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: 10454	**Date of Submission**: 22-03-2025

PART A- Profile of the Institute

A1.Name of the Institute: ST. JOSEPH'S COLLEGE OF ENGINEERING	
Year of Establishment : 1994	Location of the Institute: Chennai
A2. Institute Address:JAPPIAAR NAGAR, OLD MAMALLAPURAM ROAD, CHEMMACHERY	
City:Chennai	State:Tamil Nadu
Pin Code:600119	Website:www. stjosephs.ac.in
Email:JPRSTJOSEPHS@STJOSEPHS.AC.IN	Phone No(with STD Code):044-24503237
A3. Name and Address of the Affiliating University (if any):	
Name of the University : ANNA UNIVERSITY OF TECHNOLOGY CHENNAI	City: Chennai
State : Tamil Nadu	Pin Code: 600119
A4. Type of the Institution: Autonomous CAY(2020-21)	
A5. Ownership Status: Self financing	

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

- No. of UG programs: **13**
- 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	Applied Electronics	2003	2024	Electronics and Communication Engineering
2	Engineering & Technology	UG	Artificial Intelligence and Data Science	2021	--	Artificial Intelligence and Data Science
3	Engineering & Technology	UG	Artificial Intelligence and Machine Learning	2021	--	Artificial Intelligence and Machine Learning
4	Engineering & Technology	PG	Biotechnology	2013	2024	Biotechnology
5	Engineering & Technology	UG	Biotechnology	2002	--	Biotechnology
6	Engineering & Technology	UG	Chemical Engineering	1994	--	Chemical Engineering
7	Engineering & Technology	UG	Civil Engineering	2014	2026	Civil Engineering
8	Engineering & Technology	PG	Computer Science and Engineering	2004	--	Computer Science and Engineering
9	Engineering & Technology	UG	Computer Science and Engineering	1995	--	Computer Science and Engineering
10	Engineering & Technology	UG	Computer Science and Engineering (Cyber Security)	2024	--	Computer Science and Engineering (Cyber Security)
11	Engineering & Technology	UG	Electrical and Electronics Engineering	1996	--	Electrical and Electronics Engineering
12	Engineering & Technology	UG	Electronics & Communication Engineering	1994	--	Electronics and Communication Engineering
13	Engineering & Technology	UG	Electronics & Instrumentation Engineering	1999	2026	Electronics and Instrumentation Engineering
14	Engineering & Technology	UG	Information Technology	1997	--	Information Technology

15	Engineering & Technology	PG	Manufacturing Engineering	2013	2024	Mechanical Engineering
16	Engineering & Technology	UG	Mechanical Engineering	1998	--	Mechanical Engineering
17	Engineering & Technology	UG	Mechatronics Engineering	2024	--	Mechatronics Engineering
18	Engineering & Technology	PG	Power Electronics and Drives	2003	2024	Electrical and Electronics Engineering
19	Management	PG	Masters in Business Administration	1995	--	Management

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

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

Name of the Department	Having Allied Departments	Name of the Program	Program Level
Information Technology	Yes	Information Technology	UG
Chemical Engineering	Yes	Chemical Engineering	UG
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 Instrumentation 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/COMPETENT AUTHORITY ARROVAL DETAILS	ACCREDITATION STATUS	FROM	TO	NO. OF TIMES PROGRAM ACCREDITED	PROGRAM DURATION
1	Electronics & Communication Engineering	UG	1994 / --	60	Yes	2022	180	2022	F.No. Southern/I-43661065444/2024/EOA dated on 19.05.2024	Granted accreditation for 3 years for the period (specify period)	2022	2025	5	4

Sanctioned Intake for Last Five Years for the Applied Electronics	
Academic Year	**Sanctioned Intake**
2024-25	180
2023-24	180
2022-23	180
2021-22	180
2020-21	180
2019-20	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	AICTE/COMPETENT AUTHORITY ARROVAL DETAILS	ACCREDITATION STATUS	FROM	TO	NO. OF TIMES PROGRAM ACCREDITED	PROGRAM DURATION
1	Electronics and Instrumentation Engineering	Electronics & Instrumentation Engineering	UG	1999 / 2026	40	Yes	2022	0	2022	F.No. Southern/1-43661065444/2024/EOA, Date of Approval : 19 - May – 2024	Not eligible for accreditation	--	--	0	4

Sanctioned Intake for Last Five Years for the Electronics & Instrumentation Engineering	
Academic Year	**Sanctioned Intake**
2024-25	0
2023-24	0
2022-23	60
2021-22	60
2020-21	60
2019-20	60

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

A. Name of the HoD :	Dr.S.Rajeshkannan
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)	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)	180	180	180	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	180	180	180	180	180	175	173
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	4	5	5	7	6	5
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	15	11	5	4	2	0	0
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	195	195	190	189	189	181	178

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)	180	15	0	108.33
2023-24 (CAYm1)	180	11	0	106.11
2022-23 (CAYm2)	180	5	0	102.78

Average [(ER1 + ER2 + ER3) / 3] = 105.74≡ 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).	189.00	186.00	185.00
B=No. of students who graduated from the program in the stipulated course duration	167.00	174.00	176.00
Success Rate (SR)= (B/A) * 100	88.36	93.55	95.14

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 92.35

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)	8.21	8.30	8.22
Y=Total no. of successful students	176.00	165.00	152.00
Z=Total no. of students appeared in the examination	191.00	185.00	184.00
API [X*(Y/Z)]	7.57	7.40	6.79

Average API[(AP1+AP2+AP3)/3] : 7.25

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)	8.27	8.28	8.85
Y=Total no. of successful students	144.00	154.00	167.00
Z=Total no. of students appeared in the examination	170.00	157.00	185.00
API [X * (Y/Z)]	7.01	8.12	7.99

Average API [(AP1 + AP2 + AP3)/3] : 7.71

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)	8.29	8.73	8.92
Y=Total no. of successful students	154.00	167.00	174.00
Z=Total no. of students appeared in the examination	154.00	167.00	180.00
API [X*(Y/Z)]:	8.29	8.73	8.62

Average API [(AP1 + AP2 + AP3)/3] : 8.55

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	187.00	186.00	185.00
X=No. of students placed	144.00	149.00	145.00
Y=No. of students admitted to higher studies	23.00	9.00	16.00
Z= No. of students taking up entrepreneurship	1.00	0.00	0.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	89.84	84.95	87.03

Average Placement Index = (P_1 + P_2 + P_3)/3: 87.27 Placement Index Points:

PART C: Faculty Details in Department and Allied Departments

(Data to be filled in for the Department and Allied Departments)

C1. Faculty details of Department and Allied Departments

Table No.C1: Faculty details in the Department for the past 3 years including CAY

