

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 : 10644	Date of Submission : 02-06-2025

PART A- Profile of the Institute

A1.Name of the Institute : NATIONAL INSTITUTE OF TECHNOLOGY, ROURKELA	
Year of Establishment : .	Location of the Institute:
A2. Institute Address :NATIONAL INSTITUTE TECHNOLOGY	
City:ROURKELA	State:Odisha
Pin Code:769008	Website:www.nitrkl.ac.in
Email:REGISTRAR@NITRKL.AC.IN	Phone No(with STD Code):0661-2472050
A3. Name and Address of the Affiliating University (if any):	
Name of the University : NIL	City:
State :	Pin Code:
A4. Type of the Institution : NIT	
A5. Ownership Status :	

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

- No. of UG programs: **16**
- No. of PG programs: **35**

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	Architecture	UG	Architecture	2013	--	Architecture
2	Engineering & Technology	UG	Artificial Intelligence and Data Science	2024	--	Computer Science and Engineering
3	Engineering & Technology	PG	Biomedical Engineering	2007	--	Biotechnology and Medical Engineering
4	Engineering & Technology	UG	Biomedical Engineering	2007	--	Biotechnology and Medical Engineering
5	Engineering & Technology	UG	Biotechnology	2007	--	Biotechnology and Medical Engineering
6	Engineering & Technology	PG	Biotechnology	2007	--	Biotechnology and Medical Engineering
7	Engineering & Technology	UG	Ceramic Engineering	1994	--	Ceramic Engineering
8	Engineering & Technology	PG	Ceramic Engineering (Integrated/Dual)	2010	--	Ceramic Engineering
9	Engineering & Technology	UG	Chemical Engineering	1963	--	Chemical Engineering

10	Engineering & Technology	PG	Chemical Engineering	1981	--	Chemical Engineering
11	Engineering & Technology	PG	Chemical Engineering (Integrated/Dual)	2010	--	Chemical Engineering
12	Engineering & Technology	UG	Civil Engineering	1961	--	Civil Engineering
13	Engineering & Technology	PG	Communication and Networks	2012	--	Electronics and Communication Engineering
14	Engineering & Technology	PG	Computer Science and Engineering	1995	--	Computer Science and Engineering
15	Engineering & Technology	UG	Computer Science and Engineering	1986	--	Computer Science and Engineering
16	Engineering & Technology	PG	Control and Automation	2010	--	Electrical Engineering
17	Engineering & Technology	PG	Cryogenic and Vacuum Technology	2013	--	Mechanical Engineering
18	Engineering & Technology	UG	Electrical Engineering	1961	--	Electrical Engineering
19	Engineering & Technology	UG	Electronics & Communication Engineering	2004	--	Electronics and Communication Engineering
20	Engineering & Technology	UG	Electronics & Instrumentation Engineering	1987	--	Electronics and Communication Engineering
21	Engineering & Technology	PG	Electronics & Instrumentation Engineering	2010	--	Electronics and Communication Engineering
22	Engineering & Technology	PG	Electronics Systems & Communication	2003	--	Electrical Engineering
23	Engineering & Technology	PG	Energy and Environmental Engineering	2018	--	Chemical Engineering
24	Engineering & Technology	PG	Environmental Engineering	2023	--	Civil Engineering
25	Engineering & Technology	UG	Food Processing and Engineering	2013	--	Food Processing and Engineering
26	Engineering & Technology	PG	Food Processing and Engineering	2018	--	Food Processing and Engineering
27	Engineering & Technology	PG	Geotechnical Engineering	1971	--	Civil Engineering
28	Engineering & Technology	PG	Industrial Ceramics	2012	--	Ceramic Engineering
29	Engineering & Technology	UG	Industrial Design	2010	--	Industrial Design
30	Engineering & Technology	PG	Industrial Design	2013	--	Industrial Design
31	Engineering & Technology	PG	Information Security	2007	--	Computer Science and Engineering
32	Engineering & Technology	PG	Machine Design & Analysis	1970	--	Mechanical Engineering
33	Engineering & Technology	PG	Manufacturing and Automation Engineering	1970	--	Mechanical Engineering
34	Engineering & Technology	UG	Mechanical Engineering	1961	--	Mechanical Engineering
35	Engineering & Technology	UG	Metallurgical & Materials Engineering	1963	--	Metallurgical and Materials Engineering

