: Autonomous CAY(2020-21)	
A5. Ownership Status: Self financing	

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

- No. of UG programs: **13**
- No. of PG programs: **6**

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	PG	Applied Electronics	2003	2024	Electronics and Communication Engineering
2	Engineering & Technology	UG	Artificial Intelligence and Data Science	2021	--	Artificial Intelligence and Data Science
3	Engineering & Technology	UG	Artificial Intelligence and Machine Learning	2021	--	Artificial Intelligence and Machine Learning
4	Engineering & Technology	PG	Biotechnology	2013	2024	Biotechnology
5	Engineering & Technology	UG	Biotechnology	2002	--	Biotechnology
6	Engineering & Technology	UG	Chemical Engineering	1994	--	Chemical Engineering
7	Engineering & Technology	UG	Civil Engineering	2014	2026	Civil Engineering
8	Engineering & Technology	PG	Computer Science and Engineering	2004	--	Computer Science and Engineering
9	Engineering & Technology	UG	Computer Science and Engineering	1995	--	Computer Science and Engineering
10	Engineering & Technology	UG	Computer Science and Engineering (Cyber Security)	2024	--	Computer Science and Engineering (Cyber Security)
11	Engineering & Technology	UG	Electrical and Electronics Engineering	1996	--	Electrical and Electronics Engineering
12	Engineering & Technology	UG	Electronics & Communication Engineering	1994	--	Electronics and Communication Engineering
13	Engineering & Technology	UG	Electronics & Instrumentation Engineering	1999	2026	Electronics and Instrumentation Engineering
14	Engineering & Technology	UG	Information Technology	1997	--	Information Technology

15	Engineering & Technology	PG	Manufacturing Engineering	2013	2024	Mechanical Engineering
16	Engineering & Technology	UG	Mechanical Engineering	1998	--	Mechanical Engineering
17	Engineering & Technology	UG	Mechatronics Engineering	2024	--	Mechatronics Engineering
18	Engineering & Technology	PG	Power Electronics and Drives	2003	2024	Electrical and Electronics Engineering
19	Management	PG	Masters in Business Administration	1995	--	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
Information Technology	Yes	Information Technology	UG
Chemical Engineering	Yes	Chemical Engineering	UG
Electronics and Communication Engineering	Yes	Electronics & Communication 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)

Allied Department/Cluster Name	Program Name	Program Level
Biotechnology	Biotechnology	UG
Biotechnology	Biotechnology	PG

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	1994 / --	40	Yes	2022	60	2022	F.No. Southern/1-43661065444/2024/EOA, Date of Approval : 19 - May – 2024	Granted accreditation for 3 years for the period (specify period)	2022	2025	5	4

Sanctioned Intake for Last Five Years for the Chemical Engineering	
Academic Year	**Sanctioned Intake**
2024-25	60
2023-24	60
2022-23	60
2021-22	60
2020-21	60
2019-20	60

List of the Allied Departments/Cluster and Programs:

SR.NO.	ALLIED DEPARTMENT NAME	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	Biotechnology	UG	2002 / --	60	No	NA	60	2002	F.No. Southern/l-43661065444/2024/EOA dated on 19.05.2024	Granted accreditation for 6 years for the period (specify period)	29/05/2023	30/06/2028	5	4
2	Biotechnology	Biotechnology	PG	2013 / 2024	18	No	NA	18	2013	F.No. Southern/l-43661065444/2024/EOA dated on 19.05.2024	Not accredited (specify visit dates, year)	--	--	0	2

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

A. Name of the HoD :	Dr.N.Venkatesh
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)	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	60	48	44	62	48	51	57
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	2	0	1	1	3	3
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.	60	50	44	63	49	54	60

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	0	0	100.00
2023-24 (CAYm1)	60	0	0	80.00
2022-23 (CAYm2)	60	0	0	73.33

Average [(ER1 + ER2 + ER3) / 3] = 84.44≡ 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).	61.00	63.00	63.00
B=No. of students who graduated from the program in the stipulated course duration	46.00	54.00	60.00
Success Rate (SR)= (B/A) * 100	75.41	85.71	95.24

