NATIONAL BOARD OF ACCREDITATION

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

Program Name : Electrical Engineering	**Discipline**: Engineering & Technology
Level : Under Graduate	**Tier**: 1
Application No: 11648	**Date of Submission**: 23-02-2026

PART A- Profile of the Institute

A1.Name of the Institute: Thapar Institute of Engineering and Technology (Deemed to be University)	
Year of Establishment : 1956-1994	Location of the Institute: Urban - Patiala
A2. Institute Address:THAPAR TECHNOLGY CAMPUS ,BHADSON ROAD	
City:Patiala	State:Punjab
Pin Code:147004	Website:WWW.THAPAR.EDU
Email:REGISTRAR@THAPAR.EDU	Phone No(with STD Code):0175-2393122
A3. Name and Address of the Affiliating University (if any):	
Name of the University :	City:
State :	Pin Code: 0
A4. Type of the Institution: Deemed University	
A5. Ownership Status: Self financing	

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

- No. of UG programs: **19**
- No. of PG programs: **17**

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 in Computer Applications	1983	--	Computer Application
2	Engineering & Technology	PG	Artificial Intelligence	2025	--	Computer Science and Engineering
3	Engineering & Technology	UG	Artificial Intelligence and Data Science	2025	--	Computer Science and Engineering
4	Engineering & Technology	UG	Artificial Intelligence and Machine Learning	2024	2025	Computer Science and Engineering
5	Engineering & Technology	UG	Biomedical Engineering	2019	--	Electrical and Instrumentation Engineering
6	Engineering & Technology	UG	Biotechnology	2003	--	Biotechnology
7	Engineering & Technology	PG	Biotechnology	2012	--	Biotechnology
8	Engineering & Technology	PG	CAD/CAM	2000	2024	Mechanical Engineering
9	Engineering & Technology	UG	Chemical Engineering	1996	--	Chemical Engineering
10	Engineering & Technology	UG	Civil Engineering	1956	--	Civil Engineering
11	Engineering & Technology	UG	Civil Engineering with Computer Application	2023	--	Civil Engineering
12	Engineering & Technology	UG	Computer Engineering	1992	--	Computer Science and Engineering
13	Engineering & Technology	UG	Computer Science and Business System	2019	--	Computer Science and Engineering
14	Engineering & Technology	PG	Computer Science and Engineering	2005	--	Computer Science and Engineering

15	Engineering & Technology	UG	Computer Science and Engineering	2019	--	Computer Science and Engineering
16	Engineering & Technology	PG	Electric Vehicle Technology	2024	--	Electrical and Instrumentation Engineering
17	Engineering & Technology	UG	Electrical and Computer Engineering	2020	--	Electrical and Instrumentation Engineering
18	Engineering & Technology	UG	Electrical Engineering	1956	--	Electrical and Instrumentation Engineering
19	Engineering & Technology	UG	Electronics & Communication Engineering	1975	--	Electronics and Communication Engineering
20	Engineering & Technology	PG	Electronics & Communication Engineering	2000	2024	Electronics and Communication Engineering
21	Engineering & Technology	UG	Electronics & Computer Engineering	2015	--	Electronics and Communication Engineering
22	Engineering & Technology	UG	Electronics Engineering (VLSI Design and Technology)	2023	--	Electronics and Communication Engineering
23	Engineering & Technology	UG	Electronics Instrumentation & Control Engineering	1979	--	Electrical and Instrumentation Engineering
24	Engineering & Technology	PG	Environmental Science & Technology	2002	--	Energy and Environmental Engineering
25	Engineering & Technology	PG	Infrastructure Engineering	2011	2024	Civil Engineering
26	Engineering & Technology	PG	Mechanical Engineering	2024	--	Mechanical Engineering
27	Engineering & Technology	UG	Mechanical Engineering	1956	--	Mechanical Engineering
28	Engineering & Technology	UG	Mechatronics	2012	--	Mechanical Engineering
29	Engineering & Technology	PG	Power Systems	2006	2024	Electrical and Instrumentation Engineering
30	Engineering & Technology	UG	Robotics and Artificial Intelligence	2023	--	Mechanical Engineering
31	Engineering & Technology	PG	Software Engineering	2000	2024	Computer Science and Engineering
32	Engineering & Technology	PG	Structural Engineering	1971	--	Civil Engineering
33	Engineering & Technology	PG	Thermal Engineering	2010	2024	Mechanical Engineering
34	Engineering & Technology	PG	Transportation Engineering	2024	--	Civil Engineering
35	Engineering & Technology	PG	VLSI Design	2003	--	Electronics and Communication Engineering
36	Management	PG	Masters in Business Administration	2007	--	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
Electrical and Instrumentation Engineering	No	Electrical Engineering	UG

Computer Science and Engineering	No	Computer Engineering	UG

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

No Record

PART-B: Program information

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

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

SR.NO.	PROGRAM NAME	PROGRAM APPLIED LEVEL	YEAR OF START / YEAR OF CLOSED	SANCTIONED INTAKE	INCREASE/DECREASE INTAKE (if any)	YEAR OF INCREASE/DECREASE	CURRENT INTAKE	YEAR OF AICTE APPROVAL	AICTE/COMPETENT AUTHORITY ARROVAL DETAILS
1	Electrical Engineering	UG	1956 / --	40	Yes	2023	90	2023	AICTE

Sanctioned Intake for Last Five Years for the Biomedical Engineering	
Academic Year	**Sanctioned Intake**
2025-26	90
2024-25	90
2023-24	90
2022-23	138
2021-22	120
2020-21	120

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 :	Dr. Sunil K.Singla
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)	90	90	90	138	120	120	180
N1=Total no. of students admitted in the 1st year minus the no. of students, who migrated to other programs/ institutions plus no. of students, who migrated to this program	90	68	74	31	89	87	171
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	8	13	2	4	7	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	1	0	2	1	3	0	1

supernumerary quotas							
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	91	76	89	34	96	94	177

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)	90	90	1	101.11
2024-25 (CAYm1)	90	68	0	75.56
2023-24 (CAYm2)	90	74	2	84.44

Average [(ER1 + ER2 + ER3) / 3] = 87.04≡ 17.00

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

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

Item	(2021-22) LYG	(2020-21) LYGm1	(2019-20) LYGm2
A*= (No. of students admitted in the 1st year of that batch and those actually admitted in the 2nd year via lateral entry, plus the number of students admitted through multiple entry (if any) and separate division if applicable, minus the number of students who exited through multiple entry (if any).	124.00	127.00	185.00
B=No. of students who graduated from the program in the stipulated course duration	93.00	84.00	172.00
Success Rate (SR)= (B/A) * 100	75.00	66.14	92.97

