NATIONAL BOARD OF ACCREDITATION

Data Capturing Points of the Program Applied for NBA Accreditation– Tier I/II UG (Engineering) Institute Programs

Program Name : Electronics & Communication Engineering	**Discipline**: Engineering & Technology
Level : Under Graduate	**Tier**: 1
Application No: 10822	**Date of Submission**: 19-06-2025

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 : VISVESVARYA 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: **9**
- No. of PG programs: **6**

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

Sr.No.	Discipline	Level of program	Name of the program	Year of Start	Year of Closed	Name of The Department
1	Engineering & Technology	PG	Artificial Intelligence and Data Science	2023	--	Information Science and Engineering
2	Engineering & Technology	UG	Civil Engineering	1960	--	Civil Engineering
3	Engineering & Technology	PG	Computer Aided Design of Structures	1993	--	Civil Engineering
4	Engineering & Technology	PG	Computer Application in Industrial Drives	1994	2022	Electrical and Electronics Engineering
5	Engineering & Technology	UG	Computer Science and Business System	2022	--	Computer Science and Engineering
6	Engineering & Technology	UG	Computer Science and Engineering	1983	--	Computer Science and Engineering
7	Engineering & Technology	UG	Computer Science and Engineering (Artificial Intelligence & Machine Learning)	2022	--	Computer Science and Engineering
8	Engineering & Technology	PG	Digital Electronics & Communication Engineering	1986	--	Electronics and Communication Engineering
9	Engineering & Technology	UG	Electrical and Electronics Engineering	1960	--	Electrical and Electronics Engineering
10	Engineering & Technology	UG	Electronics & Communication Engineering	1967	--	Electronics and Communication Engineering
11	Engineering & Technology	UG	Electronics & Instrumentation Engineering	1984	--	Electronics and Communication Engineering
12	Engineering & Technology	PG	Industrial Automation & Robotics	2004	2023	Mechanical Engineering

13	Engineering & Technology	UG	Information Science & Engineering	2000	2025	Information Science and Engineering
14	Engineering & Technology	UG	Mechanical Engineering	1960	--	Mechanical Engineering
15	Engineering & Technology	PG	Power and Energy Systems	2022	--	Electrical and Electronics Engineering

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

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

Name of the Department	Having Allied Departments	Name of the Program	Program Level
Electronics and Communication Engineering	Yes	Electronics & Communication 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
Electronics and Communication Engineering	Electronics & Instrumentation 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/COMPET AUTHORITY ARROVAL DETA
1	Electronics & Communication Engineering	UG	1967 / --	60	Yes	2020	120	2020	yes

Sanctioned Intake for Last Five Years for the Digital Electronics & Communication Engineering	
Academic Year	**Sanctioned Intake**
2024-25	120
2023-24	120
2022-23	120
2021-22	120
2020-21	120
2019-20	90

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	Electronics and Communication Engineering	Electronics & Instrumentation Engineering	UG	1984 / --	60	No	NA	60	1984

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

A. Name of the HoD :	Dr. G Padmaja Devi
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)	2024-25 (CAY)	2023-24 (CAYm1)	2022-23 (CAYm2)	2021-22 (CAYm3)	2020-21 (CAYm4)	2019-20 (CAYm5)	2018-19 (CAYm6)
N=Sanctioned intake of the program (as per AICTE /Competent authority)	120	120	120	120	120	90	90
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	116	121	119	108	118	89	84
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	12	15	20	11	9	11
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	6	6	6	6	6	5	0
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	122	139	140	134	135	103	95

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]
2024-25 (CAY)	120	116	6	101.67
2023-24 (CAYm1)	120	121	6	105.83
2022-23 (CAYm2)	120	119	6	104.17

Average [(ER1 + ER2 + ER3) / 3] = 103.89≡ 100

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	(2020-21) LYG	(2019-20) LYGm1	(2018-19) 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).	135.00	103.00	101.00
B=No. of students who graduated from the program in the stipulated course duration	113.00	86.00	90.00
Success Rate (SR)= (B/A) * 100	83.70	83.50	89.11

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 85.44

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(2023-24)	CAYm2(2022-23)	CAYm3 (2021-22)
Mean of CGPA or mean percentage of all successful students(X)	7.76	7.92	7.51
Y=Total no. of successful students	127.00	125.00	114.00
Z=Total no. of students appeared in the examination	127.00	125.00	114.00

API [X*(Y/Z)]	7.76	7.92	7.51

Average API[(AP1+AP2+AP3)/3] : 7.73

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 (2023-24)	CAYm2 (2022-23)	CAYm3 (2021-22)
X=(Mean of 2nd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 2rd year/10)	7.57	6.92	8.07
Y=Total no. of successful students	140.00	133.00	131.00
Z=Total no. of students appeared in the examination	140.00	134.00	135.00
API [X * (Y/Z)]	7.57	6.87	7.83

Average API [(AP1 + AP2 + AP3)/3] : 7.42

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 (2023-24)	CAYm2 (2022-23)	CAYm3 (2021-22)
X=(Mean of 3rd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 3rd year/10)	7.16	7.36	8.12
Y=Total no. of successful students	131.00	131.00	101.00
Z=Total no. of students appeared in the examination	133.00	131.00	102.00
API [X*(Y/Z)]:	7.05	7.36	8.04

Average API [(AP1 + AP2 + AP3)/3] : 7.48

B9. Placement, Higher Studies, and Entrepreneurship

Table No.B9.1: Placement, higher studies, and entrepreneurship details.

Item	LYG (2020-21)	LYGm1(2019-20)	LYGm2(2018-19)
FS*=Total no. of final year students	131.00	101.00	101.00
X=No. of students placed	72.00	61.00	65.00
Y=No. of students admitted to higher studies	13.00	12.00	14.00
Z= No. of students taking up entrepreneurship	2.00	0.00	0.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	66.41	72.28	78.22

Average Placement Index = (P_1 + P_2 + P_3)/3: 72.30 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)	Currentl Associa (Y/N)
1	Dr. P. C. Srikanth	XXXXXXX17Q	M.Tech and Ph.D.	VTU, Belagavi	Photonics and Quantum, ML	17/10/1988	36.8	Lecturer	Professor	29/10/2011	Regular	Yes
2	Dr. Murthi Mahadev Naik G	XXXXXXX17C	M.Tech and Ph.D.	Mysore University	Antennas and Communication	29/08/2005	19.9	Assistant Professor	Professor	29/05/2024	Regular	Yes
3	Dr. G Padmaja Devi	XXXXXXX55N	M.Tech and Ph.D.	VTU, Belagavi	Image Processing	17/04/1997	28.2	Lecturer	Professor	29/05/2024	Regular	Yes

