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: 10718	**Date of Submission**: 12-06-2025

PART A- Profile of the Institute

A1.Name of the Institute: BIRLA INSTITUTE OF TECHNOLOGY	
Year of Establishment : 1955	Location of the Institute: RANCHI, JHARKHAND
A2. Institute Address:BIRLA INSTITUTE OF TECHNOLOGY, MESRA	
City:Ranchi	State:Jharkhand
Pin Code:835215	Website:www.bitmesra.ac.in
Email:vc@bitmesra.ac.in	Phone No(with STD Code):0651-2276016
A3. Name and Address of the Affiliating University (if any):	
Name of the University : NIL	City: Ranchi
State : Jharkhand	Pin Code: 835215
A4. Type of the Institution: Deemed University	
A5. Ownership Status: Self financing	

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

- No. of UG programs: **14**
- No. of PG programs: **18**

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	1993	--	Architecture
2	Computer Application	PG	Master of Computer Application	1984	--	Computer Application
3	Engineering & Technology	PG	Aerospace Engineering	1968	--	Space Engineering
4	Engineering & Technology	UG	Artificial Intelligence and Machine Learning	2022	--	Computer Science and Engineering
5	Engineering & Technology	Diploma	Automobile Engineering	2001	--	Mechanical Engineering
6	Engineering & Technology	UG	Biotechnology	2002	--	Biotechnology
7	Engineering & Technology	PG	Biotechnology	2010	--	Biotechnology
8	Engineering & Technology	UG	Chemical Engineering	2011	--	Chemical Engineering
9	Engineering & Technology	UG	Chemical Engineering (Plastic & Polymer)	2011	2020	Chemical Engineering
10	Engineering & Technology	PG	Civil Engineering	2024	--	Civil Engineering
11	Engineering & Technology	UG	Civil Engineering	1957	--	Civil Engineering
12	Engineering & Technology	Diploma	Computer Engineering	2002	--	Computer Science and Engineering
13	Engineering & Technology	UG	Computer Science and Engineering	1983	--	Computer Science and Engineering
14	Engineering & Technology	PG	Computer Science and Engineering	1999	--	Computer Science and Engineering
15	Engineering & Technology	PG	Computer Science and Engineering (Artificial Intelligence and Machine Learning)	2021	--	Computer Science and Engineering

16	Engineering & Technology	UG	Electrical & Electronics Engineering	1965	--	Electrical and Electronics Engineering
17	Engineering & Technology	Diploma	Electrical and Electronics Engineering	2010	--	Electrical and Electronics Engineering
18	Engineering & Technology	PG	Electrical and Electronics Engineering	1964	--	Electrical and Electronics Engineering
19	Engineering & Technology	PG	Electronics & Communication Engineering	1965	--	Electronics and Communication Engineering
20	Engineering & Technology	Diploma	Electronics & Communication Engineering	2001	--	Electronics and Communication Engineering
21	Engineering & Technology	UG	Electronics & Communication Engineering	1960	--	Electronics and Communication Engineering
22	Engineering & Technology	UG	Food Engineering and Technology	2023	--	Chemical Engineering
23	Engineering & Technology	UG	Mechanical Engineering	1955	--	Mechanical Engineering
24	Engineering & Technology	Diploma	Mechanical Engineering	2010	--	Mechanical Engineering
25	Engineering & Technology	PG	Mechanical Engineering	1964	--	Mechanical Engineering
26	Engineering & Technology	UG	Production & Industrial Engineering	1964	--	Production and Industrial Engineering
27	Engineering & Technology	PG	Production and Industrial Engineering	1992	--	Production and Industrial Engineering
28	Engineering & Technology	PG	Remote Sensing	1997	--	Remote Sensing
29	Engineering & Technology	PG	Urban Planning	2007	--	Urban Planning
30	Hotel Management	UG	Hotel Management & Catering Technology	2003	--	Hotel Management
31	Management	PG	Master of Business Administration	1980	--	Management
32	Pharmacy	PG	Pharmaceutical Chemistry	1983	--	Pharmacy
33	Pharmacy	PG	Pharmaceutical Quality Assurance	2011	--	Pharmacy
34	Pharmacy	PG	Pharmaceutics	1983	--	Pharmacy
35	Pharmacy	PG	Pharmacognosy	1998	--	Pharmacy
36	Pharmacy	PG	Pharmacology	1998	--	Pharmacy
37	Pharmacy	UG	Pharmacy	1972	--	Pharmacy

A7. Programs to be considered for Accreditation vide this Application:

Table No. A7.1: List of programs to be considered for accreditation.