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 78.04

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)	6.39	6.40	6.88
Y=Total no. of successful students	68.00	76.00	32.00
Z=Total no. of students appeared in the examination	68.00	76.00	32.00
API [X*(Y/Z)]	6.39	6.40	6.88

Average API[(AP1+AP2+AP3)/3] : 6.56

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)	6.60	7.11	7.03
Y=Total no. of successful students	89.00	34.00	97.00
Z=Total no. of students appeared in the examination	89.00	34.00	96.00
API [X * (Y/Z)]	6.60	7.11	7.10

Average API [(AP1 + AP2 + AP3)/3] : 6.94

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)	7.35	7.34	7.24
Y=Total no. of successful students	34.00	97.00	94.00
Z=Total no. of students appeared in the examination	34.00	97.00	94.00
API [X*(Y/Z)]:	7.35	7.34	7.24

Average API [(AP1 + AP2 + AP3)/3] : 7.31

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	124.00	127.00	185.00
X=No. of students placed	57.00	57.00	155.00
Y=No. of students admitted to higher studies	4.00	5.00	1.00
Z= No. of students taking up entrepreneurship	0.00	0.00	3.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	49.19	48.82	85.95

Average Placement Index = (P_1 + P_2 + P_3)/3: 61.32 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	Presen Design
1	Dr. Sunil K.Singla	XXXXXXX81L	Ph.D	Thapar University,Patiala	Instrumentation	02/02/2000	26	Lecturer	Profess
2	Dr. Smarajit Ghosh	XXXXXXX62R	Ph.D	IIT Kharagpur	Power Systems	01/08/2007	18.6	Professor	Profess
3	Dr. Ravinder Agarwal	XXXXXXX18E	Ph.D	Himachal Pradesh University	Biomedical	15/12/1995	30.2	Lecturer	Profess
4	Dr. Mandeep Singh	XXXXXXX50Q	Ph.D	Thapar University, Patiala	Instrumentation	27/12/1995	30.2	Assistant Professor	Profess
5	Dr. Sanjay K.Jain	XXXXXXX22J	Ph.D	IIT, Roorkee	Power Systems	22/05/2000	25.9	Lecturer	Profess
6	Dr. Mukesh Singh	XXXXXXX57A	Ph.D	IIT, Guwahati	Smart Grid	01/10/2014	11.4	Assistant Professor	Profess
7	Dr. SaurabhBharadwaj	XXXXXXX17F	Ph.D	University of Delhi	System Identification, ML	30/06/2014	11.7	Assistant Professor	Profess
8	Dr. PrasenjitBasak	XXXXXXX59K	Ph.D	Jadavpur University	Power Systems	01/07/2013	12.7	Assistant Professor	Profess
9	Dr. Vishal Srivastava	XXXXXXX10E	Ph.D	IIT Delhi	Instrumentation	08/01/2015	11.1	Assistant Professor	Profess
10	Dr. Manbir Kaur	XXXXXXX99L	Ph.D	TIET, Patiala	Power SystemOptimization	26/07/1989	36.7	Lecturer	Associa Profess
11	Dr. GagandeepKaur	XXXXXXX81F	Ph.D	Thapar University, Patiala	Artificial intelligence	03/09/1997	28.5	Lecturer	Associa Profess
12	Dr. MandeepSingh-II	XXXXXXX52C	Ph.D	Thapar University, Patiala	Instrumentation	10/03/2003	22.11	Lecturer	Profess
13	Dr. Nitin Narang	XXXXXXX51A	Ph.D	TIET, Patiala	Power System Optimization	15/10/2004	21.4	Lecturer	Associa Profess
14	Dr. Deepti Mittal	XXXXXXX23C	Ph.D	IIT, Roorkee	Signal and Image Processing	19/04/2012	13.10	Assistant Professor	Associa Profess
15	Dr. S.K.Aggarwal	XXXXXXX87F	Ph.D	NIT, Kurukshetra	Power Systems	21/07/2016	9.7	Assistant Professor	Profess
16	Dr. ParagNijhawan	XXXXXXX15B	Ph.D	NIT, Kurukshetra	Power Systems	11/09/2001	24.5	Lecturer	Associa Profess
17	Dr. SuryaPrakash	XXXXXXX88P	Ph.D	SamHigginbottomInstitute ofAgriculture,Technology &Sciences,Allahabad	Power Systems	07/07/2014	11.7	Assistant Professor	Profess
18	Dr. DebaPrasad Dash	XXXXXXX79M	Ph.D	IIT, Patna	Biomedical Signal Processing	08/07/2021	4.7	Assistant Professor	Assista Profess

