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: 11362	**Date of Submission**: 07-01-2026

PART A- Profile of the Institute

A1.Name of the Institute: Parul Institute of Engineering and Technology	
Year of Establishment : 2003	Location of the Institute: PO LIMDA TA WAGHODIA DIST VADODARA
A2. Institute Address:P.O. : LIMDA,TA. WAGHODIA.	
City:Vadodara	State:Gujarat
Pin Code:391760	Website:www.paruluniversity.ac.in
Email:piet@paruluniversity.ac.in	Phone No(with STD Code):02668-260204
A3. Name and Address of the Affiliating University (if any):	
Name of the University :	City: Vadodara
State : Gujarat	Pin Code: 391760
A4. Type of the Institution: University	
A5. Ownership Status: Self financing	

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

- No. of UG programs: **9**
- No. of PG programs: **8**

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

Sr.No.	Discipline	Level of program	Name of the program	Year of Start	Year of Closed	Name of The Department
1	Computer Application	PG	Master of Computer Application	2015	--	Computer Application
2	Engineering & Technology	UG	Aeronautical Engineering	2015	--	Aeronautical Engineering
3	Engineering & Technology	UG	Aerospace Engineering	2025	--	Aeronautical Engineering
4	Engineering & Technology	PG	CAD/CAM	2023	--	Mechanical Engineering
5	Engineering & Technology	UG	Civil Engineering	2015	--	Civil Engineering
6	Engineering & Technology	PG	Computer Engineering	2015	--	Computer Science and Engineering
7	Engineering & Technology	UG	Computer Science and Engineering	2015	--	Computer Science and Engineering
8	Engineering & Technology	PG	Construction Project Management	2023	--	Civil Engineering
9	Engineering & Technology	UG	Electrical Engineering	2015	--	Electrical Engineering
10	Engineering & Technology	UG	Electronics & Communication Engineering	2015	--	Electronics and Communication Engineering
11	Engineering & Technology	UG	Information Technology	2015	--	Information Technology
12	Engineering & Technology	PG	Information Technology	2015	--	Information Technology
13	Engineering & Technology	UG	Mathematics & Computing	2024	--	Applied Sciences and Humanities
14	Engineering & Technology	UG	Mechanical Engineering	2015	--	Mechanical Engineering

15	Engineering & Technology	PG	Structural Engineering	2015	--	Civil Engineering
16	Engineering & Technology	PG	Transportation Engineering	2015	--	Civil Engineering
17	Management	PG	Master of Business Administration	2015	--	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
Civil Engineering	No	Civil Engineering	UG
Computer Science and Engineering	No	Computer Science and Engineering	UG
Electrical Engineering	No	Electrical Engineering	UG
Electronics and Communication Engineering	No	Electronics & Communication Engineering	UG
Mechanical Engineering	No	Mechanical Engineering	UG

Table No. A7.2: Allied Department(s) to the Department of the program considered for accreditation as above.
Cluster ID. Name of the Department (in table no. A7.1) Name of allied Departments/Cluster (for table no. A7.1)

No Record

PART-B: Program information

B1. Provide the Required Information for the Program Applied For:

Table No. B1: Program details.
A. List of the Programs Offered by the Department:

SR.NO.	PROGRAM NAME	PROGRAM APPLIED LEVEL	YEAR OF START / YEAR OF CLOSED	SANCTIONED INTAKE	INCREASE/DECREASE INTAKE (if any)	YEAR OF INCREASE/DECREASE	CURRENT INTAKE	YEAR OF AICTE APPROVAL	AICTE/COMPET AUTHORITY ARROVAL DETA
1	Electronics & Communication Engineering	UG	2015 / --	60	Yes	2019	120	2019	BoG

Sanctioned Intake for Last Five Years for the Electronics & Communication Engineering	
Academic Year	**Sanctioned Intake**
2025-26	120
2024-25	120
2023-24	60
2022-23	60
2021-22	60
2020-21	60

List of the Allied Departments/Cluster and Programs:

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

A. Name of the HoD :	Jadav Kalpeshkumar Ramanbhai
B. Nature of appointment:	Regular
C. Qualification:	Ph.D

B3. Program Details

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

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	2025-26 (CAY)	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)	2021-22 (CAYm4)	2020-21 (CAYm5)	2019-20 (CAYm6)
N=Sanctioned intake of the program (as per AICTE /Competent authority)	120	120	60	60	60	60	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	72	101	43	35	44	50	90
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	18	23	21	16	15	6
N3=Separate division if any	0	0	0	0	0	0	0
N4=Total no. of students admitted in the 1st year via all supernumerary quotas	0	0	0	0	0	0	0
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	72	119	66	56	60	65	96

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

B4. Enrolment Ratio in the First Year

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

Year of entry	N (From Table 4.1)	N1 (From Table 4.1)	N4 (From Table 4.1)	Enrollment Ratio [(N1/N)*100]
2025-26 (CAY)	120	72	0	60.00
2024-25 (CAYm1)	120	101	0	84.17
2023-24 (CAYm2)	60	43	0	71.67

Average [(ER1 + ER2 + ER3) / 3] = 71.95≡ 14.00

B5. Success Rate of the Students in the Stipulated Period of the Program

Table No.B5.1: The success rate in the stipulated period of a program.