36	Engineering & Technology	PG	Metallurgical and Materials Engineering	1970	--	Metallurgical and Materials Engineering
37	Engineering & Technology	PG	Metallurgical and Materials Engineering (Integrated/Dual)	2010	--	Metallurgical and Materials Engineering
38	Engineering & Technology	PG	Microwave & Radar Engineering	2018	--	Electronics and Communication Engineering
39	Engineering & Technology	PG	Mining Engineering	2013	--	Mining Engineering
40	Engineering & Technology	UG	Mining Engineering	1979	--	Mining Engineering
41	Engineering & Technology	PG	Mining Engineering (Integrated/Dual)	2010	--	Mining Engineering
42	Engineering & Technology	PG	Power Electronics & Drives	2007	--	Electrical Engineering
43	Engineering & Technology	PG	Power Systems Engineering	2017	--	Electrical Engineering
44	Engineering & Technology	PG	Signal & Image Processing	2012	--	Electronics and Communication Engineering
45	Engineering & Technology	PG	Software Engineering	2010	--	Computer Science and Engineering
46	Engineering & Technology	PG	Structural Engineering	1971	--	Civil Engineering
47	Engineering & Technology	PG	Thermal Engineering	2005	--	Mechanical Engineering
48	Engineering & Technology	PG	Transportation Engineering	2010	--	Civil Engineering
49	Engineering & Technology	PG	VLSI Design & Embedded Systems	2005	--	Electronics and Communication Engineering
50	Engineering & Technology	PG	Water Resource Engineering	2010	--	Civil Engineering
51	Management	PG	Masters in Business Administration	2010	--	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
Metallurgical and Materials Engineering	No	Metallurgical & Materials Engineering	UG
Chemical Engineering	No	Chemical Engineering	UG
Biotechnology and Medical Engineering	No	Biotechnology	UG
Electrical Engineering	No	Electrical Engineering	UG
Biotechnology and Medical Engineering	No	Biomedical 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
1	Chemical Engineering	UG	1963 / --	15	Yes	1964	62	1964	NA	Granted accreditation for 3 years for the period (specify period)	2022	2025	4

Sanctioned Intake for Last Five Years for the Chemical Engineering	
Academic Year	Sanctioned Intake
2024-25	62
2023-24	62
2022-23	63
2021-22	62
2020-21	62
2019-20	52

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

B3. Program Details

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

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	2024-25 (CAY)	2023-24 (CAYm1)	2022-23 (CAYm2)	2021-22 (CAYm3)	2020-21 (CAYm4)	2019-20 (CAYm5)	2018-19 (CAYm6)
N=Sanctioned intake of the program (as per AICTE /Competent authority)	62	62	63	62	62	52	50
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	61	65	71	72	62	51
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	0	0	0	0	0	0
N3=Separate division if any	0	0	0	0	0	0	0
N4=Total no. of students admitted in the 1st year via all supernumerary quotas	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	61	65	71	72	62	51
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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)	62	63	0	101.61
2023-24 (CAYm1)	62	61	0	98.39
2022-23 (CAYm2)	63	65	0	103.17

Average $[(ER1 + ER2 + ER3) / 3] = 101.06 \approx 100$

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

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

Item	(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).	72.00	62.00	51.00
B=No. of students who graduated from the program in the stipulated course duration	68.00	59.00	49.00
Success Rate (SR)= (B/A) * 100	94.44	95.16	96.08

Average SR of three batches $((SR_1 + SR_2 + SR_3)/3)$: 95.23

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)
X=(Mean of 1st 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 1st year/10)	7.36	6.99	8.10
Y=Total no. of successful students	61.00	65.00	71.00
Z=Total no. of students appeared in the examination	61.00	65.00	71.00
API $[X*(Y/Z)]$	7.36	6.99	8.10

Average API $[(AP1+AP2+AP3)/3]$: 7.48

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 2nd year/10)	7.15	7.26	7.48
Y=Total no. of successful students	63.00	71.00	71.00
Z=Total no. of students appeared in the examination	65.00	71.00	71.00
API $[X * (Y/Z)]$	6.93	7.26	7.48

Average API $[(AP1 + AP2 + AP3)/3]$: 7.22

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)	7.42	7.53	7.47
Y=Total no. of successful students	71.00	71.00	62.00
Z=Total no. of students appeared in the examination	71.00	71.00	62.00
API [X*(Y/Z)]:	7.42	7.53	7.47

Average API [(AP1 + AP2 + AP3)/3] : 7.47

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	71.00	62.00	50.00
X=No. of students placed	49.00	49.00	46.00
Y=No. of students admitted to higher studies	0.00	0.00	2.00
Z= No. of students taking up entrepreneurship	0.00	0.00	0.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	69.01	79.03	96.00

