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: 10975	**Date of Submission**: 03-09-2025

PART A- Profile of the Institute

A1.Name of the Institute: IPS Academy, Institute of Engineering and Science, Indore, M.P.	
Year of Establishment : 1999	Location of the Institute: KNOWLEDGE VILLAGE, RAJENDRA NAGAR, A. B. ROAD, INDORE
A2. Institute Address:INSTITUTE OF ENGINEERING AND SCIENCE, IPS ACADEMY, KNOWLEDGE VILLAGE, RAJENDRA NAGAR, A. B. ROAD, INDORE. (MP) PIN CODE- 452012	
City:Indore	State:Madhya Pradesh
Pin Code:452012	Website:www.ies.ipsacademy.org
Email:director.ies@ipsacademy.org	Phone No(with STD Code):0731-4014601
A3. Name and Address of the Affiliating University (if any):	
Name of the University :	City: Bhopal
State : Madhya Pradesh	Pin Code: 462033
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: **14**
- No. of PG programs: **7**

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

Sr.No.	Discipline	Level of program	Name of the program	Year of Start	Year of Closed	Name of The Department
1	Engineering & Technology	UG	Agricultural Engineering	2022	2025	Agricultural Engineering
2	Engineering & Technology	UG	Artificial Intelligence and Machine Learning	2021	2022	Artificial Intelligence and Machine Learning
3	Engineering & Technology	UG	Chemical Engineering	2004	--	Chemical Engineering
4	Engineering & Technology	PG	Chemical Engineering	2011	--	Chemical Engineering
5	Engineering & Technology	UG	Civil Engineering	2004	--	Civil Engineering
6	Engineering & Technology	UG	Computer Science & Information Technology	2018	--	Computer Science and Information Technology
7	Engineering & Technology	UG	Computer Science and Engineering	1999	--	Computer Science and Engineering
8	Engineering & Technology	UG	Computer Science and Engineering (Artificial Intelligence & Machine Learning)	2021	--	Computer Science and Engineering (Artificial Intelligence and Machine Learning)
9	Engineering & Technology	UG	Computer Science and Engineering (Data Science)	2020	--	Computer Science and Engineering (Data Science)

10	Engineering & Technology	UG	Computer Science and Engineering (Internet of Things and Cyber Security including Blockchain Technology)	2022	--	Computer Science and Engineering (Internet of Things and Cyber Security including Blockchain Technology)
11	Engineering & Technology	UG	Computer Science and Engineering (Internet of Things)	2020	--	Computer Science and Engineering (Internet of Things)
12	Engineering & Technology	PG	Construction & Project Management	2013	--	Civil Engineering
13	Engineering & Technology	PG	Data Science	2007	--	Computer Science and Engineering (Data Science)
14	Engineering & Technology	PG	Digital Communications Engineering	2007	--	Electronics and Communication Engineering
15	Engineering & Technology	UG	Electrical & Electronics Engineering	2003	--	Electrical and Electronics Engineering
16	Engineering & Technology	UG	Electronics & Communication Engineering	1999	--	Electronics and Communication Engineering
17	Engineering & Technology	UG	Fire Technology and Safety	1999	--	Fire Technology and Safety
18	Engineering & Technology	PG	Industrial Safety Engineering	2010	--	Fire Technology and Safety
19	Engineering & Technology	UG	Mechanical Engineering	2013	--	Mechanical Engineering
20	Engineering & Technology	PG	Power Electronics	2013	--	Electrical and Electronics Engineering
21	Engineering & Technology	PG	Structural Engineering	2009	--	Civil Engineering

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
Fire Technology and Safety	No	Fire Technology and Safety	UG
Electrical and Electronics Engineering	No	Electrical & Electronics Engineering	UG
Mechanical Engineering	No	Mechanical Engineering	UG
Electronics and Communication Engineering	No	Electronics & Communication Engineering	UG
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	2004 / --	60	Yes	2021	30	2021	AICTE	Granted accreditation for 3 years for the period (specify period)	2017	2020	1	4

Sanctioned Intake for Last Five Years for the Chemical Engineering	
Academic Year	**Sanctioned Intake**
2024-25	30
2023-24	30
2022-23	30
2021-22	30
2020-21	60
2019-20	60

List of the Allied Departments/Cluster and Programs:

