

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: 11963	Date of Submission: 18-06-2026

PART A- Profile of the Institute

A1.Name of the Institute: MALNAD COLLEGE OF ENGINEERING	
Year of Establishment : 1960	Location of the Institute: Hassan
A2. Institute Address: P.B.NO.21 SALAGAME ROAD HASSAN	
City:Hassan	State:Karnataka
Pin Code:573201	Website:WWW.MCEHASSAN.AC.IN
Email:OFFICE@MCEHASSAN.AC.IN	Phone No(with STD Code):08172-245317
A3. Name and Address of the Affiliating University (if any):	
Name of the University : VISVESVARAYA TECHNOLOGICAL UNIVERSIT	City: Belgaum
State : Karnataka	Pin Code: 590018
A4. Type of the Institution: Autonomous CAY(2008-09)	
A5. Ownership Status: Government Aided	

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

- No. of UG programs: **13**
- No. of PG programs: **7**

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	2025	--	Computer Application
2	Engineering & Technology	PG	Artificial Intelligence and Data Science	2023	--	Computer Science and Engineering
3	Engineering & Technology	UG	Automobile Engineering	1982	2021	Automobile Engineering
4	Engineering & Technology	UG	Civil Engineering	1960	--	Civil Engineering
5	Engineering & Technology	PG	Computer Aided Design of Structures	1993	--	Civil Engineering
6	Engineering & Technology	PG	Computer Application in Industrial Drives	1994	2022	Electrical and Electronics Engineering
7	Engineering & Technology	UG	Computer Science and Business Systems	2022	--	Computer Science and Engineering
8	Engineering & Technology	UG	Computer Science and Engineering	1983	--	Computer Science and Engineering
9	Engineering & Technology	UG	Computer Science and Engineering (Artificial Intelligence & Machine Learning)	2022	--	Computer Science and Engineering
10	Engineering & Technology	PG	Digital Electronics & Communication Engineering	1986	--	Electronics and Communication Engineering
11	Engineering & Technology	UG	Electrical and Electronics Engineering	1960	--	Electrical and Electronics Engineering
12	Engineering & Technology	UG	Electronics & Communication Engineering	1967	--	Electronics and Communication Engineering
13	Engineering & Technology	UG	Electronics & Instrumentation Engineering	1984	2023	Electronics and Communication Engineering

14	Engineering & Technology	UG	Electronics Engineering (VLSI Design and Technology)	2025	--	Electronics and Communication Engineering
15	Engineering & Technology	UG	Industrial & Production Engineering	1981	2021	Industrial and Production Engineering
16	Engineering & Technology	PG	Industrial Automation & Robotics	2004	2023	Mechanical Engineering
17	Engineering & Technology	UG	Information Science & Engineering	2000	2025	Computer Science and Engineering
18	Engineering & Technology	UG	Mechanical Engineering	1960	--	Mechanical Engineering
19	Engineering & Technology	PG	Power and Energy Systems	2022	--	Electrical and Electronics Engineering
20	Engineering & Technology	UG	Robotics and Artificial Intelligence	2025	--	Robotics and Artificial Intelligence

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
Electrical and Electronics Engineering	No	Electrical and Electronics Engineering	UG
Mechanical Engineering	Yes	Mechanical Engineering	UG
Civil Engineering	No	Civil 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)

Allied Department/Cluster Name	Program Name	Program Level
Automobile Engineering	Automobile Engineering	UG

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/COMPE AUTHORITY A DETAILS
1	Mechanical Engineering	UG	1960 / --	120	Yes	2023	120	2023	F.No. South-We 36474256504/2

Sanctioned Intake for Last Five Years for the Industrial Automation & Robotics	
Academic Year	Sanctioned Intake
2025-26	120
2024-25	120
2023-24	120
2022-23	180
2021-22	180
2020-21	180

List of the Allied Departments/Cluster and Programs:

SR.NO.	ALLIED DEPARTMENT NAME	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
1	Automobile Engineering	Automobile Engineering	UG	1982 / 2021	50	Yes	2021	0	2021

Sanctioned Intake for Last Five Years for the Automobile Engineering	
Academic Year	Sanctioned Intake
2025-26	0
2024-25	0
2023-24	0
2022-23	0
2021-22	0
2020-21	60

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

A. Name of the HoD :	Dr. EzhilVannan S
B. Nature of appointment:	Regular
C. Qualification:	Ph.D

B3. Program Details

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

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	2025-26 (CAY)	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)	2021-22 (CAYm4)	2020-21 (CAYm5)	2019-20 (CAYm6)
N=Sanctioned intake of the program (as per AICTE /Competent authority)	120	120	120	180	180	180	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	119	96	66	44	82	129	161
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	34	68	97	60	59	18
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	6	6	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.	119	136	140	141	142	188	179

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

B4. Enrolment Ratio in the First Year

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

Year of entry	N (From Table 4.1)	N1 (From Table 4.1)	N4 (From Table 4.1)	Enrollment Ratio [(N1/N)*100]
2025-26 (CAY)	120	119	0	99.17
2024-25 (CAYm1)	120	96	6	85.00
2023-24 (CAYm2)	120	66	6	60.00

$$\text{Average } [(ER1 + ER2 + ER3) / 3] = 81.39 \approx 17.00$$

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).	198.00	198.00	198.00
B=No. of students who graduated from the program in the stipulated course duration	101.00	119.00	132.00
Success Rate (SR)= (B/A) * 100	51.01	60.10	66.67

$$\text{Average SR of three batches } ((SR_1 + SR_2 + SR_3)/3): 59.26$$

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)	6.05	6.28	6.60
Y=Total no. of successful students	88.00	60.00	39.00
Z=Total no. of students appeared in the examination	102.00	72.00	44.00
API [X*(Y/Z)]	5.22	5.23	5.85

$$\text{Average API} [(AP1 + AP2 + AP3)/3] : 5.43$$

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

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

Academic Performance	CAYm1 (2024-25)	CAYm2 (2023-24)	CAYm3 (2022-23)
X=(Mean of 2nd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 2nd year/10)	5.51	6.17	5.97
Y=Total no. of successful students	98.00	136.00	137.00
Z=Total no. of students appeared in the examination	128.00	136.00	138.00
API [X * (Y/Z)]	4.22	6.17	5.93

$$\text{Average API} [(AP1 + AP2 + AP3)/3] : 5.44$$

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)	5.98	6.06	6.38
Y=Total no. of successful students	130.00	134.00	173.00
Z=Total no. of students appeared in the examination	136.00	137.00	178.00
API [X*(Y/Z)]:	5.72	5.92	6.20

$$\text{Average API} [(AP1 + AP2 + AP3)/3] : 5.95$$

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	198.00	198.00	198.00
X=No. of students placed	70.00	100.00	90.00
Y=No. of students admitted to higher studies	1.00	2.00	2.00
Z= No. of students taking up entrepreneurship	1.00	2.00	1.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	36.36	51.52	46.97

$$\text{Average Placement Index} = (P_1 + P_2 + P_3)/3: 44.95 \text{ Placement Index Points:}$$

