Self-Assessment Report (SAR)

Undergraduate Engineering Program

B. Tech (Electronics and Communication Engineering)

Graduate Attributes and Professional Competencies Version 4.0 (GAPC V4.0)

(TIER-I Institutions)

Submitted by:

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
SCHOOL OF ENGINEERING AND TECHNOLOGY
GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA, GUNUPUR (GIET UNIVERSITY)
(Established Vide Odisha Act 23 of 2018, Included by UGC, New Delhi, and Approved by AICTE, ICAR, INC, DSIR, New Delhi)
Gunupur - 765022, Dist.- Rayagada, Odisha, INDIA
www.giet.edu

Submitted to:

NATIONAL BOARD OF ACCREDITATION

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(APRIL 2025)

SAR Contents

PART A: Institutional Information

1. **Name and Address of the Institution:**

   Gandhi Institute of Engineering and Technology University, Odisha, Gunupur (GIET University)
   At: Gobriguda, Po: Kharling, Taluk: Gunupur,
   Gunupur, Dist.: Rayagada, Odisha, 765022

2. **Type of the Institution:** (Tick the applicable choice)

Institute of National Importance	☐
Deemed to be University	☐
University	√
Autonomous	☐
Non-Autonomous (Affiliated)	☐
Any Other (Please specify*)	☐

*Provide Details: State Private University, 27th December, 2018

Note:

❖ In case of Autonomous Institute/Deemed University, mention the year of grant of status by the authority. In case of autonomous institution, mention also the duration of status.

❖ In case of University Constituent Institution, please indicate the academic autonomy status of the Institution as defined in 12th Plan guidelines of UGC. Institute should apply for Tier 1 only when fully academically autonomous.

3. **Year of Establishment of the Institution:** 1997

4. **Ownership Status:** (Tick the applicable choice)

Central Government	☐
State Government	☐
Grant-in-Aid	☐
Self-financing Trust	√
Any Other (Please specify*)	☐

*Provide Details: Vidya Bharati Educational Trust

5. **Name and Address of the Affiliating University (if any):** Not Applicable

6. **Other Academic Institutions Run by Trust/Society/etc., if any:**

Table No. A6: List of all Institutions running under the same trust/society.

S. N.	Name of the Institution(s)	Year of Establishment	Programs of Study	Location
-	-	-	-	-

7. Details of all the Programs Being Offered by the Institution:

Table No. A7: Details of all the programs being offered by the Institution.

S. N.	Program Name	Year of start	Sanctioned Intake	Increase/ decrease in intake, if any	Year of increase/ decrease	AICTE/Approval details	Accreditation Status*	No. of times program accredited
1	Diploma (Civil Engineering)	2023	60	No	NA	File No.: Eastern/1-36589679860/2023/EOA Date: 18-Jun-2023	Not eligible for accreditation	0
2	Diploma (Electrical Engineering)	2023	12	No	NA	File No.: Eastern/1-36589679860/2023/EOA Date: 18-Jun-2023	Not eligible for accreditation	0
3	Diploma (Mechanical Engineering)	2023	120	No	NA	File No.: Eastern/1-36589679860/2023/EOA Date: 18-Jun-2023	Not eligible for accreditation	0
4	B. Tech (Chemical Engineering)	1997	40	30	2019	File No.: Eastern/2019-20/1-4561768721 Date: 30-Apr-2019	Granted accreditation for 2/3 years for the period (Academic Years 2014-15 to 2021-22, i.e., up to 30-06-2022)	3
5	B. Tech (Computer Science and Engineering)	1997	40	240	2019	File No.: Eastern/2019-20/1-4561768721 Date: 30-Apr-2019	Granted accreditation for 2/3 years for the period (Academic Years 2023-24 to 2025-26, i.e., up to 30-06-2026)	3
6	B. Tech (Mechanical Engineering)	1997	60	60	2021	File No.: Eastern/1-9319432457 /2021/EOA/ Corrigendum-1 Date: 04-Aug-2021	Granted accreditation for 2/3 years for the period (Academic Years 2023-24 to 2025-26, i.e., up to 30-06-2026)	4

7	B. Tech (Electronics and Communication Engineering)	2000	60	120	2021	File No.: Eastern/1-9319432457 /2021/EOA/Corrigendum-1 Date: 04-Aug-2021	Granted accreditation for 2/3 years for the period (Academic Years 2019-20 to 2024-25, i.e., up to 30-06-2025)	1
8	B. Tech (Biotechnology)	2004	30	60	2021	File No.: Eastern/1-9319432457 /2021/EOA/Corrigendum-1 Date: 04-Aug-2021	Granted accreditation for 2/3 years for the period (Academic Years 2019-20 to 2024-25, i.e., up to 30-06-2025)	1
9	B. Tech (Electrical and Electronics Engineering)	2007	60	60	2019	File No.: Eastern/2019-20/1-4561768721 Date: 30-Apr-2019	Granted accreditation for 2/3 years for the period (Academic Years 2018-19 to 2024-25, i.e., up to 30-06-2025)	1
10	B. Tech (Electrical Engineering)	2008	60	30	2021	File No.: Eastern/1-9319432457 /2021/EOA/Corrigendum-1 Date: 04-Aug-2021	Eligible but not applied	0
11	B. Tech (Civil Engineering)	2009	60	60	2019	File No.: Eastern/2019-20/1-4561768721 Date: 30-Apr-2019	Eligible but not applied	0
12	B. Tech (Agricultural Engineering)	2019	60	No	NA	File No.: Eastern/2019-20/1-4561768721 Date: 30-Apr-2019	Eligible but not applied	0
13	B. Tech (Computer Science and Technology)	2019	120	60	2021	File No.: Eastern/1-9319432457 /2021/EOA/Corrigendum-1 Date: 04-Aug-2021	Eligible but not applied	0
14	B. Tech (Petrochem and Petroleum Refinery Engineering)	2019	30	No	NA	File No.: Eastern/2019-20/1-4561768721 Date: 30-Apr-2019	Eligible but not applied	0

15	B. Tech (Computer Science and Engineering (Artificial Intelligence and Machine Learning))	2021	60	No	NA	File No.: Eastern/1-9319432457 /2021/EOA/Corrigendum-1 Date: 04-Aug-2021	Not eligible for accreditation	0
16	B. Tech (Computer Science and Engineering (Data Science))	2021	60	No	NA	File No.: Eastern/1-9319432457 /2021/EOA/Corrigendum-1 Date: 04-Aug-2021	Not eligible for accreditation	0
17	B. Tech (Computer Science and Engineering (Internet of Things))	2021	60	No	NA	File No.: Eastern/1-9319432457 /2021/EOA/Corrigendum-1 Date: 04-Aug-2021	Not eligible for accreditation	0
18	B. Tech (Electronics Engineering (VLSI Design and Technology))	2023	60	No	NA	File No.: Eastern/1-36589679860/2023/EOA Date: 18-Jun-2023	Not eligible for accreditation	0
19	M. Tech (Computer Science and Engineering)	2004	18	No	NA	File No.: PG/ORI/M.TECH. /2004/CSE-0036 Date: 28-Jun-2024	Eligible but not applied	0
20	M. Tech (Electronics and Communication Engineering)	2006	18	No	NA	File No.: 760-82-217(E)/ET/97 Date: 26-Jun-2006	Eligible but not applied	0
21	M. Tech (Power Electronics)	2009	18	No	NA	File No.: AICTE/E&T/ENGG/ LATEST_ APPROVAL/ORI/2009-10 Date: 21-Jul-2009	Eligible but not applied	0
22	M. Tech (Heat Power and Thermal Engineering)	2010	18	No	NA	File No.: Eastern Region/1-7537381/2010/EOA Date: 23-Aug-2010	Eligible but not applied	0
23	M. Tech (Machine Design)	2010	18	No	NA	File No.: Eastern Region/1-7537381/2010/EOA Date: 23-Aug-2010	Eligible but not applied	0

24	M. Tech (Structural Engineering)	2013	18	No	NA	File No.: Eastern/1-1421719332/2013/EOA Date: 19-Mar-2013	Eligible but not applied	0
25	M. Tech (Biotechnology)	2019	18	No	NA	File No.: Eastern/2019-20/1-4561768721 Date: 30-Apr-2019	Eligible but not applied	0
26	M. Tech (Chemical Engineering)	2019	18	No	NA	File No.: Eastern/2019-20/1-4561768721 Date: 30-Apr-2019	Eligible but not applied	0
27	M. Tech (Manufacturing Technology)	2019	18	No	NA	File No.: Eastern/2019-20/1-4561768721 Date: 30-Apr-2019	Eligible but not applied	0
28	M. Tech (Construction Technology and Management)	2021	18	No	NA	File No.: Eastern/1-9319432457 /2021/EOA/Corrigendum-1 Date: 04-Aug-2021	Eligible but not applied	0
29	M. Tech (Electronics and Communication Engineering (VLSI Design))	2023	18	No	NA	File No.: Eastern/1-36589679860/2023/EOA Date: 18-Jun-2023	Not eligible for accreditation	0
30	MBA (General Management)	2001	60	120	2006	File No.: OR-01/MAP-MBA/2000 Date: 16-Jun-2006	Applying first time	0
31	Master of Computer Applications	2019	60	120	2021	File No.: Eastern/1-9319432457 /2021/EOA/Corrigendum-1 Date: 04-Aug-2021	Eligible but not applied	0
32	Bachelor of Hotel Management and Catering Technology	2024	60	No	NA	File No.: Eastern/1-43658032219/2024/EOA Date: 08-May-2024	Not eligible for accreditation	0
33	Bachelor of Business Administration (BBA)	2016	60	No	NA	File No.: Eastern/2024-25/1-44661481044 Date: 09-Oct-2024	NA	NA

34	Bachelor of Computer Applications (BCA)	2020	40	No	NA	File No.: Eastern/2024-25/1-44661481044 Date: 09-Oct-2024	NA	NA

Add rows as needed

*Write applicable one:

- ❖ Applying first time
- ❖ Granted accreditation for 2/3 years for the period (specify period)
- ❖ Granted accreditation for 5/6 years for the period (specify period)
- ❖ Not accredited (specify visit dates, year).
- ❖ Withdrawn (specify visit dates, year)
- ❖ Not eligible for accreditation.
- ❖ Eligible but not applied.

8. Programs to be Considered for Accreditation vide this Application:

Table No. A8.1: List of programs to be considered for accreditation.

S. N.	Name of the Department	Name of the Program
1	Biotechnology	B. Tech (Biotechnology)
2	Chemical Engineering	B. Tech (Chemical Engineering)
3	Electrical Engineering	B. Tech (Electrical and Electronics Engineering)
4	Electronics and Communication Engineering	B. Tech (Electronics and Communication Engineering)
5	Management	MBA (General Management)

Note:

❖ Keep a list of programs applying for NBA accreditation through this application.

Table No. A8.2: Allied Department(s) to the Department of the programs considered for accreditation as above.

S. N.	Name of the Department (in table no. A8.1)	Name of allied Departments/Cluster (for table no. A8.1)
1	Chemical Engineering	Petrochem and Petroleum Refinery Engineering
2	Electrical Engineering	Electrical and Electronics Engineering
3	Electronics and Communication Engineering	Electronics Engineering (VLSI Design and Technology)

Note:

❖ Keep a list of all allied departments/cluster programs with respect to Table No. A8.1.

❖ See the Allied Departments/Cluster programs information in Annexure-III.

9. Total Number of Faculty Members in Various Departments:

Table No. A9: No. of faculty members in various departments.

S. N.	Name of the Department	Number of faculty members in the Department (UG and PG)											
		CAY 2024-25				CAYm1 2023-24				CAYm2 2022-23			
		No. of Professors	No. of Associate Professors	No. of Assistant Professors	Total faculty members	No. of Professors	No. of Associate Professors	No. of Assistant Professors	Total faculty members	No. of Professors	No. of Associate Professors	No. of Assistant Professors	Total faculty members
1	Basic Science and Humanities	10	12	36	58	9	14	36	59	8	14	35	57
2	Agricultural Engineering	1	1	10	12	1	1	11	13	1	1	11	13
3	Biotechnology	3	3	10	16	2	3	9	14	1	3	8	12
4	Chemical Engineering	1	4	10	15	1	4	10	15	1	4	10	15
5	Civil Engineering	4	4	10	18	4	4	11	19	4	4	11	19
6	Computer Science and Engineering	8	20	70	98	9	23	61	93	10	18	56	84
7	Electrical Engineering	3	4	19	26	3	4	19	26	4	4	18	26
8	Electronics and Communication Engineering	4	12	20	36	5	13	17	35	5	10	22	37
9	Mechanical Engineering	5	7	10	22	5	8	13	26	5	8	18	31

S. N.	Name of the Department	Number of faculty members in the Department (UG and PG)											
		CAY 2024-25				CAYm1 2023-24				CAYm2 2022-23			
		No. of Professors	No. of Associate Professors	No. of Assistant Professors	Total faculty members	No. of Professors	No. of Associate Professors	No. of Assistant Professors	Total faculty members	No. of Professors	No. of Associate Professors	No. of Assistant Professors	Total faculty members
1	Management Studies	5	10	15	30	5	9	15	29	4	9	14	27
2	Computer Science and Applications	1	1	20	22	1	1	19	21	1	1	19	21

Note:

All the faculty whether regular or contractual (except part-time or hourly based), will be considered. All regular faculty members shall meet the AICTE qualifications and experience requirements.

The contractual faculty appointed with any terminology whatsoever, who have taught for 2 consecutive semesters with or without break between the 2 semesters in corresponding academic year on full-time basis shall be considered for the purpose of calculation in the faculty student ratio. However, following will be ensured in case of contractual faculty:

1. Shall have the AICTE prescribed qualifications and experience.
2. Shall be appointed on full time basis and worked for consecutive two semesters with or without break between the 2 semesters during the particular academic year under consideration.
3. Should have gone through an appropriate process of selection and the records of the same shall be made available to the visiting team during NBA visit.

A. Faculty members in the Department who do not have teaching, or practical loads, will not be counted.

B. Director/ Principal/ Dean/ other academic/administrative posts, who has teaching/ practical load in the Department will be counted.

C. Visiting faculty/adjunct faculty, who are working on hourly based faculty will not be counted.

CAY = Current Academic Year

CAYm1 = Current Academic Year Minus 1 = Current Assessment Year

CAYm2 = Current Academic Year Minus 2 = Current Assessment Year Minus 1.

10. -Total Number of Engineering Students in Various Departments:

Table No. A.10: No. of engineering students in various departments.

S. N.	Name of the Department	Number of engineering students in the Department (UG and PG)		
		CAY 2024-25	CAYm1 2023-24	CAYm2 2022-23
1	Basic Science and Humanities	1020	1050	990
2	Agricultural Engineering	180	180	180
3	Biotechnology	219	189	157
4	Chemical Engineering	221	222	222
5	Civil Engineering	270	270	270
6	Computer Science and Engineering	1530	1418	1296
7	Electrical Engineering	331	362	397
8	Electronics and Communication Engineering	514	494	529
9	Mechanical Engineering	306	372	438

Note:

In case the institution is running programs other than engineering programs (UG and PG), a separate table giving similar details is to be included.

S. N.	Name of the Department	Number of engineering students in the Department (UG and PG)		
		CAY 2024-25	CAYm1 2023-24	CAYm2 2022-23
1	Management Studies	420	420	420
2	Computer Science and Applications	360	360	360

11. Vision of the Institution:

To be a **renowned and globally recognized university** giving importance to **academic excellence with the latest technology, research, innovation, and entrepreneurial attitude**.

12. Mission of the Institution:

- To **create an innovative and committed workforce** to cater to the **societal, environmental, and economic needs** of the nation.
- To **promote education and research globally** at par with **international standards**.
- To **prepare future leaders** with the **latest skills** befitting to become entrepreneurs or employable.
- To **support and uplift the meritorious students** of this tribal area to represent as **ambassadors** in all forums as a part of our **social responsibility**.

13. Contact Information of the Head of the Institution and NBA Coordinator:

A. Head of the Institution

❖ Name: Dr. N. V. Jagannadha Rao

❖ Designation: Registrar

❖ Mobile Number: (+91) 9437044170, 9668259219

❖ Email id: registrar@giet.edu

B. NBA Coordinator:

❖ Name: Dr. Ajit Kumar Patro

❖ Designation: Asst. Registrar (Academics)

❖ Mobile Number: (+91) 9437723635, 7008168454

❖ Email id: asst.registrar_acad@giet.edu

PART B: Criteria Summary

Name of the Program: Electronics and Communication Engineering

Title of the Degree: Bachelor of Technology (B. Tech)

Criteria No.	Name of the Criteria	Marks/ Weightage
Program Level Criteria		
1	Outcome-Based Curriculum	120
2	Outcome-Based Teaching Learning	120
3	Outcome-Based Assessment	120
4	Students' Performance	120
5	Faculty Information	100
6	Faculty Contributions	120
7	Facilities and Technical Support	100
8	Continuous Improvement	80
Institution Level Criteria		
9	Student Support and Governance	120
	Total Marks/Weights	**1000**

PART B: Program Level Criteria

Criterion 1: Outcome-Based Curriculum (120)

1.1. Vision, Mission, and Program Educational Objectives (PEOs) (35)

1.1.1. State the Vision and Mission of the Institute and the Department (05)

(Vision statement typically indicates aspirations and Mission statement states the broad approach to achieve aspirations.)

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur (GIET University)

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur (GIET University), formerly known as Gandhi Institute of Engineering and Technology, was established in 1997 by the Vidya Bharati Educational Trust, Gunupur, Odisha. Nestled amidst the lush greenery and foothills of the Eastern Ghats, with the scenic Bansadhara River flowing through its territory, GIET University stands as a beacon of quality education and technological advancement in Eastern India.

Accreditation and Recognition

- Conferred **Autonomous Status** by the University Grants Commission (UGC), New Delhi, for six years (2017-18 to 2022-23).
- Declared a **State Private University** under the Odisha Act 23 of 2018, effective from December 27, 2018.
- Included in the list of universities established under **Section 2(f) of the UGC Act, 1956**, in 2019.
- Recognized as a **Scientific and Industrial Research Organisation (SIRO)** by the Department of Scientific and Industrial Research **(DSIR)**, Ministry of Science and Technology, Government of India, since 2011.
- Approved by national bodies such as **AICTE (All India Council for Technical Education), ICAR (Indian Council of Agricultural Research), and INC (Indian Nursing Council), New Delhi**.

Since its inception, GIET University has been at the forefront of technological education and research, establishing itself as a globally competitive institution. With **state-of-the-art infrastructure, quality education, and world-class facilities**, the university strives to create a transformative learning environment.

Vision of the University

To be a renowned and globally recognized university giving importance to academic excellence with the latest technology, research, innovation, and entrepreneurial attitude.

Mission of the University

- To create an innovative and committed workforce to cater to the societal, environmental, and economic needs of the nation.
- To promote education and research globally at par with international standards.

- To prepare future leaders with the latest skills befitting to become entrepreneurs or employable.
- To support and uplift the meritorious students of this tribal area to represent as ambassadors in all forums as a part of our social responsibility.

Department of Electronics and Communication Engineering (ECE)

Established in **2000**, the **Department of Electronics and Communication Engineering (ECE)** has continuously evolved to meet the **changing demands of the industry and academia**. The department is committed to providing **quality education, fostering research**, and preparing students for **successful careers in Electronics, Communication, and related fields.**

Vision of the Department

To develop globally competent Electronics and Communication Engineers through quality education, innovation, collaborative research, and an entrepreneurial approach.

Mission of the Department

M_1: To impart quality education that cultivates industry-ready technical expertise, problem-solving abilities, and global competitiveness.

M_2: To maintain state-of-the-art facilities that empower students and faculty to create, interpret, and disseminate knowledge.

M_3: To collaborate with leading research organizations, industries, and academic institutions to promote excellence in teaching, research, consultancy, and entrepreneurship.

M_4: To promote inclusivity by supporting students from diverse backgrounds and preparing them for leadership roles in industry and academia.

Consistency of the Department's Vision and Mission statements with the Institute's Vision and Mission statements

The **vision and mission statements** of the GIET **University** and the **Department of Electronics and Communication Engineering (ECE)** exhibit strong alignment in several key areas:

Global Recognition and Competence

- The **University** aims to be **renowned and globally recognized**.
- The **Department** strives to produce **globally competent Electronics and Communication Engineers**.
- Both emphasize **academic excellence, research, and innovation**.

Innovation and Research

- The **University** prioritizes **technology, research, and an entrepreneurial attitude**.
- The **Department** reinforces this by maintaining **state-of-the-art facilities** and collaborating with **research organizations and industries**.

Societal and Economic Contribution

- The **University's mission** highlights **societal, environmental, and economic needs**.
- The **Department** supports this by enhancing students' **technical skills and problem-solving abilities**, preparing them to contribute meaningfully to **industry and society**.

Inclusivity and Student Development

- The **University** is committed to **uplifting students from tribal areas** as part of its **social responsibility**.
- The **Department's mission** directly aligns with this by **supporting students from diverse backgrounds** and **preparing them for leadership roles**.

Entrepreneurial and Employability Focus

- The **University** emphasizes **entrepreneurship and employability** to **prepare future leaders**.
- The **Department** fosters this through **collaborations with research organizations and industries**, ensuring a **strong technical foundation** for students.

The **strong alignment** between the **University** and the **Department of ECE's Vision and Mission statements** reflects a **shared commitment** to **academic excellence, research, inclusivity, and societal contribution**. By fostering **innovation, collaboration, and skill development**, both the **University** and the **Department of ECE** ensure that students are well-prepared to **meet global challenges, drive technological advancements, and contribute meaningfully to industry and society**.

Table No.1.1.1.1: Consistency of the department vision with the institute vision.

Institute Vision vs Department Vision	**To develop globally competent Electronics and Communication Engineers through quality education, innovation, collaborative research, and an entrepreneurial approach.**				
To be a renowned and globally recognized university giving importance to academic excellence with the latest technology, research, innovation, and entrepreneurial attitude.	Global Competence in Electronics and Communication Engineering	Quality Education	Technical Competency and Innovation	Collaborative Research and Innovation	Entrepreneurial Approach
Global Recognition	√				
Academic Excellence		√			
Latest Technology			√		
Research and Innovation				√	
Entrepreneurial Attitude					√

Table No.1.1.1.2: Consistency of the department mission with the institute mission.

Institute Mission vs Department Mission	To impart quality education that cultivates industry-ready technical expertise, problem-solving abilities, and global competitiveness.	To maintain state-of-the-art facilities that empower students and faculty to create, interpret, and disseminate knowledge.	To collaborate with leading research organizations, industries, and academic institutions to promote excellence in teaching, research, consultancy, and entrepreneurship.	To promote inclusivity by supporting students from diverse backgrounds and preparing them for leadership roles in industry and academia.
To create an innovative and committed workforce to cater to the societal, environmental, and economic needs of the nation.	√		√	
To promote education and research globally at par with international standards.		√	√	
To prepare future leaders with the latest skills befitting to become entrepreneurs or employable.	√		√	
To support and uplift the meritorious students of this tribal area to represent as ambassadors in all forums as a part of our social responsibility.				√

1.1.2. State PEOs of the Program (05)

(State the PEOs (3 to 5) of program seeking accreditation.)

The Department of Electronics and Communication Engineering (ECE) is committed to achieving excellence in higher education and research to benefit students through Outcome-Based Education (OBE).

Program Educational Objectives (PEOs) are broad statements that describe the career and professional accomplishments that the program is preparing graduates to achieve. The following three PEOs have been formulated through extensive brainstorming sessions to align with the Institute's and department's vision and mission statements.

PEO1: Graduates will establish successful careers in Electronics and Communication Engineering by applying their technical knowledge and professional skills.

PEO2: Graduates will pursue higher education and contribute to research, driving advancements in technology and innovation.

PEO3: Graduates will embrace lifelong learning, identify and solve real-world challenges, and thrive as entrepreneurs and innovators.

1.1.3. Process of Defining Vision, Mission, and PEOs (10)

(Articulate the process involved in defining the Vision and Mission of the department and PEOs of the program.)

Process of Defining Vision and Mission

Defining the department's vision and mission involves a systematic approach that aligns with the institute's overall objectives while addressing the specific needs of the stakeholders. The steps include:

Consultation with Stakeholders:

- Feedback is gathered from internal stakeholders (management, governing board members, faculty, support staff, students, etc.) and external stakeholders (alumni, employers, industry, funding agencies, parents, etc.) regarding the department's strengths, opportunities, and long-term aspirations.
- Inputs from the university administration are also considered to ensure alignment with the institutional vision and mission.

Benchmarking with Peer Institutions:

- A comparative study of vision and mission statements from reputed institutions is conducted to ensure relevance and competitiveness.

Drafting and Review:

- A preliminary draft is prepared by the Department Advisory Committee (DAC), comprising the head of the department, senior faculty members, academic experts, and representatives from various stakeholders.
- The draft is critically analysed for clarity, alignment with institutional goals, and its ability to reflect the department's future aspirations.

Approval and Finalization:

- The refined Vision and Mission statements are presented to the Board of Studies (BoS) and subsequently to the Academic Council for approval.
- Upon receiving formal approval, the statements are officially adopted and widely disseminated through websites, brochures, student handbooks, and official communications.

Periodic Review and Revision:

- The department reviews its Vision and Mission statements at least once every 3 to 5 years.
- Revisions may also occur due to changes in institutional strategy or academic regulations, emerging trends, and needs in industry or technology.

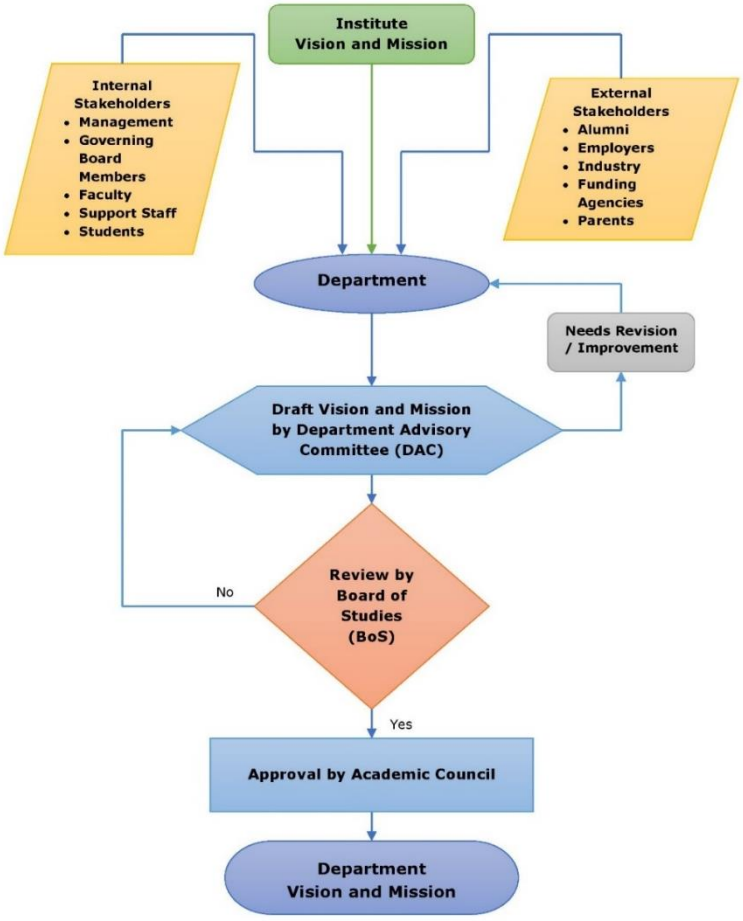


Figure No.1.1.3.1: Process of defining vision and mission.

Process of Defining Program Educational Objectives (PEOs)

Program Educational Objectives (PEOs) represent the broad professional and career accomplishments that graduates are expected to achieve within a few years of graduation. The process of defining PEOs is systematic and inclusive, ensuring relevance, stakeholder participation, and strategic alignment. The process of defining PEOs involves:

Identification of Key Competencies and Career Goals:

- The department analyses the competencies required by graduates to excel in academia, industry, and research.
- The department begins by analysing the skills, knowledge, and attitudes required for graduates to succeed in industry and corporate, higher education and research, and entrepreneurship and innovation.
- Inputs from professional bodies such as AICTE and UGC guidelines, along with industry trends, are considered.

Stakeholder Input:

- Surveys and feedback mechanisms involving faculty, support staff, students, alumni, employers, industry, funding agencies, and parents are used to identify industry-relevant expectations.
- The feedback helps in refining the skills and knowledge that should be imparted to students.
- Alignment with Vision and Mission:
- The formulated PEOs are mapped with the department's Vision and Mission to ensure they contribute effectively to the overall goals.

