

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 : 11925	Date of Submission : 11-06-2026

PART A- Profile of the Institute

A1.Name of the Institute : NARASARAOPETA ENGINEERING COLLEGE	
Year of Establishment : 1998	Location of the Institute: Narasaraopet
A2. Institute Address :KOTAPPAONDA ROAD, YELLAMANDA POST	
City:--Select--	State:Andhra Pradesh
Pin Code:522601	Website:www.nrtec.in
Email:NRTEC_PRINCIPAL@YAHOO.COM	Phone No(with STD Code):08647-239904
A3. Name and Address of the Affiliating University (if any):	
Name of the University : JNTU KAKINADA	City: east Godavari
State : Andhra Pradesh	Pin Code: 533003
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: **10**
- No. of PG programs: **10**

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

Sr.No.	Discipline	Level of program	Name of the program	Year of Start	Year of Closed	Name of The Department
1	Computer Application	PG	Master of Computer Application	2007	--	Computer Application
2	Engineering & Technology	UG	Civil Engineering	2009	--	Civil Engineering
3	Engineering & Technology	UG	Computer Science and Engineering	1998	--	Computer Science and Engineering
4	Engineering & Technology	PG	Computer Science and Engineering	2006	--	Computer Science and Engineering
5	Engineering & Technology	UG	Computer Science and Engineering (Artificial Intelligence & Machine Learning)	2022	--	Computer Science and Engineering
6	Engineering & Technology	UG	Computer Science and Engineering (Artificial Intelligence)	2020	--	Computer Science and Engineering
7	Engineering & Technology	UG	Computer Science and Engineering (Cyber Security)	2022	--	Computer Science and Engineering
8	Engineering & Technology	UG	Computer Science and Engineering (Data Science)	2022	--	Computer Science and Engineering
9	Engineering & Technology	PG	Digital Electronics & Communication Systems	2004	--	Electronics and Communication Engineering
10	Engineering & Technology	PG	Digital Systems & Computer Electronics	2006	--	Electronics and Communication Engineering

11	Engineering & Technology	UG	Electrical & Electronics Engineering	1998	--	Electrical and Electronics Engineering
12	Engineering & Technology	UG	Electronics & Communication Engineering	1998	--	Electronics and Communication Engineering
13	Engineering & Technology	UG	Information Technology	2019	--	Information Technology
14	Engineering & Technology	PG	Machine Design	2013	--	Mechanical Engineering
15	Engineering & Technology	UG	Mechanical Engineering	2002	--	Mechanical Engineering
16	Engineering & Technology	PG	Power & Industrial Drives	2004	--	Electrical and Electronics Engineering
17	Engineering & Technology	PG	Structural Engineering	2014	--	Civil Engineering
18	Engineering & Technology	PG	Thermal Engineering	2013	--	Mechanical Engineering
19	Engineering & Technology	PG	VLSI & Embedded Systems	2023	--	Electronics and Communication Engineering
20	Management	PG	Master of Business Administration	2006	--	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
Computer Science and Engineering	Yes	Computer Science and Engineering (Artificial Intelligence)	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	2002 / --	60	Yes	2022	60	2022	1-10973974951/2022/EOA	Granted accreditation for 3 years for the period (specify period)	2023	2026	3	4

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

B2. Detail of Head of the Department for the program under consideration:

A. Name of the HoD :	Dr.B.Venkata Siva
B. Nature of appointment:	Regular
C. Qualification:	M.Tech and Ph.D.

B3. Program Details

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

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	2025-26 (CAY)	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)	2021-22 (CAYm4)	2020-21 (CAYm5)	2019-20 (CAYm6)
N=Sanctioned intake of the program (as per AICTE /Competent authority)	60	60	60	60	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	36	46	28	23	60	92	95
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	19	37	36	52	35	66
N3=Separate division if any	0	0	0	0	0	0	0
N4=Total no. of students admitted in the 1st year via all supernumerary quotas	0	0	0	0	0	0	0
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	36	65	65	59	112	127	161

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

B4. Enrolment Ratio in the First Year

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

Year of entry	N (From Table 4.1)	N1 (From Table 4.1)	N4 (From Table 4.1)	Enrollment Ratio [(N1/N)*100]
2025-26 (CAY)	60	36	0	60.00
2024-25 (CAYm1)	60	46	0	76.67
2023-24 (CAYm2)	60	28	0	46.67

Average [(ER1 + ER2 + ER3) / 3] = 61.11≡ 11.00

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).	132.00	132.00	198.00
B=No. of students who graduated from the program in the stipulated course duration	105.00	121.00	153.00
Success Rate (SR)= (B/A) * 100	79.55	91.67	77.27

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 82.83

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)	8.62	8.23	7.91

Y=Total no. of successful students	46.00	28.00	22.00
Z=Total no. of students appeared in the examination	46.00	28.00	23.00
API [X*(Y/Z)]	8.62	8.23	7.57

Average API[(AP1+AP2+AP3)/3] : 8.14

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)	8.82	8.71	8.62
Y=Total no. of successful students	64.00	58.00	107.00
Z=Total no. of students appeared in the examination	65.00	58.00	109.00
API [X * (Y/Z)]	8.68	8.71	8.46

Average API [(AP1 + AP2 + AP3)/3] : 8.62

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)	8.91	8.83	8.73
Y=Total no. of successful students	58.00	107.00	121.00
Z=Total no. of students appeared in the examination	58.00	107.00	123.00
API [X*(Y/Z)]:	8.91	8.83	8.59

Average API [(AP1 + AP2 + AP3)/3] : 8.78

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	132.00	132.00	198.00
X=No. of students placed	95.00	109.00	139.00
Y=No. of students admitted to higher studies	10.00	12.00	14.00
Z= No. of students taking up entrepreneurship	0.00	0.00	0.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	79.55	91.67	77.27

Average Placement Index = (P_1 + P_2 + P_3)/3: 82.83 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.B.Venkata Siva	XXXXXXX54M	M.Tech and Ph.D.	ACHARYA NAGARJUNA UNIVERSITY, GUNTUR	Production Engineering	18/06/2016	9.11	Associate Professor	Professor	01/05/2017	Regular	Yes		Yes
2	Dr. D. Suneel	XXXXXXX86D	M.Tech and Ph.D.	Andhra University	Production Engineering	08/12/2011	14.6	Professor	Professor	08/12/2011	Regular	Yes		No
3	Dr. M . Ramakotaiah	XXXXXXX94E	M.Tech and Ph.D.	Pondicherry University	CAD / CAM	13/06/2019	6.11	Associate Professor	Associate Professor	13/06/2019	Regular	Yes		No
4	Dr. P.Suresh Babu	XXXXXXX34M	M.E. and Ph.D.	KLEF Deemed to be University,Vijayawada	Metallurgical Engineering	01/07/2015	10.11	Assistant Professor	Associate Professor	30/01/2021	Regular	Yes		No
5	Dr. M. Venkanna Babu	XXXXXXX57C	M.E. and Ph.D.	shri Jagdish Prasad Jhabarmal Tibrewala University,	CAD	18/07/2018	7.10	Assistant Professor	Associate Professor	22/07/2022	Regular	Yes		No
6	M. Venkaiah	XXXXXXX19N	M.Tech	JNTUK-Kakinada	CAD/CAM	20/09/2010	15.8	Assistant Professor	Assistant Professor		Regular	Yes		No
7	P.Srinivasa Rao	XXXXXXX56J	M.Tech	JNTUK-Kakinada	Thermal Engineering	01/11/2012	13.7	Assistant Professor	Assistant Professor		Regular	Yes		No
8	Ch. Sekhar	XXXXXXX48P	M.Tech	JNTUK-Kakinada	CAD/CAM	23/05/2013	13	Assistant Professor	Assistant Professor		Regular	Yes		No
9	K.Kiran Chand	XXXXXXX06P	M.Tech	JNTUK-Kakinada	CAD/CAM	04/09/2013	12.9	Assistant Professor	Assistant Professor		Regular	Yes		No
10	P. Sravani	XXXXXXX98R	M.Tech	JNTU-Hyderabad	Thermal Engineering	01/09/2015	10.9	Assistant Professor	Assistant Professor		Regular	Yes		No
11	T.Ashok Kumar	XXXXXXX96K	M.Tech	JNTU-Kakinada	Machine Design	20/06/2017	8.11	Assistant Professor	Assistant Professor		Regular	Yes		No
12	K. John Babu	XXXXXXX29C	M.Tech	ACHARYA NAGARJUNA UNIVERSITY, GUNTUR	Machine Design	19/07/2018	7.10	Assistant Professor	Assistant Professor		Regular	Yes		No
13	A. Pavan Kumar	XXXXXXX22A	M.Tech	JNTU-Kakinada	CAD/CAM	01/09/2020	5.9	Assistant Professor	Assistant Professor		Regular	Yes		No
14	D. Raghavendra	XXXXXXX10L	M.Tech	JNTU-Hyderabad	Advanced Manufacturing Systems	01/09/2020	5.9	Assistant Professor	Assistant Professor		Regular	Yes		No
15	Y. Suvarna Kumar	XXXXXXX75M	M.Tech	JNTU-Kakinada	Machine Design	01/12/2020	5.6	Assistant Professor	Assistant Professor		Regular	Yes		No
16	M. Mothilal Naik	XXXXXXX39N	M.Tech	JNTU-Kakinada	Machine Design	03/06/2023	3	Assistant Professor	Assistant Professor		Regular	Yes		No
17	D. Gopi	XXXXXXX93M	M.Tech	JNTU-Anantapur	CAD/CAM	06/06/2023	3	Assistant Professor	Assistant Professor		Regular	Yes		No

