

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 : 11962	Date of Submission : 24-06-2026

PART A- Profile of the Institute

A1.Name of the Institute: G.PULLA REDDY ENGINEERING COLLEGE	
Year of Establishment : 1985	Location of the Institute: 15781317805578
A2. Institute Address: G. Pulla Reddy Engineering College, Pulla Reddy Nagar, Nandyal Road, Kurnool - 518007, Andhra Pradesh	
City:Kurnool	State:Andhra Pradesh
Pin Code:518007	Website:www.gprec.ac.in
Email:principal@gprec.ac.in	Phone No(with STD Code):08518-270957
A3. Name and Address of the Affiliating University (if any):	
Name of the University : Jawaharlal Nehru Technological University, Anantap	City: Anantpur
State : Andhra Pradesh	Pin Code: 515002
A4. Type of the Institution: Self-Supported Institute	
A5. Ownership Status: Self financing	

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

- No. of UG programs: **9**
- No. of PG programs: **5**

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

Sr.No.	Discipline	Level of program	Name of the program	Year of Start	Year of Closed	Name of The Department
1	Engineering & Technology	PG	Advanced Manufacturing Technology	2022	--	Mechanical Engineering
2	Engineering & Technology	PG	Automation & Robotics	2022	--	Electrical and Electronics Engineering
3	Engineering & Technology	UG	Civil Engineering	1984	--	Civil Engineering
4	Engineering & Technology	UG	Computer Science & Technology	2020	2023	Computer Science and Technology
5	Engineering & Technology	UG	Computer Science and Business System	2020	2024	Computer Science and Business System
6	Engineering & Technology	PG	Computer Science and Engineering	2009	--	Computer Science and Engineering
7	Engineering & Technology	UG	Computer Science and Engineering	1991	--	Computer Science and Engineering

8	Engineering & Technology	UG	Computer Science and Engineering (Artificial Intelligence & Machine Learning)	2021	--	Computer Science and Engineering (Artificial Intelligence and Machine Learning)
9	Engineering & Technology	UG	Computer Science and Engineering (Data Science)	2021	2025	Computer Science and Engineering (Artificial Intelligence and Machine Learning)
10	Engineering & Technology	UG	Electrical & Electronics Engineering	1994	--	Electrical and Electronics Engineering
11	Engineering & Technology	UG	Electronics & Communication Engineering	1984	--	Electronics and Communication Engineering
12	Engineering & Technology	UG	Mechanical Engineering	1984	--	Mechanical Engineering
13	Engineering & Technology	PG	Structural Engineering	2009	--	Civil Engineering
14	Engineering & Technology	PG	VLSI & Embedded Systems	2011	--	Electronics and Communication 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
Civil Engineering	No	Civil Engineering	UG
Electrical and Electronics Engineering	No	Electrical & Electronics 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	PROGRAM DURATION
1	Mechanical Engineering	UG	1984 / --	60	Yes	2020	120	2020	F.No. South-Central/1-7005046450/2020/EOA	Granted accreditation for 3 years for the period (specify period)	2023	2026	5	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 :	Dr. K. Madhava Reddy
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	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	120	114	87	91	98	120	173
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	19	35	33	35	12	24
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	10	11	9	10	11	8	13
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	130	144	131	134	144	140	210

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	120	10	108.33
2024-25 (CAYm1)	120	114	11	104.17
2023-24 (CAYm2)	120	87	9	80.00

Average [(ER1 + ER2 + ER3) / 3] = 97.50≡ 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).	144.00	140.00	210.00
B=No. of students who graduated from the program in the stipulated course duration	107.00	118.00	163.00

Success Rate (SR)= (B/A) * 100	74.31	84.29	77.62
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Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 78.74

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)	7.04	6.69	7.21
Y=Total no. of successful students	46.00	39.00	70.00
Z=Total no. of students appeared in the examination	125.00	96.00	101.00
API [X*(Y/Z)]	2.59	2.72	5.00

Average API[(AP1+AP2+AP3)/3] : 3.44

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)	7.10	7.45	7.42
Y=Total no. of successful students	70.00	96.00	108.00
Z=Total no. of students appeared in the examination	74.00	103.00	108.00
API [X * (Y/Z)]	6.72	6.94	7.42

Average API [(AP1 + AP2 + AP3)/3] : 7.03

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)	8.00	7.70	7.92
Y=Total no. of successful students	95.00	108.00	118.00
Z=Total no. of students appeared in the examination	96.00	108.00	120.00
API [X*(Y/Z)]:	7.92	7.70	7.79

Average API [(AP1 + AP2 + AP3)/3] : 7.80

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	144.00	140.00	210.00
X=No. of students placed	66.00	63.00	98.00
Y=No. of students admitted to higher studies	3.00	8.00	5.00
Z= No. of students taking up entrepreneurship	0.00	0.00	0.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	47.92	50.71	49.05

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. K. Madhava Reddy	XXXXXXX52A	Ph.D	JNTU, Andhra Pradesh	Machine Design	02/08/1994	31.10	Assistant Professor	Professor	02/07/2007	Regular	Yes		Yes
2	Dr. Y.Venkata Mohan Reddy	XXXXXXX01G	Ph.D	JNTU, Andhra Pradesh	Machine Design	14/09/1991	34.9	Assistant Professor	Professor	16/06/2003	Regular	Yes		No
3	Dr. V. Satish Kumar	XXXXXXX71P	Ph.D	Sri Krishna Devaraya University, Anantapur	Industrial Engineering	10/07/1996	29.11	Assistant Professor	Professor	02/07/2007	Regular	Yes		No
4	Dr. B. Veerabhadra Reddy	XXXXXXX36M	Ph.D	JNTUH, Hyderabad	Heat Power Refrigeration and Air Conditioning	23/10/2000	25.8	Assistant Professor	Professor	01/08/2011	Regular	Yes		No
5	Dr. G. Sankaraiah	XXXXXXX56P	Ph.D	JNTUH, Hyderabad	Industrial Engineering	01/07/1998	27.11	Assistant Professor	Professor	01/01/2014	Regular	Yes		No
6	Dr. E. Venugopal Goud	XXXXXXX92M	Ph.D	JNTUA, Ananthapuramu	Production Engineering	13/07/1998	27.11	Assistant Professor	Professor	01/02/2017	Regular	Yes		No
7	Dr. P. Hari Sankar	XXXXXXX42D	Ph.D	JNTUA, Ananthapuramu	Machine Design	11/12/1999	26.6	Assistant Professor	Associate Professor	04/07/2005	Regular	Yes		No
8	Dr. G. Suresh Kumar	XXXXXXX99M	Ph.D	S.V. University, Tirupathi	Industrial Engineering	02/07/2001	24.11	Assistant Professor	Associate Professor	04/07/2005	Regular	Yes		No
9	Dr. H. Raghavendra Rao	XXXXXXX00Q	Ph.D	JNTUA, Ananthapuramu	Production Management	02/07/2001	24.11	Assistant Professor	Associate Professor	02/11/2009	Regular	Yes		No
10	Dr. M. Nagaphani Sastry	XXXXXXX38A	Ph.D	JNTUA, Ananthapuramu	CAD/CAM	01/06/2005	21	Assistant Professor	Associate Professor	01/03/2012	Regular	Yes		No
11	Dr. R. Meenakshi Reddy	XXXXXXX10M	Ph.D	JNTUA, Ananthapuramu	Energy Systems Engineering	02/07/2014	11.11	Associate Professor	Associate Professor	02/07/2014	Regular	Yes		No
12	Dr. K. Devaki Devi	XXXXXXX76M	Ph.D	JNTUA, Ananthapuramu	Advanced Manufacturing Systems	22/06/2011	15	Assistant Professor	Associate Professor	01/02/2017	Regular	Yes		No