19	Dr. RuchikaLamba	XXXXXXX25G	Ph.D	TIET, Patiala	control system	16/07/2008	17.7	Assistant Professor	Assista Profess
20	Dr. AshishKumar Gupta	XXXXXXX63J	Ph.D	Pt. DwarkaPrasad MishraIndian Instituteof InformationTechnolgy,Design andManufacturing,Jabalpur	Deep Learningbased ObjectDetection	25/02/2022	3.11	Assistant Professor	Assista Profess
21	Dr. Alok KumarShukla	XXXXXXX59E	Ph.D	NIT, Raipur	ComputationalIntelligence	13/04/2022	3.10	Assistant Professor	Assista Profess
22	Dr. Amit Kumar	XXXXXXX34D	Ph.D	NIT, Rourkela	Power Systems	24/04/2021	4.9	Assistant Professor	Assista Profess
23	Dr. AbhishekPal	XXXXXXX32H	Ph.D	IITDhanbad(IndianSchool ofMines)	Electronics and Drives	16/08/2021	4.6	Assistant Professor	Assista Profess
24	Dr. PindoriyaRajeshManjibhai	XXXXXXX47J	Ph.D	IIT, Mandi	Electronics and Drives	01/07/2022	3.7	Assistant Professor	Assista Profess
25	Dr. AnterpreetKaur Bedi	XXXXXXX25N	Ph.D	NIT, Jalandhar	Biomedical ImageProcessing	02/07/2022	3.7	Assistant Professor	Assista Profess
26	Dr.MukeshDalal	XXXXXXX26A	Ph.D	PunjabUniversity	InformationSecurity	03/02/2023	3	Assistant Professor	Assista Profess
27	Dr. RavinderKaur	XXXXXXX89F	Ph.D	PunjabUniversity	Image Processing	01/03/2023	2.11	Assistant Professor	Assista Profess
28	Dr. Debasmita	XXXXXXX67N	Ph.D	IIT, Bombay	Biosensors andBioinstrumentation	09/11/2023	2.3	Assistant Professor	Assista Profess
29	Dr AdityaGupta	XXXXXXX98D	Ph.D	NIT, Jalandhar	Healthcare Informatics	29/11/2023	2.2	Assistant Professor	Assista Profess
30	Dr ManjeetSingh	XXXXXXX38N	Ph.D	TIET, Patiala	MicrogridProtection, BMS	01/01/2025	1.1	Assistant Professor	Assista Profess
31	Dr SudhanshuMittal	XXXXXXX24E	Ph.D	DTU, Delhi	Power Systemand PowerElectronics	01/01/2025	1.1	Assistant Professor	Assista Profess
32	DrDipjyoti Das	XXXXXXX36K	Ph.D	NIT, Silchar	Control System and Instrumentation	16/06/2025	0.8	Assistant Professor	Assista Profess
33	Dr AnkushGupta	XXXXXXX87G	Ph.D	NIT,Kurukshetra	Microgrid andrenewable energysystems	20/06/2025	0.8	Assistant Professor	Assista Profess
34	DrArunpreetKaur	XXXXXXX39J	Ph.D	TIET, Patiala	Power System Optimization	07/01/2025	1.1	Assistant Professor	Assista Profess
35	Dr Manvir Kaur	XXXXXXX66N	Ph.D	TIET, Patiala	Power System.electric Vehicles	16/06/2025	0.8	Assistant Professor	Assista Profess
36	Manpreet Kaur	XXXXXXX42N	M.E.	TIET, Patiala	Control Systems,Robotics	16/06/2025	0.8	Assistant Professor	Assista Profess
37	Dr JanardanKundu	XXXXXXX81F	Ph.D	IIEST, Shivpur	Control &Instrumentation	14/08/2025	0.6	Assistant Professor	Assista Profess
38	Mr. Gaurav Kumar	XXXXXXX22C	M.E.	TIET, Patiala	Electronics andCommunication	01/07/2020	5.7	Assistant Professor	Assista Profess
39	Mr.Purushotam	XXXXXXX48N	M.E.	PTU	Power Systems	01/07/2020	5.7	Assistant Professor	Assista Profess
40	Dr. JainySachdeva	XXXXXXX88H	Ph.D	IIT, Roorkee	BiomedicalInstrumentation	22/07/2013	12.7	Assistant Professor	Associa Profess
41	Dr. NirhowjapSingh	XXXXXXX94Q	Ph.D	TIET, Patiala	SystemOptimization	06/01/2005	21.1	Lecturer	Associa Profess
42	Dr. ManojBadoni	XXXXXXX53E	Ph.D	DTU, Delhi	Power Quality,RenewableEnergy Sources	10/07/2017	8.7	Assistant Professor	Associa Profess
43	Dr. Krishna KGupta	XXXXXXX40J	Ph.D	Maulana AzadNationalInstitute ofTechnology,Bhopal	Power Electronics	21/12/2018	7.2	Assistant Professor	Associa Profess
44	Dr. SahajSaxena	XXXXXXX92H	Ph.D	IIT, Roorkee	control system	01/06/2017	8.8	Assistant Professor	Associa Profess
45	Dr. SantoshSonar	XXXXXXX95J	Ph.D	Indian Schoolof Mines	Power Electronics	13/03/2014	11.11	Assistant Professor	Associa Profess

46	Dr. ShaktiSingh	XXXXXXX88P	Ph.D	Thapar University, Patiala	Renewableenergy systems	12/06/2009	16.8	Assistant Professor	Associa Profess
47	Dr. Moon InderSingh	XXXXXXX23K	Ph.D	Thapar University, Patiala	Instrumentation	06/07/2006	19.7	Assistant Professor	Associa Profess
48	Dr. SangeetaKamboj	XXXXXXX99N	Ph.D	NIT,Kurukshetra	Signal Processing	05/06/2013	12.8	Assistant Professor	Associa Profess
49	Dr. VikramChopra	XXXXXXX93Q	Ph.D	Thapar University, Patiala	control system	22/06/2009	16.8	Assistant Professor	Assista Profess
50	Dr. PawanKumar	XXXXXXX47M	Ph.D	JamiaMiliaIslamia,Delhi	Power Systems	17/07/2017	8.7	Assistant Professor	Associa Profess
51	Dr. SouvikGanguli	XXXXXXX00Q	Ph.D	TIET, Patiala	SystemIdentification andControl	12/06/2009	16.8	Assistant Professor	Associa Profess
52	Dr. SumanBhullar	XXXXXXX42E	Ph.D	TIET, Patiala	Power Systems	25/11/2003	22.3	Assistant Professor	Associa Profess
53	Dr. YogeshTatte	XXXXXXX91N	Ph.D	VisvesvariyaNationalInstitute of technology Nagpur	Electrical Drives	09/07/2018	7.7	Assistant Professor	Assista Profess
54	Dr. SandeepPandey	XXXXXXX12B	Ph.D	VisvesvariyaNationalInstitute of technology Nagpur	control system	08/08/2019	6.6	Assistant Professor	Assista Profess
55	Dr. SridharJoshi	XXXXXXX40Q	Ph.D	IIT, Kanpur	Power Electronics	29/06/2018	7.7	Assistant Professor	Assista Profess
56	Mr Dharmendra Kumar	XXXXXXX82Q	M.E.	IITBHU	Digital TechniquesandInstrumentation	01/09/2023	2.5	Assistant Professor	Assista Profess
57	Dr. SwatiSondhi	XXXXXXX08P	Ph.D	IIT, Roorkee	control system	19/05/2016	9.9	Assistant Professor	Associa Profess
58	Dr.VenktaKarteek.Yanumula	XXXXXXX70G	Ph.D	IIT, Guwahati	control system	10/07/2017	7.5	Assistant Professor	Assista Profess
59	Dr. SaurabhShukla	XXXXXXX31P	Ph.D	IIT Delhi	Electrical Machineand Drives	01/07/2021	4.2	Assistant Professor	Assista Profess
60	Dr. VishalKumar Gaur	XXXXXXX60J	Ph.D	IIT, Roorkee	Power Systems	01/07/2022	1.1	Assistant Professor	Assista Profess
61	Dr. RakeshKumar Yadav	XXXXXXX27P	Ph.D	IIITM,Allahabad	Graph Affinity andGraph CNN	14/03/2022	1.2	Assistant Professor	Assista Profess
62	Dr Asish Soni	XXXXXXX54P	Ph.D	IIT(IndianSchool ofMines)Dhanbad	Instrumentation	22/08/2023	0.9	Assistant Professor	Assista Profess
63	Dr. R.S. Kaler	XXXXXXX96R	Ph.D	PTU	Fiber Optics	10/12/2003	22.2	Professor	Profess

