

NATIONAL BOARD OF ACCREDITATION

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

Program Name : Mechanical Engineering	Discipline : Engineering & Technology
Level : Under Graduate	Tier : 1
Application No : 11730	Date of Submission : 16-04-2026

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: **20**

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	UG	Artificial Intelligence and Machine Learning	2022	--	Computer Science and Engineering
3	Computer Application	Diploma	Computer Engineering	2002	--	Computer Science and Engineering
4	Computer Application	UG	Computer Science and Engineering	1983	--	Computer Science and Engineering
5	Computer Application	PG	Computer Science and Engineering	1999	--	Computer Science and Engineering
6	Computer Application	PG	Computer Science and Engineering (Artificial Intelligence and Machine Learning)	2021	--	Computer Science and Engineering
7	Computer Application	PG	Master in Computer Applications	1984	--	Computer Science and Engineering

8	Engineering & Technology	PG	Aerospace Engineering	1968	--	Space Engineering
9	Engineering & Technology	Diploma	Automobile Engineering	2001	--	Automobile Engineering
10	Engineering & Technology	PG	Biotechnology	2010	--	Biotechnology
11	Engineering & Technology	UG	Biotechnology	2002	--	Biotechnology
12	Engineering & Technology	UG	Chemical Engineering	2011	--	Chemical Engineering
13	Engineering & Technology	UG	Civil Engineering	1957	--	Civil Engineering
14	Engineering & Technology	Diploma	Civil Engineering	2025	--	Civil and Environmental Engineering
15	Engineering & Technology	PG	Civil Engineering	2024	--	Civil Engineering
16	Engineering & Technology	PG	Electric Vehicle Technology	2022	--	Electrical and Electronics Engineering
17	Engineering & Technology	UG	Electrical & Electronics Engineering	1955	--	Electrical and Electronics Engineering
18	Engineering & Technology	Diploma	Electrical and Electronics Engineering	2010	--	Electrical and Electronics Engineering
19	Engineering & Technology	PG	Electrical Engineering	2022	--	Electrical and Electronics 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	PG	Electronics & Communication Engineering	2022	--	Electronics and Communication Engineering
23	Engineering & Technology	UG	Food Engineering and Technology	2023	--	Chemical Engineering
24	Engineering & Technology	UG	Information Technology	1999	2022	Computer Science and Engineering
25	Engineering & Technology	UG	Mechanical Engineering	1955	--	Mechanical Engineering
26	Engineering & Technology	Diploma	Mechanical Engineering	2010	--	Mechanical Engineering
27	Engineering & Technology	PG	Mechanical Engineering	1964	--	Mechanical Engineering
28	Engineering & Technology	UG	Production & Industrial Engineering	1964	--	Production and Industrial Engineering
29	Engineering & Technology	PG	Production and Industrial Engineering	1992	--	Production and Industrial Engineering
30	Engineering & Technology	PG	Remote Sensing	1997	--	Remote Sensing
31	Engineering & Technology	PG	Urban Planning	2007	--	Urban Planning
32	Hotel Management	UG	Hotel Management & Catering Technology	2003	--	Hotel Management
33	Management	PG	Integrated BBA + MBA	2024	--	Management
34	Management	PG	Master of Business Administration	1980	--	Management

35	Pharmacy	PG	Pharmaceutical Chemistry	1983	--	Pharmacy
36	Pharmacy	PG	Pharmaceutical Quality Assurance	2011	--	Pharmacy
37	Pharmacy	PG	Pharmaceutics	1983	--	Pharmacy
38	Pharmacy	PG	Pharmacognosy	1998	--	Pharmacy
39	Pharmacy	PG	Pharmacology	1998	--	Pharmacy
40	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
Mechanical Engineering	No	Mechanical Engineering	UG
Electrical and Electronics Engineering	No	Electrical & Electronics Engineering	UG
Electronics and Communication Engineering	No	Electronics & Communication Engineering	UG
Production and Industrial Engineering	No	Production & Industrial 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	Mechanical Engineering	UG	1955 / --	120	No	NA	120	1955	F.No. Eastern/1-44640378024/2025/EOA Date of Approval: 06-Apr-2025	Granted accreditation for 3 years for the period (specify period)	2023	2026	3	4

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 :	Apurba Kumar Roy
B. Nature of appointment:	Regular
C. Qualification:	Ph.D

