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: 12011	**Date of Submission**: 01-08-2026

PART A- Profile of the Institute

A1.Name of the Institute: NARAYANA ENGINEERING COLLEGE	
Year of Establishment : 2001	Location of the Institute: Gudur
A2. Institute Address:DHURJATI NAGARGUDUR,NELLORE DT.ANDHRA PRADESH524101	
City:Nellore	State:Andhra Pradesh
Pin Code:524101	Website:www.necg.ac.in
Email:necgudur@necg.ac.in	Phone No(with STD Code):08624-295641
A3. Name and Address of the Affiliating University (if any):	
Name of the University : JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTH	City: Anantpur
State : Andhra Pradesh	Pin Code: 515002
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: **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	Computer Application	PG	Master in Computer Applications	2008	--	Computer Application
2	Engineering & Technology	UG	Civil Engineering	2011	--	Civil Engineering
3	Engineering & Technology	PG	Computer Science	2012	--	Computer Science and Engineering
4	Engineering & Technology	UG	Computer Science and Engineering	2001	--	Computer Science and Engineering
5	Engineering & Technology	UG	Computer Science and Engineering (Artificial Intelligence and Machine Learning)	2023	--	Computer Science and Engineering (Artificial Intelligence and Machine Learning)
6	Engineering & Technology	PG	Digital Electronics & Communication Systems	2009	2025	Electronics and Communication Engineering
7	Engineering & Technology	UG	Electrical and Electronics Engineering	2002	--	Electrical and Electronics Engineering
8	Engineering & Technology	UG	Electronics and Communication (Advanced Communication Technology)	2023	2025	Electronics and Communication (Advanced Communication Technology)
9	Engineering & Technology	UG	Electronics and Communications Engineering	2001	--	Electronics and Communication Engineering
10	Engineering & Technology	UG	Electronics Engineering (VLSI Design and Technology)	2023	2025	Electronics Engineering (VLSI Design and Technology)
11	Engineering & Technology	UG	Information Technology	2001	2013	Information Technology

12	Engineering & Technology	UG	Mechanical Engineering	2012	--	Mechanical Engineering
13	Engineering & Technology	PG	Power Electronics	2012	2025	Electrical and Electronics Engineering
14	Management	PG	Masters in Business Administration	2008	--	Management

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

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

Name of the Department	Having Allied Departments	Name of the Program	Program Level
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	2012 / --	60	Yes	2020	30	2020	F.No. South-Central/1-7008525313/2020/EOA	Applying first time	--	--	0	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. Bachu Venkata Krishnaiah
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)	30	30	30	30	30	30	60
N1=Total no. of students admitted in the 1st year minus the no. of students, who migrated to other programs/ institutions plus no. of students, who migrated to this program	30	27	10	17	18	26	15
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	5	4	13	9	4	2
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	1	0	0	0	0	0
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	33	33	14	30	27	30	17

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)	30	30	3	110.00
2024-25 (CAYm1)	30	27	1	93.33
2023-24 (CAYm2)	30	10	0	33.33

Average [(ER1 + ER2 + ER3) / 3] = 78.89≡ 14.00

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).	33.00	33.00	62.00
B=No. of students who graduated from the program in the stipulated course duration	19.00	20.00	10.00
Success Rate (SR)= (B/A) * 100	57.58	60.61	16.13

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 44.77

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)
X=(Mean of 1st year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 1st year/10)	7.01	6.85	6.60
Y=Total no. of successful students	25.00	9.00	15.00
Z=Total no. of students appeared in the examination	25.00	9.00	15.00
API [X*(Y/Z)]	6.26	6.16	5.82

Average API[(AP1+AP2+AP3)/3] : 6.08

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)	7.13	6.83	6.65
Y=Total no. of successful students	13.00	27.00	23.00
Z=Total no. of students appeared in the examination	13.00	28.00	26.00
API [X * (Y/Z)]	7.13	6.59	5.88

Average API [(AP1 + AP2 + AP3)/3] : 6.53

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)	7.19	6.83	6.77
Y=Total no. of successful students	27.00	23.00	27.00
Z=Total no. of students appeared in the examination	27.00	23.00	27.00
API [X*(Y/Z)]:	7.19	6.83	6.77