Name of the Department	Having Allied Departments	Name of the Program	Program Level
Chemical Engineering	No	Chemical Engineering	UG

Table No. A7.2: Allied Department(s) to the Department of the program considered for accreditation as above.
Cluster ID. Name of the Department (in table no. A7.1) Name of allied Departments/Cluster (for table no. A7.1)

No Record

PART-B: Program information

B1. Provide the Required Information for the Program Applied For:

Table No. B1: Program details.
A. List of the Programs Offered by the Department:

SR.NO.	PROGRAM NAME	PROGRAM APPLIED LEVEL	YEAR OF START / YEAR OF CLOSED	SANCTIONED INTAKE	INCREASE/DECREASE INTAKE (if any)	YEAR OF INCREASE/DECREASE	CURRENT INTAKE	YEAR OF AICTE APPROVAL	AICTE/COMPE AUTHORITY A DETAILS
1	Chemical Engineering	UG	2011 / --	60	Yes	2021	120	2021	F.No. Eastern/1 44640378024/2 Date: 06.04.202

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. G.T. Mohanraj
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)	120	120	120	120	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	114	83	123	106	45	42	45
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.	114	83	123	106	45	42	45

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)	120	114	0	95.00
2023-24 (CAYm1)	120	83	0	69.17
2022-23 (CAYm2)	120	123	0	102.50

Average [(ER1 + ER2 + ER3) / 3] = 88.89≡ 17.00

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

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

Item	(2020-21) LYG	(2019-20) LYGm1	(2018-19) LYGm2

A*= (No. of students admitted in the 1st year of that batch and those actually admitted in the 2nd year via lateral entry, plus the number of students admitted through multiple entry (if any) and separate division if applicable, minus the number of students who exited through multiple entry (if any).	60.00	60.00	60.00
B=No. of students who graduated from the program in the stipulated course duration	43.00	42.00	44.00
Success Rate (SR)= (B/A) * 100	71.67	70.00	73.33

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 71.67

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)	7.22	6.42	7.93
Y=Total no. of successful students	83.00	123.00	106.00
Z=Total no. of students appeared in the examination	83.00	123.00	106.00
API [X*(Y/Z)]	7.22	6.42	7.93

Average API[(AP1+AP2+AP3)/3] : 7.19

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)	6.45	7.44	8.59
Y=Total no. of successful students	116.00	104.00	44.00
Z=Total no. of students appeared in the examination	123.00	106.00	45.00
API [X * (Y/Z)]	6.08	7.30	8.40

Average API [(AP1 + AP2 + AP3)/3] : 7.26

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)	7.56	8.22	8.37
Y=Total no. of successful students	100.00	44.00	42.00
Z=Total no. of students appeared in the examination	104.00	44.00	42.00
API [X*(Y/Z)]:	7.27	8.22	8.37

Average API [(AP1 + AP2 + AP3)/3] : 7.95

B9. Placement, Higher Studies, and Entrepreneurship

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

Item	LYG (2020-21)	LYGm1(2019-20)	LYGm2(2018-19)
FS*=Total no. of final year students	60.00	60.00	60.00
X=No. of students placed	34.00	30.00	34.00
Y=No. of students admitted to higher studies	1.00	0.00	0.00
Z= No. of students taking up entrepreneurship	0.00	0.00	0.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	58.33	50.00	56.67

Average Placement Index = (P_1 + P_2 + P_3)/3: 55.00 Placement Index Points:

PART C: Faculty Details in Department and Allied Departments

(Data to be filled in for the Department and Allied Departments)