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

A. Name of the HoD :	Dr. Rajesh Kumar Kaushal
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)	30	30	30	30	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	19	10	5	9	18	18	34
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	10	5	2	3	1	0
N3=Separate division if any	0	0	0	0	0	0	0
N4=Total no. of students admitted in the 1st year via all supernumerary quotas	0	0	0	0	0	0	0
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	19	20	10	11	21	19	34

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)	30	19	0	63.33
2023-24 (CAYm1)	30	10	0	33.33
2022-23 (CAYm2)	30	5	0	16.67

Average [(ER1 + ER2 + ER3) / 3] = 37.78≡ 0.00

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).	63.00	61.00	60.00
B=No. of students who graduated from the program in the stipulated course duration	20.00	18.00	31.00
Success Rate (SR)= (B/A) * 100	31.75	29.51	51.67

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 37.64

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

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

Academic Performance	CAYm1(2023-24)	CAYm2(2022-23)	CAYm3 (2021-22)
Mean of CGPA or mean percentage of all successful students(X)	7.26	7.07	7.26
Y=Total no. of successful students	8.00	5.00	11.00
Z=Total no. of students appeared in the examination	10.00	5.00	9.00
API [X*(Y/Z)]	5.81	7.07	8.87

Average API[(AP1+AP2+AP3)/3] : 7.25

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)	7.46	7.07	7.58
Y=Total no. of successful students	7.00	11.00	20.00
Z=Total no. of students appeared in the examination	10.00	13.00	23.00
API [X * (Y/Z)]	5.22	5.98	6.59

Average API [(AP1 + AP2 + AP3)/3] : 5.93

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)	7.13	7.56	7.93
Y=Total no. of successful students	11.00	20.00	18.00
Z=Total no. of students appeared in the examination	11.00	20.00	18.00
API [X*(Y/Z)]:	7.13	7.56	7.93

Average API [(AP1 + AP2 + AP3)/3] : 7.54

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	63.00	61.00	60.00
X=No. of students placed	9.00	12.00	20.00
Y=No. of students admitted to higher studies	0.00	1.00	3.00
Z= No. of students taking up entrepreneurship	0.00	1.00	1.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	14.29	22.95	40.00

Average Placement Index = (P_1 + P_2 + P_3)/3: 25.75 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. Rajesh Kumar Kaushal	XXXXXXX84E	Ph.D	RGPV Bhopal	Environmental Engineering	01/08/2006	19.1	Assistant Professor	Professor	01/02/2019	Regular	Yes		Yes
2	Mr. Nitesh Parmar	XXXXXXX23M	M.Tech	RGPV Bhopal	Environmental Engineering	22/02/2011	14.6	Assistant Professor	Assistant Professor		Regular	Yes		No
3	Dr. Abhinesh Kumar Prajapati	XXXXXXX25N	Ph.D	NIT Raipur	Environmental Engineering	01/09/2009	16	Assistant Professor	Professor	24/07/2023	Regular	Yes		No
4	Dr. Deepak Sharma	XXXXXXX71Q	Ph.D	NIT Raipur	Waste Water engineering	23/08/2011	14	Assistant Professor	Associate Professor	24/07/2023	Regular	Yes		No
5	Dr. Shamal Sen	XXXXXXX06Q	Ph.D	NIT Raipur	Waste Water Treatment	11/08/2014	11	Assistant Professor	Associate Professor	24/07/2023	Regular	Yes		No
6	Mr. Vikas Vishwakarma	XXXXXXX71G	M.Tech	RGPV Bhopal	Environmental Management	23/09/2011	13.11	Assistant Professor	Assistant Professor		Regular	Yes		No
7	Mr. Jitendra Patidar	XXXXXXX24C	M.Tech	RGPV Bhopal	Environmental Management	19/08/2014	11	Assistant Professor	Assistant Professor		Regular	Yes		No
8	Mr. Yadunandan Deshmukh	XXXXXXX46G	M.Tech	NIT Warangal	Computer Added Process and Equipment Design	03/09/2015	10	Assistant Professor	Assistant Professor		Regular	Yes		No
9	Dr. Kanti Kumar Athankar	XXXXXXX14P	Ph.D	VNIT Nagpur	Liquid Liquid Extraction	19/09/2016	8.11	Assistant Professor	Associate Professor	24/07/2023	Regular	Yes		No
10	Mr. Sanjay Singh Thakur	XXXXXXX44P	B.E.	Vikram University	Chemical emngineering	22/08/2022	3	Professor	Professor	22/08/2022	Regular	Yes		No