B3. Program Details

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

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	2025-26 (CAY)	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)	2021-22 (CAYm4)	2020-21 (CAYm5)	2019-20 (CAYm6)
N=Sanctioned intake of the program (as per AICTE /Competent authority)	120	120	120	120	120	120	120
N1=Total no. of students admitted in the 1st year minus the no. of students, who migrated to other programs/ institutions plus no. of students, who migrated to this program	132	150	118	129	123	109	113
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	2	0	0	1	2	1	1
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	134	150	118	130	125	110	114

CAY= Current Academic Year. CAYm1= Current Academic Year Minus 1 CAYm2= Current Academic Year Minus 2. LYG= Last Year Graduate. LYGm1= Last Year Graduate Minus 1. LYGm2= Last Year Graduate Minus 2.

B4. Enrolment Ratio in the First Year

Table No. B4.1: Student enrolment ratio in the 1st year.

Year of entry	N (From Table 4.1)	N1 (From Table 4.1)	N4 (From Table 4.1)	Enrollment Ratio [(N1/N)*100]
2025-26 (CAY)	120	132	2	111.67
2024-25 (CAYm1)	120	150	0	125.00
2023-24 (CAYm2)	120	118	0	98.33

Average [(ER1 + ER2 + ER3) / 3] = 111.67 $\approx$ 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	(2021-22) LYG	(2020-21) LYGm1	(2019-20) LYGm2
A*= (No. of students admitted in the 1st year of that batch and those actually admitted in the 2nd year via lateral entry, plus the number of students admitted through multiple entry (if any) and separate division if applicable, minus the number of students who exited through multiple entry (if any).	125.00	120.00	120.00
B=No. of students who graduated from the program in the stipulated course duration	121.00	107.00	114.00
Success Rate (SR)= (B/A) * 100	96.80	89.17	95.00

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 93.66

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

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

Academic Performance	CAYm1(2024-25)	CAYm2(2023-24)	CAYm3 (2022-23)
Mean of CGPA or mean percentage of all successful students(X)	7.74	7.67	7.19

Y=Total no. of successful students	150.00	118.00	130.00
Z=Total no. of students appeared in the examination	150.00	118.00	130.00
API [X*(Y/Z)]	7.74	7.67	7.19

Average API[(AP1+AP2+AP3)/3] : 7.53

B7: Academic Performance of the Second Year Students of the Program

Table No.B7.1: Academic Performance of the Second Year Students of the Program.

Academic Performance	CAYm1 (2024-25)	CAYm2 (2023-24)	CAYm3 (2022-23)
X=(Mean of 2nd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 2nd year/10)	8.54	8.18	8.07
Y=Total no. of successful students	118.00	120.00	124.00
Z=Total no. of students appeared in the examination	118.00	130.00	125.00
API [X * (Y/Z)]	8.54	7.55	8.01

Average API [(AP1 + AP2 + AP3)/3] : 8.03

B8. Academic Performance of the Third Year Students of the Program

Table No.B8.1: Academic Performance of the Third Year Students of the Program

Academic Performance	CAYm1 (2024-25)	CAYm2 (2023-24)	CAYm3 (2022-23)
X=(Mean of 3rd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 3rd year/10)	8.72	8.80	8.28
Y=Total no. of successful students	120.00	121.00	107.00
Z=Total no. of students appeared in the examination	120.00	124.00	107.00
API [X*(Y/Z)]:	8.72	8.59	8.28

Average API [(AP1 + AP2 + AP3)/3] : 8.53

B9. Placement, Higher Studies, and Entrepreneurship

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

Item	LYG (2021-22)	LYGm1(2020-21)	LYGm2(2019-20)
FS*=Total no. of final year students	121.00	120.00	120.00
X=No. of students placed	88.00	76.00	87.00
Y=No. of students admitted to higher studies	5.00	0.00	1.00
Z= No. of students taking up entrepreneurship	1.00	0.00	0.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	77.69	63.33	73.33