Sr.No	Name of the Faculty	PAN No.	Highest degree	University	Area of Specialization	Date of Joining in this Institution	Experience in years in current institute	Designation at Time Joining in this Institution	Present Designation	The date on which Designated as Professor/ Associate Professor if any	Nature of Association (Regular/ Contract/ Ad hoc)	Currently Associated (Y/N)	In case of NO, Date of Leaving	IS HOD?
1	Dr.A.M.Balamurugan	XXXXXXX12A	Ph.D	Annauniversity	Cryptography and Network security	01/06/2005	19.9	Lecturer	Associate Professor	01/02/2010	Regular	Yes		No
2	Dr.S.Rajeshkannan	XXXXXXX26N	Ph.D	Annauniversity	Image Processing	31/05/2001	23.9	Lecturer	Associate Professor	01/02/2010	Regular	Yes		Yes
3	Dr.B.Victoria Jancee	XXXXXXX58A	Ph.D	Annauniversity	Wireless Sensor Networks	16/06/1997	27.9	Lecturer	Associate Professor	01/02/2010	Regular	Yes		No
4	Dr.S.Aghalya	XXXXXXX14C	Ph.D	Annauniversity	Mobile Networks	25/05/1998	26.10	Lecturer	Associate Professor	01/02/2010	Regular	Yes		No
5	Dr.P.Ezhilarasi	XXXXXXX93J	Ph.D	Annauniversity	Image Processing	22/06/1998	26.9	Lecturer	Professor	01/07/2022	Regular	Yes		No
6	Dr.Martin Leo Manickam	XXXXXXX83E	Ph.D	Annauniversity	Mobile Adhoc Networks	27/05/2002	22.9	Lecturer	Professor	15/07/2009	Regular	Yes		No
7	Dr.R.Avudaiammal	XXXXXXX23E	Ph.D	Annauniversity	Network Processor	31/05/2001	23.9	Assistant Professor	Professor	06/07/2013	Regular	Yes		No
8	Dr.Shirley Selvan	XXXXXXX17C	Ph.D	Annauniversity	Medical Imaging	31/05/2001	23.9	Lecturer	Associate Professor	01/02/2010	Regular	Yes		No
9	Dr.P.Latha	XXXXXXX16J	Ph.D	Annauniversity	VLSI Design	21/06/2000	24.9	Lecturer	Associate Professor	01/02/2010	Regular	Yes		No
10	Dr.J.Sivakumar	XXXXXXX38P	Ph.D	Annauniversity	Image Processing	05/04/1999	25.11	Lecturer	Associate Professor	01/02/2010	Regular	Yes		No
11	Dr.S.Vinayagapriya	XXXXXXX08R	Ph.D	Sathyabama University	Optical Communication	20/02/2006	19.1	Lecturer	Associate Professor	01/02/2010	Regular	Yes		No
12	Dr.R.Niruban	XXXXXXX82B	Ph.D	Sathyabama University	Image Processing	01/06/2017	7.9	Associate Professor	Associate Professor	01/06/2017	Regular	Yes		No
13	Dr.D.Lakshmi	XXXXXXX32E	Ph.D	Sathyabama University	Image Processing	01/06/2017	7.9	Associate Professor	Associate Professor	01/06/2017	Regular	Yes		No
14	Dr.G.Sivagurunathan	XXXXXXX41P	Ph.D	Annauniversity	Process Control	01/06/2010	14.9	Assistant Professor	Associate Professor	01/06/2011	Regular	Yes		No
15	Dr.M.Suresh	XXXXXXX76A	Ph.D	Annauniversity	Control System	14/07/2011	13.8	Associate Professor	Associate Professor	14/07/2011	Regular	Yes		No
16	Dr.K.Ramachandra Reddy	XXXXXXX54Q	Ph.D	Annauniversity	Optical Communication	13/06/2012	12.9	Assistant Professor	Assistant Professor		Regular	Yes		No
17	Dr.S.Devipriya	XXXXXXX26P	Ph.D	Annauniversity	NOMA	23/07/2014	10.7	Assistant Professor	Assistant Professor		Regular	Yes		No
18	Dr.A.Simon Prabu	XXXXXXX91H	Ph.D	Annauniversity	VLSI Design	08/08/2024	0.7	Assistant Professor	Assistant Professor		Regular	Yes		No