Average API [(AP1 + AP2 + AP3)/3] : 6.93

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	33.00	33.00	62.00
X=No. of students placed	17.00	18.00	9.00
Y=No. of students admitted to higher studies	1.00	0.00	1.00
Z= No. of students taking up entrepreneurship	0.00	0.00	0.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	54.55	54.55	16.13

Average Placement Index = (P_1 + P_2 + P_3)/3: 41.74 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. Bhaskar JVS	XXXXXXX11M	Ph.D	JNTU Anantapur	Operational Research	29/07/2024	1.9	Professor	Professor		Regular	No	11/05/2026	No
2	Dr M.Paul Daniel	XXXXXXX32P	Ph.D	JNTU, Anantapur	Thermal Engineering	18/11/2022	3.8	Professor	Professor		Regular	Yes		No
3	Dr. Bachu Venkata Krishnaiah	XXXXXXX52C	Ph.D	JNTU Hyderabad	Thermal Engineering	30/06/2014	12.1	Assistant Professor	Professor	16/12/2024	Regular	Yes		Yes
4	Duddu.Raveendra	XXXXXXX75G	M.Tech	JNTU, Anantapur	AMS	25/08/2021	4.11	Assistant Professor	Assistant Professor		Regular	Yes		No
5	Daggubati Sunil	XXXXXXX43E	M.Tech	JNTU kakinada	Nano Technology	01/08/2022	4	Assistant Professor	Assistant Professor		Regular	Yes		No
6	Karumanchi Rahul	XXXXXXX03E	M.Tech	JNTU kakinada	Machine design	23/08/2023	2.11	Assistant Professor	Assistant Professor		Regular	Yes		No
7	SEKHAR KRISHNAPATNAM	XXXXXXX30E	M.Tech	JNTU Hyderabad	AMS	05/01/2021	5.6	Assistant Professor	Assistant Professor		Regular	Yes		No
8	Andari Bhargavi	XXXXXXX10H	M.Tech	JNTU, Anantapur	Thermal Engineering	08/07/2019	7	Assistant Professor	Assistant Professor		Regular	Yes		No
9	Pradeepkumar Erdiraju	XXXXXXX90A	M.Tech	JNTU, Anantapur	Advanced IC Engines	01/08/2023	3	Assistant Professor	Assistant Professor		Regular	Yes		No
10	Kuruganti Manoj Kumar Reddy	XXXXXXX04P	M.Tech	Dr. MGR educational and Research Institute University	Industrial Engineering	28/04/2023	3.3	Assistant Professor	Assistant Professor		Regular	Yes		No
11	Shaik Abdulla	XXXXXXX35P	M.Tech	Hindustan university	R&AC	18/11/2022	3.1	Assistant Professor	Assistant Professor		Regular	No	09/01/2026	No

12	Cherian Bindu Podipara	XXXXXXX50A	M.Tech	JNTU, Anantapur	CAD/CAM	19/05/2025	1.2	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 Department0

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

Description	**CAY(2025-26)**	**CAYm1 (2024-25)**	**CAYm2 (2023-24)**
UG1.B	33	33	33
UG1.C	33	33	33
UG1.D	33	33	33
UG1: Mechanical Engineering	**99**	**99**	**99**
DS=Total no. of students in all UG and PG programs in the Department	99	99	99
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=** 99	**S2=** 99	**S3=** 99
DF=Total no. of faculty members in the Department	11	11	10
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=** 11	**F2=** 11	**F3=** 10
FF=The faculty members in F who have a 100% teaching load in the first-year courses	2	2	1
Student Faculty Ratio (SFR)=S/(F-FF)	**SFR1= 11.00**	**SFR2= 11.00**	**SFR3= 11.00**
Average SFR for 3 years	**SFR= 11.00**		

