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: 11493	**Date of Submission**: 23-01-2026

PART A- Profile of the Institute

A1.Name of the Institute: R C Patel Institute of Technology	
Year of Establishment : 2001	Location of the Institute: Shirpur
A2. Institute Address:Near Nimzari Naka, Shahada Road, Shirpur - 425405, Dist: Dhule (MS)	
City:Dhule	State:Maharashtra
Pin Code:425405	Website:www.rcpit.ac.in
Email:principal@rcpit.ac.in	Phone No(with STD Code):2563-259600
A3. Name and Address of the Affiliating University (if any):	
Name of the University : Dr. Babasaheb Ambedkar Technological University, L	City: Raigad
State : Maharashtra	Pin Code: 402103
A4. Type of the Institution: Autonomous CAY(2020-21)	
A5. Ownership Status: Self financing	

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

- No. of UG programs: **9**
- No. of PG programs: **1**

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	Computer Application	PG	Master of Computer Application	2023	2024	Computer Application
2	Engineering & Technology	UG	Artificial Intelligence and Data Science	2024	--	Artificial Intelligence and Data Science
3	Engineering & Technology	UG	Artificial Intelligence and Machine Learning	2021	--	Artificial Intelligence and Machine Learning
4	Engineering & Technology	UG	Civil Engineering	2010	--	Civil Engineering
5	Engineering & Technology	UG	Computer Engineering	2001	--	Computer Engineering
6	Engineering & Technology	UG	Computer Science and Engineering (Data Science)	2020	--	Computer Science and Engineering (Data Science)
7	Engineering & Technology	UG	Electrical Engineering	2012	--	Electrical Engineering
8	Engineering & Technology	UG	Electronics Telecommunication Engineering	2001	--	Electronics and Telecommunication Engineering
9	Engineering & Technology	UG	Information Technology	2024	--	Information Technology
10	Engineering & Technology	UG	Mechanical Engineering	2004	--	Mechanical Engineering

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

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

Name of the Department	Having Allied Departments	Name of the Program	Program Level
Computer Engineering	Yes	Computer Engineering	UG
Mechanical Engineering	No	Mechanical 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	Mechanical Engineering	UG	2004 / --	60	Yes	2021	60	2021	AICTE	Applying first time	--	--	0	4

Sanctioned Intake for Last Five Years for the Mechanical Engineering	
Academic Year	**Sanctioned Intake**
2025-26	60
2024-25	60
2023-24	60
2022-23	60
2021-22	60
2020-21	120

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. Pravin Laxmanrao Sarode
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)	60	60	60	60	60	120	180
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	59	56	53	60	55	44	70
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	13	7	12	19	77	43
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	3	3	3	3	0	4	6
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	62	72	63	75	74	125	119

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)	60	59	3	103.33
2024-25 (CAYm1)	60	56	3	98.33
2023-24 (CAYm2)	60	53	3	93.33

Average [(ER1 + ER2 + ER3) / 3] = 98.33≡ 20.00

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	(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).	79.00	197.00	223.00
B=No. of students who graduated from the program in the stipulated course duration	40.00	74.00	105.00
Success Rate (SR)= (B/A) * 100	50.63	37.56	47.09

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 45.09

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)	7.17	7.03	6.38
Y=Total no. of successful students	49.00	40.00	47.00
Z=Total no. of students appeared in the examination	59.00	56.00	63.00
API [X*(Y/Z)]	5.95	5.02	4.76

Average API[(AP1+AP2+AP3)/3] : 5.24

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 2rd year/10)	7.19	6.53	6.28
Y=Total no. of successful students	44.00	52.00	45.00
Z=Total no. of students appeared in the examination	47.00	59.00	45.00
API [X * (Y/Z)]	6.73	5.76	6.28

Average API [(AP1 + AP2 + AP3)/3] : 6.26

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 (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)	6.59	6.28	6.51
Y=Total no. of successful students	49.00	44.00	92.00
Z=Total no. of students appeared in the examination	52.00	45.00	112.00
API [X*(Y/Z)]:	6.21	6.14	5.35