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 85.45

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)	8.25	8.17	7.85
Y=Total no. of successful students	43.00	35.00	52.00
Z=Total no. of students appeared in the examination	48.00	44.00	62.00
API [X*(Y/Z)]	7.39	6.50	6.58

Average API[(AP1+AP2+AP3)/3] : 6.82

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)	7.70	7.50	9.18
Y=Total no. of successful students	35.00	52.00	46.00
Z=Total no. of students appeared in the examination	35.00	53.00	49.00
API [X * (Y/Z)]	7.70	7.36	8.62

Average API [(AP1 + AP2 + AP3)/3] : 7.89

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)	7.76	8.62	8.51
Y=Total no. of successful students	52.00	46.00	54.00
Z=Total no. of students appeared in the examination	52.00	46.00	54.00
API [X*(Y/Z)]:	7.76	8.62	8.51

Average API [(AP1 + AP2 + AP3)/3] : 8.30

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	61.00	63.00	63.00
X=No. of students placed	39.00	50.00	53.00
Y=No. of students admitted to higher studies	5.00	4.00	7.00
Z= No. of students taking up entrepreneurship	0.00	0.00	0.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	72.13	85.71	95.24

Average Placement Index = (P_1 + P_2 + P_3)/3: 84.36 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.N.Venkatesh	XXXXXXX80B	Ph.D	ANNA UNIVERSITY	Chemical Engineering	17/11/1997	27.4	Lecturer	Professor	17/08/2011	Regular	Yes		Yes
2	Dr.V.Renuka	XXXXXXX42P	Ph.D	ANDHRA UNIVERSITY	Chemical Engineering	27/05/2002	22.9	Lecturer	Professor	01/06/2006	Regular	Yes		No
3	Dr.S.VINOD KUMAR	XXXXXXX24B	Ph.D	SATYABAMA UNIVERSITY	Chemical Engineering	09/06/2010	14.9	Assistant Professor	Associate Professor	01/09/2023	Regular	Yes		No
4	Ms.R.LAVANYA	XXXXXXX85M	M.E/M.Tech	ANNA UNIVERSITY	Chemical Engineering	01/09/2021	3.6	Assistant Professor	Assistant Professor		Regular	Yes		No
5	Mr.P.ANAND KMAR	XXXXXXX92E	M.E/M.Tech	ANNA UNIVERSITY	Chemical Engineering	01/09/2021	3.6	Assistant Professor	Assistant Professor		Regular	Yes		No
6	Dr.S.SUJATHA	XXXXXXX31B	Ph.D	Annamalai University	Chemical Engineering	13/07/2022	2.8	Assistant Professor	Assistant Professor		Regular	Yes		No
7	Dr.N.MAGESH	XXXXXXX85Q	Ph.D	SATYABAMA UNIVERSITY	Chemical Engineering	13/07/2022	2.8	Assistant Professor	Assistant Professor		Regular	Yes		No
8	Dr.R.SIVARANJANEE	XXXXXXX27G	Ph.D	ANNA UNIVERSITY	Chemical Engineering	05/08/2024	0.7	Assistant Professor	Assistant Professor		Regular	Yes		No
9	Dr.T.AMUDHA	XXXXXXX35J	Ph.D	ANNA UNIVERSITY	Chemical Engineering	05/08/2024	0.7	Assistant Professor	Assistant Professor		Regular	Yes		No
10	Mr.K.GNANASEKARAN	XXXXXXX02C	M.E/M.Tech	ANNA UNIVERSITY	Manufacturing Engineering	15/07/2022	1.10	Assistant Professor	Assistant Professor		Regular	No	31/05/2024	No
11	Dr.B.SENTHIL RATHI	XXXXXXX28D	Ph.D	ANNA UNIVERSITY	Chemical Engineering	01/08/2013	10.1	Assistant Professor	Assistant Professor		Regular	No	31/08/2023	No
12	Dr.R.BASKARAN	XXXXXXX06K	Ph.D	ANNA UNIVERSITY	Chemical Engineering	26/05/1997	25.1	Lecturer	Professor	31/12/2008	Regular	No	30/06/2022	No
13	Mr.B.SAI SUDHARASHAN	XXXXXXX37A	M.E/M.Tech	Dr.MGR UNIVERSITY	CHEMICAL ENGINEERING	01/06/2022	2	Assistant Professor	Assistant Professor		Regular	No	31/05/2024	No