4	M N Ravikumar	XXXXXXX25F	M.Tech	IIT Kanpur	Micro Electronics, VLSI and Display Devices	15/04/1997	28.2	Lecturer	Associate Professor	15/04/2011	Regular	Yes
5	Dr. C L Triveni	XXXXXXX13E	M.Tech and Ph.D.	VTU, Belagavi	Photonics and Elastic Optical Networks	14/05/2003	22.1	Lecturer	Associate Professor	05/04/2022	Regular	Yes
6	Dr. Indira Bahaddur	XXXXXXX36N	M.Tech and Ph.D.	VTU, Belagavi	Photonics	12/09/2005	19.9	Lecturer	Associate Professor	29/05/2024	Regular	Yes
7	Dr. Venkateshwara Rao Kolli	XXXXXXX03R	M.Tech and Ph.D.	IISC Banglore	Photonics	09/10/2006	18.8	Lecturer	Associate Professor	29/05/2024	Regular	Yes
8	Dr. D S Keerthi	XXXXXXX56R	M.Tech and Ph.D.	VTU, Belagavi	Wireless Communication	04/12/2010	14.6	Lecturer	Assistant Professor		Regular	Yes
9	Dakshayini M R	XXXXXXX15R	M.Tech	VTU, Belagavi	Digital electronics & Communication system	03/09/2012	12.9	Assistant Professor	Assistant Professor		Regular	Yes
10	Dr. Prathap PB	XXXXXXX58C	M.Tech and Ph.D.	DSU, Bengaluru	Photonics	19/08/2013	11.10	Assistant Professor	Assistant Professor		Regular	Yes
11	K A Raghuram	XXXXXXX33E	M.Tech	VTU, Belagavi	Digital electronics & Communication system	20/08/2013	11.10	Assistant Professor	Assistant Professor		Regular	Yes
12	Dr. N Sushma	XXXXXXX93L	M.Tech and Ph.D.	VTU, Belagavi	IOT and Applications	21/08/2013	11.10	Assistant Professor	Assistant Professor		Regular	Yes
13	Dr. Hemanth Kumar BM	XXXXXXX64L	M.Tech and Ph.D.	DSU, Bengaluru	Photonics	31/08/2013	11.9	Assistant Professor	Associate Professor	04/09/2024	Regular	Yes
14	Dr. Deepika K C	XXXXXXX13E	M.Tech and Ph.D.	VTU, Belagavi	Image Processing	09/09/2014	10.9	Assistant Professor	Assistant Professor		Regular	Yes
15	Dr. K B Santhosh kumar	XXXXXXX77F	M.Tech and Ph.D.	VTU, Belagavi	Biomedical Signal Processing	09/09/2014	10.9	Assistant Professor	Assistant Professor		Regular	Yes
16	Dr. Prakruthi H L	XXXXXXX43A	M.Tech and Ph.D.	DSU, Bengaluru	MEMS	02/03/2016	9.3	Assistant Professor	Associate Professor	27/07/2024	Regular	Yes
17	Spoorthi B.S.	XXXXXXX89D	M.Tech	VTU, Belagavi	Digital electronics & Communication system	13/02/2019	6.4	Assistant Professor	Assistant Professor		Regular	Yes
18	Poornima M R	XXXXXXX35M	M.Tech	VTU, Belagavi	VLSI Design and Embedded Systems	11/09/2019	5.9	Assistant Professor	Assistant Professor		Regular	Yes
19	Kavana K V	XXXXXXX36R	M.Tech	VTU, Belagavi	Digital electronics & Communication system	30/08/2023	1.9	Assistant Professor	Assistant Professor		Regular	Yes
20	Manasa H S	XXXXXXX01L	M.Tech	VTU, Belagavi	Digital electronics & Communication system	30/08/2023	1.9	Assistant Professor	Assistant Professor		Regular	Yes
21	Dr. Yashaswini P R	XXXXXXX13L	M.Tech and Ph.D.	VTU, Belagavi	Photonics	02/11/2023	1.7	Assistant Professor	Assistant Professor		Regular	Yes

22	Meghashree B S	XXXXXXX79J	M.Tech	VTU, Belagavi	Digital electronics & Communication system	20/01/2020	5.4	Assistant Professor	Assistant Professor		Regular	Yes
23	Swathi H Y	XXXXXXX47K	M.Tech	VTU, Belagavi	Digital electronics & Communication system	09/11/2016	7.5	Assistant Professor	Assistant Professor		Regular	No
24	Dr. Bhagya D	XXXXXXX69J	M.Tech and Ph.D.	VIT, Tamil Nadu	Embedded Systems	30/08/2021	2	Assistant Professor	Assistant Professor		Regular	No
25	Jnana Swaroop K R	XXXXXXX84A	M.Tech	VTU, Belagavi	Digital electronics & Communication system	22/10/2012	10.5	Assistant Professor	Assistant Professor		Regular	No
26	Yashas J	XXXXXXX26F	M.Tech	VTU, Belagavi	VLSI Design and Embedded Systems	20/08/2015	7.7	Assistant Professor	Assistant Professor		Regular	No

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	Nature of Associa (Regula Contrac Ad hoc)
1	Dr. C M.Naveen Kumar	XXXXXXX65J	NA	M.Tech and Ph.D.	VTU, Belagavi	Affective Computing	03/08/2010	14.10	Assistant Professor	Associate Professor	02/05/2024	Regular
2	Murali H.S	XXXXXXX80E	NA	M.Sc. (Engineering)	VTU, Belagavi	Process Control	05/03/2004	19.3	Assistant Professor	Assistant Professor		Regular
3	Dr. G.Shivakumar	XXXXXXX71Q	NA	M.Tech and Ph.D.	VTU, Belagavi	Pattern Recognition	21/04/1993	30	Assistant Professor	Professor	01/08/2006	Regular
4	Vanitha .A	XXXXXXX79E	NA	M.Tech	VTU, Belagavi	Computer Science	21/03/2007	17.5	Assistant Professor	Assistant Professor		Regular
5	Chaithra Chandrashekar	XXXXXXX02E	NA	M.Tech	VTU, Belagavi	Computer Science	16/08/2007	17	Assistant Professor	Assistant Professor		Regular
6	Dr. C.S. Suresh Babu	XXXXXXX53D	NA	M.Tech and Ph.D.	VTU, Belagavi	MEMS	21/04/1993	32.2	Assistant Professor	Associate Professor	01/08/2006	Regular
7	Dr. N E Ramesh	XXXXXXX44F	NA	M.Tech and Ph.D.	DSU, Bengaluru	MEMS	06/10/1990	34.8	Assistant Professor	Associate Professor	02/01/2006	Regular
8	Shreedevi P	XXXXXXX59B	NA	M.Tech	VTU, Belagavi	Digital electronics & Communication system	10/08/2022	1	Assistant Professor	Assistant Professor		Regular