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	No. of Research Projects Completed
1	Dr. EzhilVannan S	XXXXXXXX06D	Ph.D	Bangalore University	Manufacturing Science & Engineering	25/05/2018	8	Professor	Professor	25/05/2018	Research Projects Completed
2	Dr. S. Pradeep	XXXXXXXX06A	Ph.D	IIT Roorkee	Materials and Manufacturing Engineering	05/09/1994	31.9	Lecturer	Professor	02/02/2015	Research Projects Completed
3	Dr.Amarendra H. J.	XXXXXXXX61F	Ph.D	IIT Roorkee	Materials and Manufacturing Engineering	03/01/1994	32.5	Lecturer	Professor	10/05/2017	Research Projects Completed
4	Mr. Sreerajendra	XXXXXXXX99G	M.Tech	Mysore	Automation	17/08/1988	36.3	Lecturer	Associate Professor	24/10/2011	Research Projects Completed
5	Dr. Hareesh M	XXXXXXXX54D	Ph.D	Dayanandasagar University Bengaluru	Thermal Engineering	24/08/2011	14.9	Assistant Professor	Associate Professor	31/12/2025	Research Projects Completed
6	Dr. K. R. Dushyanthkumar	XXXXXXXX86R	Ph.D	Visvesvaraya technological university Belagavi	Production Engineering	20/02/1991	34.5	Lecturer	Professor	03/02/2025	Research Projects Completed
7	Dr. Jeevan T.P	XXXXXXXX12J	Ph.D	Visvesvaraya technological university Belagavi	Manufacturing Engineering	02/09/2011	14.9	Lecturer	Associate Professor	27/02/2020	Research Projects Completed
8	Mr. Vijaya Kumar G Tile	XXXXXXXX42H	M.Tech	Visvesvaraya technological university Belagavi	Thermal Engineering	16/10/2006	19.8	Assistant Professor	Assistant Professor		Research Projects Completed
9	Dr.M.G.Vasundhara	XXXXXXXX20N	Ph.D	Anna University	Design Engineering	17/06/2011	15	Assistant Professor	Associate Professor	31/12/2025	Research Projects Completed
10	Dr. Satish V.T.	XXXXXXXX26J	Ph.D	Anna University	Maintenance Engineering, composites	23/12/2014	11.5	Assistant Professor	Assistant Professor		Research Projects Completed
11	Dr. B.S Shivashankar	XXXXXXXX78R	Ph.D	Visvesvaraya technological university Belagavi	Automation	03/08/2010	15.10	Lecturer	Associate Professor	03/09/2024	Research Projects Completed
12	Dr. RaghavendraRao R	XXXXXXXX09F	Ph.D	Visvesvaraya technological university Belagavi	Thermal Engineering, Materials and Manufacturing Engineering	25/08/2010	15.9	Lecturer	Associate Professor	03/09/2024	Research Projects Completed
13	Mr. Shambulingamurthy G.C	XXXXXXXX04B	M.E.	Bangalore University	Thermal Engineering	12/01/2015	11.5	Assistant Professor	Assistant Professor		Research Projects Completed
14	Dr. Mahesh Kumar V	XXXXXXXX38R	Ph.D	Visvesvaraya technological university Belagavi	Design Engineering	20/08/2013	12.10	Assistant Professor	Associate Professor	09/05/2025	Research Projects Completed
15	Dr. P.Madhu	XXXXXXXX36B	Ph.D	Visvesvaraya technological university Belagavi	Materials and Manufacturing Engineering	21/08/2013	12.9	Assistant Professor	Associate Professor	24/09/2024	Research Projects Completed
16	Dr. Pradeep D. G.	XXXXXXXX89P	Ph.D	Visvesvaraya technological university Belagavi	Materials and Manufacturing Engineering	07/09/2013	12.9	Assistant Professor	Associate Professor	09/05/2025	Research Projects Completed
17	Dr. Sharath B.N	XXXXXXXX64N	Ph.D	Visvesvaraya technological university Belagavi	Materials and Manufacturing Engineering	21/08/2015	10.9	Assistant Professor	Associate Professor	09/05/2025	Research Projects Completed

18	Dr. Madhu K.S	XXXXXXX78K	Ph.D	Visvesvaraya technological university Belagavi	Design	22/08/2015	10.9	Assistant Professor	Associate Professor	09/05/2025	R6
19	Dr. Ashrith H.S.	XXXXXXX93R	Ph.D	NITK Suratkal	Materials and Manufacturing Engineering	21/08/2019	6.9	Assistant Professor	Associate Professor	05/01/2026	R6
20	Dr. Shashanklingappa	XXXXXXX19C	Ph.D	Visvesvaraya technological university Belagavi	Materials and Manufacturing Engineering	03/09/2019	6.9	Assistant Professor	Assistant Professor		R6
21	Dr. H.V.Divya	XXXXXXX97R	Ph.D	Visvesvaraya technological university Belagavi	Materials and Manufacturing Engineering	01/09/2010	15.9	Lecturer	Associate Professor	03/09/2024	R6
22	Mr. PremKumar B.G	XXXXXXX32J	M.Tech	Visvesvaraya technological university Belagavi	Design	20/08/2015	10.10	Assistant Professor	Assistant Professor		R6
23	Mr. Dileep K.J.	XXXXXXX82R	M.Tech	Visvesvaraya technological university Belagavi	Thermal Engineering	01/03/2019	7.3	Assistant Professor	Assistant Professor		R6
24	Dr. LaxmanaNaik L	XXXXXXX11C	Ph.D	Jain University	Materials and Manufacturing Engineering	13/03/1996	29.4	Lecturer	Professor	25/09/2019	R6
25	Mr. M.S. Prathap	XXXXXXX70C	M.Tech	Visvesvaraya technological university Belagavi	Materials and Manufacturing Engineering	22/08/2013	12.9	Assistant Professor	Assistant Professor		R6
26	Mr. Sharath H.K	XXXXXXX76H	M.Tech	Visvesvaraya technological university Belagavi	Industrial Automation and Robotics	21/08/2013	12.9	Assistant Professor	Assistant Professor		R6
27	Dr. Yashas Gowda T.G.	XXXXXXX91J	Ph.D	King Mongkut's University of Technology North Bangkok	Machine Design	31/01/2017	9.4	Assistant Professor	Assistant Professor		R6
28	Manjunath Ichchangi	XXXXXXX89R	M.Tech	Visvesvaraya technological university Belagavi	Thermal Engineering	06/08/2025	0.10	Assistant Professor	Assistant Professor		R6
29	Dr. B Yogesha	XXXXXXX25D	Ph.D	IIT Madras	Material science	23/11/1988	34.6	Lecturer	Professor	01/09/2006	R6
30	Mr. G.C.Gopalakrishna	XXXXXXX02P	M.Tech	KSOU Mysore	Thermal Engineering	05/10/1990	35.8	Lecturer	Associate Professor	05/10/2004	R6
31	Mr. S.L.Dinesh	XXXXXXX27A	M.Sc. (Engineering)	Mysore	Tribology	25/09/1991	34.8	Lecturer	Associate Professor	26/09/2005	R6
32	Mr. B N Prasanna Kumar	XXXXXXX72A	M.Sc. (Engineering)	Mysore	Production Engineering	09/04/1990	36.2	Lecturer	Associate Professor	31/07/2020	R6
33	Mr. S.S. Mahesh	XXXXXXX70E	M.Sc. (Engineering)	Visvesvaraya technological university Belagavi	Production Engineering	20/09/1993	32.9	Lecturer	Associate Professor	27/08/2007	R6
34	Mr. Ravikiran D.N.	XXXXXXX47B	M.Sc. (Engineering)	Visvesvaraya technological university Belagavi	Manufacturing Engineering	06/02/2011	15.4	Lecturer	Assistant Professor		R6