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

Sr.No	Name of the Faculty	PAN No.	APAAR faculty ID*(if any)	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.G.SREEKUMAR	XXXXXXX51A	NA	Ph.D	SATYABAMA UNIVERSITY	BIO PROCESS ENGINEERING	04/06/2003	21.9	Assistant Professor	Professor	01/08/2011	Regular	Yes		No
2	Dr.S.JUSTIN BACKIA JACOB	XXXXXXX52H	NA	Ph.D	KERALA UNIVERSITY	NANO BIOTECHNOLOGY	16/06/2003	21.9	Assistant Professor	Associate Professor	01/06/2012	Regular	Yes		No

3	Dr.G.BASKAR	XXXXXXX58P	NA	Ph.D	ANNA UNIVERSITY	BIO PROCESS ENGINEERING	07/06/2006	18.9	Assistant Professor	Professor	01/10/2013	Regular	Yes		No
4	Dr.L.F.A. ANAND RAJ	XXXXXXX66K	NA	Ph.D	MADRAS UNIVERSITY	NANO BIOTECHNOLOGY	02/06/2004	20.9	Assistant Professor	Associate Professor	01/02/2010	Regular	Yes		Yes
5	Dr.M.CHAMUNDEESWARI	XXXXXXX92E	NA	Ph.D	ANNA UNIVERSITY	NANO BIOTECHNOLOGY	02/06/2004	20.9	Assistant Professor	Associate Professor	01/02/2010	Regular	Yes		No
6	Ms.S.YUWVARANNI	XXXXXXX15J	NA	M.E/M.Tech	Annamalai University	BIOTECHNOLOGY	01/08/2013	11.7	Assistant Professor	Assistant Professor		Regular	Yes		No
7	Dr.B.SANGEETHA	XXXXXXX03A	NA	Ph.D	ANNA UNIVERSITY	BIOTECHNOLOGY	17/06/2015	9.9	Assistant Professor	Assistant Professor		Regular	Yes		No
8	Ms.A.ANLI DINO	XXXXXXX05P	NA	M.E/M.Tech	ANNA UNIVERSITY	BIOTECHNOLOGY	14/06/2023	1.9	Assistant Professor	Assistant Professor		Regular	Yes		No
9	Ms.MU.POORNIMA	XXXXXXX32F	NA	M.E/M.Tech	VIT UNIVERSITY	BIOTECHNOLOGY	10/07/2024	0.8		Assistant Professor		Regular	Yes		No
10	Dr.M.SHREE RAMA	XXXXXXX77C	NA	Ph.D	ANNA UNIVERSITY	BIOTECHNOLOGY	28/08/2024	0.6	Assistant Professor	Assistant Professor		Regular	Yes		No
11	Dr.K.R.PREETHY	XXXXXXX07Q	NA	Ph.D	ANNA UNIVERSITY	BIOTECHNOLOGY	01/07/2013	11	Assistant Professor	Assistant Professor		Regular	No	12/07/2024	No
12	Dr.L.ANTONY CATHERINE FLORA	XXXXXXX54Q	NA	Ph.D	ANNA UNIVERSITY	BIOTECHNOLOGY	13/07/2022	2.1	Assistant Professor	Assistant Professor		Regular	No	30/08/2024	No
13	Dr.C.KARTHIK	XXXXXXX04G	NA	Ph.D	ANNA UNIVERSITY	ENVIRONMENTAL BIOTECHNOLOGY	01/06/2005	17.5	Assistant Professor	Associate Professor	01/06/2010	Regular	No	31/10/2022	No
14	Ms.D.G. CAROLINE	XXXXXXX92N	NA	M.E/M.Tech	ANNA UNIVERSITY	BIOTECHNOLOGY	22/06/2015	7.4	Assistant Professor	Assistant Professor		Regular	No	31/10/2022	No
15	Ms.R.UMA MAGESWARI	XXXXXXX09E	NA	M.E/M.Tech	ANNA UNIVERSITY	BIOTECHNOLOGY	11/06/2022	1	Assistant Professor	Assistant Professor		Regular	No	15/06/2023	No