Drafting and Review:

- The Department Advisory Committee (DAC), comprising the head of the department, senior faculty members, academic experts, and representatives from various stakeholders, drafts the program educational objectives (PEOs).
- The draft undergoes review and refinement through discussions and feedback sessions.
- The revised PEOs are presented to the Board of Studies (BoS) for validation and recommendations.

Approval and Dissemination:

- Upon Board of Studies (BoS) review, the final PEOs are submitted to the Academic Council for formal approval.
- Once approved, the PEOs are published on the website, included in curriculum documents, student handbooks, and brochures, and communicated to all stakeholders.

Periodic Review and Revision:

- PEOs are periodically reviewed (every 3-5 years) to ensure they remain aligned with evolving industry standards and academic advancements.

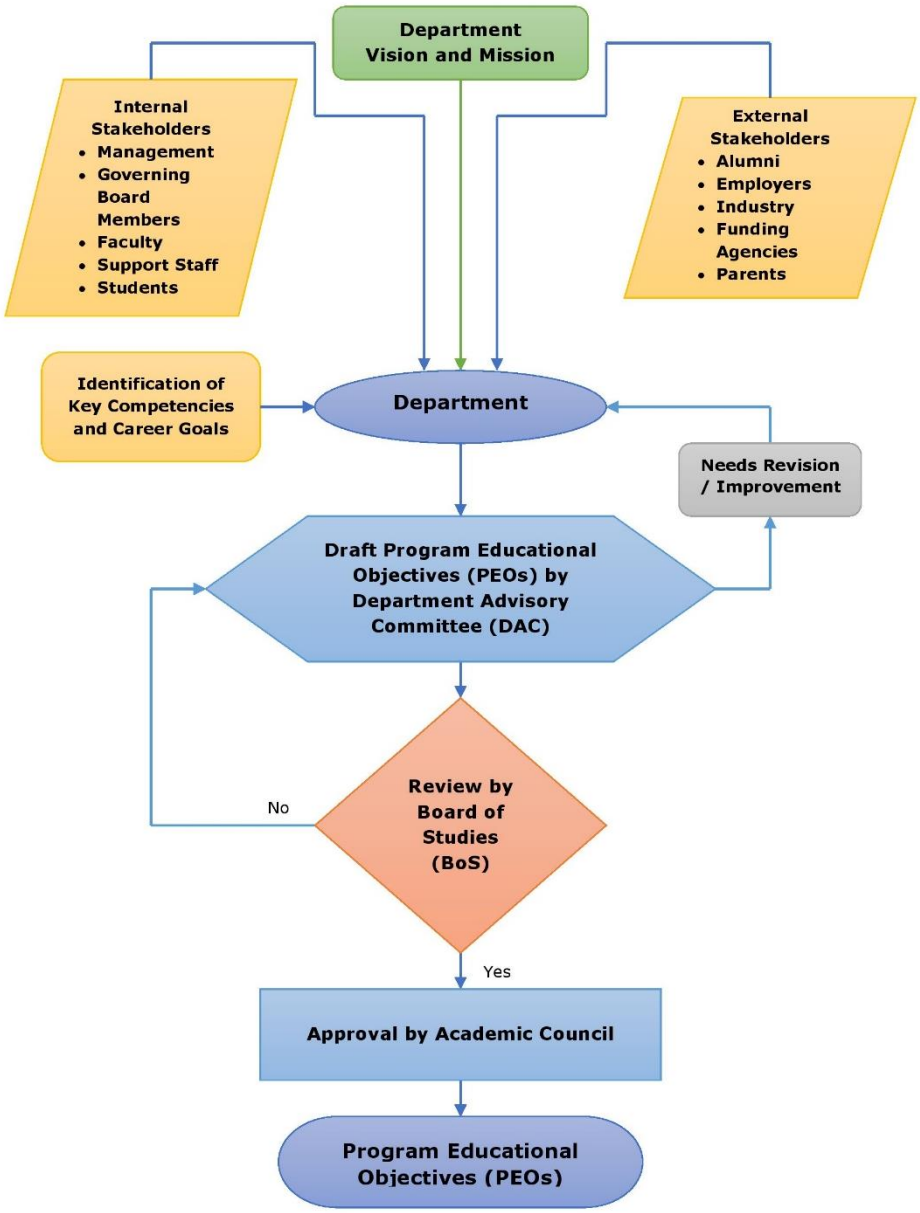


Figure No.1.1.3.2: Process of defining program educational objectives (PEOs).

The process of defining the Vision, Mission, and PEOs is an iterative and consultative approach ensuring relevance, clarity, and alignment with stakeholder expectations. Continuous assessment and feedback mechanisms help in refining them to meet the dynamic requirements of education and industry.

1.1.4. Dissemination of Vision, Mission, and PEOs (05)

(Describe where (websites, curricula, posters, etc.) the Vision, Mission, and PEOs are published and detail the process which ensures awareness among internal and external stakeholders with effective process implementation.

Internal stakeholders may include Management, Governing Board Members, faculty, support staff, students, etc. and external stakeholders may include employers, industry, alumni, funding agencies, etc.)

Dissemination of Vision, Mission, and PEOs

The Department of Electronics and Communication Engineering (ECE) ensures that the Vision, Mission, and Program Educational Objectives (PEOs) are prominently displayed and accessible through multiple platforms to maximize awareness among internal and external stakeholders.

Publication Platforms:

- **University Website:**
  - ✓ https://www.giet.edu/about-giet/vision-mission/
  - ✓ https://www.giet.edu/departments/electronics-communication-engineering/
- **Academic Curriculum and Syllabus Documents:**
  - ✓ Included in student handbooks, department brochures, and course files.
  - ✓ Shared with students during induction and orientation programs.
- **Posters and Display Boards:**
  - ✓ Displayed at key locations such as the HoD chamber, faculty rooms, library, laboratories, and notice boards.
- **Departmental Meetings and Presentations:**
  - ✓ Presented in faculty meetings, board meetings, and accreditation reviews.
- **Student Orientation and Induction Programs:**
  - ✓ Introduced to new students during orientation sessions.
  - ✓ Discussed in student workshops and seminars.
- **Alumni and Industry Interaction Programs:**
  - ✓ Presented during alumni meets, employer feedback sessions, and industry collaborations.

Annual Reports and Newsletters:

- Highlighted in institutional annual reports and department newsletters.

Social Media and Digital Platforms:

- Shared on LinkedIn, Facebook, and other institutional/departmental social media pages for wider outreach.

Process for Ensuring Awareness and Effective Implementation

- **Internal Stakeholders:**
- **Faculty Development Programs (FDPs):** Regular training sessions to align faculty with institutional goals.
- **Department Meetings:** Monthly discussions to assess the implementation of PEOs.
- **Student Interaction:** Faculty mentors explain the Vision, Mission, and PEOs in classrooms.

- **Assessment and Review:** Continuous evaluation of PEO attainment through academic performance and feedback.
- **External Stakeholders:**
- **Industry-Academia Meets:** Employers are informed about PEOs and their role in curriculum alignment.
- **Alumni Engagements:** Alumni provide feedback on how PEOs align with industry needs.
- **Advisory Board Consultations:** Industry experts contribute to periodic curriculum revisions ensuring PEOs remain relevant.
- **Collaboration with Funding Agencies:** Proposals and research initiatives align with institutional Vision and Mission.

Monitoring and Review Process

Periodic Review:

- Vision, Mission, and PEOs are reviewed every 3–5 years by a committee comprising faculty, management, industry experts, and alumni.

Feedback Mechanism:

- Surveys from faculty, students, alumni, employers, industry, and funding agencies help refine PEOs.
- This structured approach ensures that all stakeholders are well-informed and actively involved in implementing the institution's Vision, Mission, and PEOs effectively.

1.1.5. Mapping of PEOs with Mission (10)

(Generate a Mission of the Department–PEOs matrix with justification and rationale of the mapping.)

Table No.1.1.5.1: Mapping of PEOs with mission.

PEO Statements	**M_1:** To impart quality education that cultivates industry-ready technical expertise, problem-solving abilities, and global competitiveness.	**M_2:** To maintain state-of-the-art facilities that empower students and faculty to create, interpret, and disseminate knowledge.	**M_3:** To collaborate with leading research organizations, industries, and academic institutions to promote excellence in teaching, research, consultancy, and entrepreneurship.	**M_4:** To promote inclusivity by supporting students from diverse backgrounds and preparing them for leadership roles in industry and academia.
PEO1: Graduates will establish successful careers in Electronics and Communication Engineering by applying their technical knowledge and professional skills.	**3**	**2**	**3**	**2**
PEO2: Graduates will pursue higher education and contribute to research, driving advancements in technology and innovation.	**2**	**3**	**3**	**2**
PEO3: Graduates will embrace lifelong learning, identify and solve real-world challenges, and thrive as entrepreneurs and innovators.	**2**	**3**	**3**	**3**

Note:

❖ M1, M2, . . ., Mn are distinct elements of the mission statement. Enter correlation levels as Low (1), Medium (2), and High (3). If there is no correlation, put "-"

Justifications for Mapping

M_1 (Quality Education): High correlation with PEO1 as strong technical knowledge and problem-solving skills are crucial for career success. Medium correlation with PEO2 and PEO3 because research and entrepreneurship require additional specialized knowledge beyond technical education.

M_2 (State-of-the-Art Facilities): Medium correlation with PEO1, as infrastructure aids in practical learning but is not the sole factor for career success. High correlation with PEO2 and PEO3, as advanced facilities significantly support research and innovation.

M_3 (Collaborations): Strong correlation with all PEOs. Industry exposure and academic collaborations improve job readiness (PEO1), provide opportunities for research (PEO2), and foster entrepreneurship through innovation and networking (PEO3).

M_4 (Inclusivity and Leadership Development): Medium correlation with PEO1 and PEO2, as inclusivity, improves accessibility but doesn't directly guarantee career success or research opportunities. High correlation with PEO3, as leadership development encourages lifelong learning and entrepreneurship.

PEO1 (Career Success) is mapped with all Mission Statements because quality education, modern facilities, collaborations, and inclusivity directly contribute to preparing students for successful careers.

PEO2 (Higher Studies and Research) is mapped with all Mission Statements since exposure to quality education, research infrastructure, and academic collaborations fosters research interest and higher studies.

PEO3 (Research Gaps, Lifelong Learning, and Entrepreneurship) is mapped with all Mission Statements as access to knowledge, state-of-the-art facilities, industry collaborations, and inclusivity to help students develop problem-solving skills, innovate, and explore entrepreneurship.

1.2. Curriculum Structure and Features (30)

1.2.1. State the Process for Developing/Revising the Program Curriculum (10)

Describe the process that periodically documents and demonstrates how the program curriculum has evolved, considering the Washington Accord Knowledge and Attitude Profile (WKs) and the Program Outcomes (POs) defined by the NBA, as listed in Annexure II. Describe the process involving both internal and external stakeholders in framing the curriculum.)

Process for Developing/Revising the Program Curriculum

To ensure that the program curriculum remains relevant, industry-aligned, and meets accreditation standards, a structured process is followed. This process integrates input from various stakeholders and aligns with the Washington Accord Knowledge and Attitude Profiles (WKs), Program Outcomes (POs) and Program Specific Outcomes (PSOs).

1. Need Assessment and Gap Analysis:

- Conduct periodic reviews of the existing curriculum to identify gaps in knowledge, skills, and industry demands.
- Gather feedback from faculty, students, alumni, employers, industry experts, and academic experts.
- Benchmark the curriculum against national and international standards, including NBA's Washington Accord Knowledge and Attitude Profiles (WKs) and the Program Outcomes (POs).

2. Stakeholder Involvement in Curriculum Design:

- Internal Stakeholders: Faculty members, students, and university administration.
- External Stakeholders: Alumni, employers, Industry representatives, professional bodies, and regulatory authorities.
- The Department Advisory Committee (DAC), comprising the head of the department, senior faculty members, academic experts, and representatives from various stakeholders, oversees revisions and enhancements.

3. Mapping of Course Outcomes (COs) with WKs, POs, and PSOs:

- Align each course with relevant Washington Accord Knowledge and Attitude Profiles (WKs) and the Program Outcomes (POs), and Program Specific Outcomes (PSOs).
- Ensure coverage of technical knowledge, problem-solving skills, lifelong learning, and professional ethics.

4. Curriculum Framework and Course Structuring:

- Course Structure: Define core, elective, and skill-based courses.
- Integration of Emerging Technologies: Include Artificial Intelligence (AI), Internet of Things (IoT), Block Chain, Robotics, Quantum Computing, Data Sciences, Cyber Security, etc.
- Interdisciplinary Approach: Incorporate courses from multiple domains to enhance problem-solving capabilities.
- Industry-Academia Collaboration: Encourage internships, projects, and hands-on training.

5. Approval and Validation:

- Submit the curriculum draft to the Board of Studies (BoS) for review and alignment with AICTE model curriculum and National Credit Framework (NCrF).
- Further review and approval by the Academic Council.

6. Implementation and Continuous Improvement:

- Conduct periodic curriculum reviews (every 3-5 years) based on stakeholder feedback and industry trends.
- Use Direct and Indirect Assessment Methods to evaluate effectiveness:

- Direct Assessments: Student performance, employer feedback, industry readiness.
- Indirect Assessments: Alumni surveys, accreditation reviews, and research outcomes.
- Modify the curriculum continuously following the Outcome-Based Education (OBE) methodology.

7. Documentation and Reporting:

- Maintain records of curriculum changes, stakeholder consultations, and assessment reports.

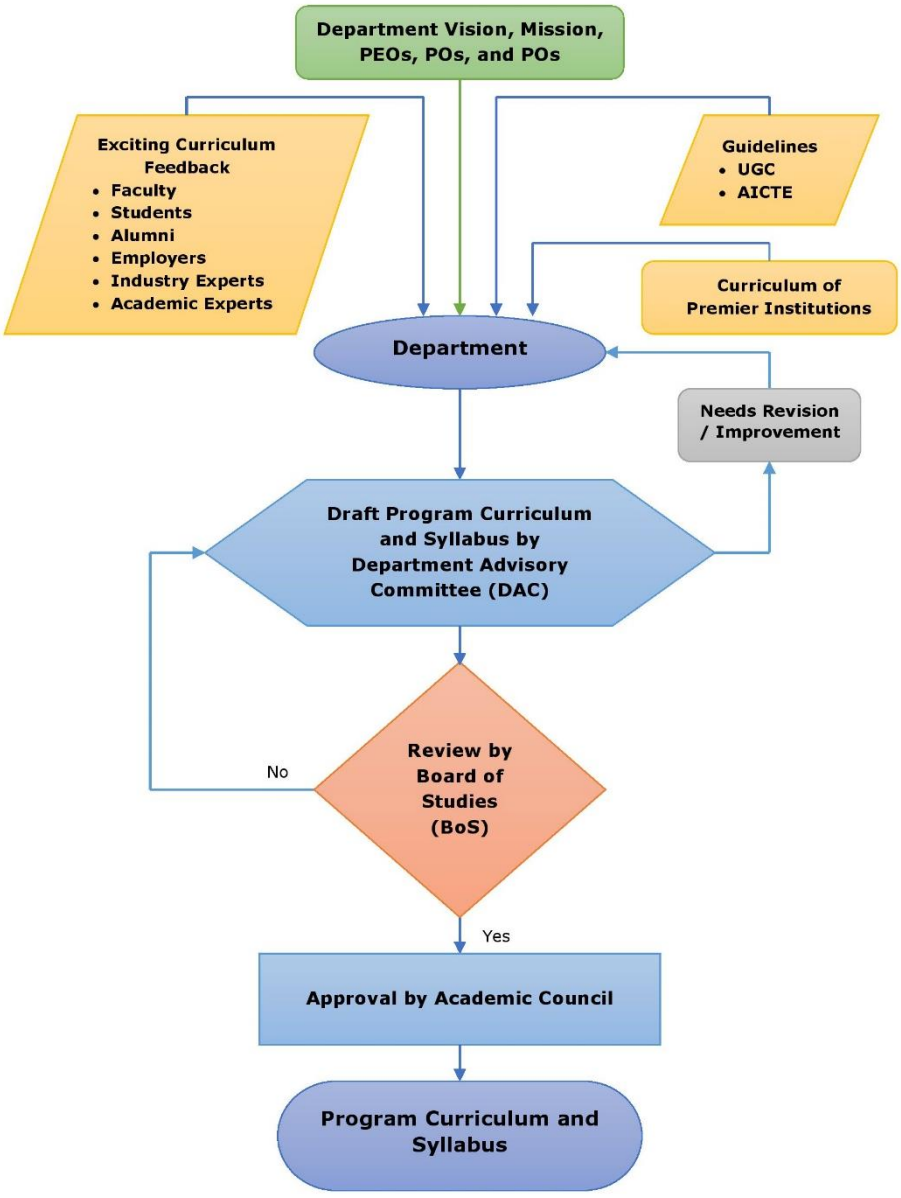


Figure No.1.2.1.1: Process for developing/revising the program curriculum.

This structured approach ensures that the curriculum remains dynamic, industry-relevant, and aligned with accreditation standards while fostering holistic student development.

1.2.2. Curriculum Structure (10)

(Provide details of courses in terms of teaching and learning scheme and number of credits in the Program curriculum.)

Table No.1.2.2.1: Details of various courses presented in terms of teaching and learning scheme [AR 23].

Course Code	Course Titles	Teaching and Learning Scheme					
		Classroom Instruction (CI) (in hours per semester)		Lab Instruction (LI) (in hours per semester)	Term Work (TW) and Self Learning (SL) (TW + SL) (in hours per semester)	Total no. of Hours per Semester	Total Credits (C)* (Total Hours/30)
		L	T	P	SL		
C101	Engineering Mathematics-I	43	15	-	62	120	120/30=4
C102	Engineering Physics	42	-	-	48	90	90/30=3
C103	Basic Electrical and Electronics Engineering	42	-	-	48	90	90/30=3
C104	Programming for Problem-Solving	43	-	-	47	90	90/30=3
C105	Communicative English and Soft Skills	28	-	-	32	60	60/30=2
C106	Human Values and Professional Ethics	16	-	-	14	30	30/30=1
C107	Basic Electrical and Electronics Engineering Laboratory	-	-	17	13	30	30/30=1
C108	Programming for Problem-Solving Laboratory	-	-	25	35	60	60/30=2
C109	Communicative English and Soft Skills Laboratory	-	-	14	16	30	30/30=1
C110	Engineering Graphics and Design	14	-	28	18	60	60/30=2
C111	Induction Program	-	-	-	-	-	0
C112	Engineering Mathematics-II	42	14	-	64	120	120/30=4

C113	Elements of Mechanical Engineering	36	14	-	70	120	120/30=4
C114	Data Structure and Algorithms	45	-	-	45	90	90/30=3
C115	Communicative English and Technical Communication	28	-	-	32	60	60/30=2
C116	Dietetics and Nutrition	15	-	-	15	30	30/30=1
C117	Fundamentals of Web Technology	14	-	28	48	90	90/30=3
C118	Data Structure and Algorithms Laboratory	-	-	26	34	60	60/30=2
C119	Communicative English and Technical Communication Laboratory	-	-	12	18	30	30/30=1
C120	Engineering Workshop	14	-	18	28	60	60/30=2
C121	NSS/YOGA	-	-	-	-	-	0
C201	Engineering Mathematics-III	40	14	-	66	120	120/30=4
C202	Analog Electronic Circuits	42	-	-	48	90	90/30=3
C203	Electronic Measurements and Instrumentation	42	-	-	48	90	90/30=3
C204	Network Theory	42	-	-	48	90	90/30=3
C205	Object-Oriented Programming using JAVA	44	-	-	46	90	90/30=3
C206	Intermediate Communication Skills and Critical Thinking	15	-	-	15	30	30/30=1
C207	Analog Electronic Circuits Laboratory	-	-	18	12	30	30/30=1
C208	Electronic Measurements and Instrumentation Laboratory	-	-	17	13	30	30/30=1
C209	Object-Oriented Programming using JAVA Laboratory	-	-	14	16	30	30/30=1
C210	Intermediate Communication	-	-	13	17	30	30/30=1

	Skills and Critical Thinking Laboratory						
C211	Summer Internship I	-	-	-	30	30	30/30=1
C212	Essence of Indian Traditional Knowledge	-	-	-	-	-	0
C213	Digital System Design	42	-	-	48	90	90/30=3
C214	Analog and Digital Communication	45	-	-	45	90	90/30=3
C215	Electronic Devices	44	-	-	46	90	90/30=3
C216	Signals and Systems	45	-	-	45	90	90/30=3
C217	Database Management Systems	44	-	-	46	90	90/30=3
C218	Advanced Communication Skills and Professional Ethics	26	-	-	04	30	30/30=1
C219	Digital System Design Laboratory	-	-	16	14	30	30/30=1
C220	Analog and Digital Communication Laboratory	-	-	18	12	30	30/30=1
C221	Database Management Systems Laboratory	-	-	14	16	30	30/30=1
C222	Advanced Communication Skills and Professional Ethics Laboratory	-	-	12	18	30	30/30=1
C223	Mini Project I	-	-	-	30	30	30/30=1
C224	Environmental Science	-	-	-	-	-	0
C301	Microcontrollers and Computer Architecture	45	-	-	45	90	90/30=3
C302	Digital Signal Processing	44	-	-	46	90	90/30=3
C303	Digital VLSI Design	45	-	-	45	90	90/30=3
C304	Electromagnetic Waves	42	-	-	48	90	90/30=3

C305	Optical Communication and Networks	42	-	-	48	90	90/30=3
C306	Organizational Behaviour	28	-	-	32	60	60/30=2
C307	Microcontrollers and Computer Architecture Laboratory	-	-	14	16	30	30/30=1
C308	Digital Signal Processing Laboratory	-	-	16	14	30	30/30=1
C309	Digital VLSI Design Laboratory	-	-	18	12	30	30/30=1
C310	Mini Project II	-	-	-	30	30	30/30=1
C311	Summer Internship II	-	-	-	30	30	30/30=1
C312	Embedded Systems and IoT	45	-	-	45	90	90/30=3
C313	Antennas and Microwave Engineering	45	-	-	45	90	90/30=3
C314	Control Systems	44	-	-	46	90	90/30=3
C315	Data Communications and Networking	42	-	-	48	90	90/30=3
C316	Operating Systems	44	-	-	46	90	90/30=3
C317	Engineering Economics and Costing	26	-	-	34	60	60/30=2
C318	Embedded Systems and IoT Laboratory	-	-	14	16	30	30/30=1
C319	Antennas and Microwave Engineering Laboratory	-	-	17	13	30	30/30=1
C320	Mini Project III	-	-	-	30	30	30/30=1
C401	Wireless and Mobile Communication	44	-	-	46	90	90/30=3
C402	Introduction to MEMS	42	-	-	48	90	90/30=3
C403	Data Science	40	-	-	50	90	90/30=3
C404	Computational Intelligence	40	-	-	50	90	90/30=3
C405	Entrepreneurship Development	30	15	-	45	90	90/30=3
C406	Technical Seminar	-	-	-	30	30	30/30=1

C407	Project Work I	-	-	-	90	90	90/30=3
C408	Summer Internship III	-	-	-	30	30	30/30=1
C409	Satellite Communication	40	-	-	50	30	90/30=3
C410	Cyber Security	44	-	-	46	30	90/30=3
C411	Intellectual Property Rights	40	-	-	50	30	90/30=3
C412	Project Work II and Dissertation	-	-	-	180	180	180/30=6

*This is as per the new National Credit Framework, which accounts for 30 hrs. of learning as equivalent to 1 credit.

Legend:

CI: Classroom Instruction (Includes different instructional/implementation strategies i.e. Lecture (L), Tutorial (T), Case method, Demonstrations, Video demonstration, Problem-based learning, etc. to deliver theoretical concepts)

LI: Laboratory Instruction (Includes experiments/ practical performances/ problem-based experiences in laboratory, workshop, field, or other locations using different instructional/implementation strategies)

TW: Term work (includes assignments, seminars, micro-projects, industrial visits, any other student activities, etc.)

SL: Self Learning, MOOCs, spoken tutorials, online educational resources, etc. (If provided in curriculum structure)

Table No.1.2.2.2: Details of various courses [AR 19].

Course Code	Course Titles	Hours per week			Total Credits (C)
		L	T	P	
C101	Engineering Mathematics-I	3	1	0	4
C102	Engineering Chemistry	3	0	0	3
C103	Basic Electronics	3	0	0	3
C104	Programming for Problem Solving	2	0	0	2
C105	Communicative English and Soft Skills	2	0	0	2
C106	Engineering Chemistry Laboratory	0	0	2	1
C107	Basic Electronics Laboratory	0	0	2	1
C108	Programming for Problem Solving Laboratory	0	0	4	2
C109	Communicative English and Soft Skills Laboratory	0	0	2	1

C110	Engineering Workshop	1	0	2	2
C111	Induction Program	-	-	-	0
C112	Engineering Mathematics-II	3	1	0	4
C113	Engineering Physics	3	0	0	3
C114	Basic Electrical Engineering	3	0	0	3
C115	Data Structure and Algorithms	2	0	0	2
C116	Communicative English and Technical Communication	2	0	0	2
C117	Engineering Physics Laboratory	0	0	2	1
C118	Basic Electrical Engineering Laboratory	0	0	2	1
C119	Data Structure and Algorithms Laboratory	0	0	4	2
C120	Communicative English and Technical Communication Laboratory	0	0	2	1
C121	Engineering Graphics and Design	1	0	2	2
C122	NSS	-	-	-	0
C201	Engineering Mathematics-III	3	1	0	4
C202	Analog Electronic Circuits	3	0	0	3
C203	Electrical and Electronic Measurements	3	0	0	3
C204	Network Theory	3	0	0	3
C205	Object-Oriented Programming using JAVA	3	0	0	3
C206	Organizational Behavior	2	0	0	2
C207	Analog Electronic Circuits Laboratory	0	0	2	1
C208	Electrical and Electronic Measurements Laboratory	0	0	2	1
C209	Object-Oriented Programming using JAVA Laboratory	0	0	2	1
C210	Summer Internship-I	-	-	-	1
C211	Essence of Indian Traditional Knowledge	-	-	-	0
C212	Digital Electronics	3	0	0	3
C213	Analog Communication	3	0	0	3
C214	Semiconductor Devices	3	0	0	3
C215	Signals and Systems	3	0	0	3
C216	Database Management Systems	3	0	0	3
C217	Engineering Economics and Costing	2	0	0	2

C218	Digital Electronics Laboratory	0	0	2	1
C219	Analog Communication Techniques Laboratory	0	0	2	1
C220	Database Management Systems Laboratory	0	0	2	1
C221	Mini Project-I	0	0	4	2
C222	Environmental Science	-	-	-	0
C301	Microprocessors and Microcontrollers	3	0	0	3
C302	Digital Communication	3	0	0	3
C303	Digital Signal Processing	3	0	0	3
C304	Electromagnetic Waves	3	0	0	3
C305	Fiber Optic Communication	3	0	0	3
C306	Fundamentals of Python Programming	3	0	0	3
C307	Human Values and Professional Ethics	2	0	0	2
C308	Microprocessors and Microcontrollers Laboratory	0	0	2	1
C309	Digital Communication Techniques Laboratory	0	0	2	1
C310	Digital Signal Processing Laboratory	0	0	2	1
C311	Mini Project-II	0	0	4	2
C312	Summer Internship-II	-	-	-	1
C313	Digital VLSI Design	3	0	0	3
C314	Microwave Engineering	3	0	0	3
C315	Computer Vision	3	0	0	3
C316	Machine Learning	3	0	0	3
C317	Operating Systems	3	0	0	3
C318	Internet of Things	3	0	0	3
C319	Dietetics and Nutrition	2	0	0	2
C320	Digital VLSI Design Laboratory	0	0	2	1
C321	Microwave Engineering Laboratory	0	0	2	1
C322	Mini Project-III	0	0	4	2
C401	Mobile Communication	3	0	0	3
C402	Data Communications and Networking	3	0	0	3
C403	Artificial Intelligence	3	0	0	3
C404	Entrepreneurship Development	2	1	0	3

C405	Project Work-I	0	0	6	3
C406	Summer Internship-III	-	-	-	1
C407	Satellite Communication	3	0	0	3
C408	Soft Computing	3	0	0	3
C409	Intellectual Property Rights	3	0	0	3
C410	Project Work-II and Dissertation	0	0	6	3

1.2.3. Components of Curriculum (05)

(Provide details of Curriculum components for all relevant Years.)

Table No.1.2.3.1: Program curriculum grouping based on curriculum components.

Curriculum Component	Curriculum Content (% of the total number of credits of the program)	Total number of contact hours	Total number of credits
Basic Sciences	9.15	450	15
Basic Engineering	20.73	1020	34
Humanities and Social Sciences	10.97	540	18
Program Core	31.09	1530	51
Program Electives	9.15	450	15
Open Electives	9.15	450	15
Project(s)	7.32	360	12
Internships/Seminars	2.44	120	4
Any other (Mandatory Courses (Induction Training, Essence of Indian Traditional Knowledge, Environmental Science))	0	0	0
Total number of Credits:			164

Table No.1.2.3.2: Program curriculum structure [AR 23].