18	D. Ratna Babu	XXXXXXXX09Q	M.Tech	JNTU-Kakinada	CAD/CAM	08/06/2024	2	Assistant Professor	Assistant Professor		Regular	Yes		No
19	R.Chinnna Rao	XXXXXXXX61R	M.Tech	JNTU-Hyderabad	CAD/CAM	05/06/2018	6.11	Assistant Professor	Assistant Professor		Regular	No	30/05/2025	No
20	E.Saidulu	XXXXXXXX25H	M.Tech	JNTU-Anantapur	Thermal Engineering	21/06/2018	6.11	Assistant Professor	Assistant Professor		Regular	No	29/05/2025	No
21	MD.Taju	XXXXXXXX76K	M.Tech	JNTU-Hyderabad	Thermal Engineering	06/05/2019	6	Assistant Professor	Assistant Professor		Regular	No	28/05/2025	No
22	Makkena Srinivasarao	XXXXXXXX84E	M.Tech	JNTU-Hyderabad	Thermal Engineering	01/12/2020	4.5	Assistant Professor	Assistant Professor		Regular	No	28/05/2025	No
23	K. Ravi	XXXXXXXX97C	M.Tech	JNTU-Kakinada	Machine Design	06/05/2022	3	Assistant Professor	Assistant Professor		Regular	No	27/05/2025	No
24	Dr.M.Sreenivasa Kumar	XXXXXXXX27G	M.Tech and Ph.D.	University of the west of England Bristol	Machine design and Machine Vision	26/03/2018	6.2	Professor	Professor	26/03/2018	Regular	No	29/05/2024	No
25	Dr.D.Jagadish	XXXXXXXX10E	M.E. and Ph.D.	National Institute of Technology, Warangal	Thermal Engineering/IC Engines	06/04/2015	9.1	Professor	Professor	06/04/2015	Regular	No	29/05/2024	No
26	Dr. B. Ravi Naik	XXXXXXXX41R	M.Tech and Ph.D.	National Institute of Technology, Warangal	Material Science & Technology	01/06/2019	5	Professor	Professor	01/06/2019	Regular	No	30/05/2024	No
27	Dr.M.Naveen Kumar	XXXXXXXX52B	M.Tech and Ph.D.	Veer Bahadur Singh Purvanachal University, Jaunpur	Thermal Engineering	01/06/2019	5	Associate Professor	Associate Professor	01/06/2019	Regular	No	30/05/2024	No
28	Dr.S.Jaya Krishna	XXXXXXXX02R	M.Tech and Ph.D.	JNTU-Hyderabad	Production Technology	06/06/2019	5.11	Associate Professor	Associate Professor	06/06/2019	Regular	No	31/05/2025	No
29	TNV Mahesh babu	XXXXXXXX85D	M.Tech	JNTU-Hyderabad	Advanced Manufacturing systems	01/09/2020	3.8	Assistant Professor	Assistant Professor		Regular	No	27/05/2024	No

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

C2. Student-Faculty Ratio (SFR)

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

UG1=1st UG program

UGn=nth UG program

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

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

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

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

PG1=1st PG program.

PGm=mth PG program

A= No. of Students in PG 1st year

B= No. of Students in PG 2nd year

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

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

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

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

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

No. of UG Programs in the Department1 No. of PG Programs in the Department2

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

Description	CAY(2025-26)	CAYm1 (2024-25)	CAYm2 (2023-24)
UG1.B	66	66	66
UG1.C	66	66	132
UG1.D	66	132	132
UG1: Mechanical Engineering	198	264	330
PG1.A	18	18	18
PG1.B	18	18	18
PG1: Machine Design	36	36	36
PG2.A	18	18	18
PG2.B	18	18	18
PG2: Thermal Engineering	36	36	36
DS=Total no. of students in all UG and PG programs in the Department	270	336	402
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= 270	S2= 336	S3= 402
DF=Total no. of faculty members in the Department	18	24	28
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= 18	F2= 24	F3= 28
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= 15.00	SFR2= 14.00	SFR3= 14.36
Average SFR for 3 years	SFR= 14.45		

C3. Faculty Qualification

- Faculty qualification index (FQI) = 2.5 * [(10X +4Y)/RF] where
- X=No. of faculty members with Ph.D. degree or equivalent as per AICTE/UGC norms.
- Y=No. of faculty members with M. Tech. or ME degree or equivalent as per AICTE/ UGC norms.
- RF=No. of required faculty in the Department including allied Departments to adhere to the 20:1 Student-Faculty ratio, with calculations based on both student numbers and faculty requirements as per section C2 of this documents: (RF=S/20).

Table No.C3.1: Faculty qualification.

Year	X	Y	RF	FQ = 2.5 x [(10X + 4Y) / RF]]
2025-26(CAY)	5	13	13.00	19.62
2024-25(CAYm1)	6	18	16.00	20.62
2023-24(CAYm2)	10	18	20.00	21.50

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	2.00	2.00	3.00	3.00	9.00	13.00

2024-25	2.00	2.00	4.00	4.00	11.00	18.00
2023-24	2.00	5.00	4.00	5.00	13.00	18.00
Average	RF1=2.00	AF1=3.00	RF2=3.67	AF2=4.00	RF2=11.00	AF2=16.33

C5. Visiting/Adjunct Faculty/Professor of Practice

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

(CAYm1)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Mr.Aman Raj	Technical Lead	Naresh Technologies & Consultancy Services	Artificial Intelligence and Machine Learning	27.00
2	Mr.Aman Raj	Technical Lead	Naresh Technologies & Consultancy Services	Python Programming	28.00

(CAYm2)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Dr.B.K.C.Ganesh	Founder & CEO	Print 3D Technologies, Tirupathi	Robotics and Applications	26.00
2	Dr.B.K.C.Ganesh	Founder & CEO	Print 3D Technologies, Tirupathi	Solid Modelling	27.00

(CAYm3)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Mr. M. Mathan Kumar	Founder	Power Integrated Solution, Trichy	Mechatronics	28.00
2	Mr. M. Mathan Kumar	Founder	Power Integrated Solution, Trichy	Pneumatics & HVAC	27.00

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	16	2	5
2	No. of peer reviewed conference papers published	23	25	21
3	No. of books/book chapters published	3	3	6

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. B.Venkata Siva, Professor & HOD "		"Department of Mechanical Engineering"	Design and Development of an Automated Industrial Inspection Robot with Vision System	Hackboats	2 Years	10.00
						Amount received (Rs.):10.00

(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. M. Venkannababu		"Department of Mechanical Engineering"	Development of Mechatronics Applications using PLC and Sensors	Sri Mittapalli Trust	2 Years	5.05
						Amount received (Rs.):5.05
(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. P.Suresh Babu		"Department of Mechanical Engineering"	Arduino-Based Industrial Automation System Development using Sensors	Sri Mittapalli Trust	2 Years	5.10
						Amount received (Rs.):5.10
Total Amount (Lacs) Received for the Past 3 Years: 20.15						
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. B.Venkata Siva, Professor & HOD "		"Department of Mechanical Engineering"	Inventory management in spinning mill	M/S Mittapalli Spinners Limited, Narasaraopet	2 Years	1.50
"Dr. M.Venkanna Babu, Associate Professor "		"Department of Mechanical Engineering"	"Ring frame productivity improvement in spinning mill"	M/S Mittapalli Spinners Limited, Narasaraopet	2 Years	1.00
K.John Babu, Assistant Professor		"Department of Mechanical Engineering"	"Effects of heat treatment on the mechanical properties of 3D printed PLA (IZOD Test)"	UCEN-JNTUK	2 Days	0.06
"Dr. B.Venkata Siva, Professor & HOD "		"Department of Mechanical Engineering"	"Evolution of Mechanical properties of composite material"	UCEN-JNTUK	2 Days	0.07
"Dr. B.Venkata Siva, Professor & HOD "		"Department of Mechanical Engineering"	Online exams	TCS-ION	1 Year	1.50
M.Venkaiah, Assistant Professor		"Department of Mechanical Engineering"	Makingg of stools & Benches	NIPS,NARASARAOPET	6 Months	0.95
"Dr. B.Venkata Siva, Professor & HOD "		"Department of Mechanical Engineering"	Produce reinforced aluminium composites using stir casting.	"RVR & JC College of Engineering"	5 Days	0.10
K.Kiranchand, Assistant Professor		"Department of Mechanical Engineering"	Experimental Investigation of Fatigue Strength of Welded Joints	VVIT, Guntur	5 Days	0.07
"Dr. M.Venkanna Babu, Associate Professor "		"Department of Mechanical Engineering"	Microstructural Analysis of Heat-Treated Mild Steel	Vishnu Engineering College, Bhimavaram, A.P.	5 Days	0.08
K.John Babu, Assistant Professor		"Department of Mechanical Engineering"	Design and analysis of CAD model using CATIA	Axis Global Institute of Industrial Training (AGIIT)	1 Year	1.00
						Amount received (Rs.):6.33