Item	(2021-22) LYG	(2020-21) LYGm1	(2019-20) LYGm2
A*= (No. of students admitted in the 1st year of that batch and those actually admitted in the 2nd year via lateral entry, plus the number of students admitted through multiple entry (if any) and separate division if applicable, minus the number of students who exited through multiple entry (if any).	76.00	75.00	96.00
B=No. of students who graduated from the program in the stipulated course duration	58.00	59.00	91.00
Success Rate (SR)= (B/A) * 100	76.32	78.67	94.79

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 83.26

B6. Academic Performance of the First-Year Students of the Program

Table No.B6.1: Academic Performance of the First-Year Students of the Program.

Academic Performance	CAYm1(2024-25)	CAYm2(2023-24)	CAYm3 (2022-23)
X=(Mean of 1st year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 1st year/10)	5.83	5.31	5.42
Y=Total no. of successful students	100.00	40.00	34.00
Z=Total no. of students appeared in the examination	101.00	43.00	35.00
API [X*(Y/Z)]	5.77	4.94	5.27

Average API[(AP1+AP2+AP3)/3] : 5.33

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

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

Academic Performance	CAYm1 (2024-25)	CAYm2 (2023-24)	CAYm3 (2022-23)
X=(Mean of 2nd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 2rd year/10)	5.90	5.68	6.23
Y=Total no. of successful students	60.00	54.00	60.00

	63.00	55.00	60.00
Z=Total no. of students appeared in the examination			
API [X * (Y/Z)]	5.62	5.58	6.23

Average API [(AP1 + AP2 + AP3)/3] : 5.81

B8. Academic Performance of the Third Year Students of the Program

Table No.B8.1: Academic Performance of the Third Year Students of the Program

Academic Performance	CAYm1 (2024-25)	CAYm2 (2023-24)	CAYm3 (2022-23)
X=(Mean of 3rd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 3rd year/10)	6.63	6.96	6.37
Y=Total no. of successful students	50.00	59.00	62.00
Z=Total no. of students appeared in the examination	54.00	60.00	64.00
API [X*(Y/Z)]:	6.14	6.84	6.17

Average API [(AP1 + AP2 + AP3)/3] : 6.38

B9. Placement, Higher Studies, and Entrepreneurship

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

Item	LYG (2021-22)	LYGm1(2020-21)	LYGm2(2019-20)
FS*=Total no. of final year students	76.00	75.00	96.00
X=No. of students placed	38.00	42.00	61.00
Y=No. of students admitted to higher studies	1.00	5.00	10.00
Z= No. of students taking up entrepreneurship	0.00	0.00	0.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	51.32	62.67	73.96

Average Placement Index = (P_1 + P_2 + P_3)/3: 62.65 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)
1	Jadav Kalpeshkumar Ramanbhai	XXXXXXX54E	Ph.D	PARUL UNIVERSITY	Electronics and Communication	28/08/2008	17.4	Lecturer	Associate Professor	22/06/2024	Regular
2	Anuradha Prakash Gharge	XXXXXXX25P	M.E.	GUJARAT UNIVERSITY	Communication Systems Engineering	15/07/2004	21.5	Lecturer	Assistant Professor		Regular
3	Patel Mitulkumar Mahendrabhai	XXXXXXX13P	Ph.D	PARUL UNIVERSITY	Electronics and Communication	15/06/2011	14.6	Assistant Professor	Assistant Professor		Regular
4	Shah Utkarshkumar Vijaykumar	XXXXXXX52A	M.E.	GUJARAT TECHNOLOGICAL UNIVERSITY	Electronics and Communication Engineering	26/06/2012	13.5	Lecturer	Assistant Professor		Regular
5	RAMJI GUPTA	XXXXXXX58Q	Ph.D	MAULANA AZAD NATIONAL INSTITÜTE OF TECHÑOLOGY, BHOPAL	ELECTRONICS AND COMMUNICATION ENGINEERING	12/07/2019	6.5	Assistant Professor	Associate Professor	05/06/2025	Regular
6	Patel Hardikkumar Natvarlal	XXXXXXX70K	M.E.	GUJARAT TECHNOLOGICAL UNIVERSITY	Electronics and Communication Engineering	16/12/2021	3.11	Assistant Professor	Assistant Professor		Regular