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

Sr.No	Name of the Faculty	PAN No.	APAAR faculty ID*(if any)	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	Nat Ass (Re Cor Ad
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1	R. Vijay	XXXXXXX74K	NA	M.Tech	Visvesvaraya technological university Belagavi	Thermal	25/08/2008	16.7	Assistant Professor	Assistant Professor		Reg
2	Dr. M k Ravishankar	XXXXXXX66N	NA	Ph.D	IIT Madras	Maintenance Engineering	12/04/1997	26.5	Assistant Professor	Professor	14/05/2015	Reg
3	Dr. A N Basavaraju	XXXXXXX40N	NA	Ph.D	Visvesvaraya technological university Belagavi	Production Engineering	15/09/1997	26	Assistant Professor	Professor	06/01/2017	Reg
4	Dr. Y M Shashidhara	XXXXXXX96Q	NA	Ph.D	Visvesvaraya technological university Belagavi	Maintenance Engineering	15/04/1997	26.5	Assistant Professor	Professor	18/05/2015	Reg
5	Dr. K P Ravikumar	XXXXXXX24E	NA	Ph.D	Visvesvaraya technological university Belagavi	Automobile Engineering	01/09/2005	18	Assistant Professor	Professor	18/05/2015	Reg
6	Mr. H S Lokesh	XXXXXXX14G	NA	M.Sc. (Engineering)	Visvesvaraya technological university Belagavi	FEM	01/09/2005	18	Assistant Professor	Assistant Professor		Reg

C2. Student-Faculty Ratio (SFR)

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

UG1=1st UG program

UGn=nth UG program

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

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

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

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

PG1=1st PG program.

PGm=mth PG program

A= No. of Students in PG 1st year

B= No. of Students in PG 2nd year

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

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

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

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

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

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

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

Description	CAY(2025-26)	CAYm1 (2024-25)	CAYm2 (2023-24)
UG1.B	132	132	198
UG1.C	132	198	198
UG1.D	198	198	198
UG1: Mechanical Engineering	462	528	594
UG2.B	0	0	0
UG2.C	0	0	0
UG2.D	0	0	66
UG2: Automobile Engineering	0	0	66
PG1.A	0	0	0
PG1.B	0	0	18
PG1: Industrial Automation & Robotics	0	0	18
DS=Total no. of students in all UG and PG programs in the Department	462	528	612
AS=Total no. of students of all UG and PG programs in allied departments	0	0	66
S=Total no. of students in the Department (DS) and allied departments (AS)	S1= 462	S2= 528	S3= 678
DF=Total no. of faculty members in the Department	30	31	32
AF= Total no. of faculty members in the allied Departments	0	0	1
F=Total no. of faculty members in the Department (DF) and allied Departments (AF)	F1= 30	F2= 31	F3= 33
FF=The faculty members in F who have a 100% teaching load in the first-year courses	4	4	5

Description	CAY(2025-26)	CAYm1 (2024-25)	CAYm2 (2023-24)
Student Faculty Ratio (SFR)=S/(F-FF)	SFR1= 17.77	SFR2= 19.56	SFR3= 24.21
Average SFR for 3 years	SFR= 20.51		

C3. Faculty Qualification

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

Table No.C3.1: Faculty qualification.

Year	X	Y	RF	FQ = $2.5 \times [(10X + 4Y) / RF]$
2025-26(CAY)	17	13	23.00	24.13
2024-25(CAYm1)	18	13	26.00	22.31
2023-24(CAYm2)	18	15	33.00	18.18

C4. Faculty Cadre Proportion

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

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

Year	Professors		Associate Professors		Assistant Professors	
	Required RF1	Available AF1	Required RF2	Available AF1	Required RF3	Available AF3
2025-26	3.00	3.00	5.00	9.00	15.00	18.00
2024-25	3.00	4.00	6.00	2.00	18.00	25.00
2023-24	4.00	4.00	8.00	2.00	23.00	27.00
Average	RF1=3.33	AF1=3.67	RF2=6.33	AF2=4.33	RF2=18.67	AF2=23.33

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)

(CAYm2)

(CAYm3)

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	37	26	20
2	No. of peer reviewed conference papers published	4	1	1
3	No. of books/book chapters published	13	5	5

C7. Sponsored Research Project

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

(CAYm1)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. Shashank Lingappa M	Hithali Dinesh, Bhoomika B K, Shashank M N	Mechanical Engineering	Development of 3D Printed Non- Conventional Orthopedic Implants and Testing it is Real Life Conditions	New-age-innovation-network-2.0-(NAIN-2.0)	1 Year	2.00
						Amount received (Rs.):2.00

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

(CAYm3)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
-	-	-	-	-	-	0.00
						Amount received (Rs.):0.00

Total Amount (Lacs) Received for the Past 3 Years: 2.00

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

(CAYm2)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
-	-	-	-	-	-	0.00
						Amount received (Rs.):0.00

(CAYm3)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
-	-	-	-	-	-	0.00
						Amount received (Rs.):0.00

Total amount (Lacs) received for the past 3 years: 0.00

Note*:

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

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

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

(CAYm1)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
-	-	-	0.00	0.00	-
			Amount received (Rs.): 0.00		

(CAYm2)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
-	-	-	0.00	0.00	-
			Amount received (Rs.): 0.00		

(CAYm3)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
-	-	-	0.00	0.00	-
			Amount received (Rs.): 0.00		

Total amount (Lacs) received for the past 3 years : 0.00

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	Computer aided drafting and modeling Lab	40	Computer with suitable graphic facility of 60 No's	30Hrs	Mr. Thilak D.	Instructor Me	B. E ITI D
2	Welding & Sheet metal	12	1. Arc Welding m/c 2. Gas Welding Setup (Oxy- Acetylene) 3.	30 Hrs.	Mr. Cheluvare	Helper	7th STD
3	Foundry & Forging Lab	12	1. Mould boxes 2. Standard Rammer m/c. 3. Foundry tool 4.	30 Hrs	Mr. Gangann	Asst. instructr	B.Sc.
4	Material testing Lab	12	1. Surface Roughness Tester. 2. Sine Bar and Slip Gauge. 3. Bore	30 Hrs	Mr. Shankar \	Instructor Me	I.T.I (ME) Diç
5	Metrology and Metallurgy Lab.	12	1. Surface Roughness Tester. 2. Sine Bar and Slip Gauge. 3. Bore	30 Hrs	Mr. Shankar \	Instructor Me	I.T.I (ME) Diç
6	Fluid Mechanics & Hydraulic Machines Lab.	12	1. Orificemeter test set up. 2. Venturimeter test set up. 3.	30 Hrs	Mr. Girisha B	Helper	I.T.I (ME)
7	Machine shop	12	1. Lathes (32 Nos) 2. Horizontal & Vertical milling machine. 3.	30 Hrs	Mr. H.R. Shiv	Asst. Instructr	I.T.I (ME) . I.T
8	Heat transfer Lab	12	1. Apparatus for measurement of Thermal Conductivity of Metal Rod.	30 Hrs	Mr. Hareesh I	Asst. Instructr	I.T.I (ME) Di
9	Energy conversion Lab.	12	1. Air or Steam pressure turbine model 1no. 2. Cut section model of	30 Hrs	Mr. Hareesh I	Asst. Instructr	I.T.I (ME) S
10	Design Lab	12	1. Universal Governor Apparatus. 2. Motorized Gyroscope. 3.	30 Hrs	Mr. Shankar \	Instructor Ins	I.T.I (ME) I.T.
11	Computer aided drafting and analysis	12	1. Computers (50 Nos) 2. Ansys software.	30 Hrs	Mr. N. Dinesh	Foreman Ass	Diploma (ME)
12	Hydraulics and pneumatics	12	1. Festo pneumatic kit 2. Compressor 3. Control valves	30 Hrs	Mr. N. Dinesh	Foreman As	Diploma (ME)
13	CNC Lab	12	1. CNC Lathe 2. CNC Milling 3. CNC turning	30 Hrs	Mr. Girisha B	Helper Mech	I.T.I (ME) Diç