13	Dr. B. Madhusudhan Reddy	XXXXXXX66R	Ph.D	JNTUA, Ananthapuramu	Machine Design	21/06/2010	16	Assistant Professor	Associate Professor	01/03/2022	Regular	Yes		No
14	Dr. K. Pol Reddy	XXXXXXX81J	Ph.D	IIT Madras	Thermal Engineering	07/08/2024	1.10	Associate Professor	Associate Professor	07/08/2024	Regular	Yes		No
15	V. Mahanandi Reddy	XXXXXXX97L	M.Tech	JNTU, Andhra Pradesh	Heat Power Refrigeration and Air Conditioning	02/07/2001	24.11	Assistant Professor	Assistant Professor		Regular	Yes		No
16	Dr. M. Lava Kumar	XXXXXXX05C	Ph.D	JNTUA, Ananthapuramu	Energy Systems	16/08/2005	20.10	Assistant Professor	Assistant Professor		Regular	Yes		No
17	P. Lakshmi Reddy	XXXXXXX18A	M.Tech	JNTU, Andhra Pradesh	Energy Systems	16/08/2005	20.10	Assistant Professor	Assistant Professor		Regular	Yes		No
18	M. Murali Mohan	XXXXXXX91N	M.Tech	JNTUH, Hyderabad	Advanced Manufacturing Systems	07/01/2013	13.5	Assistant Professor	Assistant Professor		Regular	Yes		No
19	E. Siva Reddy	XXXXXXX84P	M.Tech	JNTU, Andhra Pradesh	Energy Systems	17/06/2013	13	Assistant Professor	Assistant Professor		Regular	Yes		No
20	G. Shaikshavali	XXXXXXX94A	M.Tech	VTU, Bangalore	CIM	01/10/2013	12.8	Assistant Professor	Assistant Professor		Regular	Yes		No
21	Dr. D. Mohanakrishnu	XXXXXXX06F	Ph.D	JNTUK, Kakinada	CAD/CAM	17/06/2017	9	Assistant Professor	Assistant Professor		Regular	Yes		No
22	Dr. K. Jayasimha Reddy	XXXXXXX88H	Ph.D	NIT Warangal	Thermal Sciences and Energy Systems	17/06/2015	11	Assistant Professor	Assistant Professor		Regular	Yes		No
23	Dr. G. Praveen Kumar Yadav	XXXXXXX55L	Ph.D	IIITDM Kurnool	Refrigeration and Air Conditioning	01/07/2014	11.11	Assistant Professor	Assistant Professor		Regular	Yes		No
24	Dr.G. Venkatesh	XXXXXXX13E	Ph.D	JNTUA, Ananthapuramu	Thermal Sciences and Energy Systems	23/06/2016	10	Assistant Professor	Assistant Professor		Regular	Yes		No
25	G.S. Guru Dattatreya	XXXXXXX00E	M.Tech	JNTUA, Ananthapuramu	Advanced IC Engines	24/06/2016	10	Assistant Professor	Assistant Professor		Regular	Yes		No
26	Dr. V. Sai Kumar Reddy R	XXXXXXX40H	Ph.D	IIT Kharagpur	Chemical Engineering	14/10/2019	6.8	Assistant Professor	Assistant Professor		Regular	Yes		No
27	Dr. C. Ravikanth Reddy	XXXXXXX34G	Ph.D	NIT Warangal	Material Science and Engineering	01/08/2024	1.10	Assistant Professor	Assistant Professor		Regular	Yes		No
28	Dr. K. Krishna Reddy	XXXXXXX43P	Ph.D	JNTUA, Ananthapuramu	Thermal Sciences and Energy Systems	01/08/2024	1.10	Assistant Professor	Assistant Professor		Regular	Yes		No
29	Dr. Ganta Venkatesh	XXXXXXX39F	Ph.D	NIT Surathkal	Manufacturing Engineering	01/08/2024	1.10	Assistant Professor	Assistant Professor		Regular	Yes		No

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

C2. Student-Faculty Ratio (SFR)

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

UG1=1st UG program

UGn=nth UG program

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

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

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

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

PG1=1st PG program.

PGm=mth PG program

A= No. of Students in PG 1st year

B= No. of Students in PG 2nd year

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

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

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

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

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

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

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

Description	CAY(2025-26)	CAYm1 (2024-25)	CAYm2 (2023-24)
UG1.B	132	132	132
UG1.C	132	132	132
UG1.D	132	132	132
UG1: Mechanical Engineering	396	396	396
PG1.A	12	12	12
PG1.B	12	12	12
PG1: Advanced Manufacturing Technology	24	24	24
DS=Total no. of students in all UG and PG programs in the Department	420	420	420
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= 420	S2= 420	S3= 420
DF=Total no. of faculty members in the Department	29	29	25
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= 29	F2= 29	F3= 25
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= 14.48	SFR2= 14.48	SFR3= 16.80
Average SFR for 3 years	SFR= 15.25		

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)	19	10	20.00	28.75
2024-25(CAYm1)	19	10	20.00	28.75
2023-24(CAYm2)	15	10	20.00	23.75

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	6.00	5.00	8.00	14.00	15.00
2024-25	2.00	6.00	5.00	8.00	14.00	15.00
2023-24	2.00	6.00	5.00	7.00	14.00	12.00
Average	RF1=2.00	AF1=6.00	RF2=5.00	AF2=7.67	RF2=14.00	AF2=14.00

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	Dr. R.S. Chalapathi	Professor of Practice	Sigma Consultants	Industrial Safety	34.00
2	Dr. R.S. Chalapathi	Professor of Practice	Sigma Consultants	Design Thinking	18.00