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)	3	8	4.00	38.75

2024-25(CAYm1)	3	8	4.00	38.75
2023-24(CAYm2)	2	8	4.00	32.50

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	3.00	1.00	0.00	3.00	8.00
2024-25	1.00	2.00	1.00	1.00	3.00	8.00
2023-24	1.00	1.00	1.00	1.00	3.00	8.00
Average	RF1=1.00	AF1=2.00	RF2=1.00	AF2=0.67	RF2=3.00	AF2=8.00

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	B NAGARAJU	ASSISTANT MANAGER	INDO NATIONAL LTD-NIPPO	THERMAL ENGINEERING	24.00
2	B NAGARAJU	ASSISTANT MANAGER	INDO NATIONAL LTD-NIPPO	INDUSTRIAL INTERNSHIP	32.00

(CAYm2)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	P VENKATESWARLU	SENIOR ASSISTANT MANAGER	AP STATE BEWAREGES PRIVATE LIMITED	METAL FORMING PROCESS	27.00
2	P VENKATESWARLU	SENIOR ASSISTANT MANAGER	AP STATE BEWAREGES PRIVATE LIMITED	INDUSTRIAL INTERNSHIP	34.00

(CAYm3)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	B SRINIVASULU	PRODUCTION MANAGER	VIKI STEEL INDUSTRY, NAIDUPETA	INDUSTRIAL ENGINEERING	26.00
2	B SRINIVASULU	PRODUCTION MANAGER	VIKI STEEL INDUSTRY, NAIDUPETA	INDUSTRIAL PROJECTS	33.00

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	5	9	2
2	No. of peer reviewed conference papers published	8	2	3

3	No. of books/book chapters published	2	3	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. Bachu Venkata Krishnaiah	Dr. M. Paul Daniel	Mechanical Engineering	Design and Development of Energy-Efficient Industrial Cooling System	Greentech Industries, Naidupeta	12 Months	4.25
Dr. Bhaskar JVS	Mr. Duddu Raveendra	Mechanical Engineering	IoT-Based Predictive Maintenance System for Industrial Machinery	BMR Industries, Kavali	10 Months	3.00
						Amount received (Rs.):7.25

(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. Shaik Abdulla	Mr. Kuruganti Manoj Kumar Reddy	Mechanical Engineering	Design and Fabrication of an Energy-Efficient Milk Cooling Unit	Dodla Dairy Limited, Nellore	12Months	3.50
Dr. M. Paul Daniel	Mr. Daggubati Sunil	Mechanical Engineering	Development of an Energy-Efficient Induction Furnace for Industrial Casting	Nelcast Limited, Gudur	9 Months	3.00
						Amount received (Rs.):6.50

(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 T Babu	Mr. Shaik Abdulla	Mechanical Engineering	Waste Heat Recovery and Utilization in Industrial Pipe Manufacturing	Srikalahasthi Pipes Limited, Srikalahasthi	08 Months	2.50
Mr. Duddu Raveendra	Dr. M Paul Daniel	Mechanical Engineering	Design and Development of a Smart Quality Inspection System for Steel Products	Lakshmi srinivas Steel products,Vijayawada	12 Months	3.50
						Amount received (Rs.):6.00

Total Amount (Lacs) Received for the Past 3 Years: 19.75

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. Bachu Venkata Krishnaiah	Mr. Duddu Raveendra	Mechanical Engineering	Design and Development of an Industrial Cooling and Heat Management System	Prime Electric Limited, Naidupeta	10 Months	3.00
Dr. M. Paul Daniel	Mr. Sekhar Krishnapatnam	Mechanical Engineering	Development of an Automated Material Handling System for Textile Production	Loyal Textile Mills Ltd, Menakuru	8 Months	2.25
						Amount received (Rs.):5.25

(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. Duddu Raveendra	Mrs. Andari Bhargavi	Mechanical Engineering	Smart Quality Inspection System for Industrial Components	Greentech Industries, Dwarakapuram	12 Months	3.00
Mr. Sekhar Krishnapatnam	Mr. Daggubati Sunil	Mechanical Engineering	Automated Quality Inspection System for Laminated Products	Greenlam Limited, Naidupeta	6 Months	2.50
Mr. Pradeepkumar Erdiraju	Dr. M. Paul Daniel	Mechanical Engineering	Optimization of Casting Parameters for Improved Component Quality	Nelcast Limited, Gudur	8 Months	2.00
						Amount received (Rs.):7.50