C1. Faculty details of Department and Allied Departments

Table No.C1: Faculty details in the Department for the past 3 years including CAY

Sr.No	Name of the Faculty	PAN No.	Highest degree	University	Area of Specialization	Date of Joining in this Institution	Experience in years in current institute	Designation at Time Joining in this Institution	Present Designation	The date on which Designated as Professor/ Associate Professor if any	Nature of Association (Regular/ Contract/ Ad hoc)
1	Dr. Gautam Sarkhel	XXXXXXX55P	Ph.D	Jadavpur University	Polymer Blend and Composite, Polymer Processing, Rheology	13/01/2001	24.4	Lecturer	Professor	01/04/2015	Regular
2	Dr. Sudipta Goswami	XXXXXXX02F	Ph.D	University of Calcutta	Polymer Science and Technology, blends, composites, biomaterials	10/04/2006	19.1	Lecturer	Professor	01/04/2015	Regular
3	Dr. Akhil Kumar Sen	XXXXXXX14H	Ph.D	IIT Bombay	Colloid and Interfacial Science	02/08/2004	20.10	Lecturer	Professor	02/01/2023	Regular
4	Dr. Arup Choudhury	XXXXXXX84P	Ph.D	BIT Mesra	Polymer Science and Technology	02/04/2007	18.2	Lecturer	Associate Professor	23/12/2019	Regular
5	Dr. Rajeshwari Chatterjee	XXXXXXX77Q	Ph.D	IIT (ISM) Dhanbad	Renewable Energy	12/01/2023	2.4	Lecturer	Assistant Professor		Regular
6	Dr. Sumit K. Jana	XXXXXXX53A	Ph.D	University of Calcutta	Multiphase Flow, ANN, Bio-Fuel, Biomass, Catalysis	01/07/2008	16.11	Lecturer	Assistant Professor		Regular
7	Dr. Anupam Roy	XXXXXXX21H	Ph.D	IIT Kharagpur	Food Process Engineering	18/07/2016	8.10	Assistant Professor	Assistant Professor		Regular
8	Dr. Abhijit Mondal	XXXXXXX44G	Ph.D	Jadavpur university	Chemical Engineering	02/09/2021	3.8	Assistant Professor	Assistant Professor		Regular
9	Dr. Pulak Datta	XXXXXXX39G	Ph.D	Jadavpur University	Polymer, Nanocomposite, Biosensor, Food valorization	15/09/2009	15.8	Lecturer	Assistant Professor		Regular
10	Dr. Sudeepan J	XXXXXXX54B	Ph.D	Jadavpur university	Tribology of Polymer Composites, Fluid Mechanics, Polymer Processing	04/09/2009	15.8	Lecturer	Assistant Professor		Regular
11	Dr. Debasree Ghosh	XXXXXXX30E	Ph.D	Jadavpur University	Chemical Engineering	21/10/2009	15.7	Lecturer	Assistant Professor		Regular
12	Dr. Amit Kumar Tiwari	XXXXXXX26D	Ph.D	BIT Mesra	Food Processing and Preservation, Waste biomass Utilization	18/05/2017	8	Assistant Professor	Assistant Professor		Regular
13	Dr. Bidhan Chandra Ruidas	XXXXXXX23H	Ph.D	IIT Kharagpur	Enhanced oil recovery	02/03/2015	10.2	Assistant Professor	Assistant Professor		Regular
14	Dr. Anand Bharti	XXXXXXX25C	Ph.D	IIT Guwahati	Separation Processes, Phase Equilibria, Thermodynamics, Molecular Simulation, Process Modeling and S	28/01/2020	5.4	Assistant Professor	Assistant Professor		Regular
15	Dr. Arnab Karmakar	XXXXXXX01E	Ph.D	NIT Durgapur	Thermal Fluid, Two-Phase Thermosyphon Loop, Thermal Hydraulic Instability, and Boiling Flow	16/02/2015	10.3	Assistant Professor	Assistant Professor		Regular
16	Dr. Yogendra Nath Prajapati	XXXXXXX57C	Ph.D	IIT Kanpur	Advanced Catalysis for Energy and Environmental Applications, Abatement of Air and Water Pollution,	28/01/2020	5.4	Assistant Professor	Assistant Professor		Regular
17	Dr. Saikat Bhattacharjee	XXXXXXX14D	Ph.D	IIT Kharagpur	Micro Fluidics, Membrance Separation	09/03/2023	2.2	Assistant Professor	Assistant Professor		Regular