19	Dr.D.Sumithra Sofia	XXXXXXX04D	Ph.D	SRM University	Cognitive Radio	10/08/2024	0.7	Assistant Professor	Assistant Professor		Regular	Yes		No
20	Mrs.E.Malarvizhi	XXXXXXX31D	M.E/M.Tech	Annauniversity	Embedded Systems	31/05/2001	23.9	Lecturer	Assistant Professor		Regular	Yes		No
21	Mrs.P.Thenmozhi	XXXXXXX15G	M.E/M.Tech	Annauniversity	Applied Electronics	18/06/2007	17.9	Lecturer	Assistant Professor		Regular	Yes		No
22	Mrs.G.Anitha	XXXXXXX00M	M.E/M.Tech	Annauniversity	Applied Electronics	01/07/2013	11.8	Assistant Professor	Assistant Professor		Regular	Yes		No
23	Mrs.R.Madhumitha	XXXXXXX70C	M.E/M.Tech	Annauniversity	Applied Electronics	16/06/2014	10.9	Assistant Professor	Assistant Professor		Regular	Yes		No
24	Mrs.P.Elaveni	XXXXXXX49J	M.E/M.Tech	Annauniversity	Communication Systems	23/07/2014	10.7	Assistant Professor	Assistant Professor		Regular	Yes		No
25	Mrs.K.Jasmine Mystica	XXXXXXX61H	M.E/M.Tech	Annauniversity	Communication Systems	17/06/2015	9.9	Assistant Professor	Assistant Professor		Regular	Yes		No
26	Mrs.K.R.Kayalvizhi	XXXXXXX18H	M.E/M.Tech	Annauniversity	Applied Electronics	17/06/2015	9.9	Assistant Professor	Assistant Professor		Regular	Yes		No
27	Mr.M.Lingeshwaran	XXXXXXX52F	M.E/M.Tech	Annauniversity	Communication Systems	29/06/2016	8.8	Assistant Professor	Assistant Professor		Regular	Yes		No
28	Mr.G.D.Vignesh	XXXXXXX91B	M.E/M.Tech	Annauniversity	Communication Systems	29/06/2016	8.8	Assistant Professor	Assistant Professor		Regular	Yes		No
29	Dr.I.Johnsi Stella	XXXXXXX71G	Ph.D	Annauniversity	Communication networking	30/06/2004	19.11	Assistant Professor	Professor	01/11/2013	Regular	No	31/05/2024	No
30	Dr.B.Vasudevan	XXXXXXX68G	Ph.D	Annauniversity	Optical Communication	17/06/2009	14.11	Assistant Professor	Associate Professor	01/06/2011	Regular	No	31/05/2024	No
31	Dr.K.Venkatesan	XXXXXXX13E	Ph.D	Annauniversity	Optical Communication	13/06/2012	11.11	Assistant Professor	Assistant Professor		Regular	No	31/05/2024	No
32	Dr.R.Prabhu	XXXXXXX10N	Ph.D	Annauniversity	Remote Sensing	29/06/2016	7.11	Assistant Professor	Assistant Professor		Regular	No	31/05/2024	No
33	Dr.C.Ashok	XXXXXXX78R	Ph.D	Annauniversity	Signal Processing	29/06/2016	7.11	Assistant Professor	Assistant Professor		Regular	No	31/05/2024	No
34	Dr.A.Swarnalatha	XXXXXXX96N	Ph.D	Annauniversity	VLSI Design	23/06/2000	22.11	Lecturer	Associate Professor	01/06/2015	Regular	No	31/05/2023	No
35	Mrs.Angelin Ponrani	XXXXXXX73C	M.E/M.Tech	Karunya University	VLSI Design	02/08/2017	7.7	Assistant Professor	Assistant Professor		Regular	Yes		No
36	Dr.S.Maheswari	XXXXXXX49G	Ph.D	Sathyabama University	Image Processing	18/06/2007	16.10	Lecturer	Associate Professor	01/06/2013	Regular	No	10/05/2024	No
37	Mrs.J.Jency	XXXXXXX65C	M.E/M.Tech	Annauniversity	Communication Systems	03/08/2015	8.9	Assistant Professor	Assistant Professor		Regular	No	10/05/2024	No
38	Mr.L.Srinivasan	XXXXXXX65P	M.E/M.Tech	Annauniversity	Applied Electronics	05/06/2017	7.9	Assistant Professor	Assistant Professor		Regular	Yes		No
39	Mr.A.Saravanan	XXXXXXX84H	M.E/M.Tech	Annauniversity	Applied Electronics	05/06/2023	1.9	Assistant Professor	Assistant Professor		Regular	Yes		No
40	Mr.Kishore Kumar S	XXXXXXX55M	M.E/M.Tech	Annauniversity	Applied Electronics	20/06/2022	1.11	Assistant Professor	Assistant Professor		Regular	No	27/05/2024	No
41	Dr.A.K.P.Kovendan	XXXXXXX96J	Ph.D	Annauniversity	Wireless Sensor Networks	02/08/2017	6.9	Assistant Professor	Assistant Professor		Regular	No	06/05/2024	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 Association (Regular/ Contract/ Ad hoc)	Currently Associated (Y/N)	In case of NO, Date of Leaving	IS HOD?
1	Dr.P.Deepa	XXXXXXX03D	NA	Ph.D	Annauniversity	Process Control	26/05/1997	27.10	Assistant Professor	Associate Professor	01/02/2010	Regular	Yes		No
2	Dr.V.Vijayan	XXXXXXX55Q	NA	Ph.D	Annauniversity	Process Control	21/06/2006	18.9	Assistant Professor	Associate Professor	01/02/2010	Regular	Yes		No
3	Mr.D.Sankaran	XXXXXXX57G	NA	M.E/M.Tech	Sathyabama University	Electronics and Control System	17/06/2009	15.9	Assistant Professor	Assistant Professor		Regular	Yes		No
4	Mr.N.Hariprasad	XXXXXXX89E	NA	M.E/M.Tech	Annauniversity	Process Control	01/08/2013	11.7	Assistant Professor	Assistant Professor		Regular	Yes		No
5	Ms.Angelsujitha R	XXXXXXX43R	NA	M.E/M.Tech	Annauniversity	Soft Computing	23/07/2014	10.7	Assistant Professor	Assistant Professor		Regular	Yes		No
6	Mr.S.Devakumar	XXXXXXX00A	NA	M.E/M.Tech	Annauniversity	Process Control	01/09/2015	9.6	Assistant Professor	Assistant Professor		Regular	Yes		No
7	Dr.R.Sivakumar	XXXXXXX57C	NA	Ph.D	Annauniversity	Process Control	31/05/2001	23	Assistant Professor	Professor	10/12/2010	Regular	No	31/05/2024	No
8	Dr.B.Senthil Kumar	XXXXXXX60H	NA	Ph.D	Annauniversity	Instrumentation Engineering	18/06/2007	16.11	Assistant Professor	Associate Professor	01/02/2011	Regular	No	31/05/2024	No
9	Dr.S.Meena	XXXXXXX94C	NA	Ph.D	Sathyabama University	Instrumentation Engineering	02/06/2008	16	Assistant Professor	Associate Professor	01/07/2011	Regular	No	31/05/2024	Yes
10	Dr.C.N.Gnanaprakasam	XXXXXXX70Q	NA	Ph.D	Sathyabama University	Power Electronic Instrumentation	09/02/2007	16.3	Assistant Professor	Associate Professor	01/06/2011	Regular	No	31/05/2023	No

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	184	186	185
UG1.C	186	185	187
UG1.D	185	187	187

Description	CAY(2024-25)	CAYm1 (2023-24)	CAYm2 (2022-23)
UG1: Electronics & Communication Engineering	**555**	**558**	**559**
UG2.B	0	62	60
UG2.C	62	60	64
UG2.D	60	64	60
UG2: Electronics & Instrumentation Engineering	**122**	**186**	**184**
DS=Total no. of students in all UG and PG programs in the Department	555	558	559
AS=Total no. of students of all UG and PG programs in allied departments	122	186	184
S=Total no. of students in the Department (DS) and allied departments (AS)	**S1=** 677	**S2=** 744	**S3=** 743
DF=Total no. of faculty members in the Department	31	38	38
AF= Total no. of faculty members in the allied Departments	6	9	10
F=Total no. of faculty members in the Department (DF) and allied Departments (AF)	**F1=** 37	**F2=** 47	**F3=** 48
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= 18.30**	**SFR2= 15.83**	**SFR3= 15.48**
Average SFR for 3 years	**SFR= 16.54**		

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)	20	17	33.00	20.30
2023-24(CAYm1)	27	20	37.00	23.65
2022-23(CAYm2)	26	22	37.00	23.51

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	14.00	22.00	20.00
2023-24	4.00	5.00	8.00	18.00	24.00	24.00
2022-23	4.00	5.00	8.00	20.00	24.00	23.00
Average	RF1=3.67	AF1=4.33	RF2=7.67	AF2=17.33	RF2=23.33	AF2=22.33

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 Vivek Ashokan	Regional Manager	ARK Solutions Pvt Ltd	MATLAB 5G & 6G Exploration tool box Workshop	55.00

(CAYm2)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Mr Afsal S	Senior Application Engineer	MATLAB ARK Solutions Pvt Ltd	Mastering Image and Signal Processing with MATLAB	50.00

(CAYm3)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Mr Ramesh	CEO	AVERZ Technologies	Communication and Image Processing using MATLAB	25.00
2	Mr Malayappan	Senior Engineer	PANTECH Solutions Pvt Ltd	IoT using Arduino	25.00

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	29	22	19
2	No. of peer reviewed conference papers published	35	11	3
3	No. of books/book chapters published	1	2	0

C7. Sponsored Research Project

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

(CAYm1)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. P. Ezhilarasi	-	ECE	Mealshare	MSME-Government of India	1YEAR	10.00
Mr. M. Lingeshwaran	Dr. S Rajesh Kannan	ECE	Integrated Bus system	MSME-Government of India	1YEAR	14.00
						Amount received (Rs.):24.00

(CAYm2)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. S Rajesh Kannan	Mr. M. Lingeshwaran	ECE	Electronic Shock Accident Prevention System	MSME-Government of India	10 Months	12.00
Dr. S Rajesh Kannan	Dr. P. Ezhilarasi	ECE	Smart Meter	AICTE& Ministry of Innovation Cell	2 YEARS	3.00
						Amount received (Rs.):15.00