(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
Mrs. Andari Bhargavi	Mr. Sekhar Krishnapatnam	Mechanical Engineering	Automated Tile Surface Quality Inspection System	Kajaria Tiles Plant - Srikalahasti	8 Months	2.50
Mr T Babu	Mr. Duddu Raveendra	Mechanical Engineering	Waste Heat Recovery System for AAC Block Manufacturing	Prime AAC blocks Pvt Ltd, Pandluru	6 Months	2.00
Mr. Shaik Abdulla	Dr. M. Paul Daniel	Mechanical Engineering	Predictive Maintenance and Energy Efficiency Improvement of Plant Equipment	Amman TRY Spong &Power (P) LTD, Sirasanambedu	6 Months	2.00
						Amount received (Rs.):6.50

Total amount (Lacs) received for the past 3 years: 19.25

Note*:

- Only consultancy projects will be considered. Infrastructure-based projects will not be considered here.

C9. Institution Seed Money or Internal Research Grant to its Faculty for Research Work

Table No. C9.1: List of faculty members received seed money or internal research grant from the Institution.

(CAYm1)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Dr. Bachu Venkata Krishnaiah	Manufacturing of Theo Jansen Mechanism Spider BOT	7 months	0.80	0.80	Journal Published
Dr. M.Paul Daniel	Fabrication of unmanned aerial vehicle(UAV) for emergency medical services	8 months	1.05	1.05	Journal Published
			Amount received (Rs.): 1.85		

(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. Bachu Venkata Krishnaiah	Design And Analysis of Multi Plate Clutch Using Various Materials	8 months	0.65	0.65	Journal Published
Dr. M.Paul Daniel	Design and analysis of TATA 2518TC truck chassis frame with various cross sections using CAE tools	6 months	0.50	0.50	Journal Published
Mr. Duddu Raveendra	Design and analysis of piston using various alloy materials	4 months	0.45	0.45	Journal Published
			Amount received (Rs.): 1.60		

(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
Dr. Bachu Venkata Krishnaiah	Design and fabrication of jigsaw machine table	08 months	0.52	0.52	Journal Published
Mr. Shaik Abdulla	Design and fabrication of pneumatic sheet cutting machine	06 months	0.48	0.48	Journal Published
Mr. Sekhar Krishnapatnam	Design and fabrication of paper plate making machine	05 months	0.90	0.90	Journal Published
Mrs. Andari Bhargavi	Steam Powered Electricity Generator	04 months	0.35	0.35	Journal Published
Dr. M Paul Daniel	Design and Development of an Automated Filament Extruder for Recycling Ocean-Bound	06 months	0.60	0.60	Journal Published
			Amount received (Rs.): 2.85		

Total amount (Lacs) received for the past 3 years : 6.30

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 Workshop	3	1. Carpentry Vices 2. Bench Vices 3. Pipe Vices 4. Stakes 5. Manual Sheet metal Shear 6. Foundry Table 7. Mould Flasks 8. Welding Transformer 9. Welding Cables 10. Pipe wrenches	R23 I BTech I-	1. P. Sudhakar 2. K.Ramana	Technician	Diploma B.Tech
2	Engineering Mechanics	3	1. Gravesand's apparatus for the Verification of Triangle law and Polygon law of forces. 2. Bell Crank Lever Apparatus 3. Simply Supported Beam Experimental Set-up 4. Adjustable	R23 I BTech II	Sd. Mujaahid	Technician	Diploma
3	Mechanics of Solids Lab	3	1.Universal Testing Machine 2. Deflection Test Set-up for Beams 3. Deflection Test Set-up for Fixed Beam 4. Torsion Testing Machine 5. Brinell Hardness Tester 6. Rockwell	R23 II BTech I-	Shaik Rafi	Technician	Diploma
4	Materials Science Lab	3	1. Jominy End Quench Tester 2. Belt Grinder 3. Monocular Metallurgical Microscope 4. Binocular Metallurgical Microscope 5. Trinocular Metallurgical Microscope 6. Muffle	R23 II BTech I-	Shaik Rafi	Technician	Diploma
5	Fluid Mechanics and Hydraulic Machinery Lab	3	1. Impact of jets on Vanes 2. Pelton Wheel 3. Single Stage Centrifugal Pump 4. Multi Stage Centrifugal Pump 5. Reciprocating Pump 6. Venturimeter 7. Orifice meter 8.	R23 II BTech II	Shaik Rafi	Technician	Diploma
6	Manufacturing Processes Lab	3	Moulding sand Test Equipment (S.No.:1 – 4): 1. Compression tester 2. Clay content tester 3. Moisture content tester 4. Strength tester 5 Oxy Acetylene Gas Welding Equipment	R23 II BTech II	K.Prasanth Kumar	Technician	Diploma
7	Thermal Engineering Lab	3	1. Four-stroke Diesel Engine 2. Two-stroke Petrol Engine 3. Morse Test Set-up for Multi-cylinder petrol Engine 4. VCR-Variable Compression Ratio Engine 5 Reciprocating Air	R23 III BTech I	S Lakshmi Narayana	Technician	Diploma