11	Dr. Chhaya Petle	XXXXXXX48Q	Ph.D	RGPV Bhopal	Ozonation	01/08/2012	11.9	Assistant Professor	Assistant Professor		Regular	No	24/05/2024	No
12	Mr. Vivek Singh	XXXXXXX13L	M.Tech	NIT Rourkela	Chemical engineering	07/09/2015	7.6	Assistant Professor	Assistant Professor		Regular	No	28/03/2023	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(2024-25)**	**CAYm1 (2023-24)**	**CAYm2 (2022-23)**
UG1.B	33	33	32
UG1.C	33	32	63
UG1.D	32	63	61
UG1: Chemical Engineering	**98**	**128**	**156**
PG1.A	9	9	18
PG1.B	9	18	18
PG1: Chemical Engineering	**18**	**27**	**36**
DS=Total no. of students in all UG and PG programs in the Department	116	155	192
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=** 116	**S2=** 155	**S3=** 192
DF=Total no. of faculty members in the Department	9	10	10
AF= Total no. of faculty members in the allied Departments	0	0	0
F=Total no. of faculty members in the Department (DF) and allied Departments (AF)	**F1=** 9	**F2=** 10	**F3=** 10
FF=The faculty members in F who have a 100% teaching load in the first-year courses	0	0	0
Student Faculty Ratio (SFR)=S/(F-FF)	**SFR1= 12.89**	**SFR2= 15.50**	**SFR3= 19.20**
Average SFR for 3 years	**SFR= 15.86**		

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)	5	4	5.00	33.00
2023-24(CAYm1)	6	4	7.00	27.14
2022-23(CAYm2)	5	5	9.00	19.44

C4. Faculty Cadre Proportion

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

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

Year	Professors		Associate Professors		Assistant Professors	
	Required RF1	Available AF1	Required RF2	Available AF1	Required RF3	Available AF3
2024-25	1.00	2.00	1.00	3.00	3.00	4.00
2023-24	1.00	2.00	1.00	3.00	5.00	5.00
2022-23	1.00	1.00	2.00	1.00	6.00	8.00
Average	RF1=1.00	AF1=1.67	RF2=1.33	AF2=2.33	RF2=4.67	AF2=5.67

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. Sanjay Singh Thakur	Professor of Practice	IPSA-IES Indore	Syllabus Attached	54.00

(CAYm2)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Mr. Sanjay Singh Thakur	Professor of Practice	IPSA-IES Indore	Syllabus Attached	54.00

(CAYm3)

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	16	17

2	No. of peer reviewed conference papers published	0	0	0
3	No. of books/book chapters published	0	2	0

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. Rajesh Kumar Kaushal	Dr. Kanti Kumar Athankar	Chemical Engineering	Treat Water and Save Environment: Recent Trends and Advancement in Treatment of Effluent	AICTE	5 Days	350000.00
						Amount received (Rs.):350000.00

(CAYm2)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr Chhaya Prafulla Petle	Mr. Yadunandan Deshmukh and Mr. Nitesh Parmar	Chemical Engineering	Carbon Neutrality for sustainable development Challenges and Advances	DST-Science and Engineering Research Board	5 Days	150000.00
Dr. Deepak Sharma	Dr. Kanti Kumar Athankar and Mr. Nitesh Parmar	Chemical Engineering	Contemporary Techno-economics Advancement in Waste Mitigation	DST-Science and Engineering Research Board	5 Days	100000.00
						Amount received (Rs.):250000.00

(CAYm3)

Total Amount (Lacs) Received for the Past 3 Years: 600000.00

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. Shamal Sen	Dr. Abhinesh Kumar Prajapati	Chemical Engineering	Implementaion of electro Coagulation process for removel of oil from wire rope manufacuring effluent	D & D Engg. Pvt. Ltd.	1	150000.00
Dr. Abhinesh Kumar Prajapati	Dr. Rajesh Kumar Kaushal	Chemical Engineering	Strategic Implementation of Zero Liquid Discharge (ZLD) for enhanced susfainability	Sieve's Environmental Services	1	100000.00
Mr. Yadunandan Deshmukh	Mr. Jitendra Patidar	Chemical Engineering	Optimization of surfactant - Builder Ratio to improve Detergent clinic efficiency and fabric saftey	Prem Household Products Indore	1	200000.00
						Amount received (Rs.):450000.00