(CAYm2)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Dr. R. S. Chalapathi	Professor of Practice	Sigma Consultants	Industrial Safety	38.00
2	Dr. R. S. Chalapathi	Professor of Practice	Sigma Consultants	Entrepreneurship Development	16.00

(CAYm3)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	-	-	-	-	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	46	30	22
2	No. of peer reviewed conference papers published	27	19	2
3	No. of books/book chapters published	4	0	2

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. R. Meenakshi Reddy	-	Call for proposals on Advanced Materials	Effect of chemical treatments Hydrothermal Ageing on Tapsi fiber based polymers	Applied	-	0.00
Dr. K. Devaki Devi	Dr. M Naga Phani Sastry	Call for Proposals on Advanced Materials	Advanced Microstructure Study and Property Optimization of Selective Laser Melted Aluminum Alloys for HighPerformance Aerospace, Defense, and Biomedical Applications	Applied	-	0.00
Dr. M Naga Phani Sastry	Dr. K Devaki Devi	Call for Proposals on Advanced Materials	Development and characterization of Green and Environmentally Efficient Nano Filler for recycled PLA Filaments via 3D printing.	Applied	-	0.00
						Amount received (Rs.):0.00

(CAYm2)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. G. Sankaraiah	-	State University Research Excellence (SERB SURE)	Manufacturing and Mechanical properties of natural fibre reinforced polymer composites using pultursion process	Applied	-	0.00
						Amount received (Rs.):0.00

(CAYm3)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. K Devaki Devi	Dr. M Naga Phani Sastry	Science and Technology for Women	Swashakthi Rural Women Technolgy Park	Applied	-	0.00
						Amount received (Rs.):0.00

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

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. H. Raghavendra Rao	-	Dola Sandeep, IIITDM, Kurnool	Testing of composites	Govt	1 day	0.02
Dr. H. Raghavendra Rao	-	M. Suresh Babu, Ph.D Scholar, JNTUA, Anantapur	Testing of composites	Govt	2 days	0.05
Dr. H. Raghavendra Rao	-	S. Madhukar, Professor, Osmania University, Hyderabad	Testing of composites	Govt	3 days	0.09
Dr. H. Raghavendra Rao	-	P. Purushotham, M.Tech, JNTU College of Engineering, Anantapur	Testing of composites	Govt	1 day	0.03
Dr. H. Raghavendra Rao	-	Dr.Shaik Afrin, Final Year Post Graduate, Sree Sai Dental College & Research Institute, Srikakulam	Testing of composites	Private	3 days	0.07
Dr. H. Raghavendra Rao	-	Dr. V. Susrutha, Illrd Year Post Graduate, GPR Dental College & Hospital, Kurnool	Testing of composites	Private	3 days	0.07
Dr. H. Raghavendra Rao	-	Dr. M. Lakshmi Reddy, Illrd MDS,, GPR Dental College & Hospital, Kurnool	Testing of composites	Private	2 days	0.04
Dr. H. Raghavendra Rao	-	P. Madhu Raghava, Research Scholar, YSR Engg. College of Yogivemana University, Proddutur	Testing of composites	Govt	3 days	0.09
Dr. H. Raghavendra Rao	-	Dr. M. Lakshmi Reddy, Illrd MDS,, GPR Dental College & Hospital, Kurnool	Testing of composites	Private	4 days	0.11
Dr. H. Raghavendra Rao	-	Dr. M. Vineetha, GPR Dental College & Hospital, Kurnool	Testing of composites	Private	3 days	0.07
Dr. H. Raghavendra Rao	-	G. Bharath Kumar, JNTUCEA, Anantapuramu	Testing of composites	Govt	2 days	0.02
Dr. H. Raghavendra Rao	-	N. Sai Leela, SRIT, Anantapuramu	Testing of composites	Private	3 days	0.05
Dr. H. Raghavendra Rao	-	N.G. Vijay Kumar, RGM CET, Nandyal	Testing of composites	Private	4 days	0.08
Dr. H. Raghavendra Rao	-	N. Naga Sudhan, RGM CET, Nandyal	Testing of composites	Private	3 days	0.06
Dr. H. Raghavendra Rao	-	Dr.Akhil Sai Yashwanth, PG II Year, GPR Dental College & Hospital, Kurnool	Testing of composites	Private	3 days	0.04
Dr. H. Raghavendra Rao	-	Dr. R. Sai Harini, 2nd MDS, GPR Dental College & Hospital, Kurnool	Testing of composites	Private	3 days	0.04
Dr. H. Raghavendra Rao	-	E. Hemanth, IV. B.Tech, RGM CET, Nandyal	Testing of composites	Private	1 day	0.02
Dr. H. Raghavendra Rao	-	T. Ganesh, IV. B.Tech, SVR College of Engineering, Nandyal	Testing of composites	Private	2 days	0.04
Dr. H. Raghavendra Rao	-	M. AbdulkhadarZeelani, IV. M.Tech, SVIT, Hampapuram, Anantapuram	Testing of composites	Private	5 days	0.12
Dr. H. Raghavendra Rao	-	M. AbdulkhadarZeelani, IV. M.Tech, SVIT, Hampapuram, Anantapuram	Testing of composites	Private	2 days	0.02

Dr. H. Raghavendra Rao	-	V. Jaswanth Raj, PG III Year, GPRDCH, Kurnool	Testing of composites	Private	2 days	0.03
Dr. H. Raghavendra Rao	-	S. Waris Basha, M.Tech, JNTUA, Anantapur	Testing of composites	Govt	3 days	0.04
Dr. H. Raghavendra Rao	-	Y. Sai Ganesh, S.V. University, Tirupati	Testing of composites	Govt	3 days	0.04
Dr. H. Raghavendra Rao	-	P. MadhuRaghava, Research Scholar, YSR Engg. College of Yogivemana University, Proddutur	Testing of composites	Govt	3 days	0.06
Dr. H. Raghavendra Rao	-	Dr. V. Susrutha, IIIrd Year Post Graduate, GPR Dental College & Hospital, Kurnool	Testing of composites	Private	2 days	0.04
Dr. H. Raghavendra Rao	-	V. Sandeep, IV B.Tech, Annamacharya Institute of Technology, Rajampet	Testing of composites	Private	1 day	0.02
Dr. H. Raghavendra Rao	-	K. Anil Kumar, S, Vamsi Krishna, PVKK Institute of Technology, Anantapuramu	Testing of composites	Private	1 day	0.02
						Amount received (Rs.):1.38