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(2024-25)**	**CAYm1 (2023-24)**	**CAYm2 (2022-23)**
UG1.B	132	132	132
UG1.C	132	132	132
UG1.D	132	132	99
UG1: Electronics & Communication Engineering	**396**	**396**	**363**
UG2.B	61	66	66
UG2.C	66	66	62
UG2.D	66	62	63
UG2: Electronics & Instrumentation Engineering	**193**	**194**	**191**
PG1.A	25	25	25
PG1.B	25	25	25
PG1: Digital Electronics & Communication Engineering	**50**	**50**	**50**
DS=Total no. of students in all UG and PG programs in the Department	446	446	413
AS=Total no. of students of all UG and PG programs in allied departments	193	194	191
S=Total no. of students in the Department (DS) and allied departments (AS)	**S1=** 639	**S2=** 640	**S3=** 604
DF=Total no. of faculty members in the Department	22	22	21
AF= Total no. of faculty members in the allied Departments	3	5	8
F=Total no. of faculty members in the Department (DF) and allied Departments (AF)	**F1=** 25	**F2=** 27	**F3=** 29
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= 25.56**	**SFR2= 23.70**	**SFR3= 20.83**
Average SFR for 3 years	**SFR= 23.36**		

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)]**
2024-25(CAY)	15	10	31.00	15.32
2023-24(CAYm1)	11	16	31.00	14.03
2022-23(CAYm2)	10	19	30.00	14.67

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**
2024-25	3.00	3.00	7.00	6.00	21.00	16.00
2023-24	3.00	1.00	7.00	4.00	21.00	22.00

2022-23	3.00	2.00	6.00	4.00	20.00	23.00
Average	RF1=3.00	AF1=2.00	RF2=6.67	AF2=4.67	RF2=20.67	AF2=20.33

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	Dr. G K Purushothama	Professor	Malnad College of Engineering	Control System, DSP Lab, Signals and System Lab	74.00

(CAYm2)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	NIL	NIL	NIL	NIL	0.00

(CAYm3)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	NIL	NIL	NIL	NIL	0.00

C6. Academic Research

Table No. C6.1: Faculty publication details.

S.No.	Item	2023-24 (CAYm1)	2022-23 (CAYm2)	2021-22 (CAYm3)
1	No. of peer reviewed journal papers published	7	8	5
2	No. of peer reviewed conference papers published	4	1	3
3	No. of books/book chapters published	1	3	1

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. C.L Triveni	NIL	Electronics and Communication Engineering	Design and performance evaluation of Photonic-crystal-based Elastic Optical Switches for Next-Generation Optical Networks	DST-SERB	Started at March 2nd 2024 – End at Feb 2nd 2027	2301332.00
						Amount received (Rs.):2301332.00

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

Total Amount (Lacs) Received for the Past 3 Years: 2301332.00

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
NIL	NIL	NIL	NIL	NIL	NIL	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
NIL	NIL	NIL	NIL	NIL	NIL	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
NIL	NIL	NIL	NIL	NIL	NIL	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
NIL	NIL	NIL	0.00	0.00	NIL
			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
NIL	NIL	NIL	0.00	0.00	NIL
			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
NIL	NIL	NIL	0.00	0.00	NIL
			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	Microcontroller	138	● Computers ● Microcontroller kits ● CROs	16	Mrs. Sulochan	Instructor	B.E E &C
2	Embedded lab	138	● Embedded system kits● ARM-7 & ARM-9 kits ● CROs	16	Mr. Subraman	Foreman/Prog	Diploma E&C
3	Analog Electronics lab	138	● Power Supplies ● CROs ● Signal Generators ● Analog/Digital multimeters	16	Mr. Sangames	foreman	Diploma E&C
4	Digital Electronics lab	138	● Power Supplies ● CROs ● Signal Generators ● Analog/Digital multimeters	16	Mr. Mohan Kris	Instructor	S.S.L.C
5	Communication Lab	138	● Power Supplies ● CROs ● Signal Generators ● IC Trainer Kits ● Gunn power supplies	16	Mrs. Jyothishr	Instructor	B.E -E&C
6	Communication Lab	138	● Power Supplies ● CROs ● Signal Generators ● IC Trainer Kits ● Gunn power supplies	16	Mr. Gangadha	Helper	B.A., B.Ed
7	Signal processing	138	● Computers ● DSP kits● Digital CROs	16	Mr. I V Manoh	Foreman	M.Sc., M.Phil,
8	VLSI lab	138	● FPGA-CPLD kits ● Digital CROs ● Universal VLSI-FPGA trainer kit	16	Mr. Rajappa H	Mechanic I/C	ITI (B.Sc)
9	IoT lab	138	● Computers ● Sensors kits ● Communication kits ● Raspberry Pi Boards ● Creative speakers	16	Mr. Devaraj D	Mechanic	Diploma E&C
10	IoT lab	138	● Computers ● Sensors kits ● Communication kits ● Raspberry Pi Boards ● Creative speakers	16	Mr. Nagaraja	Helper	S.S.L.C

D2. Safety Measures in Laboratories

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

Sr. No	Laboratory Name	Safety Measures

1	Microcontroller and Embedded lab	• Ensure Proper Electrical Safety: Software 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. Ensure that the systems 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 equipment in their designated areas. • Ensure Proper Ventilation: Proper ventilation is important to prevent eyestrain, 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. • 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 laboratory • Keep Emergency Equipment Handy: Ensure that there is easy access to emergency equipment such as fire extinguishers and first aid kits. Make sure that all personnel in the laboratory are aware of the location and proper use of this equipment. • Follow Equipment Safety Guidelines: Always read and follow the safety guidelines provided by the manufacturer for each equipment used. Make sure to use equipment only for its intended purpose and use it correctly. • Keep the laboratory Clean and Tidy: A clean and organized laboratory is essential for safety. Keep the floor free from clutter and debris and store equipment in their designated areas. It is also important to keep work surfaces clean and dry to prevent slips and falls. • CCTV camera: CCTV cameras have been placed in the labs and hallways of the ECE department to improve security, keep an eye on activity, and guarantee the constant safety of both people and equipment.
2	Analog and digital Electronics lab	• Ensure Proper Electrical Safety: Software 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. Ensure that the systems 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 equipment in their designated areas. • Ensure Proper Ventilation: Proper ventilation is important to prevent eyestrain, 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. • 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 laboratory • Keep Emergency Equipment Handy: Ensure that there is easy access to emergency equipment such as fire extinguishers and first aid kits. Make sure that all personnel in the laboratory are aware of the location and proper use of this equipment. • Follow Equipment Safety Guidelines: Always read and follow the safety guidelines provided by the manufacturer for each equipment used. Make sure to use equipment only for its intended purpose and use it correctly. • Keep the laboratory Clean and Tidy: A clean and organized laboratory is essential for safety. Keep the floor free from clutter and debris and store equipment in their designated areas. It is also important to keep work surfaces clean and dry to prevent slips and falls. • CCTV camera: CCTV cameras have been placed in the labs and hallways of the ECE department to improve security, keep an eye on activity, and guarantee the constant safety of both people and equipment.