Average Placement Index = (P_1 + P_2 + P_3)/3: 81.35 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	Abanti Sahoo	XXXXXXXX21E	XXXXXXXXXXXXXXXXXXPhD	Sambalpur University	Fluidization Engineering	07/08/1991	33.9	Lecturer	Professor	02/02/2018	Regular	Yes		No
2	Madhusree Kundu	XXXXXXXX75A	XXXXXXXXXXXXXXXXXXPhD	IIT Kharagpur	Modeling; Simulation & Control	28/12/2006	18.4	Assistant Professor	Professor	02/02/2018	Regular	Yes		No
3	Susmita Mishra	XXXXXXXX34L	XXXXXXXXXXXXXXXXXXPhD	IIT Kharagpur	Biochemical Engineering, Environmental Engineering	01/07/1997	27.10	Assistant Professor	Professor	02/02/2018	Regular	Yes		Yes
4	Santanu Paria	XXXXXXXX41F	Ph.D	IIT Bomaby	Nano-technology and Interfacial phenomena	13/06/2006	18.10	Assistant Professor	Professor	02/02/2018	Regular	Yes		No

5	Basudeb Munshi	XXXXXXXX21B	XXXXXXXXXXXXXXXXXXPhD	BITS Pilani	Separation Technology (Reactive Distillation), Process Control and CFD	30/07/2007	17.9	Assistant Professor	Professor	01/07/2024	Regular	Yes		No
6	Sujit Sen	XXXXXXXX74E	XXXXXXXXXXXXXXXXXXPhD	IIT Kharagpur	Heterogeneous Catalysis, Multiphase reactions, Phase Transfer Catalysis	04/07/2011	13.10	Assistant Professor	Professor	01/07/2024	Regular	Yes		No
7	Hara Mohan Jena	XXXXXXXX45R	XXXXXXXXXXXXXXXXXXPhD	NIT Rourkela	Process Dynamics and Control, Multiphase Fluidization	02/07/2007	17.10	Assistant Professor	Associate Professor	28/03/2023	Regular	Yes		No
8	Pradip Chowdhury	XXXXXXXX97G	XXXXXXXXXXXXXXXXXXPhD	IIT Guwahati	Adsorptive gas separation and energy storage; Photocatalysis and polymer degradation	12/10/2009	15.6	Assistant Professor	Associate Professor	28/03/2023	Regular	Yes		No
9	Akhilesh K Sahu	XXXXXXXX79L	XXXXXXXXXXXXXXXXXXPhD	IIT Kanpur	Thin-film Dynamics, Interfacial Fluid Mechanics, Non-Newtonian Flows, Computational Fluid Dynamics	03/03/2014	11.2	Assistant Professor	Associate Professor	28/03/2023	Regular	Yes		No
10	Arvind Kumar	XXXXXXXX39J	XXXXXXXXXXXXXXXXXXPhD	IIT Roorkee	Industrial Pollution Abatement, Disaster Management, Petroleum Refining	18/09/2007	17.7	Assistant Professor	Associate Professor	01/07/2024	Regular	Yes		No
11	Soumya S Mohapatra	XXXXXXXX92H	XXXXXXXXXXXXXXXXXXPhD	IIT Kharagpur	Heat transfer operations	24/04/2014	11	Assistant Professor	Assistant Professor		Regular	Yes		No
12	Mahendra Chinthala	XXXXXXXX03A	XXXXXXXXXXXXXXXXXXPhD	Homi Bhabha National Institute	Energy and Environmental Engineering	11/03/2020	5.1	Assistant Professor	Assistant Professor		Regular	Yes		No

