

NATIONAL BOARD OF ACCREDITATION

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

Program Name : Electronics & Instrumentation Engineering	Discipline : Engineering & Technology
Level : Under Graduate	Tier : 1
Application No : 10061	Date of Submission : 14-02-2025

PART A- Profile of the Institute

A1.Name of the Institute : National Institute of Technology Silchar	
Year of Establishment : 1977	Location of the Institute: Silchar
A2. Institute Address :Silchar-788010	
City:Cachar	State:Assam
Pin Code:788010	Website:www.nits.ac.in
Email:nits.nbacell@gmail.com	Phone No(with STD Code):3842-224879
A3. Name and Address of the Affiliating University (if any):	
Name of the University :	City: Cachar
State : Assam	Pin Code: 788010
A4. Type of the Institution : NIT	
A5. Ownership Status : Central Government	

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

- No. of UG programs: **6**
- No. of PG programs: **20**

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

Sr.No.	Discipline	Level of program	Name of the program	Year of Start	Year of Closed	Name of The Department
1	Engineering & Technology	PG	Artificial Intelligence and Data Science	2021	--	Computer Science and Engineering
2	Engineering & Technology	PG	CAD-CAM and Automation	2013	--	Mechanical Engineering
3	Engineering & Technology	UG	Civil Engineering	1977	--	Civil Engineering
4	Engineering & Technology	PG	Communication & Signal Processing	2013	--	Electronics and Communication Engineering
5	Engineering & Technology	UG	Computer Science and Engineering	1987	--	Computer Science and Engineering
6	Engineering & Technology	PG	Computer Science and Engineering	2012	--	Computer Science and Engineering
7	Engineering & Technology	PG	Control and Industrial Automation	2009	--	Electrical Engineering
8	Engineering & Technology	PG	Data Science	2023	--	Computer Science and Engineering
9	Engineering & Technology	PG	Design and Manufacturing	2008	--	Mechanical Engineering

10	Engineering & Technology	UG	Electrical Engineering	1977	--	Electrical Engineering
11	Engineering & Technology	UG	Electronics & Communication Engineering	1983	--	Electronics and Communication Engineering
12	Engineering & Technology	UG	Electronics & Instrumentation Engineering	2009	--	Electronics and Instrumentation Engineering
13	Engineering & Technology	PG	Geotechnical Engineering	2009	--	Civil Engineering
14	Engineering & Technology	PG	Instrumentation Engineering	2015	--	Electronics and Instrumentation Engineering
15	Engineering & Technology	PG	Material and Manufacturing Technology	2013	--	Mechanical Engineering
16	Engineering & Technology	UG	Mechanical Engineering	1977	--	Mechanical Engineering
17	Engineering & Technology	PG	Microelectronics & VLSI Design	2007	--	Electronics and Communication Engineering
18	Engineering & Technology	PG	Power and Energy Systems Engineering	2004	--	Electrical Engineering
19	Engineering & Technology	PG	Radio Frequency & Microwave Engineering	2024	--	Electronics and Communication Engineering
20	Engineering & Technology	PG	Renewable Energy	2021	--	Mechanical Engineering
21	Engineering & Technology	PG	Structural Dynamics and Earthquake Engineering	2005	--	Civil Engineering
22	Engineering & Technology	PG	Structural Engineering	2013	--	Civil Engineering
23	Engineering & Technology	PG	Thermal Engineering	2004	--	Mechanical Engineering
24	Engineering & Technology	PG	Transportation Engineering	2009	--	Civil Engineering
25	Engineering & Technology	PG	Water Resource Engineering	2004	--	Civil Engineering
26	Management	PG	Masters in Business Administration	2012	--	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
Electronics and Instrumentation Engineering	No	Electronics & Instrumentation 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 APPROVAL DETAILS	ACCREDITATION STATUS	FROM	TO	NO. OF TIMES PROGRAM ACCREDITED	PROGRAM DURATION
1	Electronics & Instrumentation Engineering	UG	2009 / --	30	Yes	2023	100	2023	Senate & BOG Approved	Applying first time	--	--	0	4