D2. Safety Measures in Laboratories

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

Sr. No	Laboratory Name	Safety Measures
1	Sheet metal & welding	Wear Personal Protective Equipment (PPE): Always wear appropriate PPE, such as safety goggles, gloves, and ear protection, when working with tools or machinery. It is also essential to wear appropriate clothing, such as long pants and sturdy shoes, to protect against cuts and burns. Follow Equipment and Tool Safety Guidelines: Always read and follow the safety guidelines provided by the manufacturer for each tool and equipment used. Make sure to use equipment only for its intended purpose and use it correctly. Keep the Workshop Clean and Tidy: A clean and organized workshop is essential for safety. Keep the floor free from clutter and debris and store tools and equipment in their designated areas. It is also important to keep work surfaces clean and dry to prevent slips and falls. Keep Emergency Equipment Handy: Ensure that there is easy access to emergency equipment such as fire extinguishers, first aid kits, and eye wash stations. Make sure that all personnel in the workshop are aware of the location and proper use of this equipment. Never Work Alone: When working in a workshop, it is essential to work with someone else in case of an emergency. It is also important to communicate with your co-worker to prevent accidents from occurring. Be Aware of Your Surroundings: Always be aware of your surroundings and potential hazards. Avoid distractions, such as mobile phones, and be mindful of others working in the workshop. Proper Maintenance and Inspection of Tools and Equipment: Ensure that tools and equipment are well-maintained and inspected regularly to prevent equipment failure, which can cause accidents and injuries.
2	Foundry and forging	Proper Ventilation: Proper ventilation is critical to prevent the build-up of harmful gases and fumes in the foundry or forging lab. Ensure that the workspace is well-ventilated and that ventilation systems are functioning correctly. Safe Handling of Hot Materials: When handling hot materials, use appropriate tools and equipment, such as tongs, to avoid burns or other injuries. Do not touch hot materials with bare hands or expose any body parts to heat. Keep Emergency Equipment Handy: Ensure that there is easy access to emergency equipment such as fire extinguishers, first aid kits, and eye wash stations. Make sure that all personnel in the foundry and forging lab are aware of the location and proper use of this equipment. Never Work Alone: When working in a foundry or forging lab, it is essential to work with someone else in case of an emergency. It is also important to communicate with your coworker to prevent accidents from occurring. Proper Storage and Handling of Flammable Materials: Flammable materials such as gas, oil, and alcohol should be stored in designated areas and handled with care to prevent fires and explosions.
3	Material testing Lab	Follow Equipment and Tool Safety Guidelines: Always read and follow the safety guidelines provided by the manufacturer for each tool and equipment used. Make sure to use equipment only for its intended purpose and use it correctly. Keep the Workspace Clean and Tidy: A clean and organized workspace is essential for safety. Keep the floor free from clutter and debris, and store tools and equipment in their designated areas. Safe Handling of Materials: When handling materials, use appropriate tools and equipment, such as tongs or gloves, to avoid cuts or other injuries. Use caution when handling sharp or heavy materials.
4	Fluid mechanics and machines	Proper Operation and Maintenance of Machines: Machines should be operated and maintained according to the manufacturer's instructions to ensure safe use. Make sure to inspect machines regularly for wear or damage and perform maintenance as necessary. Safe Handling of Fluids: When handling fluids, use appropriate tools and equipment, such as gloves or spill containment materials, to avoid spills or other accidents. Use caution when handling hot or pressurized fluids. Follow Equipment and Tool Safety Guidelines: Always read and follow the safety guidelines provided by the manufacturer for each tool and equipment used. Make sure to use equipment only for its intended purpose and use it correctly.

5	Computer aided drafting and modelling Lab/ CAM and CAE Lab	Ensure Proper Electrical Safety: CAD/CAM and CAE labs rely heavily on computer hardware, making it crucial to ensure proper electrical safety. Electrical equipment should be inspected regularly for damage, and all electrical cords and cables should be in good condition. Ensure that electrical outlets are not overloaded, and that power strips and surge protectors are used correctly. Use Ergonomic Workstations: Proper ergonomics are essential to prevent repetitive strain injuries such as carpal tunnel syndrome. Ensure that workstations are adjustable to accommodate different users and that they are set up correctly. Follow Computer Safety Guidelines: Always follow the manufacturer's guidelines for computer hardware and software used in the lab. Install and maintain antivirus software, and never download or install software without approval from lab management. Keep the Workspace Clean and Tidy: A clean and organized workspace is essential for safety. Keep the floor free from clutter and debris, and store tools and equipment in their designated areas. Ensure Proper Ventilation: Proper ventilation is important to prevent eye strain, headaches, and other health problems associated with prolonged computer use. Ensure that the workspace is well-ventilated and that ventilation systems are functioning correctly. Proper Handling and Storage of Data: Data should be stored in designated areas and handled with care to prevent loss or theft. Follow proper security and backup guidelines for each computer system. Leave the footwear outside the lab. Shut down computers after use. Shut down the power supply.
6	Machine shop	Wear Appropriate Personal Protective Equipment (PPE): Always wear appropriate PPE, such as safety goggles, gloves, and lab coats, when working in a machine shop lab. Additional PPE, such as hearing protection or face shields, may be required for specific machines or tests. Follow Equipment and Tool Safety Guidelines: Always read and follow the safety guidelines provided by the manufacturer for each tool and equipment used. Make sure to use equipment only for its intended purpose and use it correctly. Keep the Workspace Clean and Tidy: A clean and organized workspace is essential for safety. Keep the floor free from clutter and debris, and store tools and equipment in their designated areas. Safe Handling of Materials: When handling materials, use appropriate tools and equipment, such as gloves or spill containment materials, to avoid spills or other accidents. Use caution when handling sharp or heavy materials. Proper Operation and Maintenance of Machines: Machines should be operated and maintained according to the manufacturer's instructions to ensure safe use. Make sure to inspect machines regularly for wear or damage and perform maintenance as necessary.
7	Metrology Lab	Proper Handling and Use of Measuring Equipment: Measuring equipment should be handled and used correctly to ensure accurate readings and to prevent damage to the equipment. Follow the manufacturer's guidelines for each measuring tool and instrument used. Proper Calibration and Maintenance of Measuring Equipment: Measuring equipment should be calibrated and maintained according to the manufacturer's instructions to ensure accurate readings and safe use. Make sure to inspect measuring equipment regularly for wear or damage and perform maintenance as necessary. Leave the footwear outside the lab. Handle gauges and instruments with care. Do not tamper the instrument. Do not run, shout and knock inside the lab. Do not start the experiment without instruction.
8	Design Lab	Proper Handling and Use of Equipment and Materials: Equipment and materials should be handled and used correctly to ensure safe use and to prevent damage to the equipment. Follow the manufacturer's guidelines for each equipment and material used. Safe Handling of Materials: When handling materials, use appropriate tools and equipment, such as gloves or spill containment materials, to avoid spills or other accidents. Use caution when handling sharp or heavy materials. Proper Maintenance of Equipment: Equipment should be maintained according to the manufacturer's instructions to ensure safe use. Make sure to inspect equipment regularly for wear or damage and perform maintenance as necessary.
9	Heat transfer and Energy conversion Lab	1. Do not operate the equipment beyond 150 volts. Before switching on the unit makes sure that the Variance is in Zero position. Operate thermocouple selector switch (TSS) gently. Operate the unit at least twice in a week. Fill up the water in small water container and adjust the flow rate before starting the experiment. Change the container water regularly.
10	Energy conversion Lab	2. Do not operate the equipment beyond 150 Volts. Before switching on the unit makes sure that the Variance is in Zero position. Operate the unit at least twice in a week.

