

NATIONAL BOARD OF ACCREDITATION

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

Program Name : Electronics & Communication Engineering	Discipline : Engineering & Technology
Level : Under Graduate	Tier : 1
Application No : 10611	Date of Submission : 21-05-2025

PART A- Profile of the Institute

A1.Name of the Institute : National Institute of Technology, Raipur	
Year of Establishment : 2005	Location of the Institute: Raipur
A2. Institute Address :Dr. M. K. Verma C/o Dr. Sudarshan Tiwari Director, National Institute of Technology Raipur G E Road, Raipur (C.G.)	
City:Raipur	State:Chhattisgarh
Pin Code:492010	Website:www.nitr.ac.in
Email:mkv.civil@nitr.ac.in	Phone No(with STD Code):0771-2255030
A3. Name and Address of the Affiliating University (if any):	
Name of the University :	City:
State : Chandigarh	Pin Code: 492010
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: **12**
- No. of PG programs: **12**

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	Architecture	UG	Architecture	1984	--	Architecture
2	Architecture	PG	Urban Planning	2024	--	Architecture
3	Computer Application	PG	Master in Computer Applications	1986	--	Computer Application
4	Engineering & Technology	PG	Applied Geology	1961	--	Applied Geology
5	Engineering & Technology	UG	Biomedical Engineering	2003	--	Biomedical Engineering
6	Engineering & Technology	UG	Biotechnology	2003	--	Biotechnology
7	Engineering & Technology	UG	Chemical Engineering	1962	--	Chemical Engineering
8	Engineering & Technology	UG	Civil Engineering	1958	--	Civil Engineering
9	Engineering & Technology	UG	Computer Science and Engineering	2000	--	Computer Science and Engineering
10	Engineering & Technology	UG	Electrical Engineering	1958	--	Electrical Engineering

11	Engineering & Technology	UG	Electronics & Communication Engineering	1985	--	Electronics and Communication Engineering
12	Engineering & Technology	PG	Energy and Environmental Engineering	2021	--	Chemical Engineering
13	Engineering & Technology	PG	Industrial Engineering and Management	2016	--	Mechanical Engineering
14	Engineering & Technology	UG	Information Technology	2000	--	Information Technology
15	Engineering & Technology	PG	Information Technology	2015	--	Information Technology
16	Engineering & Technology	PG	Machine Design	2016	--	Mechanical Engineering
17	Engineering & Technology	UG	Mechanical Engineering	1958	--	Mechanical Engineering
18	Engineering & Technology	UG	Metallurgical & Materials Engineering	1956	--	Metallurgical and Materials Engineering
19	Engineering & Technology	UG	Mining Engineering	1956	--	Mining Engineering
20	Engineering & Technology	PG	Power System & Control	2014	--	Electrical Engineering
21	Engineering & Technology	PG	Structural Engineering	2014	--	Civil Engineering
22	Engineering & Technology	PG	Thermal Engineering	2010	--	Mechanical Engineering
23	Engineering & Technology	PG	VLSI & Embedded Systems	2017	--	Electronics and Communication Engineering
24	Engineering & Technology	PG	Water Resources Development and Irrigation Engineering	1986	--	Civil Engineering

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

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

Name of the Department	Having Allied Departments	Name of the Program	Program Level
Electronics and Communication Engineering	No	Electronics & Communication Engineering	UG
Civil Engineering	No	Civil 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 & Communication Engineering	UG	1985 / --	18	Yes	2019	114	2019	NOT APPLICABLE	Applying first time	--	--	0	4

Sanctioned Intake for Last Five Years for the VLSI & Embedded Systems

Academic Year	Sanctioned Intake
2024-25	114
2023-24	114
2022-23	114
2021-22	114
2020-21	114
2019-20	103

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. Toshnalal Meenpal
B. Nature of appointment:	Regular
C. Qualification:	Ph.D

B3. Program Details

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

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	2024-25 (CAY)	2023-24 (CAYm1)	2022-23 (CAYm2)	2021-22 (CAYm3)	2020-21 (CAYm4)	2019-20 (CAYm5)	2018-19 (CAYm6)
N=Sanctioned intake of the program (as per AICTE /Competent authority)	114	114	114	114	114	103	92
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	113	110	114	114	114	102	92
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	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.	113	110	114	114	114	102	92

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)	114	113	0	99.12
2023-24 (CAYm1)	114	110	0	96.49
2022-23 (CAYm2)	114	114	0	100.00