Curriculum Component	Credits / Semester								Total number of credits	Curriculum Content (% of the total number of credits of the program)
	I	II	III	IV	V	VI	VII	VIII		
Humanities and Social Sciences including Management Courses	4	3	2	2	2	2	3	-	18	10.97
Basic Science Courses	7	4	4	-	-	-	-	-	15	9.15
Engineering Science Courses including workshop, drawing, basics of electrical / mechanical / computer, etc.	11	15	4	4	-	-	-	-	34	20.73
Professional Core Courses	-	-	11	14	15	11	-	-	51	31.09
Professional Elective Courses relevant to chosen specialization / branch	-	-	-	-	3	3	6	3	15	9.15
Open Elective Courses - Electives from other technical and/or emerging courses	-	-	-	-	-	3	6	6	15	9.15
Project Work	-	-	-	1	1	1	3	6	12	7.32
Seminars / Internships in industry or elsewhere	-	-	1	-	1	-	2	-	04	2.44
Mandatory Courses [Induction Training, Environmental Science, Indian Constitution, Essence of Indian Traditional Knowledge]	0	0	0	0	-	-	-	-	00	0
Total number of Credits:	**22**	**22**	**22**	**21**	**22**	**20**	**20**	**12**	**164**	**-**

Table No.1.2.3.3: Program curriculum structure [AR 19].

Curriculum Component	Credits / Semester								Total number of credits	Curriculum Content (% of the total number of credits of the program)
	I	II	III	IV	V	VI	VII	VIII		
Humanities and Social Sciences including Management Courses	3	3	2	2	2	-	3	-	15	9.15
Basic Science Courses	8	8	4	-	-	-	-	-	20	12.19
Engineering Science Courses including workshop, drawing, basics of electrical / mechanical / computer, etc.	10	10	4	4	-	2	-	-	30	18.29
Professional Core Courses	-	-	11	14	15	11	-	-	51	31.10
Professional Elective Courses relevant to chosen specialization / branch	-	-	-	-	3	6	6	3	18	10.97
Open Elective Courses - Electives from other technical and/or emerging courses	-	-	-	-	3	3	3	6	15	9.15
Project Work	-	-	-	2	2	2	3	3	12	7.32
Seminars / Internships in industry or elsewhere	-	-	1	-	1	-	1	-	03	1.83
Mandatory Courses [Induction Training, Environmental Science, Indian Constitution, Essence of Indian Traditional Knowledge]	0	0	0	0	-	-	-	-	00	0
Total number of Credits:	**21**	**21**	**22**	**22**	**26**	**24**	**16**	**12**	**164**	**-**

1.2.4. Strategies for Education Reforms (05)

(A brief explanation of the plans to implement and map activities in curriculum design with multidisciplinary and interdisciplinary programs, the establishment of an academic bank of credits system, APAAR, etc.)

Strategies for Education Reforms in Curriculum Design

Educational reforms aim to enhance flexibility, inclusivity, and skill development in academic programs. The following strategies outline the implementation of key reforms in curriculum design:

1. Multidisciplinary and Interdisciplinary Approaches

- **Integration of Diverse Disciplines:** Courses will incorporate concepts from multiple fields, such as Electronics and Communication Engineering combined with Artificial Intelligence, Data Science, and Management Studies.
- **Project-Based Learning (PBL):** Encouraging students to work on real-world problems that require knowledge from various disciplines.
- **Elective Courses:** Offering open electives across departments to allow students to explore varied subjects beyond their core discipline.

2. Academic Bank of Credits (ABC)

- **Credit Transfer Mechanism:** Establishing an online ABC system where students can deposit earned credits and redeem them later to complete a degree.
- **Institutional Collaboration:** Enabling seamless credit mobility between universities and technical institutions.

3. Skill-Based Courses

- **Industry-Oriented Curriculum:** Designing courses that emphasize hands-on training, industry certifications, and apprenticeships.
- **Summer Training:** Introducing skill-based programs in emerging technologies and soft skills to enhance employability.

Implementation and Mapping Activities

- **Curriculum Framework Alignment:** Mapping courses and subjects to Program Outcomes (POs) and Program Specific Outcomes (PSOs).
- **Collaboration with Industry and Academia:** Partnering with industries, research organizations, and universities for practical exposure.
- **Periodic Review and Feedback:** Establishing mechanisms to review and update curricula based on industry trends and academic advancements.

By implementing these strategies, educational institutions can create a flexible, skill-oriented, and student-centric learning environment that aligns with the National Education Policy (NEP) and global education standards.

1.3. PO, PSO, and their Mapping with Courses (20)

1.3.1. POs and PSOs (05)

(List of POs as Defined by NBA in Annexure II.

Program Specific Outcomes (PSOs) are defined by the program, with up to 3 PSOs specified. Provide details of the PSOs for the program currently seeking accreditation.)

Washington Accord Knowledge and Attitude Profiles (WKs)

WK1: A systematic, theory-based understanding of the natural sciences applicable to the discipline and awareness of relevant social sciences.

WK2: Conceptually-based mathematics, numerical analysis, data analysis, statistics and formal aspects of computer and information science to support detailed analysis and modelling applicable to the discipline.

WK3: A systematic, theory-based formulation of engineering fundamentals required in the engineering discipline.

WK4: Engineering specialist knowledge that provides theoretical frameworks and bodies of knowledge for the accepted practice areas in the engineering discipline; much is at the forefront of the discipline.

WK5: Knowledge, including efficient resource use, environmental impacts, whole-life cost, re-use of resources, net zero carbon, and similar concepts, that supports engineering design and operations in a practice area.

WK6: Knowledge of engineering practice (technology) in the practice areas in the engineering discipline.

WK7: Knowledge of the role of engineering in society and identified issues in engineering practice in the discipline, such as the professional responsibility of an engineer to public safety and sustainable development.

WK8: Engagement with selected knowledge in the current research literature of the discipline, awareness of the power of critical thinking and creative approaches to evaluate emerging issues.

WK9: Ethics, inclusive behavior and conduct. Knowledge of professional ethics, responsibilities, and norms of engineering practice. Awareness of the need for diversity by reason of ethnicity, gender, age, physical ability, etc. with mutual understanding and respect, and of inclusive attitudes.

Program Outcomes (POs)

Program Outcomes (POs) are narrower statements that describe what students are expected to know and be able to do upon graduation. These relate to the skills, knowledge, and behavior that students acquire in their matriculation through the program. The National

Board of Accreditation (NBA) has defined the following eleven POs for an engineering graduate.

Engineering Graduates will be able to:

PO1: Engineering Knowledge: Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop the solution of complex engineering problems.

PO2: Problem Analysis: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development (WK1 to WK4).

PO3: Design/Development of Solutions: Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for public health and safety, whole-life cost, net zero carbon, culture, society and environment as required (WK5).

PO4: Conduct Investigations of Complex Problems: Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).

PO5: Engineering Tool Usage: Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems (WK2 and WK6).

PO6: The Engineer and The World: Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to the economy, health, safety, legal framework, culture and environment (WK1, WK5, and WK7).

PO7: Ethics: Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws (WK9).

PO8: Individual and Collaborative Team Work: Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.

PO9: Communication: Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, and make effective presentations considering cultural, language, and learning differences.

PO10: Project Management and Finance: Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.

PO11: Life-Long Learning: Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change (WK8).

Program Specific Outcomes (PSOs)

Program Specific Outcomes (PSOs) are statements that describe what the graduates of a specific undergraduate engineering program should be able to do at the time of graduation, going beyond the broader Program Outcomes (POs). The following three PSOs have been identified for the undergraduate program of B. Tech in Electronics and Communication Engineering.

Engineering Graduates of the Electronics and Communication Engineering program will be able to:

PSO1: Develop analytical and problem-solving skills to design, implement, and optimize communication systems by integrating knowledge from allied engineering fields.

PSO2: Develop proficiency in using hardware and software tools to analyze, design, and simulate electronic systems, ensuring professional excellence in the industry.

PSO3: Apply emerging technologies with interdisciplinary approaches to innovate sustainable electronic and communication solutions for real-world challenges.

1.3.2. Mapping between the Courses and POs/PSOs (15)

(Mention the courses relevant to the POs/PSOs.)

Table No.1.3.2.1: Connection of Courses with POs/PSOs.

PO Number	List of Courses
PO1: Engineering Knowledge: Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop the solution of complex engineering problems.	Engineering Mathematics - I, II, and III Engineering Physics Basic Electrical and Electronics Engineering Basic Electrical and Electronics Engineering Laboratory Elements of Mechanical Engineering Programming for Problem-Solving Programming for Problem-Solving Laboratory Data Structure and Algorithms Data Structure and Algorithms Laboratory Fundamentals of Web Technology Object-Oriented Programming using JAVA Object-Oriented Programming using JAVA Laboratory Database Management Systems Database Management Systems Laboratory Network Theory Electronic Measurements and Instrumentation Electronic Measurements and Instrumentation Laboratory Analog Electronic Circuits Analog Electronic Circuits Laboratory Digital System Design Digital System Design Laboratory

	Electronic Devices Signals and Systems Microcontrollers and Computer Architecture Microcontrollers and Computer Architecture Laboratory Electromagnetic Waves Control Systems Analog and Digital Communication Analog and Digital Communication Laboratory Digital Signal Processing Digital Signal Processing Laboratory Digital VLSI Design Digital VLSI Design Laboratory Antennas and Microwave Engineering Antennas and Microwave Engineering Laboratory Embedded Systems and Internet of Things Embedded Systems and Internet of Things Laboratory Optical Communication and Networks Data Communications and Networking Wireless and Mobile Communication Satellite Communication Introduction to MEMS Operating Systems Data Science Computational Intelligence Cyber Security Mini Project I, II, and III Project Work I Project Work II and Dissertation
PO2: Problem Analysis: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development (WK1 to WK4).	Engineering Mathematics - I, II, and III Engineering Physics Basic Electrical and Electronics Engineering Elements of Mechanical Engineering Programming for Problem-Solving Data Structure and Algorithms Network Theory Electronic Measurements and Instrumentation Analog Electronic Circuits Digital System Design Electronic Devices Signals and Systems Microcontrollers and Computer Architecture Electromagnetic Waves Control Systems Analog and Digital Communication Digital Signal Processing Digital VLSI Design Antennas and Microwave Engineering

	Embedded Systems and Internet of Things Optical Communication and Networks Data Communications and Networking Wireless and Mobile Communication Satellite Communication Introduction to MEMS Operating Systems Data Science Computational Intelligence Cyber Security Mini Project I, II, and III Project Work I Project Work II and Dissertation
PO3: Design/Development of Solutions: Design creative solutions for complex engineering problems and design/ develop systems/ components/ processes to meet identified needs with consideration for public health and safety, whole-life cost, net zero carbon, culture, society and environment as required (WK5).	Basic Electrical and Electronics Engineering Basic Electrical and Electronics Engineering Laboratory Elements of Mechanical Engineering Programming for Problem-Solving Laboratory Data Structure and Algorithms Laboratory Fundamentals of Web Technology Engineering Workshop Engineering Graphics and Design Object-Oriented Programming using JAVA Object-Oriented Programming using JAVA Laboratory Database Management Systems Database Management Systems Laboratory Network Theory Electronic Measurements and Instrumentation Laboratory Analog Electronic Circuits Analog Electronic Circuits Laboratory Digital System Design Digital System Design Laboratory Electronic Devices Signals and Systems Microcontrollers and Computer Architecture Microcontrollers and Computer Architecture Laboratory Electromagnetic Waves Control Systems Analog and Digital Communication Analog and Digital Communication Laboratory Digital Signal Processing Digital Signal Processing Laboratory Digital VLSI Design Digital VLSI Design Laboratory Antennas and Microwave Engineering Antennas and Microwave Engineering Laboratory Embedded Systems and Internet of Things Embedded Systems and Internet of Things Laboratory

	Optical Communication and Networks Data Communications and Networking Wireless and Mobile Communication Satellite Communication Introduction to MEMS Operating Systems Computational Intelligence Cyber Security Mini Project I, II, and III Project Work I Project Work II and Dissertation
PO4: Conduct Investigations of Complex Problems: Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).	Basic Electrical and Electronics Engineering Laboratory Programming for Problem-Solving Programming for Problem-Solving Laboratory Data Structure and Algorithms Data Structure and Algorithms Laboratory Object-Oriented Programming using JAVA Object-Oriented Programming using JAVA Laboratory Database Management Systems Laboratory Electronic Measurements and Instrumentation Electronic Measurements and Instrumentation Laboratory Analog Electronic Circuits Laboratory Digital System Design Laboratory Microcontrollers and Computer Architecture Laboratory Control Systems Analog and Digital Communication Laboratory Digital Signal Processing Laboratory Digital VLSI Design Laboratory Antennas and Microwave Engineering Laboratory Embedded Systems and Internet of Things Laboratory Data Science Computational Intelligence Mini Project I, II, and III Project Work I Project Work II and Dissertation
PO5: Engineering Tool Usage: Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems (WK2 and WK6).	Basic Electrical and Electronics Engineering Basic Electrical and Electronics Engineering Laboratory Elements of Mechanical Engineering Programming for Problem-Solving Programming for Problem-Solving Laboratory Data Structure and Algorithms Data Structure and Algorithms Laboratory Fundamentals of Web Technology Engineering Workshop Engineering Graphics and Design Object-Oriented Programming using JAVA Object-Oriented Programming using JAVA Laboratory

	Database Management Systems Database Management Systems Laboratory Network Theory Electronic Measurements and Instrumentation Electronic Measurements and Instrumentation Laboratory Analog Electronic Circuits Analog Electronic Circuits Laboratory Digital System Design Digital System Design Laboratory Electronic Devices Signals and Systems Microcontrollers and Computer Architecture Microcontrollers and Computer Architecture Laboratory Control Systems Analog and Digital Communication Analog and Digital Communication Laboratory Digital Signal Processing Digital Signal Processing Laboratory Digital VLSI Design Digital VLSI Design Laboratory Antennas and Microwave Engineering Antennas and Microwave Engineering Laboratory Embedded Systems and Internet of Things Embedded Systems and Internet of Things Laboratory Optical Communication and Networks Data Communications and Networking Wireless and Mobile Communication Satellite Communication Introduction to MEMS Operating Systems Data Science Computational Intelligence Cyber Security Mini Project I, II, and III Project Work I Project Work II and Dissertation
PO6: The Engineer and The World: Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to the economy, health, safety, legal framework, culture and environment (WK1, WK5, and WK7).	Essence of Indian Traditional Knowledge Environmental Science Engineering Physics Basic Electrical and Electronics Engineering Basic Electrical and Electronics Engineering Laboratory Elements of Mechanical Engineering Engineering Workshop Engineering Graphics and Design Dietetics and Nutrition Human Values and Professional Ethics Engineering Economics and Costing

	Entrepreneurship Development Network Theory Electronic Measurements and Instrumentation Electronic Measurements and Instrumentation Laboratory Analog Electronic Circuits Analog Electronic Circuits Laboratory Digital System Design Digital System Design Laboratory Electronic Devices Signals and Systems Microcontrollers and Computer Architecture Microcontrollers and Computer Architecture Laboratory Electromagnetic Waves Control Systems Analog and Digital Communication Analog and Digital Communication Laboratory Digital Signal Processing Digital Signal Processing Laboratory Digital VLSI Design Digital VLSI Design Laboratory Antennas and Microwave Engineering Antennas and Microwave Engineering Laboratory Embedded Systems and Internet of Things Embedded Systems and Internet of Things Laboratory Optical Communication and Networks Data Communications and Networking Wireless and Mobile Communication Satellite Communication Introduction to MEMS Cyber Security Intellectual Property Rights Mini Project I, II, and III Project Work I Project Work II and Dissertation Summer Internships I, II, and III
PO7: Ethics: Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws (WK9).	Essence of Indian Traditional Knowledge Environmental Science Dietetics and Nutrition Human Values and Professional Ethics Advanced Communication Skills and Professional Ethics Advanced Communication Skills and Professional Ethics Laboratory Organizational Behaviour Cyber Security Intellectual Property Rights Summer Internships I, II, and III Induction Program

	NSS/YOGA
PO8: Individual and Collaborative Team Work: Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.	Human Values and Professional Ethics Communicative English and Soft Skills Communicative English and Soft Skills Laboratory Communicative English and Technical Communication Communicative English and Technical Communication Laboratory Intermediate Communication Skills and Critical Thinking Intermediate Communication Skills and Critical Thinking Laboratory Advanced Communication Skills and Professional Ethics Advanced Communication Skills and Professional Ethics Laboratory Organizational Behaviour Entrepreneurship Development Intellectual Property Rights Technical Seminar Mini Project I, II, and III Project Work I Project Work II and Dissertation Summer Internships I, II, and III Induction Program NSS/YOGA
PO9: Communication: Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, and make effective presentations considering cultural, language, and learning differences.	Human Values and Professional Ethics Communicative English and Soft Skills Communicative English and Soft Skills Laboratory Communicative English and Technical Communication Communicative English and Technical Communication Laboratory Intermediate Communication Skills and Critical Thinking Intermediate Communication Skills and Critical Thinking Laboratory Advanced Communication Skills and Professional Ethics Advanced Communication Skills and Professional Ethics Laboratory Organizational Behaviour Engineering Economics and Costing Entrepreneurship Development Intellectual Property Rights Technical Seminar Summer Internships I, II, and III Induction Program NSS/YOGA
PO10: Project Management and Finance: Apply knowledge and understanding of	Human Values and Professional Ethics Organizational Behaviour Engineering Economics and Costing

engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.	Entrepreneurship Development Intellectual Property Rights Technical Seminar Mini Project I, II, and III Project Work I Project Work II and Dissertation Summer Internships I, II, and III
PO11: Life-Long Learning: Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change (WK8).	Engineering Mathematics - I, II, and III Programming for Problem-Solving Programming for Problem-Solving Laboratory Data Structure and Algorithms Data Structure and Algorithms Laboratory Fundamentals of Web Technology Object-Oriented Programming using JAVA Object-Oriented Programming using JAVA Laboratory Database Management Systems Database Management Systems Laboratory Embedded Systems and Internet of Things Embedded Systems and Internet of Things Laboratory Optical Communication and Networks Data Communications and Networking Wireless and Mobile Communication Satellite Communication Operating Systems Data Science Computational Intelligence Cyber Security Mini Project I, II, and III Project Work I Project Work II and Dissertation Summer Internships I, II, and III Induction Program NSS/YOGA
PSO1: Develop analytical and problem-solving skills to design, implement, and optimize communication systems by integrating knowledge from allied engineering fields.	Engineering Mathematics - I, II, and III Engineering Physics Basic Electrical and Electronics Engineering Basic Electrical and Electronics Engineering Laboratory Elements of Mechanical Engineering Network Theory Electronic Measurements and Instrumentation Electronic Measurements and Instrumentation Laboratory Analog Electronic Circuits Analog Electronic Circuits Laboratory Digital System Design Digital System Design Laboratory Electronic Devices

	Signals and Systems Microcontrollers and Computer Architecture Microcontrollers and Computer Architecture Laboratory Electromagnetic Waves Control Systems Analog and Digital Communication Analog and Digital Communication Laboratory Digital Signal Processing Digital Signal Processing Laboratory Digital VLSI Design Digital VLSI Design Laboratory Antennas and Microwave Engineering Antennas and Microwave Engineering Laboratory Optical Communication and Networks Wireless and Mobile Communication Satellite Communication Introduction to MEMS Mini Project I, II, and III Project Work I Project Work II and Dissertation Summer Internships I, II, and III
PSO2: Develop proficiency in using hardware and software tools to analyze, design, and simulate electronic systems, ensuring professional excellence in the industry.	Basic Electrical and Electronics Engineering Basic Electrical and Electronics Engineering Laboratory Programming for Problem-Solving Programming for Problem-Solving Laboratory Data Structure and Algorithms Data Structure and Algorithms Laboratory Fundamentals of Web Technology Engineering Workshop Engineering Graphics and Design Object-Oriented Programming using JAVA Object-Oriented Programming using JAVA Laboratory Database Management Systems Database Management Systems Laboratory Network Theory Electronic Measurements and Instrumentation Electronic Measurements and Instrumentation Laboratory Analog Electronic Circuits Analog Electronic Circuits Laboratory Digital System Design Digital System Design Laboratory Electronic Devices Microcontrollers and Computer Architecture Microcontrollers and Computer Architecture Laboratory Digital VLSI Design Digital VLSI Design Laboratory Embedded Systems and Internet of Things

	Embedded Systems and Internet of Things Laboratory Data Communications and Networking Operating Systems Data Science Computational Intelligence Cyber Security Mini Project I, II, and III Project Work I Project Work II and Dissertation Summer Internships I, II, and III
PSO3: Apply emerging technologies with interdisciplinary approaches to innovate sustainable electronic and communication solutions for real-world challenges.	Engineering Workshop Engineering Graphics and Design Control Systems Analog and Digital Communication Analog and Digital Communication Laboratory Digital Signal Processing Digital Signal Processing Laboratory Antennas and Microwave Engineering Antennas and Microwave Engineering Laboratory Embedded Systems and Internet of Things Embedded Systems and Internet of Things Laboratory Optical Communication and Networks Data Communications and Networking Wireless and Mobile Communication Satellite Communication Introduction to MEMS Computational Intelligence Mini Project I, II, and III Project Work I Project Work II and Dissertation Summer Internships I, II, and III

Table No.1.3.2.2: Mapping of Courses to POs and PSOs [AR 23].

I Semester [First Year]						
Sl. No.	**Course Category**	**Course Code**	**Course Title**	**Relevant POs**	**Relevant PSOs**	**Justification**
1	BS	C102	Engineering Mathematics-I	PO1, PO2, PO11	PSO1	Provides fundamental mathematical knowledge required for problem-solving and analytical skills.

2	BS	C102	Engineering Physics	PO1, PO2, PO6	PSO1	Enhances understanding of natural sciences applicable to engineering, essential for analysis.
3	ES	C103	Basic Electrical and Electronics Engineering	PO1, PO2, PO3, PO5, PO6	PSO1, PSO2	Covers electrical circuit concepts, analysis, and real-world applications, helping in design and problem-solving.
4	ES	C104	Programming for Problem-Solving	PO1, PO2, PO4, PO5, PO11	PSO2	Develops logical thinking, programming skills, and algorithmic problem-solving abilities.
5	HS	C105	Communicative English and Soft Skills	PO8, PO9	-	Enhances communication skills, teamwork, and professional interaction in engineering contexts.
6	HS	C106	Human Values and Professional Ethics	PO6, PO7, PO8, PO9, PO10	-	Develops ethical awareness, professional responsibility, teamwork, inclusivity, and sustainable decision-making, fostering well-rounded engineering professionals.
7	ES	C107	Basic Electrical and Electronics Engineering Laboratory	PO1, PO3, PO4, PO5, PO6	PSO1, PSO2	Hands-on experience with electrical circuits, verification of theoretical concepts, and application of engineering tools.

8	ES	C108	Programming for Problem-Solving Laboratory	PO1, PO3, PO4, PO5, PO11	PSO2	Practical implementation of programming skills to solve real-world problems.
9	HS	C109	Communicative English and Soft Skills Laboratory	PO8, PO9	-	Develops effective communication, teamwork, and presentation skills, essential for professional success.
10	ES	C110	Engineering Graphics and Design	PO3, PO5, PO6	PSO2, PSO3	Strengthens visualization, design principles, and CAD software usage, crucial for engineering problem-solving.
11	MC	C111	Induction Program	PO7, PO8, PO9, PO11	-	Introduces students to engineering ethics, teamwork, and lifelong learning approaches.
II Semester [First Year]						
Sl. No.	**Course Category**	**Course Code**	**Course Title**	**Relevant POs**	**Relevant PSOs**	**Justification**
1	BS	C112	Engineering Mathematics-II	PO1, PO2, PO11	PSO1	Provides advanced mathematical techniques essential for engineering problem-solving and analysis.
2	ES	C113	Elements of Mechanical Engineering	PO1, PO2, PO3, PO5, PO6	PSO1	Introduces mechanical engineering principles applicable in electronics, emphasizing problem-solving and design.

3	ES	C114	Data Structure and Algorithms	PO1, PO2, PO4, PO5, PO11	PSO2	Develops algorithmic thinking and problem-solving skills essential for efficient computing and engineering solutions.
4	HS	C115	Communicative English and Technical Communication	PO8, PO9	-	Enhances technical communication skills, professional writing, and presentations critical for engineers.
5	ES	C116	Dietetics and Nutrition	PO6, PO7	-	Provides knowledge of health, nutrition, and well-being, aligning with societal and ethical responsibilities.
6	ES	C117	Fundamentals of Web Technology	PO1, PO3, PO5, PO11	PSO2	Provides hands-on experience in web development, enabling students to design, develop, and deploy web applications, enhancing their technical and problem-solving skills.
7	ES	C118	Data Structure and Algorithms Laboratory	PO1, PO3, PO4, PO5, PO11	PSO2	Hands-on implementation of data structures and algorithms, enhancing computational and analytical skills.
8	HS	C119	Communicative English and Technical Communication Laboratory	PO8, PO9	-	Improves verbal and written communication skills through practical exercises and professional presentations.

9	ES	C120	Engineering Workshop	PO3, PO5, PO6	PSO2, PSO3	Provides hands-on experience in fabrication, machining, and prototyping, supporting real-world engineering applications.
10	MC	C121	NSS/YOGA	PO7, PO8, PO9, PO11	-	Promotes ethics, leadership, teamwork, health, and lifelong learning skills for personal and professional growth.
III Semester [Second Year]						
Sl. No.	**Course Category**	**Course Code**	**Course Title**	**Relevant POs**	**Relevant PSOs**	**Justification**
1	BS	C201	Engineering Mathematics-III	PO1, PO2, PO11	PSO1	Provides advanced mathematical techniques crucial for engineering analysis and problem-solving.
2	PC	C202	Analog Electronic Circuits	PO1, PO2, PO3, PO5, PO6	PSO1, PSO2	Covers design, analysis, and applications of analog circuits in electronic engineering.
3	PC	C203	Electronic Measurements and Instrumentation	PO1, PO2, PO4, PO5, PO6	PSO1, PSO2	Focuses on precision measurement techniques and instrumentation for electronics.
4	PC	C204	Network Theory	PO1, PO2, PO3, PO5, PO6	PSO1, PSO2	Develops fundamental knowledge of circuit networks, their analysis, and real-world applications.

5	ES	C205	Object-Oriented Programming using JAVA	PO1, PO3, PO4, PO5, PO11	PSO2	Strengthens programming skills through object-oriented concepts, relevant for software development in engineering.
6	HS	C206	Intermediate Communication Skills and Critical Thinking	PO8, PO9	-	Enhances professional communication, critical thinking, and analytical reasoning skills.
7	PC	C207	Analog Electronic Circuits Laboratory	PO1, PO3, PO4, PO5, PO6	PSO1, PSO2	Hands-on implementation of analog circuits, enhancing design and troubleshooting skills.
8	PC	C208	Electronic Measurements and Instrumentation Laboratory	PO1, PO3, PO4, PO5, PO6	PSO1, PSO2	Provides practical exposure to measuring instruments, error analysis, and calibration techniques.
9	ES	C209	Object-Oriented Programming using JAVA Laboratory	PO1, PO3, PO4, PO5, PO11	PSO2	Practical exposure to Java programming for software development, debugging, and implementation.
10	HS	C210	Intermediate Communication Skills and Critical Thinking Laboratory	PO8, PO9	-	Develops technical communication, teamwork, and presentation skills through practical exercises.
11	PST	C211	Summer Internship I	PO6, PO7, PO8, PO9, PO10, PO11	PSO1, PSO2, PSO3	Provides industry exposure, professional skill development, teamwork, and hands-on problem-solving experience

						in a professional environment.
12	MC	C212	Essence of Indian Traditional Knowledge	PO6, PO7	-	Creates awareness of Indian traditions, ethics, sustainability, and societal contributions.
IV Semester [Second Year]						
Sl. No.	**Course Category**	**Course Code**	**Course Title**	**Relevant POs**	**Relevant PSOs**	**Justification**
1	PC	C213	Digital System Design	PO1, PO2, PO3, PO5, PO6	PSO1, PSO2	Covers combinational and sequential circuit design, enabling problem-solving in digital logic.
2	PC	C214	Analog and Digital Communication	PO1, PO2, PO3, PO5, PO6	PSO1, PSO3	Introduces fundamental and advanced communication techniques essential for electronics engineers.
3	PC	C215	Electronic Devices	PO1, PO2, PO3, PO5, PO6	PSO1, PSO2	Provides in-depth knowledge of semiconductor devices, their working principles, and applications.
4	PC	C216	Signals and Systems	PO1, PO2, PO3, PO5, PO6	PSO1	Fundamental course on signal processing, essential for communication and control systems.
5	ES	C217	Database Management Systems	PO1, PO3, PO5, PO11	PSO2	Introduces database concepts and applications relevant to data management in engineering systems.