Sanctioned Intake for Last Five Years for the Instrumentation Engineering	
Academic Year	Sanctioned Intake
2024-25	100
2023-24	100
2022-23	75
2021-22	75
2020-21	75
2019-20	75

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 :	Rajdeep Dasgupta
B. Nature of appointment:	Regular
C. Qualification:	ME/M. Tech and PhD

B3. Program Details

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

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	2024-25 (CAY)	2023-24 (CAYm1)	2022-23 (CAYm2)	2021-22 (CAYm3)	2020-21 (CAYm4)	2019-20 (CAYm5)	2018-19 (CAYm6)
N=Sanctioned intake of the program (as per AICTE /Competent authority)	100	100	81	81	81	78	62
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	99	96	81	81	81	78	61
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	0	0	0	0	0	0
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	2	2	3	5	0	0
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	99	98	83	84	86	78	61

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

B4. Enrolment Ratio in the First Year

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

Year of entry	N (From Table 4.1)	N1 (From Table 4.1)	N4 (From Table 4.1)	Enrollment Ratio $[(N1/N)*100]$
2024-25 (CAY)	100	0	0	99.00
2023-24 (CAYm1)	100	2	0	98.00
2022-23 (CAYm2)	81	2	0	102.47

Average $[(ER1 + ER2 + ER3) / 3] = 99.82 \approx 20.00$

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	(2020-21) LYG	(2019-20) LYGm1	(2018-19) LYGm2
A*=(No. of students admitted in the 1st year of that batch and those actually admitted in the 2nd year via lateral entry, plus the number of students admitted through multiple entry (if any) and separate division if applicable, minus the number of students who exited through multiple entry (if any).	84.00	78.00	62.00
B=No. of students who graduated from the program in the stipulated course duration	82.00	70.00	56.00
Success Rate (SR)= (B/A) * 100	97.62	89.74	90.32

Average SR of three batches $((SR_1 + SR_2 + SR_3)/3)$: 92.56

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

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

Academic Performance	CAYm1(2023-24)	CAYm2(2022-23)	CAYm3 (2021-22)
Mean of CGPA or mean percentage of all successful students(X)	7.61	6.93	8.39
Total Number of successful students(Y)	9.80	7.90	7.70
Total Number of students appeared in the examination(Z)	9.80	7.90	7.70
API $[X*(Y/Z)]$	7.61	6.93	8.39

Average API $[(AP1+AP2+AP3)/3]$: 7.64

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

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

Academic Performance	CAYm1 (2023-24)	CAYm2 (2022-23)	CAYm3 (2021-22)
X=(Mean of 2nd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 2nd year/10)	7.43	7.95	8.58
Y=Total no. of successful students	79.00	77.00	84.00
Z=Total no. of students appeared in the examination	79.00	77.00	84.00
API $[X * (Y/Z)]$	7.43	7.95	8.58

Average API $[(AP1 + AP2 + AP3)/3]$: 7.99

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

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

Academic Performance	CAYm1 (2023-24)	CAYm2 (2022-23)	CAYm3 (2021-22)
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X=(Mean of 3rd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 3rd year/10)	8.17	8.30	8.59
Y=Total no. of successful students	77.00	84.00	70.00
Z=Total no. of students appeared in the examination	77.00	84.00	70.00
API [X*(Y/Z)]:	8.17	8.30	8.59

Average API [(AP1 + AP2 + AP3)/3] : 8.35

B9. Placement, Higher Studies, and Entrepreneurship

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

Item	LYG (2020-21)	LYGm1(2019-20)	LYGm2(2018-19)
FS*=Total no. of final year students	84.00	78.00	62.00
X=No. of students placed	59.00	62.00	52.00
Y=No. of students admitted to higher studies	3.00	3.00	2.00
Z= No. of students taking up entrepreneurship	0.00	0.00	1.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	73.81	83.33	88.71

Average Placement Index = (P_1 + P_2 + P_3)/3: 81.95 Placement Index Points:

PART C: Faculty Details in Department and Allied Departments

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

C1. Faculty details of Department and Allied Departments

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

Sr.No	Name of the Faculty	PAN No.	Highest degree	University	Area of Specialization	Date of Joining in this Institution	Experience in years in current institute	Designation at Time Joining in this Institution	Present Designation	The date on which Designated as Professor/ Associate Professor if any	Nature of Association (Regular/ Contract/ Ad hoc)	Currently Associated (Y/N)	In case of NO, Date of Leaving	IS HOD?
1	Rajdeep Dasgupta	XXXXXXXX53F	ME/M. Tech and PhD	IIT Kharagpur	Electronics	21/01/2013	12	Assistant Professor	Associate Professor	06/07/2022	Regular	Yes		Yes
2	Munmun Khanra	XXXXXXXX90E	ME/M. Tech and PhD	IIT Kharagpur	Instrumentation	10/12/2014	10.2	Assistant Professor	Associate Professor	06/07/2022	Regular	Yes		No
3	Arun Kumar Sunaniya	XXXXXXXX38L	ME/M. Tech and PhD	MNIT Bhopal	Electronics	19/11/2014	10.2	Assistant Professor	Associate Professor	18/10/2023	Regular	Yes		No
4	Ranjay Hazra	XXXXXXXX39B	ME/M. Tech and PhD	IIT Roorkee	Electronics	01/08/2016	8.6	Assistant Professor	Associate Professor	18/10/2023	Regular	Yes		No

5	Jupitara Hazarika	XXXXXXXX43D	ME/M. Tech and PhD	Nit Silchar	Instrumentation	10/12/2012	12.2	Assistant Professor	Assistant Professor		Regular	Yes		No
6	Lalu Seban	XXXXXXXX52Q	ME/M. Tech and PhD	NIT Silchar	Instrumentation	16/01/2013	12.1	Assistant Professor	Assistant Professor		Regular	Yes		No
7	Shivendra Kumar Pandey	XXXXXXXX64R	ME/M. Tech and PhD	IIT Indore	Electronics	18/06/2018	6.7	Assistant Professor	Assistant Professor		Regular	Yes		No
8	Koena Mukherjee	XXXXXXXX63A	ME/M. Tech and PhD	IIT Delhi	Instrumentation	28/08/2018	6.5	Assistant Professor	Assistant Professor		Regular	Yes		No
9	Sudarsan Sahoo	XXXXXXXX02C	ME/M. Tech and PhD	KIIT University Bhubaneswar	Instrumentation	25/04/2013	11.9	Assistant Professor	Assistant Professor		Regular	Yes		No
10	Anup Kumar Sharma	XXXXXXXX56A	ME/M. Tech and PhD	MNIT Jaipur	Electronics	19/07/2019	5.6	Assistant Professor	Assistant Professor		Regular	Yes		No
11	Shankar.K.	XXXXXXXX56L	ME/M. Tech and PhD	Anna University	Instrumentation	12/07/2019	5.7	Assistant Professor	Assistant Professor		Regular	Yes		No
12	Pravin P S	XXXXXXXX60H	ME/M. Tech and PhD	IIT Bombay	Instrumentation	18/08/2022	2.5	Assistant Professor	Assistant Professor		Regular	Yes		No
13	Manas Kumar Bera	XXXXXXXX71L	ME/M. Tech and PhD	IIT Bombay	Instrumentation	18/07/2016	6.11	Assistant Professor	Assistant Professor		Regular	No	28/06/2023	No
14	Sudipta Chakraborty	XXXXXXXX60P	ME/M. Tech and PhD	NIT Rourkela	Electronics	12/07/2019	5.7	Assistant Professor	Assistant Professor		Regular	Yes		No
15	Vipin Chandra Pal	XXXXXXXX99G	ME/M. Tech and PhD	MNIT Allahabad	Electronics	23/07/2019	5.6	Assistant Professor	Assistant Professor		Regular	Yes		No
16	Shahedul Haque Laskar	XXXXXXXX28P	ME/M. Tech and PhD	Aligarh Muslim University	Instrumentation	09/09/1991	33.5	Assistant Professor	Professor	06/07/2022	Regular	Yes		No