(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.D.Jagadish, Professor		Department of Mechanical Engineering	Fatigue behaviour of Magnesium based alloys	RVR & JC College of Engineering	5 Days	0.06
Dr.P.Suresh Babu, Associate Professor		Department of Mechanical Engineering	Pollution Testing	Testing of Petrol Vehicles	1 year	0.08
Dr.D.Jagadish, Professor		Department of Mechanical Engineering	Hybrid Composite Fabrication Using Stir Casting	KHIT,Guntur	5 Days	0.09
Dr. B.Venkata Siva, Professor & HOD		Department of Mechanical Engineering	Online exams	TCS-ION	1 year	1.56
Dr. M.Venkanna Babu, Associate Professor		Department of Mechanical Engineering	Fatigue Life Assessment of Metallic Components under Cyclic Loading	Vishnu Engineering College, Bhimavaram, A.P.	5 Days	0.10
Dr.P.Suresh Babu, Associate Professor		Department of Mechanical Engineering	Industrial Automation and Smart Manufacturing Solutions	Falcon IT Training & Educational Services LLP	1 year	1.50
P.Sravani,Assistant professor		Department of Mechanical Engineering	Effect of Surface Finish on Fatigue Performance of Steel Specimens	PVP Siddhartha Engineering College, Vijayawada, A.P.,	5 Days	0.09
Dr.D.Jagadish, Professor		Department of Mechanical Engineering	Leakage monitoring & conservation of compressed air	M/S Mittapalli Spinners Limited, Narasaraopet	2 Years	2.50
						Amount received (Rs.):5.98

(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.D.Jagadish, Professor		Department of Mechanical Engineering	Optimization of Compressor air utility of Screw Compressors	M/S Mittapalli Spinners	1 year	0.90
M.Venkaiah, Assistant Professor		Department of Mechanical Engineering	Making of Benches for Academic Institutions	SMCE, Guntur	6 Months	2.25
Dr.D.Jagadish, Professor		Department of Mechanical Engineering	Pollution Testing	Testing of Petrol Vehicles	1 year	0.09
Dr. B.Venkata Siva, Professor & HOD		Department of Mechanical Engineering	Ultrasonication of Specimens	VR Siddhartha Engineering College, Vijayawada, A.P.,	2 Days	0.05
Dr. B.Venkata Siva, Professor & HOD		Department of Mechanical Engineering	Imact Testing of Specimens	Vishnu Engineering College, Bhimavaram, A.P.	2 Days	0.05
Dr. B.Venkata Siva, Professor & HOD		Department of Mechanical Engineering	Online exams	TCS-ION	1 year	1.66
M.Venkaiah, Assistant Professor		Department of Mechanical Engineering	Fatigue Evaluation of Composite Materials for Industrial Applications	VVIT,Guntur	5 Days	0.10
P Sravani, Assistant Professor		Department of Mechanical Engineering	Training on AUTOCAD	Falcon IT Training & Educational Services LLP	2 Years	1.45
Dr.D.Jagadish, Professor		Department of Mechanical Engineering	Development of Sustainable Manufacturing and Production Practices	Axis Global Institute of Industrial Training (AGIIT)	1 year	2.50
						Amount received (Rs.):9.05

Total amount (Lacs) received for the past 3 years: 21.36

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.B.Venkata Siva	Predictive Maintenance of Industrial Equipment Using Machine Learning	6 Months	0.10	0.10	working model in AIML
T Ashok kumar	Predictions of Material Selection Using AIML	6 Months	0.10	0.10	Published in conference
M Mothilal Naik	Design and Fabrication of Dustless Chalk Piece Making Mould By Using 3D Printing	6 Months	0.10	0.10	Prototype
CH.Sekhar	Design and Fabrication of Radio Control Plane	6 Months	0.10	0.10	Prototype
P.Srinivasa Rao	Fabrication and Analysis of Refrigeration System Using LPG as A Refrigerant	6 Months	0.10	0.10	Published in conference
Dr B.Venkata Siva	Energy Load Prediction in steel industries using Machine learning	6 Months	0.10	0.10	working model in AIML
D.Raghavendra	Design and Fabrication of Bicycle by using Lever Gear Mechanism	6 Months	0.10	0.10	Prototype
Dr.P.Suresh Babu	Design and Fabrication of Speed Breaker to Generate Electricity	6 Months	0.10	0.10	Prototype
P.Sravani	Fabrication and Analysis of Refrigeration System by using LPG as a Refrigerant	6 Months	0.10	0.10	Published in conference
M.Venkaiah	Design and analysis of GOKART Vehicle Chassis	6 Months	0.50	0.50	Prototype
Dr.B.Venkata Siva	Design and Fabrication of 3D Printed Drone	6 Months	0.10	0.10	Published in conference
Dr.M.Venkanna Babu	Design and Fabrication of 3D Printed Multiple Gripper Prosthetic Hand	6 Months	0.10	0.10	Prototype
			Amount received (Rs.): 1.60		

(CAYm2)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Mr. M.Venkaiah	DESIGN AND FABRICATION OF LINEAR ACTUATOR BY USING 3D PRINTING	6 Months	0.10	0.10	Published in conference
Dr. M.Venkanna Babu	DESIGN AND FABRICATION OF FOLDABLE MOBILITY SCOOTER	6 Months	0.10	0.10	Published in conference
Dr.B.Venkata Siva	Automatic Colour Code Sensing Machine Controlled By PLC	6 Months	0.10	0.10	Published in conference
Mrs.P.Sravani	Leakage detection by using PLC in Oil and Gas Industries	6 Months	0.10	0.10	Published in conference
Mr.Ch.Sekhar	Developing of material segregation system by using PLC	6 Months	0.10	0.10	Published in conference
Dr. M.Sreenivasa Kumar	Car Parking Management Control By PLC	6 Months	0.10	0.10	Published in conference
Dr.P.Suresh Babu	ANALYSIS OF ULTRASONIC TESTING ON HOT ROLLER MILD STEEL PLATE	6 Months	0.10	0.10	Published in conference
Dr. D. SUNEEL	DEFECT DETECTION ON WELDED JOINTS USING ULTRASONIC TESTING	6 Months	0.10	0.10	Published in conference
Mrs.D.Raghavendra	Fabrication of Stamping Mechanism	6 Months	0.10	0.10	Published in conference
Mr.Ch.Sekhar	DESIGN AND FABRICATION OF MULTI-MODE ROBOTIC CAR	6 Months	0.10	0.10	Published in conference
Mr.T.Ashok Kumar	DESIGN AND FABRICATION OF 3D PRINTED PLANE TURBINE MECHANISM	6 Months	0.10	0.10	Published in conference
Dr.B.Venkata Siva	IoT BASED VEHICLE ACCIDENT ALERTING SYSTEM	6 Months	0.10	0.10	Published in conference
Mr.P.SRINIVASA RAO	COMPARATIVE STUDY OF S1223RTL WITH NACA 0012 AIRFOIL	6 Months	0.10	0.10	Published in conference
Mr.Y.Suvarna Kumar	DESIGN AND 3D PRINTING OF WALKING GEAR MECHANISM	6 Months	0.10	0.10	Published in conference
Dr.M Venkanna Babu	DESIGN AND FABRICATION OF DEXTERITY OF A HUMAN HAND BY USING 3D PRINTING	6 Months	0.10	0.10	Published in conference
			Amount received (Rs.): 1.50		

(CAYm3)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Dr. B. Venkata Siva	Fabrication Of Hand Controlled Robot Car	6 Months	0.10	0.10	Published in conference
Dr.B.Venkata Siva	Fire And Gas Safety Alarm Prototype Using Arduino	6 Months	0.10	0.10	Published in conference
Dr. P Suresh Babu	Fabrication Of Fatigue Specimen By Using Stir Casting Method	6 Months	0.10	0.10	Published in conference
Mr. T. Ashok Kumar	3D Printing of Rack And Pinion Steering Mechanism	6 Months	0.10	0.10	Published in conference
Mr. K. John Babu	Design And Fabrication Of Cam AndFollower Using 3D Printer	6 Months	0.10	0.10	Published in conference
Mr. Shaik. Nagul Meeravali	Design And Fabrication of Radial Engine Using 3D Printer	6 Months	0.10	0.10	Published in conference
Mr. Shaik. Nagul Meeravali	3D Printing of Automotive Differential	6 Months	0.10	0.10	Published in conference
Dr.D.Suneel	Fatigue Characterization Of A356-Sic Metal Matrix Nano Composites By Using Stir Casting Method	6 Months	0.10	0.10	Published in conference
Dr.D. Jagadish	Design And Fabrication of Electric Vehicle Chassis	1 Year	0.50	0.50	Published in conference
Dr. M. Sreenivasa Kumar	Design And Fabrication Of Steering Gear Mechanism For Electric Vehicle	1 Year	0.50	0.50	Published in conference
Dr.M.Venkanna Babu	Fabrication And Analysis Of Transmission System For Electric Vehicle	1 Year	0.50	0.50	Published in conference
Mr. M. Venkaiah	Design And Fabrication of Suspension System For An Electric Vehicle	1 Year	0.50	0.50	Published in conference
Dr.D. Jagadish	Design And Fabrication Of Braking System For Electric Vehicle	1 Year	0.50	0.50	Published in conference
Mr.Ch.Sekhar	Human Following Robot Using Arduino	6 Months	0.10	0.10	Published in conference
Mrs. D. Raghavendra	Design And Fabrication of MIG 29-k Fighter Jet Using 3D Printer	6 Months	0.10	0.10	Published in conference
Mr.Ch.Sekhar	Smart Auditorium Using Arduino	6 Months	0.10	0.10	Published in conference
Mr.P. Srinivasa Rao	The Effect of Titanium Oxide Nano Lubricant on the Performance on engine	6 Months	0.10	0.10	Published in conference
			Amount received (Rs.): 3.70		