8	Dynamics Lab	3	1.Mechanisms – Set of 5 Models: i. Kinematics of Four Bar ii. Slider Crank (set of 3) iii. Crank Rocker iv. Double	R23 III BTech	Sd. Mujaahid	Technician	Diploma
9	Machine Tools Lab	3	1. 6 feet -All Geared Lathe : - 6 Nos. Spindle speed: 40 – 1200 rpm; Number of feeds: 40; Motor power rating: 2 HP, 3ph. 2.	R23 III BTech I	K.Prasanth Kumar	Technician	Diploma
10	Metrology & Measurements Lab	3	1.Vernier Calipers 2.Vernier Height Gauge 3.Vernier Depth Gauge 4.Outside Micrometers Range: (0-25 mm) - 1 No.	R23 III BTech I	K.Prasanth Kuma	Technician	Diploma
11	Heat Transfer Lab	3	1. Heat Transfer Through Composite Wall Apparatus 2. Lagged Pipe Apparatus 3. Thermal Conductivity of Insulating	R23 III BTech I	S Lakshmi Narayana	Technician	Diploma
12	CAD Lab	1	1. 4GB Ram, 500GB Hard disk, I3 Processer, Lenovo Desktop 19” LCD Screen - 30 Nos. 2. CREO 3.0	R23 II BTech I-	Sai Karthik	Technician	B.Tech
13	CAM Lab/3D Printing Lab	3	1. CNC Trainer Lathe Machine 2. CNC Trainer Milling Machine 3. 3D Printers	R23 III BTech I	Sai Karthik	Technician	B.Tech

D2. Safety Measures in Laboratories

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

Sr. No	Laboratory Name	Safety Measures
1	Engineering Workshop	1. Wall-mounted exhaust fans installed near the Welding bay to remove the fumes. 2. Fire-resistant screens are placed around the welding bay, to shield students from arc flash and sparks. 3. Exposed grinding wheels are fitted with metal guards. 5. Raw metal stock and heavy bars are stored in marked racks, away from the main walkway.
2	Engineering Mechanics Lab	1. Test set-ups such as truss boards and friction apparatus are bolted to rigid frames, to prevent tipping. 2. Apparatus used for force and moment experiments are fitted with adjustable levelling feet, to avoid slipping during loading. 3. Sensors on the equipment stop the reading automatically, if the load exceeds the safe limit. 4. Hanger plates and slotted weights are fitted with safety pins to prevent them from falling if a wire snaps.
3	Mechanics of Solids Lab	1. The impact testing equipment is fitted with enclosure, to contain flying fragments during the test. 2. Limit switches are fitted on the crosshead of the tensile testing machine, to prevent it from over-travelling. 3. Drop-weight and impact testing machines are anchored to the floor, to absorb vibration during the test.
4	Materials Science Lab	1. Chemical etching is carried out inside fume hoods fitted with exhaust fans, to remove fumes. 2. Furnace is fitted with a switch that cuts off power automatically, when the furnace door is opened. 3. Trays are placed under the chemical storage shelves, to contain any leakage from the bottles. 4. Splash guards are fitted around the polishing wheel, to keep water and abrasive slurry away from the user.
5	Fluid Mechanics & Hydraulic Machines Laboratory	1. Pump starter panels and electrical switchboards are placed well above the water line, and are fully covered. 2. Electrical lines to the pumps and turbines are protected with sensitive earth-leakage circuit breakers. 3. Relief valves are fitted on the pipelines, to prevent bursting due to a sudden rise in pressure. 4. Water sumps are covered with heavy iron grating, to prevent accidental falls.
6	Manufacturing Processes Laboratory	1. Exhaust hoods with suction fans are installed above the melting furnace and moulding section, to clear the fumes. 2. Injection moulding machine can be operated only after the door is closed. 3. Transparent guards are fitted over the forming and shearing dies, to keep hands away from the pinch points. 4. Furnaces are insulated on the outside, to limit the surface temperature and prevent burns.
7	Machine Tools Lab	1. Moving lead screws are covered with a bellow guard, to prevent clothing from getting entangled. 2. Adjustable shields are fitted near the tool post, to deflect flying chips away from the operator. 3. The machines are fitted with switches that remain off after a power failure, and do not restart automatically once power resumes.