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 Department1

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

Description	CAY(2024-25)	CAYm1 (2023-24)	CAYm2 (2022-23)
UG1.B	100	75	75
UG1.C	75	75	75
UG1.D	75	75	75
UG1: Electronics & Instrumentation Engineering	250	225	225
PG1.A	10	10	10
PG1.B	10	10	10
PG1: Instrumentation Engineering	20	20	20
DS=Total no. of students in all UG and PG programs in the Department	270	245	245
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= 270	S2= 245	S3= 245
DF=Total no. of faculty members in the Department	15	15	16
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= 15	F2= 15	F3= 16
FF=The faculty members in F who have a 100% teaching load in the first-year courses	0	0	0
Student Faculty Ratio (SFR)=S/(F-FF)	SFR1= 18.00	SFR2= 16.33	SFR3= 15.31
Average SFR for 3 years	SFR= 16.55		

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 = $2.5 \times [(10X + 4Y) / RF]$
2024-25(CAY)	15	0	13.00	28.85
2023-24(CAYm1)	15	0	12.00	31.25

2022-23(CAYm2)	16	0	12.00	33.33
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C4. Faculty Cadre Proportion

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

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

Year	Professors		Associate Professors		Assistant Professors	
	Required RF1	Available AF1	Required RF2	Available AF1	Required RF3	Available AF3
2024-25	1.00	1.00	3.00	4.00	9.00	10.00
2023-24	1.00	1.00	2.00	2.00	8.00	12.00
2022-23	1.00	1.00	2.00	2.00	8.00	13.00
Average	RF1=1.00	AF1=1.00	RF2=2.33	AF2=2.67	RF2=8.33	AF2=11.67

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)

(CAYm2)

(CAYm3)

C6. Academic Research

Table No. C6.1: Faculty publication details.

S.No.	Item	2023-24 (CAYm1)	2022-23 (CAYm2)	2021-22 (CAYm3)
1	No. of peer reviewed journal papers published	37	32	30
2	No. of peer reviewed conference papers published	31	30	17
3	No. of books/book chapters published	14	8	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
Ranjay Hazra	Manas Kumar Bera (EIE), Ashim K. Das (Management Studies)	EIE	Inclusive Economic Development of India via Digital STEM&L Education	SPARC, GoI	2 years (July 2023-July 2025)	49.10
Ranjay Hazra	D.S. Gurjar (ECE)	EIE	RIS-aided D2D communication for 5G and beyond networks	CRG, SERB	3 years (Feb. 2024-Feb. 2027)	51.20
Shivendra Kumar Pandey	NIL	EIE	Structural characterization and device performance of superlattice structure-based phase change memory for low power consumption and high-speed non-volatile data storage applications	SERB/ANRF	3 Years	39.41
Anup Kumar Sharma	Simanchal Kar	E&IE	"Development of socio- economic portable biodegradable nanosensing electrodes for heavy metal detection in water in North-Eastern region"	NIHE IERP	3 Years	13.90
						Amount received (Rs.):153.61

(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
Ranjay Hazra	Nil	EIE	Identity Management using Blockchain Technology	SIRE, SERB	6 months (June 2023)	16.10
Ranjay Hazra	Murugan R. (ECE), Badal Soni (CSE)	EIE	Capacity Building for Human Resource Development in Unmanned Aircraft Systems (Drone and Related Technology)	MeiT, GoI	5 years (Sept. 2022-Sept. 2027)	150.00
						Amount received (Rs.):166.10

(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
Munmun Khanra		EIE	Development of health diagnostic framework for onboard EV batteries and second life batteries.	SERB	3yrs	22.72
Koena Mukherjee	Yogesh Singh	EIE	Design and development of an underwater vehicle manipulator system for cleaning of bio fouling in a pipeline at sea	SERB, DST	3years	36.60
Koena Mukherjee	Sudipta Chakraborty	EIE	Stable baby walker for different age groups	MSME	1 Years	1.13
Koena Mukherjee	B.K.Roy, A.K.Barbhuyian	EE	Design and development of small AUV for 1. pisciculture, 2. river monitoring	TIH-IIT Guwahati	5years	30.00
Vipin Chandra Pal	Sudipta Chakraborty	EIE	Cradle of Happiness	MSME	2 Years	1.80
						Amount received (Rs.):92.25

Total Amount (Lacs) Received for the Past 3 Years: 411.96

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)

(CAYm2)

(CAYm3)