Average Placement Index = (P_1 + P_2 + P_3)/3: 71.45 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	Dipti Prasad Mishra	XXXXXXXX12A	Ph.D	IIT Kharagpur	CFD and Heat Transfer	19/12/2012	13.3	Associate Professor	Professor	01/06/2017	Regular	Yes		No
2	Richa Pandey	XXXXXXXX35L	Ph.D	Birla Institute of Technology Mesra Ranchi	CAD/CAM Mechatronics	01/07/2002	23.9	Lecturer	Assistant Professor		Regular	Yes		No
3	Om Prakash	XXXXXXXX24P	Ph.D	NIT Bhopal	Thermal Engineering	26/03/2015	11	Assistant Professor	Assistant Professor		Regular	Yes		No
4	Saurav Chakraborty	XXXXXXXX78N	Ph.D	IIT Delhi	Thermal Engineering	06/09/2021	4.7	Assistant Professor	Assistant Professor		Regular	Yes		No
5	Lakhsir Singh Brar	XXXXXXXX53M	Ph.D	Birla Institute of Technology, Mesra, Ranchi	Fluid Mechanics	13/09/2010	15.7	Assistant Professor	Assistant Professor		Regular	Yes		No
6	Abhishek Kumar Kashyap	XXXXXXXX79N	Ph.D	NIT Rourkela	Robotics and Machine Learning	08/09/2025	0.7	Assistant Professor	Assistant Professor		Regular	Yes		No
7	Sushanta Ghuku	XXXXXXXX48P	Ph.D	Jadavpur University	Machine Design and Solid Mechanics	01/03/2023	3.1	Assistant Professor	Assistant Professor		Regular	Yes		No
8	Ankur Chattopadhyay	XXXXXXXX24F	Ph.D	IIT Ropar	Thermofluids	14/10/2025	0.6	Assistant Professor	Assistant Professor		Regular	Yes		No
9	Ritwik Maiti	XXXXXXXX03A	Ph.D	IIT Kharagpur	Experimental Fluid Dynamics	30/08/2021	4.7	Assistant Professor	Assistant Professor		Regular	Yes		No
10	Anil Chandra Mahato	XXXXXXXX75H	Ph.D	IIT (ISM) DHANBAD	System dynamics and control	22/08/2019	6.7	Assistant Professor	Assistant Professor		Regular	Yes		No
11	Faisal Rahmani	XXXXXXXX78D	Ph.D	IIT Delhi	Mechanical Design	09/11/2021	4.5	Assistant Professor	Assistant Professor		Regular	Yes		No
12	Sujeet Kumar Mishra	XXXXXXXX11E	Ph.D	Birla Institute of Technology, Mesra, Ranchi	Design, Fracture, EMR Emission	13/12/2005	20.4	Assistant Professor	Assistant Professor		Regular	Yes		No
13	Paritosh Mahata	XXXXXXXX46L	Ph.D	IIT Kanpur	Solid Mechanics and Design	11/07/2016	9.9	Assistant Professor	Assistant Professor		Regular	Yes		No

14	Arbind Kumar	XXXXXXX86F	Ph.D	Ranchi University	Heat Power Engg.	01/06/1986	39.10	Assistant Professor	Professor	01/04/2008	Regular	Yes		No
15	Kaushik Kumar	XXXXXXX73H	Ph.D	Jadavpur University	Materials and Design	19/09/2001	24.7	Lecturer	Professor	02/09/2024	Regular	Yes		No
16	Rajeev Kumar	XXXXXXX11H	Ph.D	BIT Mesra	Plastic Deformation of Materials, Heat Power	01/07/2002	23.9	Lecturer	Associate Professor	12/09/2011	Regular	Yes		No
17	Sushil Kumar Dhiman	XXXXXXX12L	Ph.D	Birla Institute of Technology, Mesra Ranchi	Thermal Engineering	05/07/2007	18.9	Assistant Professor	Assistant Professor		Regular	Yes		No
18	Abhijit Nag	XXXXXXX86L	Ph.D	IIT Kharagpur	Design of Hydrostatic Machine Elements	02/01/2012	14.3	Assistant Professor	Assistant Professor		Regular	Yes		No
19	O. P. Pandey	XXXXXXX22M	Ph.D	Birla Institute of Technology	Hydraulic M/C, Renewable energy	15/07/2003	22.8	Assistant Professor	Assistant Professor		Regular	Yes		No
20	Praveen Mishra	XXXXXXX78K	Ph.D	Birla Institute of Technology Mesra Ranchi	Energy, Industrial Management, Fluid Mechanics	23/01/2004	22.2	Assistant Professor	Assistant Professor		Regular	Yes		No
21	Praveen James Sanga	XXXXXXX99G	Ph.D	Birla Institute of Technology, Mesra, Ranchi	Thermal Engineering	09/07/2007	18.9	Assistant Professor	Assistant Professor		Regular	Yes		No
22	Mukesh Sharma	XXXXXXX01L	Ph.D	IIT Roorkee	Thermal Engineering	16/08/2019	6.8	Assistant Professor	Assistant Professor		Regular	Yes		No
23	R.P. Sharma	XXXXXXX29K	Ph.D	Birla Institute of technology Mesra Ranchi	Thermal Engineering	06/06/1986	39.3	Assistant Professor	Professor	02/03/2015	Regular	No	30/08/2025	No
24	Arun Kumar Kadian	XXXXXXX16F	Ph.D	IIT Guwahati	Finite Element Analysis	24/07/2019	6.8	Assistant Professor	Assistant Professor		Regular	Yes		No
25	Arkadeb Mukhopadhyay	XXXXXXX11H	Ph.D	Jadavpur University	Mechanical Engineering	14/08/2019	6.8	Assistant Professor	Assistant Professor		Regular	Yes		No
26	Apurba Kumar Roy	XXXXXXX72R	Ph.D	IIT Kharagpur	Fluid dynamics and Turbo-machinery	03/12/2010	15.4	Associate Professor	Associate Professor	03/12/2010	Regular	Yes		Yes