Total amount (Lacs) received for the past 3 years : 6.80

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 Lab 1 & Lab 2	60	Wood cutting machine, Surface plate, Carpentry Bench Vices, Fitting Bench Vices, Stakes, Rough & Smooth Files, Objects, Hammer, Test Plates, Machine	48 Hours (16 5	Mr. P. Narasimha Rao	Lab Technician	ITI (Fitter)
2	Engineering Work Shop Lab 1	60	Wood cutting machine, Surface plate, Carpentry Bench Vices, Fitting Bench Vices, Stakes, Rough & Smooth Files, Objects, Hammer, Test Plates, Machine	30 Hours (10 5	Mr. K.Yasovardhan	Lab Technician	ITI (Fitter)
3	Engineering Mechanics Lab	35	Parallelogram of Forces Apparatus with Weights, Triangular & Polygon Forces Apparatus with Weights, Apparatus to Study Equilibrium of Non Coplanar	06 Hours (2 SI	Mr. A. Siva Nageswara R	Lab Technician	ITI (Mechanic Motor Vehi
4	Material Science Lab	35	Binocular micro scope, Specimen cut of machine, Specimen leveller, Specimen mounting press, Dry & wet Rocker, Rocker disk, rotating machine, rotating Stand	06 Hours (2 SI	Mr. Sk.G.Shareef	Lab Technician	ITI (Fitter)

5	Mechanics of Solids Lab	35	Rock well cum hardness tester, Rockwell cum brinell hardness tester, Universal testing machine, Torsion testing machine, Impact testing machine, Oiler testing machine	09 Hours (2 Sl	Mr. B.Srinivasa Rao	Lab Technician	B.Tech (Mechanical Engin
6	Computer-aided Machine Drawing Lab	1	Student version Auto Cad, Catia Software, Lenovo Computers -40 HP500GB desktop, 19.5 LED Monitor, keyboard, mouse, Test Case-1700, 400W, 40	06 Hours (2 Sk	Mr. P. Siva Gopi	Lab Technician	B.Tech (Mechanical Engin
7	Python Programming Lab	1	Online free sources like Google Colabs, PyCharm, VSCode, Lenovo Computers- 48, Inter Xeon X5650 @ 2.67GHz & 8GB RAM, 20.1" (50.8cm) LCD Panel, 4GB DDR3 RAM, 6TB	06 Hours (2 Sl	Mr. K.Babu	Lab Technician	B.Tech (Mechanical Engin
8	Manufacturing Technology Lab	35	Wood working lathe, Injection moulding machine, Blow moulding machine, 25 Tones hydraulic press, Air cooling press machine, Cast moulding, Gas moulding, Oil moulding	06 Hours (2 Sk	Mr. K. Venkata Swamy	Lab Technician	ITI (Fitter)
9	Fluid Mechanics & Hydraulic Machines Lab	35	Pipe friction, impact of jet, venturimeter & orifice meter, single stage centrifugal pump, multistage centrifugal pump, Pelton wheel test rig, Francis turbine test rig	09 Hours (2 Sl	Mr. B.Srinivasa Rao	Lab Technician	B.Tech (Mechanical Engin
10	Thermal Engineering Lab	35	4 Stroke diesel engine, 4 stroke 3cylinder petrol engine test rig, Single cylinder 4 stroke petrol engine test rig, 4 stroke single cylinder diesel engine test rig, Turbine	06 Hours (2 Sl	Mr. A. Siva Nageswara Ra	Lab Technician	ITI (Mechanic Motor Vehic
11	Machine Tools Lab	35	Lathe machine with Norton gear box with standard accessories, All geared centre lathe machines, Shaping Machine, Surface grinding machine, Bench grinding	06 Hours (2 Sl	Mr. K.Yasovardhan	Lab Technician	ITI (Fitter)
12	Metrology Lab	35	Vernier calliper, outside Micro meter, Inside micro meter, Cylinder bore gauge with dial gauge, Sine bar, Slip gauge, Dial indicator with magnetic base, Universal	06 Hours (2 Sl	Mr. P. Siva Gopi	Lab Technician	B.Tech (Mechanical Engin
13	Theory Machines Lab	35	Vibration apparatus, Static & dynamic balancing apparatus, Gyroscope, Pin on disc apparatus	06 Hours (2 Sl	Mr. K.Babu	Lab Technician	B.Tech (Mechanical Engin
14	Tinkering Lab	35	Colido X 3045 3D printer, 3D Printer (Ultimaker S5Pro Bundle), Lenovo Computers -40 HP500GB desktop, 19.5 LED Monitor, keyboard, mouse, Test Case	06 Hours (2 Sl	Mr. B.Srinivasa Rao	Lab Technician	B.Tech (Mechanical Engin
15	Heat Transfer Lab	35	Thermal conductivity of metal bar, Stefan Boltzmann's apparatus, Thermal conductivity of composite wall apparatus, Heat Transfer in food chain, Heat Transfer	06 Hours (2 Sl	Mr.J. Madhusudhana Rao	Lab Technician	ITI (Mechanic Motor Vehic
16	Robotics and Drone Technologies Lab	35	ESP32-Based Robot for basic movement, Obstacle avoidance robot, Pick and place robotic arm using robotic control, Use following robot, Lenovo Computers	06 Hours (2 Sl	Mr. P. Siva Gopi	Lab Technician	B.Tech (Mechanical Engin
17	Artificial Intelligence and Machine Learning Lab	1	Google Colabs online free sources ,Lenovo Computers -40 HP500GB desktop, 19.5 LED Monitor, keyboard, mouse, Test Case-1700, 400W, 40	06 Hours (2 Sl	Mr. B.Srinivasa Rao	Lab Technician	B.Tech (Mechanical Engin
18	CAD/CAM/CAE Lab	1	ANSYS Software, XL TURN CNC Slant Bed Lathe & XL MILL CNC Bench Milling Machines, Lenovo Computers- 48, Inter Xeon X5650 @ 2.67GHz & 8GB RAM, 20.1" (50.8cm) LCD Panel, 4GB DDR3 RAM, 6TB	06 Hours (2 Sk	Mr. K.Babu	Lab Technician	B.Tech (Mechanical Engin
19	Mechatronics Lab	35	Strain Gauge, LVDT, Summing Amplifier Trainer Kit, Reflective OptoTransducer kit, Programmable Logic Controller, Digital and Analog Sensor Study Trainer	06 Hours (2 Sk	Mr. P. Siva Gopi	Lab Technician	B.Tech (Mechanical Engin

D2. Safety Measures in Laboratories

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

Sr. No	Laboratory Name	Safety Measures
1	Engineering Work Shop Lab 1 & 2	1. First-Aid box provided in the laboratory and fire extinguishers are kept in each Floor. 2. Earthing is provided for all machines to keep people safe by preventing electrical shocks and damage to the equipment. 3. Safety precautions to be followed in the lab are displayed at appropriate places. 4. Minimum distance is maintained between experimental setup. 5. The lab is well ventilated. 6. Wall charts of Dos and Don'ts are displayed in the Laboratory. 7. Students are supposed to wear Lab Aprons. 8. Safety hand Gloves, Goggles are provided. 9. Well trained technical supporting staff monitor the labs at all times. 10. Do not run or engage in reckless behavior in laboratory 11. Avoiding the use of damaged equipment and provides needful equipment and components. 12. Power supply is switched-off when Laboratory is not in use. 13. Awareness is created for both faculty and students about the usage of fire extinguishers. 14. Generator is available in case of power failure.