No	Name	ID	Qual.	University	Specialization	Date	Exp.	Designation	Designation	Date	Type
7	Manju Vishnudev Yadav	XXXXXXX08P	M.Tech	National Institute of Technology Kurukshetra	Electronics &Communication Engineering	24/07/2019	6.4	Assistant Professor	Assistant Professor		Regular
8	Vishal Parsotambhai Sorathiya	XXXXXXX62C	Ph.D	Marwadi University	Electronics &Communication Engineering	18/06/2022	3.5	Assistant Professor	Associate Professor	28/05/2025	Regular
9	Kalpana Santosh Reddy	XXXXXXX98P	M.Tech	Jawaharlal Nehru Technological University Anantapur, Ananthaричати.	DIGITAL ELECTRONICS & COMMUNICATION SYSTEMS	03/05/2023	2.7	Assistant Professor	Assistant Professor		Regular
10	Swati Vinodkumarji Sakhare	XXXXXXX71M	Ph.D	Sardar Vallabhbhai National Institute of Technology, Surat	Electronics Engineering	04/10/2022	3.2	Assistant Professor	Assistant Professor		Regular
11	Kansagra Payal Dilipbhai	XXXXXXX11C	M.E.	GUJARAT TECHNOLOGICAL UNIVERSITY	Digital Communication	15/10/2022	3.1	Assistant Professor	Assistant Professor		Regular
12	Upadhyay Miksha Sanjaybhai	XXXXXXX06N	M.E.	GUJARAT TECHNOLOGICAL UNIVERSITY	Electronics and Communication Engineering	18/12/2021	3.11	Assistant Professor	Assistant Professor		Regular
13	Dubey Archana Shrivishnubhai	XXXXXXX27B	M.E.	Gujarat Technological University	Electronics and Communication Engineering	23/11/2020	5	Assistant Professor	Assistant Professor		Regular
14	Susmita Mishra	XXXXXXX71M	M.Tech	Biju Patnaik University of Technology, Odissa Rourkela	VLSI & Embedded Design	27/12/2022	2.11	Assistant Professor	Assistant Professor		Regular
15	Babu Tosif Abdulgaffar	XXXXXXX04H	M.Tech	Dharmsinh Desai University	Electronics And Communication Systems	04/03/2021	4.9	Assistant Professor	Assistant Professor		Regular
16	Prem Pal Singh	XXXXXXX66P	Ph.D	Jaipur National University	Electronics and Communication Engineering	06/01/2025	0.11	Assistant Professor	Assistant Professor		Regular
17	Dabhi Vipulkumar Manibhai	XXXXXXX89C	Ph.D	R K University	Electronics and Communication Engineering	12/05/2022	2.4	Assistant Professor	Associate Professor	21/01/2023	Regular
18	Parikh Ravi Ajitkumar	XXXXXXX55G	M.Tech	Gujarat Technological University	Electronics and Communication	04/07/2012	13.5	Assistant Professor	Assistant Professor		Regular
19	Soni Umangbhai Harishbhai	XXXXXXX61G	M.E.	GUJARAT TECHNOLOGICAL UNIVERSITY	Electronics and Communication Engineering	01/01/2009	16.11	Lecturer	Assistant Professor		Regular
20	Bhalani Jaimin Kantilal	XXXXXXX84R	Ph.D	M.S.Universtiy of Baroda	Electrical Engineering	17/10/2022	3.1	Professor	Professor	17/10/2022	Regular
21	Giriraj Kumar Prajapati	XXXXXXX08B	Ph.D	MEWAR UNIVERSITY	WIRELESS COMMUNICATION	01/08/2024	1.5	Professor	Professor	01/08/2024	Regular
22	Aditya Kumar Nagmani	XXXXXXX00K	Ph.D	NIT Jamshedpur	Mems Sensor	15/07/2025	0.5	Assistant Professor	Assistant Professor		Regular
23	Prince Chandulal Jain	XXXXXXX86Q	Ph.D	Panjab Engineering Collage (Deemed to be University), Chandigarh	Electronics and Communication Engineering	01/07/2022	3.6	Assistant Professor	Assistant Professor		Regular
24	Hetal Mayur Pathak	XXXXXXX59N	Ph.D	NIT Surat	Electronics and Communication Engineering	17/10/2022	3.2	Associate Professor	Associate Professor	17/10/2022	Regular
25	Prabodh Kumar Sahoo	XXXXXXX17J	Ph.D	Centurion University of Technology & Management	Electronics and Communication Engineering	14/06/2023	2.6	Associate Professor	Associate Professor	14/06/2023	Regular