(CAYm2)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. Shamal Sen	Dr. Abhinesh Kumar Prajapati	Chemical Engineering	Implementaion of electro Coagulation process for removel of oil from wire rope manufacuring effluent	D & D Engg. Pvt. Ltd.	1	150000.00
Dr. Abhinesh Kumar Prajapati	Dr. Rajesh Kumar Kaushal	Chemical Engineering	Strategic Implementation of Zero Liquid Discharge (ZLD) for enhanced susfainability	Sieve's Environmental Services	1	100000.00
						Amount received (Rs.):250000.00

(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. Abhinesh Kumar Prajapati	Dr. Rajesh Kumar Kaushal	Chemical Engineering	Strategic Implementation of Zero Liquid Discharge (ZLD) for enhanced susfainability	Sieve's Environmental Services	1	100000.00
						Amount received (Rs.):100000.00

Total amount (Lacs) received for the past 3 years: 800000.00

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. Abhinesh Kumar Prajapati	Electrocoagulation treatment of pulp and paper mill effluent	1	2.00	1.84	Organic reduction achieved around 93% at optimum condition. Treated effluent can be used for different purpose like gardening
			Amount received (Rs.): 2.00		

(CAYm2)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Dr. Deepak Sharma	Catalytic thermolysis of distillery wastewater	1	2.00	1.80	Significant amount of COD and color removed from the distillery wastewater
			Amount received (Rs.): 2.00		

(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
Mr. Nitesh Parmar	Derivation of fuel from plastic waste	1	2.00	1.93	Oil is extracted successfully from plastic waste
			Amount received (Rs.): 2.00		

Total amount (Lacs) received for the past 3 years : 6.00

PART D: Laboratory Infrastructure in the Department

(Data to be filled in for the Department)

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

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

Sr. No	Name of the Laboratory	Number of students per set up(Batch Size)	Name of the Important Equipment	Weekly utilization status(all the courses for which the lab is utilized)	Technical Manpower Support		
					Name of the Technical staff	Designation	Qualification
1	Applied Chemistry Lab	15	Physical Balance with Weight Box Abels Apparatus Conradson Apparatus Cleave Land Open Cup	12 hours + 12 h	Ms. Akshita Barwe	Lab -Technician	M.Sc. & PhD Pursuing
2	Fluid Mechanics	15	Venturimeter orifice meter Flow Through Orifice &Mouthpiece Nozzlemeter Testing Reynolds Apparatus	12 hours + 12 h	Mr. Rajesh Awasiya	Lab -Technician	B.SC
3	Fluid Particle Mechanics	15	Plate & Frame Filter Press Jaw crusher Ball Mill Fluidized Bed Characteristic Leaf Filter Thickner	12 hours + 12 h	Mr. Satya Prakash Soni	Lab -Technician	B.Sc
4	Computer Programming	15	Softwares	12 hours + 12 h	Ms. Akshita Barwe	Lab -Technician	M.Sc. & PhD Pursuing
5	Heat Transfer	15	Fined Tube Heat Exchanger Thermal Conductivity of Metal Rod Forced Convention Apparatus Stefan	12 hours + 12 h	Mr. Rajesh Awasiya	Lab -Technician	B.Sc
6	Mass Transfer I	15	Bubble Cap Distillation Column Wetted Wall Column Cooling Tower Forced Draft Tray Dryer Solid Liquid	12 hours + 12 h	Mr. Rajesh Awasiya	Lab -Technician	B.Sc
7	Fuel Technology	15	Rams Bottom carbon Residue Cloud & Pour point Apparatus Orsat Gas Analysis Bomb Calorimeter	12 hours + 12 h	Mr. Satya Prakash Soni	Lab -Technician	B.Sc
8	Computer Applications in Chemical Engineering	15	software Lab	12 hours + 12 h	Ms. Akshita Barwe	Lab -Technician	M.Sc. & PhD Pursuing
9	Mass Transfer-II	15	Fixed Bed Adsorption Column Steam Distillation Adsorption In Packed Bed Absorption In Packed Bed	12 hours + 12 h	Mr. Rajesh Awasiya	Lab -Technician	B.Sc.
10	Computational Methods in Chemical Engineering	15	Software Lab	12 hours + 12 h	Ms. Akshita Barwe	Lab -Technician	M.Sc. & PhD Pursuing
11	Chemical Reaction Engineering-I	15	Cascade CSTR Isothermal Semi Batch Reactor CSTR Plug Flow Reactor Adiabatic Batch Reactor RTD study	12 hours + 12 h	Mr. Satya Prakash Soni	Lab -Technician	B.Sc
12	Design Studio-I	15	Software Lab	12 hours + 12 h	Ms. Akshita Barwe	Lab -Technician	M.Sc. & PhD Pursuing
13	Chemical Process Control	15	Two Tank Non-Interacting System Control Valve Characteristics PID Controller Time Constant of	12 hours + 12 h	Mr. Satya Prakash Soni	Lab -Technician	B.Sc.
14	Environmental Pollution and Control	15	Turbidity Meter Flucolator Jar Testing PH Meter Muffle Furnace Magnetic Stirrer Water Bath Distillation Unit	12 hours + 12 h	Ms. Akshita Barwe	Lab -Technician	M.Sc. & PhD Pursuing