3	Communication Lab	• Ensure Proper Electrical Safety: Software 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. Ensure that the systems 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 equipment in their designated areas. • Ensure Proper Ventilation: Proper ventilation is important to prevent eyestrain, 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. • 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 laboratory • Keep Emergency Equipment Handy: Ensure that there is easy access to emergency equipment such as fire extinguishers and first aid kits. Make sure that all personnel in the laboratory are aware of the location and proper use of this equipment. • Follow Equipment Safety Guidelines: Always read and follow the safety guidelines provided by the manufacturer for each equipment used. Make sure to use equipment only for its intended purpose and use it correctly. • Keep the laboratory Clean and Tidy: A clean and organized laboratory is essential for safety. Keep the floor free from clutter and debris and store equipment in their designated areas. It is also important to keep work surfaces clean and dry to prevent slips and falls. • CCTV camera: CCTV cameras have been placed in the labs and hallways of the ECE department to improve security, keep an eye on activity, and guarantee the constant safety of both people and equipment.
4	Signal processing and VLSI Lab	• Ensure Proper Electrical Safety: Software 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. Ensure that the systems 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 equipment in their designated areas. • Ensure Proper Ventilation: Proper ventilation is important to prevent eyestrain, 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. • 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 laboratory • Keep Emergency Equipment Handy: Ensure that there is easy access to emergency equipment such as fire extinguishers and first aid kits. Make sure that all personnel in the laboratory are aware of the location and proper use of this equipment. • Follow Equipment Safety Guidelines: Always read and follow the safety guidelines provided by the manufacturer for each equipment used. Make sure to use equipment only for its intended purpose and use it correctly. • Keep the laboratory Clean and Tidy: A clean and organized laboratory is essential for safety. Keep the floor free from clutter and debris and store equipment in their designated areas. It is also important to keep work surfaces clean and dry to prevent slips and falls. • CCTV camera: CCTV cameras have been placed in the labs and hallways of the ECE department to improve security, keep an eye on activity, and guarantee the constant safety of both people and equipment.

5	IOT Laboratory	• Ensure Proper Electrical Safety: Software 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. Ensure that the systems 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 equipment in their designated areas. • Ensure Proper Ventilation: Proper ventilation is important to prevent eyestrain, 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. • 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 laboratory • Keep Emergency Equipment Handy: Ensure that there is easy access to emergency equipment such as fire extinguishers and first aid kits. Make sure that all personnel in the laboratory are aware of the location and proper use of this equipment. • Follow Equipment Safety Guidelines: Always read and follow the safety guidelines provided by the manufacturer for each equipment used. Make sure to use equipment only for its intended purpose and use it correctly. • Keep the laboratory Clean and Tidy: A clean and organized laboratory is essential for safety. Keep the floor free from clutter and debris and store equipment in their designated areas. It is also important to keep work surfaces clean and dry to prevent slips and falls. • CCTV camera: CCTV cameras have been placed in the labs and hallways of the ECE department to improve security, keep an eye on activity, and guarantee the constant safety of both people and equipment.
6	Research Laboratory	• Ensure Proper Electrical Safety: Software 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. Ensure that the systems 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 equipment in their designated areas. • Ensure Proper Ventilation: Proper ventilation is important to prevent eyestrain, 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. • 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 laboratory • Keep Emergency Equipment Handy: Ensure that there is easy access to emergency equipment such as fire extinguishers and first aid kits. Make sure that all personnel in the laboratory are aware of the location and proper use of this equipment. • Follow Equipment Safety Guidelines: Always read and follow the safety guidelines provided by the manufacturer for each equipment used. Make sure to use equipment only for its intended purpose and use it correctly. • Keep the laboratory Clean and Tidy: A clean and organized laboratory is essential for safety. Keep the floor free from clutter and debris and store equipment in their designated areas. It is also important to keep work surfaces clean and dry to prevent slips and falls. • CCTV camera: CCTV cameras have been placed in the labs and hallways of the ECE department to improve security, keep an eye on activity, and guarantee the constant safety of both people and equipment.

D3. Project Laboratory/Research Laboratory

Project Lab

The primary purpose of the project laboratory is to provide the space and resources needed by students to complete their main project and mini projects work. The laboratory also serves as a meeting location for groups of students working on team projects. Most of the students utilize this project laboratory to work on supplemental learning projects to enhance their understanding of class and lab assignments. This project laboratory is utilized by third year fifth and six semester and fourth year, seven and eight semester students. The project lab is shown in figure 7.5.1

- Project laboratories are utilized by the students for their projects.
- Discussions and implementations of innovative ideas about mini projects and final year projects are carried out in a Project lab.
- Project lab is exclusively for the project work with the hardware and software facilities listed in table 7.5.1 and 7.5.2:

Table 7.5.1: Hardware Facilities

Sl No	Name of the Equipment
1.	DSP-in-VLSI Trainer (Xilinx FPGA - SPARTAN)
2.	DSP IC 16 Bit Micro Controller Kit
3.	Digital IC trainer
4.	FPGA Kit
5.	Scientific Function Generator
6.	DSO 25MHz & 100MHz
7.	Advance Fiber Optic Communication Trainer Link
8.	BASK, BFSK, BPSK, DPSK, QPSK kits
9.	MSK, DSSSM, FHSSM, Delta and ADM, TDM kits
10.	ARM-9 and DSP Starter kits
11.	DTH, K/KU band kit
12.	Microwave Components with Klystron and Gunn Power supply
13.	ZigBee modules
14.	Microcontroller - Arduino UNO R3 SMD Development Board
15.	Microcontroller Raspberry Pi- kit
16.	Wi-fi module
17.	IOT- Sensors kit

Table 7.5.2: Software Facilities

Sl No	Software Name
1	Microwind 8.2 -EDA
2	Windows 10 operating system (Through Central Facility)
3	K7 Antivirus (Through Central Facility)
4	Office 365 (Through Central Facility)
5	Scilab 2024.1.0
6	Xilinx – System Edition Ver. 14.5
7	Keil version 5.0

8	PyCharm- Python IDE
9	Orcad Lite - OrCAD software
10	Arduino IDE (Integrated Development Environment)

Figure 7.5.1: The project lab

Utilization

The department has supported to use its resources in laboratories for technical knowledge sharing and to promote creativity and hands-on learning for the last two years. Numerous projects led by students and directed by academics have been completed, tackling current issues in a variety of engineering and technological fields. These initiatives demonstrate the departments dedication to research, societal relevance, and skill development in addition to demonstrating the efficient use of institutional resources. The main projects completed during assessment period are summarised in table 7.5.3 and 7.5.4. The projects carried out during the assessment period is shown in figure 7.5.1 to figure 7.5.7.