26	Swagat Nanda	XXXXXXX16K	Ph.D	NATIONAL INSTITUTE OF TECHNOLOGY MIZORAM	Electronics and Communication Engineering	16/02/2024	1.10	Assistant Professor	Assistant Professor		Regular
27	Rashmi Pandey	XXXXXXX82M	Ph.D	Harcourt Butler Technical University, Kanpur	Electronics Engineering	03/06/2024	1.7	Associate Professor	Associate Professor	03/06/2024	Regular
28	Yogesh Dhada	XXXXXXX10G	MS	Portland State University	Electrical and computer Engineering	22/07/2022	1.9	Assistant Professor	Assistant Professor		Regular
29	DIVYA DEEPAK PATIL	XXXXXXX29A	M.E.	GUJARAT TECHNOLOGICAL UNIVERSITY	Electronics and Communication Engineering	09/10/2021	2.9	Assistant Professor	Assistant Professor		Regular
30	Arvind Ramrekha yadav	XXXXXXX85C	Ph.D	Indian Institute of Technology, Roorkee	Electrical Engineering	20/05/2008	15.8	Assistant Professor	Professor	05/06/2023	Regular

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

C2. Student-Faculty Ratio (SFR)

No. of UG(Engineering) programs in Department including allied departments/ clusters (UGn):
UG1=1st UG program
UGn=nth UG program
B= No. of Students in UG 2nd year (ST)
C= No. of Students in UG 3rd year (ST)
D= No. of Students in UG 4th year (ST)
No. of PG (Engineering) programs in Department including allied departments/ clusters (PGm):
PG1=1st PG program.
PGm=mth PG program
A= No. of Students in PG 1st year
B= No. of Students in PG 2nd year
Student Faculty Ratio **(SFR)** = S/F
S= No. of students of all programs in the Department including all students of allied departments/clusters.
No. of students (ST)=Sanctioned Intake (SA)+ Actual admitted students via lateral entry including leftover seats (L) if any (limited to 10 % of SA)
Students who admitted under supernumerary quotas (SNQ, EWS, etc) will not be considered in calculating SFR value. Those students are exempted.
F=Total no. of regular or contractual faculty members (Full Time) in the Department, including allied departments/clusters (excluding first year faculty (The faculty members who have a 100% teaching load in the first-year courses)).

No. of UG Programs in the Department1 No. of PG Programs in the Department0
Table No.C2.1: Student-faculty ratio.

Description	CAY(2025-26)	CAYm1 (2024-25)	CAYm2 (2023-24)
UG1.B	132	66	66
UG1.C	66	66	66
UG1.D	66	66	66
UG1: Electronics & Communication Engineering	**264**	**198**	**198**
DS=Total no. of students in all UG and PG programs in the Department	264	198	198
AS=Total no. of students of all UG and PG programs in allied departments	0	0	0
S=Total no. of students in the Department (DS) and allied departments (AS)	**S1=** 264	**S2=** 198	**S3=** 198
DF=Total no. of faculty members in the Department	26	24	24
AF= Total no. of faculty members in the allied Departments	0	0	0
F=Total no. of faculty members in the Department (DF) and allied Departments (AF)	**F1=** 26	**F2=** 24	**F3=** 24
FF=The faculty members in F who have a 100% teaching load in the first-year courses	8	12	11
Student Faculty Ratio (SFR)=S/(F-FF)	**SFR1= 14.67**	**SFR2= 16.50**	**SFR3= 15.23**
Average SFR for 3 years	**SFR= 15.47**		

C3. Faculty Qualification

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

Table No.C3.1: Faculty qualification.

Year	X	Y	RF	FQ = 2.5 x [(10X + 4Y) / RF)]
2025-26(CAY)	14	12	13.00	36.15
2024-25(CAYm1)	12	12	9.00	46.67
2023-24(CAYm2)	9	15	9.00	41.67

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
2025-26	1.00	2.00	2.00	6.00	8.00	18.00
2024-25	1.00	2.00	2.00	4.00	6.00	18.00
2023-24	1.00	1.00	2.00	3.00	6.00	20.00
Average	RF1=1.00	AF1=1.67	RF2=2.00	AF2=4.33	RF2=6.67	AF2=18.67

C5. Visiting/Adjunct Faculty/Professor of Practice

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

(CAYm1)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Mr. Jagdish. B. Acharya	Professor of Practice	ECE Department, PIET	PLC and SCADA , Electronics, Project	56.00

(CAYm2)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Mr. Vishnu Vaishanv	Adjunct Faculty	Indeeksha Digital Pvt. Ltd	VLSI	80.00

(CAYm3)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Mr. Vishnu Vaishanv	Adjunct Faculty	Indeeksha Digital Pvt. Ltd	VLSI	56.00

C6. Academic Research

Table No. C6.1: Faculty publication details.