(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. H. Raghavendra Rao	-	Y. Praharshini, 3rd MDS, GPR Dental College &Hospital,Kurnool	Testing of composites	Private	5 days	0.12
Dr. H. Raghavendra Rao	-	M. Vineetha, GPR Dental College & Hospital, Kurnool	Testing of composites	Private	4 days	0.05
Dr. H. Raghavendra Rao	-	V. Jaswanth Raj, GPR Dental College & Hospital, Kurnool	Testing of composites	Private	3 days	0.04
Dr. H. Raghavendra Rao	-	Sirigam Sharmista Reddy, GPR Dental College & Hospital, Kurnool	Testing of composites	Private	3 days	0.05
Dr. H. Raghavendra Rao	-	M. Venugopal Naidu, S.V. University, Tirupathi	Testing of composites	Govt	1 day	0.02
Dr. H. Raghavendra Rao	-	D. Manisha, GPRDCH, Kurnool	Testing of composites	Private	4 days	0.09
Dr. H. Raghavendra Rao	-	Ms. Chundi Sai Vinitha, GPRDCH, Kurnool	Testing of composites	Private	5 days	0.12
Dr. H. Raghavendra Rao	-	Ms. G. Priyanka, GPR Dental College & Hospital, Kurnool	Testing of composites	Private	5 days	0.18
Dr. H. Raghavendra Rao	-	T. Ramesh, GPCET, Kurnool	Testing of composites	Private	3 days	0.04
Dr. H. Raghavendra Rao	-	Dr. D. Sai Tejas, GPR Dental College & Hospital, Kurnool	Testing of composites	Private	5 days	0.12
Dr. H. Raghavendra Rao	-	M. Venugopal Naidu, S.V. University, Tirupathi	Testing of composites	Private	1 day	0.02
Dr. H. Raghavendra Rao	-	S.P. Jafar Hussain, RGM College, Nandyal	Testing of composites	Private	2 days	0.02
Dr. H. Raghavendra Rao	-	B. Ajay, AITS, Rajampet	Testing of composites	Private	2 days	0.03
Dr. H. Raghavendra Rao	-	G. Vishwas Reddy, SVR Engineering College, Ayyalur Metta, Nandyal	Testing of composites	Private	3 days	0.04
Dr. H. Raghavendra Rao	-	L. Pavan Kumar, AITS, Tirupati	Testing of composites	Private	4 days	0.06
Dr. H. Raghavendra Rao	-	S. Dinesh, SVREC, Nandyal	Testing of composites	Private	3 days	0.06
Dr. H. Raghavendra Rao	-	T. Narasimha Reddy, RGM CET, Nandyal	Testing of composites	Private	3 days	0.04
Dr. H. Raghavendra Rao	-	S. Jeevan Kumar Reddy, SVCET, Chittoor	Testing of composites	Private	3 days	0.05
Dr. H. Raghavendra Rao	-	R. Anil Kumar, RVCE, Kurnool	Testing of composites	Private	1 day	0.01
Dr. H. Raghavendra Rao	-	K.E. Ajith& R. Anil, RUCE, Kurnool	Testing of composites	Govt	1 day	0.01
Dr. H. Raghavendra Rao	-	U. Rishindra& K. LahariTeja, RUCE, Kurnool	Testing of composites	Govt	1 day	0.01
Dr. H. Raghavendra Rao	-	V. Yeshwanth Reddy, SVU College of Engineering, Tirupathi	Testing of composites	Govt	2 days	0.02
						Amount received (Rs.):1.20

(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. H. Raghavendra Rao	-	Dr. P. Radhika, GPR Dental College & Hospital, Kurnool	Testing of composites	Private	2 days	0.02
Dr. H. Raghavendra Rao	-	M. Harikrishna, Vardhaman Engineering College, Hyderabad	Testing of composites	Private	2 days	0.04
Dr. H. Raghavendra Rao	-	V. Theja Priya, MDS, GPR Dental College & Hospital, Kurnool	Testing of composites	Private	3 days	0.07
Dr. H. Raghavendra Rao	-	C. Dharsha, IV B.Tech, RGM College, Nandyal	Testing of composites	Private	3 days	0.04
Dr. H. Raghavendra Rao	-	M. Venugopal Naidu, SV University, Tirupati	Testing of composites	Private	1 day	0.00
Dr. H. Raghavendra Rao	-	M. Venugopal Naidu, SV University, Tirupati	Testing of composites	Private	1 day	0.02
Dr. H. Raghavendra Rao	-	H. Mahendra Kumar, IV B.Tech, RGM College, Nandyal	Testing of composites	Private	2 days	0.02
Dr. H. Raghavendra Rao	-	Dr. Snehalatha Reddy, MDS,GPR Dental College & Hospital, Kurnool	Testing of composites	Private	2 days	0.04
Dr. H. Raghavendra Rao	-	K. Manikanta Varma, IV B.Tech, RGM College, Nandyal	Testing of composites	Private	2 days	0.01
Dr. H. Raghavendra Rao	-	Dr. Sowjanya, MDS, GPR Dental College & Hospital, Kurnool	Testing of composites	Private	5 days	0.11
Dr. H. Raghavendra Rao	-	Dr. K. Mounika, MDS, GPR Dental College & Hospital, Kurnool	Testing of composites	Private	5 days	0.11
Dr. H. Raghavendra Rao	-	A. Ravikanth, M.Tech, SVIT, Hampapuram, Anantapur	Testing of composites	Private	2 days	0.03
Dr. H. Raghavendra Rao	-	C. Prem Kumar, M.Tech, SVIT, Hampapuram, Anantapur	Testing of composites	Private	2 days	0.03
Dr. H. Raghavendra Rao	-	D. Ravi, M.Tech, SVIT, Hampapuram, Anantapur	Testing of composites	Private	2 days	0.03
Dr. H. Raghavendra Rao	-	K. Gopal Krishna Naik, M.Tech, SVIT, Hampapuram, Anantapur	Testing of composites	Private	2 days	0.03
Dr. H. Raghavendra Rao	-	T. Mounika Reddy, M.Tech, SVIT, Hampapuram, Anantapur	Testing of composites	Private	2 days	0.03
Dr. H. Raghavendra Rao	-	S. Rajendra Prasad, IV B.Tech, RGM College,	Testing of composites	Private	4 days	0.08
Dr. H. Raghavendra Rao	-	J. LokeshNaik, IV B.Tech, RGM College, Nandyal	Testing of composites	Private	3 days	0.05
Dr. H. Raghavendra Rao	-	M. Anand Babu, IV B.Tech, AITS, Rajampeta	Testing of composites	Private	2 days	0.02
Dr. H. Raghavendra Rao	-	P. Naveen, Asst. Professor, SASI Engineering College, Tadepalligudem	Testing of composites	Private	4 days	0.06