Table 7.5.3 Projects carried out for CAY-M2 (2022-23) batch Project List:

Group No.	USN	Name of Student	Name of the project	Name of the Guide
1	Sanjana B C	4MC19EC064	IoT Enabled Floatable Waste Collecting Machine with Quality Monitoring	Mrs. Swathi HY (https://www.mcehassan.ac.in/mcefaculty.php?dept=Electronics%2Band%2Bcommunication%2BEngineering&id=22&table=mce_ece_faculity)
	Sushmitha A S	4MC19EC077		
	Sushmitha	4MC19EC078		
	Swarna M	4MC19EC079		
2	Sahana Jayaram-	4MC19EC063	War Field Spy Robot Using Night Vision Camera	Mr. Ravikumar M.N. (https://www.mcehassan.ac.in/mcefaculty.php?dept=Electronics%2Band%2Bcommunication%2BEngineering&id=6&table=mce_ece_faculity)
	Tanushree Raviprakash-	4MC19EC082		
	Lekhana H D-	4MC19EC036		
	Mohammed Azharuddin-	4MC20EC405		
3	Hrithik S	4MC19EC031	IoT Based Automatic and Manually Controlled Floor Cleaning Robot	Dr. Bhagya D (https://www.mcehassan.ac.in/mcefaculty.php?dept=Electronics%2Band%2Bcommunication%2BEngineering&id=33&table=mce_ece_faculity)
	Nachin Gowda K P	4MC19EC048		
	Manoj S Patil	4MC19EC042		
	Swarup M G	4MC19EC080		

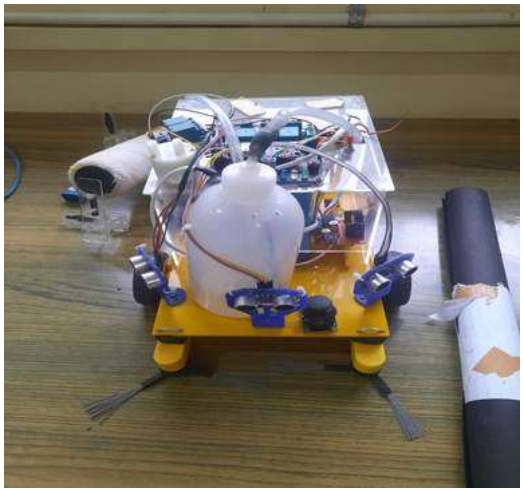

Fig 7.5.1: IoT Based Automatic and Manually Controlled Floor Cleaning Robot

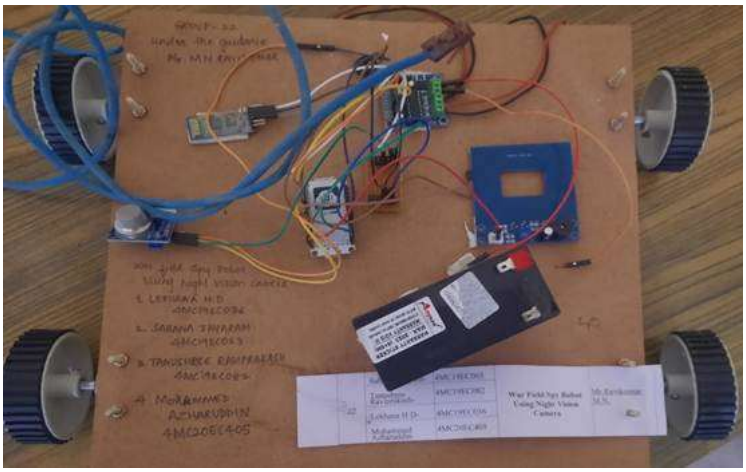

Fig 7.5.2: War Field Spy Robot Using Night Vision Camera

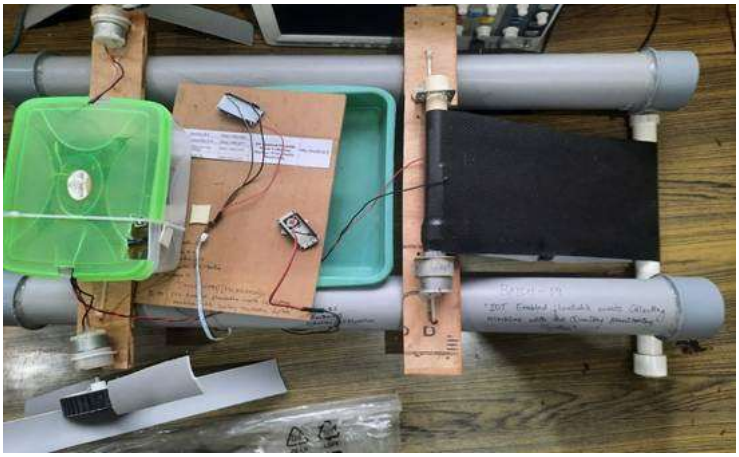

Fig 7.5.3: IoT Enabled Floatable Waste Collecting Machine with Quality Monitoring

Table 7.5.4 Projects carried out for CAY-M1 (2023-24) batch Project List:

Group No.	USN	Name of Student	Guide	Project Title
1	4MC20EC006	Adarsh A V	Dr. Venkateswara Rao Kolli	Smart security for suspicious activity in volatile area.
	4MC20EC007	Aditya R Shetty		
	4MC20EC127	Shashank K S		
	4MC20EC110	Vinit M		
2	4MC20EC093	Sucheth S	Mrs. Dakshayini M R	Crop yield prediction system using machine learning.
	4MC20EC094	Sukshitha H N		
	4MC20EC084	Shilpashree Y		
	4MC20EC097	Syed Nabeel		
3	4MC20EC032	Harshitha N D	Mrs. Sushma N	IoT Based Smart Parking System using Arduino.
	4MC20EC037	Kavana M C		
	4MC20EC056	Niharika P R		
	4MC20EC011	Arpitha A K		
4	4MC20EC026	Ganavi Cl	Dr. K C Deepika	EV BMS with Charge Monitor and Fire Protection.
	4MC20EC064	Rachana Ks		
	4MC20EC075	Sakshi Ms		
	4MC20EC083	Shilpa Hl		
5	4MC20EC001	A N Mahathi Bhat	Dr. H L Prakruthi	IOT Secure Helmet: Revolutionizing Bike Rider Safety.
	4MC20EC003	Aamina Sadaf		
	4MC20EC012	Ashwini M L		
	4MC20EC016	Chandana G U		