S.No.	Item	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)
1	No. of peer reviewed journal papers published	17	25	25
2	No. of peer reviewed conference papers published	3	5	4
3	No. of books/book chapters published	4	2	2

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.Ramji gupta	Dr. Alpana Pandey	Electronics and Communication Engineering	Seizure sentry wearable epilepsy prediction device for enhanced patient safety through timely alerts and personalized seizure management	Indian Council of Medical Research	3 Years	60.47
						Amount received (Rs.):60.47

(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. Arvind Yadav	Dr. Geetika Patel	Electronics and Communication Engineering	Design and pilot implementation of open-access web-portal using machine learning for predictive analysis and visualization of maternal and child under-nutrition in India on NFHS data	Indian Council of Medical Research, New Delhi, India	3 Years	53.36
Dr. Ramji Gupta	Dr. Richa Mishra Dr. Naresh K More Dr. Mukul Jain Dr. Ankit Shah	Electronics and Communication Engineering	Automated detection of cardiac arrhythmia using deep learning techniques for remote location	Indian council of medical research (ICMR), New Delhi, India	3 Years	33.00
						Amount received (Rs.):86.36

(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. Arvind Yadav	Dr. P. G. Murthy	Electronics and Communication Engineering	Ai, IOT and Digital technologies for future sustainable smart cities	The royal academy of engineering, United Kingdom UK	3 Years	83.00
						Amount received (Rs.):83.00

Total Amount (Lacs) Received for the Past 3 Years: 229.83
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)

(CAYm2)

(CAYm3)

Total amount (Lacs) received for the past 3 years:
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 Ramji Gupta	Cost Effective Portable Optical Sensor for Early Huanglongbing Detection in Citrus Trees	12	1.00	0.28	One Scopus and One SCIE publications submitted Under Review
Dr Ramji Gupta	SAILI OP A Low-Cost Optical Sensor Circuit for Detecting Salinity Stress in Plants	9	1.30	0.76	Research paper Under Review
			Amount received (Rs.): 2.30		

(CAYm2)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Dr Ramji Gupta	Improve health quality trough medical biotechnology biosensor development for cardiac marker	14	1.15	0.35	One Research Proposal is Submitted in Indian council of medical research
Dr Arvind Yadav	Vision based detection adulteration in milk	15	1.05	1.05	Development of a vision based system to detect common adulterants in milk such as water starch detergent urea synthetic milk
			Amount received (Rs.): 2.20		

(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 : 4.50

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	Electronics Workshop Lab	20	1.Oscilloscope 201, 2.Function Generator, 3.Analogue Multimeter P-	30 hours	Hemantbhai V	Lab Assistant	Electronics Fa
2	Control System Lab	20	1.Cathod Ray Oscilloscope 30 MHz 2.Cathod Ray Oscilloscope 20 MHz	30 hours	Hemantbhai V	Lab Assistant	Electronics Fa
3	Digital Communication Lab	20	1.Oscilloscope 201 2.Function Generator 2MHz 3.TDM PAM	30 hours	Rakeshbhai P	Lab Assistant	ITI in Electroni
4	Electronics Communication Lab	20	1.Optical Power Meter 2.Transmission Line Trainer	24 hours	Rakeshbhai P	Lab Assistant	ITI in Electroni
5	Antenna & Microwave Lab	20	1.Description Of Item 2.Cathod Ray Oscilloscope 20MHz 3.Antenna	30 hours	Rakeshbhai P	Lab Assistant	ITI in Electroni
6	Basic Electronics Circuit Lab	20	1. Passive Filter_ Satya Madel _Ana-01 Integrator & Differentiator	24 hours	Bhargav Karri	Lab Assistant	Graduation An

7	Digital Electronics Lab	20	1. Full Wave Rectifier Trainer 2. Bridge Wave Rectifier 3. Junction Diode Rectifier And Filter	36 hours	Bhargav Karri	Lab Assistant	Graduation An
8	Embedded System- Computer Lab	20	1. Microcontroller Board 8051 2. Various Interfacing Devices 3. STM 32 bit Microcontroller 4. 14 Sensors	36 hours	Reenaben Pat	Lab Assistant	Diploma in Ele
9	VLSI Lab	20	1. FPGA Board, Various Interfacing Devices, Xilinx board	36 hours	Reenaben Pat	Lab Assistant	Diploma in Ele
10	Analog Circuit Lab	20	1. Cathode ray oscilloscope 20MHZ 2.Power supply 3.Microphone & Loudspeaker Trainer 4. Crossover	36 hours	Hemantbhai P	Lab Assistant	Electronics Fa