Dr. H. Raghavendra Rao	-	E. Vidisha, Ph.D Scholar, Osmania University, Hyderabad	Testing of composites	Private	5 days	0.12
Dr. H. Raghavendra Rao	-	K. Venkata Krishna Reddy, IV B.Tech, Mech. Engg. RGM College, Nandyal	Testing of composites	Private	2 days	0.03
Dr. H. Raghavendra Rao	-	S.Subhan, IV B.Tech, Mechanical Engineering, RGM College, Nandyal	Testing of composites	Private	1 day	0.01
Dr. H. Raghavendra Rao	-	B. Shashank, IV B.Tech, Mechanical Engineering, SVCET, Chittoor	Testing of composites	Private	4 days	0.10
Dr. H. Raghavendra Rao	-	G. Jagan, IV B.Tech, Mechanical Engineering, Siddartha Institute of Engineering & Technology, Puttur	Testing of composites	Private	3 days	0.06
Dr. H. Raghavendra Rao	-	K.V. Manu, IV B.Tech, Mechanical Engineering, SRIT, Anantapuramu	Testing of composites	Private	3 days	0.04
Dr. H. Raghavendra Rao	-	P. Chiranjeevi, Research Scholar, GITAM Deemed to be University, Hyderabad	Testing of composites	Govt	5 days	0.14
Dr. H. Raghavendra Rao	-	S. Ramanadha Reddy, Ph.D. Scholar, JNTU, Ananthapur	Testing of composites	Govt	5 days	0.14
						Amount received (Rs.):1.48

Total amount (Lacs) received for the past 3 years: 4.06

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

(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. D. Mohana Krishnudu	Bio degradable composites using twin screw injection moulding	Two years	2.30	1.03	Successfully developed biodegradable polymer composites using twin-screw extrusion and injection moulding techniques.
Dr. V Saikumar Reddy R	Preparation of polymer composite and polymer films by using agricultural waste	Two years	1.40	0.49	Successfully developed eco-friendly polymer composites and polymer films using agricultural waste as reinforcement/filler.
			Amount received (Rs.): 3.70		

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

Total amount (Lacs) received for the past 3 years : 3.70

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	Machine Tools and Welding Lab	24	1. Lathe Machines 2. Planer Machine 3. Drilling Machine 4. Turret Lathe 5. Grinding Machine 6. ...	6 Slots each sl	N. Surendra Babu	Technician	ITI
2	CAM Lab	24	1. 24 Computer Systems 2. CNC Lathe 3. CNC Milling Machine 4. EDGE CAM 5. CUT VIEWER ...	6 Slots each sl	V. Rakesh Kumar	Technician	B.Tech.
3	Metrology Lab	24	1. Surface Roughness Tester 2. Universal bevel Protractor 3. Vernier calipers 4. Surface Plates 5. ...	6 Slots each sl	P. V. R. Prasad	Foremen	DAE
4	Heat Transfer Lab	24	1. Heat Exchanger 2. Emissivity test Rig 3. Convection test rigs 4. Composite wall test Rig 5. ...	6 Slots each sl	U. Narahari	Technician	ITI
5	Metallurgy Lab	24	1. Belt surface grinder 2. Double disk polishing Machine 3. Metallurgical Microscope 4. Heat Treatment Furnace 5. ...	6 Slots each sl	N. Surendra Babu	Technician	ITI
6	Geometrical Modeling Lab	24	1. 36 Computer Systems 2. CREO Software 3. CATIA Software	6 Slots each sl	A. Sridhar	Lab Engineer	MCA
7	Dynamics & Instrumentation Lab	24	1. Gyroscope Setup 2. Static and Dynamic Balancing Machine 3. VIB Model Lab 4. Universal ...	6 Slots each sl	U. Narahari	Technician	ITI
8	CAD Lab & CAE Lab	24	1. 32 Computer Systems 2. AutoCAD Software 3. ANSYS Software	6 Slots each sl	A. Sridhar	Lab Engineer	MCA
9	Heat Engines Lab	24	1. 5HP Four Stroke Diesel Engine Test Rig-4 No.s 2. 10HP Four Stroke Diesel Engine Test Rig 3. Multi ...	6 Slots each sl	U. Narahari	Technician	ITI
10	Database and Computations Lab	24	1. SQL*Plus 2. MATLAB	6 Slots each sl	A. Sridhar	Lab Engineer	MCA

11	Work Shop a) Fitting b) Carpentry c) House Wiring d) Soldering e) Foundry &	66	1. Furnace 2. Foundry Pit 3. Anvils 4. Fitting Bench vise 5. Power hacksaw 6. Carpentry bench vises	10 Slots each :	R. Nagaraj Kumar, S.Ravi	Technicians	ITI
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D2. Safety Measures in Laboratories

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

Sr. No	Laboratory Name	Safety Measures
1	Machine Tools and Welding Lab	Basic: Fire Extinguisher, First AID Box, Specific Safety rules in the form of Do's and Don'ts are displayed in the laboratory, Students must follow dress code . Lab-Specific: Operate lathe, milling, drilling and shaping machines only under the supervision of Technician.
2	CAM Lab	Basic: Fire Extinguisher, First AID Box, Specific Safety rules in the form of Do's and Don'ts are Displayed in the laboratory. Lab-Specific: Follow emergency-stop procedures, Ensure machine doors/guards are closed before machining.
3	Metrology Lab	Basic: Fire Extinguisher, First AID Box, Specific Safety rules in the form of Do's and Don'ts are Displayed in the laboratory. Lab-Specific: Precision Measuring devices should be handled gently to avoid damage, Store instruments in designated locations after experiments.
4	Heat Transfer Lab	Basic: Fire Extinguisher, First AID Box, Specific Safety rules in the form of Do's and Don'ts are Displayed in the laboratory, Students must follow dress code. Lab-Specific: Avoid contact of hot surfaces with bare hand.
5	Metallurgy Lab	Basic: Fire Extinguisher, First AID Box ,Specific Safety rules in the form of Do's and Don'ts are Displayed in the laboratory, Students must follow dress code. Lab-Specific: Wear safety goggles and gloves when required, Handle hot specimens with tongs and heat-resistant gloves.
6	CAD Lab	Basic: Fire Extinguisher, First AID Box, Specific Safety rules in the form of Do's and Don'ts are Displayed in the laboratory. Lab-Specific: Maintain proper seating and workstation ergonomics, Do not overload electrical sockets, Shut down systems properly.
7	Geometrical Modelling Lab	Basic: Fire Extinguisher, First AID Box, Specific Safety rules in the form of Do's and Don'ts are Displayed in the laboratory. Lab-Specific: Maintain proper seating and workstation ergonomics, Do not overload electrical sockets, Shut down systems properly.
8	CAE Lab	Basic: Fire Extinguisher, First AID Box, Specific Safety rules in the form of Do's and Don'ts are Displayed in the laboratory. Lab-Specific: Maintain proper seating and workstation ergonomics, Do not overload electrical sockets, Shut down systems properly.
9	Dynamics & Instrumentation Lab	Basic: Fire Extinguisher, First AID Box, Specific Safety rules in the form of Do's and Don'ts are Displayed in the laboratory, Students must follow dress code. Lab-Specific: Students should not touch moving parts while running, Stop the apparatus before changing experimental settings.