Snapshots of Projects Carried for CAY-M1 (2023-24)

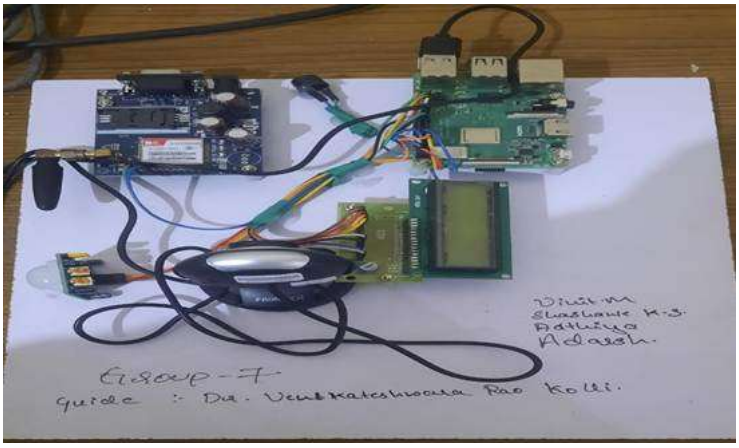

Fig 7.5.4: Smart security for suspicious activity in volatile areas.

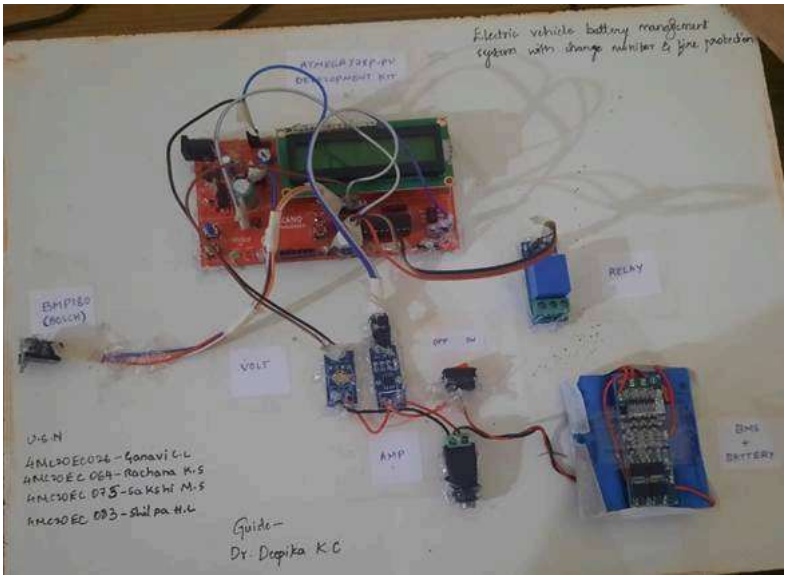

Fig 7.5.5: EV BMS with Charge Monitor and Fire Protection

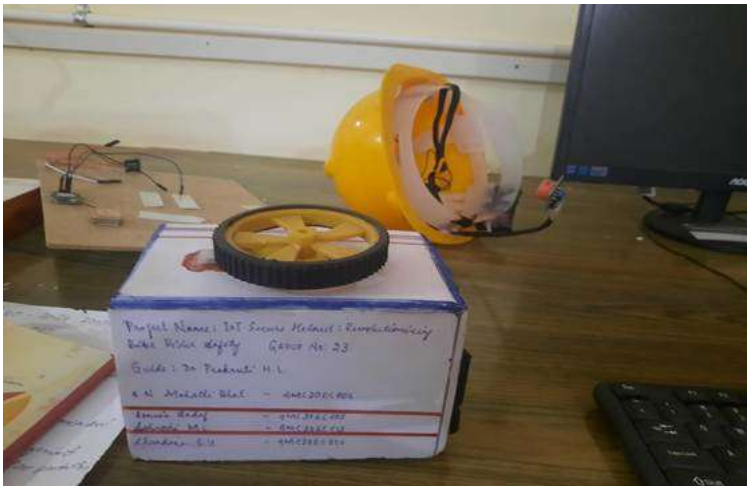

Fig. 7.5.6: IOT Secure Helmet: Revolutionizing Bike Rider Safety.

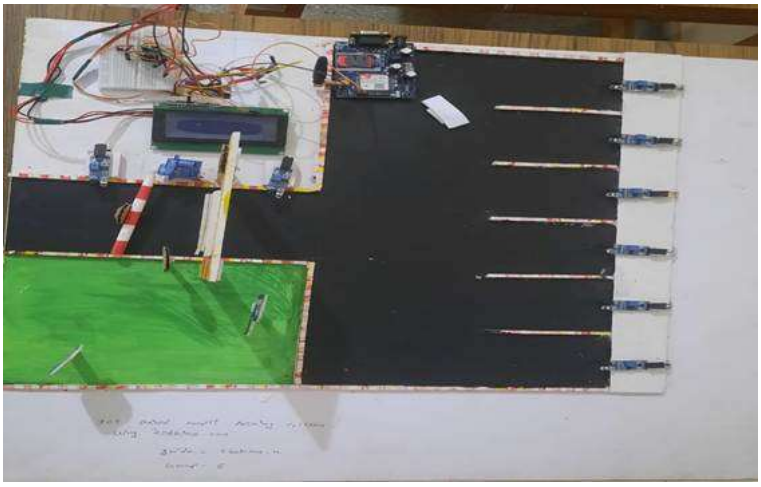

Fig 7.5.7: IoT Based Smart Parking System using Arduino

VTU-FAFSIP Students Innovative Projects

The Visvesvaraya Technological University (VTU) has launched the Financial Assistance for Student Innovative Projects (FAFSIP) program in keeping with its mission to encourage students to be creative and solve real-world problems. This program has given students the financial and academic support they need to turn their innovative ideas into worthwhile initiatives. To promote a culture of research, innovation, and entrepreneurship, students have actively participated to address real-world difficulties. The creative projects completed under VTU-FAFSIP are highlighted in the table 7.5.5. These projects demonstrate the students technical proficiency, social consciousness, and efficient use of the programs funding. The best project awards are given in table 7.5.6.