Average API [(AP1 + AP2 + AP3)/3] : 5.90

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	79.00	197.00	223.00
X=No. of students placed	37.00	60.00	70.00
Y=No. of students admitted to higher studies	1.00	3.00	2.00
Z= No. of students taking up entrepreneurship	0.00	0.00	1.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	48.10	31.98	32.74

Average Placement Index = (P_1 + P_2 + P_3)/3: 37.61 Placement Index Points:

PART C: Faculty Details in Department and Allied Departments

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

C1. Faculty details of Department and Allied Departments

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

Sr.No	Name of the Faculty	PAN No.	Highest degree	University	Area of Specialization	Date of Joining in this Institution	Experience in years in current institute	Designation at Time Joining in this Institution	Present Designation	The date on which Designated as Professor/ Associate Professor if any	Nature of Association (Regular/ Contract/ Ad hoc)	Currently Associated (Y/N)	In case of NO, Date of Leaving	IS HOD?

1	Dr. Pravin Laxmanrao Sarode	XXXXXXX12Q	Ph.D	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Mechanical-Design Engineering	12/07/2010	15.6	Assistant Professor	Professor	01/07/2025	Regular	Yes		Yes
2	Mr. Manoj Rajan Patil	XXXXXXX15L	M.Tech	Dr. Babasaheb Ambedkar Technological University,Lonere	Thermal & Fluids Engineering	15/07/2006	19.6	Lecturer	Assistant Professor		Regular	Yes		No
3	Dr. Hemant Krishnarao Wagh	XXXXXXX02E	Ph.D	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Computer Integrated Manufacturing	17/07/2006	19.6	Lecturer	Professor	01/07/2020	Regular	Yes		No
4	Dr. Kapil Ashokrao Saner	XXXXXXX68D	Ph.D	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Mechanical-Machine Design	02/01/2008	18	Lecturer	Associate Professor	01/07/2025	Regular	Yes		No
5	Mr. Sunil Vasudeo Yeole	XXXXXXX59D	M.E.	Sant Gadge Baba Amravati University	Mechanical-CAD-CAM	14/01/2008	18	Lecturer	Assistant Professor		Regular	Yes		No
6	Dr. Pandit Subhash Patil	XXXXXXX91H	Ph.D	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Mechanical-Machine Design	14/07/2010	15.6	Assistant Professor	Associate Professor	01/07/2019	Regular	Yes		No
7	Mr. Anil Hiralal Kumbhar	XXXXXXX87M	M.Tech	Rajiv Gandhi Proudyogiki Vishwavidyalaya,Bhopal	Heat Power & Thermal Engineering	10/07/2010	15.6	Assistant Professor	Assistant Professor		Regular	Yes		No
8	Dr. Bhushan Youraj Patil	XXXXXXX24P	Ph.D	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Thermal System Design	22/07/2011	14.5	Assistant Professor	Associate Professor	01/07/2025	Regular	Yes		No
9	Dr. Pradip Darbarsing Jamadar	XXXXXXX51M	Ph.D	Amity University,Jaipur,Rajasthan	General Mechanical Engineering	01/08/2011	14.5	Assistant Professor	Assistant Professor		Regular	Yes		No
10	Mr. Nilesh Mohan Shinde	XXXXXXX19P	M.E.	Savitribai Phule Pune University, Pune	Heat Power	12/08/2013	12.5	Assistant Professor	Assistant Professor		Regular	Yes		No
11	Mr. Rohan Rajendra Ozarkar	XXXXXXX54N	M.Tech	Shri Guru Gobind Singhji Institute of Engineering and Technology,Nanded	Mechanical-CAD-CAM	19/08/2014	11.4	Assistant Professor	Assistant Professor		Regular	Yes		No
12	Mr. Sachin Nana Pawar	XXXXXXX27A	M.Tech	GITAM University, Visakhapatnam	CAD-CAM	01/07/2024	1.6	Assistant Professor	Assistant Professor		Regular	Yes		No
13	Mr. Janardan Bhikulal Bhavsar	XXXXXXX84N	M.Tech	Dr. Babasaheb Ambedkar Technological University, Lonere	Mechanical Engineering	28/08/2025	0.4	Assistant Professor	Assistant Professor		Regular	Yes		No
14	Dr. Kiran Dinkar Chaudhari	XXXXXXX18Q	Ph.D	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Mechanical-CAD-CAM	02/01/2008	17.5	Lecturer	Assistant Professor		Regular	No	16/06/2025	No