6	HS	C218	Advanced Communication Skills and Professional Ethics	PO7, PO8, PO9	-	Enhances professional communication, teamwork, ethics, and leadership qualities.
7	PC	C219	Digital System Design Laboratory	PO1, PO3, PO4, PO5, PO6	PSO1, PSO2	Practical exposure to digital circuit design using hardware and simulation tools.
8	PC	C220	Analog and Digital Communication Laboratory	PO1, PO3, PO4, PO5, PO6	PSO1, PSO3	Provides hands-on experience with analog and digital modulation techniques.
9	ES	C221	Database Management Systems Laboratory	PO1, PO3, PO4, PO5, PO11	PSO2	Practical application of database concepts, query optimization, and data analysis.
10	HS	C222	Advanced Communication Skills and Professional Ethics Laboratory	PO7, PO8, PO9	-	Strengthens ethical decision-making, teamwork, and workplace communication.
11	PST	C223	Mini Project I	PO1, PO2, PO3, PO4, PO5, PO6, PO8, PO10, PO11	PSO1, PSO2, PSO3	Encourages innovation, problem-solving, teamwork, and application of engineering principles in real-world projects.
12	MC	C224	Environmental Science	PO6, PO7	-	Creates awareness of environmental sustainability, resource management, and ethics in engineering.
V Semester [Third Year]						

Sl. No.	Course Category	Course Code	Course Title	Relevant POs	Relevant PSOs	Justification
1	PC	C301	Microcontrollers and Computer Architecture	PO1, PO2, PO3, PO5, PO6	PSO1, PSO2	Covers embedded system fundamentals, microcontroller programming, and computer architecture.
2	PC	C302	Digital Signal Processing	PO1, PO2, PO3, PO5, PO6	PSO1, PSO3	Introduces discrete-time signals, transforms, and filtering techniques used in communication.
3	PC	C303	Digital VLSI Design	PO1, PO2, PO3, PO5, PO6	PSO1, PSO2	Focuses on digital integrated circuit design, simulation, and implementation using VLSI technology.
4	PC	C304	Electromagnetic Waves	PO1, PO2, PO3, PO6	PSO1	Provides theoretical and practical understanding of wave propagation and applications in RF and microwave engineering.
5	PE	C305	Optical Communication and Networks	PO1, PO2, PO3, PO5, PO6, PO11	PSO1, PSO3	Covers fiber optics, optical networking, and advanced communication techniques.
6	HS	C306	Organizational Behaviour	PO7, PO8, PO9, PO10	-	Enhances leadership, teamwork, ethical decision-making, and corporate behavior understanding.
7	PC	C307	Microcontrollers and Computer Architecture Laboratory	PO1, PO3, PO4,	PSO1, PSO2	Practical application of microcontroller programming, interfacing, and

				PO5, PO6		embedded system design.
8	PC	C308	Digital Signal Processing Laboratory	PO1, PO3, PO4, PO5, PO6	PSO1, PSO3	Hands-on implementation of DSP algorithms, signal filtering, and real-time processing techniques.
9	PC	C309	Digital VLSI Design Laboratory	PO1, PO3, PO4, PO5, PO6	PSO1, PSO2	Exposure to VLSI design tools, circuit simulation, and ASIC/FPGA implementations.
10	PST	C310	Mini Project II	PO1, PO2, PO3, PO4, PO5, PO6, PO8, PO10, PO11	PSO1, PSO2, PSO3	Encourages real-world problem-solving, innovation, teamwork, and application of interdisciplinary engineering concepts.
11	PST	C311	Summer Internship II	PO6, PO7, PO8, PO9, PO10, PO11	PSO1, PSO2, PSO3	Provides industry exposure, professional skill development, teamwork, and hands-on problem-solving experience in a professional environment.
VI Semester [Third Year]						
Sl. No.	**Course Category**	**Course Code**	**Course Title**	**Relevant POs**	**Relevant PSOs**	**Justification**
1	PC	C312	Embedded Systems and Internet of Things	PO1, PO2, PO3, PO5, PO6, PO11	PSO2, PSO3	Covers microcontrollers, IoT architecture, and real-time applications, enhancing problem-solving and innovation skills.

2	PC	C313	Antennas and Microwave Engineering	PO1, PO2, PO3, PO5, PO6	PSO1, PSO3	Develop expertise in electromagnetic waves, antenna design, and microwave applications crucial for communication systems.
3	PC	C314	Control Systems	PO1, PO2, PO3, PO4, PO5, PO6	PSO1, PSO3	Introduces feedback control, stability analysis, and automation, vital for various electronic and communication systems.
4	PE	C315	Data Communications and Networking	PO1, PO2, PO3, PO5, PO6, PO11	PSO2, PSO3	Provides knowledge of network protocols, data transmission, and communication technologies for modern digital systems.
5	OE	C316	Operating Systems	PO1, PO2, PO3, PO5, PO11	PSO2	Covers process management, memory management, and system security, essential for software and hardware integration.
6	HS	C317	Engineering Economics and Costing	PO6, PO9, PO10	-	Introduces economic decision-making, cost analysis, and financial management principles essential for engineering project planning and management.
7	PC	C318	Embedded Systems and Internet of Things Laboratory	PO1, PO3, PO4, PO5,	PSO2, PSO3	Provides hands-on experience in designing and implementing embedded systems and IoT

				PO6, PO11		applications, enhancing problem-solving, hardware-software integration, and real-world application skills.
8	PC	C319	Antennas and Microwave Engineering Laboratory	PO1, PO3, PO4, PO5, PO6	PSO1, PSO3	Provides hands-on experience in designing, analyzing, and testing antennas and microwave components, enhancing practical understanding of wireless communication.
9	PST	C320	Mini Project III	PO1, PO2, PO3, PO4, PO5, PO6, PO8, PO10, PO11	PSO1, PSO2, PSO3	Encourages independent research, teamwork, and application of engineering principles to solve real-world challenges.
VII Semester [Fourth Year]						
Sl. No.	**Course Category**	**Course Code**	**Course Title**	**Relevant POs**	**Relevant PSOs**	**Justification**
1	PE	C401	Wireless and Mobile Communication	PO1, PO2, PO3, PO5, PO6, PO11	PSO1, PSO3	Covers wireless technologies, mobile networks, and signal processing for modern communication systems.
2	PE	C402	Introduction to MEMS	PO1, PO2, PO3, PO5, PO6	PSO1, PSO3	Provides knowledge of Micro-Electro-Mechanical Systems (MEMS), sensors, actuators, and their applications.
3	OE	C403	Data Science	PO1, PO2, PO4,	PSO2	Introduces data analytics, machine learning, and

				PO5, PO11		statistical modeling, crucial for processing engineering data.
4	OE	C404	Computational Intelligence	PO1, PO2, PO3, PO4, PO5, PO11	PSO2, PSO3	Covers artificial intelligence, neural networks, and fuzzy logic for solving complex real-world problems in engineering.
5	HS	C405	Entrepreneurship Development	PO6, PO8, PO9, PO10	-	Encourages innovation, business strategies, and financial planning for entrepreneurial ventures.
6	PST	C406	Technical Seminar	PO8, PO9, PO10	-	Enhances research, presentation, and technical communication skills for professional growth.
7	PST	C407	Project Work I	PO1, PO2, PO3, PO4, PO5, PO6, PO8, PO10, PO11	PSO1, PSO2, PSO3	Promotes independent research, teamwork, and real-world problem-solving through engineering projects.
8	PST	C408	Summer Internship III	PO6, PO7, PO8, PO9, PO10, PO11	PSO1, PSO2, PSO3	Provides industry exposure, professional skill development, teamwork, and hands-on problem-solving experience in a professional environment.
VIII Semester [Fourth Year]						
Sl. No.	**Course Category**	**Course Code**	**Course Title**	**Relevant POs**	**Relevant PSOs**	**Justification**

1	PE	C409	Satellite Communication	PO1, PO2, PO3, PO5, PO6, PO11	PSO1, PSO3	Covers satellite systems, signal propagation, and space communication, essential for advanced communication engineering.
2	OE	C410	Cyber Security	PO1, PO2, PO3, PO5, PO6, PO7, PO11	PSO2	Introduces cybersecurity principles, network security, cryptography, and ethical hacking to ensure secure systems.
3	OE	C411	Intellectual Property Rights	PO6, PO7, PO8, PO9, PO10	-	Provides knowledge of patents, copyrights, trademarks, and legal aspects of innovation and technology.
4	PST	C412	Project Work II and Dissertation	PO1, PO2, PO3, PO4, PO5, PO6, PO8, PO10, PO11	PSO1, PSO2, PSO3	Encourages independent research, innovation, teamwork, and technical problem-solving through a full-fledged engineering project.

Table No.1.3.2.2: Mapping of Courses to POs and PSOs [AR 19].

I Semester [First Year]						
Sl. No.	**Course Category**	**Course Code**	**Course Title**	**Relevant POs**	**Relevant PSOs**	**Justification**

1	BS	C101	Engineering Mathematics-I	PO1, PO2, PO12	PSO1	Builds strong mathematical foundations essential for solving complex engineering problems and encourages life-long analytical thinking.
2	BS	C102	Engineering Chemistry	PO1, PO2, PO4, PO6, PO7, PO12	–	Applies principles of chemistry to understand materials and environmental concerns relevant to engineering.
3	ES	C103	Basic Electronics	PO1, PO2, PO3, PO5, PO12	PSO1, PSO2	Introduces electronics fundamentals and tools essential for communication systems and electronic system design.
4	ES	C104	Programming for Problem Solving	PO1, PO2, PO5, PO9, PO10, PO12	PSO2	Enhances logic building and tool usage in programming for engineering problem-solving and teamwork.
5	HS	C105	Communicative English and Soft Skills	PO9, PO10, PO11	–	Develop communication and interpersonal skills crucial for professional environments and multidisciplinary teams.
6	BS	C106	Engineering Chemistry Laboratory	PO1, PO2, PO4, PO6, PO7, PO9, PO10	–	Hands-on experimentation and analytical skill development with a focus on environmental safety.

7	ES	C107	Basic Electronics Laboratory	PO1, PO2, PO3, PO4, PO5, PO9, PO10, PO12	PSO1, PSO2	Practical understanding of electronic components and circuits, teamwork, and technical communication.
8	ES	C108	Programming for Problem Solving Laboratory	PO1, PO2, PO5, PO9, PO10, PO12	PSO2	Practical application of coding skills to solve problems with collaboration and documentation.
9	HS	C109	Communicative English and Soft Skills Laboratory	PO9, PO10	–	Reinforces professional communication and collaborative learning through practice.
10	ES	C110	Engineering Workshop	PO1, PO2, PO3, PO5, PO6, PO9, PO10, PO11	PSO2	Provides exposure to tools, fabrication, teamwork, and basic engineering practices.
11	MC	C111	Induction Program	PO6, PO7, PO8, PO9, PO10, PO12	–	Instils human values, social responsibility, ethics, and the importance of life-long learning.
II Semester [First Year]						
Sl. No.	**Course Category**	**Course Code**	**Course Title**	**Relevant POs**	**Relevant PSOs**	**Justification**
1	BS	C112	Engineering Mathematics-II	PO1, PO2, PO12	PSO1	Enhances analytical and problem-solving skills using mathematical tools essential for engineering applications and continuous learning.

2	BS	C113	Engineering Physics	PO1, PO2, PO4, PO6, PO7, PO12	–	Provides physical insight into engineering systems, with emphasis on sustainable and socially relevant technologies.
3	ES	C114	Basic Electrical Engineering	PO1, PO2, PO3, PO5, PO12	PSO1, PSO2	Introduces electrical principles and practical applications related to electronic and communication systems.
4	ES	C115	Data Structure and Algorithms	PO1, PO2, PO5, PO9, PO12	PSO2	Develops algorithmic thinking, problem-solving, and software design skills using efficient data structures.
5	HS	C116	Communicative English and Technical Communication	PO9, PO10, PO11	–	Focuses on technical writing, oral communication, and interpersonal skills critical for engineering documentation and teamwork.
6	BS	C117	Engineering Physics Laboratory	PO1, PO2, PO4, PO5, PO6, PO7, PO9, PO10	–	Enhances understanding of theoretical physics through experiments, encouraging scientific inquiry and communication.
7	ES	C118	Basic Electrical Engineering Laboratory	PO1, PO2, PO3, PO4, PO5, PO9, PO10, PO12	PSO1, PSO2	Hands-on training in basic electrical circuits and measurements, building foundation for electronic system design.

8	ES	C119	Data Structure and Algorithms Laboratory	PO1, PO2, PO5, PO9, PO10, PO12	PSO2	Practical coding experience in algorithm design and teamwork to develop real-world problem-solving skills.
9	HS	C120	Communicative English and Technical Communication Laboratory	PO9, PO10	–	Reinforces technical language skills, verbal communication, and collaboration in technical settings.
10	ES	C121	Engineering Graphics and Design	PO1, PO2, PO3, PO5, PO9, PO10	PSO2	Improves visualization, design, and CAD tool proficiency for engineering drawing and layout creation.
11	MC	C122	NSS	PO6, PO7, PO8, PO9, PO10, PO12	–	Builds social awareness, ethics, teamwork, and responsibility through community engagement and reflective learning.
III Semester [Second Year]						
Sl. No.	**Course Category**	**Course Code**	**Course Title**	**Relevant POs**	**Relevant PSOs**	**Justification**
1	BS	C201	Engineering Mathematics-III	PO1, PO2, PO12	PSO1	Provides advanced mathematical techniques for solving electrical and communication-related problems; promotes analytical thinking.
2	PC	C202	Analog Electronic Circuits	PO1, PO2, PO3, PO5, PO12	PSO1, PSO2	Focuses on circuit analysis and design, crucial for communication and embedded systems.
3	PC	C203	Electrical and Electronic Measurements	PO1, PO2, PO4,	PSO2	Teaches accurate measurement techniques, instrumentation, and

				PO5, PO12		tool usage, essential for system design and validation.
4	PC	C204	Network Theory	PO1, PO2, PO3, PO4, PO12	PSO1, PSO2	Develops analytical skills for circuit behavior prediction and system design.
5	ES	C205	Object-Oriented Programming using JAVA	PO1, PO2, PO5, PO9, PO10, PO12	PSO2	Builds software design and development skills essential for simulations, data handling, and real-world applications.
6	HS	C206	Organizational Behavior	PO6, PO8, PO9, PO10, PO11	–	Develops understanding of professional ethics, teamwork, leadership, and management practices.
7	PC	C207	Analog Electronic Circuits Laboratory	PO1, PO2, PO3, PO4, PO5, PO9, PO10	PSO1, PSO2	Reinforces theoretical knowledge through practical experiments and fosters teamwork and communication.
8	PC	C208	Electrical and Electronic Measurements Laboratory	PO1, PO2, PO4, PO5, PO9, PO10	PSO2	Hands-on skills in instrumentation and measurement tools relevant to electronics engineering.
9	ES	C209	Object-Oriented Programming using JAVA Laboratory	PO1, PO2, PO5, PO9, PO10, PO12	PSO2	Enhances coding, debugging, and collaborative software development skills.
10	PST	C210	Summer Internship I	PO5, PO9, PO10,	PSO1, PSO2	Encourages industrial exposure, teamwork, communication, and

				PO11, PO12		professional development through practical experience.
11	MC	C211	Essence of Indian Traditional Knowledge	PO6, PO7, PO8, PO12	–	Promotes ethical reasoning, sustainability awareness, and lifelong learning through cultural insights.
IV Semester [Second Year]						
Sl. No.	**Course Category**	**Course Code**	**Course Title**	**Relevant POs**	**Relevant PSOs**	**Justification**
1	PC	C212	Digital Electronics	PO1, PO2, PO3, PO5, PO12	PSO1, PSO2	Builds fundamental knowledge and design skills for logic circuits; supports electronic system design.
2	PC	C213	Analog Communication	PO1, PO2, PO3, PO4, PO5, PO12	PSO1, PSO2	Covers modulation techniques and system design principles relevant to modern communication systems.
3	PC	C214	Semiconductor Devices	PO1, PO2, PO3, PO5, PO12	PSO1	Provides an understanding of device operation, essential for VLSI, sensors, and analog/digital systems.
4	PC	C215	Signals and Systems	PO1, PO2, PO4, PO5, PO12	PSO1	Essential for understanding system behavior, signal processing, and control systems.
5	ES	C216	Database Management Systems	PO1, PO2, PO5, PO9,	PSO2	Offers foundational knowledge for managing and designing data-

				PO10, PO12		centric systems using modern tools.
6	HS	C217	Engineering Economics and Costing	PO6, PO10, PO11, PO12	–	Introduces financial decision-making, cost estimation, and project budgeting in engineering contexts.
7	PC	C218	Digital Electronics Laboratory	PO1, PO2, PO3, PO5, PO9, PO10	PSO1, PSO2	Enhances hands-on skills in digital design using logic gates and combinational/sequential circuits.
8	PC	C219	Analog Communication Techniques Laboratory	PO1, PO2, PO4, PO5, PO9, PO10	PSO1, PSO2	Encourages experimentation in modulation, detection, and signal transmission using hardware/software tools.
9	ES	C220	Database Management Systems Laboratory	PO1, PO2, PO5, PO9, PO10, PO12	PSO2	Strengthens practical skills in SQL, database design, and problem-solving through team projects.
10	PST	C221	Mini Project I	PO3, PO5, PO9, PO10, PO11, PO12	PSO1, PSO2	Cultivates design thinking, system integration, teamwork, and project management via real-world projects.
11	MC	C222	Environmental Science	PO6, PO7, PO8, PO12	–	Promotes awareness of sustainability, environmental ethics, and responsible engineering practices.
V Semester [Third Year]						

Sl. No.	Course Category	Course Code	Course Title	Relevant POs	Relevant PSOs	Justification
1	PC	C301	Microprocessors and Microcontrollers	PO1, PO2, PO3, PO5, PO12	PSO1, PSO2	Builds foundational skills in embedded systems, essential for control and communication applications.
2	PC	C302	Digital Communication	PO1, PO2, PO3, PO4, PO5, PO12	PSO1, PSO2	Focuses on data transmission techniques and systems critical to digital communication.
3	PC	C303	Digital Signal Processing	PO1, PO2, PO4, PO5, PO12	PSO1	Enhances understanding of signal transformations and filtering—vital for real-time systems.
4	PC	C304	Electromagnetic Waves	PO1, PO2, PO3, PO4, PO12	PSO1	Establishes theoretical grounding for antenna, microwave, and wireless systems.
5	PE	C305	Fiber Optic Communication	PO1, PO2, PO3, PO5, PO12	PSO1, PSO2	Specialized elective focused on optical transmission systems and fiber-based technologies.
6	OE	C306	Fundamentals of Python Programming	PO5, PO9, PO10, PO12	PSO2	Equips students with essential programming skills for simulations and tool development.
7	HS	C307	Human Values and Professional Ethics	PO6, PO7, PO8, PO9, PO10, PO12	–	Instills professional ethics, societal responsibility, and environmental consciousness.

8	PC	C308	Microprocessors and Microcontrollers Laboratory	PO1, PO2, PO3, PO5, PO9, PO10	PSO1, PSO2	Reinforces practical embedded system design using development kits and tools.
9	PC	C309	Digital Communication Techniques Laboratory	PO1, PO2, PO3, PO4, PO5, PO9, PO10	PSO1, PSO2	Develops skills in designing, testing, and analyzing digital transmission systems.
10	PC	C310	Digital Signal Processing Laboratory	PO1, PO2, PO4, PO5, PO9, PO10	PSO1	Provides hands-on experience in implementing filters, FFT, and DSP algorithms.
11	PST	C311	Mini Project II	PO3, PO5, PO9, PO10, PO11, PO12	PSO1, PSO2	Promotes innovation, teamwork, and project-based learning on real-world problems.
12	PST	C312	Summer Internship II	PO5, PO9, PO10, PO11, PO12	PSO1, PSO2	Enhances industry exposure and practical learning through real-time engagement.
VI Semester [Third Year]						
Sl. No.	**Course Category**	**Course Code**	**Course Title**	**Relevant POs**	**Relevant PSOs**	**Justification**
1	PC	C313	Digital VLSI Design	PO1, PO2, PO3, PO5, PO12	PSO2	Focuses on digital IC design using HDL and CAD tools; aligns with modern hardware systems.
2	PC	C314	Microwave Engineering	PO1, PO2, PO3, PO4, PO12	PSO1	Essential for understanding high-frequency communication system design.

3	PC	C315	Computer Vision	PO1, PO2, PO4, PO5, PO12	PSO2	Involves image processing algorithms and real-time system modeling.
4	PE	C316	Machine Learning	PO1, PO2, PO3, PO4, PO5, PO12	PSO1, PSO2	Enables data-driven analysis and intelligent decision-making in electronics applications.
5	PE	C317	Operating Systems	PO1, PO2, PO3, PO5, PO12	PSO2	Builds core understanding of process management, memory, and embedded OS integration.
6	OE	C318	Internet of Things	PO1, PO2, PO3, PO5, PO6, PO12	PSO1, PSO2	Combines hardware/software for smart system design using sensors, connectivity, and cloud tools.
7	ES	C319	Dietetics and Nutrition	PO6, PO7, PO8, PO12	–	Promotes holistic development and awareness of health and sustainability.
8	PC	C320	Digital VLSI Design Laboratory	PO1, PO2, PO3, PO5, PO9, PO10	PSO2	Hands-on work with HDL, synthesis tools, and chip-level simulation.
9	PC	C321	Microwave Engineering Laboratory	PO1, PO2, PO4, PO5, PO9, PO10	PSO1	Practical training in microwave measurement and component characterization.

10	PST	C322	Mini Project III	PO3, PO5, PO9, PO10, PO11, PO12	PSO1, PSO2	Encourages innovation, team collaboration, and project development experience.
VII Semester [Fourth Year]						
Sl. No.	**Course Category**	**Course Code**	**Course Title**	**Relevant POs**	**Relevant PSOs**	**Justification**
1	PE	C401	Mobile Communication	PO1, PO2, PO3, PO5, PO12	PSO1	Introduces cellular systems and mobile standards, crucial for communication engineers.
2	PE	C402	Data Communications and Networking	PO1, PO2, PO3, PO4, PO5, PO12	PSO1, PSO2	Covers layered architecture, protocols, and routing for communication networks.
3	OE	C403	Artificial Intelligence	PO1, PO2, PO3, PO5, PO12	PSO1, PSO2	Supports smart systems development and decision-making through machine intelligence.
4	HS	C404	Entrepreneurship Development	PO6, PO8, PO9, PO10, PO11, PO12	–	Foster's entrepreneurial mindset, innovation, and leadership in engineering practices.
5	PST	C405	Project Work I	PO2, PO3, PO5, PO9, PO10, PO11, PO12	PSO1, PSO2	Involves practical project execution, enhancing team collaboration, creativity, and application of engineering concepts.
6	PST	C406	Summer Internship III	PO5, PO9, PO10,	PSO1, PSO2	Provides real-world experience in industry settings, strengthening

				PO11, PO12		technical and professional skills.
VIII Semester [Fourth Year]						
Sl. No.	**Course Category**	**Course Code**	**Course Title**	**Relevant POs**	**Relevant PSOs**	**Justification**
1	PE	C407	Satellite Communication	PO1, PO2, PO3, PO5, PO12	PSO1	Introduces satellite system principles, orbits, and link design, strengthening communication systems expertise.
2	OE	C408	Soft Computing	PO1, PO2, PO3, PO5, PO12	PSO1, PSO2	Enables solving real-world nonlinear problems using neural networks, fuzzy logic, and evolutionary algorithms.
3	OE	C409	Intellectual Property Rights	PO6, PO8, PO10, PO11, PO12	–	Builds awareness of legal and ethical aspects of innovation, patents, and industrial design.
4	PST	C410	Project Work II and Dissertation	PO2, PO3, PO4, PO5, PO9, PO10, PO11, PO12	PSO1, PSO2	Capstone project focusing on advanced system design, teamwork, research methodology, and presentation skills.

1.4. Course Outcomes and Course Articulation Matrix (30)

1.4.1. Course Outcome (Semester Wise) (15)

(Provide Course outcomes (COs) for two core courses per semester from 1-8 semesters as a sample. The maximum number of outcomes for a course is expected to be around 6. COs should reflect on the measurable outcomes towards attaining POs and PSOs).

Table No. 1.4.1.1: Course outcomes [AR 23].

Semester No:	**I**		
Course Title:	**Basic Electrical and Electronics Engineering**	**Course Code:**	**C103**
Course Outcome No.	**Course Outcome Statement**		
C103.1	Analyze the circuits by applying network theorems like Mesh, Nodal analysis, and Thevenin's theorem and find various electrical parameters.		
C103.2	Illustrate the single-phase and three-phase AC circuits along with the concept of impedance parameters and power.		
C103.3	Understand the working principle and applications of DC and AC machines.		
C103.4	Acquire the knowledge about the characteristics and working principles of semiconductor diodes.		
C103.5	Explain the basic principles of CRO, function generator, number system, and Boolean algebra.		
C103.6	Describe the basic operation of sensors and outline the process of electrical energy distribution in a household environment.		

Semester No:	**I**		
Course Title:	**Programming for Problem Solving**	**Course Code:**	**C104**
Course Outcome No.	**Course Outcome Statement**		
C104.1	Define basic concepts of programming and describe the structure of C programs, data types, and operators.		
C104.2	Explain the use of conditional and iterative control structures in developing C programs.		
C104.3	Develop C programs using arrays, strings, and functions to solve computational problems.		
C104.4	Analyze problems and choose appropriate data structures like structures and pointers to implement efficient solutions in C.		
C104.5	Evaluate the correctness and efficiency of C programs through debugging and testing techniques.		
C104.6	Design and construct modular and reusable C programs for real-world problem-solving.		

Semester No:	**II**		
Course Title:	**Elements of Mechanical Engineering**	**Course Code:**	**C113**
Course Outcome No.	**Course Outcome Statement**		
C113.1	Recall the fundamental concepts and laws of thermodynamics and mechanics.		
C113.2	Explain the working principles of various thermal and hydraulic machines such as IC engines, pumps, and turbines.		
C113.3	Apply the concepts of engineering mechanics to solve problems involving forces, moments, and equilibrium.		
C113.4	Analyze the performance parameters of energy conversion devices and simple mechanisms.		

C113.5	Evaluate material properties and their suitability for mechanical applications using standard testing methods.
C113.6	Develop basic mechanical system layouts and suggest appropriate mechanical components for specific engineering applications.

Semester No:	**II**		
Course Title:	**Data Structure and Algorithms**	**Course Code:**	**C114**
Course Outcome No.	**Course Outcome Statement**		
C114.1	Understand the basic concepts of data structures, and remember the fundamental concepts.		
C114.2	Illustrate the methods by comparing the different data structure concepts.		
C114.3	Develop algorithms for implementing different operations on data structures.		
C114.4	Analyses of the algorithms regarding different operations on data structures.		
C114.5	Solve and evaluate complex problems by coding on linear and non-linear data structures.		
C114.6	Design algorithms on advanced concepts of data structure by implementation in different applications of data structure.		

Semester No:	**III**		
Course Title:	**Analog Electronic Circuits**	**Course Code:**	**C202**
Course Outcome No.	**Course Outcome Statement**		
C202.1	Explain the operation and characteristics of semiconductor devices such as diodes, BJTs, and FETs used in analog circuits.		
C202.2	Apply the concepts of transistor biasing and small-signal models in designing amplifier circuits.		
C202.3	Analyze the behavior of various amplifier configurations and determine their gain, input/output impedance, and bandwidth.		
C202.4	Examine the frequency response and stability of multistage amplifiers and feedback circuits.		
C202.5	Evaluate the performance of oscillators and amplifiers based on parameters such as distortion, efficiency, and frequency stability.		
C202.6	Design and implement analog circuits using operational amplifiers and discrete components for signal processing applications.		

Semester No:	**III**		
Course Title:	**Network Theory**	**Course Code:**	**C204**
Course Outcome No.	**Course Outcome Statement**		
C204.1	Solve complex networks by using various network theorems.		
C204.2	Analysing Laplace transformation and two-port networks with steady-state and transient analysis.		
C204.3	Identifying the significance of poles and zeros in network functions.		
C204.4	Examine Fourier series analysis and designing the filter circuits.		
C204.5	Evaluating the electrical networks with network synthesis.		
C204.6	Able to design electrical networks for desired performance.		