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

C2. Student-Faculty Ratio (SFR)

No. of UG(Engineering) programs in Department including allied departments/ clusters (UGn):

UG1=1st UG program

UGn=nth UG program

B= No. of Students in UG 2nd year (ST)

C= No. of Students in UG 3rd year (ST)

D= No. of Students in UG 4th year (ST)

No. of PG (Engineering) programs in Department including allied departments/ clusters (PGm):

PG1=1st PG program.

PGm=mth PG program

A= No. of Students in PG 1st year

B= No. of Students in PG 2nd year

Student Faculty Ratio (**SFR**) = S/F

S= No. of students of all programs in the Department including all students of allied departments/clusters.

No. of students (ST)=Sanctioned Intake (SA)+ Actual admitted students via lateral entry including leftover seats (L) if any (limited to 10 % of SA)

Students who admitted under supernumerary quotas (SNQ, EWS, etc) will not be considered in calculating SFR value. Those students are exempted.

F=Total no. of regular or contractual faculty members (Full Time) in the Department, including allied departments/clusters (excluding first year faculty (The faculty members who have a 100% teaching load in the first-year courses)).

No. of UG Programs in the Department1 No. of PG Programs in the Department1

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

Description	CAY(2025-26)	CAYm1 (2024-25)	CAYm2 (2023-24)
UG1.B	120	120	120
UG1.C	120	120	120
UG1.D	120	120	120
UG1: Mechanical Engineering	360	360	360
PG1.A	24	24	24
PG1.B	24	24	24
PG1: Mechanical Engineering	48	48	48
DS=Total no. of students in all UG and PG programs in the Department	408	408	408
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= 408	S2= 408	S3= 408
DF=Total no. of faculty members in the Department	23	24	24
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= 24	F3= 24
FF=The faculty members in F who have a 100% teaching load in the first-year courses	4	4	4
Student Faculty Ratio (SFR)=S/(F-FF)	SFR1= 21.47	SFR2= 20.40	SFR3= 20.40
Average SFR for 3 years	SFR= 20.76		

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	$FQ = 2.5 \times [(10X + 4Y) / RF]$
2025-26(CAY)	23	0	20.00	28.75
2024-25(CAYm1)	23	1	20.00	29.25
2023-24(CAYm2)	23	1	20.00	29.25

C4. Faculty Cadre Proportion

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

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

Year	Professors		Associate Professors		Assistant Professors	
	Required RF1	Available AF1	Required RF2	Available AF1	Required RF3	Available AF3
2025-26	2.00	3.00	4.00	2.00	13.00	18.00
2024-25	2.00	3.00	4.00	3.00	13.00	18.00
2023-24	2.00	3.00	4.00	3.00	13.00	18.00
Average	RF1=2.00	AF1=3.00	RF2=4.00	AF2=2.67	RF2=13.00	AF2=18.00

C5. Visiting/Adjunct Faculty/Professor of Practice

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

(CAYm1)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Not Available	Not Available	Not Available	Not Available	0.00

(CAYm2)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Not Available	Not Available	Not Available	Not Available	0.00

(CAYm3)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Not Available	Not Available	Not Available	Not Available	0.00

C6. Academic Research

Table No. C6.1: Faculty publication details.