8	Metrology & Measurements Lab	1. The surface plate and optical instruments rest on vibration-absorbing mounts, to isolate them from floor vibration. 2. The lab temperature is maintained at a constant level with dedicated air conditioning, to prevent expansion errors in the instruments. 3. Workbenches and tables in the lab are built with rounded edges, to prevent injury to students handling glass gauges.
9	Thermal Engineering Laboratory	1. The exhaust pipe of each engine is connected to a duct, which vents the exhaust gases outside the building. 2. Engine manifolds, steam pipes and boiler shells are wrapped with insulation, to prevent heat loss and burns. 3. Rotating flywheels and dynamometer couplings are covered with a wire mesh guard. 4. Temperature sensors are linked to an alarm, which sounds if the cylinder head or exhaust temperature exceeds a safe limit. 5. Petrol, diesel and other fuels used in the lab are stored in fire-resistant metal cabinets, away from any source of ignition.
10	Dynamics Laboratory	1. Vibration testing benches are mounted on rubber or spring dampers, to reduce vibration transmitted to the floor. 2. Motor speed in the apparatus is restricted electronically, to prevent it from running at a damaging speed. 3. Safety pins are provided on the cam and gear train set-ups, to lock the shaft in place during assembly. 4. Belt drives connecting the motor to the shaft are enclosed within a metal cover.
11	Heat Transfer Laboratory	1. Heating elements used in the apparatus run on a low-voltage supply, through a step-down transformer. 2. A thermal cut-out is fitted inside the heater block, to switch off the power if the temperature exceeds the limit. 3. The high-temperature test cylinder is enclosed in a perforated guard, which stays cool to the touch. 4. The control panel is mounted on a non-conducting base, to keep it isolated from the heated metal frame.
12	CAD Laboratory	1. Workstations are provided with adjustable chairs and desks, to reduce strain during long working hours. 2. Power and network cables are routed under the floor, to avoid tripping hazards. 3. The server room is fitted with an automatic gas-based fire extinguishing system. 4. Lighting in the lab is arranged to avoid glare on the computer screens. 5. The UPS battery bank is kept in a separate, ventilated room, away from the student seating area.
13	CAM Laboratory	1. The CNC machines are enclosed in steel cabinets, and the axes stop moving if the door is opened during operation. 2. The automatic tool changer is separated from the working area by a divider panel, to prevent accidental contact. 3. The coolant system is fitted with a filter and mist extractor, to keep oil fumes out of the air. 4. Bumpers are fitted at the ends of the machine axes, to prevent the moving parts from over-travelling. 5. High-voltage control panels are housed in locked cabinets, accessible only with a key.