Average $[(ER1 + ER2 + ER3) / 3] = 98.54 \approx 20.00$ **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).	114.00	103.00	92.00
B=No. of students who graduated from the program in the stipulated course duration	110.00	99.00	85.00

Average SR of three batches $((SR_1 + SR_2 + SR_3)/3)$: 95.32**B6. Academic Performance of the First-Year Students of the Program**

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

Academic Performance	CAYm1(2023-24)	CAYm2(2022-23)	CAYm3 (2021-22)
Mean of CGPA or mean percentage of all successful students(X)	8.20	8.28	8.38
Y=Total no. of successful students	105.00	99.00	108.00
Z=Total no. of students appeared in the examination	110.00	114.00	114.00
API $[X*(Y/Z)]$	7.83	7.19	7.94

Average API $[(AP1 + AP2 + AP3)/3]$: 7.65**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)	8.12	8.20	8.53
Y=Total no. of successful students	96.00	105.00	110.00
Z=Total no. of students appeared in the examination	99.00	108.00	111.00
API $[X * (Y/Z)]$	7.87	7.97	8.45

Average API $[(AP1 + AP2 + AP3)/3]$: 8.10**B8. Academic Performance of the Third Year Students of the Program**

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

Academic Performance	CAYm1 (2023-24)	CAYm2 (2022-23)	CAYm3 (2021-22)
X=(Mean of 3rd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 3rd year/10)	8.16	8.42	8.35

Y=Total no. of successful students	104.00	110.00	100.00
Z=Total no. of students appeared in the examination	105.00	110.00	101.00

Average API [(AP1 + AP2 + AP3)/3] : 8.28

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	114.00	103.00	92.00
X=No. of students placed	75.00	83.00	66.00
Y=No. of students admitted to higher studies	2.00	3.00	7.00
Z= No. of students taking up entrepreneurship	0.00	0.00	0.00
Placement Index(P) = $((X + Y + Z)/FS) * 100$:	67.54	83.50	79.35

Average Placement Index = $(P_1 + P_2 + P_3)/3$: 76.80 Placement Index Points:

PART C: Faculty Details in Department and Allied Departments

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

C1. Faculty details of Department and Allied Departments

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

Sr.No	Name of the Faculty	PAN No.	Highest degree	University	Area of Specialization	Date of Joining in this Institution	Experience in years in current institute	Designation at Time Joining in this Institution	Present Designation	The date on which Designated as Professor/ Associate Professor if any	Nature of Association (Regular/ Contract/ Ad hoc)	Currently Associated (Y/N)	In case of NO, Date of Leaving	IS HOD?
1	Dr. Toshanal Meenpal	XXXXXXXX39Q	Ph.D	Homi Bhabha National Institute Mumbai	Conventional & Deep Learning based Image/Video Analysis, Understanding & Processing, Computer	18/04/2013	12.1	Assistant Professor	Associate Professor	22/10/2022	Regular	Yes		Yes
2	Prof. Shrish Verma	XXXXXXXX50F	Ph.D	Pt Ravishankar Shukla University Raipur	Digital System design, Image Processing, Computer and Communication Networks	08/10/1990	34.7	Lecturer	Professor	18/06/2013	Regular	Yes		No
3	Prof. Guru Prasad Subas Chandra Mishra	XXXXXXXX82H	Ph.D	Jadavpur university	Electronics Devices and VLSI	21/06/2018	6.10	Associate Professor	Professor	21/11/2023	Regular	Yes		No