S.No.	Item	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)
1	No. of peer reviewed journal papers published	65	73	52
2	No. of peer reviewed conference papers published	25	24	26
3	No. of books/book chapters published	8	6	5

C7. Sponsored Research Project

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

(CAYm1)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Lakhsir Singh Brar	Om Prakash, Arkadeb Mukhopadhyay	Mechanical Engineering	Development of abrasion-resistant electroless Ni-B-W coating on cyclone separator walls and design optimization for longevity with enhanced performance	ANRF	2024-2027	48.64
Priyank Kumar	Sudip Das, Lakhsir Singh Brar	Space Engineering and Rocketry	Development of High Angle of Attack CFD Aerodynamic Database & Behaviour Model of Missile Configuration at Varying Geometric and Flow Parameters	DRDO	2024-2026	39.80
Om Prakash	NA	Mechanical Engineering	Green Hydrogen: The Future of Clean Energy	ANRF	2024-2025	2.50
						Amount received (Rs.):90.94

(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. Sushanta Ghuku	NA	Mechanical Engineering	A novel hard magnetic soft continuum curved robot: Multi-physical mechanics, active control, modulation, and optimized design (Acronym: NHMSC robot)	ANRF	2024-2027	23.76
						Amount received (Rs.):23.76

(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
Om Prakash	Lakhhbir Singh Brar, D.P.Mishra, D.Singh, Anil Kumar	Mechanical Engineering	Investigation of Stones as Sensible Thermal Heat Storage Materials for Concentrated Solar Power Applications	ANRF	2022-2025	24.75
Rajeev Kumar	Richa Pandey	Mechanical Engineering	Design and Fabrication of Bellow Type of Bio-gas Plant	MoE, Unnat Bharat Abhiyan	2022-2023	1.00
Rajeev Kumar	Rajeshwari Chatterjee	Mechanical Engineering	Setting up of a small-scale pilot plant for production of organic compost from kitchen waste and dry leaves	Unnat Bharat Abhiyan	2022-2023	1.00
Rajeev Kumar	Sanath Kumar Mukherjee	Mechanical Engineering	SETTING UP OF A SMALL-SCALE PILOT PLANT FOR PRODUCTION OF BIODIESEL FROM INDIGENOUS PLANT	Unnat Bharat Abhiyan	2022-2023	1.00
Arkadeb Mukhopadhyay	Arun Kumar Kadian, Anil C Mahato, Mukesh Sharma	Mechanical Engineering	Development of multi-layered lead free electroless Ni-B coating with high wear resistance, thermal stability and corrosion resistance for tribological applications	ANRF	2023-2026	37.95
						Amount received (Rs.):65.70

Total Amount (Lacs) Received for the Past 3 Years: 180.40

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. Arbind Kumar	Dr. A.K.Roy	Mechanical Engineering	Design Verification of 1 HP DC Surface Movable Trolley	Royal Instrument India Pvt. Ltd, Ratu Road, Ranchi	6 months	0.12
Dr. Arbind Kumar	Dr. A.K.Roy	Mechanical Engineering	Design Verification of 1 HP and 2 HP Solar Mobile DC Pumping System	Royal Instrumen India Pvt. Ltd, Ratu Road, Ranchi	6 months	0.12
Dr. Arbind Kumar	Dr. A.K.Roy	Mechanical Engineering	Evaluation of the structural design of trolley for 2 HP Solar Movable pumps	Directorate of Agriculture, Jharkhand	6 months	0.47
Nirmal Kumar	Om Prakash	Mechanical Engineering	Material Testing	Executive Engineer, Drinking Water & Sanitation Department, Jhumari Tilaiya	5 days	0.15
Nirmal Kumar	Om Prakash	Mechanical Engineering	Material Testing	M/s NCC Limited, Water and Environmental Division, Ranchi	5 days	0.24
						Amount received (Rs.):1.10