10	Heat Engines Lab	Basic: Fire Extinguisher, First AID Box, Specific Safety rules in the form of Do's and Don'ts are Displayed in the laboratory, Students must follow dress code. Lab-Specific: Operate engines only under the supervision of technician; Do not touch the engine, exhaust pipe etc. during operation.
11	Work Shop, Fitting, Carpentry, House Wiring, Soldering, Foundry & smithy	Basic: Fire Extinguisher, First AID Box, Specific Safety rules in the form of Do's and Don'ts are Displayed in the laboratory, Students must follow dress code. Electrical safety precautions are displayed. Lab-Specific: Perform all the experiments under the supervision of technician.
12	Composite Testing Lab	Basic: Fire Extinguisher, First AID Box, Specific Safety rules in the form of Do's and Don'ts are Displayed in the laboratory. Lab-Specific: Ensure specimens are securely mounted before loading, Keep hands away from moving mechanisms.
13	PLM Center	Basic: Fire Extinguisher, First AID Box, Specific Safety rules in the form of Do's and Don'ts are Displayed in the laboratory. Lab-Specific: Maintain proper seating and workstation ergonomics, Do not overload electrical sockets, Shut down systems properly.

D3. Project Laboratory/Research Laboratory

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

S. No.	Name of the Laboratory
1	Project Laboratory i. Composites Fabrication Lab
2	Research Laboratory i. Universal Testing Machine ii. Wear Testing Equipment iii. Izod Impact Tester iv. Stir Casting Machine v. Solid Density Tester vi. Cooling Centrifuge vii. Turbine Blade Cooling Test Rig viii. Double Pipe Heat Exchanger With Interrupted Fins
3	Centre's of Excellence i. PLM-Windchill Centre of Excellence ii. SIEMENS Centre of Excellence a. CNC Milling Center b. CNC Turning Center c. Industrial Welding Machines

1. Project Laboratory:

Project Laboratory is a dedicated workspace equipped with tools and materials that support fabrication of engineering projects.

Composites fabrication Lab: Composite fabrication is the process of combining two or more distinct materials (matrix and reinforcement) to create a new material with superior mechanical, thermal, or chemical properties, such as high strength-to-weight ratios, corrosion resistance, and tailored stiffness. The hand layup method is the oldest, simplest, and most common open-molding composite fabrication technique. It involves manually placing reinforcement fibers (woven or chopped) into a mold, saturating them with resin using brushes or rollers, and curing at room temperature to create lightweight, versatile, and high-strength composite parts.

2. Research Laboratory:

The Research Lab in ME Department facilitates faculty and students to undertake innovative research projects in emerging areas of engineering and technology. It serves as a dedicated space for developing prototypes, publishing research papers, and filing patents, thus fostering a culture of research and innovation within the institution.

Various Fabrication and Testing facilities:**i. Universal Testing Machine**

Universal testing machine is used for evaluating different mechanical properties of materials like polymer composites, ceramics, and metal matrix composites.

1. Tensile strength and modulus of- different materials as mentioned above- can be determined
2. Flexural strength of materials can be evaluated using the UTM
3. Used to know the three point bending stress on materials

4. UTM is also used in evaluating compressive strength of materials

Knowing these strength values enable us to recommend the suitability of the materials to particular industrial / societal applications



Figure 1: Universal Testing Machine

ii. Wear Testing Equipment: Wear testing equipment evaluates material durability against abrasion, friction, and erosion, simulating real-world service conditions to predict degradation. It measures wear resistance, friction coefficients, and weight loss of materials—such as metals, polymers, ceramics and coatings—under controlled loads and speeds to optimize design and improve longevity.



Figure 2: Wear testing equipment

iii. Stir Casting Machine: A stir casting machine is a manufacturing device used to produce metal matrix composites (MMCs) by stirring reinforcing particles (like SiC or graphite) into molten metal (usually aluminum or magnesium). It ensures a homogeneous mixture, creating lighter, stronger, and wear-resistant components for automotive and aerospace industries.



Figure 3: Stir casting machine

iv. Impact Testing Machine: Impact testing machine is used to measure a materials toughness, energy absorption, and ductility under sudden shock loads. Primarily employing Charpy (horizontal) or Izod (vertical) methods, these machines determine if materials will fail safely or break brittlely in industries like automotive, aerospace, and construction.



Figure 4: Izod impact tester

v. Solid Density Analyzer: A solid density analyzer accurately determines the mass-to-volume ratio of solid, powder, and semi-solid materials, crucial for quality control in manufacturing, research, and material characterization. Techniques include [gas pycnometry] for true/skeletal density, [buoyancy methods] (density kits) for density determination, and tapping [density analyzers] for bulk density.



Figure 5: Solid density analyzer

vi. Cooling Centrifuge: is a laboratory device designed to spin samples at high speeds while maintaining a constant low temperature, crucial for processing temperature-sensitive materials like composite films, nanomaterials, and biological samples. For composite film fabrication (such as gelatin-based or cellulose nanocrystals), it ensures precise density-based separation and purification, often used to wash and collect nanoparticles at controlled temperatures (e.g., 4°C to 20°C) to prevent degradation or thermal denaturation.



Figure 6: Cooling Centrifuge

vii. Turbine Blade Cooling Test Rig: is an advanced experimental facility used in the Heat transfer laboratory to study the cooling mechanisms of turbine blades operating under high-temperature conditions. It enables students and researchers to understand the principles of heat transfer, fluid flow, and thermal management in gas turbines.



Figure 7: Turbine Blade Cooling Test Rig

viii. **Double Pipe Heat Exchanger with Interrupted Fins:** The performance parameters can be estimated include Heat transfer rate, Nusselt number, friction factor, heat-transfer coefficient, pressure drop, pumping power, and thermal performance factor (TPF).



Figure 8: Double Pipe Heat Exchanger with Interrupted Fins

3. Centres of Excellence (CoE): The Center of Excellence at GPREC aims to bridge the gap between academic learning and industry demands by providing a platform for skill development, research, and innovation. It prepares students for careers in high-demand sectors while contributing to the advancement of technology through collaborative efforts.

i. **The PLM-Windchill Centre of Excellence:** in an engineering college serves as a hub for learning and innovation in Product Lifecycle Management. It equips students with industry-relevant skills through hands-on training in PLM tools and processes. It supports faculty and students in developing expertise in product design, development, and lifecycle strategies.