(CAYm3)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. R. Avudaiammal	Dr. J. Martin Leo Manickam	ECE	Extraction of Buildings from Satellite Imagery of Urban Area through Transfer Learning of Deep Learning Networks	ISRO RESPOND BASKET 2021	3 YEARS	19.82
						Amount received (Rs.):19.82

Total Amount (Lacs) Received for the Past 3 Years: 58.82

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
Mr. M. Lingeshwaran	-	ECE	5G Communication Technology	DADB India Pvt.Ltd	3 Months	0.66
Dr. J. Sivakumar	Mrs. P. Elaveni, Mrs. S. Devi Priya, Dr. K. Ramchandra Reddy	ECE	Design of Smart Health Care Monitoring System using Wearable Sensors	ADVANTECH Instruments and Services	8 Months	1.20
Dr. B. Victoria Jancee	Mrs. K. Jasmine Mystica, Mrs.M. Angelin Ponrani	ECE	Smart Retail: An IOT Solution for Inventory Management & Customer Engagement	Averz Technologies	3 Months	0.55
Dr. G. Sivagurunathan	Mrs. P. Thenmozhi, Mr. G. D. Vignesh	ECE	Development of Solar Powered Communication System for Remote Areas	ADVANTECH Instruments and Services	6 Months	0.75
						Amount received (Rs.):3.16

(CAYm2)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. P. Ezhilarasi	Dr. S. Rajesh Kannan, Dr. A. M. Balamurugan	ECE	Creation of Customized plug in for Confluence, JIRA and Bitbucket	STIGMATA Technologies	3 Months	0.60
Dr. S. Aghalya	Dr. Shirley Selvan, Mrs. E. Malarvizhi, Dr. S. Vinayaga Priya	ECE	Design of Automated Laser Engraving for Signage and Displays	RETECH Solutions Ltd	3 Months	0.50
Dr. R. Niruban	Mrs. R. Madhumitha, Mrs. G. Anitha, Mr. M. Lingeshwaran	ECE	Domestic Emotion Monitoring System	Averz Technologies	3 Months	0.90
Dr.S.Rajeshkannan	Dr.M.Suresh	ECE	Building a secure and scalable infrastructure for remote patient monitoring using wearable technologies.	Pantech Solutions India Pvt Ltd	6 Months	1.10
Dr. J. Martin Leo Manickam	Mrs.M. Angelin Ponrani	ECE	Developing a wireless communication infrastructure for a smart street lighting system with adaptive brightness	Pantech Solutions India Pvt Ltd	6 Months	0.90
Dr.R.Avudaiammal	Mrs.P.Elaveni	ECE	Automated Urban Land use Mapping using satellite imagery.	Retech Solutions Pvt Ltd	6 Months	0.85
						Amount received (Rs.):4.85

(CAYm3)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. B. Victoria Jancee	Dr. I. Johnsi Stella Dr. P. Latha Dr. D. Lakshmi	ECE	IOT based Facility Management System for Gated Community	Averzs Technologies	6 Months	0.50
						Amount received (Rs.):0.50

Total amount (Lacs) received for the past 3 years: 8.51

Note*:

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

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

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

(CAYm1)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Dr S Rajesh Kannan	Micro Level Power Management System	1	0.34	0.34	Journal Paper and Patent publication
Dr R Niruban	AI Chatbots In Healthcare	1	0.59	0.59	Journal Paper and Patent publication
Dr D Lakshmi	Automatic Medical Dispenser With Dynamic Telemonitoring In Rural Areas	1	0.34	0.34	Journal Paper and Patent publication
Mrs P Elaveni	Integration Of Memory Reliant Learning Techniques	1	0.30	0.30	Journal Paper and Patent publication
Mrs K Jasmine Mystica	Predictive Analysis Of Stock Market Trends Using AI and Machine Learning	1	0.30	0.30	Journal Paper and Patent publication
Mrs S Devipriya	Advance techniques for railway collision avoidance systems	1	0.59	0.59	Journal Paper and Patent publication
Mrs G Anitha	Patient specific health data and AI algorithms	1	0.25	0.25	Journal Paper and patent publication
Dr P Latha	Reconfigurable Fault Current Detection System Using IoT	1	0.22	0.22	Journal Paper and Patent Publication
Dr R Avudaiammal	Medical diagnostics in radiology imaging	1	0.19	0.19	Journal paper and Patent publication
Dr S Aghalya	Portable safety gas monitoring system for drainage based on IoT	1	0.18	0.18	Patent and Conference publication
Mrs P Thenmozhi	Intelligent robotic car for agricultural ploughing using Block chain technology	1	0.08	0.08	Patent and Conference publication
			Amount received (Rs.): 3.38		

(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
			Amount received (Rs.): 0		

(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
			Amount received (Rs.): 0		

Total amount (Lacs) received for the past 3 years : 3.38

PART D: Laboratory Infrastructure in the Department

(Data to be filled in for the Department)

D1. Adequate and Well-Equipped Laboratories, and Technical Manpower

Table No.D1.1: List of laboratories and technical manpower.

Sr. No	Name of the Laboratory	Number of students per set up(Batch Size)	Name of the Important Equipment	Weekly utilization status(all the courses for which the lab is utilized)	Technical Manpower Support		
					Name of the Technical staff	Designation	Qualification

1	Engineering Practices Lab / Electronic Devices	3	✓ Regulated Power Supply (RPS) ✓ Digital storage oscilloscope ✓ Cathode ray oscilloscope ✓ Function	36/9 hours	Mr.M Ayyanar	Lab Assistant	D.E.E.E
2	Analog and Digital Circuits Electronic Circuits& Simulation	3	✓ Core i5 computers , ✓ Regulated Power Supply ✓ Cathode ray oscilloscope ✓ Digital storage oscilloscope ✓	9 hours + 30 h	Mr.R Jeswanth	Lab Assistant	D.A.E
3	Linear and Digital Integrated Circuits	3	✓ Core i5 computers ✓ Cathode ray oscilloscope ✓ Digital storage oscilloscope ✓ Function generator ✓ IC	9 hours + 30 h	Mr.K Venkatesh	Lab Instructor	D.E.C.E (B.E)
4	Microprocessor and controller	3	✓ 8086 trainer kit ✓ 8085 trainer kit ✓ 8051 trainer kit ✓ Digital storage oscilloscope ✓ Cathode ray oscilloscope ✓	9 hours + 23 h	Mr.Arun P	Lab Assistant	D.E.C.E
5	Digital Signal Processing & Communication Network	1	✓ Core i5 computers , Core i7 computers ✓ DSP Trainer Kit TMS320L5416 ✓ DSP Trainer Kit TMS320V50 ✓	18 hours + 20	Mr.B.Sathiya Narayanan	Lab Instructor	B.E, M.Tech
6	Communication Systems	3	✓ Core i5 computers , Core i7 computers ✓ Communication trainer kits (AM, FM, ASK, FSK, PSK, PCM,	9 hours + 22 h	Mr.S.Sathiya prakash	Lab Instructor	D.C.S.E (B.E)
7	VLSI design	1	✓ Core i5 computers , Core i7 computers ✓ Pc Based32channel Logic Analyzer ✓ Xilinx-Spartan -3 FPGA	9 hours * + 30	Mr.B.Sathiya Narayanan	Lab Instructor	B.E, M.Tech
8	Embedded Lab / Digital image Processing	1	✓ Core i5 computers ✓ Core i7 computers with GPU ✓ ARM cortex M4 LPC4088 ✓ ZIGBEE Module ✓ MATLAB	9 hours + 22 h	Mr.K Venkatesh	Lab Instructor	D.E.C.E (B.E)
9	Advanced Communication	3	✓ Core i7 computers ✓ Klystron based microwave test bench ✓ Gunn Based Microwave test bench ✓ Microwave	9 hours + 26 h	Mr.Arun P	Lab Instructor	D.E.C.E