Semester No:	IV		
Course Title:	Digital System Design	Course Code:	C213
Course Outcome No.	Course Outcome Statement		
C213.1	Explain the principles of number systems, Boolean algebra, and logic gates used in digital circuits.		
C213.2	Apply Boolean algebra and Karnaugh map techniques to simplify and implement combinational logic circuits.		
C213.3	Analyze the operation and timing characteristics of combinational circuits such as adders, multiplexers, decoders, and comparators.		
C213.4	Examine the behavior of sequential circuits including flip-flops, counters, and shift registers.		
C213.5	Evaluate the performance and resource utilization of digital systems designed using finite state machines (FSMs).		
C213.6	Design and develop combinational and sequential digital systems using hardware description languages (HDLs) like VHDL or Verilog.		

Semester No:	IV		
Course Title:	Electronic Devices	Course Code:	C215
Course Outcome No.	Course Outcome Statement		
C215.1	Define the basics of the quantum theory of solids.		
C215.2	Describe the details of low mechanisms in semiconductors.		
C215.3	Demonstrate various semiconductor devices and their working.		
C215.4	Compare the application of semiconductor devices to various fields.		
C215.5	Formulate and construct devices with higher performances based on the requirement.		
C215.6	Justify the preference of devices based on their advantages and disadvantages for various field applications.		

Semester No:	V		
Course Title:	Digital VLSI Design	Course Code:	C303
Course Outcome No.	Course Outcome Statement		
C303.1	Explain the fundamentals of CMOS technology, logic families, and design rules used in VLSI circuits.		
C303.2	Analyze the electrical characteristics of CMOS inverters and logic gates including delay, power, and noise margins.		
C303.3	Design and simulate combinational and sequential digital circuits using CMOS logic.		
C303.4	Evaluate trade-offs between power, performance, and area in digital VLSI circuits.		
C303.5	Develop layouts and schematic designs for digital circuits using industry-standard EDA tools.		
C303.6	Interpret timing diagrams and verify the functional correctness of digital VLSI designs using simulation tools.		

Semester No:	V		
Course Title:	Electromagnetic Waves	Course Code:	C304
Course Outcome No.	Course Outcome Statement		
C304.1	Recognize different coordinate systems with the spatial variations of the physical quantities dealt in electromagnetic fields.		
C304.2	Apply vector calculus as well as theorems in different engineering situations.		
C304.3	Analyze Maxwell's equation in different forms and apply them to diverse engineering problems.		
C304.4	Examine the phenomena of wave propagation and its interfaces in different media.		
C304.5	Generalize the concept of transmission line and means of transporting energy or information, commonly used in power distribution and communication.		
C304.6	Understand the basics of waveguides and Antennas.		

Semester No:	VI		
Course Title:	Antennas and Microwave Engineering	Course Code:	C313
Course Outcome No.	Course Outcome Statement		
C313.1	Explain the fundamental concepts of radiation, antenna parameters, and wave propagation mechanisms.		
C313.2	Apply electromagnetic theory to compute key antenna characteristics such as radiation pattern, gain, directivity, and impedance.		
C313.3	Analyze the performance of various types of antennas including dipole, loop, horn, parabolic, and microstrip antennas.		
C313.4	Examine microwave components such as waveguides, directional couplers, isolators, and circulators for high-frequency signal transmission.		
C313.5	Evaluate the performance of antenna arrays and microwave devices in terms of efficiency, bandwidth, and VSWR.		
C313.6	Design basic antenna systems and microwave circuits for specific wireless communication and radar applications using modern tools.		

Semester No:	VI		
Course Title:	Control Systems	Course Code:	C314
Course Outcome No.	Course Outcome Statement		
C314.1	Characterize a system, determine its steady-state behavior, and analyze its response to different inputs.		
C314.2	Investigate system stability using various time-domain analysis techniques, including step response and impulse response.		
C314.3	Analyze the stability and performance of a system using different frequency-domain techniques such as Bode plots, Nyquist criteria, and root locus.		
C314.4	Classify and describe the behavior of different types of systems, including linear, nonlinear, time-invariant, and time-varying systems.		
C314.5	Evaluate system performance based on transient and steady-state response criteria, such as overshoot, settling time, and error analysis.		
C314.6	Apply mathematical modelling and computational tools to analyze and design control systems for real-world applications.		

Semester No:	VII		
Course Title:	Wireless and Mobile Communication	Course Code:	C401
Course Outcome No.	Course Outcome Statement		
C401.1	Illustrate the basic concept of cellular radio concept and calculate SNR for different interference conditions.		
C401.2	Identify various propagation effects and design antennas to find path loss for a different condition.		
C401.3	Classify multiple access techniques and spread spectrum techniques, and derive system efficiency.		
C401.4	Explain GSM network architecture and various frame structures.		
C401.5	Design and implement various equalization techniques in the receiver, and determine different mathematical parameters.		
C401.6	Analyze and describe various wireless standards and its architecture.		

Semester No:	VII		
Course Title:	Introduction to MEMS	Course Code:	C402
Course Outcome No.	Course Outcome Statement		
C402.1	Explain the multidisciplinary nature of MEMS and NEMS, their historical evolution, and diverse applications in various fields.		
C402.2	Describe different MEMS/NEMS fabrication techniques, including oxidation, lithography, etching, and micromachining processes.		
C402.3	Analyze the fundamental working principles of MEMS and NEMS devices, including mechanical, electrical, and thermal aspects.		
C402.4	Apply knowledge of stress, strain, bending, and energy methods to understand the mechanical behavior of MEMS/NEMS structures.		
C402.5	Utilize modelling and simulation tools such as FEM to analyze and predict the performance of MEMS and NEMS devices.		
C402.6	Design and develop MEMS and NEMS devices based on fabrication constraints, system requirements, and real-world applications.		

Semester No:	VIII		
Course Title:	Satellite Communication	Course Code:	C409
Course Outcome No.	Course Outcome Statement		
C409.1	Explain the fundamental concepts of satellite orbits, orbital mechanics, launch vehicles, and the impact of orbital parameters on satellite communication performance.		
C409.2	Analyze satellite subsystems, including attitude and orbit control, TT&C, spacecraft system architecture, and transponders.		
C409.3	Design satellite communication links considering transmission theory, system noise, G/T ratio, and link budget calculations for optimal (C/N) performance.		
C409.4	Compare and evaluate different multiple access techniques such as FDMA, TDMA, CDMA, and random access for satellite communication.		
C409.5	Assess the impact of atmospheric, ionospheric, and other environmental factors on satellite signal propagation and performance.		

C409.6	Describe and analyze satellite antenna systems, earth station technology, and the design principles of large and small satellite antennas.

Semester No:	**VIII**		
Course Title:	**Cyber Security**	**Course Code:**	**C410**
Course Outcome No.	**Course Outcome Statement**		
C410.1	Explain fundamental concepts of computer networking, including network devices, protocols, subnetting, routing, VLAN, and security commands.		
C410.2	Analyze various cybersecurity threats such as malware, cyber-attacks, social engineering, and wireless and application-level attacks, along with their mitigation techniques.		
C410.3	Evaluate security devices, network security protocols, risk management techniques, incident response strategies, and forensic investigation methods.		
C410.4	Apply authentication methods, cryptographic principles, penetration testing techniques, and vulnerability assessment tools to enhance security awareness.		
C410.5	Assess cloud security concepts, risks, encryption techniques, and network defense mechanisms to secure cloud-based applications and services.		
C410.6	Demonstrate knowledge of cybersecurity laws, compliance standards (GDPR, HIPAA, ISO 27001), ethical hacking principles, and digital forensics for maintaining regulatory and legal security frameworks.		

Table No. 1.4.1.2: Course outcomes [AR 19].

Semester No:	**I**		
Course Title:	**Basic Electronics**	**Course Code:**	**C103**
Course Outcome No.	**Course Outcome Statement**		
C103.1	Understand the fundamental concepts of semiconductor diodes and their applications in rectifiers, clippers, and clampers.		
C103.2	Analyze the working principles of Bipolar Junction Transistors (BJTs) and Field-Effect Transistors (FETs) in different configurations.		
C103.3	Implement operational amplifiers in various circuits and explore electronic instrumentation techniques.		
C103.4	Apply Boolean algebra and logic gate operations to design and analyze combinational logic circuits.		

Semester No:	**I**		
Course Title:	**Programming for Problem Solving**	**Course Code:**	**C104**
Course Outcome No.	**Course Outcome Statement**		
C104.1	Understand basic programming concepts, operators, and structured programming approaches.		
C104.2	Apply control flow statements and loops to implement logic-driven solutions.		
C104.3	Implement and manipulate arrays, strings, functions, and recursion.		

C104.4	Utilize user-defined data types and pointers to optimize memory management.

Semester No:	**II**		
Course Title:	**Basic Electrical Engineering**	**Course Code:**	**C114**
Course Outcome No.	**Course Outcome Statement**		
C114.1	Understand the construction and working of transformers and single-phase motors.		
C114.2	Analyze electrical quantities and their variations under different loading conditions.		
C114.3	Examine and interpret the characteristics of AC and DC machines.		
C114.4	Differentiate and evaluate various methods of speed control for DC motors.		

Semester No:	**II**		
Course Title:	**Data Structure and Algorithms**	**Course Code:**	**C115**
Course Outcome No.	**Course Outcome Statement**		
C115.1	Understand fundamental data structures and their applications.		
C115.2	Implement and analyze algorithms for arrays, stacks, queues, and linked lists.		
C115.3	Design, implement, and evaluate stack and queue operations.		
C115.4	Analyze heap structures, graph algorithms (BFS, DFS), hashing, and their applications in problem-solving.		

Semester No:	**III**		
Course Title:	**Analog Electronic Circuits**	**Course Code:**	**C202**
Course Outcome No.	**Course Outcome Statement**		
C202.1	Understand and analyze the mathematical models of the transistor for circuits.		
C202.2	Perform small-signal analysis of BJTs and FETs, including different amplifier configurations.		
C202.3	Calculate the effect of low and high-frequency response and the gain-bandwidth relationship of amplifier circuits.		
C202.4	Design and examine various oscillators.		

Semester No:	**III**		
Course Title:	**Electrical and Electronic Measurements**	**Course Code:**	**C203**
Course Outcome No.	**Course Outcome Statement**		
C203.1	Define the various performance characteristics and find the electrical phenomena of a measurement system.		
C203.2	Demonstrate the operation and utilization of various electrical instruments.		
C203.3	Implement an experiment with the flow of current in any physical system.		
C203.4	Classify and analyze different kinds of transformers and analyzers.		

Semester No:	IV		
Course Title:	Digital Electronics	Course Code:	C212
Course Outcome No.	Course Outcome Statement		
C212.1	Understand and apply number systems, binary arithmetic, and coding techniques in digital systems.		
C212.2	Apply Boolean algebra and logic gate principles to simplify and implement digital circuits.		
C212.3	Analyze, design, and implement sequential logic circuits.		
C212.4	Implement memory devices, shift registers, and programmable logic devices for digital applications.		

Semester No:	IV		
Course Title:	Analog Communication	Course Code:	C213
Course Outcome No.	Course Outcome Statement		
C213.1	Understand the fundamentals of signals, spectra, and modulation techniques in communication systems.		
C213.2	Analyze different amplitude modulation (AM) techniques, including DSB-SC and SSB-SC, for signal transmission and reception.		
C213.3	Examine frequency and angle modulation techniques, including FM, VSB, and their spectral characteristics.		
C213.4	Evaluate noise effects in analog communication systems and apply methods for noise reduction and performance improvement.		

Semester No:	V		
Course Title:	Digital Communication	Course Code:	C302
Course Outcome No.	Course Outcome Statement		
C302.1	Explain the different blocks in the digital communication system.		
C302.2	Employ the time and frequency domain analysis of signals in a digital communication system.		
C302.3	Examine and differentiate the performance of a baseband and passband digital communication system in terms of error rate and spectral efficiency.		
C302.4	Describe the principles of various digital modulation systems and their properties; including bandwidth, channel capacity, transmission over band-limited channels, inter-symbol interference (ISI), demodulation methods, and error performance in the presence of noise.		

Semester No:	V		
Course Title:	Electromagnetic Waves	Course Code:	C304
Course Outcome No.	Course Outcome Statement		
C304.1	Recognize different coordinate systems with the spatial variations of the physical quantities dealt in electromagnetic fields.		
C304.2	Apply vector calculus to static electromagnetic fields in different engineering situations.		

C304.3	Analyze Maxwell's equation in different forms and apply them to diverse engineering problems.
C304.4	Examine the phenomena of wave propagation and its interfaces in different media.

Semester No:	**VI**		
Course Title:	**Digital VLSI Design**	**Course Code:**	**C313**
Course Outcome No.	**Course Outcome Statement**		
C313.1	Know the basic concepts of semiconductor devices (MOSFETs) and fabrication processes.		
C313.2	Understand the layout design process and VLSI design flow.		
C313.3	Analyze the switching action, power dissipation, and delay estimation of VLSI circuits.		
C313.4	Apply the concept of CMOS in designing static and dynamic circuits.		

Semester No:	**VI**		
Course Title:	**Microwave Engineering**	**Course Code:**	**C314**
Course Outcome No.	**Course Outcome Statement**		
C314.1	Recognize the limitations of existing vacuum tubes and solid-state devices at microwave frequencies.		
C314.2	Study the performance of specialized microwave tubes such as reflex klystron, magnetron, and travelling wave tube.		
C314.3	Evaluate and design DC-DC converters, including buck and boost converters, with an understanding of duty ratio control and steady-state analysis.		
C314.4	Analyse microwave circuits using scattering parameters.		

Semester No:	**VII**		
Course Title:	**Mobile Communication**	**Course Code:**	**C401**
Course Outcome No.	**Course Outcome Statement**		
C401.1	Illustrate the basic concept of cellular radio concept and calculate SNR for different interference conditions.		
C401.2	Identify various propagation effects and design antennas to circular path loss for a different condition.		
C401.3	Classify multiple access techniques and explain various equalization techniques in the receiver and determine different mathematical parameters.		
C401.4	Analyze and describe various wireless standards and its architecture.		

Semester No:	VII		
Course Title:	Data Communication and Networking	Course Code:	C402
Course Outcome No.	Course Outcome Statement		
C402.1	Understand the basic concepts of data communication layers, protocols, and performance.		
C402.2	Describe the hardware and software commonly used in data communications.		
C402.3	Analyze the services and features of various layers of data networks.		
C402.4	Design, implement, and analyze simple networks that need data communications.		

Semester No:	VIII		
Course Title:	Satellite Communication	Course Code:	C407
Course Outcome No.	Course Outcome Statement		
C407.1	Understand the fundamentals of orbital machines and calculate key geometric and timing parameters for a variety of common satellite orbits.		
C407.2	Explain the multiple radio access techniques and find the user assessing the radio frequency.		
C407.3	Define various satellite antennae and design link power budgets for satellites.		
C407.4	Recognize and design different satellite antennas.		

Semester No:	VIII		
Course Title:	Soft Computing	Course Code:	C408
Course Outcome No.	Course Outcome Statement		
C408.1	Describe fuzzy logic, neural networks, and evolutionary computing, and compare them with conventional computing.		
C408.2	Develop fuzzy inference systems to handle uncertainty in real-world problems.		
C408.3	Examine neural network architectures and evaluate their performance in pattern recognition.		
C408.4	Implement genetic algorithms and evolutionary computing for solving optimization problems.		

1.4.2. Course Articulation Matrix (15)

(Provide course articulation matrices for two core courses per semester from 1-8 semesters which have been provided in section 1.4.1. Select courses to demonstrate the mapping/correlation with POs and PSOs.)

Table No.1.4.2.1: Course articulation matrix [AR 23].

Course Name: Basic Electrical and Electronics Engineering **Course Code:** C103

Course Outcomes (COs)	Program Outcomes (POs)											Program Specific Outcomes (PSOs)		
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PSO-1	PSO-2	PSO-3
C103.1	3	1	2	1	2	-	-	-	-	-	-	3	2	1
C103.2	3	-	2	-	2	1	-	-	-	-	-	2	2	1
C103.3	3	-	2	-	-	-	-	-	-	-	-	2	-	1
C103.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C103.5	-	1	-	-	-	-	-	-	-	-	1	-	3	-
C103.6	-	1	1	-	2	1	-	-	-	-	1	2	-	2
Average	**3**	**1**	**1.75**	**1**	**2**	**1**	**-**	**-**	**-**	**-**	**1**	**2.25**	**2.33**	**1.25**

Course Name: Programming for Problem Solving **Course Code:** C104

Course Outcomes (COs)	Program Outcomes (POs)											Program Specific Outcomes (PSOs)		
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PSO-1	PSO-2	PSO-3
C104.1	3	-	2	-	-	-	-	-	-	-	-	2	2	-
C104.2	3	-	-	-	2	1	-	-	-	-	-	-	2	1
C104.3	2	1	-	2	-	-	-	-	-	-	-	1	-	1
C104.4	-	-	2	-	-	-	-	-	2	-	-	1	-	-
C104.5	-	3	-	-	-	1	-	-	-	-	-	-	-	2
C104.6	2	-	1	-	2	1	-	-	-	-	-	-	-	2
Average	**2.5**	**2**	**1.67**	**2**	**2**	**1**	**-**	**-**	**2**	**-**	**-**	**1.33**	**2**	**1.5**

Course Name: Elements of Mechanical Engineering **Course Code:** C113

Course Outcomes (COs)	Program Outcomes (POs)											Program Specific Outcomes (PSOs)		
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PSO-1	PSO-2	PSO-3
C113.1	3	3	2	-	2	1	-	-	1	-	-	3	2	-

C113.2	3	-	2	-	-	-	-	-	-	-	-	3	2	-
C113.3	-	-	-	2	-	-	-	-	1	-	-	-	3	-
C113.4	-	3	-	3	2	2	-	-	-	-	-	-	-	2
C113.5	-	3	3	-	-	2	-	-	-	-	2	2	-	3
C113.6	1	2	2	3	-	3	-	-	-	-	2	1	3	3
Average	**2.33**	**2.75**	**2.25**	**2.67**	**2**	**2**	**-**	**-**	**1**	**-**	**2**	**2.25**	**2.5**	**2.67**

Course Name: Data Structure and Algorithms **Course Code:** C114

Course Outcomes (COs)	**Program Outcomes (POs)**											**Program Specific Outcomes (PSOs)**		
Code & Statement	**PO-1**	**PO-2**	**PO-3**	**PO-4**	**PO-5**	**PO-6**	**PO-7**	**PO-8**	**PO-9**	**PO-10**	**PO-11**	**PSO-1**	**PSO-2**	**PSO-3**
C114.1	3	-	2	-	2	-	-	-	-	-	-	2	-	1
C114.2	2	3	-	1	-	-	-	-	-	-	1	3	2	-
C114.3	2	3	-	-	-	-	-	-	-	-	-	-	-	1
C114.4	-	2	1	-	2	-	-	-	-	-	-	-	2	2
C114.5	2	-	3	-	-	-	-	-	-	-	-	2	-	-
C114.6	-	-	2	2	-	-	-	-	-	-	2	1	2	3
Average	**2.25**	**2.67**	**2**	**1.5**	**2**	**-**	**-**	**-**	**-**	**-**	**1.5**	**2**	**2**	**1.75**

Course Name: Analog Electronic Circuits **Course Code:** C202

Course Outcomes (COs)	**Program Outcomes (POs)**											**Program Specific Outcomes (PSOs)**		
Code & Statement	**PO-1**	**PO-2**	**PO-3**	**PO-4**	**PO-5**	**PO-6**	**PO-7**	**PO-8**	**PO-9**	**PO-10**	**PO-11**	**PSO-1**	**PSO-2**	**PSO-3**
C202.1	3	2	-	-	2	-	-	-	-	-	-	3	-	2
C202.2	3	3	-	1	-	-	-	1	-	-	-	2	1	-
C202.3	2	-	3	-	-	-	-	-	-	-	-	-	-	1
C202.4	-	-	2	3	3	-	-	-	-	-	-	2	1	-
C202.5	-	-	-	2	-	2	1	-	-	-	-	-	-	2
C202.6	-	2	-	-	-	-	-	-	-	-	-	2	-	-
Average	**2.67**	**2.33**	**2.5**	**2**	**2.5**	**2**	**1**	**1**	**-**	**-**	**-**	**2.25**	**1**	**1.67**

Course Name: Network Theory **Course Code:** C204

Course Outcomes (COs)	Program Outcomes (POs)											Program Specific Outcomes (PSOs)		
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PSO-1	PSO-2	PSO-3
C204.1	3	2	-	-	2	-	-	-	-	-	-	3	-	-
C204.2	3	3	-	-	-	-	-	1	-	-	2	-	2	1
C204.3	2	3	2	3	-	-	-	-	-	-	-	-	3	-
C204.4	-	-	2	3	3	-	-	-	-	-	-	2	-	2
C204.5	-	-	-	2	-	2	-	-	-	-	1	-	2	-
C204.6	-	-	1	-	1	-	-	2	-	-	-	1	-	2
Average	**2.67**	**2.67**	**1.67**	**2.67**	**2**	**2**	**-**	**1.5**	**-**	**-**	**1.5**	**2**	**2.33**	**1.67**

Course Name: Digital System Design **Course Code:** C213

Course Outcomes (COs)	Program Outcomes (POs)											Program Specific Outcomes (PSOs)		
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PSO-1	PSO-2	PSO-3
C213.1	3	2	2	-	2	-	-	-	-	-	-	3	-	-
C213.2	3	2	-	-	-	-	-	-	-	-	2	2	-	-
C213.3	2	1	3	2	-	-	-	-	-	-	-	-	3	-
C213.4	-	-	3	2	3	-	-	-	-	-	-	-	2	-
C213.5	1	2	-	-	3	2	1	-	-	-	3	2	-	1
C213.6	-	-	-	-	-	-	-	2	2	-	-	-	1	2
Average	**2.25**	**1.75**	**2.67**	**2**	**2.67**	**2**	**1**	**2**	**2**	**-**	**2.5**	**2.33**	**2**	**1.5**

Course Name: Electronic Devices **Course Code:** C215

Course Outcomes (COs)	Program Outcomes (POs)											Program Specific Outcomes (PSOs)		
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PSO-1	PSO-2	PSO-3
C215.1	3	2	-	-	2	-	-	-	-	-	-	3	-	1

C215.2	2	1	-	-	-	1	-	-	-	-	2	2	-	-
C215.3	3	3	3	2	-	-	-	-	-	-	-	-	3	-
C215.4	-	-	3	2	-	-	-	-	-	-	-	-	2	-
C215.5	2	2	-	-	2	2	1	-	-	-	3	2	-	2
C215.6	-	-	-	1	-	-	-	-	-	-	-	-	2	1
Average	**2.5**	**2**	**3**	**2.5**	**2**	**1.5**	**1**	**-**	**-**	**-**	**2.5**	**2.33**	**2.33**	**1.33**

Course Name: Digital VLSI Design **Course Code:** C303

Course Outcomes (COs)	**Program Outcomes (POs)**											**Program Specific Outcomes (PSOs)**		
Code & Statement	**PO-1**	**PO-2**	**PO-3**	**PO-4**	**PO-5**	**PO-6**	**PO-7**	**PO-8**	**PO-9**	**PO-10**	**PO-11**	**PSO-1**	**PSO-2**	**PSO-3**
C303.1	3	2	-	-	2	1	-	-	-	-	-	3	1	-
C303.2	3	3	-	-	-	-	-	-	-	-	-	3	-	-
C303.3	-	1	2	-	3	-	2	-	-	1	-	-	2	-
C303.4	-	-	3	-	1	-	1	-	-	-	-	-	3	2
C303.5	2	3	3	-	1	2	-	-	-	1	-	2	3	1
C303.6	2	-	-	2	-	-	-	-	-	-	2	2	3	-
Average	**2.5**	**2.25**	**2.67**	**2**	**1.75**	**1.5**	**1.5**	**-**	**-**	**1**	**2**	**2.5**	**2.4**	**1.5**

Course Name: Electromagnetic Waves **Course Code:** C304

Course Outcomes (COs)	**Program Outcomes (POs)**											**Program Specific Outcomes (PSOs)**		
Code & Statement	**PO-1**	**PO-2**	**PO-3**	**PO-4**	**PO-5**	**PO-6**	**PO-7**	**PO-8**	**PO-9**	**PO-10**	**PO-11**	**PSO-1**	**PSO-2**	**PSO-3**
C304.1	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C304.2	2	3	-	2	-	-	-	-	-	-	-	1	-	-
C304.3	3	-	2	-	-	2	-	-	-	-	-	1	2	-
C304.4	2	3	3	-	2	2	-	-	-	-	-	3	3	2
C304.5	-	3	3	-	3	2	-	-	-	-	-	-	-	1
C304.6	2	-	-	2	3	-	-	-	-	-	2	2	3	3
Average	**2.4**	**2.75**	**2.67**	**2**	**2.67**	**2**	**-**	**-**	**-**	**-**	**2**	**2**	**2.67**	**2**

Course Name: Antennas and Microwave Engineering **Course Code:** C313

Course Outcomes (COs)	Program Outcomes (POs)											Program Specific Outcomes (PSOs)		
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PSO-1	PSO-2	PSO-3
C313.1	3	2	-	2	-	-	1	-	-	-	-	3	-	1
C313.2	3	3	-	-	-	-	-	-	-	-	1	3	-	-
C313.3	2	-	2	-	-	2	-	-	-	-	-	-	2	-
C313.4	-	3	-	1	2	2	-	-	-	-	-	3	3	2
C313.5	1	3	3	-	3	2	1	-	-	-	-	2	-	3
C313.6	2	-	-	2	3	-	-	-	-	-	2	2	3	3
Average	**2.2**	**2.75**	**2.5**	**1.67**	**2.67**	**2**	**1**	**-**	**-**	**-**	**1.5**	**2.6**	**2.67**	**2.25**

Course Name: Control Systems **Course Code:** C314

Course Outcomes (COs)	Program Outcomes (POs)											Program Specific Outcomes (PSOs)		
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PSO-1	PSO-2	PSO-3
C314.1	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C314.2	3	3	-	-	2	-	-	-	-	-	-	1	-	-
C314.3	1	-	2	-	-	-	-	-	-	-	-	-	2	-
C314.4	-	-	1	-	-	-	-	-	-	-	-	-	-	2
C314.5	-	3	3	-	-	-	-	-	-	-	-	-	2	-
C314.6	2	-	-	2	1	-	-	-	-	-	2	2	-	3
Average	**2.25**	**2.67**	**2**	**2**	**1.5**	**-**	**-**	**-**	**-**	**-**	**2**	**2**	**2**	**2.5**

Course Name: Wireless and Mobile Communication **Course Code:** C401

Course Outcomes (COs)	Program Outcomes (POs)											Program Specific Outcomes (PSOs)		
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PSO-1	PSO-2	PSO-3

C401.1	3	2	-	2	-	-	-	-	-	-	-	2	-	-
C401.2	2	-	-	-	1	-	-	-	-	-	-	-	-	1
C401.3	3	-	2	-	-	-	-	-	-	1	-	3	-	-
C401.4	-	-	1	-	-	-	-	-	-	-	-	-	3	2
C401.5	1	2	-	-	-	-	-	-	-	-	-	1	2	-
C401.6	-	-	-	2	3	-	-	-	-	-	2	2	-	3
Average	**2.25**	**2**	**1.5**	**2**	**2**	**-**	**-**	**-**	**-**	**-**	**2**	**2.25**	**2.5**	**2**

Course Name: Introduction to MEMS **Course Code:** C402

Course Outcomes (COs)	**Program Outcomes (POs)**											**Program Specific Outcomes (PSOs)**		
Code & Statement	**PO-1**	**PO-2**	**PO-3**	**PO-4**	**PO-5**	**PO-6**	**PO-7**	**PO-8**	**PO-9**	**PO-10**	**PO-11**	**PSO-1**	**PSO-2**	**PSO-3**
C402.1	3	2	-	-	-	-	-	-	-	-	-	3	-	-
C402.2	2	-	2	2	-	-	-	-	-	-	-	3	2	-
C402.3	3	-	-	-	-	2	-	-	-	-	-	-	-	-
C402.4	-	3	-	-	-	-	-	-	-	-	-	-	1	2
C402.5	-	-	1	1	-	-	-	-	-	-	-	3	-	1
C402.6	1	3	-	2	-	-	-	-	-	-	-	2	1	-
Average	**2.25**	**2.67**	**1.5**	**1.67**	**-**	**2**	**-**	**-**	**-**	**-**	**-**	**2.75**	**1.33**	**1.5**

Course Name: Satellite Communication **Course Code:** C409

Course Outcomes (COs)	**Program Outcomes (POs)**											**Program Specific Outcomes (PSOs)**		
Code & Statement	**PO-1**	**PO-2**	**PO-3**	**PO-4**	**PO-5**	**PO-6**	**PO-7**	**PO-8**	**PO-9**	**PO-10**	**PO-11**	**PSO-1**	**PSO-2**	**PSO-3**
C409.1	3	2	-	-	-	2	-	-	-	-	-	3	-	-
C409.2	3	3	-	-	-	-	-	-	-	-	2	1	-	-
C409.3	2	-	-	1	-	-	-	-	-	-	-	-	2	-
C409.4	-	-	-	2	-	-	-	-	-	-	-	2	1	2
C409.5	-	1	3	-	1	-	-	-	-	-	-	1	-	1
C409.6	2	-	2	-	-	-	-	-	-	-	-	-	1	-
Average	**2.5**	**2**	**2.5**	**1.5**	**1**	**2**	**-**	**-**	**-**	**-**	**2**	**1.75**	**1.33**	**1.5**

Course Name: Cyber Security **Course Code:** C410

Course Outcomes (COs)	Program Outcomes (POs)											Program Specific Outcomes (PSOs)		
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PSO-1	PSO-2	PSO-3
C410.1	-	2	-	2	-	-	-	-	-	-	-	2	-	-
C410.2	3	3	-	-	-	-	-	-	-	-	-	-	2	-
C410.3	2	-	2	-	-	-	-	-	-	-	-	3	-	-
C410.4	-	-	-	2	-	-	-	-	-	-	-	-	-	2
C410.5	-	1	-	-	1	-	-	-	-	-	-	2	-	1
C410.6	2	-	1	-	-	-	-	-	-	-	-	1	1	-
Average	**2.33**	**2**	**1.5**	**2**	**1**	**-**	**-**	**-**	**-**	**-**	**-**	**2**	**1.5**	**1.5**

Table No.1.4.2.2: Course articulation matrix [AR 19].