18	Dr. Sangram Roy	XXXXXXX34R	Ph.D	IIT Delhi	Multiphase reaction engineering, Process Intensification	27/06/2023	1.11	Assistant Professor	Assistant Professor		Regular
19	Dr. Aniruddha Deb	XXXXXXX48C	Ph.D	IIT Guwahati	Biosensors & Healthcare	28/02/2024	1.2	Assistant Professor	Assistant Professor		Regular
20	Dr. Iman Sengupta	XXXXXXX59Q	Ph.D	IIT Kharagpur	Nanomaterials, 2D materials	30/07/2024	0.9	Assistant Professor	Assistant Professor		Regular
21	Dr. S. Y. Jejurkar	XXXXXXX79D	Ph.D	IIT Kanpur	Multiphase flows, unsteady flows, combustion	28/07/2023	1.10	Assistant Professor	Assistant Professor		Regular
22	Dr. Rohit Kumar	XXXXXXX18R	Ph.D	IIT Delhi	Heterogeneous Catalysis, CO2 Conversion, Methane Activation, Clean Energy Production	09/08/2021	1.1	Assistant Professor	Assistant Professor		Regular
23	Dr. Amarnath Mishra	XXXXXXX10N	Ph.D	Jai Prakash University, Chapra	Polymer, Water Pollution, Food Technology	21/01/2009	16.4	Lecturer	Assistant Professor		Regular
24	Dr. S. Mukherjee	XXXXXXX62L	Ph.D	IIT Kharagpur	Microfluidics, complex fluids, soft matter	10/06/2024	0.6	Assistant Professor	Assistant Professor		Regular
25	Dr. G.T. Mohanraj	XXXXXXX33M	Ph.D	IIT Khargpur	Biomass conversion & adsorption, alternative fuels, electrochemical/vapor sensors, conducting polyme	16/08/2011	13.9	Assistant Professor	Associate Professor	02/08/2021	Regular

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 Department3 No. of PG Programs in the Department0

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

Description	**CAY(2024-25)**	**CAYm1 (2023-24)**	**CAYm2 (2022-23)**
UG1.B			
UG1.C			
UG1.D			
UG1: Chemical Engineering (Plastic & Polymer)			
UG2.B	120	120	120
UG2.C	120	120	120
UG2.D	120	120	120
UG2: Chemical Engineering	**360**	**360**	**360**
UG3.B	30	0	0
UG3.C	0	0	0
UG3.D	0	0	0
UG3: Food Engineering and Technology	**30**	**0**	**0**
DS=Total no. of students in all UG and PG programs in the Department	390	360	360

Description	CAY(2024-25)	CAYm1 (2023-24)	CAYm2 (2022-23)
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=** 390	**S2=** 360	**S3=** 360
DF=Total no. of faculty members in the Department	23	21	17
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=** 21	**F3=** 17
FF=The faculty members in F who have a 100% teaching load in the first-year courses	0	0	0
Student Faculty Ratio (SFR)=S/(F-FF)	**SFR1= 16.96**	**SFR2= 17.14**	**SFR3= 21.18**
Average SFR for 3 years	**SFR= 18.43**		

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)	23	0	19.00	30.26
2023-24(CAYm1)	21	0	18.00	29.17
2022-23(CAYm2)	17	0	18.00	23.61

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	3.00	4.00	2.00	13.00	18.00
2023-24	2.00	3.00	4.00	2.00	12.00	16.00
2022-23	2.00	2.00	4.00	3.00	12.00	12.00
Average	RF1=2.00	AF1=2.67	RF2=4.00	AF2=2.33	RF2=12.33	AF2=15.33