D2. Safety Measures in Laboratories

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

Sr. No	Laboratory Name	Safety Measures
1	Electronics Workshop Lab	First aid kit Fire extinguisher is available near to the laboratory High Quality MCB is used to trip excess voltages Safety measures are displayed
2	VLSI Lab	First aid kit Fire extinguisher is available near to the laboratory High Quality MCB is used to trip excess voltages
3	Control System Lab	First aid kit Fire extinguisher is available near to the laboratory High Quality MCB is used to trip excess voltages
4	Digital Communication Lab	First aid kit Fire extinguisher is available near to the laboratory Proper cabling High Quality MCB is used to trip excess voltages
5	Electronics Communication Lab	First aid kit Fire extinguisher is available near to the laboratory Surge protectors High Quality MCB is used to trip excess voltages
6	Antenna & Microwave Lab	First aid kit Fire extinguisher is available near to the laboratory High Quality MCB is used to trip excess voltages
7	Basic Electronics Circuit Lab	First aid kit Fire extinguisher is available near to the laboratory Insulated wiring High Quality MCB is used to trip excess voltages
8	Digital Electronic Lab	First aid kit Fire extinguisher is available near to the laboratory Proper grounding High Quality MCB is used to trip excess voltages
9	Embedded System Lab	First aid kit Fire extinguisher is available near to the laboratory Proper ventilation High Quality MCB is used to trip excess voltages
10	Analog Circuit Lab	First aid kit Fire extinguisher is available near to the laboratory Proper ventilation Cable management High Quality MCB is used to trip excess voltages

**D3. Project Laboratory/Research Laboratory**

The Department of Electronics and Communication Engineering provides advanced Project Laboratories, Centres of Excellence, Research Facilities, and Startup/Innovation Cell facilities at Parul University that are extensively utilized by students for the execution of mini projects, major projects, research activities, product development, and participation in innovation-based competitions. These facilities offer a structured environment for design, experimentation, prototyping, testing, and validation of engineering solutions.

Students actively use these laboratories to apply theoretical knowledge to real-world engineering problems, develop working prototypes, and implement industry-relevant technologies.

A. Availability of project laboratories/research laboratories

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

Name of the Laboratory	Lab Details	POs/PSOs
Drone Lab	A facility for designing, building, and testing unmanned aerial vehicles (UAVs) and their control, sensing, and navigation systems.	PO1,PO2,PO3,PO4,PO5,PO8,PO10,PO11,PSO1,PSO2
IDEA Lab	Provide access to modern tools like 3D printers, PCB prototyping machines, soldering stations, microcontroller kits, testing instruments, etc.	PO3,PO4,PO5,PO8,PO9,PO11,PO12, PSO1,PSO2
Sensor Lab	Electromechanical workstation, UV laser writing system for photolithography, Sensors, Microcontroller boards, etc.	PO1,PO2,PO3,PO4,PO5, PO7, PO9,PO10, PSO1,PSO2
PIERC (Founder's Studio)	A space for developing innovative ideas into prototypes and startups through hands-on projects, mentoring, and business planning.	PO3, PO6, PO8,PO9,PO10,PO11,PO12,PSO1,PSO2
FAB Lab	PCB Drilling, Etching, Component Tester, etc. –about PCB Fabrication	PO1,,PO3,PO4,PO5,PO7,PO8,PO9,PO11, PSO1,PSO2
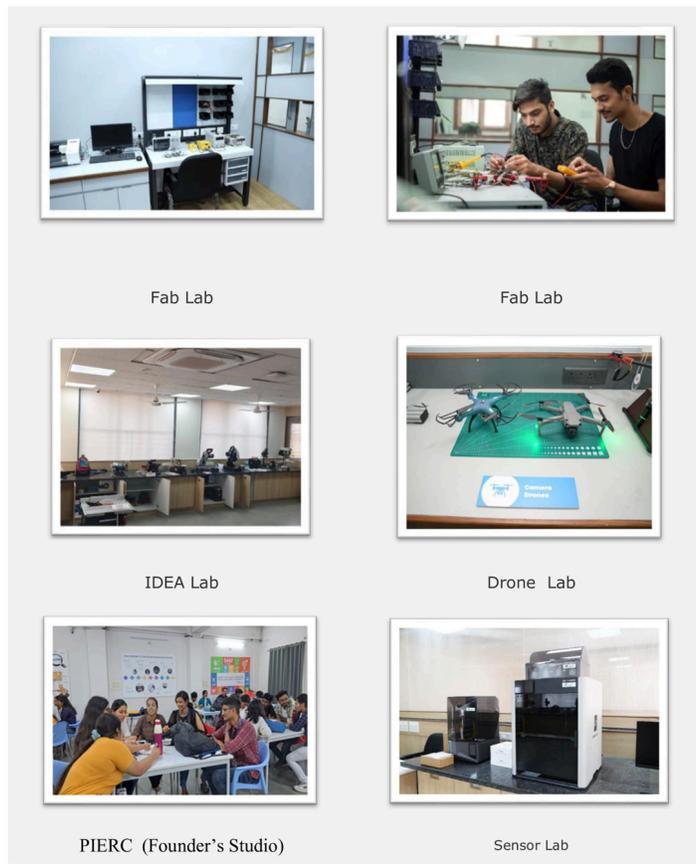
Fab Lab

Fab Lab

IDEA Lab

Drone Lab

PIERC (Founder's Studio)

Sensor Lab

Fig. 7.5.1: Project and Research Labs

B. Availability of centre of excellence

The Faculty of Engineering and Technology (FET), **Parul University**, has established a well-equipped **Centre of Excellence (CoE) in Embedded Systems** in collaboration with **Jiotronik** to provide advanced technological exposure and hands-on training to students of the Electronics and Communication Engineering (ECE) Department.