4	Dr. Bibhudendra Acharya	XXXXXXXX21G	Ph.D	National Institute of Technology Rourkela	Telematics and Signal Processing, Cryptography	27/02/2009	16.2	Lecturer	Associate Professor	22/10/2022	Regular	Yes		No
5	Dr. Ajay Singh Raghuvanshi	XXXXXXXX94P	Ph.D	Motilal Nehru National Institute of Technology Allahabad	Digital Communication, Wireless Sensor Network, Artificial Intelligence, Application of Machine Lear	17/06/2015	9.11	Assistant Professor	Associate Professor	22/10/2022	Regular	Yes		No
6	Dr Bijayananda Patnaik	XXXXXXXX64A	Ph.D	Indian Institute of Technology Bhubaneshwar	Free Space Optics, Fiber Optic Communication, IsOWC System, Optical Signal Processing, Nonlinear Op	31/10/2022	2.6	Associate Professor	Associate Professor	31/10/2022	Regular	Yes		No
7	Dr. Chitrakant Sahu	XXXXXXXX84R	Ph.D	PDPM Indian Institute of Information Technology, Design and Manufacturing, Jabalpur	VLSI and Microelectronics, NonClassical CMOS Devices and Sensors	25/01/2023	2.3	Associate Professor	Associate Professor	25/01/2023	Regular	Yes		No
8	Dr. Siddharth Deshmukh	XXXXXXXX50H	Ph.D	Kansas State University	Statistical Signal Processing, Optimization theory, Wireless Communication, Cyber Physical Systems	03/05/2023	2	Associate Professor	Associate Professor	03/05/2023	Regular	Yes		No
9	Dr. Saikat Majumder	XXXXXXXX89R	Ph.D	National Institute of Technology Raipur	Machine learning, Deep learning for wireless communication, Signal processing.	18/08/2008	16.9	Lecturer	Assistant Professor		Regular	Yes		No
10	Dr. Anshul Gupta	XXXXXXXX78F	Ph.D	Indian Institute of Technology (ISM), Dhanbad	Dielectric Resonator Antennas, MIMO Antennas, Microwave Measurements	08/05/2013	12	Assistant Professor	Assistant Professor		Regular	Yes		No
11	Dr. Suman Kumar Saha	XXXXXXXX43G	Ph.D	National Institute of Technology Durgapur	Signal Processing, Metaheuristic Optimization, Soft Computing, System Identification, Filter Design	15/05/2015	10	Assistant Professor	Assistant Professor		Regular	Yes		No
12	Dr. Alok Naugarhiya	XXXXXXXX56L	Ph.D	PDPM Indian Institute of Information Technology, Design and Manufacturing, Jabalpu	Microelectronics and VLSI Design	31/12/2015	9.4	Assistant Professor	Assistant Professor		Regular	Yes		No

13	Dr. Kaushal Kumar Nigam	XXXXXXXX13R	Ph.D	PDPM Indian Institute of Information Technology, Design and Manufacturing, Jabalpur	VLSI Devices and Circuits, FETs Based Biosensor, Strain Analysis and Ferroelectrics Based FETs	28/12/2022	2.4	Assistant Professor	Assistant Professor		Regular	Yes		No
14	Mr. Sujay Chakraborty	XXXXXXXX66D	M.Tech	Jadavpur university Kolkata	Microwave engineering, Antenna design,wireless sensor network, Optimization(Mathematical programming	18/08/2008	16.9	Lecturer	Assistant Professor		Regular	Yes		No
15	Dr. Debora Muchahary	XXXXXXXX98P	Ph.D	National Institute of Technology Arunachal Pradesh	Semiconductor Devices, Solar cell, Photodetector	04/08/2021	3.9	Assistant Professor	Assistant Professor		Regular	Yes		No
16	Dr. Ashish Kumar	XXXXXXXX74Q	Ph.D	Malaviya National Institute of Technology Jaipur	MEMS and Nanoelectronic Devices, Materials for Sensors and Actuators, Microelectronic Device Fabrica	09/11/2022	2.6	Assistant Professor	Assistant Professor		Regular	Yes		No
17	Dr. Mayur Katwe	XXXXXXXX07M	Ph.D	Visvesvaraya National Institute of Technology Nagpur	Radio Resource Management, 5G and Beyond Wireless Networks, Reconfigurable Intelligent Surfaces	09/02/2024	1.3	Assistant Professor	Assistant Professor		Regular	Yes		No
18	Dr. Sukeshni Tirkey	XXXXXXXX60D	Ph.D	PDPM Indian Institute of Information Technology, Design and Manufacturing, Jabalpur	VLSI, Semiconductor Devices & Circuits, MicroNano Electronics Device Modeling and Simulation, CMOS	09/02/2024	1.3	Assistant Professor	Assistant Professor		Regular	Yes		No
19	Dr. Prateek Dolas	XXXXXXXX08M	Ph.D	Indian Institute of Technology Roorkee	Communication Systems, Signal Processing for Wireless Communication	11/07/2019	5.10	Assistant Professor	Assistant Professor		Contractual Fulltime	Yes		No
20	Dr. Dipen Bepari	XXXXXXXX28G	Ph.D	Indian Institute of Technology (ISM), Dhanbad	Wireless Communication	20/10/2021	2.8	Assistant Professor	Assistant Professor		Contractual Fulltime	No	29/06/2024	No
21	Dr. Laxmidhar Biswal	XXXXXXXX77M	Ph.D	Indian Institute of Engineering Science and technology, Shibpur	Microelectronics and VLSI design, Quantum Computing, reversible Logic	31/08/2022	0.8	Assistant Professor	Assistant Professor		Contractual Fulltime	No	31/05/2023	No
22	Dr. Shashi Tiwari	XXXXXXXX29A	Ph.D	Indian Institute of Technology (BHU) Varanasi	Microelectronics and VLSI Design, Organic Electronic Devices	18/07/2018	4.11	Assistant Professor	Assistant Professor		Contractual Fulltime	No	30/06/2023	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	114	114	114
UG1.C	114	114	114
UG1.D	114	114	103
UG1: Electronics & Communication Engineering	342	342	331
PG1.A	24	24	24
PG1.B	24	24	24
PG1: VLSI & Embedded Systems	48	48	48
DS=Total no. of students in all UG and PG programs in the Department	390	390	379
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= 390	S2= 390	S3= 379
DF=Total no. of faculty members in the Department	19	18	15
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= 19	F2= 18	F3= 15
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= 20.53	SFR2= 21.67	SFR3= 25.27
Average SFR for 3 years	SFR= 22.49		