13	Chandan Kumar Das	XXXXXXXX81E	XXXXXXXXXXXXXXXXXXPhD	IIT Kanpur	Phase transition of solid-liquid (melting transition), Confined Behaviour of Phases	22/06/2020	4.10	Assistant Professor	Assistant Professor		Regular	Yes		No
14	Adhidesh S Kumawat	XXXXXXXX43J	Ph.D	IIT Bombay	Electrochemistry, Heterogeneous Catalysis	18/02/2020	5.2	Assistant Professor	Assistant Professor		Regular	Yes		No
15	Prateek Khatri	XXXXXXXX80M	XXXXXXXXXXXXXXXXXXPhD	IIT Delhi	Heterogeneous catalysis, catalyst design, and surface science	29/03/2023	2.1	Assistant Professor	Assistant Professor		Regular	Yes		No
16	Tapas Das	XXXXXXXX96F	XXXXXXXXXXXXXXXXXXPhD	IIT (BHU) Varanasi	Energy Storage Devices	19/04/2023	2	Assistant Professor	Assistant Professor		Regular	Yes		No
17	Abhishek Dwivedi	XXXXXXXX71D	XXXXXXXXXXXXXXXXXXPhD	IIT Bombay	Process Design and Intensification, Energy and Environmental Engineering	28/04/2023	2	Assistant Professor	Assistant Professor		Regular	Yes		No
18	Kshetramohan Sahoo	XXXXXXXX92F	XXXXXXXXXXXXXXXXXXPhD	Indian Institute of Science (IISc)	Sustainable processes, CCU, Energy storage, Pickering emulsion, Bio-Chem-Nano interface	01/07/2024	0.10	Assistant Professor	Assistant Professor		Regular	Yes		No
19	Shipra Verma	XXXXXXXX42P	XXXXXXXXXXXXXXXXXXPhD	IIT Kanpur	Microfluidics Immunosensors	08/07/2024	0.9	Assistant Professor	Assistant Professor		Regular	Yes		No
20	Ravi Kumar Reddy Addula	XXXXXXXX95L	XXXXXXXXXXXXXXXXXXPhD	Indian Institute of Science (IISc)	Molecular simulations, Physics of Condensed matter	11/07/2024	0.9	Assistant Professor	Assistant Professor		Regular	Yes		No
21	Alok Ranjan	XXXXXXXX19H	XXXXXXXXXXXXXXXXXXPhD	IIT Roorkee	Drug delivery systems, CFD	16/07/2024	0.9	Assistant Professor	Assistant Professor		Regular	Yes		No
22	Raviteja Kurapati	XXXXXXXX44D	XXXXXXXXXXXXXXXXXXPhD	IIT Madras	Molecular Modelling and Simulation	22/07/2024	0.9	Assistant Professor	Assistant Professor		Regular	Yes		No

23	Shashi Kumar	XXXXXXXX42N	XXXXXXXXXXXXXXXXXXPhD	IIT Khargpur	Computational Molecular Biology, Machine learning, Target drug delivery, QM-MM	26/07/2024	0.9	Assistant Professor	Assistant Professor		Regular	Yes		No
24	Suvarna Trivedi	XXXXXXXX77L	XXXXXXXXXXXXXXXXXXPhD	IIT BHU (Varanasi)	Heterogeneous Catalysis	12/03/2020	3.5	Assistant Professor	Assistant Professor		Regular	No	14/08/2023	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 Department3

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

Description	CAY(2024-25)	CAYm1 (2023-24)	CAYm2 (2022-23)
UG1.B	62	63	62
UG1.C	63	62	62
UG1.D	62	62	52
UG1: Chemical Engineering	187	187	176
PG1.A	15	15	25
PG1.B	15	25	25
PG1: Chemical Engineering	30	40	50
PG2.A	12	12	12
PG2.B	12	12	12
PG2: Chemical Engineering (Integrated/Dual)	24	24	24
PG3.A	25	25	25
PG3.B	25	25	25
PG3: Energy and Environmental Engineering	50	50	50

Description	CAY(2024-25)	CAYm1 (2023-24)	CAYm2 (2022-23)
DS=Total no. of students in all UG and PG programs in the Department	315	325	324
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= 315	S2= 325	S3= 324
DF=Total no. of faculty members in the Department	23	17	15
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= 23	F2= 17	F3= 15
FF=The faculty members in F who have a 100% teaching load in the first-year courses	1	1	1
Student Faculty Ratio (SFR)=S/(F-FF)	SFR1= 14.32	SFR2= 20.31	SFR3= 23.14
Average SFR for 3 years	SFR= 19.26		

C3. Faculty Qualification

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

Table No.C3.1: Faculty qualification.

Year	X	Y	RF	FQ = $2.5 \times [(10X + 4Y) / RF]$
2024-25(CAY)	23	0	15.00	38.33
2023-24(CAYm1)	17	0	16.00	26.56
2022-23(CAYm2)	15	0	16.00	23.44

C4. Faculty Cadre Proportion

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

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

Year	Professors		Associate Professors		Assistant Professors	
	Required RF1	Available AF1	Required RF2	Available AF1	Required RF3	Available AF3
2024-25	1.00	6.00	3.00	4.00	10.00	13.00
2023-24	1.00	4.00	3.00	5.00	10.00	8.00
2022-23	1.00	4.00	3.00	2.00	10.00	9.00
Average	RF1=1.00	AF1=4.67	RF2=3.00	AF2=3.67	RF2=10.00	AF2=10.00