D2. Safety Measures in Laboratories

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

Sr. No	Laboratory Name	Safety Measures
1	Electronic Devices Laboratory (EPL)	• Facility equipped with a fire extinguisher and a first aid kit. • Always use a dedicated soldering iron stand when operating the iron. • Turn off the soldering iron if idle for more than ten minutes. • Never leave a hot soldering iron unattended. • Disconnect and allow the soldering iron to cool completely before handling the element or bit. • Wear anti-static footwear to protect sensitive electronic components.
2	Analog & Digital Circuits / Electronic Circuits Simulation Laboratory	• Facility equipped with a fire extinguisher and a first aid kit. • Use digital trainer kits carefully, ensuring all wiring is done before power is applied. • Discharge capacitors using a grounded probe before handling. • Confirm capacitor discharge even after power-off to avoid electric shock. • Ensure DSO and power supplies are properly grounded.
3	Linear & Digital Integrated Circuits Laboratory	• Equipped with fire safety and first aid provisions. • Ensure correct IC pin connections to prevent damage. • Avoid short circuits by inspecting breadboard wiring before applying power. • Handle ICs using anti-static precautions and avoid physical damage during insertion/removal.
4	Microprocessor & Microcontroller Laboratory	• • Fire extinguisher and first aid kit are installed. • Use 8085/8086 kits with ESD precautions; handle boards by edges. • Maintain unobstructed access to electrical control panels. • Check jumpers, address lines, and control signal connections before powering. • Maintain antivirus protection and backup critical project files.
5	Digital Signal Processing / Communication Networks Laboratory	• Facility equipped with a fire extinguisher and a first aid kit. • All systems are equipped with UPS backup to prevent data loss during power interruptions and regularly updated antivirus software to maintain cybersecurity • Maintain clear access to electrical panels at all times. • Avoid contact with exposed wires or open sockets.

6	Communication Systems Laboratory	• Facility equipped with a fire extinguisher and a first aid kit. • Maintain clear access to electrical panels for safe equipment operation. • Maintain antivirus protection and backup critical project files.
7	VLSI Design Laboratory Laboratory	• UPS backup systems and licensed antivirus software are installed on all PCs to ensure uninterrupted operation and system security. • Facility equipped with a fire extinguisher and a first aid kit. • Take regular screen breaks to reduce eye strain.
8	Advanced Communication Laboratory	• Facility equipped with a fire extinguisher and a first aid kit. • Do not touch klystron setups while powered on. • Ensure adequate airflow around klystron equipment to prevent overheating. • Set the repeller knob to maximum before energizing the power supply. Handle optical fibers carefully when inserting into connectors.
9	Embedded Systems / Digital Image Processing	• Use grounded equipment and surge protectors. • Avoid overloading electrical outlets. • Protect sensitive data with strong passwords and encryption. • Regularly back up work to prevent data loss. • Keep software up to date to mitigate security vulnerabilities. • Maintain an organized workspace to prevent trips and accidents.

D3. Project Laboratory/Research Laboratory

7.5.1 PROJECT LABORATORIES:

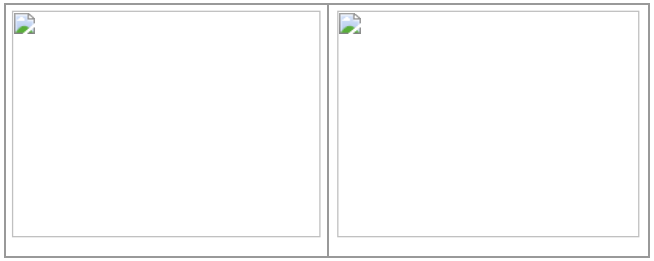
7.5.1.1 ISRO Sponsored LAB

The objectives of the research project is

To propose a deep learning model for automated building extraction from satellite imagery to aid the governing bodies for various planning, and social activities such as

- Update of urban geodatabase
- Risk assessment
- Rescue map
- Tax evaluation / estimation
- Detect illegal constructions
- Predict energy generation with solar panels using extracted area of rooftops.
- To design a deep learning model that addresses the common issues of deep learning model such as over-fitting and Vanishing Gradient problem
- To develop a Deep learning architecture framework for automating the process of building extraction from multispectral satellite data
- To evaluate the performance of the proposed Deep learning architecture in terms of accuracy, convergence rate and Intersection of Union with various learning rates and optimizers for extracting buildings from urban area by number of simulation studies.
- To study the performance using images of Cartosat – 2S provided by ISRO.

Infrastructure:



Workstation - INTEL CORE i9, 11900 Processor , Seagate 2TB, 32GB DDR4 3200 MHz, Zotac, 3090 TRINITY OC Graphic card and HP Color Laser Jet Pro Printer

LAPTOP - HP -14'' – EC 1019 AU Ryzen – 5625U upto 4.35GHz, 16 GB RAM (2x8 GB), 512 GB SSD, Windows 11 MS office, 14 inch display

Deliverables:

- Appropriate deep learning Model for building extraction of remotely sensed images with validation
- Entire Software Code developed for implementation of the building extraction and test results
- Pre-trained Deep Learning Model for building extraction of high-resolution data for operational use
- Modules for training, classification and validation
- Area of rooftops for every building extracted from the image
- Publications in peer reviewed scientific and Engineering Journals

Outcomes:

- Co-ordinator and received Fund of Rs. 3,00,000/- from AICTE to conduct ATAL FDP on "Diverse Application of Research paradigms in AI" from 05.12.2022. to 16.12.2022
- **Publications -Please refer to the end of the text**

7.5.1.2 MSME Supported LAB

MSME-supported labs aim to boost the growth and competitiveness of Micro, Small, and Medium Enterprises (MSMEs) by providing technological and quality support. Key objectives include promoting innovation, developing marketable products, and helping MSMEs adopt advanced technologies.

Objectives and Scope:

- **Promoting Innovation:**

MSME-supported labs aim to foster all forms of innovation, from initial ideas to commercialization.

- **Technology Upgradation:**

They provide support for developing and adopting new technologies, including energy-efficient technologies and those mandated by global standards.

- **Quality Improvement:**

MSMEs can utilize the labs for testing and analysis to ensure product quality and meet industry standards.

- **Research and Development:**

Labs facilitate research and development efforts, helping MSMEs convert their ideas into marketable products.