15	Mr. Juber Ahamad Mo.Salim Khatik	XXXXXXX71N	M.E.	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Mechanical Engineering	07/02/2011	14.4	Assistant Professor	Assistant Professor		Regular	No	16/06/2025	No
16	Dr. Pankaj Valmik Baviskar	XXXXXXX78Q	Ph.D	Medicaps University, Indore,MP	Mechanical Engineering	01/08/2011	13.10	Assistant Professor	Assistant Professor		Regular	No	16/06/2025	No
17	Dr. Pradip Kailas Patil	XXXXXXX88L	Ph.D	Amity University,Jaipur,Rajasthan	Mechanical Engineering	02/01/2012	13.5	Assistant Professor	Assistant Professor		Regular	No	16/06/2025	No
18	Mr. Yogeshkumar Raghunath Pathak	XXXXXXX27E	M.Tech	Sardar Vallabhbhai National Institute of Technology, Surat	Turbo Machines	01/08/2012	12.10	Assistant Professor	Assistant Professor		Regular	No	16/06/2025	No
19	Mr. Kailas Dhanraj Deore	XXXXXXX82R	M.Tech	Sardar Vallabhbhai National Institute of Technology, Surat	Industrial process,Equipment's Design	08/08/2013	11.10	Assistant Professor	Assistant Professor		Regular	No	16/06/2025	No
20	Mr. Nilesh Arun Patil	XXXXXXX23R	M.E.	Gujarat Technological University, Ahmedabad	Thermal Engineering	12/08/2013	11.10	Assistant Professor	Assistant Professor		Regular	No	16/06/2025	No
21	Dr. Nitin Girdhar Shinde	XXXXXXX03J	Ph.D	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Mechanical Engineering	15/07/2014	10.11	Assistant Professor	Assistant Professor		Regular	No	16/06/2025	No
22	Dr. Rahul Dilip Sandhanshiv	XXXXXXX36J	Ph.D	Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon	Mechanical Engineering-CAD-CAM	06/01/2012	12.4	Assistant Professor	Assistant Professor		Regular	No	29/05/2024	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 Department0
Table No.C2.1: Student-faculty ratio.

Description	CAY(2025-26)	CAYm1 (2024-25)	CAYm2 (2023-24)
UG1.B	66	66	66
UG1.C	66	66	66
UG1.D	66	66	132
UG1: Mechanical Engineering	**198**	**198**	**264**
DS=Total no. of students in all UG and PG programs in the Department	198	198	264
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=** 198	**S2=** 198	**S3=** 264
DF=Total no. of faculty members in the Department	13	20	20
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=** 13	**F2=** 20	**F3=** 20
FF=The faculty members in F who have a 100% teaching load in the first-year courses	4	4	3
Student Faculty Ratio (SFR)=S/(F-FF)	**SFR1= 22.00**	**SFR2= 12.38**	**SFR3= 15.53**
Average SFR for 3 years	**SFR= 16.64**		

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)]
2025-26(CAY)	5	8	9.00	22.78
2024-25(CAYm1)	4	16	9.00	28.89
2023-24(CAYm2)	4	16	13.00	20.00

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
2025-26	1.00	2.00	2.00	3.00	6.00	8.00
2024-25	1.00	1.00	2.00	1.00	6.00	18.00

2023-24	1.00	1.00	2.00	1.00	8.00	18.00
Average	RF1=1.00	AF1=1.33	RF2=2.00	AF2=1.67	RF2=6.67	AF2=14.67

C5. Visiting/Adjunct Faculty/Professor of Practice

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

(CAYm1)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Mr. Dhanjay Ananda Mahajan	Tech Led	L&T Technology Services, Pune	CAE	52.00