11	Hydraulics and pneumatics Lab	Before switching on the unit make sure that the Variance is in Zero position. Operate the unit at least twice in a week. Proper Handling and Use of Equipment and Materials: Equipment and materials should be handled and used correctly to ensure safe use and to prevent damage to the equipment. Follow the manufacturer's guidelines for each equipment and material used. Keep the Workspace Clean and Tidy: A clean and organized workspace is essential for safety. Keep the floor free from clutter and debris, and store tools and equipment in their designated areas. Proper Ventilation: Proper ventilation is critical to prevent the buildup of harmful gases and fumes in the hydraulics and pneumatics lab. Ensure that the workspace is well-ventilated and that ventilation systems are functioning correctly. Safe Handling of Materials: When handling materials, use appropriate tools and equipment, such as gloves or spill containment materials, to avoid spills or other accidents. Use caution when handling hot or pressurized materials. Follow Lockout/Tagout Procedures: Before servicing or maintaining equipment, follow lockout/tagout procedures to ensure the equipment is shut off and locked out to prevent accidental activation.
12	CNC Lab	Proper Training and Authorization: Only trained and authorized personnel should operate CNC machines. Users must understand machine controls, emergency procedures, and programming basics before operation. Use of Personal Protective Equipment (PPE): Always wear safety glasses, protective footwear, and appropriate clothing. Avoid loose garments, jewelry, and tie back long hair to prevent entanglement. Machine Guarding and Safety Devices: Ensure all guards, shields, and interlocks are in place and functioning. Never bypass safety mechanisms or operate machines with open enclosures. Emergency Stop and Safe Operation Practices: Be familiar with emergency stop buttons and keep them accessible. Stop the machine immediately in case of abnormal noise, vibration, or malfunction. Work Area Cleanliness and Maintenance Keep the CNC lab clean and free of oil spills, chips, and clutter.

D3. Project Laboratory/Research Laboratory

The primary purpose of the project laboratory in our Mechanical Engineering Department is to provide the space and resource needed by students to complete their main project and mini projects work. The laboratory also serves as meeting location for group of students working on team projects. Most of the students are utilized this project laboratory to work on supplemental learning projects to enhance their understanding of class and lab assignment. This project laboratory is utilized by third year fifth and six semester and fourth year, seven and eight semester students and research persons.

SI NO.	Name of the Facility	Name of the Equipment's/ Software		Purpose	Lab In-charge	Qualification
1	Project Lab	1. Welding M/C 2. Lathe M/C 3. Shaper M/C 4. Milling M/C 5. Drilling M/C 6. Grinding M/C 7. Lathe tool dynamometer		UG & Research Project	Dr. Sharath B.N	Ph. D
2	Research laboratory	1. Domestic Microwave Oven 2. Ultrasonic probe sonicator 3. Tool makers microscope 4. Pin-on-disc wear test rig 5. Coordinate-measuring machine (CMM) 6. Diamond cutter- Low speed saw 7. Polishing machine: single disc & triple disc 8. Slurry jet erosion test rig 9. Electric muffle Furnace 10. 3D printer 11. Induction Furnace 12. Rockwell Hardness Testing M/C 13. Surface roughness measuring Device 14. Infrared rays heating		UG & Research Project	Dr. Sharath B.N	Ph.D
Centre of Excellence						
1	DST-FIST Facility	TRAINING SETUP - 1	Proximity sensor, Limit Switch and Encoder Training Setup	UG	Dr. Shivashankara B.S	Ph. D
		TRAINING SETUP -2	Diffused Beam and through Beam sensors Training Setup			
		TRAINING SETUP -3	Level Control Measurement Training Setup with PLC			
		TRAINING SETUP -4	Flow and volume control Training Setup			
		TRAINING SETUP -5	Temperature control Training Setup			

		TRAINING SETUP -6	Rotary indexing table with stepper motor and pneumatic pusher Training Setup without PLC			
		TRAINING SETUP -7	Servo drive Training Setup without PLC			
		TRAINING SETUP -8	Variable Frequency Drive [VFD] Training Setup without PLC			
		TRAINING SETUP -9	Batching Plant with Load Cell without PLC			
		TRAINING SETUP -10	X – Y Plotter Training Setup without PLC			
		TRAINING SETUP -11	Multipurpose Automation Training Setup with PLC and scada HMI			
		TRAINING SETUP -12	Electroplating Plant Without PLC			
		TRAINING SETUP -13	3 station lift (table top model) with motor, sensors, door limit switch push buttons etc., without PLC			
		TRAINING SETUP -14	Hydraulic controlled material lift without PLC			
		TRAINING SETUP-15	Pear to Pear Network with PLC, SCADA and Remote I/O with cloud interface			
2	MCE-Bosch regional center of competency in automation technologies	1. Hydraulic Trainer kit- 02 2. Pneumatic Trainer Kits. 02 3. Mechatronics Trainer Kit. 01 4. PLC L10 Trainer Kit-03No. 03 5. PLC L20 Trainer Kit-01 01 6. MLD-01. No. 01 7. MTX-CNC-01. No 01		UG	Dr.Shashakingappa L	Ph.D

Facilities & Utilization Photos



3D Printing Machine



Optical microscope

CMM



Rockwell Hardness Machine

Tool wear dynamometer



Roughness measuring machine



Probe sonic micrometer

Facilities available at the “Centre for Innovative Teaching, Learning and Research (ITLR)” (DST-FIST)



Servo drive Training Setup



Level Control Measurement Training Setup with PLC



Variable Frequency Drive [VFD] Training Setup



Rotary indexing table with stepper motor and pneumatic pusher Training Setup



Flow and volume control Training Setup



Peer to Peer network and X-Y Plotter



CNC Turning Operation demonstration



CNC Milling Operation demonstration



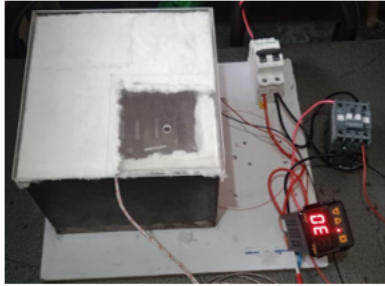
Welding Operation



Aluminium Molten Metal Preparation



Wear test machine



Infrared rays heat setup



Induction furnace



Impact test samples prepared by CNC machine



Tensile test samples prepared by CNC machine



Impact test samples coated by 3D printed samples



Tensile test samples coated by 3D printed samples



3D printed tensile test samples



3D printed impact test samples



3D printed compression & hardness test samples



Prepared in Skill development lab



Utilization of Project Lab

Details of projects carried out by UG students in last three years are listed below.