2	Engineering Mechanics Lab	1. First-Aid box provided in the laboratory and fire extinguishers are kept in each Floor. 2. Earthing is provided for all machines to keep people safe by preventing electrical shocks and damage to the equipment. 3. Safety precautions to be followed in the lab are displayed at appropriate places. 4. The lab is well ventilated. 5. Wall charts of Dos and Don'ts are displayed in the Laboratory. 6. Students are supposed to wear Lab Aprons. 7. Well trained technical supporting staff monitor the labs at all times. 8. Do not run or engage in reckless behavior in laboratory 9. Avoiding the use of damaged equipment and provides needful equipment and components. 10. Power supply is switched-off when Laboratory is not in use.. 11. Awareness is created for both faculty and students about the usage of fire extinguishers. 12. Generator is available in case of power failure.
3	Mechanics of Solids Lab	1. First-Aid box provided in the laboratory and fire extinguishers are kept in each Floor. 2. Safety precautions to be followed in the lab are displayed at appropriate places. 3. Minimum distance is maintained between experimental setup. 4. The lab is well ventilated. 5. Wall charts of Dos and Don'ts are displayed in the Laboratory. 6. Students are supposed to wear Lab Aprons. 7. Well trained technical supporting staff monitor the labs at all times. 8. Do not run or engage in reckless behavior in laboratory 9. Avoiding the use of damaged equipment and provides needful equipment and components. 10. Power supply is switched-off when Laboratory is not in use. 11. Proper earthing is done in laboratories to keep people safe by preventing electrical shocks and damage to the equipment. 12. Awareness is created for both faculty and students about the usage of fire extinguishers. 13. Periodical servicing of the lab equipment. 14. Generator is available in case of power failure.
4	Material Science Lab	1. First-Aid box provided in the laboratory and fire extinguishers are kept in each Floor. 2. Safety precautions to be followed in the lab are displayed at appropriate places. 3. Minimum distance is maintained between experimental setup 4. The lab is well ventilated. 5. Wall charts of Dos and Don'ts are displayed in the Laboratory. 6. Students are supposed to wear Lab Aprons. 7. Well trained technical supporting staff monitor the labs at all times. 8. Do not run or engage in reckless behavior in laboratory 9. Avoiding the use of damaged equipment and provides needful equipments and components. 10. Power supply is switched-off when Laboratory is not in use. 11. Proper earthing is done in laboratories to keep people safe by preventing electrical shocks and damage to the equipment. 12. Awareness is created for both faculty and students about the usage of fire extinguishers 13. Periodical servicing of the lab equipment. 14. Generator is available in case of power failure.
5	Manufacturing Processes Lab	1. First-Aid box provided in the laboratory and fire extinguishers are kept in each Floor. 2. Safety precautions to be followed in the lab are displayed at appropriate places. 3. Minimum distance is maintained between experimental setup. 4. The lab is well ventilated. 5. Wall charts of Dos and Don'ts are displayed in the Laboratory. 6. Students are supposed to wear Lab Aprons. 7. Well trained technical supporting staff monitor the labs at all times. 8. Do not run or engage in reckless behavior in laboratory. 9. Avoiding the use of damaged equipment and provides needful equipment and components. 10. Power supply is switched-off when Laboratory is not in use. 11. Proper earthing is done in laboratories to keep people safe by preventing electrical shocks and damage to the equipment. 12. Awareness is created for both faculty and students about the usage of fire extinguishers. 13. Periodical servicing of the lab equipment. 14. Safety hand Gloves, Goggles are provided. 15. Generator is available in case of power failure.
6	Fluid Mechanics & Hydraulic Machines Lab	1. First-Aid box provided in the laboratory and fire extinguishers are kept in each Floor. 2. Safety precautions to be followed in the lab are displayed at appropriate places. 3. Minimum distance is maintained between experimental setup. 4. The lab is well ventilated. 5. Wall charts of Dos and Don'ts are displayed in the Laboratory. 6. Students are supposed to wear Lab Aprons. 7. Well trained technical supporting staff monitor the labs at all times. 8. Do not run or engage in reckless behavior in laboratory. 9. Avoiding the use of damaged equipment and provides needful equipment and components. 10. Power supply is switched-off when Laboratory is not in use. 11. Proper earthing is done in laboratories to keep people safe by preventing electrical shocks and damage to the equipment. 12. Awareness is created for both faculty and students about the usage of fire extinguishers. 13. Periodical servicing of the lab equipment. 14. Generator is available in case of power failure.
7	Thermal Engineering Lab	1. First-Aid box provided in the laboratory and fire extinguishers are kept in each Floor. 2. Safety precautions to be followed in the lab are displayed at appropriate places. 3. Minimum distance is maintained between experimental setup. 4. The lab is well ventilated. 5. Wall charts of Dos and Don'ts are displayed in the Laboratory. 6. Students are supposed to wear Lab Aprons. 7. Well trained technical supporting staff monitor the labs at all times. 8. Do not run or engage in reckless behavior in laboratory. 9. Avoiding the use of damaged equipment and provides needful equipment and components. 10. Power supply is switched-off when Laboratory is not in use. 11. Proper earthing is done in laboratories to keep people safe by preventing electrical shocks and damage to the equipment. 12. Awareness is created for both faculty and students about the usage of fire extinguishers. 13. Periodical servicing of the lab equipment. 14. Generator is available in case of power failure.
8	Machine Tools Lab	1. First-Aid box provided in the laboratory and fire extinguishers are kept in each Floor. 2. Safety precautions to be followed in the lab are displayed at appropriate places. 3. Minimum distance is maintained between experimental setup. 4. The lab is well ventilated. 5. Wall charts of Dos and Don'ts are displayed in the Laboratory. 6. Students are supposed to wear Lab Aprons. 7. Well trained technical supporting staff monitor the labs at all times. 8. Do not run or engage in reckless behavior in laboratory. 9. Avoiding the use of damaged equipment and provides needful equipment and components. 10. Power supply is switched-off when Laboratory is not in use. 11. Proper earthing is done in laboratories to keep people safe by preventing electrical shocks and damage to the equipment. 12. Awareness is created for both faculty and students about the usage of fire extinguishers. 13. Periodical servicing of the lab equipment. 14. Generator is available in case of power failure.
9	Theory of Machines Lab	1. First-Aid box provided in the laboratory and fire extinguishers are kept in each Floor. 2. Safety precautions to be followed in the lab are displayed at appropriate places. 3. Minimum distance is maintained between experimental setup. 4. The lab is well ventilated. 5. Wall charts of Dos and Don'ts are displayed in the Laboratory. 6. Students are supposed to wear Lab Aprons. 7. Well trained technical supporting staff monitor the labs at all times. 8. Do not run or engage in reckless behavior in laboratory. 9. Avoiding the use of damaged equipment and provides needful equipment and components. 10. Power supply is switched-off when Laboratory is not in use. 11. Proper earthing is done in laboratories to keep people safe by preventing electrical shocks and damage to the equipment. 12. Awareness is created for both faculty and students about the usage of fire extinguishers. 13. Periodical servicing of the lab equipment. 14. Generator is available in case of power failure.

10	Metrology Lab	1. First-Aid box provided in the laboratory and fire extinguishers are kept in each Floor. 2. Safety precautions to be followed in the lab are displayed at appropriate places. 3. Minimum distance is maintained between experimental setup. 4. The lab is well ventilated. 5. Wall charts of Dos and Don'ts are displayed in the Laboratory. 6. Students are supposed to wear Lab Aprons. 7. Well trained technical supporting staff monitor the labs at all times. 8. Do not run or engage in reckless behavior in laboratory. 9. Avoiding the use of damaged equipment and provides needful equipment and components. 10. Power supply is switched-off when Laboratory is not in use. 11. Proper earthing is done in laboratories to keep people safe by preventing electrical shocks and damage to the equipment. 12. Awareness is created for both faculty and students about the usage of fire extinguishers. 13. Periodical servicing of the lab equipment. 14. Generator is available in case of power failure.
11	3D Printing Lab	1. First-Aid box provided in the laboratory and fire extinguishers are kept in each Floor. 2. Safety precautions to be followed in the lab are displayed at appropriate places. 3. Minimum distance is maintained between experimental setup. 4. The lab is well ventilated. 5. Wall charts of Dos and Don'ts are displayed in the Laboratory. 6. Students are supposed to wear Lab Aprons, if necessary. 7. Well trained technical supporting staff monitor the labs at all times. 8. Do not run or engage in reckless behavior in laboratory. 9. Damaged equipment is identified and serviced at the earliest. 10. Power supply is switched-off when Laboratory is not in use. 11. Proper earthing is done in laboratories to keep people safe by preventing electrical shocks and damage to the equipment. 12. Awareness is created for both faculty and students about the usage of fire extinguishers. 13. Lab is equipped with stabilizer based UPS for protecting from power fluctuations. 14. Periodical servicing of the lab equipment. 15. Generator is available in case of power failure.
12	Heat Transfer Lab	1. First-Aid box provided in the laboratory and fire extinguishers are kept in each Floor. 2. Safety precautions to be followed in the lab are displayed at appropriate places. 3. Minimum distance is maintained between experimental setup. 4. The lab is well ventilated. 5. Wall charts of Dos and Don'ts are displayed in the Laboratory. 6. Students are supposed to wear Lab Aprons. 7. Well trained technical supporting staff monitor the labs at all times. 8. Do not run or engage in reckless behavior in laboratory. 9. Avoiding the use of damaged equipment and provides needful equipment and components. 10. Power supply is switched-off when Laboratory is not in use. 11. Proper earthing is done in laboratories to keep people safe by preventing electrical shocks and damage to the equipment. 12. Awareness is created for both faculty and students about the usage of fire extinguishers. 13. Periodical servicing of the lab equipment. 14. Generator is available in case of power failure.
13	Dassault Systems Lab	1. First-Aid box provided in the laboratory and fire extinguishers are kept in each Floor. 2. Safety precautions to be followed in the lab are displayed at appropriate places. 3. Minimum distance is maintained between experimental setup. 4. The lab is well ventilated. 5. Wall charts of Dos and Don'ts are displayed in the Laboratory. 6. Students are supposed to wear Lab Aprons, if necessary. 7. Well trained technical supporting staff monitor the labs at all times. 8. Do not run or engage in reckless behavior in laboratory. 9. Avoiding the use of damaged computer and provides needful computer and components. 10. Power supply is switched-off when Laboratory is not in use. 11. Proper earthing is done in laboratories to keep people safe by preventing electrical shocks and damage to the equipment. 12. Awareness is created for both faculty and students about the usage of fire extinguishers. 13. Lab is equipped with stabilizer based UPS for protecting from power fluctuations. 14. Periodical servicing of the lab equipment. 15. Electrical Wires Protected by MCB and Fuses. 16. Generator is available in case of power failure.
14	Robotics and Drone Technologies Lab	1. First-Aid box provided in the laboratory and fire extinguishers are kept in each Floor. 2. Safety precautions to be followed in the lab are displayed at appropriate places. 3. Minimum distance is maintained between experimental setup. 4. The lab is well ventilated. 5. Wall charts of Dos and Don'ts are displayed in the Laboratory. 6. Students are supposed to wear Lab Aprons, if necessary. 7. Well trained technical supporting staff monitor the labs at all times. 8. Do not run or engage in reckless behavior in laboratory. 9. Damaged equipment is identified and serviced at the earliest. 10. Power supply is switched-off when Laboratory is not in use. 11. Proper earthing is done in laboratories to keep people safe by preventing electrical shocks and damage to the equipment. 12. Awareness is created for both faculty and students about the usage of fire extinguishers. 13. Lab is equipped with stabilizer based UPS for protecting from power fluctuations. 14. Periodical servicing of the lab equipment. 15. Generator is available in case of power failure.
15	CAD/CAM/CAE Lab	1. First-Aid box provided in the laboratory and fire extinguishers are kept in each Floor. 2. Safety precautions to be followed in the lab are displayed at appropriate places. 3. Minimum distance is maintained between experimental setup. 4. The lab is well ventilated. 5. Wall charts of Dos and Don'ts are displayed in the Laboratory. 6. Students are supposed to wear Lab Aprons, if necessary. 7. Well trained technical supporting staff monitor the labs at all times. 8. Do not run or engage in reckless behavior in laboratory. 9. Avoiding the use of damaged computer and provides needful computer and components. 10. Power supply is switched-off when Laboratory is not in use. 11. Proper earthing is done in laboratories to keep people safe by preventing electrical shocks and damage to the equipment. 12. Awareness is created for both faculty and students about the usage of fire extinguishers. 13. Lab is equipped with stabilizer based UPS for protecting from power fluctuations. 14. Periodical servicing of the lab equipment. 14. Electrical Wires Protected by MCB and Fuses. 15. Generator is available in case of power failure.
16	Mechatronics lab	1. First-Aid box provided in the laboratory and fire extinguishers are kept in each Floor. 2. Safety precautions to be followed in the lab are displayed at appropriate places. 3. Minimum distance is maintained between experimental setup. 4. The lab is well ventilated. 5. Wall charts of Dos and Don'ts are displayed in the Laboratory. 6. Students are supposed to wear Lab Aprons, if necessary. 7. Well trained technical supporting staff monitor the labs at all times. 8. Do not run or engage in reckless behavior in laboratory. 9. Damaged equipment is identified and serviced at the earliest. 10. Power supply is switched-off when Laboratory is not in use. 11. Proper earthing is done in laboratories to keep people safe by preventing electrical shocks and damage to the equipment. 12. Awareness is created for both faculty and students about the usage of fire extinguishers. 13. Periodical servicing of the lab equipment. 14. Generator is available in case of power failure.