Table 7.5.5: VTU-FAFSIP Students Innovative Projects (CAY-M3)

Sl. No	Project Title	Student Details				
		Name	USN	Mobile Number	Email ID	Guide
1	Development of Digital Fuel Indicator	Bhoomika H	4MC18EC012	6361925553	bhoomikaharish18@gmail.com (mailto:bhoomikaharish18@gmail.com)	Mrs.Dakshayini M R
		Chethan H K	4MC18EC016	8660247848	chethanhk2000@gmail.com (mailto:chethanhk2000@gmail.com)	
		Chandana H P	4MC18EC013	9448626350	chandanahp23@gmail.com (mailto:chandanahp23@gmail.com)	
		Prajwal C G	4MC18EC046	8660893853	cgprajwal12@gmail.com (mailto:cgprajwal12@gmail.com)	
2	Soldier health and position monitoring system	Abduljabbar	4MC19EC400	8088020178	abduljabbarckm@gmail.com (mailto:abduljabbarckm@gmail.com)	Mrs. Prakruthi H L
		Prasad R	4MC19EC408	8496850796	prasadappu32@gmail.com (mailto:prasadappu32@gmail.com)	
		Chirag Jain	4MC18EC090	7829995263	chirujain0905@gmail.com (mailto:chirujain0905@gmail.com)	
		Kiran N S	4MC19EC405	7338198030	Kiranns134@gmail.com (mailto:Kiranns134@gmail.com)	
		Alok L	4MC17EC005	8073617174	aravalok26@gmail.com (mailto:aravalok26@gmail.com)	

Table 7.5.6 Best Project Award (CAY-M3)

Name	USN	Project Title	Guide
Keerthana N R	4MC18EC027	GPS Guided Fully Autonomous River Cleaning Robot	Mr.Ravikumar M N
Madhuri HC	4MC18EC032		
Mahalingaiah M	4MC18EC033		
N D Yashashwini	4MC18EC036		

Sponsored projects from CAY- M to CAY-M3

The departments activity for applying to externally financed research and development projects during the past three years demonstrates its strong dedication to academic excellence, innovation. Governmental organisations, research foundations have funded sponsored initiatives, which have given academics and students access to essential venues for doing innovative research with real-world applications. These initiatives support societal development and technological developments in addition to strengthening institutional research capacity. The overview lists the major sponsored projects that were carried out during this time, emphasising their goals, sources of money, and observable results in KSCST Projects. The list of funded projects during the assessment period is given in table 7.5.7.

Table 7.5.7 Funded Projects Award (CAY-M1-M)

Sl. No.	`Project Name	Sanction Agency	Date of Sanction	Name of the faculty.	Amount Sanctioned in Rupees
1	Crowd Tracking Using Optical Flow Method for Video Surveillance	KSCST. Government of Karnataka.	19/04/2024	Dr. Keerthi D S	5,500.00
2	Crowd Counting for Suspicious Activities Detection Using Deep Learning.	KSCST. Government of Karnataka.	11/05/2022	Dr. Keerthi D S	7,000.00
3	IoT Based Smart Restaurant.	KSCST. Government of Karnataka.	16/03/2020	Dr. C L Triveni	4,000.00
4	Background Subtractions Algorithm for Crowd Movement Detection in Surveillance Videos.	KSCST. Government of Karnataka.	16/03/2020	Dr. Keerthi D S	4,000.00

Research lab

The Research Laboratory is essential to the departments efforts to promote an innovative, inquisitive, and advanced learning atmosphere. The lab, which is outfitted with cutting-edge equipment and run by knowledgeable academics, offers a vibrant setting for researchers and UG and PG students to investigate new technologies, carry out experiments. The lab prepares students for fostering a research mindset in addition to improving academic engagement. Hardware and software facilities listed in the research lab are listed in table 7.5.8. Over the past years, the lab has significantly contributed to academic and applied research, culminating in a growing body of publications in reputed national and international journals and conferences listed in table 7.5.9. The research lab facility is shown in figure 7.5.9

The primary purpose of the Research lab is to utilize the research facilities and to do the research activity.

- Discussions and execution of code of their projects are carried out in the Research lab.
- Research lab is exclusively to work for the paper publication.
- DST sponsored research is carried out in the Research Laboratory.

Table 7.5.8: Research Lab Facilities

Sl No	System Model
1	SDR platform wave guru
2	Optical fiber kit light runner
3	system with software- HFSS, Lumericals
4	Workstation: Intel(R) Core(TM) i7-14700 2.10 GHz
5	HP PRO-C17 8700 SYSTEM
6	Lenovo system
7	Epson projector
8	Intel Pentium system
9	I5 system
10	Power supplies/ SMPS
11	Oscilloscope
12	Function generator
13	15 KVA Aplab UPS

Table 7.5.9: Student Publications in reputed International/National Journals and conferences

Academic year	Publication	Total
CAY-M1 (2023-24)	International Journal/ Conference	5
CAY-M2 (2022-21)	International Journal/ Conference	4
CAY-M3 (2020-21)	International Journal/ Conference	2

Fig: 7.5.9 Research lab

Centre of Excellence

Center of excellence in an organization acts as a centre for innovation, best practices, and knowledge exchange in a specific field. Utilising knowledge, standardising procedures, and promoting uniformity within an organisation are ways to increase efficiency and competitiveness. Details of facility listed in table 7.5.10

Table 7.5.10: list of Centre of Excellence facility

S No	Name of the Facility	Details	Purpose for creating facility	Utilization	Relevance to PO, PSO
1.	Make in MCE	It supports student and faculty-led projects and startup ventures	To enhance learning	Skill development, startup, internship, Projects	PO5, PO12, PSO1
2.	AICTE IDEA Lab	A hub for innovation and hands-on learning for UG students to transform ideas to prototypes	To enhance learning	Skill development, startup, internship, Projects	PO5, PO12, PSO1
3.	ME-RIISE	It supports student and faculty-led projects and startup ventures	To enhance learning	Skill development, startup, internship, Projects	PO5, PO12, PSO1
4.	DST-FIST	It supports student and faculty-led projects and startup ventures	To enhance learning	Skill development, startup, internship, Projects	PO5, PO12, PSO1

Make in MCE

Malnad College of Engineering will be identified as a global hub for technology transfer either by intellectual property or by collaboration involving staff, students, industry, organizations, universities, and alumni by the MAKE IN MCE initiatives. We will be identified as one of the best consultants/mentors to encourage the local skilled workers, agricultural products transformed into revenue generating model at the global level. We will also be identified as consultant/mentor for the industries, companies and start-ups in and around the district, state, country and beyond. Through these innovative approaches and ways of partnering with industries, government, institutes, organizations, local societies, people, to enhance the economic well-being to enhance the competitiveness at the global level. Industry, Research Institutes and University Collaborations/Partnerships: The Alumni association will be helping to collaborate/associate with, industries, professional associations, government and public sector organizations, and leading international educational institutions and research institutes. MAKE IN MCE will be an international model for encouraging alumni involvement, collaborations and partnerships in starting START-UPS and developing creative products by the staff and students. We believe in providing one of the best educational opportunities for all to ensure collective growth and for better opportunities at national and global platforms. We ensure the students' success through integration of education, research, and interdisciplinary research. We believe that the staff, students, alumni and whoever is associated with them will remain credible and respected in all endeavors. This will ensure a congenial atmosphere in the working space and impart quality education, empowerment with confidence, and being able to take risks at all levels and make the world a better place to live. We believe that this results in innovation, discovery, a quality place, a quality product, and a win-win situation for all. Finally, we believe to engage and invest in growth viz. research, infrastructure and staff.