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(2024-25)**	**CAYm1 (2023-24)**	**CAYm2 (2022-23)**
UG1.B	62	60	63
UG1.C	60	63	60
UG1.D	63	60	63
UG1: Chemical Engineering	**185**	**183**	**186**

Description	CAY(2024-25)	CAYm1 (2023-24)	CAYm2 (2022-23)
UG2.B	60	60	60
UG2.C	60	60	61
UG2.D	60	61	60
UG2: Biotechnology	**180**	**181**	**181**
DS=Total no. of students in all UG and PG programs in the Department	185	183	186
AS=Total no. of students of all UG and PG programs in allied departments	180	181	181
S=Total no. of students in the Department (DS) and allied departments (AS)	**S1=** 365	**S2=** 364	**S3=** 367
DF=Total no. of faculty members in the Department	9	9	10
AF= Total no. of faculty members in the allied Departments	10	10	10
F=Total no. of faculty members in the Department (DF) and allied Departments (AF)	**F1=** 19	**F2=** 19	**F3=** 20
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= 19.21**	**SFR2= 19.16**	**SFR3= 18.35**
Average SFR for 3 years	**SFR= 18.91**		

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)	7	6	18.00	13.06
2023-24(CAYm1)	11	9	18.00	20.28
2022-23(CAYm2)	10	9	18.00	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	2.00	4.00	4.00	4.00	12.00	11.00
2023-24	2.00	4.00	4.00	3.00	12.00	12.00
2022-23	2.00	4.00	4.00	3.00	12.00	13.00
Average	RF1=2.00	AF1=4.00	RF2=4.00	AF2=3.33	RF2=12.00	AF2=12.00

C5. Visiting/Adjunct Faculty/Professor of Practice

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

(CAYm1)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Mr.Venkatesh	Technical Head	iGenuine	C-Programming Coding Skills	18.00
2	Mr.Prabhu	Technical Coordinator	iGenuine	Power BI and Introduction for Fundamentals of Power BI and its application	18.00
3	Mr.S.Alaudeen Basha	Technical Coordinator	iGenuine	Importance of Data-Driven decision making in Chemical Engineering	18.00

(CAYm2)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Dr. Aneesh Nair	Head – Operations	Biozone Research Technologies PVT, LTD	Introduction to cheminformatics	10.00
2	Mary Julie Pushpanathan	Head R&D	Biozone Research Technologies PVT, LTD	History, Evolution and Prospects of cheminformatics	10.00
3	B. Vadivukkarasi	Coordinator - BRT Publishers	Biozone Research Technologies PVT, LTD	Introduction to molecular biology and chemical drug designing and discovery Drug ability analysis St	12.00
4	Dr. Gugan & Sumathi S	Coordinator-BILS	Biozone Research Technologies PVT, LTD	Protein Structure Prediction, optimization of Secondary of secondary protein- Types of Biological	12.00
5	Kalluri Vasavi	Coordinator-BRS	Biozone Research Technologies PVT, LTD	Docking, Interaction by iGemDock , Docking Data Analysis	12.00

(CAYm3)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Dr. Aneesh Nair	Head – Operations	Biozone Research Technologies PVT, LTD	Cheminformatics introduction: Introduction to cheminformatics - History, Evolution and Prospects of	10.00
2	Dr. Gugan	Trainer	Biozone Research Technologies PVT, LTD	Representation of molecules and Chemical Reactions: Nomenclature; Different types of notations, Mult	12.00
3	Dr. Gugan & Sumathi S	Coordinator-BILS	Biozone Research Technologies PVT, LTD	Validation of Protein Structure: Ramachandran Plot - Protein visualization: Discovery Studio Visual	12.00
4	Dr. Aneesh Nair & Dr. Gugan	Head – Operations	Biozone Research Technologies PVT, LTD	Identification of PATHWAY - KEGG - Gene expression analysis: EMBOSS - Cai, EMBOSS – Cusp	10.00
5	Dr. Kanagasabai & Dr. Shailaja	Coordinator	Biozone Research Technologies PVT, LTD	Protein Data- Molecular Modeling Homology Modeling – Swiss modeler- Drug Bank - Chemsketch, Docking	10.00