(CAYm2)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Mr. Hemant Rajendra Patil	R&D QA Engineer	Dassault Systems, Pune	CATIA/Computer-Aided Design CAD Processes	53.00

(CAYm3)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Mr. Dhanjay Ananda Mahajan	Assistant Manager	Anand Automotive Pvt.ltd	CAE	52.00

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	8	4	2
2	No. of peer reviewed conference papers published	1	1	6
3	No. of books/book chapters published	2	0	0

C7. Sponsored Research Project

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

(CAYm1)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. Hemant Wagh	Mr. Pradip D. Jamdar	Mechanical Engineering	3D Modelling and Drafting of regular and special Fasteners	V. V. Industries C-2/306, GIDC Shanker Tekary Udhyognagar, Jamnagar – 361004 Gujarat – India	06 Month	0.56
Dr. Hemant Wagh	Mr. Nilesh M. Shinde	Mechanical Engineering	Design, fabrication and implementation of belt conveyor for Shri. Ganesh Visarjan at Arunavati river	Astitva Foundation Janak Villa, Ramsing Nagar, Shirpur, Dist. Dhule, MH 425405	06 Month	0.45
						Amount received (Rs.):1.01

(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
Mr. Sunil V. Yeole	Mr. Nilesh M. Shinde	Mechanical Engineering	Performance analysis of Battery cooling system	MWS Motorsport Solutions 57, Badgujar Colony, Deopur, Dhule, Maharashtra, India.	06 Month	0.52
Dr. Hemant K. Wagh	Mr. Bhushan Y. Patil	Mechanical Engineering	Thermal Management of Solar Photovolatic through phase change material to improve the performance and power generation	Sun Valley Solar Technologies, Infront of Jaiswal hotel, Nandurbar Chaufuli Dondaicha	06 Month	0.54
Mr. Bhushan Y. Patil	Dr. Pandit S. Patil	Mechanical Engineering	Design and Fabrication of Solar Assisted Thermal Storage System	Neesha Electronics E-52, MIDC, Avdhan, Dhule – 424006, Maharashtra, India.	06 Month	0.57
						Amount received (Rs.):1.63

(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
Mr. Sunil V Yeole	Dr. Hemant Wagh	Mechanical Engineering	Optimization of Biogas Desulfurization for Efficient Generator Performance	Zero Emission Energy East 519, Siddharaj Z Square, Opp. Landmark, KUDASAN, GANDHINAGAR, India.	1 Year	1.10
						Amount received (Rs.):1.10

Total Amount (Lacs) Received for the Past 3 Years: 3.74

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)

(CAYm2)

(CAYm3)

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

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
Mr. Pradip D. Jamadar	Fire-Retardant False Ceiling Material from Coconut Shell Powder Reinforced PLA	1 Year	0.36	0.32	Paper published in Journal of SSRG International Journal of Mechanical Engineering (IJME) E-ISSN 2348-8360
Mr. Bhushan Youraj Patil	Performance Study of Solar Absorption Refrigeration Using PCMs	1 Year	0.36	0.34	Paper published in Journal of International Journal of Green Energy ISSN: 1543-5083
			Amount received (Rs.): 0.72		

(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
Mr. Pradip K Patil	VCR System Performance Using Natural Refrigerant and Nano Lubricant	1 Year	0.36	0.34	Paper published in Journal of Migration Letters e-ISSN: 1741-8992
Mr. Pravin L Sarode	Analysis of Vehicle Accidents with Safety Parameter Evaluation	1 Year	0.36	0.34	Paper published in Journal of Materials Today: Proceedings ISSN: 2214-7853
			Amount received (Rs.): 0.72		

(CAYm3)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Mr. Sunil V. Yeole	Performance Analysis and Optimization of Solar Dimple Plate Collector	1 Year	0.36	0.35	Paper published in Journal of Mathematical Statistician and Engineering Applications E-ISSN: 2984-7869
Mr. Kapil A. Saner	Experimental Study of Poultry House Parameters to Reduce Heat Stress	1 Year	0.36	0.34	Paper presented in International Conference on Emerging Trends in Engineering and Technology (ICETET-2022)
			Amount received (Rs.): 0.72		