- **Knowledge Sharing and Collaboration:**

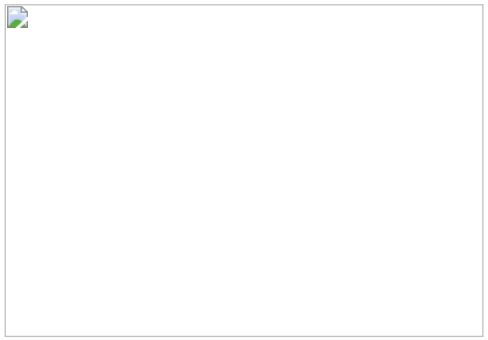
They act as a hub for knowledge sharing and collaboration between industry, academia, government, and research institutions.

Area (Space): 250 sq.m

Location: Block XI- II Floor

Title: Electric Shock Accident Prevention System

Infrastructure:



Deliverables:

- Startup
- Patent
- **Publications -Please refer to the end of the text**

202441003739	Dr.S RAJESHKANNAN, Mr.Akash M.B,Mr.Jasper Jude Joshua Dr. P. EZHILARASI	MICRO LEVEL POWER MANAGEMENT SYSTEM

Publications -Please refer to the end of the text

7.5.1.3 MODROBS – VLSI Design LAB:

Objective:

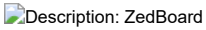
- To upgrade the VLSI Design Lab with modern hardware and industry-standard EDA tools that are aligned with current industry standards and academic requirements.
- To provide students and faculty with hands-on experience using contemporary VLSI tools and platforms, fostering better understanding of digital IC design, verification, and fabrication processes.
- To facilitate undergraduate, postgraduate, and doctoral research projects in areas like ASIC design, FPGA-based systems, RTL modeling, and physical design.

Scope:

- Latest versions of EDA tools (e.g., Cadence, Synopsys, Xilinx Vivado)
- FPGA development boards (e.g., Xilinx, Intel/Altera)
- Acquisition of academic licenses for industry-standard tools for design, simulation, synthesis, and verification of VLSI systems.

- Enabling cutting-edge research in areas such as low-power design, SoC, and RTL-to-GDSII flows.
- This modernization will create a robust platform for developing competent professionals in the field of semiconductor and embedded systems.

Major Equipments:



Name of the Equipment/Software	Specifications
NI LabVIEW	NI LabVIEW software: 2018 – 20 users, 2019 – 10 users
Xilinx VIVADO	Xilinx VIVADO HLx Editions (25 user license)
FPGA Board (myRIO)	myRIO with FPGA Zynq 7020, ARM Cortex 9, sensors, WiFi, Bluetooth
FPGA Board for IoT	IoT system monitoring server-based FPGA board
CAM Board	FMC HDMI CAM Board
Semiconductor Camera	Python 1300C on-semiconductor camera
Zedboard	Zynq-7000 ARM/FPGA SoC Development Board
GPS Receiver	GPS Receiver 410-237
PMOD Ambient Light Sensor	Sensor module 410-286

Deliverables:

- Execution of undergraduate/postgraduate projects using modern tools
- Support for faculty research and publications in VLSI-related domains

Outcomes:

- Startup
- Patent
- **Publications -Please refer to the end of the text**

S.No	Project Laboratories	Relevance to POs/PSOs
1.	**ISRO**	**PO : 1,3,5,6,9,11/ PS0: 2,3**
2.	**MSME Supported Lab**	**PO: 3,4,6,11 / PS0: 2,3**
3.	**MODROBS**	**PO: 3,4,9 / PS0: 2,3**

7.5.2 Centre of Excellence:

WISE-Wireless Innovation @ St. Joseph's Engineering - Candela Technologies

Objective:

Establishing a Centre of Excellence (CoE) in Wireless Network Testing Lab in collaboration with Candela Technologies is to create a state-of-the-art facility for evaluating, analyzing, and optimizing wireless networks using advanced traffic generation and performance testing tools.

The lab aims to provide hands-on training to students and researchers in wireless protocols, network security, throughput analysis, and real-world testing of Wi-Fi, 4G/5G, and IoT networks. It also seeks to promote industry-oriented research, enhance employability through skill development, and foster innovation in the design and validation of next-generation wireless communication systems.

Candela Technologies provides test equipment to aid in the testing of network equipment and applications. They

- Use LANforge WiFiRE for WiFi testing,
- LANforge FIRE for traffic generation and
- LANforge ICE for WAN emulation.

They are support focused and help craft scenario-specific scripted and automated testing.

Infrastructure:

Wi-Fi Testing Laboratory:

- TR 398 Test Bed for Access Point Testing (2.4 GHz, 5 GHz and 6GHz)
- Real-time Traffic Generators and Client Emulators

Wireless User Experience Laboratory:

- Wi-Fi Test setups for Smart Home/Home Automation and IoT Devices
- Smart robot for sniffing Wi-Fi data packets in Smart Home setups

Deliverables:

- Curriculum Integration
- Hands-on workshops and training sessions for students and faculty
- Industry-recognized certification courses in wireless testing and network performance analysis
- Final Year UG Projects
- Engagement with network solution companies and telecom providers for internships, project mentorship, and knowledge exchange

Outcomes:

- Skill Development and Employability
- Students secured internship experiencing wireless test equipment facility
- Academic–Industry Bridge
    - ECE Students are trained every semester in the field of wireless technologies

7.5.3 Robotics and IoT:

Objective and Scope:

A Robotics and IoT Center of Excellence (CoE) in an academic institution seeks to promote cutting-edge research, instruction, and industry cooperation in these domains. Its purview includes creating cutting-edge robotics and Internet of Things technologies, encouraging entrepreneurship, and bridging the gap between academia and industry.

Area (Space): 250 sq.m

Location: Block XI – I floor

Infrastructure: All around Wi-Fi Coverage & Air conditioned

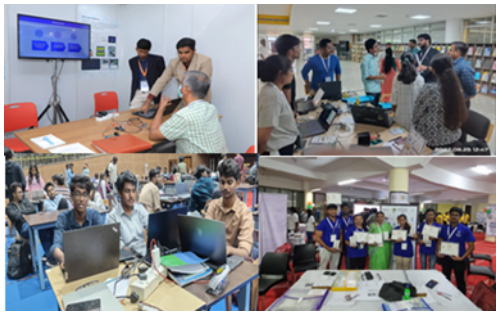
Major Equipment:

- Staircase Robot
- Pipe Crawling Robot
- Agriculture Robot
- Fire Fighting Robot
- Brain Controlled Wheel Chair
- BCI Pick and Place
- Floor Cleaning Robot
- Path Finding Robot
- Computer Vision Shopping Trolley
- Robocop
- AWS Inventory management automation using IoT

- Deep learning based variable vehicle speed limiter for accident avoidance using RF transmitter

Deliverables:

- Mini Project
- Publications -please refer at the end of text
- Internship
- Hackathon



7.5.4 Research Laboratory:

The objective of the research lab in the Department of Electronics and Communication Engineering is to foster innovation, research excellence, and interdisciplinary collaboration in cutting-edge areas of electronics, communication, signal processing, embedded systems, and emerging technologies. The lab aims to:

- Advance theoretical and applied research to address real-world challenges.
- Facilitate hands-on learning and skill development through state-of-the-art equipment and software tools.
- Promote collaborative research with industry, academia, and research institutions.
- Encourage publications in high-impact journals and conferences.
- Support student innovation, entrepreneurship, and project-based learning.
- Contribute to the development of sustainable and intelligent systems for societal benefit.