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	12	17	8
2	No. of peer reviewed conference papers published	4	0	0
3	No. of books/book chapters published	5	1	4

C7. Sponsored Research Project

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

(CAYm1)

(CAYm2)

(CAYm3)

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

Note*:

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

C8. Consultancy Work

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

(CAYm1)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. Vinod Kumar	-	Chemical Department	Cleaning Chemical Formulation	St.Josephs College of Engineering	1 year	20.04
Dr.V.Renuka	-	Chemical Department	Petrochemical	Lube Chem Pvt Ltd	1 year	1.00
						Amount received (Rs.):21.04

(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. V.Renuka	-	Chemical Department	Petrochemcial Sample and Oil Analysis	Lube Tech – Oil Analysis	1 year	1.00
Dr.Vinod Kumat	-	Chemical Department	Cleaning Chemical Formulation	St.Josephs College of Engineering	1	16.00
						Amount received (Rs.):17.00

(CAYm3)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. V.Renuka	-	Chemical Department	Petrochemcial Sample and Oil Analysis	Lube Tech – Oil Analysis	1 year	1.00
Dr.Baskaran.R	-	Chemical Department	Cleaning Chemical Formulation	St.Josephs College of Engineering	1 year	16.00
						Amount received (Rs.):17.00

Total amount (Lacs) received for the past 3 years: 55.04

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. V. Renuka.	Adsorption Studies	1 YEAR	0.60	0.40	PUBLICATION
Dr. S. Vinod Kumar	Membrane Desalination	1 YEAR	0.60	0.40	PUBLICATION
Ms. R. Lavanya	Waste water Treatment	8 MONTHS	0.30	0.03	PUBLICATION
Mr. P. Anand Kumar	Hydrothermal synthesis	8 MONTHS	0.60	0.45	PUBLICATION
Dr. S. Sujatha	Biomass Conversion Techniques	8 MONTHS	1.50	0.80	PUBLICATION
Dr. N. Magesh	Adsorption using biomass	8 MONTHS	0.30	0.03	PUBLICATION
			Amount received (Rs.): 3.90		

(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.Baskaran R	Cytokine storm Case study	6 MONTHS	0.30	0.20	PUBLICATION
Dr.N Venkatesh	Synthesis of sophorolipids	8 MONTHS	0.30	0.25	PUBLICATION
Dr.V. Renuka	Extraction of Bio oil	1 YEAR	0.60	0.50	PUBLICATION
Dr. S. Vinod Kumar	SMOTE preprocessing	6 MONTHS	0.30	0.25	PUBLICATION
Dr.S. Sujatha	Nanoparticle synthesise	6 MONTHS	0.60	0.45	PUBLICATION
Dr. Senthil Rathi B	Biodegradation of dyes	1 YEAR	2.10	1.75	PUBLICATION
Ms. Lavanya R	Surface modified bio adsorbent	6 MONTHS	0.30	0.25	PUBLICATION
			Amount received (Rs.): 4.50		

(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
Ms. Senthil Rathi B	Application of adsorption process	1 YEAR	1.80	1.40	PUBLICATION
R. Sivaranjanee	Separation of toxic from waste water	8 MONTHS	0.60	0.45	PUBLICATION
			Amount received (Rs.): 2.40		