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 Department4 No. of PG Programs in the Department2

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

Description	CAY(2025-26)	CAYm1 (2024-25)	CAYm2 (2023-24)
UG1.B	90	90	115
UG1.C	90	115	100

UG1.D	115	100	100
UG1: Electronics Instrumentation & Control Engineering	**295**	**305**	**315**
UG2.B	120	120	69
UG2.C	120	69	60
UG2.D	69	60	60
UG2: Electrical and Computer Engineering	**309**	**249**	**189**
UG3.B	90	98	151
UG3.C	98	151	122
UG3.D	151	122	124
UG3: Electrical Engineering	**339**	**371**	**397**
UG4.B	30	60	69
UG4.C	60	69	60
UG4.D	69	60	60
UG4: Biomedical Engineering	**159**	**189**	**189**
PG1.A	18	18	0
PG1.B	18	0	0
PG1: Electric Vehicle Technology	**36**	**18**	**0**
PG2.A	0	0	18
PG2.B	0	18	18
PG2: Power Systems	**0**	**18**	**36**
DS=Total no. of students in all UG and PG programs in the Department	1138	1150	1126
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=** 1138	**S2=** 1150	**S3=** 1126
DF=Total no. of faculty members in the Department	58	51	50
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=** 58	**F2=** 51	**F3=** 50
FF=The faculty members in F who have a 100% teaching load in the first-year courses	3	2	2
Student Faculty Ratio (SFR)=S/(F-FF)	**SFR1= 20.69**	**SFR2= 23.47**	**SFR3= 23.46**
Average SFR for 3 years	**SFR= 22.54**		

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)]
2025-26(CAY)	53	5	56.00	24.55
2024-25(CAYm1)	47	4	57.00	21.32
2023-24(CAYm2)	48	2	56.00	21.79

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.

	Professors	Associate Professors	Assistant Professors

Year	Required RF1	Available AF1	Required RF2	Available AF1	Required RF3	Available AF3
2025-26	6.00	13.00	12.00	15.00	37.00	19.00
2024-25	6.00	8.00	12.00	15.00	38.00	25.00
2023-24	6.00	7.00	12.00	14.00	37.00	27.00
Average	RF1=6.00	AF1=9.33	RF2=12.00	AF2=14.67	RF2=37.33	AF2=23.67

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	Dr. Sanjeev Bedi	Professor	University of waterloo	ELC	80.00
2	Dr. A.J.Aard	Professor	University of Groningen	Innovation and Enterpreneurship	80.00
3	Olga Balusova	Professor	University of Groningen	Innovation and Entertreneurship	80.00

(CAYm2)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Dr. Sanjeev Bedi	Professor	University of waterloo	ELC	80.00
2	Dr. A.J.Aard	Professor	University of Groningen	Innovation and Enterpreneurship	80.00
3	Olga Balusova	Professor	University of Groningen	Innovation and Enterpreneurship	80.00

(CAYm3)

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1	Dr. Sanjeev Bedi	Professor	University of waterloo	ELC	80.00
2	Dr. A.J.Aard	Professor	University of Groningen	Innovation and Enterpreneurship	80.00
3	Olga Balusova	Professor	University of Groningen	Innovation and Enterpreneurship	80.00

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	71	88	110
2	No. of peer reviewed conference papers published	20	34	25
3	No. of books/book chapters published	11	12	9

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. Souvik Ganguli	Dr. Surya Prakash	DEIE	Study of Safety and Performance Parameters of Electric Fans and Regulators for Use in Ships	BIS, India	Feb to Jul 2025 (6 Months)	5.10
Dr. Souvik Ganguli	Dr. Surya Prakash	DEIE	To Define Environmental Friendliness Rating for Electro technical Products	BIS, India	Feb to Jul 2025 (6 Months)	5.10

Dr. SK Aggarwal	Dr. Suman Bhullar, Dr. Sunil Kumar	DEIE	Study of surge arresters installed in electricity distribution applications and comparison with clause 5.2.5.5.2 of IS:15086: Part 5:2020 surge arresters selection and applications recommendation	BIS, India	Feb to Jul 2025 (6 Months)	5.53
Dr. Pawan Kumar	Ms. Meenu, Mr. Gagandeep Singh, Mr. Priyanka Kumari and Mr. Shailendra Saro	DEIE	Calculation of Thermally Permissible Short circuit current in low voltage, direct current electrical installations	BIS, India	Feb to Jul 2025 (6 Months)	6.26
Dr. Payal Mittal	Dr. Abhisek Pal, Dr. Anil Kumar Verma	DEIE	Study of the cloud services ecosystem and map against existing standards, and identify the gap areas for standardization	BIS, India	Feb to Jul 2025 (6 Months)	5.00
Dr. Vishal Srivastava	Prof. Ajay Batish, Dr. Hemdutt Joshi. Dr. Hari Shankar Singh and Dr. Vishal Gupta	DEIE	Elastic Insight: Advancing Early Diagnosis of Osteosarcoma, Chondrosarcoma and Ewing's through High Resolution 3D Automated Optical Coherence Elastrography	ICMR	Feb 2025 to Jan 2028 (3 Years)	119.00
Dr. Jainy Sachdeva	--	DEIE	Developing Artificak Intelligence Algorithm by Combining Radiomics using Diffusion Tensor Imaging with molecular bionarker in Infantile spasm to detect treatment response	ICMR	Feb 2025 to Jan 2028 (3 Years)	4.67
Dr. Swati Sondhi	DEIE	DEIE	Development of Simulation Platform for Reinforcement Learning based Control Engineering	AI Strategy Consultance LLC., USA	10-11-2026 (02 years)	10.00
Dr. Mukesh Singh	Dr. Manoj Badoni and Dr. Prashant Singh Rana	DEIE	Design and Development of a Drivetrain Controller for Light Commercial Vehicles with AIS Compliance	MeitY, India	11-11-2025- to 10-11-27 (02 years)	190.00
Dr. Sunil kumar Singla	--	DEIE	AICTE, Inter Institutional Biomedical Innovations Programme (IBIP)	AICTE, (IBIP)	24-09-2024 to 23-09-2026 (02 years)	10.00
						Amount received (Rs.):360.66