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

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	Measurement Lab	50	AC and DC Bridges, Three phase power measurement setup	Measurement & Control	Ms. Manidipa Paul	Sr Technician	M.Tech
2	Control System Lab	50	Inverted Pendulum, Four Tank System	Control System	Ms. Manidipa Paul	Sr Technician	M.Tech
3	Power Electronics Lab	50	CRO, DSO, Converters,Signal Generators	Power Electron	Ms. Manidipa Paul	Sr Technician	M.Tech
4	Sensors and Transducers Lab	50	Piezoelectric Sensor, Temperature Sensors, LVDT	Sensors and Tr	Udayan Debnath	Technician	B.Sc.(Physics)
5	Circuit & Network Lab	50	DC Theorems Verification Kit, Digital Storage Oscilloscope, Analog CRO, Digital Multimeter, DC Power Supply	Circuit & Netwo	Udayan Debnath	Technician	B.Sc.(Physics)
6	Digital Electronics Lab	50	Digital Trainer Kits, Digital Storage Oscilloscope, Analog CRO, Digital Multimeter, Function Generator, Digital IC Tester, DC Power Supply, Linear IC Tester	Digital Electron	Udayan Debnath	Technician	B.Sc.(Physics)
7	Analog Electronics Lab	50	Analog Trainer Kit, Digital Storage Oscilloscope, Analog CRO, Digital Multimeter, Function Generator, DC Power Supply, Arbitrary Function Generator	Analog Electro	Udayan Debnath	Technician	B.Sc.(Physics)
8	Instrumentation LabNo.7.1.1: List of laboratories and technical manpower.	50	Sensors: Thermocouples(E, J, K, T types), Accelerometers, DSO, Digital Earth Tester, Flow Measurement, Modbus, Modbus Plus, Modbus RTU	Instrumentation	Udayan Debnath	Technician	B.Sc.(Physics)
9	Biomedical Instrumentation lab	50	fNIR based Brain Imaging System, 4 Channel Physiograph, 32 Channel wireless EEG SystemNo.7.1.1: List of laboratories and technical	Biomedical Ins	Udayan Debnath	Technician	B.Sc.(Physics)
10	Virtual Instrumentation Lab	50	High End Tower Workstations installed with LabVIEW, Virtual Bench, PXI, cRIO, myRIO, ELVIS II	Biomedical Ins	Udayan Debnath	Technician	B.Sc.(Physics)
11	Industrial Automation & Process Control	50	6DOF Robotix MAnipulator	Industrial Autor	Bhola Chauhan	Technician	Diploma (Electrical Engg.)
12	Digital Signal Processing	50	DSP starter Kit with code composer, DSP based EVM board DA Vinci EVM bundle DSP+ ARM. MATLAB/SIMULINK, Xilinx Development Board	B.Tech,Project	Bhola Chauhan	Technician	Diploma (Electrical Engg.)
13	Simulation Design and Fabrication	50	MATLAB, LabView, Multisim	B.Tech. Lab ,pr	Bhola Chauhan	Technician	Diploma (Electrical Engg.)
14	Microprocessor and Microcontroller Lab	50	8085 Microprocessor Trainer kit, Study Card (8255, 8251, 8279, 8259), Stepper Motor Interface, 8-Bit Successive Approximation ADC, DC Motor Interface	Microprocessor	Bhola Chauhan	Technician	Diploma (Electrical Engg.)