Year	Project title	No of students	Utilization
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2024-2025	Exploiting mechanical properties of PLA reinforced BaTiO ₃ and CoFe ₂ O ₄ composites through 3D printing for advanced applications.	4	3 D printed machine Surface roughness machine Leg wise
	Studies on turning inconel 718 by using cryo treated inserts	4	CNC Machine Grinding machine
	Effect Of ceramic particulates on Aluminium based composites for high temperature	4	Lathe Grinding machine Wear test machine Buffing machine
	Investigation on tribological properties of 3D printed graphene reinforced acrylonitrile butadiene styre (ABS) composites	4	Wear test machine Surface roughness machine
	Age hardening of Aluminum based composite material using Infrared heating	4	Infrared heating device Grinding machine Wear test machine Optical microscope
	Investigation on thermal conductivity & electric properties of 3D printed abs graphite	4	3 D printed machine Surface roughness machine Leg wise
	Evaluation of Dry Sliding Wear Behaviour of Ceramic reinforced Aluminium-7029 Metal Matrix Composites	4	Lathe Grinding machine Wear test machine Buffing machine
	Design and fabrication of military robot	4	Welding Portable drilling and Grinding machine
	Semi-automated electric power tiller with sprayer	4	Portable drilling and Grinding machine
	Gamma irradiation effects on mechanical properties of jute fiber reinforced epoxy composites”	4	Hand layup method setup
	Experimental studies on machining inconel 718 by using pongamia oil as a coolant	4	CNC Machine Grinding machine Surface roughness machine
	Investigating Mechanical properties of PLA reinforced BaTiO ₃ and CoFe ₂ O ₄ composites through 3D printing for advanced applications	4	Universal testing machine
	Experimental investigation on slurry erosion of hybrid composite	4	Slurry erosion test rig
	Mechanical Properties of Hybrid Fibers		Hand layup method setup Universal testing machine

2023-2024	Evaluation of wear behaviour of fiber reinforced polymer composites with ceramics	4	CNC Machine Grinding machine Surface roughness machine Universal testing machine
	Design and fabrication of automatic tyre inflation system	4	Lathe, Grinding machine Welding Portable drilling Grinding machine
	Tribological study on Pongamia and Neem oil with additives	4	Wear test machine Optical microscope Surface roughness machine
	Fabrication of multipurpose mopping machine	4	Welding, Soldering Portable drilling and grinding machine
	Characterization of press tool to achieve target dimension in insert manufacturing	4	Engine Lathe and Tool makers microscope, grinding machine
	Machinability studies on Inconel 718 by using cryotreated inserts to perform milling operation	4	CNC Machine Grinding machine Surface roughness machine
	Design and fabrication of edible cup making machine	4	Engine Lathe and Tool makers microscope, Grinding machine CNC Machine
	Design and fabrication of fully automatic concrete brick making machine	4	Engine Lathe and Tool makers microscope, grinding machine.
	Experimental Investigation of dry sliding wear behaviour of ceramic hybrid metal matrix composites	4	Wear test machine Optical microscope Surface roughness machine
	Exploring Mechanical and Tribological Behaviour of Aramid Fiber- based Phenolic Composites with Gr/Al Fillers for Potential Automotive Brake Pad Applications	4	Grinding machine Wear test machine Optical microscope
	Design and development of thermal conductivity measuring devices for various solid metals	4	Thermal conductivity device
	Design and Development of Mechanical seed cum ferti drill	4	Engine Lathe and Tool makers microscope, Grinding machine CNC Machine
2022-2023	1. Study on slurry erosion resistance of surface modified SS410	4	Slurry erosion test rig Optical microscope Surface roughness machine Grinding machine
	2. Design and development of gyro automated wheelchair	4	Grinding machine Portable drilling turning lathe

	3. Mechanical property evaluation of egg shell powder filled sisal / glass fiber reinforced hybrid composites	4	Hand lay up UTM
	4. Investigation on tribological properties of 3D printed graphene reinforced PLA through response surface methodology	4	3D printed machines Wear test machine Surface roughness machine Optical microscope
	5. Design and development of modifiable 2 to 6 seater convertible smart electric scooter	4	Welding Portable drilling and grinding machine
	6. Development of Al/Graphite/ZrO2 alloy subjected to equal channel angular Extrusion	4	Lathe machine, grinding machine Equi-angular channel
	7. Fabrication and Testing of Al6061 based Hybrid Metal Matrix Composite	4	Lathe machine, grinding machine
	8. Feasibility study on development of aluminium - SiC - B4C metal matrix hybrid composites through microwave stir casting technique	4	Microwave oven Optical microscope
	9. Investigation on mechanical properties of egg shell filled pineapple leaf/carbon/epoxy based woven fabric reinforced composites	4	Hand layup
	10 Evaluation of tribological behavior of LM-26 aluminum composite reinforced with chromium oxide	4	Lathe machine, grinding machine Wear test machine Surface roughness machine Optical microscope
	11. Design and fabrication of single screw extruder for recycling the PET bottles	4	Lathe machine, Grinding machine Welding machine
	12. Design and fabrication of automated solar weed cutter and sprayer	4	Lathe machine, Grinding machine Welding machine
	13. Investigation of dry sliding wear behavior of Age hardened Aluminium 2618	4	Induction furnace Wear test machine Surface roughness machine Optical microscope Lathe machine, grinding machine.
	14. Design and development of forest and special operations rover	4	Lathe machine, grinding machine.



SAE work space & Event



Project Sanctioned from KSCST

Name of Faculty & Students	Proposal Title	Start Date	Project Cost (INR in lakhs)
Mr. H S VIVEK RANGE GOWDA Mr. MUHAMMED AFNAAN UR RAHMAAN Ms. AMRUTHA N M Ms. POORNIMA R Dr. EZHIL VANNAN S Dr. MADHU P	Experimental investigation of cylindrical heat pipe Thermal performance using hybrid nanofluids for Advanced cooling applications	2024-2025	0.045
Mr. ABHISHEK S. J. Mr. YASHWANTH P. D. Mr. NISCHAY N. K. Ms. SHANMUKHI H. D Dr. MADHU P. Dr. YASHAS GOWDA T. G	Exploring mechanical and tribological behaviour of aramid fiber-based phenolic composites with gr/al fillers for potential automotive brake pad applications	2023-2024	0.07

Mr. DEEKSHITH R Mr. ANAND PUJAR Mr. BHARATH V S Mr. DEVANNA RAMDURG Dr. MADHU P Dr. LAXMANA NAIK L	Irradiation effect on mechanical properties of flax fabric reinforced polymer composites for spacecraft application	2022-2023	0.08
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Table: Publications based on the Research facilities available in Department.

Title of paper	Name of the author/s	Name of journal	Year of publication
Materials Testing Lab (Universal Testing Machine, Hardness Machine, Optical Microscope, Pin on Disc tribometer, Polishing Machine)			
Wear behaviour of <u>aluminium</u> -based hybrid composites processed by equalchannel angular pressing	Sharath B N Madhu P Verma A	Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology	2024 SCIE Q2
Gamma radiation-induced degradation of mechanical properties in Carbon/Kevlar hybrid epoxy composites for aerospace applications	Sharath, B. N. Yashas Gowda TG <u>Hemaraju BC</u> P. Madhu.	Journal of Polymer Research	2024 SCIE Q2
On enhancing the high-temperature wear behaviour of Al2090-based hybrid composites using tertiary ceramic particles	Sharath B.N Vinyas Mahesh, Vishwas Mahesh, <u>Subhaschandra Kattimani,</u> <u>Dineshkumar Harursampath</u>	Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications	2024 SCIE Q2
Effect of microwave hybrid heating on high temperature dry sliding wear behavior of Al2O3 reinforced WC-Co HVOF coating. Weld World (2024).	Pradeep DG Nithin HS Sharath BN Madhu KS	Welding in the world	2024 SCIE Q1
Characterizing the effects of SiC and Al2O3 on the mechanical properties of Al6082 hybrid metal matrix composites: An experimental and neural network approach	Masood AA, Ali A Madhu P Gowda TY Jeevan TP Sharath BN	Advances in Production Engineering & Management	2024 SCIE Q2
Enhancing Wear Resistance, Mechanical Properties of Composite Materials through Sisal and Glass Fiber Reinforcement with Epoxy Resin and Graphite Filler.	<u>Devendrappa, S.K.,</u> Madhu P Sharath B N	Journal of the Indian Chemical Society.	2024 SCIE Q2
Fabrication of raw and chemically treated biodegradable <u>Luffa aegyptica</u> fruit fiber-based hybrid epoxy composite: a mechanical and morphological investigation	Sharath, B.N., Yashas Gowda, T.G., Madhu, P., Pradeep Kumar, C.B., Jain, N., Verma, A., Sanjay, M.R	Biomass Conversion and Biorefinery	2024 SCIE Q2