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)	18	1	19.00	24.21
2023-24(CAYm1)	17	1	19.00	22.89
2022-23(CAYm2)	14	1	18.00	20.00

C4. Faculty Cadre Proportion

- Faculty Cadre Proportion is 1(RF1): 2(RF2): 6(RF3)
- RF1= No. of Professors required = $1/9 \times$ 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 = $2/9 \times$ 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 = $6/9 \times$ 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	2.00	2.00	4.00	6.00	13.00	10.00
2023-24	2.00	1.00	4.00	7.00	13.00	8.00
2022-23	2.00	1.00	4.00	1.00	12.00	9.00
Average	RF1=2.00	AF1=1.33	RF2=4.00	AF2=4.67	RF2=12.67	AF2=9.00

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	73	83	57
2	No. of peer reviewed conference papers published	70	41	41

3	No. of books/book chapters published	7	9	10
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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. G.P.S.C Mishra	Dr. B. Acharya	Department of Electronics and Communication Engineering	Design and Development of System on Chip based next generation IoT System for Industry 4.0 with Functional Safety and Security Features	Ministry of Electronics and Information Technology (MeitY)	5 years	8.29
Dr. Siddharth Deshmukh	NA	Department of Electronics and Communication Engineering	Algorithms for freshness of CSIT in 5G and Beyond Wireless Communication Networks	ANRF (SERB)	3 years	12.15
Dr. Siddharth Deshmukh	NA	Department of Electronics and Communication Engineering	Statistical Characterization and Deterministic Bounds on Age of Information in Multi-access Wireless Networks	ANRF (SERB)	3 years	2.20
Dr. DeboraJMuchahary	NA	Department of Electronics and Communication Engineering	Empowering PV revolution through a detailed study of perovskite/c-Si tunnel oxide passivated contact (TopCON) tandem solar cell	SERB GoI	2024 Onwards	9.68
Dr. Mayur Katwe	NA	Department of Electronics and Communication Engineering	Towards Sixth Sense Communication via Reconfigurable Intelligent Surfaces aided Integrated Sensing and Communication	TTDF- TCOE (Department of Telecommunications)	3 years	6.65
						Amount received (Rs.):38.97

(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. DeboraJ Muchahary	-	Department of Electronics and Communication Engineering	Inclusive Fintech- Bridging The Gap in Communities through Order Financing	IBITF of IIT Bhilai	2023 Onwards	17.15
Dr. DeboraJ Muchahary	-	Department of Electronics and Communication Engineering	Large scale production of energy from organic solar cell for the utilization in underwater surveillance	TIH of IIT Guwahati	2023 Onwards	0.00
						Amount received (Rs.):17.15

(CAYm3)

Total Amount (Lacs) Received for the Past 3 Years: 56.12

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. Ashish Kumar	Simulation and fabrication of an AlGaIn/GaN heterostructure based HEMTs for biosensing applications	2 years	5.00	0.50	GaN MOSHEMT Device
			Amount received (Rs.): 5.00		

(CAYm2)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
			Amount received (Rs.): 0		

(CAYm3)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project
			Amount received (Rs.): 0		

Total amount (Lacs) received for the past 3 years : 5.00

PART D: Laboratory Infrastructure in the Department
(Data to be filled in for the Department)