D2. Safety Measures in Laboratories

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

Sr. No	Laboratory Name	Safety Measures
1	Analog Electronics / Digital Electronics / Circuits & Networks Laboratory	General safety:- 1. General Rules / Dos & Don'ts of Conduct in Laboratories are displayed. 2. First aid box, Fire extinguisher is kept in the laboratory. 3. CCTV installed in all labs. 4. Maintenance of a clean and organized laboratory. 5. Earthing is checked before using an equipment. 6. No Food or Drink: Strictly prohibit food or drink in the lab to prevent contamination and accidents. Electrical Safety:- 1. Proper Insulation: Ensure wires and connections are well insulated to prevent short circuits or electric shock. 2. Check Connections Before Powering: Double-check circuits before turning on power supplies. 3. Turn Off Equipment When Not in Use: To prevent overheating and accidents. 4. Ground Equipment: Ensure all devices are properly grounded.
2	Sensors and Transducers Lab	General safety:- 1. General Rules / Dos & Don'ts of Conduct in Laboratories are displayed. 2. First aid box, Fire extinguisher is kept in the laboratory. 3. CCTV installed in all labs. 4. Maintenance of a clean and organized laboratory. 5. Earthing is checked before using an equipment. 6. No Food or Drink: Strictly prohibit food or drink in the lab to prevent contamination and accidents. Electrical Safety:- 1. Proper Insulation: Ensure wires and connections are well insulated to prevent short circuits or electric shock. 2. Check Connections Before Powering: Double-check circuits before turning on power supplies. 3. Turn Off Equipment When Not in Use: To prevent overheating and accidents. 4. Ground Equipment: Ensure all devices are properly grounded.
3	Measurement Laboratory	General safety:- 1. General Rules / Dos & Don'ts of Conduct in Laboratories are displayed. 2. First aid box, Fire extinguisher is kept in the laboratory. 3. CCTV installed in all labs. 4. Maintenance of a clean and organized laboratory. 5. Earthing is checked before using an equipment. 6. No Food or Drink: Strictly prohibit food or drink in the lab to prevent contamination and accidents. Electrical Safety:- 1. Proper Insulation: Ensure wires and connections are well insulated to prevent short circuits or electric shock. 2. Check Connections Before Powering: Double-check circuits before turning on power supplies. 3. Turn Off Equipment When Not in Use: To prevent overheating and accidents. 4. Ground Equipment: Ensure all devices are properly grounded.
4	Instrumentation Laboratory	General safety:- 1. General Rules / Dos & Don'ts of Conduct in Laboratories are displayed. 2. First aid box, Fire extinguisher is kept in the laboratory. 3. CCTV installed in all labs. 4. Maintenance of a clean and organized laboratory. 5. Earthing is checked before using an equipment. 6. No Food or Drink: Strictly prohibit food or drink in the lab to prevent contamination and accidents. Electrical Safety:- 1. Proper Insulation: Ensure wires and connections are well insulated to prevent short circuits or electric shock. 2. Check Connections Before Powering: Double-check circuits before turning on power supplies. 3. Turn Off Equipment When Not in Use: To prevent overheating and accidents. 4. Ground Equipment: Ensure all devices are properly grounded.
5	Microprocessor & Microcontroller Laboratory	General safety:- 1. General Rules / Dos & Don'ts of Conduct in Laboratories are displayed. 2. First aid box, Fire extinguisher is kept in the laboratory. 3. CCTV installed in all labs. 4. Maintenance of a clean and organized laboratory. 5. Earthing is checked before using an equipment. 6. No Food or Drink: Strictly prohibit food or drink in the lab to prevent contamination and accidents. Electrical Safety:- 1. Proper Insulation: Ensure wires and connections are well insulated to prevent short circuits or electric shock. 2. Check Connections Before Powering: Double-check circuits before turning on power supplies. 3. Turn Off Equipment When Not in Use: To prevent overheating and accidents. 4. Ground Equipment: Ensure all devices are properly grounded.
6	Control System Laboratory	General safety:- 1. General Rules / Dos & Don'ts of Conduct in Laboratories are displayed. 2. First aid box, Fire extinguisher is kept in the laboratory. 3. CCTV installed in all labs. 4. Maintenance of a clean and organized laboratory. 5. Earthing is checked before using an equipment. 6. No Food or Drink: Strictly prohibit food or drink in the lab to prevent contamination and accidents. Electrical Safety:- 1. Proper Insulation: Ensure wires and connections are well insulated to prevent short circuits or electric shock. 2. Check Connections Before Powering: Double-check circuits before turning on power supplies. 3. Turn Off Equipment When Not in Use: To prevent overheating and accidents. 4. Ground Equipment: Ensure all devices are properly grounded.
7	Communication and Telemetry / Digital Signal Processing Laboratory	General safety:- 1. General Rules / Dos & Don'ts of Conduct in Laboratories are displayed. 2. First aid box, Fire extinguisher is kept in the laboratory. 3. CCTV installed in all labs. 4. Maintenance of a clean and organized laboratory. 5. Earthing is checked before using an equipment. 6. No Food or Drink: Strictly prohibit food or drink in the lab to prevent contamination and accidents. Electrical Safety:- 1. Proper Insulation: Ensure wires and connections are well insulated to prevent short circuits or electric shock. 2. Check Connections Before Powering: Double-check circuits before turning on power supplies. 3. Turn Off Equipment When Not in Use: To prevent overheating and accidents. 4. Ground Equipment: Ensure all devices are properly grounded.