7.5 PROJECT LABORATORY/RESEARCH LABORATORY/CENTRE OF EXCELLENCE (20)

PROJECT LABORATORY

The following are details of project laboratory provided by the department of Mechanical Engineering to fulfill the requirement of project / research work done by the UG/ PG students, Research Scholars and Faculty members.

Project room is made available with sufficient computers and required soft wares. The project kits related to 3D printing, Robotics, Skill Center –Dassault systems etc. are made accessible in the project room. Students as per the schedule use the facilities available to pursue the drafting, modelling, innovation and product design. The discussion regarding the research activities done by the student will be carried out at regular intervals of time table top LCD projector serves the purpose of sharing the presentations of the different research groups. The robots and other 3D printing related supporting equipment are installed in the lab.

The department of Mechanical Engineering maintains advanced equipment's on each lab to facilitate project work for students to work in their research and innovation projects. The laboratories have shelves for storage and workbenches.

The following are details of project laboratories provided by the department of Mechanical Engineering to fulfil the requirement of Project Laboratory/Research Laboratory/ Centre of Excellence project work done by the UG/ PG students, Research Scholars and Faculty members.

Table 7.5.1 List of Project laboratory/ Research laboratory/Centre of Excellence

S. No	Name of the Facility	Utilization
1.	Internet Airtel : 400Mbps +6Mbps BSNL : 1GBps Wi-Fi LAN for Along with Computers facility	UG/PG students, Research Scholars and Faculty members utilize the internet and Wi-Fi facility for their Project and research activities
2.	20KVA UPS 240 VDC along with batteries	Used in case of Power failure in all PC System power failure
3.	Department academic project's document hard and softcopies for Project reference	UG/PG students, Research Scholars and Faculty members utilize for their mini projects, projects, and research activities for Reference.
4.	LCD Projector	Used to discuss and conduct review meetings about progress of research work and projects
5.	Printer	For printing required documents for research and projects

COMPUTING FACILITIES (INCLUDING SOFTWARE):

Our Department providing the following Computer facility and software for the students as per the curriculum.

Table 7.5.2 List of Computing facility available in ME department

S. No	Desk Top/ Laptop	Quantity
1	Lenovo Desktops	40
3	Printer	2
4	20 KVA on-Line UPS	2

Table 7.5.3 List of Software facilities available to complete project/ Research work

S. No	No & Date of Invoice	Name of the Software	Version and No. of Users
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1	Abacus 03/70/22/03/2000	AUTO CAD 2000 Educational Version	40 Users
2	CUP/2016-17/13/Hyd/29-07-2016	ANSYS 17.0	25 Users
3	0002/21-22/19-05-2021	Ultimaker S5 PRO	1 User
4	MKS-INV-0008/11-09-2017	ColiDo X3045- Cura Software free license	1 User
5	00047547/03-04-2019	Cp Rog	Open source
6		CATIA	40 Users
7		DELMIA	40 Users
8		SIMULIA	40 Users
9		Fusion 360 AICTE Student free license	40 Users
10		Delta-WPL Software 13 th version	Open source

Objectives:

To enhance students practical and research skills by providing hands-on experience with advanced tools, technologies, and methodologies in engineering and applied sciences. To motive innovation and critical thinking by encouraging student-led research projects, interdisciplinary collaboration, and participation in technical publications and competitions.

Outcomes:

- Students will be able to design and conduct experiments analyze data, and interpret results to develop innovative solutions to real-world problems.
- Students will demonstrate improved technical, research, and communication skills through active participation in projects, presentations, and technical documentation.
- Faculty Research Paper Publications (Academic Year-wise):
 - 2024–25: 39 publications
 - 2023–24: 27 publications
 - 2022–23: 26 publications
- Student papers Publication details Academic year wise
 - 2024–25: 15 publications
 - 2023–24: 22 publications
 - 2022–23: 23 publications
- Students participated in National level competitions and got prize.

Centre of Excellence: ROBOTICS

Objectives:

The Robotics Laboratory is designed to provide students with practical knowledge and hands-on experience in the fundamentals of robotics, automation, and intelligent systems. It enables students to understand robot configurations, kinematics, dynamics, motion control, and robotic programming through laboratory experiments and simulation tools. The laboratory familiarizes students with industrial robots, sensors, actuators, controllers, end effectors, and machine vision systems used in modern manufacturing environments.

Outcomes:

Students will be able to understand the principles and operation of industrial robotic systems and their applications in manufacturing and automation. They will acquire the skills to program, simulate, and control robotic manipulators for various industrial tasks, including pick-and-place, material handling,

A well-organized Robotics Laboratory designed to provide students with practical exposure to industrial robotics, automation systems, and robotic programming. The laboratory consists of **two enclosed robotic training cells** housed within transparent safety cabins, ensuring safe operation while allowing clear observation of robotic experiments.

The laboratory features a spacious layout with adequate lighting, ceiling fans for ventilation, and sufficient working space for students and instructors. The transparent enclosures protect users from moving robotic components during operation while enabling uninterrupted visibility of experiments.

The Robotics and Automation Laboratory is equipped with modern facilities to support practical learning, research, and skill development in robotics and industrial automation.

The laboratory provides:

1. Robotic Training cabins enclosed with transparent safety cabins for safe operation and observation.
2. Industrial Robot Manipulators for programming, pick-and-place, material handling.
3. Robot Programming with computers and simulation software.



Projects done by students:



Objectives:

- To provide students with advanced knowledge and hands-on training in 3D printing technology by integrating design, additive manufacturing, and prototyping through laboratory practice, workshops, and real-time projects.
- To promote innovation, product development, and interdisciplinary research by encouraging students to design, fabricate, and optimize 3D-printed components for engineering applications.

Outcomes:

- Students will be able to design, prepare, and fabricate 3D models using CAD software and 3D printing technologies for rapid prototyping and product development.