Fabrication of raw and chemically treated biodegradable Luffa <u>aegyptica</u> fruit fiber-based hybrid epoxy composite: a mechanical and morphological investigation	Sharath, B.N., Yashas Gowda, T.G., Madhu, P., Pradeep Kumar, C.B., Jain, N., Verma, A., Sanjay, M.R	Biomass Conversion and Biorefinery	2024 SCIE Q2
Mechanical Characterization and Water Absorption Behavior of Waste Coconut Leaf Stalk Fiber Reinforced Hybrid Polymer Composite: Impact of Chemical Treatment.	Nagaraju SB, Puttegowda M, Girijappa YG, Rawat NK, Verma A, Rangappa SM, Siengchin S	Applied Science and Engineering Progress	2024 SCIE Q2
Investigation on the wear characteristics of 3D printed graphene-reinforced PLA composites	Rachaiiah B, Puttaswamy JT, Nagaraju SB, Vedavathi DH	Discover Materials	2024 Scopus Index Q1
Evaluation of dry sliding wear behavior of thermally sprayed and microwave post-processed TiO ₂ reinforced tungsten carbide composite coating	Pradeep DG, Nithin HS, Sharath BN, Madhu KS	Welding in the World	2023 SCIE Q1
Artificial neural networks for predicting mechanical properties of Al2219-B4C-Gr composites with multi reinforcements	Sharath B N Sathyanarayana, K., Somashekara, M.K., Pradeep, D.G., Puttegowda, M. and Verma, A.	Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science	2023 SCIE Q2
Wear behaviour of hybrid (boron carbide-graphite) aluminium matrix composites under high temperature	Sharath B N Somashekara MK, Govindaswamy PD, Puttegowda M, Shankar PB, Sathyanarayana K	Journal of Engineering and Applied Science	2023 Scopus Index Q2
Experimental and artificial neuralnetwork-based slurry erosion behavior evaluation of cast iron.	Karthik S, Sharath BN, Madhu P, Madhu KS, Prem Kumar BG, Verma A	International Journal on Interactive Design and Manufacturing (IJIDeM)	2023 Scopus Index Q2
Mechanical Characterization of B4C-Gr Al2618 Based Composites Synthesized by Stir Casting Method.	Sharath BN, Somashekara MK, Govindaswamy PD, Puttegowda M, Girijashankar PB, Sathyanarayana K.	Applied Science and Engineering Progress	2023 Scopus Index Q2
Predictive Analysis of Slurry ErosionBehaviour in <u>Aluminium</u> -Based Hybrid Matrix Composites: Experimental and Machine Learning Approach.	Sharath BN, Karthik S, Madhu P, Madhu KS, Pradeep DG.	Journal of Bio-and Tribo-Corrosion	2023 Scopus Index Q2
Effects of tertiary ceramic additives on the micro hardness and wear characteristics of Al2618+ Si3N4- B4C-Gr hybrid composites for automotive applications.	Sharath BN, Madhu KS, Pradeep DG, Madhu P, Premkumar BG, Karthik S	Journal ofAlloys and MetallurgicalSystems	2023 Scopus Index Q1
Conjectured hybrid power with artificial intelligence and single-axis solar tracking wind turbine.	Sharath BN, Madhu KS, Pradeep DG, Madhu P, Premkumar BG, Karthik S.	International Journal of Energy and Water Resources	2023 Scopus Index Q3
Effect of B4C/Gr on Hardness and Wear Behavior of Al2618 Based Hybrid Composites through Taguchi and Artificial Neural Network Analysis.	Ballupete Nagaraju S, Kodigarahalli Somashekara M, Puttegowda M, Manjulaiah H, Kini CR,	Catalysts.	2023 SCIE Q2

Mechanical and thermal properties of flax/carbon/ <u>kevlar</u> based epoxy hybrid composites	Gowda, Yashas T. G.; Vinod, A.; Madhu, P.; <u>Rangappa</u> , Sanjay Mavinkere; <u>Siengchin</u> , Suchart; Jawaidd, Mohammad	POLYMER COMPOSITES	2022 SCIE Q1
Effect of wood filler on the mechanical and thermal behavior of polypropylene/short glass/short carbon fiber-reinforced hybrid composites	Divya, H., V; Jeevan, T. P.; Ashrith, H. S.; Rudresh, B. M.	JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING	2022 SCIE Q2
Areca/synthetic fibers reinforced based epoxy hybrid composites for semi-structural applications	Yashas Gowda, T. G.; Vinod, A.; Madhu, P.; Sanjay, M. R.; <u>Siengchin</u> , Suchart; Jawaidd, Mohammad	POLYMER COMPOSITES	2022 SCIE Q1
Experimental and numerical approach to predict slurry erosion in jet erosion test rig	Karthik, S.; Amarendra, H. J.; <u>Rokhade</u> , Kiran Kumar; Prathap, M. S.	INTERNATIONAL JOURNAL OF REFRACTORY METALS & HARD MATERIALS	2022 SCIE Q1
Influence of stacking sequence on flax/ <u>kevlar</u> hybrid epoxy composites: Mechanical and morphological studies	Mukesh, Sathvik Kangokar; <u>Bettagowda</u> , Nuthan; <u>Praveenkumara</u> , Jagadeesh; <u>Girijappa</u> , Yashas Gowda Thyavihalli; <u>Puttegowda</u> , Madhu; <u>Rangappa</u> , Sanjay Mavinkere; <u>Siengchin</u> , Suchart; <u>Gorbatyuk</u> , Sergey	POLYMER COMPOSITES	2022 SCIE Q1
Development of Self-lubricating Nickel Based Composite Clad using Microwave Heating in Improving Resistance to Wear at Elevated Temperatures	Suresh, G.; Ramesh, M. R.; Srinath, M. S.	METALS AND MATERIALS INTERNATIONAL	2022 SCIE Q1
Microwave-assisted synthesis of poly (acrylamide-co-2-hydroxyethyl methacrylate)/chitosan semi-IPN <u>ZnO</u> nanocomposite membranes for food packaging applications	Patil, <u>Mallikarjunagouda</u> B.; Rajamani, <u>Shwetarani</u> B.; <u>Mathad</u> , S. N.; Patil, Arun Y.; Hussain, Mahmoud A.; <u>Alorfi</u> , Hajar Saeed; Khan, Anish; Asiri, Abdullah M.; Khan, Imran; <u>Puttegowda</u> , Madhu	JOURNAL OF MATERIALS RESEARCH AND TECHNOLOGY-JMR&T	2022 SCIE Q1
Waste coconut leaf sheath as reinforcement composite material with phenol-formaldehyde matrix	Bharath, K. N.; Madhu, P.; <u>Rangappa</u> , Sanjay Mavinkere; <u>Basavarajappa</u> , S.; <u>Siengchin</u> , Suchart; Alexey, Karfidov; <u>Gorbatyuk</u> , Sergey	POLYMER COMPOSITES	2022 SCIE Q1
Synthesis and Characterization of Microwave-Assisted Copolymer Membranes of Poly(vinyl alcohol)-g-starch-methacrylate and Their Evaluation for Gas Transport Properties	Patil, <u>Mallikarjunagouda</u> ; <u>Mathad</u> , Shridhar N.; Patil, Arun Y.; Arshad, Muhammad Nadeem; <u>Alorfi</u> , Hajar Saeed; <u>Puttegowda</u> , Madhu; Asiri, Abdullah M.; Khan, Anish; <u>Azum</u> , Naved	POLYMERS	2022 SCIE Q1
Comparative evaluation of areca/carbon/basalt fiber reinforced epoxy/bio epoxy based hybrid composites	Yashas Gowda, T. G.; Madhu, P.; Kushvaha, Vinod; <u>Rangappa</u> , Sanjay Mavinkere; <u>Siengchin</u> , Suchart	POLYMER COMPOSITES	2022 SCIE Q1
Comparative analysis of <u>CoCrAlY</u> coatings at high-temperature oxidation behavior using different reinforcement composition profiles	Nithin, H. S.; <u>Nishchitha</u> , K. M.; Pradeep, D. G.; Durga, C. Prasad; <u>Mathapati</u> , Mahantayya	WELDING IN THE WORLD	2022 SCIE Q1