The Centre of Excellence is designed to create an industry-aligned learning ecosystem that bridges the gap between academic curriculum and real-time industrial requirements. It houses state-of-the-art laboratories dedicated to Peripheral Interfacing & Wired Protocols, IoT & Wireless Communication, and Real-Time Operating Systems (RTOS), supported by modern embedded development platforms, industrial sensors, actuators, and advanced debugging tools.

The Peripheral Interfaces & Wired Protocols Laboratory enables students to gain practical exposure to GPIO, UART, I2C, and SPI communication using STM microcontroller platforms. The lab integrates industrial-grade sensors such as RADAR, humidity, temperature, proximity, air quality, soil moisture, and flow measurement systems along with actuators including motors, valves, relays, cameras, and control modules. This environment simulates real-time industrial operations and allows students to develop strong fundamentals in hardware interfacing and embedded system integration.

The IoT & Wireless Protocols Laboratory supports the development of smart systems, wireless sensor networks, and cloud-integrated solutions. Students work with BLE, Zigbee, Wi-Fi, LoRaWAN, MQTT, and CoAP protocols to design and implement IoT-based applications. The lab provides exposure to data acquisition, processing, and management across device, gateway, and cloud layers, enabling students to build scalable and secure IoT solutions for industrial and societal applications.

The Real-Time Operating Systems (RTOS) Laboratory provides hands-on training in deterministic and time-critical embedded applications using platforms such as **Free RTOS** and **Zephyr**. Students gain practical understanding of task scheduling, semaphores, interrupts, memory management, and multi-core processing. They implement real-time applications involving peripheral control, camera and audio interfacing, USB and Ethernet communication, and wireless stack management under RTOS environments.

These facilities are extensively utilized by ECE students for mini projects, major projects, research activities, skill development programs, internships, and interdisciplinary innovation work. The Centre also supports product prototyping, startup ideas, and industry-sponsored research initiatives.

The ECE department actively conducts workshops, technical training programs, certification courses, and one-week skill enhancement programs at the Centre of Excellence to strengthen students' practical knowledge and industry readiness. These structured programs provide experiential learning opportunities beyond the regular curriculum and enable students to design, develop, and deploy real-time embedded and IoT-based engineering

solutions using modern tools and technologies.

Water Flow Meter Application   Wireless Topology

Sensors

Fig. 7.5.2 Equipment/ Instruments –Center of Excellence in Embedded System

C. Utilization of project laboratories/research laboratory /Centre of excellence

The Project Laboratories (Fab Lab, IDEA Lab, Drone Lab and Sensor Lab) and Centre of Excellence in Embedded Systems serve as centralized and extensively utilized facilities within the ECE Department. These laboratories are equipped with advanced computing systems, embedded development boards, industrial sensors, software platforms, and academic research resources to support high-quality project implementation and research activities.

- The Project Laboratory is a centralized and widely used facility equipped with computers, simulation tools, embedded kits, and academic software platforms.
- Students and faculty members use the laboratory for conducting experimental investigations, prototype development, and project-based research activities.
- The facility is used for simulation, modeling, hardware validation, and performance analysis of research data and project outcomes
- The laboratory supports complete project documentation work, including thesis writing, technical paper drafting, patent documentation, and report preparation.
- Students utilize the laboratory to enhance their technical competencies and effectively implement innovative project ideas in embedded systems, IoT, and real-time applications.
- Faculty members actively guide students in research methodology, experimental setup design, system integration, and statistical data analysis within the laboratory environment.
- The laboratory acts as a hub for collaborative research and interdisciplinary project development involving domains such as electronics, electrical, computer engineering, and applied sciences.
- Students acquire real-time data from various application domains such as dairy technology automation systems, electromagnetic flow meter analysis, wireless sensor network topology implementation, Electric Vehicle monitoring systems, and industrial process control applications.

At the Centre of Excellence in Embedded Systems, students work extensively with 32-bit microcontroller development boards (such as STM series platforms) and implement wired communication protocols including GPIO, UART, I2C, and SPI for real-time interfacing and data acquisition. The IoT infrastructure enables students to design and analyze wireless topologies using Wi-Fi, BLE, Zigbee, and LoRa-based communication systems for practical industrial scenarios.

Both academic staff and students extensively utilize the laboratory infrastructure to enhance the quality, innovation level, and industry relevance of academic projects and research outcomes.