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)

(CAYm2)

(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	53	63	45
2	No. of peer reviewed conference papers published	3	4	1
3	No. of books/book chapters published	16	10	13

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
Prof. Prateek Khatri		Chemical Engineering, NIT Rourkela	Development of thermally-stable big functional Catalysts for CH ₄ removal; synthesis, reaction, Kinetics, Mechanistics aspects and real0world application	DST	5 Years	3500000.00
Prof. Mahendra Chinthala		Chemical Engineering, NIT Rourkela	Integrated Sonophotocatalysis with sulfate-based oxidation for reclamation of Per and poly-fluoroalkyl substaces (PFAS) in wastewater	SERB	3 years	3599102.00
						Amount received (Rs.):7099102.00

(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. Suverna Trivedi		Chemical Engineering, NIT Rourkela	Improving the Stability of Perovskite Solar Cells (>1000Hrs)	DST	3 years	534600.00
Dr. Krunal M Gangawane		Chemical Engineering, NIT Rourkela	Meshless local PETROV-GALERKIN (MLPG) formulation based Lattice Boltzmann method magnetohydrodynamics based solutal convection problems	SERB	3 years	2721400.00
Prof. Sujit Sen		Chemical Engineering, NIT Rourkela	Remediation of microplastics from water resources with surface modified nanozeolite Y derived from aluminosilicate industrial wastes	SERB	3 years	2017400.00
						Amount received (Rs.):5273400.00

(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
Prof. Madhushree Kundu		Chemical Engineering, NIT Rourkela	Design of soft multi-function sensor based on Electrochemical Parameters	SERB	3 Years	2689500.00
Prof. Sujit Sen		Chemical Engineering, NIT Rourkela	Development of Low-cost-Lithium Zeolite adsorbents for fabricated PSA-based Oxygen concentrator	SERB	1 year	2505783.00
						Amount received (Rs.):5195283.00

Total Amount (Lacs) Received for the Past 3 Years: 17567785.00

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
Prof. Abanti Sahoo		Chemical Engineering, NIT Rourkela	Performance evaluation of pollution control device & pollution monitoring equipment.	Indian Metal & Ferro Alloys Ltd	8 months	1333990.00
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	NIPL Study	Neelachal Ispat Nigam Ltd	1 month	1298000.00
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	Performance evaluation study of ETP	Epsilon Carbon Ashoka Pvt Ltd	21 days	1109200.00
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	Performance evaluation study	Tata Steel Long Products Limited	3 months	866710.00
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	Performance Evaluation Study	Aditya Aluminium,Sambalpur	2 months	1455270.40
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	Performance evaluation study of Aditya Aluminium	M/s. Aditya Alumina	3 months	1455270.40
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	Performance Evaluation Study	Hirakud Complex	2 months	1355112.00
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	Performance evaluation study	Cleenviron Pvt Ltd	3 months	236000.00
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	NIPL Study	TATA Steel	15 months	1177049.00
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	Performance evaluation study of Aarti Steels Limited	Performance evaluation study of Aarti Steels Limited	12 months	1239000.00
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	NIPL study of M/s. Aditya Alumina	Visiontek Consultant Service Pvt. Ltd.	10 days	118000.00
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	NIPL study of M/s. Jindal Steel & Power Ltd	Visiontek Consultant Service Pvt. Ltd.	10 days	118000.00
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	Performance evaluation study of Hirakud Complex	M/s. Hindalco Industries Ltd	1 month	1355112.00
Prof. Adhidesh S Kumawat		Chemical Engineering, NIT Rourkela	NIPL study & performance evaluation existing ETP, STP, WTP of the Integrated Steel Plant	Jagan Steels Pvt Ltd	1 month	1416000.00
Prof. Adhidesh S Kumawat		Chemical Engineering, NIT Rourkela	Performance Evaluation Study	Shyam Metalics & Energy Ltd	6 months	2244000.00
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	Performance evaluation study PCD	VISA Steel	2 months	1180000.00
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	Performance evaluation of APC equipments	JSW	5 months	892080.00
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	NIPL Study 1.4 MTPA	Neelachal Ispat Nigam Limited	1 month	2006000.00
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	Chemical Engineering, NIT Rourkela	Tata Steel	6 months	896800.00
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	Analysis of env sample	Jindal Steel & Power Limited	8 months	43660.00

Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	Performance Evaluation of PCE	Tata Steel	2 months	1625450.00
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	Performance evaluation of PCEs	Neelachal Ispat Nigam Limited	2 months	1434880.00
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	NIPL Study and Certification	Visiontek Consultancy Services Pvt Ltd	10 days	118000.00
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	Performance evaluation study ETP, STP, WWTP	Cleenviron Pvt Ltd	3 months	920400.00
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	Performance Evaluation Study of Pollution	IMFA	7 months	1333990.00
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	Performance evaluation study for APC	Tata Steel	3 months	1681500.00
Prof. Soumya Sanjeeb Mohapatra		Chemical Engineering, NIT Rourkela	NIPL Study and Certification	Visiontek Consultancy Services Pvt Ltd	10 days	118000.00
						Amount received (Rs.):29027473.80

(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
Prof. Soumya S Mohapatra		Chemical Engineering, NIT Rourkela	Provide Consultancy Types Study Scope Study For Enhancement Of Metal Productions Through No Pollution Load.	Hindal Co. Industries Ltd	1 month	767000.00
Prof. Soumya S Mohapatra	Prof. Abanti Sahoo	Chemical Engineering, NIT Rourkela	Performance Evaluation At Air & Water Pollution Monitoring & Control Facility At Sambalpur	Bhusan Power & Steel Ltd	1 month	3776295.00
Prof. Soumya S Mohapatra	Prof. Abanti Sahoo	Chemical Engineering, NIT Rourkela	Nipl Study And Certification For Installation & Performance Evaluation Of Pollution Controlling Devices	Ultra Tech Cement Ltd	1 month	1143000.00
Prof. Soumya S Mohapatra	Prof. Abanti Sahoo	Chemical Engineering, NIT Rourkela	Analysis Of Various Raw Materials, Solid Wastes & Metal & Alloys Of Dri & Fap Unit Of Aarati Steels	M/S. Aarti Steels Ltd	1 month	184080.00
Prof. Soumya S Mohapatra	Prof. Abanti Sahoo	Chemical Engineering, NIT Rourkela	Performance Evaluation	Vedanta Ltd	1 month	3894000.00
Prof. Soumya S Mohapatra	Prof. Abanti Sahoo	Chemical Engineering, NIT Rourkela	Nipl Study And Certification For Installation Of Filter Café Propertionong Unit M/S Arya Iron & Steel Company Pvt. Ltd, Matkam Industrial Estate, Barbil, Keonjhar	Visiontek Consultancy Pvt. Ltd	1 month	236000.00
Prof. Soumya S Mohapatra	Prof. Abanti Sahoo	Chemical Engineering, NIT Rourkela	Geo-Hydrology Study Arround 10Km Radius Of Tata Steel Bsl.	Tata Steel	1 month	531000.00
Prof. Soumya S Mohapatra	Prof. Abanti Sahoo	Chemical Engineering, NIT Rourkela	Study For Enhancement At Metal Production Through, No Pollution Load, Resource Type Consultant	Hindalco Industries Co	1 month	767000.00
Prof. Soumya S Mohapatra	Prof. Abanti Sahoo	Chemical Engineering, NIT Rourkela	No Increase In Pollution Load Pre-Feasibility Report And Issue Of No Increase In Pollution Head	Creative Consultants	1 month	236000.00
Prof. Soumya S Mohapatra		Chemical Engineering, NIT Rourkela	Quality Control For Performance Evaluation Of Pollution Control And Monitoring Devices.	Jajpur Cements Private Ltd	1 month	761100.00
Prof. Adhidesh S Kumawat		Chemical Engineering, NIT Rourkela	Treatment Technology To Reduce Pollution Load In Efficient Water Dumping Site.	Karni Bikaner Water Enviro Foundation	1 month	10999.10
Prof. Soumya S Mohapatra	Prof. Abanti Sahoo and Prof. A S Kumawat	Chemical Engineering, NIT Rourkela	Performance Evaluation Of Pollution Controlling And Monitoring Devices Of Ms. J.K Paper Mills	Indian Metals & Ferro Alloys Ltd	1 month	1333990.00
Prof. Soumya S Mohapatra		Chemical Engineering, NIT Rourkela	Nipl Study And Certification	Visiontek Consultancy Pvt. Ltd	1 month	236000.00
Prof. Soumya S Mohapatra	Prof. Abanti Sahoo and Prof. M Chinthala	Chemical Engineering, NIT Rourkela	Performance Evaluation Of Pollution Controlling And Monitoring Devices Of Ms. J.K Paper Mills	M/S J.K Paper Limited	1 month	841500.00
Prof. Soumya S Mohapatra		Chemical Engineering, NIT Rourkela	NIPL Study of Certification of M/s. Scan Steel Ltd., Bauril, Odisha	Visiontek Consultant Service Pvt. Ltd.	1 month	236000.00
Prof. Soumya S Mohapatra		Chemical Engineering, NIT Rourkela	NIPL Study of Certification of M/s. Brahmani River Pellets Ltd., Bauril, Odisha	Visiontek Consultant Service Pvt. Ltd.	1 month	236000.00
Prof. Soumya S Mohapatra		Chemical Engineering, NIT Rourkela	NIPL Study of Certification of M/s. Envirocare Infrsolution Pvt. Ltd.	Visiontek Consultant Service Pvt. Ltd.	1 month	236000.00
Prof. Soumya S Mohapatra		Chemical Engineering, NIT Rourkela	Performance evaluation study.	TATA Steel	1 month	531056.00
Prof. Soumya S Mohapatra		Chemical Engineering, NIT Rourkela	Performance evaluation study	Neelachal Ispat Nigam Ltd	1 month	1269532.00
Prof. Soumya S Mohapatra		Chemical Engineering, NIT Rourkela	NIPL Study of Tata Steel	Visiontek Consultant Service Pvt. Ltd.	1 month	236000.00