Students will demonstrate the ability to select suitable printing materials, optimize printing parameters, evaluate printed components and develop innovative engineering solutions through project-based learning and research



The **3D Printing Laboratory** is an advanced prototyping and additive manufacturing facility established to provide students with practical knowledge of modern product development techniques. The laboratory enables students to transform computer-aided design (CAD) models into physical prototypes by depositing material layer by layer using additive manufacturing technology. It supports experiential learning in CAD modeling, slicing, 3D printing, post-processing, and prototype development. The laboratory encourages innovation, entrepreneurship, interdisciplinary projects, and product development, enabling students to transform digital designs into physical prototypes for engineering applications.

The laboratory supports teaching, research, innovation, entrepreneurship, and interdisciplinary projects in Mechanical Engineering and allied disciplines. Students gain hands-on experience in product design, rapid prototyping, design validation, reverse engineering, and manufacturing optimization.

The 3D Printing Laboratory is utilized for:

1. Training students in 3D modeling, slicing software, and printer operation.
2. Fabricating functional components for mechanical engineering projects.
3. Supporting mini-projects, major projects, and capstone design projects.
4. Supporting research in lightweight structures, topology optimization, and new materials.
5. Participating in technical competitions and innovation challenges.



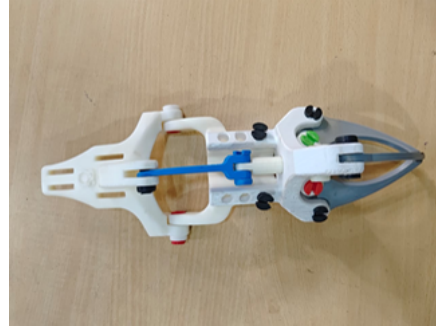
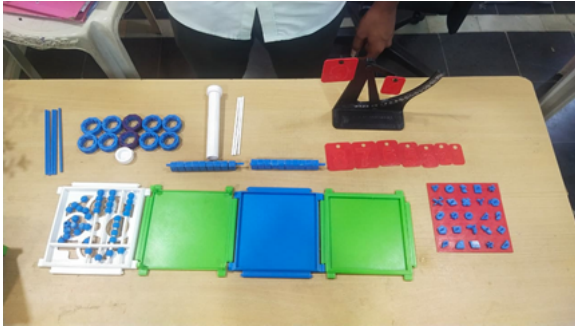


Figure: 3D Printed Components made by students



III B.Tech Mechanical Engineering students (<https://www.nrtec.in/about-mechanical-department/>) from Narasaraopeta Engineering College (<https://www.nrtec.in/>) proudly showcased their startup innovations at the National IP Yatra 2025, a two-day national-level programme on Intellectual Property Rights held in Guntur.



Three students from the Department of Mechanical Engineering at Narasaraopet Engineering College conducted a **3D Printing training program for the students of ZPHS, S.B. Puram, Narasaraopet, from 25th to 27th September 2024**. Through this program, the Mechanical Engineering students facilitated hands-on training and introduced school students to the fundamentals and applications of 3D printing technology.

Centre of Excellence: DASSAULT SYSTEMS

Objectives:

The Dassault Systems Laboratory is established to provide students with comprehensive practical training in modern computer-aided engineering technologies using Dassault Systèmes software such as CATIA, DELMIA, SIMULIA, and ENOVIA. The laboratory enables students to develop proficiency in 3D part modeling, assembly design, drafting, surface modeling, product lifecycle management (PLM), computer-aided manufacturing (CAM), and engineering simulation. It aims to strengthen students understanding of product design, virtual prototyping, manufacturing process planning, and digital engineering practices while enhancing their creativity, analytical thinking, and problem-solving skills.

Outcomes:

Students will be able to create accurate 3D models, assemblies, and engineering drawings using industry-standard Dassault Systèmes software. They will gain the ability to perform product design, virtual prototyping, simulation, manufacturing process planning, and product data management in a collaborative digital environment. Students will develop the skills to analyze engineering designs, optimize products, and validate design performance through simulation tools before physical manufacturing.

The **Dassault Systèmes Laboratory** is an advanced engineering design and product development facility established to provide students with hands-on training in industry-standard CAD, CAM, CAE, and Product Lifecycle Management (PLM) technologies. The laboratory is equipped with high-performance computer systems and licensed Dassault Systèmes software such as **CATIA, AUTO CAD, SOLIDWORKS, DELMIA, and SIMULIA**, enabling students to design, analyse, simulate, and manufacture engineering products in a virtual environment.

The laboratory bridges the gap between academic learning and industrial practice by providing practical exposure to digital product development, 3D modeling, assembly design, engineering simulation, manufacturing process planning, and virtual manufacturing. It supports undergraduate and postgraduate education, research, consultancy, innovation, and interdisciplinary project development. The laboratory also promotes Industry 4.0 concepts, digital manufacturing, and smart engineering practices, enhancing students technical competence and employability.



The laboratory is utilized for:

1. Learning **3D part modeling, assembly modeling, and drafting** using CATIA and SOLIDWORKS.
2. Designing and optimizing mechanical components for industrial applications.
3. Supporting **mini projects, major projects, and capstone projects**.
4. Providing **industry-oriented certification training** in Dassault Systèmes software.
5. Facilitating **industry-academia collaboration**, internships, and skill development programs.



The National Level *India Design Week Competition 2025*, conducted by ICT Academy and Autodesk.

G. Anand Babu and V. Harsha Vardhan from III B.Tech Mechanical Engineering at NEC have won **First Prize** under the *Best User Experience Design* category, competing against 150 teams.



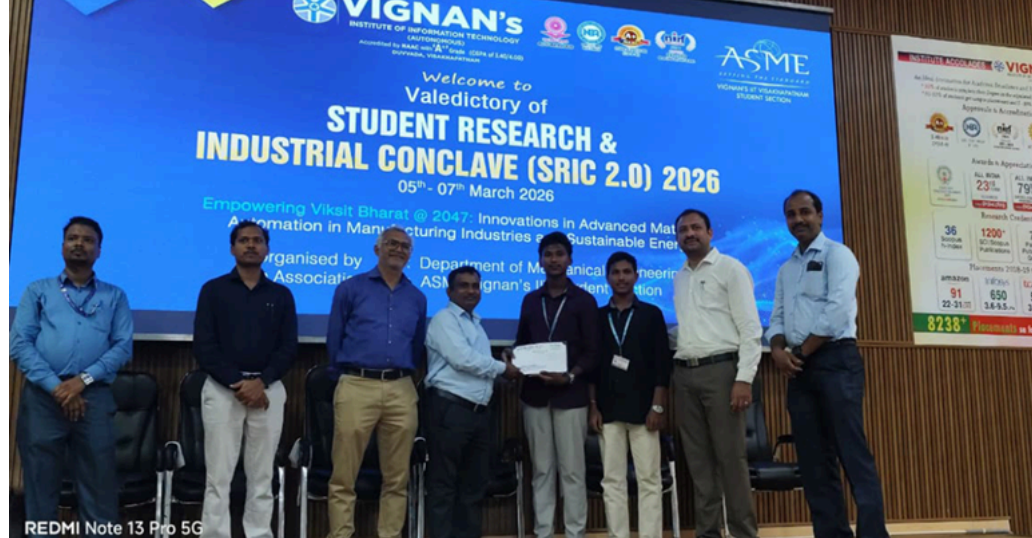
The National Level *India Design Week Competition 2025*, conducted by ICT Academy and Autodesk.

Additionally, **K. Koteswara Rao** and **P. Ajay Kumar**, also from III B.Tech Mechanical Engineering at NEC, secured an impressive **5th Position** overall out of 150 teams.



INDIA DESIGN WEEK 2023 Competition held in Chennai in association with ICT Academy & AUTODESK-FUSION 360

Mr. Sai Ganesh and **Mr. S.R. Vamshi** from third-year B.Tech students from the mechanical engineering department of Narasaraopeta Engineering College, Narasaraopet, took **fourth place** from 101 reputable colleges in India, a total of 220 teams were chosen.



Mechanical Engineering student received a **Certificate of Achievement** for winning the prize in the Smart Design CAD Contest at the Student Research & Industrial Conclave (SRIC 2.0) 2026, organized by the Department of Mechanical Engineering and ASME Student Section, Vignans Institute of Information Technology, Visakhapatnam on 5–7 March 2026.

Students Outside Participation:



III B.Tech & II B.Tech Mechanical Engineering students from Narasaraopeta Engineering College secured second prize at the Technical Quiz held during SAMKALP 2025 at Kallam Haranadhareddy Institute of Technology held on 19 December 2025.

The event took place tested technical knowledge and problem solving skills. This achievement highlights the strong academic support and competitive learning culture at NEC, encouraging students to excel beyond the classroom.

The following are the some of best projects done by final year students under the esteemed guidance of ME Department faculty members.

Project Laboratory Outcomes - The Students carryout projects in the emerging areas of ME by using the facilities of Project lab Outcomes from Project Laboratory are mentioned below.