(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. Amit Kumar	Dr. Ashima Anand, Dr. Prashant Singh Rana, Prof. Mukesh Singh	DEIE	Enhancing Electric Vehicle Security-AI Powered Detection and Prevention of Cyber Attacks	C3iHUB IIT Kanpur	March 2024 - March 2027	36.18
Dr. R. S. Kaler	Dr. Mukesh Singh	DEIE	Electric Vehicle Systems Infrastructure	DST-FIST	October 2023- October 2026	118.00
Dr. Chirag Kamal Ahuja	Dr. Jainy	DEIE	Artificial Intelligence Based CAD System for 3D Segmentation and Classification of Traumatic Brain Injury on CT-Angiography Images	SERB	February 2024- February 2026	12.36
Dr. Krishna Kumar Gupta	Dr. Shakti Singh	DEIE	Conceptualization, Design and Development of Next Generation Power Electronics Transformer (NGPET) with Wide Range of Intermediate DC-Link Voltage	NaMPET-III	September 2023 - February 2025	40.82
Dr. Mukesh Singh	Dr. Neeru Jindal	DEIE	Remoulding Existing Buildings into Smart Carbon Neutral Buildings: A Green Cyber-Physical Approach (Green-CPS)	DST/INDO-CANADA	July 2023- June2025	52.79

Dr. Santosh Sonar		DEIE	Design and Development of an Improved Three Level Solar Inverter	CSIR	September 2023-September 2026	6.00
						Amount received (Rs.):266.15

(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. Rajendra Kumar	Dr. Ruchika Lamba	DEIE	Investigation of nonlinear dynamics of electrostatically actuated bistable micro switches with applications to medical equipment	SERB	January 2023-January 2025	22.40
Dr. Hari Shankar Singh	Dr. Vishal Srivastava	ECED/DEIE	Health Care System: Early Detection of Bone Cancer using Microwave Imaging and Treatment by Hyperthermia Lens Applicator	SERB	September 2023-September 2026	23.21
Dr. Prasenjit Basak	Dr. Soumen Basu	DEIE	Development of Natural Ester Oil-Based Nano fluids by Varying the Size and Shape of Nanoparticles as Liquid Insulation with Enhanced Dielectric Properties for Power Transformer Applications	CRG-SERB, DST	October 2022-October 2025	39.80
Dr. Gyanendra Singh	--	DEIE	DTFQPM: Deep Thinking Fluorescence Quantitative Phase Microscopy for the automated classification of cancerous cells	SERB	August 2022-August 2025	32.00
						Amount received (Rs.):117.41

Total Amount (Lacs) Received for the Past 3 Years: 744.22

Note*:

- Only sponsored research projects will be considered. Infrastructure-based projects will not be considered here.

C8. Consultancy Work

Table No. C8.1: List of consultancy projects received from external agencies.

(CAYm1)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. Deba Prasad Dash	Dr. Sahaj Saxena, Dr. Debasmita Mondal and Dr. Sunil Singla	DEIE	Design and Development of a Force Platform, hereinafter Referred to as the product	Auptimo Technologies LLP, New Delhi	April 2025 to October 2026 (18 months)	250000.00
						Amount received (Rs.):250000.00

(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. Mandeep Singh	--	DEIE	Certified Energy Auditor, BEE	Avon Newage Cycles Pvt. Ltd., Bazpur	Oct 2023 to Sep 2024 (01 Year)	108000.00
						Amount received (Rs.):108000.00

(CAYm3)

Total amount (Lacs) received for the past 3 years: 358000.00

Note*:

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

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

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

(CAYm1)

(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. Mukesh Dalal	Development of Novel Secure Steganography Technique for Image and Video Processing Applications	2 years	5.31	5.31	2 conference Published and 1 Journal Submitted
Dr. Debasmita Mondal	Development of Low Low-Cost and Portable Impedimetric Sensor for on-site Heavy Metal Detector	2 years	8.00	8.00	N/A
Dr. Ravinder Kaur	Development of Segmentation Technique for Precise Delineation of Kidney Lesions in CT images	2 years	5.31	5.31	1 conference paper submitted
			Amount received (Rs.): 18.62		

(CAYm3)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
Dr. Rajesh M. Pindoriya	Health Monitoring and Fault Diagnosis for Brushless Motor Drives In-Wheel Electric Vehicles	2 years	8.00	8.00	01 Patent
Dr. Amit Kumar	Power Control Philosophy for Three phase Grid-Interfaced Inverter under weak Grid Conditions	2 years	7.20	7.20	Setup developed and one journal submitted
Dr. Abhisek Pal	efficiency improvement strategy for induction Motor drive used in EV and HEV Application	2 years	6.95	6.95	Set-Up developed and 1 conference paper published
Dr. Anterpreet Kaur Bedi	Virtual Crops Technology for Improved Wheat Production in Punjab	2 years	3.40	3.40	ongoing (Extension)
Dr. Alok Kumar Shukla	AI-Enabled Brain Interface for Early Detection of Neurological Disorders	2 years	8.00	8.00	ongoing
Dr. Ashish Gupta	Deep learning based automatic target detection and Recognition	2 years	6.31	6.31	Journal Submitted
			Amount received (Rs.): 39.86		

Total amount (Lacs) received for the past 3 years : 58.48

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	Power Electronics & Drives Lab	25	◆ Shunt Active Filter ◆ IGBT based Three Phase Inverter with Eddy	36	Mr. Vipan Kum	Lab Techniciar	Diploma in Ele
2	Electrical Machines Lab	25	◆ Compound Generator ◆ 3-phase Autotransformer ◆ Reluctance motor ◆	16	Mr. Ravi Kuma	Lab Techniciar	B.E in Electrica
3	High Voltage (I & II)	25	◆ High Voltage Construction kit: HVAC (100 kV), HVDC and Impulse (140	6	Mr. Sourav	Lab Techniciar	B.E in Electrica
4	Electrical Engineering Lab-1 and 2	30	◆ 50 Hz DSO in-built Function Gen. 20 MHz ◆ Clamp Meter 3000 Amp	124	Mr. Lalit Singh	Lab Techniciar	B.E in Electrica