D3. Project Laboratory/Research Laboratory

The Department of Mechanical Engineering has set up dedicated Project and Research Laboratories, along with Centre of Excellence, to support Project work, research, and innovation at the undergraduate level. These facilities are equipped with the software, instruments, and test rigs needed for such work, and are kept open beyond regular class hours so that students and faculty can use them without interruption.

Centre of Excellence (COE) in Drone Technology has been established to give students the practical exposure to Unmanned Aerial Vehicle (UAV) design, assembly and operation. Students use the Training Kits to learn the assembly of drone frames, motors, Electronic Speed Controllers (ESC) and flight controllers. Drone Simulator and Modelling Software help the students to practise flight control and mission planning before handling actual drones. PID Tuning Rig is used to understand and adjust the stability parameters of a drone. Gimbal Training Platform is used to study camera stabilisation systems used in aerial photography and surveillance drones.

Soldering stations and Power supplies support the wiring, testing and troubleshooting of drone electronic circuits. Tool Kits are used for the assembly, disassembly and routine maintenance of the drone units. COE gives hands-on training to the students in the emerging Drone technology area. It helps the students to build skills that are aligned with current industry trends.

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

S. No.	Name of the Laboratory / Centre	Key Facilities / Focus Area

1	**Project Lab**	1.Portable Inverter Arc Welding Machine: 6.1 KVA on 220 volt, Single phase supply; Maximum Output current: 200 A; Compatible with 1.6 mm to 4 mm diameter electrodes. 2. Hand held Cutting Machine: Rated power: 1050 W; 220 V; 1.2 Amps; Maximum blade speed :13000 rpm; Blade/ Cutter Disc diameter:100 mm 3. Portable Drilling Machine: Power rating: 500 W; Chuck capacity: 1.5 mm to 10 mm; Maximum drill speed: 2600 rpm; Weight: 1.5 kg 4.Soldering station 5. Work Tables 6. Bench Vices 7. Cutting tools 8. Marking tools 9. Measuring & Checking Tools 10. Safety devices –Gloves, Goggles, Tongs, 11. Fire Extinguisher **Projects** 1. Design And Fabrication Of 3D Printer 2. Fabrication Of An Oxygen Generation System Using Pressure Swing Adsorption With Lithium - Exchanged Zeolite 3. Design And Fabrication Of Paint Mixer 4. Super Critical Thermal Power Plant Fabricated By 3D Printing Technology 5. Design And Fabrication Of Multi-Purpose Spraying Machine 6. Design And Development Of Solar Powered Mobile Controlled Pick And Place Robot Using Node MCU ESP8266 7. Assembly And Application A Drone For The Transportation Of Emergency Medicine Delivery And Services 8. Design of unmanned aerial vehicle(UAV) for emergency medical services 9. Design And Fabrication of THEO Jansen Mechanism Spider BOT 10. Design And Manufacturing Of Prosthetic Human Hand By Using 3D Printing Technology

2	**Centre of Excellence** (COE) [Drone Technology]	1. Basic Drone Training Kit 450mm - 4 Nos. 2. Drone Simulators -01 3. Drone Movement Rig - 01 4. AC-DC Power Supply -04 5. Soldering station -04 6. Drone Modelling Simulator Software- 02 7. PID Tuning Rig -01 8. Gimbal training platform- 01 9. Tool Kit for Drone Assembly- 04

Project Lab

- The Project Lab is established to provide students with a platform for hands-on design, fabrication, prototyping, testing and validation of innovative engineering solutions. The laboratory is equipped with portable welding equipment, cutting and drilling machines, soldering stations, work tables, bench vices, cutting and marking tools, measuring and checking instruments, and necessary safety equipment.
- The laboratory supports students in undertaking design and fabrication projects, multidisciplinary projects, prototype development and industry-oriented problem-solving activities. Students gain practical experience in mechanical fabrication, assembly, measurement, testing and troubleshooting.
- The Project Lab also supports projects involving 3D printing, robotics, automation, thermal systems, UAVs, renewable energy and assistive technologies. Representative projects include the design and fabrication of a 3D printer, paint mixer, multipurpose spraying machine, solar-powered pick-and-place robot, and emergency medical delivery drone, UAV for emergency services, THEO Jansen mechanism robot and 3D-printed prosthetic hand.
- Through these activities, students develop engineering knowledge, problem-solving ability, design and fabrication skills, experimental skills, teamwork, project management, communication skills and lifelong learning capabilities. The facility therefore provides direct support to PO1, PO2, PO3, PO4, PO5, PO9, PO10, and PO12,
- The laboratory has a strong contribution to PSO1 – Design and Manufacturing and PSO2 – Advanced Engineering Applications, as students apply mechanical engineering principles and modern technologies to develop functional prototypes and innovative engineering solutions.