C5. Visiting/Adjunct Faculty/Professor of Practice

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

(CAYm1)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Dr. Pradip Munshi	Visiting Faculty	M/s CISCHEM, Vadodara, Gujarat	counseling, pedagogy, new courses	10.00

(CAYm2)

(CAYm3)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Prof. Subhabrata Ray	Professor	IIT Khargpur	Process Technology & Economics, Process modelling simulation & optimization	50.00
2	Prof. Chandan Guha	Professor	Jadavpur University	Chemical Reaction Engineering II	50.00
3	Prof. Suvendu Bhattacharyay	Ex-Chief Scientist	CFTRI	Novel techniques in food processing & packaging	50.00
4	Dr. Anuranjan Pandeya	Adjunct Professor	Scientific Digital System	Food product development and consumer science, Post harvest engineering	60.00

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	47	40	35
2	No. of peer reviewed conference papers published	2	1	1
3	No. of books/book chapters published	7	14	14

C7. Sponsored Research Project

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

(CAYm1)

(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. Arup Choudhury	NIL	Chemical Engineering	Development of 3DFlexible Hybrid Mat based on Waste Sugarcane Bagasse-derived Carbon Nanofibers and metal organic frameworks (MOFs)for Fabrication of Next Generation Flexible/Wearable Supercapacitors	DST, SERB	3 years	25.33
Dr. Gautam Sarkhel	Dr. Arup Choudhury	Chemical Engineering	Study the effect of stretching on the physico-mechanical properties of acrylates	DRDO	2.5 years	81.33
Dr. Pulak Dutta	Dr. Arup Choudhury	Chemical Engineering	Development of Radiation, Chemical and Flame-Resistant High-Performance Polymer Composite for Defence Application	DRDO	3 years	36.72
Dr. Anupam Roy	Dr. Gautam Sarkhel, Dr. Animesh Ghosh	Chemical Engineering	Design and development of low cost technology for micronutrient protein-fortified whole grain puffed rice	ICMR	2 years	49.00
Dr. Anupam Roy	NIL	Chemical Engineering	Modification of expanded porous starch matrix (EPSM) for promoting survival of probiotic bacteria in both high temperature and gastrointestinal	ICMR	3 years	15.46
Dr. Abhijit Mondal	Dr. Anand Bharti	Chemical Engineering	Degradation of polystyrene microplastics (PMSs) from wastewater using Novel Continuous Rotating Electro-Chemical Reactor (CRECR)	ICMR	3 years	44.17
Dr. Debasree Ghosh	NIL	Chemical Engineering	Design And Development Of Energy Efficient Modified Refrigeration System Using Phase Change Material and Its CFD Analysis	SERB (ANRF)	3 years	29.81
Dr. Rajeshwari Chatterjee	NIL	HMCT	Setting up of a small-scale pilot plant for production of organic compost from kitchen waste and dry leaves.	National Coordinating Institute UBA 2.0 (IIT Delhi)	0.5 year	1.00
Dr. Kaushik Kumar	Dr. Sudeepan J	Mechanical Engineering	Role of hybrid nanofillers on the physio-mechanical and tribological behavior of polymer nanocomposites for load bearing advanced mechanical component applications	DST, SERB	3 years	45.84
						Amount received (Rs.):328.66

(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. Anupam Roy	Dr. Animesh Ghosh	Chemical Engineering	Biopolymer based nano-layer fortification of self-assembled micronutrients over pre-conditioned rice: Retention of fortified nutrients and scale up studies	DBT	3 years	43.81
						Amount received (Rs.):43.81

Total Amount (Lacs) Received for the Past 3 Years: 372.47

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. N Kumar	Dr. Sudeepan J	Civil Engineering	Environment impact study and base line study and post impact assessment around project, Jharkhand Plastic Park, Devipur, Deoghar, Jharkhand	JIIDCO, Jharkhand	6 months	5.90
						Amount received (Rs.):5.90