5	Renewable Energy Lab	30	◆ Fluke 115 True RMS Multi-Meter ◆ Solar Radiation Sensor ◆ Digital Multimeter ◆ Fluke Digital Clamp	6	Mr. Lalit Singh	Lab Technician	B.E in Electrica
6	Power System Simulation Lab	30	◆ HP Z640 Work-station ◆ Desktop (i5,500GB HDD,4GB RAM ◆ AIO Desktop (i7, 1 TB HDD, 8GB RAM) ◆	12	Mr. Ganesh Sin	Lab Technician	Diploma in infc
7	Real Time Simulation Lab	25	◆ AIO PC (i7, HHD1 TB, 8 GB RAM) ◆ LEM Assemble Card ◆ LA25-P Make LEM ◆ SKP 80-16 ◆ SKP 810	14	Mr. Surbir Sing	Associate Lab.	Diploma in EC
8	Biomedical Computational Lab	25	◆ Desktop (10th Gen Intel Core i5/8GB/1TB HDD + 256GB SSD/Windows 10/NVIDIA QTY 1060	6	Mr. Harcharan	Lab Technician	M.E. in Electric
9	Biomechanics Lab	25	◆ Human Skeleton ◆ GAITon motion Analysis System (kinematic analy-sis) ◆ Bipolar Pluy Respirator 8 channel Kit	8	Mr. Harcharan	Lab Technician	M.E. in Electric
10	Internet of Things (IoT) Lab	25	◆ Desktop PC (i7, 8GB RAM, 256 GB SSD, 24 Inch TFT). ◆ Desktop PC (i5, 8GB RAM,500 GB SSD, 24Inch	14	Mr. Maninder S	Lab. Technicia	M.E. in Electro
11	Network Lab	25	● Network Trainer Kit AC/DC ● Two Port Net-work Trainer Kit with Digital Meter ● Constant K Filter Bakelite ●	14	Mr. Shubham	Lab Technician	Diploma in Ele
12	Power System & Protection Lab	25	◆ Negative Se-quence current Relay (Static type) Trainer Unit ◆ Single line to ground fault Trainer Unit ◆	8	Mr. Ravi Kuma	Lab Technician	B.E in Electrica
13	Microprocessor & Embedded System Lab/Thapar Freescale	24	◆ STM Evaluation ARM Cortex M4 Board ◆ STM ARM Cortex M4 Discovery Kit for IOT Node ◆ Universal	8	Mr. Ganesh Sin	Lab Technician	Diploma in infc
14	Industrial Instrumentation Lab	25	◆ Crystal Sinbar ◆ Digital Display Vernier Caliper ◆ Kristel Microme-ter ◆ Fray Temp & Humidity Meter ◆	8	Mr. Maninder S	Lab Technician	M.E. in Electro
15	Process Dynamic and Control Lab	24	◆ Process Control Trainer ◆ Pressure Loop Control Trainer ◆ Level Control Loop Trainer ◆ Advanced	2	Mr. Jaideep Si	Lab Technicia	Diploma in EC
16	Instrumentation System Design Lab	25	◆ Digital Storage Oscilloscope (TBS-1072-EDU) 70MHz ◆ APLAB 10MHz Multi waveform Signal Generator ◆	6	Ganesh Singh	Lab Technician	Diploma in infc
17	Analog and Digital Electronics Lab	25	◆ Zealtech Work Bench are fully equipped with: ◆ (a). Cathode Ray Oscilloscope ◆ (b). DC Regulat-ed	6	Mr. Jaideep Si	Lab Technician	Diploma in Ele
18	Instrumentation and Control Lab	25	◆ DC Motor Posi-tion Control Sys-tem ◆ Temperature Control Trainer ◆ Linear System Simulator ◆ Coupled	10	Mr. Kuldip Kun	Sr. Associate L	B.Tech.in Elect
19	Bio-medical Instrumentation Lab	24	◆ Spirometer (Phoebus P121) ◆ Pulse Oximeter (HELIOS-401) ◆ 24 Channel EEG System (MAXIMUS 24) ◆	8	Mr. Jaideep Si	Lab. Technicia	Diploma in Ele
20	Virtual Instrumentation Lab	24	◆ PCI 6024 E DAQ with BNC2120 Block ◆ NI my RIO ◆ NI Academic Site License (Lab VIEW) ◆	8	Mr. Ganesh Sin	Lab Technician	Diploma in infc

D2. Safety Measures in Laboratories

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

Sr. No	Laboratory Name	Safety Measures
1	Thapar Freescale Systems Lab	1. Specific safety rules for students displayed. 2. First aid box and fire extinguisher are kept in the laboratory. 3. Avoid the use of cell phones. 4. Appropriate storage areas.
2	Process Dynamic and Control Lab	1. Specific safety rules for students displayed. 2. First aid box and fire extinguisher are kept in the laboratory. 3. Avoid the use of damaged equipment and provides needful equipment and components. 4. Avoid the use of cell phones. 5. Appropriate storage areas.
3	Instrumentation System Design Lab	1. Specific safety rules for students displayed. 2. First aid box and fire extinguisher are kept in the laboratory. 3. Use of proper guidelines for soldering. 4. Proper disposal of soldering waste material. 5. Avoid the use of damaged equipment and provides needful equipment and components. 6. Periodical servicing of the lab equipment. 7. Avoid the use of cell phones. 8. Appropriate storage areas.
4		1. Specific safety rules for students displayed. 2. First aid box and fire extinguisher are kept in the laboratory. 3. Avoid the use of condemned equipment and provides needful equipment and components. 4. Periodical servicing of the lab equipment.