15	Design Studio-II	15	Prodyne	12 hours + 12 h	Ms. Akshita Barwe	Lab -Technician	M.Sc. & PhD Pursuing
16	Process Equipment Design-II	15	Software Lab	12 hours + 12 h	Ms. Akshita Barwe	Lab -Technician	M.Sc. & PhD Pursuing
17	Project Phase-II	15	Environment Lab	12 hours + 12 h	Ms. Akshita Barwe	Lab -Technician	M.Sc. & PhD Pursuing

D2. Safety Measures in Laboratories

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

Sr. No	Laboratory Name	Safety Measures
1	Heat Transfer Lab	Fire extinguishers and first-aid kit installed; SOPs displayed for each experiment; mandatory use of lab coats and safety goggles.
2	Fluid Mechanics	□ Proper Attire: Lab coats, gloves, safety goggles are available □ First Aid kit are available □ Proper Ventilation □ MCB are provided to avoid electrical fault □ Fire Extinguishers are installed
3	Fluid Particle Mechanics	□ Proper Attire: Lab coats, gloves, safety goggles are available □ First Aid kit are available □ Proper Ventilation □ MCB are provided to avoid electrical fault □ Fire Extinguishers are installed
4	Computer Programming	□ Proper Ventilation □ MCB are provided to avoid electrical fault
5	Heat Transfer	□ Proper Attire: Lab coats, gloves, safety goggles are available □ First Aid kit are available □ Proper Ventilation □ MCB are provided to avoid electrical fault □ Fire Extinguishers are installed
6	Mass Transfer-I	□ Proper Attire: Lab coats, gloves, safety goggles are available □ First Aid kit are available □ Proper Ventilation □ MCB are provided to avoid electrical fault □ Fire Extinguishers are installed
7	Fuel Technology	□ Proper Attire: Lab coats, gloves, safety goggles are available □ First Aid kit are available □ Proper Ventilation □ MCB are provided to avoid electrical fault □ Fire Extinguishers are installed
8	Computer Applications in Chemical Engineering	□ Proper Ventilation □ MCB are provided to avoid electrical fault

9	Mass Transfer-II	□ Proper Attire: Lab coats, gloves, safety goggles are available □ First Aid kit are available □ Proper Ventilation □ MCB are provided to avoid electrical fault □ Fire Extinguishers are installed
10	Computational Methods in Chemical Engineering	□ Proper Ventilation □ MCB are provided to avoid electrical fault
11	Chemical Reaction Engineering-I	□ Proper Attire: Lab coats, gloves, safety goggles are available □ First Aid kit are available □ Proper Ventilation □ MCB are provided to avoid electrical fault □ Fire Extinguishers are installed
12	Design Studio-I	□ Proper Ventilation □ MCB are provided to avoid electrical fault
13	Chemical Process Control	□ Proper Attire: Lab coats, gloves, safety goggles are available □ First Aid kit are available □ Proper Ventilation
14	Environmental Pollution and Control	□ Proper Attire: Lab coats, gloves, safety goggles are available □ First Aid kit are available □ Labeling of Chemicals □ Chemical Storage □ Proper Ventilation □ MCB are provided to avoid electrical fault □ Fire Extinguishers are installed
15	Design Studio-II	□ Proper Ventilation □ MCB are provided to avoid electrical fault
16	Process Equipment Design-II	Proper Ventilation □ MCB are provided to avoid electrical fault
17	Project Phase-II	□ Proper Attire: Lab coats, gloves, safety goggles are available □ First Aid kit are available □ Labeling of Chemicals □ Chemical Storage □ Proper Ventilation □ MCB are provided to avoid electrical fault □ Fire Extinguishers are installed