Student Made Project in Drone Lab

Student received grant for his startup from PIERC

Student received 5000/- as the winner in the FPGA Innovation Hackathon at CHARUSAT

Fig. 7.5.3 Utilization of Project Laboratories (Fab Lab, IDEA Lab, Drone Lab and Sensor Lab)

D. Relevance to POs/PSOs

The Project Laboratories (Fab Lab, IDEA Lab, Drone Lab and Sensor Lab) , Srartup (PIERC Cell) , and Centres of Excellence available to the Electronics and Communication Engineering department are strategically aligned with the curriculum to ensure effective attainment of Program Outcomes (POs) and Program Specific Outcomes (PSOs). These facilities provide students with opportunities to design, develop, analyze, and implement real-time engineering solutions beyond theoretical learning.

Through structured utilization of the Drone Lab, IoT Lab, Embedded Systems Centre of Excellence, Surveillance System Lab, and Research & Development facilities, students engage in design-oriented and research-based projects that directly support:

- **PO3** – Design and development of solutions through prototype creation and system implementation.
- **PO4** – Investigation of complex engineering problems using experimentation and analysis tools.
- **PO5** – Usage of modern engineering tools, software platforms, simulation environments, and hardware development kits.
- **PO9 & PO10** – Teamwork, project collaboration, technical documentation, and presentation skills developed during project execution.

The Centre of Excellence and project laboratories also strengthen the department's **Program Specific Outcomes (PSOs)** related to embedded systems design, communication technologies, IoT applications, signal processing, and intelligent electronic systems.

PART E: First Year faculty and financial Resources

(Data to be filled in for the first year course faculty and budget allocation and utilization)

E1. First Year Student-Faculty Ratio (FYSFR)

Table No. E1.1: FYSFR details.

Year	Sanctioned intake of all UG programs (S4)	No. of required faculty (RF4= S4/20)	No. of faculty members in Basic Science Courses & Humanities and Social Sciences including Management courses (NS1)	No. of faculty members in Engineering Science Courses (NS2)	Percentage= No. of faculty members ((NS1*0.8) + (NS2*0.2))/(No. of required faculty (RF4)); Percentage= ((NS1*0.8) + (NS2*0.2))/RF
2023-24(CAYm2)	1920	96	53	86	62
2024-25(CAYm1)	1680	84	57	99	78
2025-26(CAY)	1650	82	54	100	77

E2. Budget Allocation, Utilization, and Public Accounting at Institute Level

Table No. E2.1: Budget and actual expenditure incurred at Institute level.

Items	Budgeted in 2025-26	Actual Expenses in 2025-26 till	Budgeted in 2024-25	Actual Expenses in 2024-25 till	Budgeted in 2023-24	Actual Expenses in 2023-24 till	Budgeted in 2022-23	Actual Expenses in 2022-23 till
Infrastructure Built-Up	2000000	1395625	600000	1522500	3000000	558280	3020000	2953672
Library	11500000	10239783	400000	11170672	2800000	286496	2810000	2713622
Laboratory equipment	10000000	17939979	4100000	19570886	700000	373983	750000	683869
Teaching and non-teaching staff	710065000	442789454	336550000	512102034	324700000	317815471	335840000	310137171
Outreach Programs	21500000	4705204	4120000	5132950	10430000	3807709	10380000	10295112
R&D	1500000	6266250	5599000	6835909	9310000	5345256	10000000	9205092
Training, Placement and	11000000	14563908	59750000	15887900	17790000	59445096	17461000	17646077
SDGs	13000000	11719368	17040000	12784765	13820000	16420222	13538000	13109520
Entrepreneurship	150000000	124853350	73500000	136203654	76870000	71172416	77110000	75285035
Others, specify								
Total	930565000	634472921	501659000	721211270	459420000	475224929	470909000	442029170

E3. Budget Allocation, Utilization, and Public Accounting at Program Specific Level

Table No. E3.1: Budget and actual expenditure incurred at program level.

Items	Budgeted in 2025-26	Actual Expenses in 2025-26 till	Budgeted in 2024-25	Actual Expenses in 2024-25 till	Budgeted in 2023-24	Actual Expenses in 2023-24 till	Budgeted in 2022-23	Actual Expenses in 2022-23 till
Laboratory equipment	364546.94	653996.43	17180.15	703451.58	25339.37	13537.85	30912.90	28187.16
Software	0	0	0	0	0	0	0	0
SDGs	473911.02	427225.97	609895.28	445805.32	387330.32	494908.31	428658.83	411793.17
Support for faculty development	783775.91	171526.78	150326.30	184943.01	293212.67	116016.00	331798.42	331498.03
R & D	54682.04	228434.22	214751.86	255231.17	271493.21	174409.19	329737.56	305822.97
Industrial Training, Industry expert,	401001.63	530922.82	2147518.59	558698.01	557466.06	1803152.80	619906.62	632522.25
Miscellaneous Expenses*	0	0	0	0	0	0	0	0
Total	2077917.54	2012106.22	3139672.18	2148129.09	1534841.63	2602024.15	1741014.33	1709823.58