AICTE IDEA Lab

Idea Development Evaluation and Application (IDEA) LAB, introduced by AICTE, New Delhi, is a movement in the country to enhance the required skill in youths to make them employable in the engineering domain. Aim is also to expose our next generation to the advanced tools and technology available at the global standard. Malnad College of Engineering is proud to receive this prestigious project, which is one among 49 institutions in the country and one among 5 institutions in Karnataka state. We are happy that the present IDEA LAB has been inaugurated by our Honourable higher education minister of Govt. of Karnataka on 26th April 2022. The total cost of the project is 96.3 lakhs; 50% of the grant is provided by AICTE and another 50% by our college management. This is one of the AICTE Quality Improvement Schemes (AQIS) launched by Govt of India, which would align with the New Education Policy (NEP) to emphasis experience-based learning.

The stakeholders of the IDEA LAB are students and faculty members of all types of colleges and schools, local industry people, farmers, alumni, dropout students/unemployed youth in village/urban area. Such state of-the-art facility has been established in the college campus area of more than 4000 square feet. The lab will be kept open for 24/7 for all its stakeholders to make their own schedule of training and working. Motto of the MCE-IDEA lab is to train up a person to design and prepare a prototype of a product starting from its scratch. The AICTE IDEA lab facility is shown figure 7.5.10 and figure 7.5.11.

Figure 7.5.10: AICTE IDEA Lab

Figure 7.5.11: AICTE IDEA Lab

ME-RIISE

Malnad Enclave for Research, Innovation, Incubation, Start-ups and Entrepreneurship (ME-RIISE) was formed by MCE in the year 2018 supported by Management, Teaching staff and Students. Over the years, ME-RIISE has orchestrated more than 100 events and initiatives, spearheaded by Dr. Geetha Kiran A resulting in significant benefits for over 3000 students. Through these endeavours, ME-RIISE has successfully supported in bringing out eight innovative prototypes and created nine new applications.

As a step towards further expanding its reach and enhancing its impact, ME-RIISE has set up a distinct entity, a Section 8 company, ME-RIISE FOUNDATION promoted by Malnad College of Engineering in September 2022. This Section 8 company is composed of 5 Directors and 2 Advisors. ME-RIISE FOUNDATION is committed to promote innovation, incubation, start-ups, and entrepreneurship in the region and expand its reach, enabling students/ youth and aspiring entrepreneurs to realize their potential and contribute towards the growth of the economy. ME-RIISE FOUNDATION is committed to build upon the legacy of innovative activities established by ME-RIISE and further expanding its scope. To realize its vision, the foundation will work in collaboration with Malnad College of Engineering (MCE) to promote innovation, incubation, start-ups, and entrepreneurship. Electronics and Communication students participated in various events conducted in ME RIISE. Figure give us the proofs of our student participation in different events. The participation of ECE students in ME-RIISE as shown in figure 7.5.12 and facility is shown in figure 7.5.13.

Figure 7.5.12: ME-RIISE facility entrance

Figure 7.5.13: ME-RIISE facility

DST-FIST

The “center for Innovative Teaching, learning and research (ITLR)” established during the year 2021-2022 with financial grants received under the scheme “fund for improvements of S &T Infrastructure in universities and higher Educational Institution program-2019 of the department of science &technology (DST), government of India. Which will support the New Education Policy to emphasis practical based learning. The center is intended to provide basic infrastructure and enabling facilities for promoting innovation teaching, learning training and R&D activities in new and emerging areas and attracting fresh talents in college & other educational institutions.it is consider as complimentary support for enabling different departments in colleges to pursue research activities more effectively and effectively. The DST-FIST facility is shown in figures 7.5.14 and 7.5.15.

Figure 7.5.14: DST-FIST facility entrance


Figure 7.5.15: DST-FIST facility

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
2022-23(CAYm2)	960	48	27	21	54
2023-24(CAYm1)	960	48	25	23	51
2024-25(CAY)	1020	51	33	24	61

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 2024-2025	Actual Expenses in 2024-2025 till	Budgeted in 2023-2024	Actual Expenses in 2023-2024 till	Budgeted in 2022-2023	Actual Expenses in 2022-2023 till	Budgeted in 2021-2022	Actual Expenses in 2021-2022 till
Infrastructure Built-Up	200	148.84	150.00	125.60	0	41.07	0	647.95
Library	30.00	37.81	30.00	33.42	28.00	28.47	25.00	29.81
Laboratory equipment	175.00	139.09	165.00	248.52	98.00	169.50	92.00	28.12
Teaching and non-teaching staff salary	3589.22	3446.59	3537.96	3202.99	3455.45	3394.70	3343.55	3347.72
Outreach Programs	3.00	2.67	3.00	6.19	2.00	1.82	2.00	0.70
R&D	3.00	5.08	2.00	3.80	1.00	0	1.00	0
Training, Placement and Industry linkage	5.00	7.94	5.00	9.25	3.00	15.42	2.00	3.04
SDGs	50.00	75.81	40.00	43.10	25.00	15.02	25.00	22.70
Entrepreneurship	5.00	0.87	5.00	0.74	5.00	9.38	1.00	0

Others, specify	884.00	617.90	570.00	844.24	593.00	458.12	542.00	279.21
Total	**4944.22**	**4482.60**	**4507.96**	**4517.85**	**4210.45**	**4133.50**	**4033.55**	**4359.25**

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 2024-2025**	**Actual Expenses in 2024-2025 till**	**Budgeted in 2023-2024**	**Actual Expenses in 2023-2024 till**	**Budgeted in 2022-2023**	**Actual Expenses in 2022-2023 till**	**Budgeted in 2021-2022**	**Actual Expenses in 2021-2022 till**
Laboratory equipment	10.41	5.13	8.57	2.65	6.65	5.96	6.58	0
Software	13.88	0	15.00	5.61	6.38	4.35	5.06	3.11
SDGs	6.94	10.52	5.71	6.16	3.33	2.00	3.17	2.87
Support for faculty development	0.50	0.42	0.50	0.25	0.50	0.36	0	0
R & D	0.42	0.71	0.29	0.54	0.13	0	0.13	0
Industrial Training, Industry expert,	0.69	1.10	0.71	1.32	0.40	2.05	0.25	0.38
Miscellaneous Expenses*	122.20	89.78	80.93	124.51	78.38	64.27	68.62	38.94
Total	**155.04**	**107.66**	**111.71**	**141.04**	**95.77**	**78.99**	**83.81**	**45.30**