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

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

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

1	Analog Circuits Laboratory	30	DSO (100MHz), Workbench Along With DSO(50MHz), Function Generator, Variable DC & AC Power Supply, 100 MHz Differential Amplifier and Oscilloscope Tester	8 hours per we	Shri Dharam Lal	Senior Technician	M.Tech
2	Digital and Microprocessor Laboratory	30	Trainer kits and instruments for basic digital electronics and microprocessor courses, Desktop computers, DSO (100 MHz)	8 hours per we	Shri. Rajesh Sharma	Technical Assistant (SG-I)	AMIETE
3	Communication Laboratory	30	Analog modulation trainer kits, Digital Communication trainer kits, Digital storage oscilloscope, Spectrum analyzer, Function generator, Mod. Station, IC Trainer	12 hours per w	Shri. Rajesh Sharma and	Technical Assistant (SG-I)	AMIETE and ITI respectiv
4	Digital Signal Processing Laboratory	30	CRO, Function generators, TI C6713 DSK, Programmable function generator, Spectrum analyzer, ARM Cortex based Computer Architecture Model	8 hours per we	Shri. Khagesh Kumar Sah	Technical Assistant	Diploma
5	Embedded Systems Laboratory	30	Desktop computers, Texas Instruments ASLKv2010 Starter kit ASLKv2010 Starter Kit MSP430 Launch Pad, MSP5500/5400 Embedded Board, ARM32	8 hours per we	Shri Jeevan Lal Dhruw	Technical Assistant (SG-I)	Diploma
6	Microwave Laboratory	30	Microwave test benches, Microwave power meter, Ansys research HF package, PCB prototyping machine, Vector network analyzer (40 GHz) Oscilloscope	8 hours per we	Shri. Rajesh Sharma and	Technical Assistant (SG-I)	AMIETE and ITI respectiv
7	VLSI and Microelectronics Laboratory	30	Cadence IC6.15, Mentor Graphics Version10.5_4, Synopsys, Vivado and Xilinx Version 2016.2, Silvaco, CRAFTMAN VERTX, C-ADITYA, ALPINE Model	8 hours per we	Dhaneshwar Prasad Verr	Laboratory Assistant	ITI
8	Computer Vision Laboratory	30	Machine Vision System, Desktop Computer (Lenovo, Dell), NI Image Processing Smart Camera Embedded Digital I/O Camera with Image Sensor	8 hours per we	Shri Khagesh Kumar Sah	Technical Assistant	Diploma
9	Basic VLSI Laboratory	25	Desktop computers, Cadence IC6.15, Mentor Graphics Version10.5_4, Synopsys, Vivado and Xilinx Version 2016.2, Silvaco	8 hours per we	Sandhya Joshi	Laboratory Assistant	Diploma

D2. Safety Measures in Laboratories

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

Sr. No	Laboratory Name	Safety Measures
1	Analog Circuits Laboratory	Students are informed of the Dos and Don'ts in the laboratory. Fire extinguisher, MCB
2	Digital and Microprocessor Laboratory	Students are informed of the Dos and Don'ts in the laboratory. Fire extinguisher, MCB
3	Communication Laboratory	Students are informed of the Dos and Don'ts in the laboratory. Fire extinguisher, MCB
4	Digital Signal Processing Laboratory	Students are informed of the Dos and Don'ts in the laboratory. Fire extinguisher, MCB

5	Embedded Systems Laboratory	Students are informed of the Dos and Don'ts in the laboratory. Fire extinguisher, MCB
6	Microwave Laboratory	Students are informed of the Dos and Don'ts in the laboratory. Fire extinguisher, MCB
7	VLSI and Microelectronics Laboratory	Students are informed of the Dos and Don'ts in the laboratory. Fire extinguisher, MCB
8	Computer Vision Laboratory	Students are informed of the Dos and Don'ts in the laboratory. Fire extinguisher, MCB
9	Basic VLSI Laboratory	Students are informed of the Dos and Don'ts in the laboratory. Fire extinguisher, MCB
10	Microelectronics Device Fabrication lab (FIST)	Students are informed of the Dos and Don'ts in the laboratory. Fire extinguisher, MCB, First aid box, Proper chemical fume exhaust system.
11	5G Laboratory	Students are informed of the Dos and Don'ts in the laboratory. Fire extinguisher, MCB
12	Project lab/Electronics workshop	Students are informed of the Dos and Don'ts in the laboratory. Fire extinguisher, MCB