Course Name: Basic Electronics **Course Code:** C103

Course Outcomes (COs)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)	
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
C103.1	3	2	2	-	-	-	-	-	-	-	-	-	3	-
C103.2	3	3	2	-	-	-	-	-	-	-	-	-	3	-
C103.3	3	3	3	2	2	-	-	-	-	-	-	-	3	3
C103.4	3	2	3	-	-	-	-	-	-	-	-	-	3	3
Average	**3**	**2.5**	**2.5**	**2**	**2**	**-**	**-**	**-**	**-**	**1.5**	**1**	**2**	**2.75**	**2.25**

Course Name: Programming for Problem Solving **Course Code:** C104

Course Outcomes (COs)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)	
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
C104.1	3	2	2	1	2	-	-	-	-	-	-	2	3	2
C104.2	3	3	3	2	-	-	-	-	-	1	1	2	3	1
C104.3	3	1	1	2	3	-	-	-	1	2	-	2	1	3
C104.4	3	3	3	1	-	-	-	-	1	1	2	2	3	2
Average	**3**	**2.25**	**2.25**	**1.5**	**2.5**	**-**	**-**	**-**	**1**	**1.33**	**1.5**	**2**	**2.5**	**2**

Course Name: Basic Electrical Engineering **Course Code:** C114

Course Outcomes (COs)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)	
Code & Statement	PO-1	PO-2	PO- 3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
C114.1	3	2	2	1	1	-	-	-	-	-	-	-	3	2
C114.2	3	3	2	2	2	-	-	-	-	1	1	2	3	3
C114.3	3	3	3	3	2	-	-	-	1	2	1	2	3	3
C114.4	3	3	3	3	3	-	-	-	1	1	2	2	3	3
Average	**3**	**2.75**	**2.5**	**2.25**	**2**	**-**	**-**	**-**	**1**	**1.33**	**1.33**	**2**	**3**	**2.75**

Course Name: Data Structure and Algorithms **Course Code:** C115

Course Outcomes (COs)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)	
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
C115.1	3	2	2	2	-	-	-	-	-	-	-	2	3	2
C115.2	3	3	2	2	-	-	-	-	-	-	1	2	2	3
C115.3	3	1	3	3	-	-	-	-	1	-	1	-	-	1
C115.4	2	3	3	-	-	-	-	-	1	-	-	2	1	3
Average	**2.75**	**2.25**	**2.5**	**1.75**	**-**	**-**	**-**	**-**	**1**	**-**	**1**	**2**	**2**	**2.25**

Course Name: Analog Electronic Circuits **Course Code:** C202

Course Outcomes (COs)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)	
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
C202.1	3	2	-	-	-	-	-	-	-	-	-	-	3	2
C202.2	1	2	3	2	-	-	-	-	-	-	-	-	2	3
C202.3	2	2	-	-	-	-	-	-	-	-	-	-	1	2
C202.4	2	2	3	2	-	-	-	-	-	-	-	-	-	2
Average	**2**	**2**	**3**	**2**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2**	**2.25**

Course Name: Electrical and Electronic Measurements **Course Code:** C203

Course Outcomes (COs)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)	
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
C203.1	3	2	-	1	-	-	-	-	-	-	-	-	1	-
C203.2	2	2	-	3	-	-	-	-	-	1	-	-	-	2
C203.3	2	2	-	2	-	-	-	-	-	2	-	-	-	2
C203.4	1	2	-	1	-	-	-	-	-	-	-	2	2	-
Average	**2**	**2**	**-**	**1.75**	**-**	**-**	**-**	**-**	**-**	**1.5**	**-**	**2**	**1.5**	**2**

Course Name: Digital Electronics **Course Code:** C212

Course Outcomes (COs)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)	
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
C212.1	3	2	-	2	3	-	-	-	-	1	-	2	3	2
C212.2	3	3	2	-	2	-	-	-	-	-	-	1	3	3
C212.3	3	1	1	-	1	-	-	-	-	2	-	1	3	3
C212.4	3	3	3	3	3	-	-	-	-	-	2	2	3	3
Average	**3**	**2.25**	**2**	**2.5**	**2.25**	**-**	**-**	**-**	**-**	**1.5**	**2**	**1.5**	**3**	**2.75**

Course Name: Analog Communication **Course Code:** C213

Course Outcomes (COs)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)	
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
C213.1	3	3	2	-	-	-	-	-	-	1	-	2	3	2
C213.2	3	-	3	3	-	-	-	-	-	2	-	2	-	-
C213.3	1	2	-	3	-	-	-	-	1	2	-	2	3	3
C213.4	3	2	2	3	1	-	-	-	-	2	3	2	3	-
Average	**2.5**	**2.33**	**2.33**	**3**	**1**	**-**	**-**	**-**	**1**	**1.75**	**3**	**2**	**3**	**2.5**

Course Name: Digital Communication **Course Code:** C302

Course Outcomes (COs)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)	
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
C302.1	3	2	2	-	1	-	-	-	-	-	-	2	3	2
C302.2	3	1	3	1	-	-	-	-	-	-	-	1	1	-
C302.3	1	3	-	-	1	-	-	-	-	-	-	-	2	3
C302.4	3	2	2	2	1	-	-	-	-	-	-	2	3	1
Average	**2.5**	**2**	**2.33**	**1.5**	**1**	**-**	**-**	**-**	**-**	**-**	**-**	**1.67**	**2.25**	**2**

Course Name: Electromagnetic Waves **Course Code:** C304

Course Outcomes (COs)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)	
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
C304.1	3	2	2	-	2	-	-	-	-	-	-	-	3	2
C304.2	3	3	-	2	2	-	-	-	-	-	-	-	3	-
C304.3	3	-	3	1	-	-	-	-	-	-	-	-	-	3
C304.4	2	1	-	-	1	-	-	-	-	-	-	-	3	1
Average	**2.75**	**2**	**2.5**	**1.5**	**1.67**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**3**	**2**

Course Name: Digital VLSI Design **Course Code:** C313

Course Outcomes (COs)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)	
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
C313.1	3	1	1	-	-	-	-	-	-	-	-	-	1	1
C313.2	3	-	2	-	2	-	-	-	-	-	-	-	2	2
C313.3	1	3	1	1	-	-	-	-	-	-	-	-	3	1
C313.4	2	2	-	-	1	-	-	-	-	-	-	-	2	2
Average	**2.25**	**2**	**1.33**	**1**	**1.5**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2**	**1.5**

Course Name: Microwave Engineering **Course Code:** C314

Course Outcomes (COs)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)	
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
C314.1	3	2	-	-	-	-	-	-	-	-	-	2	3	1
C314.2	3	1	2	2	-	-	-	-	-	-	-	2	2	2
C314.3	3	3	-	1	-	-	-	-	-	-	-	-	-	2
C314.4	3	2	-	3	-	-	-	-	-	-	-	1	3	1
Average	**3**	**2**	**2**	**2**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1.67**	**2.67**	**1.5**

Course Name: Mobile Communication **Course Code:** C401

Course Outcomes (COs)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)	
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
C401.1	3	3	2	2	-	1	-	-	-	-	-	2	3	-
C401.2	2	2	3	2	-	-	-	-	1	-	-	-	-	3
C401.3	2	2	-	1	-	2	-	-	-	-	-	-	3	3
C401.4	3	3	3	3	-	-	-	-	-	1	-	2	3	1
Average	**2.5**	**2.5**	**2.67**	**2**	**-**	**1.5**	**-**	**-**	**1**	**1**	**-**	**2**	**3**	**2.33**

Course Name: Data Communication and Networking **Course Code:** C402

Course Outcomes (COs)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)	
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
C402.1	3	2	1	-	2	-	-	-	-	-	-	1	3	2
C402.2	2	3	1	-	3	-	-	-	-	-	-	-	2	3
C402.3	3	3	-	3	-	-	-	-	-	-	-	2	3	-
C402.4	3	2	3	2	3	-	-	-	-	-	-	2	3	3
Average	**2.75**	**2.5**	**1.33**	**2.5**	**2.67**	**-**	**-**	**-**	**-**	**-**	**-**	**1.67**	**2.75**	**2.67**

Course Name: Satellite Communication **Course Code:** C407

Course Outcomes (COs)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)	
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
C407.1	3	3	3	-	2	1	-	-	-	-	-	2	2	2
C407.2	3	3	2	1	3	-	-	-	-	-	1	2	-	3
C407.3	3	2	3	-	3	1	1	-	-	-	1	2	3	-
C407.4	3	1	3	3	3	2	1	-	-	-	1	2	3	3
Average	**3.0**	**2.25**	**2.75**	**2.0**	**2.75**	**1.33**	**1**	**-**	**-**	**-**	**1**	**2.0**	**2.67**	**2.67**

Course Name: Soft Computing **Course Code:** C408

Course Outcomes (COs)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)	
Code & Statement	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
C408.1	3	2	-	-	2	-	-	-	-	-	-	2	3	2
C408.2	3	-	2	2	2	1	1	-	-	-	-	3	2	3
C408.3	3	3	-	2	-	1	1	-	-	1	-	-	1	2
C408.4	3	3	-	3	3	-	-	-	-	-	2	3	3	1
Average	**3**	**2.67**	**2**	**2.33**	**2.33**	**1**	**1**			**1**	**2**	**2.67**	**2.25**	**2**

Note:

❖ Enter correlation levels 1, 2, or 3 as defined below:

❖ 1: Slight (Low)

❖ 2: Moderate (Medium)

❖ 3: Substantial (High),

❖ If there is no correlation, put "-"

1.5. Program Articulation Matrix (05)

Table No.1.5.1: Program articulation matrix [AR 23].

Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
C101	Engineering Mathematics-I	2.00	1.17	1.83	1.00	2.00	-	-	-	-	-	-	1.00	1.00	-
C102	Engineering Physics	1.83	1.66	1.50	1.00	-	-	-	-	-	-	1.00	1.00	1.00	-
C103	Basic Electrical and Electronics Engineering	3.00	1.00	1.75	1.00	2.00	1.00	-	-	-	-	1.00	2.25	2.33	1.25
C104	Programming for Problem Solving	2.50	2.00	1.67	2.00	2.00	1.00	-	-	2.00	-	-	1.33	2.00	1.50
C105	Communicative English and Soft Skills	-	-	-	-	-	-	1.00	1.50	2.50	1.50	2.00	-	-	-
C106	Human Values and Professional Ethics	-	-	-	-	-	1.00	2.50	1.00	2.00	-	2.33	-	-	-
C107	Basic Electrical and Electronics Engineering Laboratory	2.00	2.00	1.00	1.00	1.00	-	-	-	-	-	-	1.00	1.00	-

C108	Programming for Problem Solving Laboratory	2.00	1.67	1.50	1.00	1.00	-	-	-	-	-	-	1.00	1.50	-
C109	Communicative English and Soft Skills Laboratory	-	-	-	-	-	-	1.00	1.50	2.50	1.50	2.00	-	-	-
C110	Engineering Graphics and Design	1.00	1.00	1.00	-	1.00	-	-	1.00	-	-	-	1.00	1.50	-
C111	Induction Program	1.00	1.00	1.00	-	-	2.50	2.67	2.00	3.00	2.50	2.00	2.00	-	2.00
C112	Engineering Mathematics-II	2.00	1.00	2.00	1.00	2.00	-	-	-	-	-	-	1.00	1.00	-
C113	Elements of Mechanical Engineering	2.33	2.75	2.25	2.67	2.00	2.00	-	-	1.00	-	2.00	2.25	2.50	2.67
C114	Data Structure and Algorithms	2.25	2.67	2.00	1.50	2.00	-	-	-	-	-	1.50	2.00	2.00	1.75
C115	Communicative English and Technical Communication	-	-	-	-	-	-	1.00	1.50	2.50	1.50	2.00	-	-	-
C116	Dietetics and Nutrition	1.60	1.33	1.33	-	-	-	-	-	-	-	-	1.00	-	-

C117	Fundamental of Web Technology	1.00	1.00	2.00	-	1.00	-	-	-	-	-	-	1.00	-	-
C118	Data Structure and Algorithms Laboratory	-	1.00	1.50	1.50	1.00	-	-	-	-	-	-	1.00	-	-
C119	Communicative English and Technical Communication Laboratory	-	-	-	-	-	-	1.00	1.50	2.50	1.50	2.00	-	-	-
C120	Engineering Workshop	1.50	1.50	1.00	1.00	1.00	-	-	-	-	-	-	-	-	-
C121	NSS/YOGA	-	2.00	2.00	-	-	2.80	2.67	3.00	2.50	2.00	2.00	-	-	2.00
C201	Engineering Mathematics-III	2.00	1.17	1.83	1.00	2.00	-	-	-	-	-	-	1.00	1.00	-
C202	Analog Electronic Circuits	2.67	2.67	1.67	2.67	2.00	2.00	-	1.50	-	-	1.50	2.00	2.33	1.67
C203	Electronic Measurements and Instrumentation	3.00	2.67	1.83	2.17	2.83	-	-	-	1.00	1.00	1.17	2.67	2.83	1.83
C204	Network Theory	2.67	2.33	2.50	2.33	1.00	-	-	-	-	-	1.00	2.00	2.00	-

C205	Object-Oriented Programming using JAVA	2.00	2.33	2.17	1.50	2.50	-	-	-	-	-	-	2.67	2.00	1.00
C206	Intermediate Communication Skills and Critical Thinking	-	-	-	-	-	-	-	-	2.50	1.50	2.00	-	-	-
C207	Analog Electronic Circuits Laboratory	2.50	2.33	2.50	2.33	1.00	-	-	-	-	-	1.00	2.00	2.00	-
C208	Electronic Measurements and Instrumentation Laboratory	2.33	2.33	2.17	2.33	2.67	-	-	-	-	-	1.00	2.00	1.83	-
C209	Object-Oriented Programming using JAVA Laboratory	2.00	2.00	1.50	1.50	2.00	-	-	-	-	-	-	2.00	2.00	-
C210	Intermediate Communication Skills and Critical Thinking Laboratory	-	-	-	-	-	-	-	1.00	2.50	1.50	2.00	-	-	-
C211	Summer Internship-I	2.00	1.67	2.00	2.00	2.50	1.50	-	-	2.50	2.50	2.00	2.00	-	1.50
C212	Essence of Indian	-	-	-	-	2.00	-	3.00	2.33	2.00	2.00	-	2.50	2.00	2.50

	Traditional Knowledge														
C213	Digital System Design	2.25	1.75	2.67	2.00	2.67	2.00	1.00	2.00	2.00	-	2.50	2.33	2.00	1.50
C214	Analog and Digital Communication	3.00	2.67	2.33	2.17	2.67	1.00	-	-	1.00	1.00	1.17	2.83	2.67	2.33
C215	Electronic Devices	2.50	2.00	3.00	2.50	2.00	1.50	1.00	-	-	-	2.50	2.33	2.33	1.33
C216	Signals and Systems	2.67	2.33	2.17	2.33	1.50	-	-	-	-	-	-	2.50	2.50	2.00
C217	Database Management Systems	2.00	2.33	2.17	1.50	2.50	-	-	-	-	-	-	2.67	2.00	1.00
C218	Advanced Communication Skills and Professional Ethics	-	-	-	-	-	-	-	-	2.50	1.50	2.00	-	-	-
C219	Digital System Design Laboratory	2.50	2.67	2.33	2.00	1.50	-	-	-	-	-	-	2.50	2.33	1.00
C220	Analog and Digital Communication Laboratory	2.67	2.33	2.17	2.33	1.50	-	-	-	-	-	-	2.50	2.50	2.00

C221	Database Management Systems Laboratory	2.00	2.33	2.17	1.50	2.50	-	-	-	-	-	-	2.67	2.00	1.00
C222	Advanced Communication Skills and Professional Ethics Laboratory	-	-	-	-	-	-	2.00	2.00	2.50	1.50	2.00	-	-	-
C223	Mini Project-I	2.50	2.33	2.50	2.00	2.50	-	2.00	-	1.00	2.50	1.00	2.00	2.33	2.33
C224	Environmental Science	2.00	2.00	2.50	2.00	2.00	2.25	2.67	-	-	-	2.00	2.00	2.50	2.50
C301	Microcontrollers and Computer Architecture	2.83	2.50	2.17	2.17	2.67	1.00	1.00	1.00	1.67	1.00	2.00	2.17	2.33	2.00
C302	Digital Signal Processing	2.17	2.17	2.33	2.50	2.83	1.33	1.00	1.00	1.50	1.00	1.50	2.67	2.50	2.17
C303	Digital VLSI Design	2.50	2.25	2.67	2.00	1.75	1.50	1.50	-	-	1.00	2.00	2.50	2.40	1.50
C304	Electromagnetic Waves	2.40	2.75	2.67	2.00	2.67	2.00	-	-	-	-	2.00	2.00	2.67	2.00
C305	Optical Communication and Networks	2.00	2.00	1.50	1.33	1.00	-	-	-	-	-	-	1.00	1.50	-

C306	Organizational Behaviour	-	-	-	-	-	2.33	1.67	2.50	2.50	-	-	-	-	-
C307	Microcontrollers and Computer Architecture Laboratory	2.00	2.17	2.00	2.17	2.33	1.00	-	-	-	-	-	3.00	2.50	1.83
C308	Digital Signal Processing Laboratory	2.50	2.50	2.00	2.33	1.00	-	-	-	-	-	-	2.50	2.50	2.00
C309	Digital VLSI Design Laboratory	2.50	2.00	2.50	2.33	1.00	-	-	-	-	-	-	2.50	2.00	1.50
C310	Mini Project-II	2.00	2.50	2.50	2.25	2.50	2.00	2.00	2.00	2.00	2.00	2.00	2.50	2.00	2.50
C311	Summer Internship-II	2.50	2.00	2.33	2.00	2.50	2.00	3.00	3.00	2.00	2.00	1.50	2.33	2.50	2.33
C312	Embedded Systems and IoT	3.00	2.50	2.17	2.17	2.80	1.00	1.00	1.00	1.67	1.00	2.00	2.83	2.33	2.00
C313	Antennas and Microwave Engineering	2.20	2.75	2.50	1.67	2.67	2.00	1.00	-	-	-	1.50	2.60	2.67	2.25
C314	Control Systems	2.25	2.67	2.00	2.00	1.50	-	-	-	-	-	2.00	2.00	2.00	2.50
C315	Data Communications and Networking	2.00	2.00	1.50	1.33	1.00	-	-	-	-	-	-	1.00	1.50	-

C316	Operating Systems	2.00	2.33	2.17	1.50	2.50	-	-	-	-	-	-	2.67	2.00	1.00
C317	Engineering Economics and Costing	-	-	-	-	-	1.50	-	-	-	1.00	-	2.00	2.00	1.00
C318	Embedded Systems and IoT Laboratory	2.50	2.00	2.50	2.33	1.00	-	-	-	-	-	-	2.50	2.00	1.50
C319	Antennas and Microwave Engineering Laboratory	2.50	2.33	2.17	2.33	1.50	-	-	-	-	-	-	2.50	2.50	2.00
C320	Mini Project-III	2.67	2.50	2.33	2.00	1.00	2.00	2.00	2.00	2.00	2.00	2.50	2.75	2.33	2.60
C401	Wireless and Mobile Communication	2.25	2.00	1.50	2.00	2.00	-	-	-	-	-	2.00	2.25	2.50	2.00
C402	Introduction to MEMS	2.25	2.67	1.50	1.67	-	2.00	-	-	-	-	-	2.75	1.33	1.50
C403	Data Science	2.00	2.33	2.17	1.50	2.50	-	-	-	-	-	-	2.67	2.00	1.00
C404	Computational Intelligence	2.00	2.17	2.00	2.17	2.33	1.00	-	-	-	-	-	3.00	2.50	1.83
C405	Entrepreneurship Development	-	-	-	-	-	2.33	1.67	2.50	2.50	-	-	-	-	-
C406	Technical Seminar	2.50	2.00	-	-	2.00	-	-	2.00	2.33	-	2.50	2.50	2.00	2.00
C407	Project Work-I	2.33	2.50	2.33	2.50	2.67	2.00	1.00	-	-	-	2.33	2.50	2.33	2.00

C408	Summer Internship-III	2.50	2.00	2.00	2.00	2.00	-	2.00	-	1.00	1.00	2.50	2.50	2.33	2.67
C409	Satellite Communication	2.50	2.00	2.50	1.50	1.00	2.00	-	-	-	-	2.00	1.75	1.33	1.50
C410	Cyber Security	2.33	2.00	1.50	2.00	1.00	-	-	-	-	-	-	2.00	1.50	1.50
C411	Intellectual Property Rights	-	-	-	-	-	2.00	1.67	2.50	2.50	-	-	-	-	-
C412	Project Work-II & Dissertation	2.5	2.33	2.5	2.33	2.67	2	2.5	2	-	-	1	1.67	2.67	2.33

Table No.1.5.2: Program articulation matrix [AR 19].

Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C101	Engineering Mathematics-I	1.50	2.50	2.00	2.00	2.00	-	-	-	-	-	-	-	2.00	2.00
C102	Engineering Chemistry	2.50	2.00	2.00	1.67	-	1.50	-	-	-	-	-	-	2.67	1.67
C103	Basic Electronics	3.00	2.75	2.50	2.25	1.50	-	-	-	-	-	-	-	2.75	2.50
C104	Programming for Problem Solving	3.00	2.25	2.25	1.50	2.50	-	-	-	1.00	1.33	1.50	2.00	2.50	2.00
C105	Communicative English and Soft Skills	-	-	-	-	-	-	1.00	1.25	2.75	1.50	2.00	-	-	-
C106	Engineering Chemistry Laboratory	2.50	2.50	2.00	2.50	1.50	1.25	0.75	-	-	-	-	1.00	2.50	2.50

C107	Basic Electronics Laboratory	3.00	2.75	2.50	2.00	1.50	-	-	-	-	-	-	-	3.00	2.75
C108	Programming for Problem Solving Laboratory	3.00	2.25	2.00	2.00	2.50	-	-	-	-	-	-	2.00	3.00	2.50
C109	Communicative English and Soft Skills Laboratory	-	-	-	-	-	-	1.00	1.50	2.50	2.00	2.00	-	-	-
C110	Engineering Workshop	3.00	2.75	2.50	2.25	1.50	-	-	-	-	-	-	-	2.75	2.50
C111	Induction Program	1	1	-	1.5	-	2.0	2.67	2.0	2.5	1.67	2.0	1.0	1.33	1.5
C112	Engineering Mathematics-II	3.00	2.75	2.75	2.50	1.75								2.75	2.50
C113	Engineering Physics	2.75	2.75	2.75	2.00	2.00	-	-	-	-	-	1.00	1.00	2.75	1.75
C114	Basic Electrical Engineering	3.00	2.25	2.33	1.33	-	-	-	-	-	-	1.50	2.00	1.75	2.50
C115	Data Structure and Algorithms	2.75	2.25	2.50	1.75	-	-	-	-	1.00	-	1.00	2.00	2.00	2.25
C116	Communicative English and Technical Communication	-	-	-	-	-	-	1.00	1.25	2.75	1.50	2.00	-	-	-
C117	Engineering Physics Laboratory	2.50	2.25	2.00	2.67	1.67	-	-	-	-	2.50	-	-	2.33	2.33
C118	Basic Electrical Engineering Laboratory	3.00	2.75	2.75	2.00	2.50	-	-	-	-	-	-	-	2.75	2.50

C119	Data Structure and Algorithms Laboratory	-	1.00	1.25	1.25	1.00	-	-	-	-	-	-	1.00	-	-
C120	Communicative English and Technical Communication Laboratory	-	-	-	-	-	-	1.00	1.25	2.75	1.50	2.00	-	-	-
C121	Engineering Graphics and Design	3.00	3.00	2.50	1.50	1.50	-	-	-	-	-	-	-	3.00	2.00
C122	NSS	1	1	1.5	-	-	2	2.5	2.67	1.5	2	2.5	1.67	2	1
C201	Engineering Mathematics-III	3.00	2.75	2.50	2.25	-	-	-	-	-	-	-	-	2.50	2.25
C202	Analog Electronic Circuits	2.00	2.00	1.50	1.00	-	-	-	-	-	-	-	-	1.75	1.25
C203	Electrical and Electronic Measurements	2.00	2.00	-	1.75	-	-	-	-	-	1.50		2.00	1.50	2.00
C204	Network Theory	2.75	2.50	2.00	1.50	-	-	-	-	-	-	-	-	2.50	2.50
C205	Object-Oriented Programming using JAVA	2.50	2.00	1.50	-	-	-	-	-	-	-	-	-	2.50	1.50
C206	Organizational Behavior	3.00	3.00	1.50	-	-	2.00	-	2.00	-	-	1.50	1.00	2.75	1.75
C207	Analog Electronic Circuits Laboratory	2.25	2.00	2.00	1.50	-	-	-	-	-	-	-	-	2.25	2.00

C208	Electrical and Electronic Measurements Laboratory	2.75	2.00	1.50	-	-	-	-	-	-	-	-	-	2.00	1.75
C209	Object-Oriented Programming using JAVA Laboratory	3.00	2.50	2.00	1.50	-	-	-	-	-	-	-	-	2.50	2.00
C210	Summer Internship-I	2	1.5	2	1.5	1	-	2.5	-	-	2	-	1.67	2	1.5
C211	Essence of Indian Traditional Knowledge	2	2	-	2	-	-	2.5	3	2.5	-	-	1.5	1.33	2
C212	Digital Electronics	3.00	2.75	2.25	2.00	1.25	-	-	-	-	-	-	1.75	2.75	2.50
C213	Analog Communication	2.50	2.33	2.33	3.00	1.00	-	-	-	1.00	1.75	3.00	2.00	3.00	2.50
C214	Semiconductor Devices	3.00	2.75	2.50	2.00	-	-	-	-	-	-	-	-	2.50	2.00
C215	Signals and Systems	2.75	2.00	2.00	-	-	-	-	-	-	-	-	-	2.25	1.50
C216	Database Management Systems	2.50	1.25	1.25	-	-	-	-	-	-	-	-	-	1.75	1.50
C217	Engineering Economics and Costing	3.00	2.75	2.00	1.75	1.50	-	-	-	-	-	-	1.50	2.00	1.75
C218	Digital Electronics Laboratory	3.00	2.75	2.25	1.50	1.25	-	-	-	-	-	-	1.75	3.00	2.75

C219	Analog Communication Techniques Laboratory	3.00	2.75	2.50	2.75	3.00	-	-	-	-	-	-	-	2.75	2.25
C220	Database Management Systems Laboratory	3.00	3.00	2.75	2.00	2.00	-	-	-	3.00	2.00	-	-	-	-
C221	Mini Project-I	1.67	1	2	2	2	2	1	2	3	3	2	1.5	2	2
C222	Environmental Science	2	2	1	-	-	2.5	3	2.33	-	-	1	2	2	2
C301	Microprocessors and Microcontrollers	3.00	2.50	2.00	-	2.50	-	-	-	-	-	-	-	2.25	2.25
C302	Digital Communication	2.50	2.25	1.67	2.00	2.00	-	-	-	-	-	-	-	2.00	2.66
C303	Digital Signal Processing	3.00	2.75	2.00	2.25	-	-	-	-	-	-	-	-	2.25	2.25
C304	Electromagnetic Waves	2.75	2.00	2.50	1.50	1.67	-	-	-	-	-	-	-	3.00	2.00
C305	Fiber Optic Communication	2.75	2.00	1.75	1.25	-	-	-	-	-	-	-	-	2.00	1.75
C306	Fundamentals of Python Programming	2.25	2.50	2.33	3.00	1.75	-	-	-	-	-	-	-	1.00	1.50
C307	Human Values and Professional Ethics	-	2	-	2	-	2.33	1	2	2.5	2	-	2	1	-
C308	Microprocessors and	2.50	2.25	-	-	-	-	-	1.50	2.00	2.00	-	-	2.25	2.00

	Microcontrollers Laboratory														
C309	Digital Communication Techniques Laboratory	2.00	2.25	1.67	2.00	1.50	-	-	-	-	-	-	-	2.00	2.66
C310	Digital Signal Processing Laboratory	2.75	2.25	2.00	2.00	3.00	-	-	-	-	-	-	-	2.25	1.50
C311	Mini Project-II	2	2.5	2.5	2	-	2	-	2	3	2	2	1.67	2.5	2.33
C312	Summer Internship-II	2.5	2	3	2	2	1	-	-	-	2	2	3	2.5	3
C313	Digital VLSI Design	2.25	2.00	1.33	1.00	1.50	-	-	-	-	-	-	-	2.00	1.50
C314	Microwave Engineering	3.00	2.00	2.00	2.00	-	-	-	-	-	-	-	1.67	2.67	1.50
C315	Computer Vision	2.50	2.75	2.30	2.00	1.25	-	-	-	-	-	-	-	1.50	1.50
C316	Machine Learning	3.00	2.75	2.25	2.00	1.25	-	-	-	-	-	-	-	2.00	1.50
C317	Operating Systems	2.25	2.00	2.00	-	-	-	-	-	-	-	-	-	1.50	2.00
C318	Internet of Things	2.75	2.75	2.50	1.50	2.00	-	-	-	-	-	-	-	1.50	2.00
C319	Dietetics and Nutrition	1.5	1.25	1.25	-	-	-	-	-	-	-	-	-	-	-
C320	Digital VLSI Design Laboratory	2.25	2.00	1.50	-	-	-	1.25	2.00	-	-	-	-	2.00	1.50

C321	Microwave Engineering Laboratory	3.00	2.00	3.00	2.00	-	-	-	-	-	-	-	-	1.50	2.00
C322	Mini Project-III	2.67	2.25	2.33	2.5	3	-	-	2	-	-	2	1	2.5	2
C401	Mobile Communication	3.00	3.00	2.00	2.00	-	1.00	-	-	-	-	-	2.00	3.00	-
C402	Data Communications and Networking	2.75	2.50	1.33	2.50	2.67	-	-	-	-	-	-	1.67	2.75	2.67
C403	Artificial Intelligence	3.00	2.75	2.25	2.00	-	-	-	-	-	-	-	-	2.25	2.25
C404	Entrepreneurship Development	1.25	1.50	1.75	0.25	-	-	-	-	-	-	-	-	0.75	1.00
C405	Project Work-I	2.67	2.33	2.33	1	2	-	-	2-	-	-	1	2	2	2
C406	Summer Internship-III	2.5	2.5	2	2	2.5	2	-	-	-	-	2	3	2.5	2.5
C407	Satellite Communication	3.00	2.25	2.75	2.00	2.75	1.33	1.00	-	-	-	1.00	2.00	2.67	2.67
C408	Soft Computing	3.00	2.67	2.00	2.33	2.33	1.00	1.00	-	-	1.00	2.00	2.67	2.25	2.00
C409	Intellectual Property Rights	-	-	-	-	-	-	-	1.66		2.00		2.33	-	-
C410	Project Work-II & Dissertation	2.5	2.25	2	2.25	2.25	2	2	2.5	2	2	2	2	2.5	2

Criterion 2: Outcome-Based Teaching Learning (120)

2.1. Describe Processes Followed to Ensure Quality of Teaching & Learning (20)

(Processes may include adherence to academic calendar and instruction methods using pedagogical initiatives such as real-world examples, collaborative learning, quality of laboratory experience with regard to conducting experiments, recording observations, analysis of data etc. encouraging fast learners, assisting slow learners etc. The implementation details and impact analysis need to be documented.)