Figure 9: PLM-Windchill Centre of Excellence

ii. **SIEMENS Centre of Excellence (SCoE):** is a specialized training and research facility aimed at bridging the gap between industry and academia, offering hands-on training in industry 4.0 technologies like robotics, CAD/CAM/CAE, and industrial automation. It enables students to gain practical skills on advanced machinery, fostering employability, innovation, and "Make in India" initiatives through industry-certified courses and consulting, often established within leading institutions like NITs and engineering colleges.

Siemens utilizes advanced CAM (Computer-Aided Manufacturing) technology, primarily through NX CAM and Solid Edge CAM Pro, to drive CNC machines, streamline production, and create complex, high-precision parts. These solutions provide integrated CAD/CAM capabilities, allowing direct programming, simulation, and post-processing of CNC tool paths.

a. CNC Milling Center

A CNC milling centre is an advanced, computer-controlled machine tool that automatically performs complex milling, drilling, boring, and tapping operations on metal, wood or composite work pieces using an integrated automatic tool changer (ATC).

b. CNC Turning Center

A CNC turning center is an advanced computer-controlled machine tool where a part spins at high speed while a stationary cutting tool shapes it. It builds on basic lathe technology by adding automatic tool turrets, live tooling options, and multi-axis capabilities to cut, drill, and mill complex cylindrical parts.



Figure 10: CNC Milling Center & CNC Turning Center

C. Industrial Welding Machines: Welding machines use electrical energy to generate high heat, melting and joining metals (and thermoplastics) for industrial fabrication, construction, and repair, such as automotive, shipbuilding, and infrastructure projects. Common types include MIG (fast, versatile), TIG (high precision), and Stick (durable/outdoor) welding, which are used to create permanent, strong, and watertight joints.