(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. Sudeepan J	NIL	Chemical Engineering	Development of Polymer Blends for the Enhancement of Friction coefficient Factor	John Deere India Pvt. Ltd., Pune	1 year	1.94
						Amount received (Rs.):1.94

(CAYm3)

Total amount (Lacs) received for the past 3 years: 7.84

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. Sangram Roy	Development of coil flow inverters for post combustion capture of CO2	2 years	5.00	4.05	NIL
Dr. Saikat Bhattacharya	Reduction of fouling in polymeric membranes using AC electric field	2 years	5.00	4.71	NIL
			Amount received (Rs.): 10.00		

(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. Abhijit Mondal	Intensified Air Moisture Harvester Device: Approach towards sustainable & renewable application	2 years	5.00	4.04	Prototype developed
			Amount received (Rs.): 5.00		

(CAYm3)

Total amount (Lacs) received for the past 3 years : 15.00

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	Chemical Engineering Laboratory I	4	Venturimeter, Orificemeter, Rotameter; Centrifugal Pump Test Rig; Plate & Frame Filter Press;	3 days	Dr. Swaraj Se	Sr. Tech. Sup	M.Sc., (Chem

2	Chemical Engineering Laboratory I	4	Sieve Shaker; Bucket elevator;	3 days	Mr. Sanjay M	Sr. Tech. Sup	BE(Chemial E
3	Chemical Engineering Laboratory I	4	Flow over Notches Friction in Pipes;	3 days	Mr. Baijnath M	Jr. Tech. Supe	Diploma in M
4	Chemical Engineering Laboratory I	4	Ball Mill; Cyclone Separator;	3 days	Mr. Ramkishc	Technician	Diploma in M
5	Chemical Engineering Laboratory I	4	Power requirement in Agitation.	3 days	Mr. SalikRam	Technician	B.A.
6	Chemical Engineering Laboratory II	4	Heat transfer by conduction through flat composite wall; Heat	3 days	Dr. Swaraj Se	Sr. Tech. Sup	M.Sc., (Chem
7	Chemical Engineering Laboratory II	4	Batch Distillation column; Pressure drop in packed bed;	3 days	Mr. Sanjay M	Sr. Tech. Sup	BE(Chemial E
8	Chemical Engineering Laboratory II	4	Heating and cooling in Agitated vessel; Tapped Density meter; ;	3 days	Mr. Baijnath M	Jr. Tech. Supe	Diploma in M
9	Chemical Engineering Laboratory II	4	Wetted wall column; Shell and tube Heat Exchanger; Sieve tray	3 days	Mr. Ramkishc	Technician	Diploma in M
10	Chemical Engineering Laboratory II	4	Batch crystallizer; ; fixed bed Liquid Adsorption	3 days	Mr. SalikRam	Technician	B.A.
11	Chemical Engineering Laboratory III	4	Batch Reactor under Isothermal Conditions; Coil Tube type Plug	3 days	Dr. Swaraj Se	Sr. Tech. Sup	M.Sc., (Chem
12	Chemical Engineering Laboratory III	4	Solar Energy-Photovoltaic cell Solar Energy - Thermal energy	3 days	Mr. Ramkishc	Technician	Diploma in M
13	Chemical Engineering Laboratory III	4	Viscometers: Redwood I, Redwood II, Engler, Saybolt Flash	3 days	Mr. Sanjay M	Sr. Tech. Sup	BE(Chemial E
14	Chemical Engineering Laboratory III	4	RTD Plug Flow Reactor using a Pulse Tracer; Condensation	3 days	Mr. SalikRam	Technician	B.A.
15	Process Control & Instrumentation	4	Control Valve Characteristics; Temperature measurement–RTD,	2 days	Dr. Swaraj Se	Sr. Tech. Sup	M.Sc., (Chem
16	Process Control & Instrumentation	4	Level Control Trainer; Flow Control Trainer	2 days	Mrs. Minaksh	Jr. Tech. Supe	B.Sc
17	Process Control & Instrumentation	4	Pressure Control Trainer; Multi Process Trainer	2 days	Mr. Baijnath M	Jr. Tech. Supe	Diploma in M
18	Process Control & Instrumentation	4	Flapper-Nozzle System; Study of I/P and P/I converter	2 days	Mr. Ramkishc	Technician	Diploma in M
19	Process Control & Instrumentation	4	Dead Weight Pressure Guage tester	2 days	Mr. SalikRam	Technician	B.A.
20	Computer Aided Process Engineering Lab. (Central	1	MATLAB; ASPEN PLUS; Ansys	2 days	Mrs. Minaksh	Jr. Tech. Supe	B.Sc
21	Design Lab (Class Room)	1	Design of shell and tube heat exchangers; Design of plate	2 days	Mrs. Minaksh	Jr. Tech. Supe	B.Sc
22	Plant Design (Class Room)	1	Manual calculation of material and energy balance for a process	2 days	Mrs. Minaksh	Jr. Tech. Supe	B.Sc
23	Polymer Processing Laboratory	4	Blow Moulding M/c; PLC based L& T M/c;Kolsite Blown Film and	1 days	Dr. Swaraj Se	Sr. Tech. Sup	M.Sc., (Chem
24	Synthesis Laboratory	1	Rotary Evaporator; Water Baths, High pressure reactors; Vacuum	1 days	Mr. Sanjay M	Sr. Tech. Sup	BE(Chemial E