The Department of Electronics and Communication Engineering (ECE) at GIET University is committed to delivering a high standard of education through a structured framework that integrates meticulous academic planning, diverse pedagogical techniques, strong industry linkages, and a robust student support system. These efforts align with the accreditation requirements of the National Board of Accreditation (NBA) and are designed to promote academic excellence by combining theoretical understanding with practical applications. Through a well-rounded approach, the department ensures that students acquire the necessary skills, practical exposure, and technical competence to thrive in a rapidly evolving technological landscape.

Adherence to Academic Calendar

The department strictly follows the university's academic calendar to ensure a well-structured execution of instructional activities, assessments, co-curricular events, and student engagement programs. A systematic approach to scheduling ensures continuity in learning, minimizes disruptions, and optimizes the academic experience for students.

Key Initiatives for Effective Implementation:

Department Academic Calendar & Course Planning: The department synchronizes its calendar with the university-wide academic schedule, ensuring seamless alignment of semester timelines, examinations, project deadlines, and extracurricular activities. This integration helps in efficient time management and eliminates scheduling conflicts.

GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA, GUNUPUR

(Established Vide Odisha Act 23 of 2018, Included by UGC, New Delhi, and Approved by AICTE, ICAR, INC, DSIR, New Delhi)

ACADEMIC CALENDAR FOR EVEN SEMESTER 2024-25

B. Tech – VI Semester [Third Year]

Sl. No.	Event	Date(s)
1	**Commencement of Classes**	**06.12.2024**
2	Registration @ ₹1500 towards Registration Fee	03.01.2025 to 11.01.2025
3	Project Allocation	18.12.2024
4	Project Review I	07.02.2025 to 08.02.2025
5	**Cycle Test – I** (Two Subjects per Day)	**17.02.2025 to 19.02.2025**
6	Date of Completion of Central Evaluation	22.02.2025
7	Publication/Circulation of Cycle Test - I Marks	24.02.2025
8	Sending of Cycle Test-I Marks to Parents	25.02.2025
9	Project Review II	21.03.2025 to 22.03.2025
10	Form Fill-up @ ₹1000 towards Form Fill-up Fee	07.04.2025 to 09.04.2025
11	**Practical/Sessional Examinations and Project Viva-Voce**	**10.04.2025 to 16.04.2025**
12	**Cycle Test – II** (Two Subjects per Day)	**17.04.2025 to 19.04.2025**
13	Date of Completion of Central Evaluation	23.04.2025
14	Publication/Circulation of Cycle Test - II Marks	24.04.2025
15	Sending of Cycle Test- II Marks to Parents	25.04.2025
16	**Closing Date of Instruction**	**19.04.2025**
17	Final Sending of Internal Marks to CoE	30.04.2025
18	**Semester End Examinations**	**25.04.2025 to 10.05.2025**
19	Publication of Semester End Examinations Results	24.05.2025
20	Commencement of Odd Semester 2025-26	01.07.2025

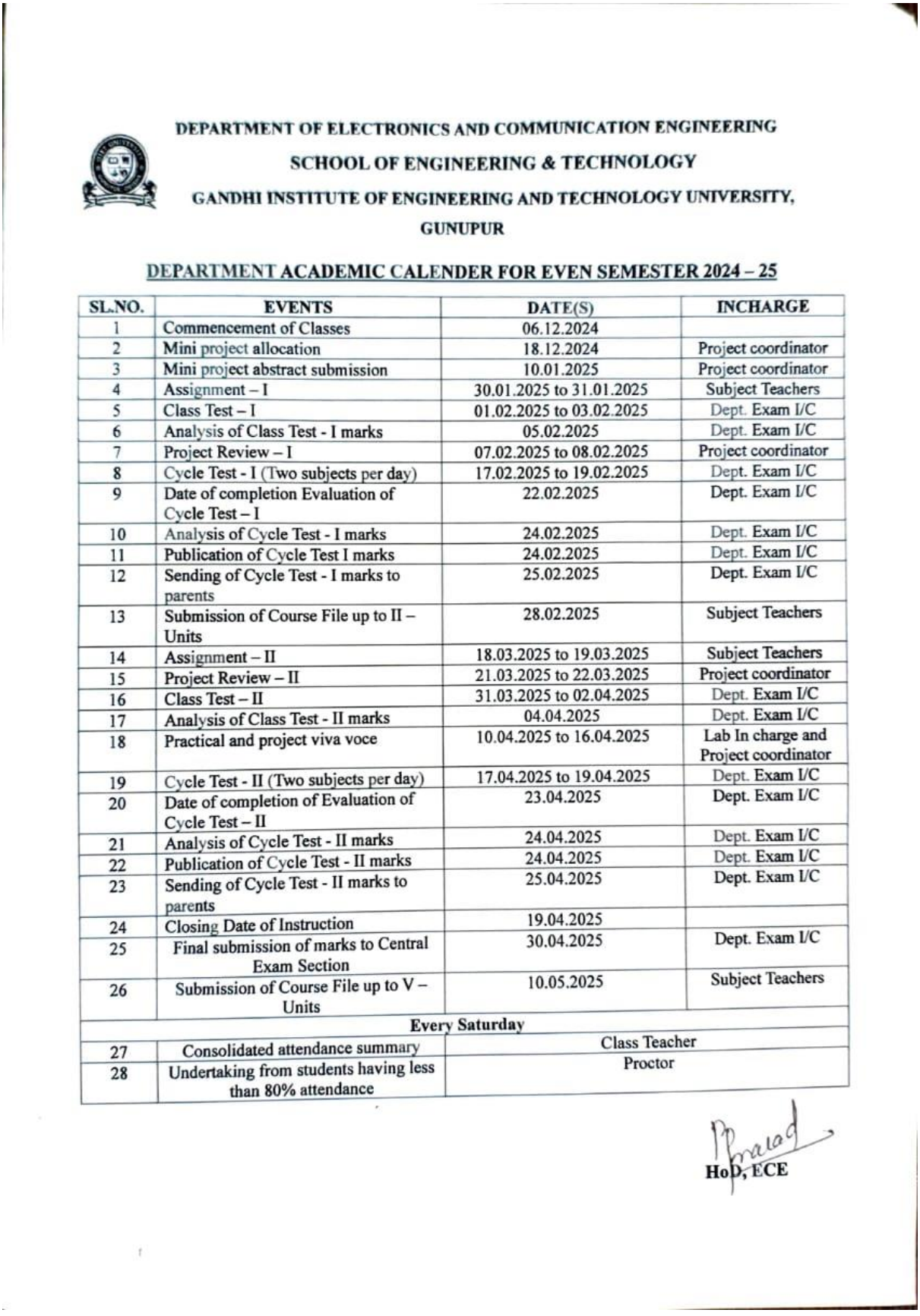
NOTE:

- At least 1 Class Test is to be conducted at the department level before each Cycle Test.
- At least 2 Assignments are to be submitted by the students.
- Non-registered students will not be permitted to attend the classes and not be allowed to stay in the hostels.

N.B. This is for information of concern HoD/Dean, if working days available are less than 90 days, then extra classes are to be taken by the concerned subject teachers to compensate the days.

Controller of Examinations **Registrar**

Figure No. 2.1.1: University level academic calendar for the Even Semester 2024 – 25.



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF ENGINEERING & TECHNOLOGY

GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, GUNUPUR

DEPARTMENT ACADEMIC CALENDER FOR EVEN SEMESTER 2024 – 25

SL.NO.	EVENTS	DATE(S)	INCHARGE
1	Commencement of Classes	06.12.2024	
2	Mini project allocation	18.12.2024	Project coordinator
3	Mini project abstract submission	10.01.2025	Project coordinator
4	Assignment – I	30.01.2025 to 31.01.2025	Subject Teachers
5	Class Test – I	01.02.2025 to 03.02.2025	Dept. Exam I/C
6	Analysis of Class Test - I marks	05.02.2025	Dept. Exam I/C
7	Project Review – I	07.02.2025 to 08.02.2025	Project coordinator
8	Cycle Test - I (Two subjects per day)	17.02.2025 to 19.02.2025	Dept. Exam I/C
9	Date of completion Evaluation of Cycle Test – I	22.02.2025	Dept. Exam I/C
10	Analysis of Cycle Test - I marks	24.02.2025	Dept. Exam I/C
11	Publication of Cycle Test I marks	24.02.2025	Dept. Exam I/C
12	Sending of Cycle Test - I marks to parents	25.02.2025	Dept. Exam I/C
13	Submission of Course File up to II – Units	28.02.2025	Subject Teachers
14	Assignment – II	18.03.2025 to 19.03.2025	Subject Teachers
15	Project Review – II	21.03.2025 to 22.03.2025	Project coordinator
16	Class Test – II	31.03.2025 to 02.04.2025	Dept. Exam I/C
17	Analysis of Class Test - II marks	04.04.2025	Dept. Exam I/C
18	Practical and project viva voce	10.04.2025 to 16.04.2025	Lab In charge and Project coordinator
19	Cycle Test - II (Two subjects per day)	17.04.2025 to 19.04.2025	Dept. Exam I/C
20	Date of completion of Evaluation of Cycle Test – II	23.04.2025	Dept. Exam I/C
21	Analysis of Cycle Test - II marks	24.04.2025	Dept. Exam I/C
22	Publication of Cycle Test - II marks	24.04.2025	Dept. Exam I/C
23	Sending of Cycle Test - II marks to parents	25.04.2025	Dept. Exam I/C
24	Closing Date of Instruction	19.04.2025	
25	Final submission of marks to Central Exam Section	30.04.2025	Dept. Exam I/C
26	Submission of Course File up to V – Units	10.05.2025	Subject Teachers
Every Saturday			
27	Consolidated attendance summary	Class Teacher	
28	Undertaking from students having less than 80% attendance	Proctor	

HoD, ECE

Figure No. 2.1.2: Department level academic calendar for the Even Semester 2024 – 25.

Technology-Driven Scheduling: Digital tools like scheduling software are leveraged to streamline course planning, manage faculty workload, and provide students with real-time updates regarding classes, assignments, and deadlines.

Periodic Review & Feedback: Semester-based assessments of the academic calendar's effectiveness are conducted. Feedback from faculty and students is analysed to make necessary improvements in scheduling and academic delivery.

Stakeholder Consultation: Active participation of faculty, students, and administrative staff in academic calendar planning ensures a balanced schedule that accommodates coursework, laboratory sessions, industrial training, and extracurricular engagement.

Instructional Methods and Pedagogical Initiatives

A variety of instructional techniques are employed to cater to different learning styles, ensuring that students gain a deep understanding of engineering concepts. These methods blend traditional approaches with innovative teaching strategies to maximize student engagement and knowledge retention.

Classroom Teaching Methods:

Traditional and Multimedia Lectures: Faculty employ a combination of chalk-and-board teaching, multimedia presentations, and interactive discussions to reinforce theoretical concepts.

ICT-Supported Learning: Digital platforms such as Moodle, NPTEL, and SWAYAM supplement traditional teaching, offering students access to additional learning resources and self-paced study materials.

Real-World Case Studies: Engineering concepts are explained using real-world applications and case studies related to fields such as VLSI, IoT, and AI, ensuring practical relevance.

Collaborative Learning: Peer discussions, team-based projects, and group presentations encourage students to work collaboratively, fostering problem-solving skills and teamwork.

Laboratory and Practical-Based Learning:

Hands-on Experiments: Students perform laboratory experiments using advanced equipment to reinforce their theoretical knowledge with practical applications.

Simulation-Based Learning: Software tools such as Cadence, MATLAB, Optisystem, Xilinx, and HFSS are utilized to simulate complex engineering processes, enhancing conceptual clarity.

Industry-Linked Experiments: Experiments related to IoT-based monitoring, automation, and real-time data analytics equip students with industry-relevant skills and practical exposure.

Industry Engagement & Experiential Learning: Guest Lectures & Workshops: Industry experts and academicians deliver sessions on emerging trends, offering students valuable insights into technological advancements.

Internships & Live Projects: Collaboration with industry partners allows students to apply academic knowledge in real-world scenarios through internships and live projects.

Supporting Diverse Learners

Recognizing that students have varied learning capabilities; the department implements differentiated teaching strategies to support both slow and advanced learners. The process followed for the categorisation of learners is shown in following flow diagram;

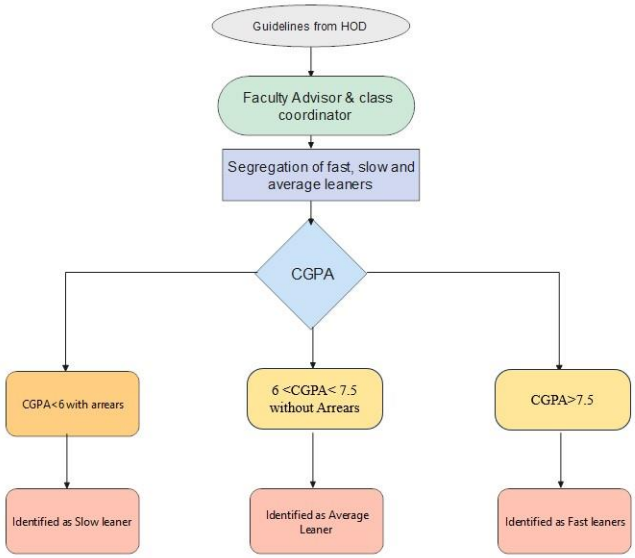


Figure No. 2.1.3: Process followed for identification of Slow and Fast learners.

Support for Slow Learners:

Remedial Classes & Extra Tutorials: Additional instructional sessions are conducted to help students grasp fundamental concepts and improve performance in challenging subjects.

Peer Mentorship Programs: Senior students mentor struggling peers, offering guidance and clarifications on complex topics.

Interactive and Practical-Based Learning: Application-oriented exercises and industry case studies make learning more engaging and comprehensible for students requiring extra assistance.

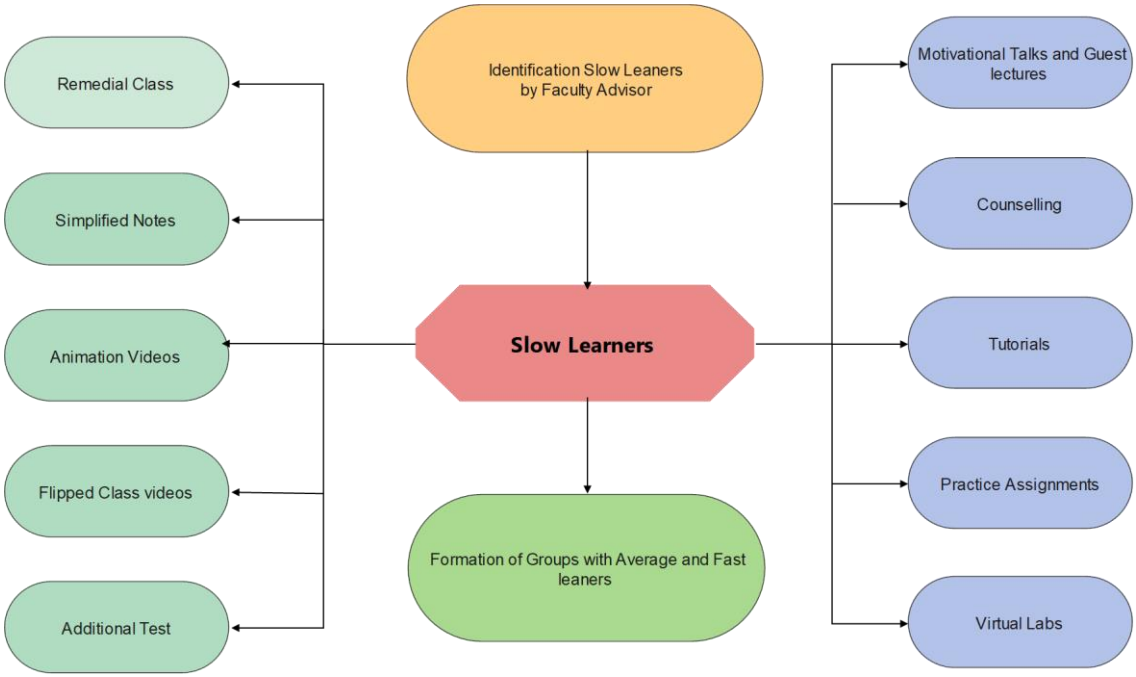


Figure No. 2.1.4: Strategies used to help slow learners.

Encouragement for Advanced Learners:

Advanced Research & Technical Projects: High-achieving students are encouraged to work on research projects and explore emerging technologies.

Participation in Competitions & Hackathons: The department facilitates participation in national and international competitions, promoting innovation and skill development.

Internships & Research Publications: Students are guided in publishing research papers and securing industrial internships, providing them with early exposure to professional environments.

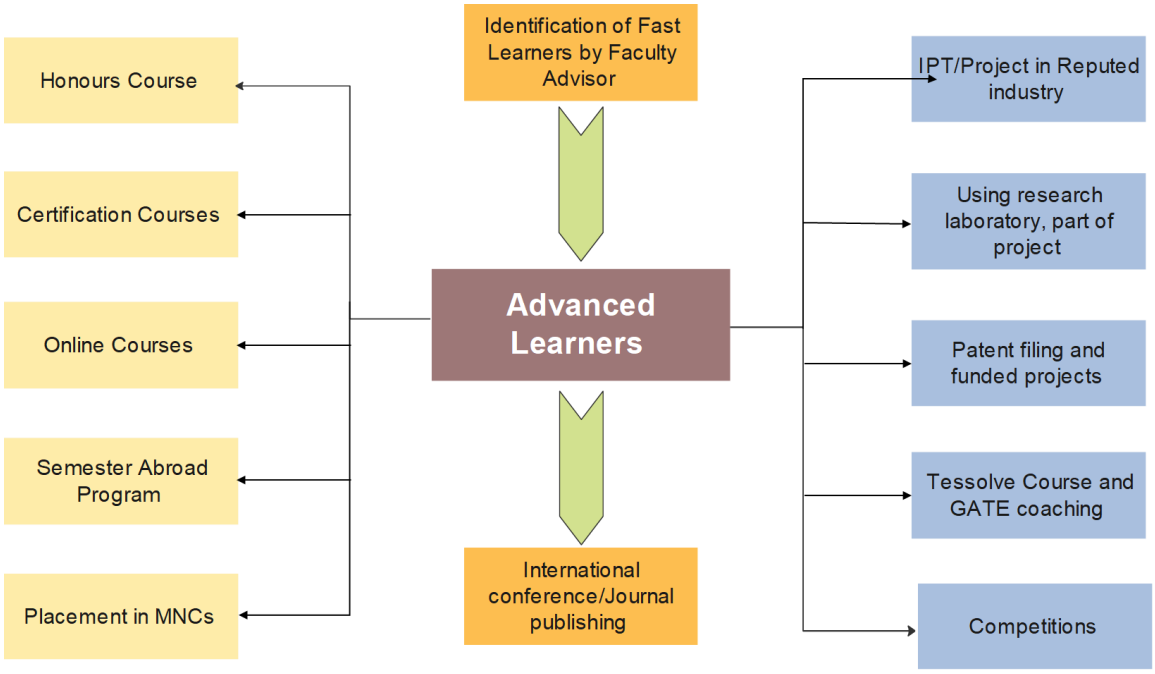


Figure No. 2.1.5: Strategies used to enhance performance of advanced learners.

Quality of Classroom Teaching

The department maintains high teaching standards through continuous evaluation, faculty development, and a structured feedback system.

Assessment of Learning Outcomes:

Continuous Evaluation: Quizzes, assignments, seminars, and periodic assessments are conducted to track student progress.

Final Assessments & Examinations: University exams and project presentations assess students' conceptual clarity and practical application skills.

Feedback Mechanism:

Process: Structured student feedback is collected on faculty performance, teaching methodologies, and course effectiveness.

Implementation: Actionable insights are derived from feedback, and necessary refinements are made to enhance teaching quality.

Impact: A student-cantered learning environment is created through continuous improvements, resulting in enhanced student satisfaction and better learning outcomes.

3rd SEM B.TECH ECE-B FEEDBACK(2021-25) EEM

EEM-Mr.Ashish Tiwary							
DATE OF FEEDBACK: 07-Oct-2023							
		Excellent	Very Good	Good	Fair	Poor	
Teacher is punctual and regular		52	8	3	0	1	302
Level of preparation in the subject		33	20	9	1	1	275
Teacher speaks clearly and audibly		43	13	4	3	1	286
Teacher uses Black/White Board ,Power point Presentation and other online tools properly		39	16	7	1	1	283
Teacher provides examples of concept /Principle	B	38	14	9	2	1	278
Teacher answers the questions and clarifies the doubts on the subject		38	16	6	2	2	278
Teacher makes the class interesting , interactive and simulates interest on the subject		38	13	9	3	1	276
Teacher maintains discipline in the class		45	11	5	2	1	289
Teacher offers assistance and counselling as and when needed		38	11	11	3	1	274
Teacher is impartial to all the students		38	11	10	1	4	270
		402	133	73	18	14	2811
NO. OF STUDENT	64						
	TOTAL	87.84					

COMMENTS
Nothing
Nice
No
No
No
No
No
Excellent
Excellent teaching
No
No
Good
Sir, should not use too much of ppts
Teacher are very friendly to all the students
No
Deep analysis and concept clearing facalty
The teacher who is good to all the class but not in personal
Improve to more examples to understand clear
super teaching skills
Good
Sir is very punctual and good
He is very good and nice teacher. He always help me in every situation . He is a friendly teacher. He always treat me like a good and close friend.
Sir teaching process is very well but sir not proper time to note and i average student i forget the concept and.... Both written and concept give proper time
Sir please to the again Revision class

5TH SEM B.TECH ECE-B FEEDBACK(2022-26) DC

GIET UNIVERSITY GUNUPUR

HUMAN RESOURCES DEPARTMENT

5TH SEM B.TECH ECE-B FEEDBACK(2022-26)

DC-Ms Ranjita Rout							
DATE OF FEEDBACK: 14-Sep-2024							
		Excellent	Very Good	Good	Fair	Poor	
Teacher is punctual and regular		48	2	0	0	1	249
Level of preparation in the subject		42	6	2	0	1	241
Teacher speaks clearly and audibly		44	4	2	0	1	243
Teacher uses Black/White Board ,Power point Presentation and other online tools properly		41	7	2	0	1	240
Teacher provides examples of concept /Principle	B	42	8	0	0	1	243
Teacher answers the questions and clarifies the doubts on the subject		42	7	1	0	1	242
Teacher makes the class interesting , interactive and simulates interest on the subject		40	7	2	1	1	237
Teacher maintains discipline in the class		44	5	1	0	1	244
Teacher offers assistance and counselling as and when needed		41	7	2	0	1	240
Teacher is impartial to all the students		43	5	1	1	1	241
		427	58	13	2	10	2420
NO. OF STUDENT	51						
	TOTAL	94.90					

COMMENTS
No
Very Good
The way of explanation is very good.
Ma'am is so good at teaching and maintaining discipline
Fav mam
Madam is so good
Best teacher in dept
Very nice
Nil
No
Teaching methods is good
Giving Notes Properly and Teaching Excellent

6TH SEM B.TECH ECE-B FEEDBACK(2022-2026) DCN

GIET UNIVERSITY GUNUPUR

HUMAN RESOURCES DEPARTMENT

6TH SEM B.TECH ECE-B FEEDBACK(2022-2026)

DCN -Dr.Ashish Tiwary							
DATE OF FEEDBACK: 11-Feb-2025							
		Excellent	Very Good	Good	Fair	Poor	
Teacher is punctual and regular		39	11	3	0	3	251
Level of preparation in the subject		37	12	4	0	3	248
Teacher speaks clearly and audibly		39	11	2	2	2	251
Teacher uses Black/White Board ,Power point Presentation and other online tools properly		39	10	3	1	3	249
Teacher provides examples of concept /Principle	B	39	11	3	0	3	251
Teacher answers the questions and clarifies the doubts on the subject		41	8	5	0	2	254
Teacher makes the class interesting , interactive and simulates interest on the subject		39	10	4	2	1	252
Teacher maintains discipline in the class		40	13	1	1	1	258
Teacher offers assistance and counselling as and when needed		37	16	0	1	2	253
Teacher is impartial to all the students		38	11	4	1	2	250
		388	113	29	8	22	2517
NO. OF STUDENT	56						
	TOTAL	89.89					

COMMENTS
Nil
Excellent
No
Sir is so brilliant and awesome
Excellent
Ok
Good preparation
Very good in study also help in study and giving subject notes properly
Excellent teaching sir
Yaa

Figure No. 2.1.6: Sample feedback copies collected from the students of different batches.