	Analog & Digital Electronics Lab	5. Maintain a clean and organized laboratory. 6. Avoid the use of cell phones. 7. Appropriate storage areas.
5	Bio-Medical Instrumentation Lab	1. Specific safety rules for students displayed. 2. First aid box and fire extinguisher are kept in the laboratory. 3. Remove the watch or any other jewelry and avoid loose clothing before handling equipment. 4. All equipment's/apparatus must be placed at their proper places after performing the experiments. 5. Proper handling of all the hardware/software with care. 6. Maintain a clean and organized laboratory. 7. Avoid the use of cell phones. 8. Appropriate storage areas.
6	Virtual Instrumentation Lab	1. Specific safety rules for students displayed. 2. First aid box and fire extinguisher are kept in the laboratory. 3. Avoid the use of damaged equipment and provides needful equipment and components. 4. Periodical servicing of the lab equipment. 5. Maintain a clean and organized laboratory. 6. Avoid the use of cell phones. 7. Appropriate storage areas.
7	Instrumentation & Control Lab	1. Specific safety rules for students displayed. 2. First aid box and fire extinguisher are kept in the laboratory. 3. Remove the watch or any other jewelry and avoid loose clothing before handling equipment. 4. All equipment's/apparatus must be placed at their proper places after performing the experiments. 5. Proper handling of all the hardware/software with care. 6. Maintain a clean and organized laboratory. 7. Avoid the use of cell phones. 8. Appropriate storage areas.
8	Industrial Instrumentation Lab	1. Specific safety rules for students displayed. 2. First aid box and fire extinguisher are kept in the laboratory. 3. Use of proper guidelines for soldering. 4. Proper disposal of soldering waste material. 5. Avoid the use of damaged equipment and provides needful equipment and components. 6. Periodical servicing of the lab equipment. 7. Maintain a clean and organized laboratory. 8. Avoid the use of cell phones. 9. Appropriate storage areas.
9	Renewable Energy Lab	1. Specific safety rules for students displayed. 2. First aid box and fire extinguisher are kept in the laboratory. 3. Rubber sole shoes must be worn at all times. 4. Remove all loose conductive jewellery and trinkets, including rings, which may come in contact with exposed circuits. (Do not wear long loose ties, scarves, or other loose clothing around machines). 5. "Cheater" cords and 3-to-2 prong adapters are prohibited unless an adequate separate ground lead is provided. 6. Keep fluids, chemicals, and beat away from instruments and circuits. 7. Avoid contacting circuits with wet hands or wet materials. 8. Avoid the use of damaged equipment and provides needful equipment and components. 9. Periodical servicing of the lab equipment. 10. Maintain a clean and organized laboratory. 11. Avoid the use of cell phones. 12. Appropriate storage areas.
10	Power System Simulation Lab	1. Specific safety rules for students displayed. 2. First aid box and fire extinguisher are kept in the laboratory. 3. Periodical servicing of the computer systems. 5. Use of latest updated software to avoid malfunctioning during the programming. 6. Maintain a clean and organized laboratory. 7. Avoid the use of cell phones. 8. Appropriate storage areas.
11	Power Electronics & Drives Lab	1. Specific safety rules for students displayed. 2. First aid box and fire extinguisher are kept in the laboratory. 3. Rubber sole shoes must be worn at all times. 4. Remove all loose conductive jewellery and trinkets, including rings, which may come in contact with exposed circuits. (Do not wear long loose ties, scarves, or other loose clothing around machines). 5. Keep fluids, chemicals, and beat away from instruments and circuits. 6. Avoid contacting circuits with wet hands or wet materials. 7. Avoid the use of damaged equipment and provides needful equipment and components. 8. Periodical servicing of the lab equipment. 9. Maintain a clean and organized laboratory. 10. Avoid the use of cell phones. 11. Appropriate storage areas.
12	Electrical Engineering Lab (I & II)	1. Specific safety rules for students displayed. 2. First aid box and fire extinguisher are kept in the laboratory. 3. Rubber sole shoes must be worn at all times. 4. Remove all loose conductive jewellery and trinkets, including rings, which may come in contact with exposed circuits. (Do not wear long loose ties, scarves, or other loose clothing around machines). 5. Keep fluids, chemicals, and beat away from instruments and circuits. 6. Avoid contacting circuits with wet hands or wet materials. 7. Avoid the use of damaged equipment and provides needful equipment and components. 8. Periodical servicing of the lab equipment. 9. Maintain a clean and organized laboratory. 10. Avoid the use of cell phones. 11. Appropriate storage areas.
13		1. Display of safety precautions related guidelines on notice board. 2. Safety cages and danger red lines in High Voltage lab-I & II. 3. First aid box and fire extinguisher are kept in the laboratory. 4. Rubber sole shoes must be worn at all times. 5. Remove all loose conductive jewellery and trinkets, including rings, which may

	High Voltage (I & II)	come in contact with exposed circuits. 6. Do not wear long loose ties, scarves, or other loose clothing around the HV setup. 7. Proper use of safety gloves, goggles and thick sole-based shoes while performing the experiment.
14	Real Time Research Lab	1. Specific safety rules for students displayed. 2. First aid box and fire extinguisher are kept in the laboratory. 3. Periodical servicing of the computer systems. 4. Use of latest updated software to avoid malfunctioning during the programming. 5. Maintain a clean and organized laboratory. 6. Avoid the use of cell phones. 7. Appropriate storage areas.
15	Biomedical Research Lab	1. Specific safety rules for students displayed. 2. First aid box and fire extinguisher are kept in the laboratory. 3. Hand disinfectant and sanitization. 4. Proper grounding of equipment to avoid any leakage of current. 5. A thorough cleaning of hands and body parts after completion of the experiment. 6. Electric shock hazard sign boards.
16	Biomedical Computational Lab	1. Specific safety rules for students displayed. 2. First aid box and fire extinguisher are kept in the laboratory. 3. Periodical servicing of the computer systems. 4. Use of latest updated software to avoid malfunctioning during the programming. 5. Maintain a clean and organized laboratory. 6. Avoid the use of cell phones.
17	Biomechanics Lab	1. Specific safety rules for students displayed. 2. First aid box and fire extinguisher are kept in the laboratory. 3. Hand disinfectant and sanitization. 4. Proper grounding of equipment to avoid any leakage of current. 5. A thorough cleaning of hands and body parts after completion of the experiment. 6. Electric shock hazard sign boards.
18	Bio Instruments Lab	1. Specific safety rules for students displayed. 2. First aid box and fire extinguisher are kept in the laboratory. 3. Hand disinfectant and sanitization. 4. Proper grounding of equipment to avoid any leakage of current. 5. A thorough cleaning of hands and body parts after completion of the experiment. 6. Electric shock hazard sign boards for students' safety. 7. Dispose of biological samples after completion of the experiment.
19	Internet of Things (IoT) Lab	1. Specific safety rules for students displayed. 2. First aid box and fire extinguisher are kept in the laboratory. 3. Periodical servicing of the computer systems. 4. Use of latest updated software to avoid malfunctioning during the programming. 5. Maintain a clean and organized laboratory. 6. Avoid the use of cell phones.
20	Network Lab	1. Specific safety rules for students displayed. 2. First aid box and fire extinguisher are kept in the laboratory. 3. Periodical servicing of the computer systems. 4. Use of latest updated software to avoid malfunctioning during the programming. 5. Maintain a clean and organized laboratory. 6. Avoid the use of cell phones. 7. Appropriate storage areas.