Total amount (Lacs) received for the past 3 years : 10.80

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	Technical Analysis Laboratory	4	• Muffle Furnace • Reflux Condenser • Viscometer	4 hrs per week	Mr. Udhayaraj kumar / Mr.P.J	Lab Technician	B.Sc / D.Pharm
2	Fluid Mechanics Laboratory	2	• Centrifugal pump • Reciprocating pump • Packed column • Fluidized bed • Open drum with orifice	6 hrs per week	Mr. Udhayaraj kumar	Lab Technician	B.Sc
3	Mechanical operation Laboratory	2	• Ball mill • Jaw crusher • Drop weight crusher • Plate and frame filter press • Vacuum leaf filter • Sieve shaker	6 hrs per week	Mr.P.John Paul	Lab Technician	D.Pharm
4	Computer Applications in Chemical Engineering	1	• MATLAB • MS Office (EXCEL)	6 hrs per week	Mr. Udhayaraj kumar	Lab Technician	B.Sc
5	Heat & Mass Transfer Laboratory	2	• Double Pipe Heat Exchanger • Shell and Tube heat exchanger • Composite wall set up • Boiler • Vertical Condenser Horizontal Condenser Helical Coil Vacuum	6 hrs per week	Mr. Udhayaraj kumar / Mr.P.J	Lab Technician	B.Sc / D.Pharm
6	Computer Programming Laboratory for Chemical Engineers	1	• MATLAB • Process Simulation Tool	6 hrs per week	Mr. Udhayaraj kumar	Lab Technician	B.Sc
7	Mass Transfer (Integrated Laboratory)	2	• Packed column distillation • Wetted wall column • Surface evaporation • Tray Dryer	6 hrs per week	Mr.P.John Paul	Lab Technician	D.Pharm

8	Chemical Reaction Engineering Laboratory	2	• Batch Reactor • Plug flow reactor • Photochemical reactor • Combined CSTR and PFR • Sono-chemical reactor	6 hrs per week	Mr. Udhayaraj kumar	Lab Technician	B.Sc
9	Chemical Process Equipment Design (Integrated Laboratory)	1	• Drawing Table	6/4 hrs per wee	Mr. Udhayaraj kumar	Lab Technician	B.Sc

D2. Safety Measures in Laboratories

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

Sr. No	Laboratory Name	Safety Measures
1	Technical analysis Laboratory	• Appropriate clothing must be worn at all times while in the laboratory. • Advised to wear approved laboratory coat or apron • Feet should be covered completely with shoes containing reasonable heel heights. • Gloves shall be worn while handling acids and hazardous chemicals • Hands should be washed thoroughly before leaving the lab. • A fire extinguisher is kept for safety. • First aid box with analgesic drug available. • Safety charts are displayed • Do's and Don'ts displayed in the lab.
2	Mechanical Operations Laboratory	• Appropriate clothing must be worn at all times while in the laboratory. • Advised to wear approved laboratory coat or apron • Feet should be covered completely with shoes containing reasonable heel heights. • Stay away from moving parts of the machine. • Never weigh an object beyond the load bearing capacity of the balance • Do not touch the equipment unless the experiment is known • Do's and Don't's displayed in the lab.
3	Fluid Mechanics Laboratory	• Use protective shoes in the lab • Advised to wear approved laboratory coat or apron • Do not lean on equipments. • Use heat resistant gloves while handling hot equipment / materials. • Do not pull or stamp or insert unauthorized materials on electrical wires and plug points. • Be aware of the various experiment controls (start button, stop button, speed control) for each lab. • Wear safety eyewear when needed. • Do not leave experiments running unattended. • Any injuries should be reported immediately for proper care.
4	Heat & Mass Transfer Laboratory	• Use protective shoes in the lab. • Do not lean on equipment. • Use heat-resistant gloves while handling hot equipment materials. • Do not pull or stamp or insert unauthorized materials on electrical wires and plug points. • Keep your work space and instruments clean and tidy. • When lab work is completed, all materials must be returned to their proper places and used benches, instruments and glassware must be cleaned up. • Leave glassware clean and dry at the close of each laboratory period. . • Be sure that electrical connections and water supply are turned off. • Each student is responsible for cleaning up spilled chemicals or broken glassware. • Read the label twice before taking anything f Fire extinguisher is kept for safety. • First aid box with analgesic drug available. • Safety charts are displayed rom a container. • Do's and Don't's displayed in the lab.
5	Computer Programming / Applications Laboratory	• Computers in the lab are used only when a teacher is present. • Report any hardware fault immediately to your teacher. Never attempt to dismantle the different parts of the computer. • Each student must log in to his/her account. No sharing of accounts is permitted. The computers are for your academic use. • Playing computer games for entertainment is strictly not allowed. • Shut down the computer properly after use.
6	Chemical Reaction Engineering Laboratory	• Use protective shoes in the lab. • Advised to wear approved laboratory coat or apron • Do not lean on equipments. • Be sure that electrical connections and water supply are turned off. • Each student is responsible for cleaning up spilled chemicals or broken glassware. • First aid box with analgesic drug available. • Safety charts are displayed • Do's and Don'ts displayed in the lab