D3. Project Laboratory/Research Laboratory

S. No.	Name of the laboratory
1	Project Laboratory / Electronics Workshop: In this lab, UG and PG students perform hardware and software related projects. This lab is equipped with PCB making setup, computers, DSO, function generators etc.
2	5G Use Case Lab: In "100 5G Use Case Labs" scheme, this lab was funded by the Department of Telecommunications (DoT), Government of India. The 5G Use Case Lab at NIT Raipur aims to achieve several significant goals. It will foster competencies and engagement in 5G technologies among students and the academic community. The lab will support projects at both undergraduate and postgraduate levels, providing students with hands-on experience in a 5G environment. Moreover, it will promote academia-industry engagement to ideate and develop innovative 5G use cases. Additionally, the lab will offer local access to a 5G test setup for startups and Micro, Small, and Medium Enterprises (MSMEs) in the vicinity of the institution. Ultimately, it will contribute to making the Indian academia and startup ecosystem ready for the upcoming 6G revolution.
3	Semiconductor devices characterization lab (Sponsored by FIST): This lab has Thermal evaporation with sputtering system, Chemical vapor deposition system, Electronic balance, Deionized water system, Organic and inorganic fume hood, Spin coater, Dip coater.
4	Center of excellence setup by Telecom sector skill council This CoE was set up through MoU between Telecom Sector Skill Council (TSSC) and NIT Raipur for practical training on the domain of information and communication technology, cyber security, electronics including technical, services and allied fields.

PART E: First Year faculty and financial Resources

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

E1. First Year Student-Faculty Ratio (FYSFR)

Table No. E1.1: FYSFR details.

Year	Sanctioned intake of all UG programs (S4)	No. of required faculty (RF4= S4/20)	No. of faculty members in Basic Science Courses & Humanities and Social Sciences including Management courses (NS1)	No. of faculty members in Engineering Science Courses (NS2)	Percentage= No. of faculty members ((NS1*0.8) + (NS2*0.2))/(No. of required faculty (RF4)); Percentage= ((NS1*0.8) +(NS2*0.2))/RF
2022-23(CAYm2)	1019	51	43	15	73
2023-24(CAYm1)	1019	51	41	17	71
2024-25(CAY)	1019	51	53	23	92

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

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

Items	Budgeted in 2024-2025	Actual Expenses in 2024-2025 till	Budgeted in 2023-2024	Actual Expenses in 2023-2024 till	Budgeted in 2022-2023	Actual Expenses in 2022-2023 till	Budgeted in 2021-2022	Actual Expenses in 2021-2022 till
Infrastructure Built-Up	500.00	156.64	450.00	54.50	200.00	110.73	670.00	939.76
Library	225.00	224.56	175.00	176.22	200.00	165.03	265.00	163.20
Laboratory equipment	400.00	459.22	600.00	271.87	500.00	258.90	800.00	355.00
Teaching and non-teaching staff salary	8300.00	8223.51	7200.00	6835.89	6300.00	6069.64	7618.00	5752.32
Outreach Programs	0	0	0	0	0	0	0	0
R&D	0	0	0	0	0	0	0	0
Training, Placement and Industry linkage	0	0	0	0	0	0	0	0
SDGs	0	0	0	0	0	0	0	0
Entrepreneurship	0	0	0	0	0	0	0	0
Others, specify	7821.98	7785.07	6520.00	5836.33	5553.00	5361.28	7253.00	3780.24
Total	17246.98	16849.00	14945.00	13174.81	12753.00	11965.58	16606.00	10990.52

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

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

Items	Budgeted in 2024-2025	Actual Expenses in 2024-2025 till	Budgeted in 2023-2024	Actual Expenses in 2023-2024 till	Budgeted in 2022-2023	Actual Expenses in 2022-2023 till	Budgeted in 2021-2022	Actual Expenses in 2021-2022 till
Laboratory equipment	162.73	41.69	40.52	19.85	61.15	40.85	53.19	15.37
Software	9.38	9.38	19.42	19.41	32.94	21.21	20.45	0
SDGs	0	0	0	0	0	0	0	0
Support for faculty development	0	0	0	0	0	0	0	0
R & D	0	0	0	0	0	0	0	0
Industrial Training, Industry expert, Internship	0	0	0	0	0	0	0	0

Miscellaneous Expenses*	5.988	5.938	6.199	5.765	2.58	2.556	2.635	2.625
Total	178.098	57.008	66.139	45.025	96.67	64.616	76.275	17.995