Prof. Soumya S Mohapatra		Chemical Engineering, NIT Rourkela	NIPL study of KJS Ahluwalia.	Visiontek Consultant Service Pvt. Ltd.	1 month	236000.00
Prof. Soumya S Mohapatra		Chemical Engineering, NIT Rourkela	NIPL Study of M/s. Arya Iron & Steel Company pvt ltd	Visiontek Consultant Service Pvt. Ltd.	1 month	236000.00
						Amount received (Rs.):17934552.10

(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
Prof. S S Mohapatra	Prof. Abanti Sahoo	Chemical Engineering, NIT Rourkela	Checking Nipl Due To Increase In Production Capacity At M/S Jsw Cement Ltd, Jajpur, Odisha	Jsw Cement Ltd	6 months	411864.00
Prof. Soumya S Mohapatra	Prof. Abanti Sahoo	Chemical Engineering, NIT Rourkela	Nipl Study For Product Mix	M/S. Jsw Cement Ltd	2 months	212400.00
Prof. Soumya S Mohapatra	Prof. Abanti Sahoo	Chemical Engineering, NIT Rourkela	No Increase In Pollution Load Of Utkal Alumina International Ltd	Utkal Alumina International Ltd	10 days	417366.00
Prof. Soumya S Mohapatra	Prof. Abanti Sahoo	Chemical Engineering, NIT Rourkela	No Increase In Populationload Study	M/S Shiva Cement Ltd	9 months	444860.00
Prof. Abanti Sahoo	Prof. Soumya S Mohapatra	Chemical Engineering, NIT Rourkela	Performance Evaluation Of Etp Of Aditya Aluminium Lapanga	Hindalco Industries Ltd	1.5 months	322140.00
Prof. Rakhee Das	Prof. Mahendra Chinthala	Chemical Engineering, NIT Rourkela	Random Verification Of Annual Inventory Report Of Hazardous Waste Management	Central Pollution Control Board	3 months	230000.00
Prof. Soumya S Mohapatra	Prof. Abanti Sahoo	Chemical Engineering, NIT Rourkela	Stp & Bag Filter Performance Evaluation At Jswcl, Jajpur	Jsw Cement Ltd	7 days	234702.00
Prof. Soumya S Mohapatra	Prof. Abanti Sahoo	Chemical Engineering, NIT Rourkela	Third Party Environmental Audit For Issue At No Increase Pollution Load Certificates	Hindalco Industries Ltd	6 months	1224132.00
						Amount received (Rs.):3497464.00

Total amount (Lacs) received for the past 3 years: 50459489.90

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. Prateek Khatri	Energy and Environmental applications	2	200000.00	200000.00	Energy and Environmental applications
Dr. Tapas Das	Energy and Environmental applications	2	200000.00	200000.00	Energy and Environmental applications
Dr.Abhishiek Dwivedi	Energy and Environmental applications	2	200000.00	200000.00	Energy and Environmental applications
Dr. Phani Kumar Pentyala	Energy and Environmental applications	2	200000.00	0.00	Energy and Environmental applications
			Amount received (Rs.): 800000.00		

(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
NA	NA	NA	0.00	0.00	NA
			Amount received (Rs.): 0.00		