Centre of Excellence

- The **Drone Technology Centre of Excellence** provides students with a dedicated platform for learning, experimentation and project development in **Unmanned Aerial Vehicles (UAVs), drone modeling, simulation, flight control, assembly and emerging autonomous technologies.**
- The Centre is equipped with **basic drone training kits, drone simulators, a drone movement rig, AC–DC power supplies, soldering stations, drone modeling simulator software, PID tuning rig, Gimbal training platform and drone assembly tool kits.** These facilities enable students to acquire practical knowledge beyond conventional classroom learning.
- Students are provided opportunities to understand and practice **drone assembly, component integration, UAV modeling, flight simulation, motion control, PID tuning, stabilization, troubleshooting and performance evaluation.** The facility supports hands-on learning and encourages students to undertake innovative projects based on real-world applications.
- The Centre also facilitates development of applications such as **emergency medical delivery, disaster response, surveillance, agriculture, infrastructure inspection and other societal applications,** subject to applicable regulations and safety requirements.
- The facility promotes **problem-solving, design thinking, experimentation, modern tool usage, teamwork, technical communication and lifelong learning.** It provides students with exposure to multidisciplinary areas involving mechanical engineering, electronics, control systems, programming and automation.
- The Drone Technology Centre of Excellence therefore provides strong support to **PO1, PO2, PO3, PO4, PO5, PO9, PO10 and PO12,** with significant societal application through PO6. It has a **strong contribution to PSO2 – Advanced Engineering Applications,** particularly through UAV technology, automation, control and emerging engineering applications. It also supports **PSO1 – Design and Manufacturing** through UAV mechanical design, assembly, integration and maintenance.

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)	660	33	36	10	93
2024-25(CAYm1)	660	33	38	9	98
2025-26(CAY)	990	50	47	13	80

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	20000000	20038567	13000000	11614824	22000000	20317879	12500000	12413976
Library	1500000	1340251	1350000	1112836	1250000	1188185	1200000	1137650
Laboratory equipment	16450000	15986929	8850000	8322781	7555000	7342872	8745000	8665341
Teaching and non-teaching staff salary	170000000	166348651	150000000	142712506	125000000	118853108	105000000	97999543
Outreach Programs	700000	656555	650000	625352	600000	605455	550000	595875
R&D	1540000	1462579	1430000	1429981	1310000	1302355	1120000	1136461
Training, Placement and Industry linkage	6000000	5572197	5500000	5429685	4000000	3888787	3500000	3017518
SDGs	2820000	2541522	2680000	2598470	2170000	2205058	1760000	1707343
Entrepreneurship	500000	489788	475000	457855	450000	455245	450000	504545
Others, specify	70000000	67403048	45000000	40674542	26000000	25767732	20000000	19795195
Total	**289510000**	**281840087**	**228935000**	**214978832**	**190335000**	**181926676**	**154825000**	**146973447**

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	1300000	1290350	800000	743660	750000	773950	1600000	1623650
Software	0	0	0	0	0	0	0	0
SDGs	500000	444850	400000	407200	350000	395645	300000	305650
Support for faculty development	200000	198758	150000	155454	150000	145088	130000	129875
R & D	300000	284755	250000	267450	250000	248752	200000	210456
Industrial Training, Industry expert, Internship	400000	402145	350000	332545	300000	264545	200000	201545
Miscellaneous Expenses*	3500000	2728129	3000000	2651678	3500000	2501771	2500000	2254347
Total	**6200000**	**5348987**	**4950000**	**4557987**	**5300000**	**4329751**	**4930000**	**4725523**