D3. Project Laboratory/Research Laboratory

S.N.	Name of the Laboratory	Area (Sq.m)
1.	Project & Research Laboratory	150
2.	Industry Supported Laboratory	200
3.	Centre of Excellence	150

1. **Project & Research Laboratory**

In our chemical Engineering department we have a dedicated project laboratory comprising an area of 150Sq.m. This facility aims at supporting **student projects and mini projects** , **staff research**, and other **innovation activities**.

S.No	Name of the Equipment	Utilisation	Outcomes
1.	Magnetic stirrer with hot plate	• Laboratory is utilised by students to carry out their mini projects, Final year projects and projects for various competitions. • Laboratory is used by Staff to carry out their research work.	• Student conference proceedings • Student paper publications • Student Hackathon projects • Staff paper publications • Staff Book Chapters • Staff Conference proceedings
2.	Centrifuge		
3	Water Testing kit		
4	Conductivity meter		
5	Turbidity meter		
6	UV-Vis Spectrophotometer		
7	Photochemical reactor		
8	Cold cabinet		
9	Ultrasonicator		
10	Column chromatography set up		
11	High Pressure Liquid chromatography (HPLC)		
12	Cross filtration set up		

Publication by Staff :

Year 2023 -2024				
S.No	**Name**	**Title of the paper**	**Journal/ Conference**	**Title of journal/Conf, year, Volume & page numbers)**
1	Dr.N. Venkatesh	Oleic acid-rich waste fleshing oil as a secondary carbon source for the synthesis of sophorolipids	**Journal**	Environmental Process & Sustainable Energy Vol 42, Issue 5

2	Dr. S. Sujatha	Efficient removal of methylene blue dye by iron nanoparticles synthesized by a novel green method using jujube leaf extract: characterization, kinetics, and isotherm studies	Journal	Biomass Conversion and Biorefinery PP1-17
3	Dr. Renuka.V	An in-vitro study on post-surgical breast wound healing activity by zinc oxide dots and its optimization using Box Behnken design	Journal	Journal of Drug Delivery Science and Technology Vol 90
4	Dr.N.Magesh	The box-Behnken experimental approach of emerging contaminant-Ciprofloxacin antibiotic removal from aqueous solution using Kigelia Africana peel-activated carbon: optimization, kinetics, and isotherm studies	Journal	Discover applied sciences Vol6, PP 1-16

Year 2022 -2023

S.No	Name	Title of the paper	Journal/ Conference	Title of journal/Conf, year, Volume & page numbers)
1	Ms.R,lavanya	Surface-Modified Adsorbent from Artocarpus heterophyllusLam Biomass to ConfineReactive Red 194 in Real and Synthetic Effluents: Kinetics andEquilibrium Study	Journal	Adsorption Science and Technology
2	Dr,N, Magesh	Adsorption behavior of fluoroquinolone (ciprofloxacin)using zinc oxide impregnated activated carbon prepared fromjack fruit peel: Kinetics and isotherm studies	Journal	Chemosphere

Year 2021 -2022

S.No	Name	Title of the paper	Journal/ Conference	Title of journal/Conf, year, Volume & page numbers)
1	Dr. B. Senthil rathi	Feasibility of magnetic nano adsorbent impregnated with activated carbon from animal bone waste: Application for the chromium (VI) removal	Journal	Environmental Research Vol203, Jan 2022
		Ultrasonic Functionalized Egg Shell Powder for the Adsorption of Cationic Dye: Equilibrium and Kinetic Studies	Journal	Adsorption Science and Technology

1. **Industry Supported Laboratory**

IIn order to bridge the gap between academia and Industry Our Chemical Engineering department in association with Bridge Green Upcycle Private Limited has set up a well equipped laboratory in our campus covering an area of 200Sq.m.