D2. Safety Measures in Laboratories

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

Sr. No	Laboratory Name	Safety Measures

1	Chemical Engineering Lab-I	First-aid kits; Proper use of electric devices; Fire extinguisher, sand bucket, water bucket; Lab apron, Insulated gloves, safety goggles, Rubber gloves, Disposable gloves; Waste Disposal Protocols ; Emergency Exits and Signage; Emergency Contact Numbers Displayed; Power Backup; Equipment Safety Instructions; Laboratories are equipped with MCBs; Chemical Storage Cabinets.
2	Chemical Engineering Lab-II	First-aid kits; Proper use of electric devices; Fire extinguisher, sand bucket, water bucket; Lab apron, Insulated gloves, safety goggles, Rubber gloves, Disposable gloves; Waste Disposal Protocols ; Emergency Exits and Signage; Emergency Contact Numbers Displayed; Power Backup; Equipment Safety Instructions; Laboratories are equipped with MCBs; Chemical Storage Cabinets.
3	Chemical Engineering Lab-III	First-aid kits; Proper use of electric devices; Fire extinguisher, sand bucket, water bucket; Lab apron, Insulated gloves, safety goggles, Rubber gloves, Disposable gloves; Waste Disposal Protocols ; Emergency Exits and Signage; Emergency Contact Numbers Displayed; Power Backup; Equipment Safety Instructions; Laboratories are equipped with MCBs; Chemical Storage Cabinets.
4	Synthesis Lab	First-aid kits; Proper use of electric devices; Fire extinguisher, sand bucket, water bucket; Lab apron, Insulated gloves, safety goggles, Rubber gloves, Disposable gloves; Waste Disposal Protocols ; Emergency Exits and Signage; Emergency Contact Numbers Displayed; Power Backup; Equipment Safety Instructions; Laboratories are equipped with MCBs; Chemical Storage Cabinets.
5	Polymer Processing Lab	First-aid kits; Proper use of electric devices; Fire extinguisher, sand bucket, water bucket; Lab apron, Insulated gloves, safety goggles, Rubber gloves, Disposable gloves; Waste Disposal Protocols ; Emergency Exits and Signage; Emergency Contact Numbers Displayed; Power Backup; Equipment Safety Instructions; Laboratories are equipped with MCBs; Chemical Storage Cabinets.
6	Project and Research Lab - I, II, III, IV, V, VI & VII	First-aid kits; Proper use of electric devices; Fire extinguisher, sand bucket, water bucket; Lab apron, Insulated gloves, safety goggles, Rubber gloves, Disposable gloves; Waste Disposal Protocols ; Emergency Exits and Signage; Emergency Contact Numbers Displayed; Power Backup; Equipment Safety Instructions; Laboratories are equipped with MCBs; Chemical Storage Cabinets.
7	Biochemical Engg. Lab	First-aid kits; Proper use of electric devices; Fire extinguisher, sand bucket, water bucket; Lab apron, Insulated gloves, safety goggles, Rubber gloves, Disposable gloves; Waste Disposal Protocols ; Emergency Exits and Signage; Emergency Contact Numbers Displayed; Power Backup; Equipment Safety Instructions; Laboratories are equipped with MCBs; Chemical Storage Cabinets.
8	PG Lab	First-aid kits; Proper use of electric devices; Fire extinguisher, sand bucket, water bucket; Lab apron, Insulated gloves, safety goggles, Rubber gloves, Disposable gloves; Waste Disposal Protocols ; Emergency Exits and Signage; Emergency Contact Numbers Displayed; Power Backup; Equipment Safety Instructions; Laboratories are equipped with MCBs; Chemical Storage Cabinets.