Total amount (Lacs) received for the past 3 years : 2.16

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	ME L-1 Material Science and Metrology	20	Computerized UTM, Rockwell Hardness Tester, Impact Testing Machine, Erichsen Cupping	20 Hours/Week	Mrs. Poonam Madhavra	Lab Assistant	Diploma Automobile
2	ME L-2 Refrigeration and Air Conditioning	20	Refrigeration Test Rig (R-134a), Mini ICE Plant, Air Conditioning Test Rig with Heat Pump, Data Logger	14 Hours/Week	Mr. Bhushan Vanji More	Lab Assistant	BE Mechanical
3	ME L-3 Heat Transfer and Dynamics of Machinery	20	Thermal Conductivity Apparatus (Metal & Insulating Powder), Pin Fin Apparatus, Natural & Forced	14 Hours/Week	Mr. Noaman Tarique Ka	Lab Assistant	M.Tech Mechanical Eng
4	ME L-4 Fluid Mechanics and Turbo Machinery	20	Bernoulli's Theorem Apparatus, Venturimeter & Orificemeter, Reynolds Apparatus, Flow Through	14 Hours/Week	Mr. Nikhil Kailas Mali	Lab Assistant	Diploma Mechanical En
5	ME L-5 Thermal Lab	20	Single & Multi Cylinder Petrol Engines, Diesel Engine with Generator, Rope Brake & Hydraulic	14 Hours/Week	Mr. Noaman Tarique Ka	Lab Assistant	M.Tech Mechanical Eng
6	ME L-6 Mechatronics	20	Thermocouple Kit, Thermistor, PID Controller, PLC Trainer, Electro Pneumatic Trainer	14 Hours/Week	Mr. Bhushan Vanji More	Lab Assistant	BE Mechanical Enginee
7	ME L-7 Workshop	64	Lathe, CNC Turning Center, Milling Machine, VMC, Radial Drilling, Shaper, Surface Grinder, Power	32 Hours/Week	1. Mr. Hitendra Ajabsing	Workshop Instructor	ITI Turner ITI Welder

D2. Safety Measures in Laboratories

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

Sr. No	Laboratory Name	Safety Measures
1	ME L-1 Material Science and Metrology Lab	A. Basic safety measures: Dos and Don'ts, SOP. B. Lab-specific safety measures: First-aid box, CCTV Surveillance, Fire safety and Electrical Safety, Safety goggles, Cotton hand gloves and tongs are used for handling heated specimen during practical related to surface.
2	ME L-2 Refrigeration and Air Conditioning Lab	A. Basic safety measures: Dos and Don'ts, SOP. B. Lab-specific safety measures: First-aid box, CCTV Surveillance, Fire safety and Electrical Safety.
3	ME L-3 Heat Transfer and Dynamics of Machinery Lab	A. Basic safety measures: Dos and Don'ts, SOP. B. Lab-specific safety measures: First-aid box, CCTV Surveillance, Fire safety and Electrical Safety.
4	ME L-4 Fluid Machinery Lab	A. Basic safety measures: Dos and Don'ts, SOP. B. Lab-specific safety measures: First-aid box, CCTV Surveillance, Fire safety and Electrical Safety.
5	ME L-5 Thermal Engineering Lab	A. Basic safety measures: Dos and Don'ts, SOP. B. Lab-specific safety measures: First-aid box, CCTV Surveillance, Fire safety and Electrical Safety.