8	Power Electronics Laboratory	General safety:- 1. General Rules / Dos & Don'ts of Conduct in Laboratories are displayed. 2. First aid box, Fire extinguisher is kept in the laboratory. 3. CCTV installed in all labs. 4. Maintenance of a clean and organized laboratory. 5. Earthing is checked before using an equipment. 6. No Food or Drink: Strictly prohibit food or drink in the lab to prevent contamination and accidents. Electrical Safety:- 1. Proper Insulation: Ensure wires and connections are well insulated to prevent short circuits or electric shock. 2. Check Connections Before Powering: Double-check circuits before turning on power supplies. 3. Turn Off Equipment When Not in Use: To prevent overheating and accidents. 4. Ground Equipment: Ensure all devices are properly grounded.
9	IPE Laboratory	General safety:- 1. General Rules / Dos & Don'ts of Conduct in Laboratories are displayed. 2. First aid box, Fire extinguisher is kept in the laboratory. 3. CCTV installed in all labs. 4. Maintenance of a clean and organized laboratory. 5. Earthing is checked before using an equipment. 6. No Food or Drink: Strictly prohibit food or drink in the lab to prevent contamination and accidents. Electrical Safety:- 1. Proper Insulation: Ensure wires and connections are well insulated to prevent short circuits or electric shock. 2. Check Connections Before Powering: Double-check circuits before turning on power supplies. 3. Turn Off Equipment When Not in Use: To prevent overheating and accidents. 4. Ground Equipment: Ensure all devices are properly grounded.
10	Biomedical Engineering Laboratory	General safety:- 1. General Rules / Dos & Don'ts of Conduct in Laboratories are displayed. 2. First aid box, Fire extinguisher is kept in the laboratory. 3. CCTV installed in all labs. 4. Maintenance of a clean and organized laboratory. 5. Earthing is checked before using an equipment. 6. No Food or Drink: Strictly prohibit food or drink in the lab to prevent contamination and accidents. Electrical Safety:- 1. Proper Insulation: Ensure wires and connections are well insulated to prevent short circuits or electric shock. 2. Check Connections Before Powering: Double-check circuits before turning on power supplies. 3. Turn Off Equipment When Not in Use: To prevent overheating and accidents. 4. Ground Equipment: Ensure all devices are properly grounded.
11	Virtual Instrumentation Laboratory	General safety:- 1. General Rules / Dos & Don'ts of Conduct in Laboratories are displayed. 2. First aid box, Fire extinguisher is kept in the laboratory. 3. CCTV installed in all labs. 4. Maintenance of a clean and organized laboratory. 5. Earthing is checked before using an equipment. 6. No Food or Drink: Strictly prohibit food or drink in the lab to prevent contamination and accidents. Electrical Safety:- 1. Proper Insulation: Ensure wires and connections are well insulated to prevent short circuits or electric shock. 2. Check Connections Before Powering: Double-check circuits before turning on power supplies. 3. Turn Off Equipment When Not in Use: To prevent overheating and accidents. 4. Ground Equipment: Ensure all devices are properly grounded.

D3. Project Laboratory/Research Laboratory

S. No.	Name of the Laboratory
1	Energy Laboratory
2	NEEM Laboratory
3	MARS Laboratory
4	Drone Laboratory
5	WIoT Laboratory

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

Support for faculty development	0	0	0	0	0	0	0	0
R & D	20.50	2.81	20.50	4.54	10.40	3.56	5.30	4.56
Industrial Training, Industry expert, Internship	0	0	0	0	0	0	0	0
Miscellaneous Expenses*	0	0	0	0	0	0	0	0
Total	80.50	48.50	120.50	55.69	130.40	54.77	55.30	67.88