(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
NA	NA	NA	0.00	0.00	NA
			Amount received (Rs.): 0.00		

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

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	Heat Transfer Operation Laboratory	4	Heat Transfer in Natural Convection, Heat Transfer in Force Convection, Heat Transfer through	6 hours	Mr. S. Mohanty	Technical Asst. (SG-II)	B.Tech, Chemical
2	Mass Transfer Operation Laboratory	4	Packed bed absorption tower, packed bed distillation column, bubble cap distillation column,	6h	Mr. J Nayak	Lab Attendant (SG-II)	V std
3	Fuel and Combustion Laboratory	4	Pensky-Martin Apparatus, Red-wood viscometer, Aniline Point apparatus, Dean and Stark apparatus,	6h	Mr. B. C. Sahu	Lab Attendant (SG-II)	X std
4	Processing and Handling of Material Laboratory	4	Jaw crusher, Roll Crusher, Gyrotory Crusher, Ball Mill, Cyclone separator, Screw Conveyer,	6h	Mr. J Nayak	Lab Attendant (SG-II)	V std
5	Chemical Reaction Engineering Laboratory	4	CSTR isothermal, CSTR non-isothermal, Combine reactor: CSTR than PFR, Cascade CSTR, PFR isothermal, PFR non isothermal, PFR in CSTR	6h	Mr. B. C. Sahu	Lab Attendant (SG-II)	X std
6	Fluid Dynamics Laboratory	4	Reynolds Apparatus, Bernoullis Theorem Apparatus, Pressure Drop in Fluidized Bed,	6h	Mr. B. N. Patel	Sr. Technician	ITI Fitter
7	Process Dynamics and Control Laboratory	4	Control Valve, Multi variable Trainer, Pressure control Trainer, Ratio Control Trainer, IP& PI	6h	Mr. B. K. Majhi	Sr. Technician	Diploma Mechanical
8	Energy monitoring Laboratory	4	COD apparatus, BOD incubator, pH meter, Hot air oven, Turbidity meter, UV spectrophotometer,	6h	Mr. S. Majhi	Technician	ITI Welder

9	Process Simulation Laboratory	4	MATLAB, ASPEN Plus	6h	-	-	-
10	Computational Fluid Dynamics Laboratory	4	ATLAB, Ansys Fluent	6h	-	-	-

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 Operation Laboratory	Fire extinguisher; Personal Protective Equipment's
2	Mass Transfer Operation Laboratory	Fire extinguisher; Personal Protective Equipment's
3	Fuel and Combustion Laboratory	Fire extinguisher; Personal Protective Equipment
4	Processing and Handling of Material Laboratory	Fire extinguisher; Personal Protective Equipment
5	Chemical Reaction Engineering Laboratory	Fire extinguisher; Personal Protective Equipment
6	Fluid Dynamics Laboratory	Fire extinguisher; Personal Protective Equipment
7	Process Dynamics and Control Laboratory	Fire extinguisher; Personal Protective Equipment
8	Energy monitoring Laboratory	Fire extinguisher; Personal Protective Equipment
9	Process Simulation Laboratory	Fire extinguisher; Personal Protective Equipment

Infrastructure Built-Up	2682	0	1523.95	1523.95	2424.33	2424.33	1997.22	806.72
Library	450	0	375.42	375.42	181.40	181.40	422.30	422.30
Laboratory equipment	361.60	0	261.63	261.63	514.77	514.77	455.48	455.48
Teaching and non-teaching staff salary	17925	289.86	16293	16293	14520	14316.9	11845.9	11806.6
Outreach Programs	00	0	0	0	0	0	0	0
R&D	679	12.49	662.56	662.56	330.71	330.71	311.49	311.49
Training, Placement and Industry linkage	0	0	0	0	0	0	0	0
SDGs	0	0	0	0	0	0	0	0
Entrepreneurship	0	0	0	0	0	0	0	0
Others, specify	11208	125.23	11442	10336.2	10542.4	10369.4	8601.5	8522.86
Total	33305.60	427.58	30558.56	29452.76	28513.61	28137.51	23633.89	22325.45

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	00	0
Software	0	0	0	0	00	0	0	0
SDGs	0	0	0	00	0	0	0	0
Support for faculty development	0	0	0	0	00	0	0	0
R & D	1000000	1611528	700000	763104	760000	751318	500000	843248
Industrial Training, Industry expert, Internship	0	0	0	0	0	0	0	0
0	0	0	0	0	00	0	0	0
Total	1000000	1611528	700000	763104	760000	751318	500000	843248