6	ME L-6 Mechatronics Lab	A. Basic safety measures: Dos and Don’ts, SOP. B. Lab-specific safety measures: First-aid box, CCTV Surveillance, Fire safety and Electrical Safety.
7	ME L-7 Workshop	A. Basic safety measures: Dos and Don’ts, SOP, Specification. B. Lab-specific safety measures: First-aid box, CCTV Surveillance, Fire safety and Electrical Safety, Apron, Shoes, Hand gloves, Safety goggles, Tongs, Line tester, Safety belt and helmets, Test lamp, Fire safety buckets and Fire Hydrant System, Exhaust fans etc.
8	CAD Lab	A. Basic safety measures: Dos and Don’ts, SOP. B. Lab-specific safety measures: First-aid box, CCTV Surveillance, Fire safety and Electrical Safety.
9	Project Lab	A. Basic safety measures: Dos and Don’ts, SOP. B. Lab-specific safety measures: First-aid box, CCTV Surveillance, Fire safety and Electrical Safety.
10	Centre of Excellence	A. Basic safety measures: Dos and Don’ts, SOP. B. Lab-specific safety measures: First-aid box, CCTV Surveillance, Fire safety and Electrical Safety.

D3. Project Laboratory/Research Laboratory

To promote project-based learning, research activities, and innovation, the Mechanical Engineering Department has developed dedicated facilities such as the Project Laboratory, and Centre of Excellence. These facilities provide students with the required environment for design, experimentation, simulation, testing, and advanced technical work. They help in enhancing analytical skills, technical knowledge, and industry readiness of students. The details of these facilities are presented in table shown below.

Table No. 7.5.1: List of Project Laboratory/Centre of Excellence

S.N.	Name of the Laboratory
1.	**Project Lab:** The department has well-established Project Laboratory that is readily accessible to students for executing Semester Projects, Capstone Projects, research work, and innovative activities. This laboratory is equipped with adequate computing infrastructure, experimental facilities, and reliable internet connectivity to facilitate effective project implementation and research-based learning. The available computer systems are configured with 16 GB RAM and Intel i3-4130T processors, enabling smooth execution of design, modeling, and simulation tasks. Details of completed projects are documented in Section 2.2(D) of the Self-Assessment Report (SAR). To support industry-oriented and research-driven learning, the department provides access to licensed software such as Autodesk Inventor (Fusion 360 and AutoCAD – Educational Access with 3000 nodes) and ANSYS 2022 R1 (with 25 nodes). **Utilization** The Project Laboratory is systematically utilized throughout the academic year for execution of student projects. The department strengthens hands-on learning by providing fabrication/manufacturing facilities in workshop that enable students to undertake fabrication, prototyping, and experimental validation of their designs. Faculty members regularly monitor progress, conduct review meetings, and guide students during validation and performance assessment stages. **Relevance to POs/PSOs:** PO1, PO2, PO3, PO7, PO8, PO9, PO11, PSO1, PSO2