(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
Nirmal Kumar	Om Prakash	Mechanical Engineering	Material Testing	M/s Sharda Shelters Pvt. Ltd. Ranchi	5 days	0.23
Nirmal Kumar	Om Prakash	Mechanical Engineering	Material Testing	Executive Engineer, Drinking Water & Sanitation Department, Medininagar	5 days	0.21
						Amount received (Rs.):0.44

(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
Nirmal Kumar	Om Prakash	Mechanical Engineering	Material Testing	M/s NCC Limited, Ranchi	5 days	0.20
Nirmal Kumar	Om Prakash	Mechanical Engineering	Material Testing	Basics Engineering India Structure Pvt. Ltd., Ranchi	5 days	0.40
						Amount received (Rs.):0.60

Total amount (Lacs) received for the past 3 years: 2.14

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)

(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
Saurav Chakraborty	Experimental Investigation of Dynamics of Drop Impact on a Heated Surface	2 years	2.50	0.86	Experimental studies conducted and 1 conference paper published
			Amount received (Rs.): 2.50		

(CAYm3)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Nirmal Kumar	DESIGN AND DEVELOPMENT OF A HEART SIMULATOR TO TEST HEART VALVES	2 years	5.00	4.64	Product Developed
			Amount received (Rs.): 5.00		

Total amount (Lacs) received for the past 3 years : 7.50

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	Engineering Graphics	75	Different types of Solid Models like cone, hexagon, pentagon, triangular solid, etc	05	Different types of Solid Mc	Jr. Technical Superintende	Diploma in Mechanical En
2	Fluid Mechanics & Hydraulic Machines Lab	50	1. Bernoulli's Theorem Apparatus 2. Free and forced vortex apparatus	03	Chhote Lal Mahato	Jr. Technical Superintende	Diploma in Mechanical En
3	Dynamics of Machines Lab	50	1. Motorised Gyroscope 2. Whirling of Shafts Apparatus 3. CAM Follower 4. Vibration Apparatus	03	Anit Mahato	Jr. Technical Superintende	Diploma in Automobile En
4	Mechanical Engineering Lab I	50	1. Universal Testing Machine(25 Ton) 2. Rockwell Hardness Testing Machine 3. Brinell Hardness Testing Machine	03	Jitendra Kumar Mahato	Jr. Technical Superintende	Diploma in Mechanical En
5	Heat Transfer Lab	50	1. Thermal Conductivity of insulating powder apparatus 2. Vertical Cylinder apparatus 3. Pin-Fin apparatus	03	Ramesh Munda	Jr. Technical Superintende	Diploma in Mechanical En
6	Internal Combustion Engines Lab	50	1. Computerised set up of M.P.F.I Maruti Omni petrol Engine with Eddy Current Dynamometer. 2. Kirloskar Diesel Engine with electrical Dynamometer (5 HP)	03	C.K.Singh, Tila	Technical Superintendent,	Diploma in Automobile En
7	Mechanical Engineering Lab II	50	1. Insight Solar Water Heating System Apparatus 2. Insight Solar Photovoltaic Training Kit	03	Anit Mahato, Ramesh Mui	Jr. Technical Superintende	Diploma in Automobile En
8	Robotics & Automation Lab	50	1. Car Simulator 2. Pneumatic Control System. 3. ON/OFF control pneumatic system. 4. KUKA robot 5. DELTA Robot 6. PID controller experiment	03	Jitendra Kumar Mahato	Jr. Technical Superintende	Diploma in Mechanical En
9	Automobile Engineering Lab	50	1. Cut Section Model Of V – Shape 8 Cylinder Petrol Engine. 2. 3 –D Wheel Alignment M/C. 3. Wheel balance M/C 4. Cut section Model of MPEI and	03	C.K.Singh, Tila	Technical Superintendent,	Diploma in Automobile En
10	Refrigeration & Air Conditioning Lab	50	1. Cooling using the Peltier Effect 2. Vapour Absorption system 3. Vortex cooling apparatus 4. Refrigeration circuit with variable load 5. Vapour compression test	03	Ashok Kumar Ganjhu	Jr. Technical Superintende	Diploma in Mechanical En
11	Computer Aided Design & Drafting Lab	50	70+ computers with various software like AutoCAD, SolidWorks, Ansys etc.	05	Pramod Kumar	Technical Superintendent	BCA

D2. Safety Measures in Laboratories

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

Sr. No	Laboratory Name	Safety Measures
1	Engineering Graphics	First-aid kits, Proper use of electric devices, Fire extinguisher Emergency Contact Numbers Displayed, Equipment Safety Instructions, Laboratories are equipped with MCBs, and Do's and Don't list. Student instructed to always handle drawing instruments and laboratory equipment carefully to prevent accidents and injuries.