The aim of this associated facility is to

- Foster innovation and applied research
- Provide real world learning experience for students essential for their future career
- Solve specific problems by working along with industrial partners.

Name of the Industry	Pioneer Area	Equipment supported by Industry	Equipment supported by Department
Bridge Green Upcycle Private Limited	Upcycling of Lithium Ion batteries and promote circular economy of the battery ecosystem	• Shredder • Hammer mill • Magnetic separator • Electrostatic precipitator • Belt conveyor	• Sieve shaker • Magnetic stiirrer with hot plate • Heating mantle • Glasswares
Oil Plus (Lube Chem India Pvt Ltd)	Service Industry- Commodity chemicals & Analysis of samples for Energy & Water Industry	• Centrifuge • Corrosion testing apparatus • Pycnometer	• Fume Hood • Viscometer • pH meter • Flash point apparatus • Waterbath

- Students from our department have been offerred paid internship to carry out their internship and project work.
- Students from our department have successfully received placement offers from reputed organizations, reflecting the quality of education and training they have undergone. These opportunities mark a significant step in their professional journey and highlight the department's commitment to preparing students for industry readiness and career success."

Name of the Industry supported Laboratory	Utilisation	Outcomes
Bridge Green Upcycle	Effectively utilised by selected students for internships, working on academic and industry-related project work, and exploring entrepreneurial ventures.	• Student internship report (10) • Student project report (3) • Hands on training/ expertise (2) • Placement offer (3)
Oil Plus (Lube Chem India Pvt Ltd)		

Centre of Excellence

Name of the Laboratory	Details	Utilisation	Outcomes
Design & Simulation Laboratory	Open software tools : SCILAB DWSIM	• End Semester Project work • Competitions	Project reports (2)

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)	1440	72	44	111	80
2023-24(CAYm1)	1440	72	52	128	93
2024-25(CAY)	1500	75	57	138	98

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	210000000	168288344	200000000	166360721	110000000	82437263	70000000	53576288
Library	17000000	15138014	16500000	14905787	14000000	12124438	9500000	8057575
Laboratory equipment	37500000	34337454	47750000	43016973	24000000	21190541	7000000	6065438
Teaching and non-teaching staff salary	585000000	587785565	505000000	504356088	385000000	385169982	307000000	305342141
Outreach Programs	3100000	2909227	6600000	5952700	1100000	976977	1000000	898640
R&D	110000000	99391146	68000000	61303675	20000000	17012295	16000000	13952019
Training, Placement and Industry linkage	19500000	17456715	35800000	32225743	35600000	30935280	5100000	4432196
SDGs	220000000	202209574	138400000	124721269	39800000	34611220	35000000	28385141
Entrepreneurship	15000000	13709124	9400000	8455679	2700000	2346523	2200000	1924416
Others, specify	27500000	27418247	18800000	16911359	5400000	4693046	4500000	3848833
Total	**1244600000**	**1168643410**	**1046250000**	**978209994**	**637600000**	**591497565**	**457300000**	**426482687**

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	300000	73984	900000	868308	0	0	50000	50000

Software	0	0	0	0	150000	0	150000	150000
SDGs	70000	66666	145000	143500	28000	27150	0	0
Support for faculty development	95000	66000	90000	80000	0	0	0	0
R & D	400000	562384	110000	118000	30000	185000	50000	170000
Industrial Training, Industry expert, Internship	1765000	1465100	1399000	1358500	1220000	1133600	945700	883000
Miscellaneous	688000	437231	418000	485034	583000	471394	361200	240700
Total	**3318000**	**2671365**	**3062000**	**3053342**	**2011000**	**1817144**	**1556900**	**1493700**