2.	**Center of Excellence** The Institute has established a Centre of Excellence as a dedicated facility to promote advanced learning, innovation, and industry interaction. It acts as a common platform where students and faculty members can engage in project development, research activities, skill enhancement programs, and technology-based initiatives. The Centre is supported with modern infrastructure, updated hardware platforms, and required software tools to work in emerging and interdisciplinary domains. The **Center of Excellence for EV The Electric Vehicle (EV) Laboratory** serves as a Center of Excellence in the Department of Mechanical Engineering, fostering innovation and skill development in emerging sustainable mobility technologies. The lab provides foundational exposure to EV components, battery systems, motor drives, and energy management concepts through hands-on learning. The **Center of Excellence for foreign Languages** is to improve students' communication and professional skills. The Language Lab is equipped with audio-visual systems and language learning software to enhance listening, speaking, reading, and writing skills. In addition to English communication training, the lab also provides training in German and Japanese languages to improve global employability and international opportunities for students. The **Center of Excellence integrates the CodeChef Learning Platform** to systematically enhance students' programming, problem-solving, and analytical capabilities. It provides a structured and progressive learning environment focused on building strong foundations in coding, logical reasoning, and algorithm design. The curriculum is aligned with industry standards to strengthen computational thinking and core technical competencies required in today's technology-driven landscape. Beyond problem-solving, the platform emphasizes hands-on project development using modern technologies such as MERN (MongoDB, Express.js, React, and Node.js), SQL, Spring Boot, Data Analysis, and Machine Learning. Students gain practical exposure by building real-world applications, working with databases, and developing intelligent systems, thereby bridging the gap between theoretical learning and industry application. **Utilization** The Centre of Excellence is actively utilized for student projects, faculty research, workshops, certification programs, internships, and technical training activities. It provides opportunities for students to work on real-time problems, develop prototypes, and enhance practical skills. Industry experts and alumni are invited for expert talks, mentoring sessions, and technical guidance. The Centre also supports innovation activities, product development initiatives, and entrepreneurship-related efforts. Through these activities, students gain hands-on exposure to modern technologies and professional practices. The CodeChef platform is utilized to enhance students' coding proficiency and analytical thinking through structured practice in a time-bound environment, improving both accuracy and execution speed. It supports systematic preparation for technical interviews and placement processes by reinforcing core programming concepts and data structures. Additionally, students engage in technology-driven project work across domains such as full-stack development (MERN stack), database management (SQL), and Machine Learning, enabling them to build portfolios that demonstrate practical skills alongside problem-solving expertise. The Centre of Excellence provides hands-on training to students in EV powertrain assembly, drivetrain integration, shaft alignment, and mounting system design. Students conduct performance testing of BLDC motor drives, including torque–speed characteristics, with battery pack testing and BMS evaluation. The facility also supports EV diagnostics, wiring harness routing with emphasis on safety, and load considerations. It effectively integrates concepts of machine design, heat transfer, materials, and manufacturing with practical electric vehicle applications. The Language Lab is utilized for communication skill development, presentation practice, group discussions, interview preparation, and foreign language learning (German and Japanese). It helps students build confidence and prepare for placements and global career opportunities. **Relevance to POS/PSOs**: PO1, PO2, PO3, PO4, PO5, PO10, PO11, PSO1, PSO2

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)	600	30	19	15	61
2024-25(CAYm1)	900	45	24	16	50
2025-26(CAY)	900	45	24	17	50

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
Infrastructure Built-Up	56185000	40031473.43	15500000	14184657.16	19500000	17957708.42	26600000	25803609
Library	3010000	2144543.22	390000	365810	475000	428611	600000	562977
Laboratory equipment	19313000	13760818.99	18000000	16334781.67	4000000	3740419.44	2030000	1942207.57
Teaching and non-teaching staff salary	200133000	148598973.9	260500000	258021615	244000000	239915225	20830000	20627479
Outreach Programs	1505000	1072271.61	100000	93515	250000	236479	44000	41828
R&D	2634000	1876475.32	260000	220720	200000	190765	44000	41417.47
Training, Placement and Industry linkage	9030000	6433629.66	7500000	7142410	7200000	6839043.2	3230000	3035586
SDGs	65336000	45571543.42	62000000	58921028.7	70000000	63735562.11	76400000	70692693.32
Entrepreneurship	1693000	1206305.56	150000	139055	175000	168410	142000	133549
Others, specify	16584000	4691188	15000000	720000	7000000	2705775.52	4000000	4092368
Total	**375423000**	**265387223.11**	**379400000**	**356143592.53**	**352800000**	**335917998.69**	**133920000**	**126973714.36**

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	1414803.90	1008070.23	1411138.70	1280591.26	454274.78	424794.55	288209.88	275745.51
Software	183141.39	171040.29	27438.81	27114.56	567843.47	528086.97	709876.54	581015.20
SDGs	4786290.47	3338414.41	4860588.86	4619208.00	7949808.59	7238364.56	10846913.58	10036616.95
Support for faculty development	36628.28	35163.15	62717.28	56445.55	90854.96	81769.46	70987.65	68148.14
R & D	192957.77	137464.12	20383.11	17303.70	22713.74	21664.93	6246.91	5880.25
Industrial Training, Industry expert, Internship	661506.72	471305.56	587974.46	559940.62	817694.60	776701.21	458580.25	430978.25
Miscellaneous Expenses*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**7275328.53**	**5161457.76**	**6970241.22**	**6560603.69**	**9903190.14**	**9071381.68**	**12380814.81**	**11398384.30**