Research internship:

Investigated the mechanical properties of 3D printed polymer composites

Mr. Navaneet D J 4MC21ME042

Mr. Gokul C 4MC21ME025

Review Article: Critical review on additive manufacturing based biomedical and biosensors application [SCIE, Q2]

Book Chapter: Materials and Manufacturing Techniques in Fiber Composites (**Accepted**)



Samples Prepared through 3D printer

INTERNSHIP CERTIFICATE

This is to certify that **Mr. Gokul C**, bearing **USN: 4MC21ME025**, a student of Mechanical Engineering, has successfully completed a research internship at the Research Center, Department of Mechanical Engineering, Malnad College of Engineering, Hassan.

The internship was carried out from **10/02/2025** to **25/05/2025** under the guidance of **Dr. Sharath B.N**, Associate Professor, Department of Mechanical Engineering, on the topic **"Investigating the Mechanical Properties of 3D Printed Polymer Composites"**

During this period, **Mr. Gokul C** demonstrated excellent dedication and active involvement in the research work.

Date: 26.05.2025

Place: MCE, Hassan


Dr. Sharath B.N
Associate Professor


Dr. Ezhumalai S
Professor & Head


Dr. S. Pradeep
Director


Dr. A. J. Krishnaiah
Principal



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INTERNSHIP CERTIFICATE

This is to certify that **Mr. Navaneet D.J.**, bearing USN: 4MC21ME042, a student of Mechanical Engineering, has successfully completed a research internship at the Research Center, Department of Mechanical Engineering, Malnad College of Engineering, Hassan.

The internship was carried out from **10/02/2025** to **25/05/2025** under the guidance of **Dr. Sharath B.N.**, Associate Professor, Department of Mechanical Engineering, on the topic **"Investigating the Mechanical Properties of 3D Printed Polymer Composites"**

During this period, **Mr. Navaneet D.J.** demonstrated excellent dedication and active involvement in the research work.

Date: 26.05.2025
Place: MCE, Hassan


Dr. Sharath B.N.
Associate Professor


Dr. Ezhil Varman S.
Professor & Head


Dr. S. Pradeep
Director


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245317
Fax : 08172-245683

Students Publications/Book chapters

Sl. No	Publications	Project/Internship
1.	Raghavendra Rao R, Sharath BN, Pradeep S, Hareesha M, Navaneet D J. Critical review on additive manufacturing based biomedical and biosensors application. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine. 2025 Aug;239(8):721-35. [SCIE] [Q2]	Internship Mentor- Dr. Sharath B.N
2.	Mahesh MB, Sathish MB, Rangaswamy M, Jamadar NS, Puttegowda M, Nagaraju SB. Advancements in 3D Printed Hemp-PLA Composites: A Sustainable Approach for Additive Manufacturing. Next Research. 2025 Dec 2:101168	Project Mentor- Madhu P

Book Chapters		
1	Sharath BN, Rao R, Hareesha M, Rajesh M , Shashanka R. Other Advanced Applications and the Future of High Entropy Alloys. In Handbook of High Entropy Alloys 2025 Nov 3 (pp. 421-434). CRC Press. https://doi.org/10.1201/9781003664093	
2	Smruthi R, Vinay DV, Vinay HR, Basavarajappa SP , Gowda TY, Sharath BN, Jeevan TP, Priya HC, Kalappa P . Eco-friendly fiber and polymers for production of composites and biocomposites for the sustainable environment. In Eco-Friendly Fiber Reinforced Polymer Composite Materials 2026 Jan 1 (pp. 155-198). Woodhead Publishing. https://doi.org/10.1016/B978-0-443-32796-4.00006-1	
3.	Sharath B.N, Madhu P, Pradeep DG, Thanush HG, Kumar KM, Manoj S , Verma A. Unveiling the Potential of Age Hardened Aluminum Alloys: Strengthening Solutions for Engineering Challenges. In Hybrid Composite Materials: Experimental and Theoretical Analysis 2024 May 19 (pp. 349-369). Singapore: Springer Nature Singapore. https://doi.org/10.1007/978-981-97-2104-7_15	

Patents

Faculty	Faculty & Students
Dual patent: Indian design patent Application No.202441053537 A Publication Date : 02/08/2024 Design: Eco-friendly venturi meter: chemically treated coir fiber reinforced bio-PLA composite via 3D printing	Patent: Indian design patent Design number: 436922-001 Grant date: 10/11/2024 Design: Auto floor cleaning and mopping device

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)	960	48	25	54	64
2024-25(CAYm1)	1020	51	34	48	72
2025-26(CAY)	1140	57	37	64	74

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	200.00	111.63	200.00	143.57	150.00	125.60	0	41.07
Library	30.00	42.54	30.00	37.82	30.00	33.42	28.00	28.47
Laboratory equipment	175.00	17.18	175.00	119.30	165.00	248.52	98.00	169.50
Teaching and non-teaching staff	3960.49	3857.84	3598.01	3416.89	3537.96	3202.99	3455.45	3394.70
Outreach Programs	2.00	1.19	3.00	2.67	3.00	1.19	2.00	1.72
R&D	0	0	3.00	5.08	2.00	3.80	1.00	0
Training, Placement and	5.00	8.99	5.00	7.94	5.00	9.25	3.00	15.42
SDGs	50.00	42.75	50.00	75.81	40.00	43.10	25.00	15.02
Entrepreneurship	0	0	5.00	0.86	5.00	0.74	5.00	9.38
Others, Specify	900.00	618.36	884.00	685.15	570.00	849.24	593.00	458.11
Total	5322.49	4700.48	4953.01	4495.09	4507.96	4517.85	4210.45	4133.39

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	9.37	2.42	9.91	1.49	8.38	0	7.02	6.16
Software	12.49	0	13.21	9.10	14.66	22.01	6.74	9.46
SDGs	6.25	5.34	6.6	10.01	5.59	6.02	4.21	2.11
Support for faculty development	3.12	1.52	3.96	0.42	4.19	0.74	4.21	0.38
R & D	1.12	0	1.19	0.67	1.12	0.53	1.12	0
Industrial Training, Industry expert,	6.87	1.12	10.43	1.05	5.59	1.29	4.91	2.16
Miscellaneous Expenses*	118.79	77.24	107.25	90.49	74.99	118.59	77.75	64.29
Total	158.01	87.64	152.55	113.23	114.52	149.18	105.96	84.56