Figure 11: Industrial Welding Machines

Images of Laboratory

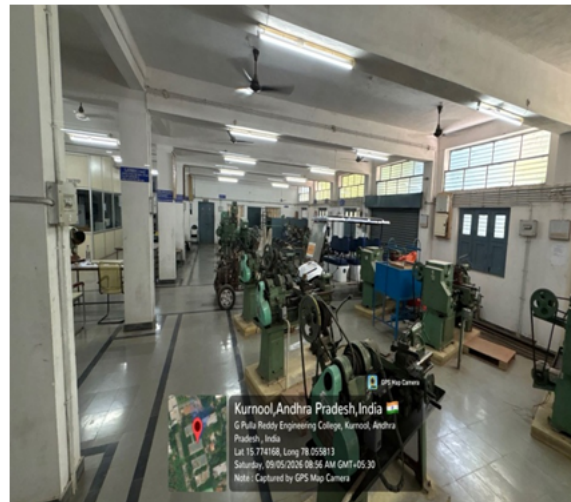


Figure 12: Machine Tools and Welding Lab

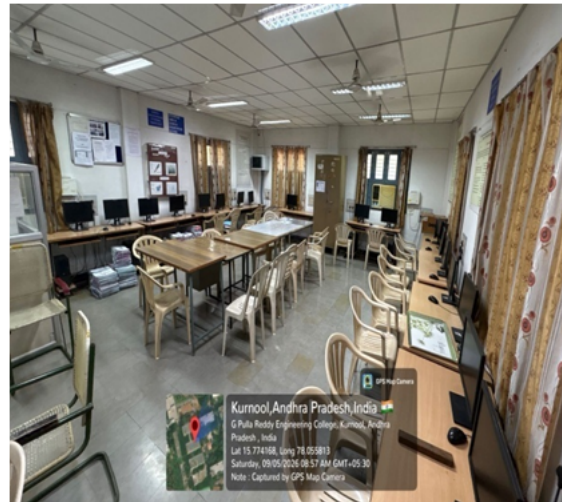


Figure 13: CAM Lab

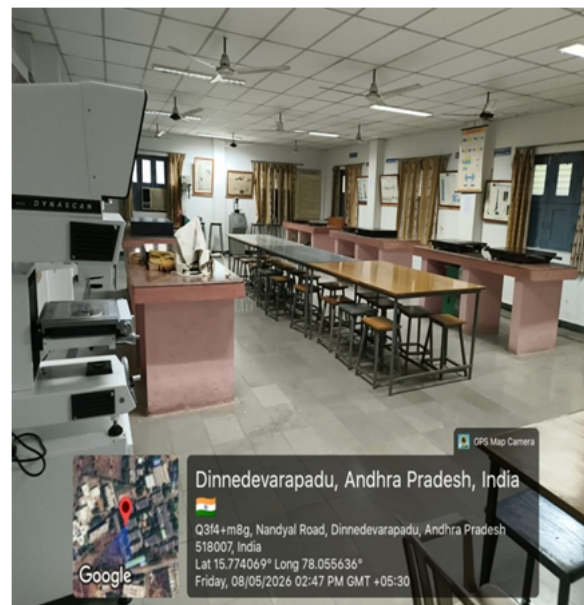


Figure 14: Metrology Lab



Figure 15: Heat Transfer Lab

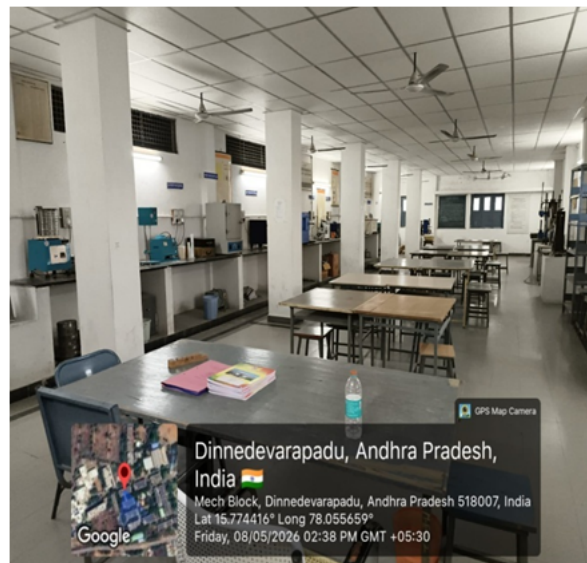


Figure 16: Metallurgy Lab



Figure 17: Geometrical Modeling Lab



Figure 18: Dynamics & Instrumentation Lab

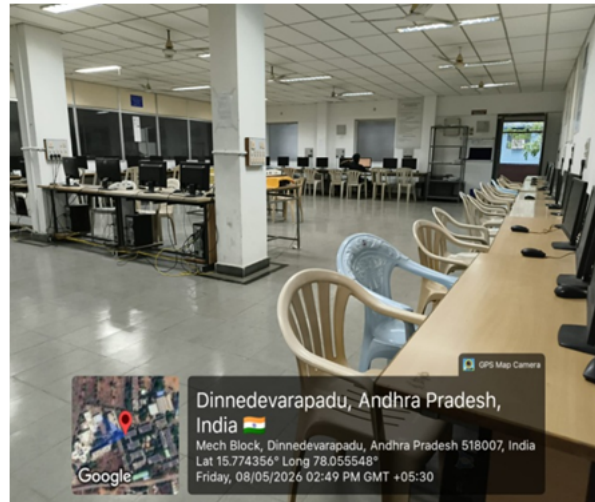


Figure 19: CAD Lab & CAE Lab

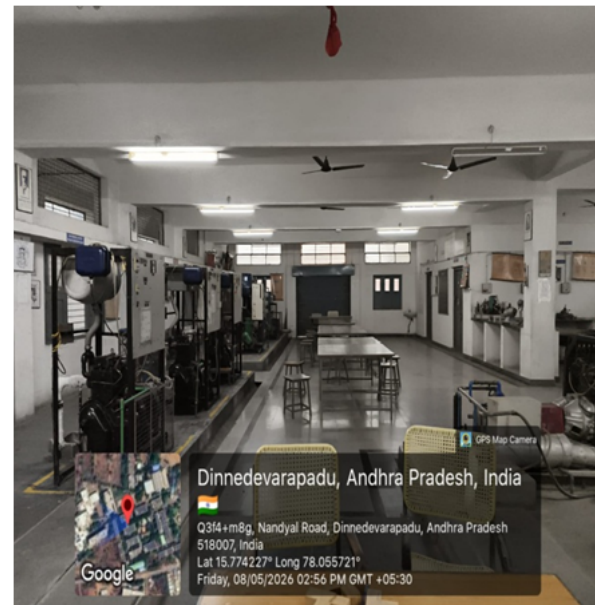


Figure 20: Heat Engines Lab

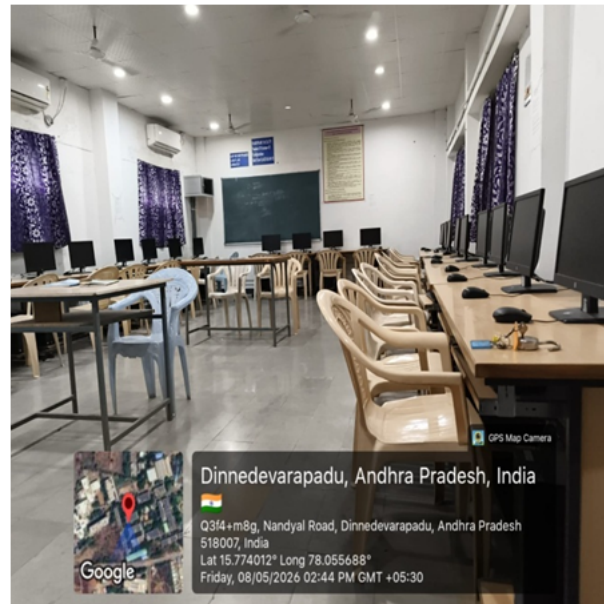


Figure 21: Database and Computations Lab

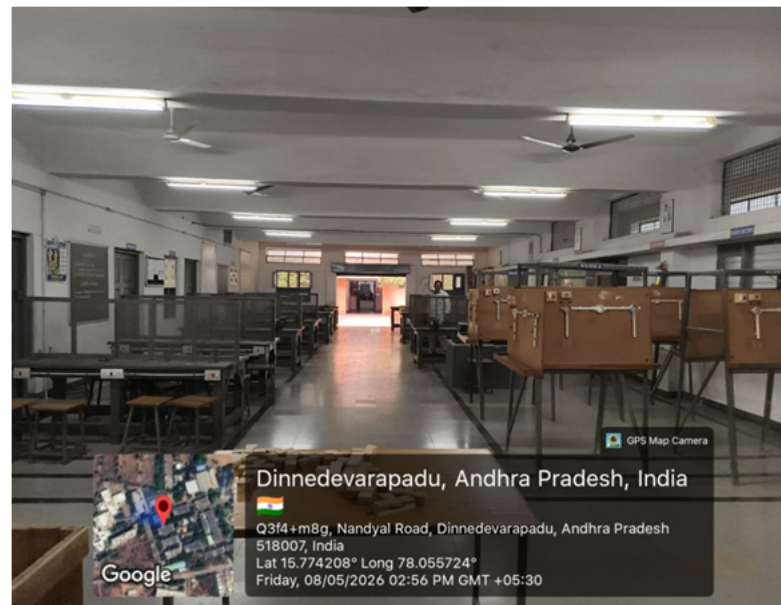


Figure 22: Work Shop

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)	1080	54	35	87	84

2024-25(CAYm1)	1140	57	41	108	95
2025-26(CAY)	1140	57	39	113	94

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	63600000	74568000	43110000	84617060	9100000	80080000	64240000	133614000
Library	4315000	4696000	3816000	2472000	3816000	1714000	4177000	3203000
Laboratory equipment	9023000	20454000	33841000	25372000	33488000	19678000	9416000	17981000
Teaching and non-teaching staff salary	343000000	307484000	302800000	317159000	260000000	255636000	236000000	222579000
Outreach Programs	210000	205650	200000	190800	180000	178500	160000	155000
R&D	11250000	6556000	7330000	4799000	5753000	3872000	2900000	2818000
Training, Placement and Industry linkage	1335000	828000	1382000	547000	570000	525000	4410000	5362000
SDGs	170000	165000	150000	150000	80000	78000	50000	50000
Entrepreneurship	450000	193946	2280000	1920210	350000	100794	350000	164954
Others, specify	56347000	41996404	71291000	43549930	46963000	36914706	36714000	86020046
Total	489700000	457147000	466200000	480777000	360300000	398777000	358417000	471947000

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	596000	548788	808533	872733	730000	228970	860000	472667
Software	0	0	0	0	0	0	0	0
SDGs	0	0	0	0	0	0	0	0
Support for faculty development	563361	563361	985153	985153	482907	482907	295300	295300

R & D	0	0	0	0	0	0	0	0
Industrial Training, Industry expert, Internship	0	0	0	0	0	0	0	0
Miscellaneous Expenses*	495000	767052	400000	309516	300000	307091	300000	135104
Total	1654361	1879201	2193686	2167402	1512907	1018968	1455300	903071