2	Fluid Mechanics & Hydraulic Machines Lab	First-aid kits, Proper use of electric devices, and Fire extinguisher, Equipment Safety Instructions, Laboratories are equipped with MCBs, and Do's and Don't list. Student instructed to never operate pumps, turbines, or hydraulic equipment without proper supervision and following the prescribed operating procedure. This helps prevent accidents, equipment damage, and injuries caused by high-pressure fluids or moving machinery.
3	Mechanical Engineering Lab I	First-aid kits, Proper use of electric devices, and Fire extinguisher Emergency Contact Numbers Displayed, Power Backup, Equipment Safety Instructions, Laboratories are equipped with MCBs, and Do's and Don't list. Student instructed to follow the instructions carefully, as the rotating parts/ Sharp edges/ Electrical connections of the Equipment might cause serious damage.
4	Dynamics of Machines Lab	First-aid kits, Proper use of electric devices, Fire extinguisher Emergency Contact Numbers Displayed, Power Backup, Equipment Safety Instructions, Laboratories are equipped with MCBs, and Do's and Don't list. Student instructed to avoid touching the rotating parts and avoid loose clothes as the rotating parts of the Equipment might cause serious damage.
5	Heat Transfer Lab	First-aid kits, Proper use of electric devices, and Fire extinguisher Emergency Contact Numbers Displayed, Equipment Safety Instructions, Laboratories are equipped with MCBs, and Do's and Don't list. Student instructed to not touch heated surfaces or equipment without proper protective gloves, as they can cause burns. Wear appropriate personal protective equipment (PPE).
6	Internal Combustion Engines Lab	First-aid kits, Proper use of electric devices, and Fire extinguisher Emergency Contact Numbers Displayed, Power Backup, Equipment Safety Instructions, Laboratories are equipped with MCBs, and Do's and Don't list. Student instructed to keep hands, clothing, and loose objects away from moving engine parts such as belts, pulleys, and rotating shafts while the engine is running.
7	Mechanical Engineering Lab II	First-aid kits, Proper use of electric devices, and Fire extinguisher Emergency Contact Numbers Displayed, Equipment Safety Instructions, Laboratories are equipped with MCBs, and Do's and Don't list. Student instructed to never touch the rotating parts/ Sharp edges/ Electrical connections of the Equipment, which might cause serious damage.
8	Robotics & Automation Lab	First-aid kits, Proper use of electric devices, and Fire extinguisher Emergency Contact Numbers Displayed, Power Backup, Equipment Safety Instructions, Laboratories are equipped with MCBs, and Do's and Don't list. Student instructed to maintain a safe distance from moving robotic arms and never enter the robot's operating area while it is running.
9	Automobile Engineering Lab	First-aid kits, Proper use of electric devices, and Fire extinguisher Emergency Contact Numbers Displayed, Equipment Safety Instructions, Laboratories are equipped with MCBs, and Do's and Don't list. Student instructed to always wear appropriate personal protective equipment (PPE), such as safety goggles, gloves, and safety shoes, while working on vehicles and machinery.
10	Refrigeration & Air Conditioning Lab	First-aid kits, Proper use of electric devices, and Fire extinguisher Emergency Contact Numbers Displayed, Equipment Safety Instructions, Laboratories are equipped with MCBs, and Do's and Don't list. Student instructed to handle refrigerants carefully and ensure proper ventilation to avoid inhalation of refrigerant gases and prevent leakage hazards.
11	Computer Aided Design & Drafting Lab	First-aid kits, Proper use of electric devices, and Fire extinguisher Emergency Contact Numbers Displayed, Power Backup, Equipment Safety Instructions, Laboratories are equipped with MCBs, and Do's and Don't list. Student instructed to use computers and electrical equipment properly and avoid touching electrical connections with wet hands to prevent electric shock.