Infrastructure:

- Computers
- Matlab Campus wide license with signal processing tool
- box
- i.Image processing tool box
- ii. Communication system tool box
- NI Lab view software
- Network Simulator (Netsim Academic Version 2.0)
    - NS2
- ARM Cortex M4 LPC 4088, 120MHZ frequency with built-in Nested Vectored Interrupt controller (NVIC) and Zigbee Module
- PIC Controller
- Sensor Package
- Raspery Pi Kit
- Arduino
- Python 3.10

Deliverables:

- Patents
- Projects
- Publications

Sl. No	Publication details (Authors, Title, Journal, Volume, Issue, Pages, Year, ISSN, (DOI) etc.

1.	P Thilagavathi, J Martin Leo Manickam ERTC: an Enhanced (https://link.springer.com/article/10.1007/s12652-020-02286-3) RSSI based Tree Climbing mechanism for well-planned path (https://link.springer.com/article/10.1007/s12652-020-02286-3) localization in WSN using the virtual force of Mobile Anchor (https://link.springer.com/article/10.1007/s12652-020-02286-3) Node, (https://link.springer.com/article/10.1007/s12652-020-02286-3) Journal of Ambient Intelligence and Humanized Computing, Vol. 12, No. 6, pp. 6665-6676, June 2021 https://link.springer.com/article/10.1007/s12652-020-02286-3
2.	Ashok C, Venkateswaran N," Manifold Ambiguity-Free Low Complexity DOA Estimation Method for Unfolded Co-Prime Arrays", IEEE Communications Letters, Vol 25, Issue 6, pp. 1886-1890, June 2021. https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=9358168
3.	R. Prabhu , B. Parvathavarthini (2021) An enhanced approach for informal settlement extraction from optical data using morphological profile-guided filters: A case study of madurai city, International Journal of Remote Sensing, 42, 17, September 2021,6692-6709, https://doi.org/10.1080/01431161.2021.1943039
4.	Senthil Murugan Boopalan., Swarnalatha Alagala,. &, Avudaiammal. Ramalingam ," A Memory Sparse Proportionate Affine Projection Algorithm for Echo Cancellation: Analysis and Simulations". Arab J Sci Eng (Oct 2021).https://doi.org/10.1007/s13369-021-06219-w (https://doi.org/10.1007/s13369-021-06219-w)
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Patents Granted/Published:

S.No.	Name Of The Faculty	Country& Patent No.	Title	Date Of Publication
1.	**Dr. J. Martin Leo Manickam**	**Indian Patent & 516092** **Granted**	Physiological Value-Based Implanted Medical Device Security System	27/02/2024

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2.	**Dr Victoria Jancee**	Indian Patent: 202441052074	Internet Of Things Based Smart Traffic Signal Monitoring And Controlling System For City	19/07/2024
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4.	**Dr.P.Ezhilarasi**	202411059239 A	Virtual Reality Training Environment For Corporate Skill Development And Management	23/08/2024
		202541015705a	Automated Defence System In Aircraft Using Deep Learning	07/03/2025
5.	**Dr.S.Rajeshkannan**	202411071636a	Automated Compliance And Accredition Management System For Education Institutions	11.10.2024
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10.	**P.Elaveni**	202441071055	Edge Computing Platform For Low-Latency Iot Applications	202441071055
11.	**P.Thenmozhi**	202441050789	Artificial Intelligence An Iot-Based Smart Health Care System To Prevent And Detect All Types Of Heart Disease	12-7-2024
		Indian Patent 202541031350	Method For Analyzing Animal Behavior Patterns Using Machine Learning Algorithm	11.4.2025
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12.	**Dr. D.Lakshmi**	202441071518	Iot Based Eutrophication Monitoring System	8-11-2024
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13.	**Dr.J.Martin Leo Manickam**	202541026553	Wearable Ultrasound Patch For Motion Monitoring And Secure Key Generation Using Elliptic Curve Cryptography And Machine Learning	11.4.2025
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18.	**M.Angelin Ponrani**	202441087983	A Predicting Cloudburst Events Using Machine Learning System	22/11/2024
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19.	**Dr.S.Vinayagapriya**	Indian Patent: 202441052101	Vehicle Safety System Using Ultrasonic Sensor	19/07/2024
		202541018584 Indian Patent	Smart Iot Window Automation System For Energy Conservation	21/03/2025
		202441094439	Development Of A Mobile-Based Hostel Location And Recommendation Chatbot System	13/12/2024
		Indian Patent 202411077074	The Impact Of Financial Statement Integration In Machine Learning For Stock Price Prediction	25/04/2025
20.	**Dr.P.Latha**	Indian Patent 202441073102	Automated Home Inventory Management Using Wireless Sensor Networks And Cloud Computing	04/10/2024
		Indian Patent 202441052089	Implementation Of Waste And Garbage Recycling Vending Machine	19/07/2024
		International Patent Pct/In2023/051151	2x2 Mimo Antenna For 5g Communications	19.9.2024
21.	**Dr.R.Avudaiammal**	**Indian Patent:202541028408**	**Smart Healthcare System For Early Disease Detection Using Machinelearning**	25.4.25
		Indian Patent:202541034352	**Internet Of Things (Iot) Based Face Recognition System And Method For Secure And Remote Authentication**	09.05.2025
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22.	**Dr.G.Sivagurunathan**	202441082993 A	A Method For Lightweight Identity Authentication Of Power Internet Of Things Sensing Terminals Using Edge Agents For Secure Ciphertext Decryption And Signature Verification	08-11-24
23.	**Dr.M.Suresh**	202441042650	Quantum Cryptography For Secure Cloud Computing Applications	14/06/2024
		202441092074	Ai-Enhanced Continuous Integration And Deployment (Ci/Cd) Pipeline For Scalable Cloud-Native Applications	29-11-2025
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		Indian Patent 202521025273	Ai-Driven Deep Learning Model For Predictive Healthcare Diagnostics	28/03/2025
25.	**Dr. Sumithra Sofia**	202541006709	Nano Antennas For Wireless Energy Transfer And Communication	27/01/2025
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		202431101905	Dynamic Resource Allocation System For Optimized Supply Chain	23/12/2024
26.	**Dr. Simon Prabhu**	202421091931	Method And System For Automated Legal Research And Case Analysis	20/12/2024
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27.	**Dr. K. Ramachandra Reddy**	Indian Patent:202441050317 A	Chrono-Semantic Weaving A System For Dynamic Narrative Generation With Self-Adjusting Timelines	05-07-2024
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28.	**Dr. R. Niruban**	202341053268 A	Ai Chatbots In Healthcare Automating Information Gathering For Improved Decision Making	01-09-2023
29.	**Dr. M. Suresh**	202311053271	Iot-Based Automation For The Purpose Of Monitoring Temperature And Vibration In Processes And Preventing Accidents	01-09-2023
30.	**Dr. G. Sivagurunathan**	202311056734	Automatic Prediction Of Corona Virus Using Xray And Ct Scan	22-09-2023
31.	**Dr. P. Latha**	202341073244	Iot Enabled Device For Automatic Human Body Mass Index (Bmi) Measurement Using For Hospital	17-11-2023
32.	**Mrs. M. Angelin Ponrani**	202341073459	Data Science Techniques In Machine Learning For Improved Lung Cancer Diagnosis And Classification	15-12-2023