D3. Project Laboratory/Research Laboratory

S.N.	Name of the Laboratory
1.	PG Laboratory (Location: Ground Floor – Main Chemical Department Building)
2.	Biochemical Engg. Lab (Location: Ground Floor – Main Chemical Department Building)
3.	Project and Research Lab – I (Specialization : Electrochemical sensors & supercapacitors) (Location: First Floor – Main Chemical Department Building)
4.	Project and Research Lab - II (Specialization : Electrospinning & others) (Location: First Floor – Main Chemical Department Building)
5.	Project and Research Lab - III (Specialization : Clean energy & microplastic degradation) (Location: First Floor – Main Chemical Department Building)
6.	Project and Research Lab - IV (Specialization : BioSensor & Healthcare) (Location: First Floor – Main Chemical Department Building)
7.	Project and Research Lab -V (Specialization : alternative fuels & polymer compsites) (Location: Third Floor – Pharmacy Building - Chemical Department)
8.	Project and Research Lab - VI (Specialization : Membrane Separation) (Location: Third Floor – Pharmacy Building - Chemical Department)
9.	Project and Research Lab - VII (Specialization : Polymer) (Location: Inside Polymer Processing Lab)
10.	Project Workshop Laboratory (Beside Chemical Engineering Lab II)

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)	840	42	44	78	121
2023-24(CAYm1)	930	46	47	81	117
2024-25(CAY)	930	46	52	87	128

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	1194079000	170515000	1119478000	268553000	641154000	250058000	850384000	158624000
Library	21276000	15687000	27967000	11832000	22582000	20444000	20592000	15608000
Laboratory equipment	265857000	80293000	250363000	114579000	211627000	57947000	169975000	40315000
Teaching and non-teaching staff	1483810000	1429231000	1314119000	1332191000	1175614000	1116461000	1116456000	1000523000
Outreach Programs	7350000	8458000	10500000	5323000	0	0	0	0
R&D	70910000	37366000	65500000	37128000	91172000	41288000	122967000	38576000

Training, Placement and	10600000	3268000	10025000	4907000	0	0	0	0
SDGs	40094000	35824000	30141000	18763000	0	0	0	0
Others (Lab Consumables,	559288000	482052000	568893000	425737000	408842000	349390000	374435000	272161000
Miscellaneous Expenses*	0	0	0	0	0	0	0	0
Total	**3653264000**	**2262694000**	**3396986000**	**2219013000**	**2550991000**	**1835588000**	**2654809000**	**1525807000**

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	5425000	7049000	7135000	7826000	6250000	4944000	4480000	6002000
Software	1450000	1599000	1738000	2354000	520000	133000	460000	378000
SDGs	0	0	0	0	0	0	0	0
Support for faculty	1200000	741000	1000000	1306000	800000	871000	300000	527000
R & D	1000000	826000	1650000	1177000	2530000	1864000	1440000	1521000
Industrial Training, Industry	50000	12000	50000	5000	50000	24000	50000	0
Miscellaneous Expenses*	1075000	2074000	2100000	2340000	2600000	1006000	1862000	49000
Total	**10200000**	**12301000**	**13673000**	**15008000**	**12750000**	**8842000**	**8592000**	**8477000**