D3. Project Laboratory/Research Laboratory

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

S. No.	Name of the Laboratory	Utilization
1	Project Laboratory	Used by UG and PG students for mini-projects, final-year projects, and interdisciplinary activities; equipped with computers, licensed simulation software, and prototyping kits; supports design, testing, and implementation of innovative solutions.
2	Research Laboratory (Process Simulation & Reaction Engineering)	Utilized by faculty and research scholars for advanced modeling, simulation, and experimental studies; supports externally funded projects, research publications, and consultancy work.
3	Environmental Engineering Research Lab	Used for water and wastewater quality analysis, pollution monitoring, and sustainable treatment methods; supports student projects, funded research, and industry consultancy.
4	Analytical Laboratory (UV Visible Spectrophotometer)	Final year students can use this analytical equipment for the quantitative and qualitative analysis of the aqueous samples.
5	Modeling and Simulation (Prodyne)	Third year and final year students can use this facility for the development of mathematical modeling and simulation.

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)	1200	60	32	27	52
2023-24(CAYm1)	1080	54	34	27	60
2024-25(CAY)	1350	68	39	28	54

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

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

Items	Budgeted in 2024-2025	Actual Expenses in 2024-2025 till	Budgeted in 2023-2024	Actual Expenses in 2023-2024 till	Budgeted in 2022-2023	Actual Expenses in 2022-2023 till	Budgeted in 2021-2022	Actual Expenses in 2021-2022 till

Infrastructure Built-Up	13500000	12165791	30000000	29247341	3000000	2849542	4000000	3722103
Library	4000000	3827562	3600000	2942647	3000000	2671152	2500000	2428320
Laboratory equipment	15000000	11293138	17500000	14597042	17000000	16582225	3000000	2888247
Teaching and non-teaching staff salary	310000000	306841161.9	210000000	198729602.6	217000000	216013546	197000000	196375951
Outreach Programs	850000	445936	800000	276974	700000	643959	100000	9483
R&D	15000000	11943535	14500000	11377521	13000000	12293948	9500000	8868850
Training, Placement and Industry linkage	13000000	12546196	11000000	9983475	10000000	8962633	9000000	7672202
SDGs	5500000	4882136	5000000	4750248	4500000	3948526	4000000	3459489
Entrepreneurship	1500000	1212111	1400000	1278748	1300000	1174590	500000	153000
Others, specify	148000000	146195460.96	123000000	119016351.81	162000000	149976963.6	65000000	54990405
Total	**526350000**	**511353027.86**	**416800000**	**392199950.41**	**431500000**	**415117084.6**	**294600000**	**280568050**

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

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

Items	**Budgeted in 2024-2025**	**Actual Expenses in 2024-2025 till**	**Budgeted in 2023-2024**	**Actual Expenses in 2023-2024 till**	**Budgeted in 2022-2023**	**Actual Expenses in 2022-2023 till**	**Budgeted in 2021-2022**	**Actual Expenses in 2021-2022 till**
Laboratory equipment	0	0	0	0	0	0	0	0
Software	0	0	0	0	0	0	0	0
SDGs	250000	247201	500000	495852	350000	340268	210000	206000
Support for faculty development	220000	222000	250000	226340	250000	237436	210000	203200
R & D	230000	205115	450000	376265	500000	469774	230000	192595
Industrial Training, Industry expert, Internship	100000	77187	75000	71033	50000	36500	30000	10000
Miscellaneous Expenses*	230000	227235	100000	75828	250000	216119	80000	62639
Total	**1030000**	**978738**	**1375000**	**1245318**	**1400000**	**1300097**	**760000**	**674434**