D3. Project Laboratory/Research Laboratory

The projects provide hands-on training to the students whatever they have learnt in lectures and tutorial classes. The innovative ideas of the students which results in real time working project models are given support through the available lab infra structure. Student's innovative ideas are implemented and also the Project/Research labs are utilized by the students for implementing the novel ideas for their projects. Discussions and implementations of innovative ideas about mini projects, capstone projects, ELC activities and final year projects are carried out in the departmental project/research labs. Project/Research lab is exclusively for the research and project works with the hardware and software facilities been provided by the department. The students of the department are encouraged to implement any kind of research/projects in the departmental labs which helps them in their overall development. The list of capstone projects which are part of the UG curriculum are developed in the corresponding departmental labs. Some of them are shown in Table 7.5.1.

Table 7.5.1. List of capstone projects associated with the laboratory of the department

S. No.	Name of the project	Lab Associated
1.	Implementation of field oriented control and fabrication of motor controller on bldc motor	
2.	Optimization of superseeder using embedded systems	

3.	Development of IoT- enabled ML based online air pollution monitoring system for 2-wheeler vehicle	Electrical Engineering Lab II
4.	Design and development of IoT enabled signal conditioning circuit and display for moisture sensing in transformer oil	
5.	Design and development of unmanned avalanche rescue rover	
6.	Bidirectional dc-dc converter for ev battery power management	
7.	Development of a Labview based electrical machine parameter monitoring system	Renewable energy lab
8.	Development of programmable test rig for ev powertrain	
9.	Design and implementation of ground penetrating radar	High Voltage Lab-II
10.	Solar fed dc motor controller	Electrical Engineering Lab1
11.	Drive cycle construction and test bench development for e-bike usage in thapar campus	
12.	Design& Analysisofmulti-levelinverter	
13.	Design and development of an unmanned landmine detection rover	
14.	Design and development of axial flux motor	
15.	Day-ahead load-priority-based energy prediction and optimization for net zero energy buildings	
16	Designing and development of sign-to-speech Glove using machine learning integrated with real-time 3D learning platform	High Voltage Lab-I
17	Smart solution for energy efficiency in smart building	
18	Artificial intelligence-based clear boat	Renewable Energy lab
19	Solar powered wireless electric vehicle charging system with bms	
20	Photovoltaic panel maintenance mechanism: Cleaning robot	
21	Wireless charging for electrical vehicles	
22	Demonstration of software defined power electronics using h-bridge	
23	IoT based fault and power management monitoring for an isolated ac microgrid	Power Electronics and Drives Lab Electrical Engineering Lab-II
24	Practical realization of bldc ev drive using ti c2000 microcontroller	
25	Dc-dc converter for pv system	
26	Solar pv powered non-isolated converter topologies for e-Rickshaw	
27	Smart daylight harvesting system	
28	Pmu laboratory prototype and it's optimal placement	
29	Green hydrogen technology for electric vehicles	
30	Internet of energy framework for integrating electric vehicle and energy sustainability in smart cities	
31	Gesture controlled robotic arm for waste collection	
32	Vr Haptic Gloves	

		Instrumentation & Control Lab
33	Cyber physical system approach for fault detection in pv arrays	
34	Industrial automation of flat conveyor	
35	Development of BLDC motor controller	Industrial Instrumentation Lab
36	Development of home surveillance bot	
37	Motorized walker for visually impaired	
38	Design of protection algorithm for transmission line and validation using opal-rt based relay-hardware-in-loop	
39	Demonstration of local reactive power support using v2g mode of EV charging	

The students of the Electrical and Instrumentation Engineering Department are very enthusiastic for the facilities available within the departmental labs. They fully utilize the facilities to enhance their technical and practical skill in the labs also.

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)	2895	145	149	43	88
2024-25(CAYm1)	3210	160	169	49	91
2025-26(CAY)	3390	170	196	60	99

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	3000000000	2950000000	1200000000	1110171000	2000000000	1801854000	2500000000	2448668000
Library	75000000	71500000	55000000	54198000	50000000	46316000	40000000	30822000
Laboratory equipment	800000000	730000000	900000000	860759000	200000000	192803000	80000000	78862000
Teaching and non-teaching staff salary	2760000000	2710000000	2350000000	2346570000	2100000000	2087843000	1850000000	1827908000
Outreach Programs	11000000	10903000	10000000	9901000	9500000	9105000	9000000	8950000
R&D	180000000	175200000	150000000	142550000	130000000	129312000	120000000	111200000
Training, Placement and Industry linkage	25000000	24500000	24000000	23406000	15000000	14182000	8000000	7437000

SDGs	20000000	18750000	17500000	17066000	14000000	13617000	12000000	11550000
Entrepreneurship	10000000	9850000	9000000	8960000	8500000	8440000	8000000	7840000
Others, specify	2400000000	2365520000	2350000000	2314155000	2000000000	1861793000	1100000000	1050522000
Total	**9281000000**	**9066223000**	**7065500000**	**6887736000**	**6527000000**	**6165265000**	**5727000000**	**5583759000**

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	16041803	14638145	18616521	17804820	4761194	4589862	2899098	2857859
Software	501306	482257	496441	462310	476119	441363	652297	646499
SDGs	401045	375980	361988	353011	333284	324166	434865	418557
Support for faculty development	55344219	54341607	48609805	48538856	49992537	49703128	67041649	66241063
R & D	3609406	3513155	3102754	2948650	3094776	3078398	4348647	4029747
Industrial Training, Industry expert,	501306	491280	496441	484154	357090	337616	289910	269507
Miscellaneous Expenses*	681777	705779	765346	802351	999851	1045439	1630743	1644151
Total	**77080862**	**74548203**	**72449296**	**71394152**	**60014851**	**59519972**	**77297209**	**76107383**