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33.	**Dr. S. Rajesh Kannan**	202341083246 A	Deep Learning Techniques To Analyse And Predict The Electric Vehicles Penetration In Automotive Market	29-12-2023
34.	**Dr. Shirley Selvan**	202341062156	Intelligent Safety System For Industry Machine Based On Embedded	12-01-2024
35.	**Dr. S. Aghalya**	**202341073231**	A Smart Portable Safety Gas Monitoring System For Drainage Based On Iot	12-01-2024
36.	**Dr. S. Vinayagapriya**	202341073234	Fpga Based Smart Assist Virtual Do Ctors In Medic Apps With Basic M Edical In Formation Abo Ut&N Bsp;Th E&N Bsp; Fai-	12-01-2024
37.	**Dr. B Victoria Jancee**	Indian Patent & 202341073245 A	Automated Technology To Ensure The Cleanliness Of Garbage Management And Classification Of Dry And Wet	12-01-2024
38.	**Dr.S Rajeshkannan** **Dr. P. Ezhilarasi**	202441003739	Micro Level Power Management System	09-02-2024
39.	**Mrs. P. Thenmozhi**	Indian Patent 202441004218	Image Processing Based Intelligent Robotic Car For Agricultural Ploughing Using Block Chain Technology	09-02-2024
40.	**Dr. P. Ezhilarasi**	India & 202421002059 A	Design Thinking Based Deep Learning Models For Early And Accurate Detection Of Hip Cancer	16-02-2024
41.	**Mr. Konda. Ramachandra Reddy**	Indian Patent & 202441019231 A	Identifying The Language Present In Text Or Image Using Visual Features Training Model	29-03-2024
42.	**Dr. A.M.Balamurugan**	Indian Patent202441025836 A	Soil Stabilization Using Sawdust And Stonedust	12-04-2024
43.	**Dr. S. Rajeshkannan**	Indian Patent 202441022581	Vehicure	12-04-2024
44.	**Dr. J. Sivakumar**	Indian Patent 202441028432	Enhancing Misinformation Detectionwith Ensemble Learning	12-04-2024
45.	**Mrs. S. Devipriya**	202441030067	Advance Techniques For Railway Collision Avoidance Systems	19-04-2024
46.	**Mrs. P. Elaveni**	202441030061 A	Integration Of Memory-Reliant Learning Techniques For Comprehensive Evaluation And Forecasting Of Air Quality In India	19-04-2024

S.No.	Name Of The Faculty	Country& Patent No.	Title	Date Of Publication
47.	**Mr. Gd Vignesh**	Indian Patent 202421022611	Ai-Driven Statistical Analysis Of Social Media Data For Enhanced Event Promotion And Audience Intera	03-05-2024
48.	**Dr.D.Lakshmi**	202441033201	Automatic Medical Dispenser With Dynamic Telemonitoring In Rural Areas	03-05-2024
49.	**Mrs. G.Anitha**	202441030630 A	An Automated Treatment Recommendation System Based On Patient -Specific Health Data And Ai Algorithms	19-04-2024
50.	Dr. **Avudaiammal R**	Indian Patent:202441030653	Deep Learning-Based Image Segmentation And Classification For Medical Diagnostics In Radiology Imaging	19-04-2024
51.	**Mr. M. Lingeshwaran**	202441033837	Next Generation Telecommunication Network Infrastructure For Low Latency Data Transmisson	03-05-2024
52.	**Dr.J.Sivakumar**	Indian Patent 202441032524 A	Intelligent Image Processing System For Adaptive Traffic Light Control	03/05/2024
53.	**Mr. Gd Vignesh**	202341053268 A	Ai-Driven Statistical Analysis Of Social Media Data For Enhanced Event Promotion And Audience Intera	03-05-2024
54.	**Dr.D.Lakshmi**	202311053271	Automatic Medical Dispenser With Dynamic Telemonitoring In Rural Areas	03-05-2024
55.	**Mrs. G.Anitha**	202311056734	An Automated Treatment Recommendation System Based On Patient -Specific Health Data And Ai Algorithms	19-04-2024
56.	Dr. **Avudaiammal R**	202341073244	Deep Learning-Based Image Segmentation And Classification For Medical Diagnostics In Radiology Imaging	19-04-2024
57.	**Mr. M. Lingeshwaran**	202341073459	Next Generation Telecommunication Network Infrastructure For Low Latency Data Transmisson	03-05-2024
58.	**Dr.J.Sivakumar**	202341083246 A	Intelligent Image Processing System For Adaptive Traffic Light Control	03/05/2024

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)	1440	72	44	111	80
2023-24(CAYm1)	1440	72	52	128	93
2024-25(CAY)	1500	75	57	138	98

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 2024-25	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	Budgeted in 2021-22	Actual Expenses in 2021-22 till
Infrastructure Built-Up	210000000	168288344	200000000	166360721	110000000	82437263	70000000	53576288
Library	17000000	15138014	16500000	14905787	14000000	12124438	9500000	8057575
Laboratory equipment	37500000	34337454	47750000	43016973	24000000	21190541	7000000	6065438
Teaching and non-teaching staff salary	585000000	587785565	505000000	504356088	385000000	385169982	307000000	305342141
Outreach Programs	3100000	2909227	6600000	5952700	1100000	976977	1000000	898640
R&D	110000000	99391146	68000000	61303675	20000000	17012295	16000000	13952019
Training, Placement and Industry linkage	19500000	17456715	35800000	32225743	35600000	30935280	5100000	4432196
SDGs	220000000	202209574	138400000	124721269	39800000	34611220	35000000	28385141
Entrepreneurship	15000000	13709124	9400000	8455679	2700000	2346523	2200000	1924416
Others* Administrative Expenses	27500000	27418247	18800000	16911359	5400000	4693046	4500000	3848833
Total	**1244600000**	**1168643410**	**1046250000**	**978209994**	**637600000**	**591497565**	**457300000**	**426482687**

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 2024-25	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	Budgeted in 2021-22	Actual Expenses in 2021-22 till
Laboratory equipment	1170000	1166192	1070000	955800	370000	353559	800000	359366
Software	0	0	0	0	0	0	0	0
SDGs	956000	930206	875000	852500	0	0	20000	0
Support for faculty development	944000	837996	582000	568850	0	0	50000	40000
R & D	4980000	4867042	2090000	2050200	480000	474700	310000	307500
Industrial Training, Industry expert, Internship	5924000	5723180	5413000	5338850	3497000	3485750	2930400	2710500
Miscellaneous Expenses*	1048000	970779	892000	758525	754000	705458	663900	421171
Total	**15022000**	**14495395**	**10922000**	**10524725**	**5101000**	**5019467**	**4774300**	**3838537**