D3. Project Laboratory/Research Laboratory

Sl No.	Name of the Laboratory
1	Research and Project lab. (Scratch tester , High temperature air jet erosion) (Location: Main building, Strength of Material Lab)
2.	Reverse Engineering Lab. (3-d printer) (Location: Main Building – Ground Floor – Mechanical Engg.)
3.	Computational Lab. (Various simulation software, Matlab, Ansys etc) (Location: Main Building – Ground Floor – Mechanical Engg.)
4.	Robotics Lab. (PID-CASCAD controller, UTM machine) (Location: Main Building – Ground Floor – Mechanical Engg., Robotics &Automation Lab)
5.	Computer Aided Design & Drafting Lab. (Location: Main Building – Ground Floor – Mechanical Engg.)
6.	Internal Combustion Engines Lab. (Wind tunnel, Friction stir welding machine) (Location: IC Engine Lab. building, Ground Floor – Mechanical Engg.)
7.	Dynamics of Machines Lab. (TIERA Machine Fault Simulator (TMFS), stick-slip frictional vibration machine) (Location: Main Building – Ground Floor – Mechanical Engg.)
8.	Biogas plant (Location: Behind Hostel 11, Mesra campus)

PART E: First Year faculty and financial Resources

(Data to be filled in for the first year course faculty and budget allocation and utilization)

E1. First Year Student-Faculty Ratio (FYSFR)

Table No. E1.1: FYSFR details.

Year	Sanctioned intake of all UG programs (S4)	No. of required faculty (RF4= S4/20)	No. of faculty members in Basic Science Courses & Humanities and Social Sciences including Management courses (NS1)	No. of faculty members in Engineering Science Courses (NS2)	Percentage= No. of faculty members ((NS1*0.8) + (NS2*0.2))/(No. of required faculty (RF4)); Percentage= ((NS1*0.8) +(NS2*0.2))/RF
2023-24(CAYm2)	930	46	52	73	122
2024-25(CAYm1)	930	46	51	75	121
2025-26(CAY)	960	48	59	85	134

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

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

Items	Budgeted in 2025-26	Actual Expenses in 2025-26 till	Budgeted in 2024-25	Actual Expenses in 2024-25 till	Budgeted in 2023-24	Actual Expenses in 2023-24 till	Budgeted in 2022-23	Actual Expenses in 2022-23 till
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Infrastructure Built-Up	2011500000	370599000	1194079000	260663000	1119478000	339555000	636654000	278254000
Library	22959000	18534000	21276000	15687000	27967000	11832000	22582000	20444000
Laboratory equipment	245729000	95090000	265857000	80293000	250363000	114579000	211627000	57947000
Teaching and non-teaching staff salary	1521173000	1508170000	1483810000	1429231000	1314119000	1332191000	1175614000	1116461000
Outreach Programs	11000000	11596000	11350000	8496000	10500000	5323000	12000000	4620000
R&D	50480000	119734000	70910000	114951000	65500000	104092000	69542000	85378000
Training, Placement and Industry linkage	5100000	2798000	6600000	3230000	10025000	4907000	7500000	3576000
SDGs	39400000	25835000	40094000	35824000	30141000	18763000	28965000	20288000
Entrepreneurship	6200000	3616000	5000000	1986000	5150000	1718000	9630000	1152000
Others, specify	630202000	776873000	554288000	480066000	563743000	424019000	376877000	325526000
Total	4543743000	2932845000	3653264000	2430427000	3396986000	2356979000	2550991000	1913646000

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

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

Items	Budgeted in 2025-26	Actual Expenses in 2025-26 till	Budgeted in 2024-25	Actual Expenses in 2024-25 till	Budgeted in 2023-24	Actual Expenses in 2023-24 till	Budgeted in 2022-23	Actual Expenses in 2022-23 till
Laboratory equipment	2540000	2769000	3414000	1156000	6084000	3835000	7419000	8507000
Software	3138000	3041000	1956000	2702000	2180000	1698000	2900000	2700000
SDGs	1200000	1702000	1200000	2431000	1000000	1260000	1000000	1781000
Support for faculty development	550000	79000	550000	254000	500000	345000	550000	291000
R & D	3500000	1092000	3500000	2126000	3450000	2938000	3100000	2910000
Industrial Training, Industry expert, Internship	100000	68000	100000	24000	100000	121000	100000	15000
Miscellaneous Expenses	1558000	990000	1260000	1483000	1917000	882000	1665000	1168000
Total	12586000	9741000	11980000	10176000	15231000	11079000	16734000	17372000