Table7.5.4 Outcomes from Project Laboratory

S. No	Domain	Name of the Project	Relevance to PO's/PSO's
1	Robotics	Human Following Robot Using Arduino	PO-1,2,3,4,5,6,11, PSO-1,3
		Fabrication Of Hand Controlled Robot Car	PO-1,2,3,4,5,6,11, PSO-1,3
		Design And Fabrication Of Multi-Mode Robotic Car	PO-1,2,3,4,5,6,11, PSO-1,3
		Human Following Robot Using Arduino	PO-1,2,3,4,5,6,11, PSO-1,3
		Fabrication Of Hand Controlled Robot Car	PO-1,2,3,4,5,6,11, PSO-1,3
		IoT Based Vehicle Accident Alerting System	PO-1,2,3,4,5,6, PSO-1

2	3D Printing	Design and Fabrication of Dustless Chalk Piece Making Mould By Using 3D Printing	PO-1,2,3,4,5,6, PSO-1
		Design And Fabrication of MIG 29-k Fighter Jet Using 3D Printer	PO-1,2,3,4,5, PSO-1
		3D Printing of Automotive Differential	PO-1,2,3,4,5, PSO-1
		Design And Fabrication of Radial Engine Using 3D Printer	PO-1,2,3,4,5, PSO-1
		Design And Fabrication Of Cam And Follower Using 3D Printer	PO-1,2,3,4,5, PSO-1
		Design and Fabrication of 3D Printed Drone	PO-1,2,3,4,5,6, PSO-1
		Design And Fabrication of Dexterity of A Human Hand By Using 3D Printing	PO-1,2,3,4,5,6, PSO-1
		Design And Fabrication of 3d Printed Plane Turbine Mechanism	PO- 1,2,3,4,5,6,11, PSO-1,2
		Design and Fabrication of 3D Printed Multiple Gripper Prosthetic Hand	PO- 1,2,3,4,5,6,7, PSO-1,3
		Design And Fabrication Of Linear Actuator By Using 3d Printing	PO-1,2,3,4,5, PSO-1,3
		3D Printing of Rack And Pinion Steering Mechanism	PO-1,2,3,4,5, PSO-1,3
		Design And 3d Printing Of Walking Gear Mechanism	PO- 1,2,3,4,5,6,11, PSO-1,3

3	Dassault System (Design)	Design and analysis of four Wheeler Steering System	PO- 1,2,3,4,5,6,11, PSO-1,3
		Design and analysis of GOKART Vehicle Chassis	PO- 1,2,3,4,5,6,11, PSO-1,3
		Design and Aerodynamic Analysis on GOKART Vehicle	PO- 1,2,3,4,5,6,11, PSO-1,3
		Design and Thermal Analysis of Engine Fins Using Ansys	PO- 1,2,3,4,5,6,11, PSO-1,2
		Design and Analysis of Constant Mesh Gearbox	PO- 1,2,3,4,5,6,11, PSO-1,3
		Design And Simulation of Gyro Sphere	PO- 1,2,3,4,5,6,11, PSO-1,3
		Comparative Study of S1223rtl With Naca 0012 Airfoil	PO- 1,2,3,4,5,6,11, PSO-1,2
		Design And Analysis of Marine Propeller Shaft By Using Finite Element Analysis	PO- 1,2,3,4,5,6,11, PSO-1,3
		Design And Analysis of Car Bumper By Using Finite Element Analysis	PO- 1,2,3,4,5,6,11, PSO-1,3
		Analysis Of Wing Location On Aerodynamics Performance Of Aero plane	PO- 1,2,3,4,5,6,11, PSO-1,2
4	Metal Matrix Composites	Design And Analysis Of Connecting Rod Using Ansys	PO- 1,2,3,4,5,6,11, PSO-1,3
4	Metal Matrix Composites	Fabrication Of Fatigue Specimen by Using Stir Casting Method	PO- 1,2,3,4,5,6,11, PSO-1,3
		Fatigue Characterization Of A356-Sic Metal Matrix Nano Composites By Using Stir Casting Method	PO- 1,2,3,4,5,6,11, PSO-1,3
5	Thermal Engineering	The Effect of Titanium Oxide (TiO ₂) Nano Lubricant On the Performance Of Single Cylinder Diesel Engine	PO- 1,2,3,4,5,6,11, PSO-1,2

6	Fabrication	Design and Fabrication of Radio Control Plane	PO- 1,2,3,4,5,6,7,11, PSO-1,3
		Design And Fabrication Of Foldable Mobility Scooter	PO- 1,2,3,4,5,6,7,11, PSO-1,3
		Fabrication and Analysis of Refrigeration System by using LPG as a Refrigerant	PO- 1,2,3,4,5,6,7,11, PSO-1,2
		Design and Fabrication of Speed Breaker to Generate Electricity	PO- 1,2,3,4,5,6,7,11, PSO-1,3
		Design And Fabrication Of Steering Gear Mechanism For Electric Vehicle	PO- 1,2,3,4,5,6,7,11, PSO-1,3
		Fabrication And Analysis Of Transmission System For Electric Vehicle	PO- 1,2,3,4,5,6,7,11, PSO-1,3
		Design And Fabrication of Suspension System For An Electric Vehicle	PO- 1,2,3,4,5,6,7,11, PSO-1,3
		Design And Fabrication of Electric Vehicle Chassis	PO- 1,2,3,4,5,6,7,11, PSO-1,3
		Fabrication of Stamping Mechanism	PO- 1,2,3,4,5,6,7,11, PSO-1,3
		Design And Fabrication Of Braking System For Electric Vehicle	PO- 1,2,3,4,5,6,7,11, PSO-1,3
		Design and Fabrication of Bicycle by using Lever Gear Mechanism	PO- 1,2,3,4,5,6,7,11, PSO-1,3
		Fabrication and Analysis of Refrigeration System Using LPG as A Refrigerant	PO- 1,2,3,4,5,6,7,11, PSO-1,2

7	Mechatronics	Automatic Colour Code Sensing Machine Controlled By PLC	PO- 1,2,3,4,5,6,7,11, PSO-1,3
		Fire And Gas Safety Alarm Prototype Using Arduino	PO- 1,2,3,4,5,6,7,11, PSO-1,3
		Smart Auditorium Using Arduino	PO- 1,2,3,4,5,6,11, PSO-1,3
		Developing of material segregation system by using PLC	PO- 1,2,3,4,5,6,11, PSO-1,3
		Leakage detection by using PLC in Oil and Gas Industries	PO- 1,2,3,4,5,6,7,11, PSO-1,2
		Car Parking Management Control By PLC	PO- 1,2,3,4,5,6,11, PSO-1,3
8	HVAC	Automatic HVAC System Screen Development Using SCADA	PO- 1,2,3,4,5,6,11, PSO-1,2
9	NDT	Analysis of Ultrasonic Testing On Hot Roller Mild Steel Plate	PO- 1,2,3,4,5,6,7,11, PSO-1,3
		Defect Detection on Welded Joints Using Ultrasonic Testing	PO- 1,2,3,4,5,6,7,11, PSO-1,3
10	AIML	Predictive Maintenance of Industrial Equipment Using Machine Learning	PO-1,2,3,4,5, PSO-1
		Predictions of Material Selection Using AIML	PO-1,2,3,4,5, PSO-1
		Energy Load Prediction in steel industries using Machine learning	PO-1,2,3,4,5,6, PSO-2





Mechanical Engineering students Successfully participated in the **AICTE and Ministry of Educations Innovation Cell (MIC) Innovation Design and Entrepreneurship (IDE) Bootcamp Edition-3 (Phase-I)** held from 6th to 10th April 2026 at Jawaharlal Nehru New College of Engineering, Shivamogga, Karnataka, enhancing innovation, design thinking, entrepreneurship, and startup development skills.

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 $((NS1 \times 0.8) + (NS2 \times 0.2)) / (\text{No. of required faculty (RF4)})$; Percentage= $((NS1 \times 0.8) + (NS2 \times 0.2)) / RF$
2023-24(CAYm2)	1500	75	73	28	85
2024-25(CAYm1)	1800	90	87	31	84
2025-26(CAY)	2100	105	102	32	84

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	4500000	4050000	2750000	2750000	2500000	2322546	2200000	2321521
Library	2000000	1800000	1870000	1515463	1700000	1658694	1500000	816379
Laboratory equipment	3000000	2700000	13200000	12807600	12000000	11739526	13500000	14259360
Teaching and non-teaching staff salary	400700000	396693000	324500000	321450512	295000000	292775065	274000000	293888619

Outreach Programs	1200000	1080000	1100000	799500	1000000	991891	1000000	624980
R&D	2200000	1980000	550000	328000	500000	455264	500000	475490
Training, Placement and Industry linkage	11000000	9900000	11000000	10600000	10000000	9213486	9000000	6759381
SDGs	1200000	1080000	1100000	726990	1000000	1001445	1000000	1239486
Entrepreneurship	700000	630000	550000	611500	500000	494560	500000	3645275
Others, specify	95200000	85680000	86380000	82618765	75548000	68330191	44748000	32666279
Total	521700000	505593000	443000000	434208330	399748000	388982668	347948000	356696770

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	300000	296000	500000	492000	550000	532000	1100000	1079200
Software	42000	41200	32000	30000	48000	46380	50000	50000
SDGs	150000	122000	135000	128500	168000	152000	130000	127000
Support for faculty development	124000	121500	125000	120000	130000	128500	170000	161000
R & D	320000	304000	290000	281000	265000	250600	340000	263000
Industrial Training, Industry expert, Internship	587300	540000	550000	520000	510000	496000	560000	539000
Maintenance, Spares and Consumables	876700	848000	868000	815000	954000	883120	850000	813500
Total	2400000	2272700	2500000	2386500	2625000	2488600	3200000	3032700