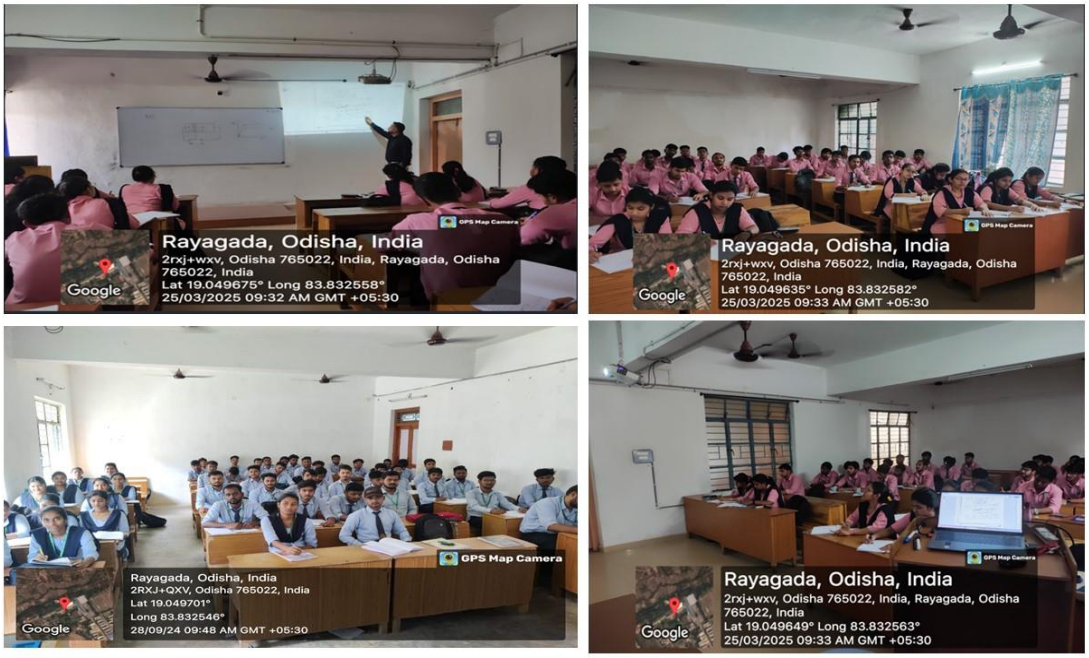


Figure No. 2.1.7: Sample classrooms Photos.

Quality of Laboratory Experience

Hands-on experimentation plays a crucial role in engineering education, and the department ensures a structured and high-quality laboratory learning experience.

Implementation of Experiments:

Standard Operating Procedures (SOPs): Clear guidelines ensure students perform experiments systematically while maintaining safety protocols.

Independent Experimentation Under Supervision: Students are encouraged to work independently under faculty guidance, fostering confidence and analytical skills.

Comprehensive Lab Reports & Data Analysis: Students maintain detailed records of experiments, analyse data, and present findings, which enhances precision and technical writing abilities.

Figure No. 2.1.8: Sample photos of Laboratories.

Implementation Details & Impact Analysis

A well-coordinated approach ensures the effective execution of teaching and learning strategies, leading to continuous academic enhancement.

Faculty Development:

Regular Training & Workshops: Faculty members participate in FDPs and specialized workshops to stay updated with modern teaching methodologies and industry advancements.

No:ATAL/2020/817532

ATAL

AICTE

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION
Nelson Mandela Marg, Vasant Kunj, New Delhi – 110 070

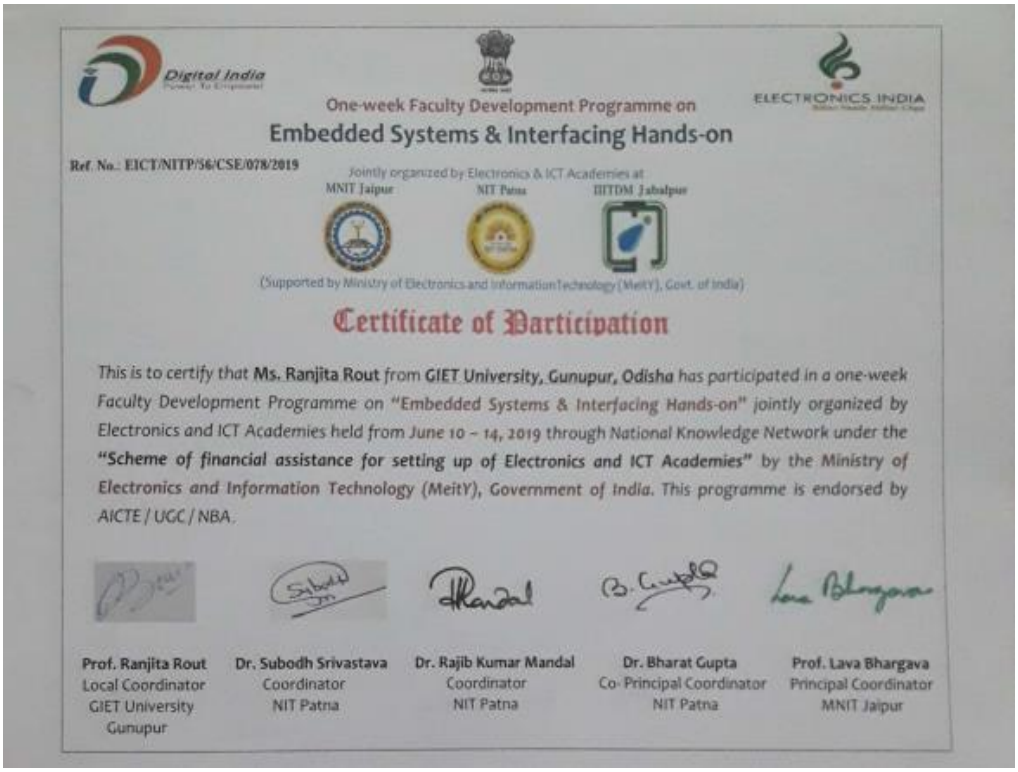
AICTE Training And Learning (ATAL) Academy

Certificate

This to be certified that PRIYADARSAN PARIDA participated & completed successfully AICTE Training And Learning (ATAL) Academy Online FDP on "Artificial Intelligence" from 22-05-2020 to 26-05-2020 at NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL.

Director ATAL Academies

Coordinator



Digital India

ELECTRONICS INDIA

One-week Faculty Development Programme on

Embedded Systems & Interfacing Hands-on

Ref. No.: EICT/NITP/56/CSE/078/2019

Jointly organized by Electronics & ICT Academies at
MNIT Jaipur NIT Patna IIITDM Jabalpur

(Supported by Ministry of Electronics and Information Technology (MeitY), Govt. of India)

Certificate of Participation

This is to certify that **Ms. Ranjita Rout** from **GIET University, Gunupur, Odisha** has participated in a one-week Faculty Development Programme on "Embedded Systems & Interfacing Hands-on" jointly organized by Electronics and ICT Academies held from June 10 – 14, 2019 through National Knowledge Network under the **"Scheme of financial assistance for setting up of Electronics and ICT Academies"** by the Ministry of Electronics and Information Technology (MeitY), Government of India. This programme is endorsed by AICTE / UGC / NBA.

Prof. Ranjita Rout	Dr. Subodh Srivastava	Dr. Rajib Kumar Mandal	Dr. Bharat Gupta	Prof. Lava Bhargava
Local Coordinator	Coordinator	Coordinator	Co- Principal Coordinator	Principal Coordinator
GIET University	NIT Patna	NIT Patna	NIT Patna	MNIT Jaipur
Gunupur				


Digital India
Power To Empower

One-week Faculty Development Programme on

ELECTRONICS INDIA

Advancements in Signal Processing & Optimization Techniques

Ref. No.: EICT/NITP/54/CSE/082/2019

Jointly organized by Electronics & ICT Academies at

MNIT Jaipur | IIT Roorkee | IIT Guwahati | IIITDM Jabalpur | NIT Patna

(Supported by Ministry of Electronics and Information Technology (MeitY), Govt. of India)

Certificate of Participation

This is to certify that ~~Mr. / Ms.~~ / Dr. **Priyadarsan Parida** from **GIET University** has participated in a one-week Faculty Development Programme on **"Advancements in Signal Processing & Optimization Techniques"** jointly organized by Electronics and ICT Academies held from June 3 – 7, 2019 through National Knowledge Network under the **"Scheme of financial assistance for setting up of Electronics and ICT Academies"** by the Ministry of Electronics and Information Technology (MeitY), Government of India. This programme is endorsed by AICTE / UGC / NBA.

Dr. Priyadarsan Parida
Mr. Bibhu Prasad
Local Coordinator
GIET University

Dr. Ashish Kumar Bhandari
Coordinator
NIT Patna

Dr. P. M. Pradhan
Co- Principal Coordinator
IIT Roorkee

Dr. S. J. Nanda
Principal Coordinator
MNIT Jaipur

Figure No. 2.1.9: Sample photos of FDP certificates.

Curriculum Design:

Periodic Review & Industry Integration: The curriculum undergoes regular updates to incorporate emerging technologies and industry best practices, ensuring that students receive relevant and up-to-date education.

Continuous Feedback & Improvement:

Data-Driven Insights: Student performance is periodically reviewed to refine teaching methodologies.

Innovative Curriculum Enhancements: Real-world applications and cutting-edge research techniques are incorporated to strengthen students' academic and professional competencies.

By adopting these structured methodologies, the department of ECE at GIET University ensures a dynamic and student-centric learning environment that equips graduates with the technical expertise, problem-solving abilities, and industry readiness required for successful careers in engineering.

2.2. Quality of Student Capstone Project (25)

(Quality of the capstone/major project is measured in terms of consideration to factors including, but not limited to, environment, sustainability, safety, ethics, cost, type (application, product, research, review etc.) and standards. Processes related to project identification, allotment, continuous monitoring, evaluation including demonstration of working prototypes and enhancing the relevance of projects.

Mention implementation details including details of POs and PSOs addressed through the projects with justification.)

Ensuring the quality of student capstone/major projects within the Electronics and Communication Engineering (ECE) Department at GIET University is crucial for developing competent engineers capable of addressing contemporary challenges. The department has established a structured framework encompassing project identification, allocation, continuous monitoring, evaluation, and demonstration of working prototypes. The quality of capstone projects is assessed based on key factors including environmental considerations, sustainability, safety, ethics, cost-effectiveness, and adherence to industry standards. Additionally, projects are aligned with specific Program Outcomes (POs) and Program Specific Outcomes (PSOs) to ensure relevance and impact.

Identification of Capstone/Major Project and Allocation of Guides

Identification of Capstone/Major Projects: The selection of capstone/major projects follows a structured process to ensure innovation, industry relevance, and research orientation. The selection process includes:

(a) Problem Identification & Domain Selection

Students explore project ideas based on:

- Current Industry Trends (e.g., 5G technology, IoT, AI in hardware, quantum computing, silicon photonics, biomedical electronics).
- Research Gaps Identified from Literature, Industry Case Studies, Smart India Hackathons, KPIT SPARKLE, etc.
- Societal and Sustainable Development Goals (e.g., AI in healthcare, smart agriculture appliances).
- Faculty and Industry Expert Recommendations.

- Departments conduct brainstorming sessions and industry interactions to finalize project domains.

(b) Categorization of Projects

Projects are categorized into:

- Research-Based Projects (e.g., developing novel antenna designs for 5G, IoT-based smart home automation systems).
- Industry-Sponsored Projects (e.g., projects from industries/startups related to IoT, AI, renewable energy, smart cities).
- Innovation and Entrepreneurship Projects (e.g., startup ideas supported by incubation centres).
- Interdisciplinary Projects (e.g., projects integrating electronics, data science, AI/ML, biotech, agriculture).

Project Proposal Submission & Screening

Students submit a detailed project proposal, including:

- Problem Statement, Objectives, Expected Outcomes, Methodology, Feasibility Analysis.
- A Project Review Committee (PRC), comprising faculty members and industry experts, evaluates proposals based on:
- Technical Feasibility
- Innovation
- Scalability & Industry Relevance
- Sustainability & Societal Impact

Allocation of Guides (Supervisors/Mentors)

Guides are allocated based on:

- Faculty Expertise & Specialization
- Faculty Workload & Availability
- Industry Experts as Co-Guides (where applicable)

Project Execution & Monitoring

Phase 1: Literature Review & Methodology Finalization

Phase 2: Design, Simulation & Prototyping (using Cadence, MATLAB, Python, IoT platforms, Xilinx, Optisystem, etc.)

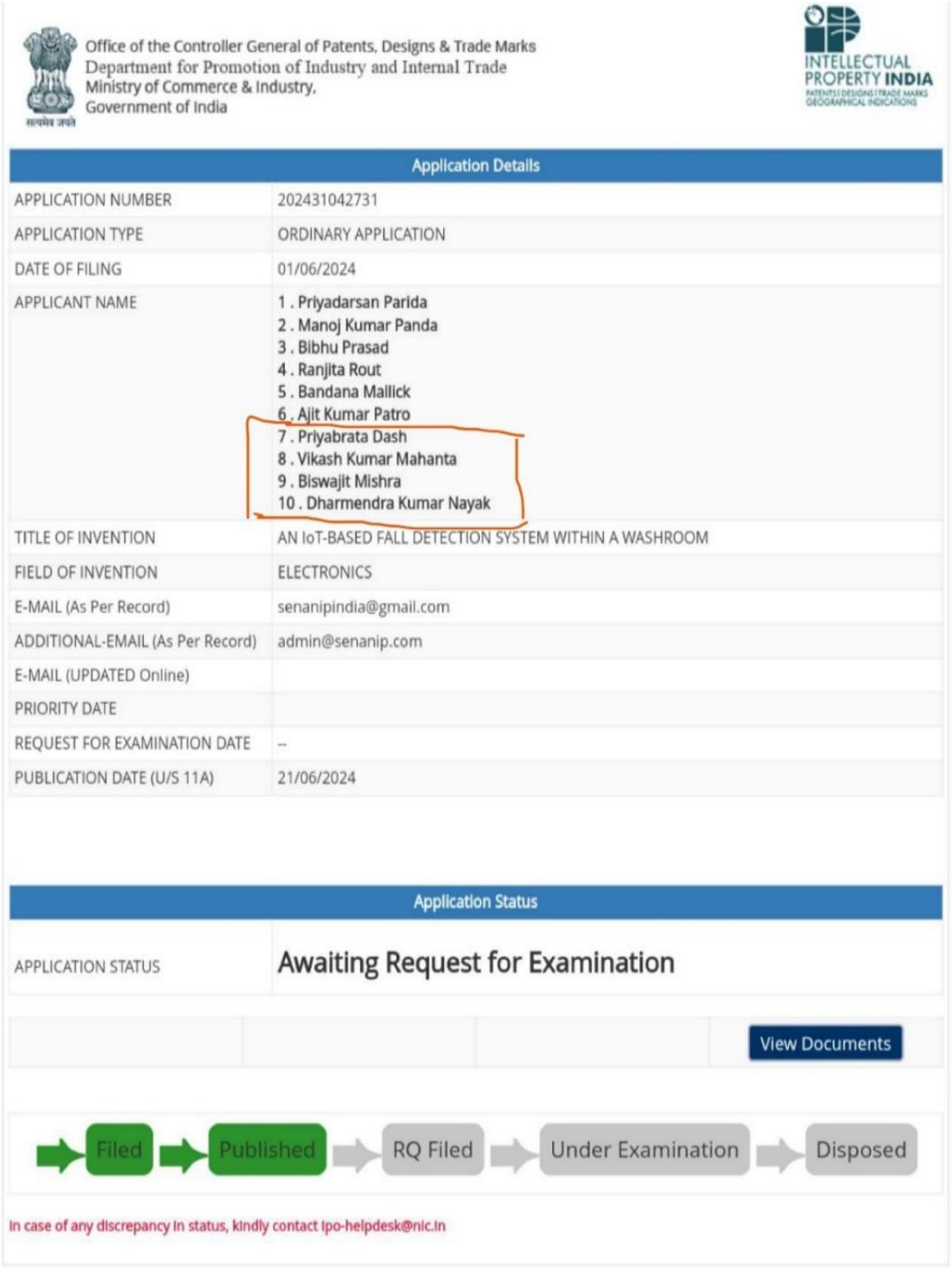
Phase 3: Implementation & Testing

Phase 4: Evaluation & Presentation (mid-term and final evaluation with expert review)

Project Outcome Evaluation & Continuous Improvement

Assessment Criteria:

- Technical Innovation & Novelty
- Industry Relevance & Feasibility
- Sustainability & Societal Impact
- Presentation & Documentation Quality
- Final Presentation & Demonstration:
- Conducted before an expert panel (faculty, industry experts)
- Feedback is incorporated for further improvements
- Publication & Patent Filing Support:
- High-quality projects encouraged for conference/journal publication
- Innovative projects guided for IPR and patent filing
- Recommended for participation in Smart India Hackathons, Competitions



Office of the Controller General of Patents, Designs & Trade Marks
Department for Promotion of Industry and Internal Trade
Ministry of Commerce & Industry,
Government of India

INTELLECTUAL PROPERTY INDIA
PATENTS | DESIGNS | TRADE MARKS | GEOGRAPHICAL INDICATIONS

Application Details

APPLICATION NUMBER	202431042731
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	01/06/2024
APPLICANT NAME	1 . Priyadarsan Parida 2 . Manoj Kumar Panda 3 . Bibhu Prasad 4 . Ranjita Rout 5 . Bandana Mallick 6 . Ajit Kumar Patro 7 . Priyabrata Dash 8 . Vikash Kumar Mahanta 9 . Biswajit Mishra 10 . Dharmendra Kumar Nayak
TITLE OF INVENTION	AN IoT-BASED FALL DETECTION SYSTEM WITHIN A WASHROOM
FIELD OF INVENTION	ELECTRONICS
E-MAIL (As Per Record)	senanipindia@gmail.com
ADDITIONAL-EMAIL (As Per Record)	admin@senanip.com
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	21/06/2024

Application Status

APPLICATION STATUS	Awaiting Request for Examination

View Documents

Filed → Published → RQ Filed → Under Examination → Disposed

In case of any discrepancy in status, kindly contact ipo-helpdesk@nic.in

Figure No. 2.2.1: Sample copy of student project resulting to filing of Patent. The name of the students is highlighted in a box with red colour.

Types and Relevance of Capstone Projects Towards POs and PSOs

Capstone projects significantly contribute to Program Outcomes (POs) and Program Specific Outcomes (PSOs) by fostering technical competence, problem-solving skills, ethical considerations, and industry relevance.

Table 2.2.1: Classification of Projects and Their Contribution.

Project Type	Example	Relevance (PO & PSO Mapping)
Application-Based Projects	Design of a Smart Blind Stick	Enhances problem-solving (PO1, PO2, PO4), tool usage (PO5), and technology application (PSOs)
Product Development Projects	Energy-efficient IoT-based Smart Home Automation	Strengthens innovation (PO3), teamwork (PO9), industrial product development (PSOs)
Research-Oriented Projects	ML-based Breast Cancer Detection Model	Encourages research (PO4), data analysis (PO2), and advanced computing skills (PSOs)
Review-Based Projects	FSO Link Design for Odisha Weather Conditions	Enhances critical thinking (PO12), life-long learning (PO10), theoretical understanding (PSOs)
Experimental/Validation-Based Projects	Lead-acid vs. Lithium-ion Battery Performance Analysis	Improves hands-on skills (PO5), experimental investigations (PO4), and energy management (PSOs)

Application-Based Projects

These projects focus on implementing existing theories, technologies, or frameworks to solve specific real-world problems.

Example: Design of a Smart blind stick.

Relevance: Enhances practical problem-solving (PO1, PO2, PO4) and tool usage (PO5), while aligning with PSOs related to technology application.

Table 2.2.2: Application-Based Projects.

Sl. No.	Regd. No.	Name of the student	Project Title	Category	PO mapping	PSO mapping
1	20UG010550	Syed Inayat Nadim	Pneumo detect:	Software	PO1, PO2,	PSO1

	20UG010566 20UG010560	Sathweeka Patnaik P Akhila	Precision Diagnosis with Deep Learning on Chest X-Rays		PO4, PO5, PO10, PO12	
2	20UG010538 20UG010579 20UG010535	Anisha Kumari Ambika Das Sankalp Kundu	Unleashing the next generation of AI interaction with OLYMPUS V1	Software	PO1, PO5, PO6, PO10, PO12	PSO1
3	20UG01LE48 20UG010527	Saurav Devashish Piyush Kumar Padhy	Arduino-based smart vacuum cleaner robot	Hardware	PO1, PO3, PO5, PO9, PO10, PO12	PSO2
4	20UG010521 20UG010523 20UG010525	Ch. Sreevalli S. Pradhan S. Sahitya	Performance analysis and simulation of 64-QAM for wireless communication	Software	PO1, PO2, PO4, PO5, PO10, PO12	PSO1
5	20UG010514 20UG010551 20UG010559	Nikhil K Naik Astha Singh P Amini	Face recognition door lock system using Raspberry Pi	Hardware + Software	PO1, PO3, PO5, PO6, PO10, PO12	PSO1, PSO2
6	20UG010517 20UG010539	Roshan Kumar Sahu Rupali Panda	Current magnification using parallel RC circuit	Hardware	PO1, PO2, PO4, PO10, PO12	PSO2
7	20UG010575 20UG010574	Pavan Kumar Sahu Chandreya Karkaria	Air pollution monitoring system using Arduino	Hardware	PO1, PO3, PO5, PO7, PO10, PO12	PSO1, PSO2
8	1901090078 1901090079 1901090072	Sneha Bharat Kumar Patri Abhisek Barik	Design and implementation of a 2-bit D FLIP-FLOP counter	Hardware	PO1, PO3, PO5, PO9, PO10, PO12	PSO2
9	1901090073	Nilima Chakra	Design and Analysis of	Hardware	PO1, PO3,	PSO2

	1901090071 1901090044	Varanasi Vinith Kumari Kalpana Behera	LDR-based LASER security system		PO5, PO10, PO12	
10	190109006 1901090017 1901090012	Avinash Burma Korada Supraja A. Pragati	Smart parking system	Hardware + Software	PO1, PO3, PO5, PO6, PO10, PO12	PSO1, PSO2
11	1901090009 1901090016	Korada Adarsh Amiya Ranjan Sahoo	NOR-GATE based LED Inverter	Hardware	PO1, PO3, PO5, PO10, PO12	PSO2
12	1901090015 1901090041 1901090025	Debasis Behera Dev Ranjan Mahato Prince Kumar	Diode clipper circuit design and implementation in software	Software	PO1, PO3, PO5, PO10, PO12	PSO2
13	1901090039 1901090024 1901090027	Adarsh Dakua Sourabh Tiwari Danana Vineeth	Automatic water dispenser system	Hardware	PO1, PO3, PO5, PO7, PO10, PO12	PSO2
14	1901090038 1901090011	Laxmi Kanta Padhy Motilal Khuas	An IoT smart guardian: AI and IoT Integrated smart security system	Hardware + Software	PO1, PO3, PO5, PO6, PO10, PO12	PSO1, PSO2
15	190109008 1901090086	Trilochan Behera Sritam Subham Jena	Full-wave Bridge rectifier using diodes	Hardware	PO1, PO3, PO5, PO10, PO12	PSO2

Product Development Projects

These projects involve designing and developing a new product that meets specific user needs or market demands.

Example: Development of an energy-efficient IoT-based smart home automation system.

Relevance: Strengthens innovation (PO3), design solutions (PO6), and teamwork (PO9), contributing to PSOs in sustainability and industrial product development.

Table 2.2.3: Product Development Projects.

Sl.No.	Regd. No.	Name of the student	Project Title	Category	PO mapping	PSO mapping
1	20UG010533	Dibyananda Kabir	Environmental Noise Monitoring System	Hardware + Software	PO1, PO3, PO5, PO7, PO10, PO12	PSO1, PSO2
	20UG010518	Rupam Barad				
	20UG010529	S. Vandana				
2	20UG010541	P. Balaji Patro	Vehicle Safety System using Ultrasonic Sensor and GPS	Hardware + Software	PO1, PO3, PO5, PO6, PO10, PO12	PSO1, PSO2
	20UG010534	Sudhakar Kumar				
	20UG010563	Anweshi Rout				
3	20UG010555	Prabhudan Nayak	Design and Implementation of Voltage-Controlled Oscillator (VCO)	Hardware	PO1, PO3, PO5, PO10, PO12	PSO2
	20UG010561	Retuja Singh				
	20UG010562	Sandeep Kumar Behera				
4	20UG010526	Ashutosh Kashyap	Intelligent IoT Solution for Plant Care	Hardware + Software	PO1, PO3, PO5, PO7, PO10, PO12	PSO1, PSO2
	20UG010564	Tarun Korkoria				
	20UG01LE47	Subham Patnaik				
5	20UG010542	Tangudu Hemanth	Sun Tracking System for Solar Panel Optimization	Hardware + Software	PO1, PO3, PO5, PO7, PO10, PO12	PSO1, PSO2
	20UG010565	Tangudu Satish Kumar				
	20UG010567	Rahul Ranjan Biswal				
6	20UG010519	Umashankar Padhy	Battery Controlled System for E-VEHICLES	Hardware	PO1, PO3, PO5, PO7, PO10, PO12	PSO2
	20UG010520	Peddina Sidhu				
7	1901090043	Arfan Ahmed	Impact of Inductance &	Hardware	PO1, PO2,	PSO2

	1901090047 1901090063	Hitesh Kumar Prajapati Pritam Jana	Resistance on LED Performance in RL Circuits		PO4, PO5, PO10, PO12	
8	1901090048 1901090049 1901090066	Chinmaya Pruseth Rishi Kumar Patnaik Dharmendra Kumar Singh	Implementation of Gas Detection & Prevention System	Hardware + Software	PO1, PO3, PO5, PO6, PO10, PO12	PSO1, PSO2
9	1901090064 1901090065 1901090070	Satya Narayan Panda Voona Akhila Sujit Subudhi	Earthquake Detector	Hardware + Software	PO1, PO3, PO5, PO6, PO10, PO12	PSO1, PSO2
10	1901090080 190109LE01 1901090050	Ajay Jani Taniya Nayak M Roshan Kumar	IC-Based Audio Amplifier	Hardware	PO1, PO3, PO5, PO10, PO12	PSO2
11	1901090051 1901090013 1901090060	Asutosh Nayak Bipin Bihari Parida Madugula Arun Kumar	2-Input NAND Gate Using Transistors	Hardware	PO1, PO3, PO5, PO10, PO12	PSO2

Research-Oriented Projects

These projects involve experimental analysis, simulations, and hypothesis testing to advance knowledge in a specific domain.

Example: Machine learning-based forecasting model for breast cancer detection.

Relevance: Encourages research skills (PO4), data analysis (PO2), and contributes to PSOs related to advanced computing and analytics.

Table 2.2.4: Research-Oriented Projects.

Sl. No.	Regd. No.	Name of the student	Project Title	Category	PO mapping	PSO mapping
1	20UG010582	Chinu Pradhan	Data Extraction from Database using Gen AI	Software	PO1, PO2, PO3, PO5, PO10, PO12	PSO2
	20UG010531	Vivek Kumar Behera				
	20UG010543	Aditya Das				
2	20UG010580	Syed Akhib	IoT-based Water Leak Detection System	Hardware + Software	PO1, PO3, PO5, PO6, PO10, PO12	PSO1, PSO2
	20UG010532	Jagan Kumar Panda				
	20UG010546	Manish Raj Panigrahi				
3	20UG010569	Abhisek Pattnaik	Industrial Gas Leakage Detection using IoT	Hardware + Software	PO1, PO3, PO5, PO6, PO10, PO12	PSO1, PSO2
	20UG010572	M Harish Kumar				
	20UG010573	Chinmaya Nanda Goswami				
4	20UG010552	Mayukh Khatua	Performance Analysis of Duobinary Return to Zero (DRZ) and Modified Duobinary Return to Zero (MDRZ)	Software	PO1, PO2, PO3, PO5, PO10, PO12	PSO2
	20UG010554	Animesh Barik				
5	20UG010548	G Bhubani Patra	LASERBEAM Technology for Smart Crop Field Protection	Hardware + Software	PO1, PO3, PO5, PO7, PO10, PO12	PSO1, PSO2
	20UG010570	Surya Saswat Patra				
6	20UG010377	Kiran Kumar Sahu	Detailed Analysis of Wein Bridge Oscillator	Hardware	PO1, PO2, PO3, PO10, PO12	PSO2
	20UG010382	Kamalakanta Gouda				
	20UG010424	Asish Bisoi				
7	20UG010392	Jagannath Kar	Design and Optimizatio	Hardware		PSO2

	20UG010426 20UG010427	Subham Kumar Shashi Ranjan	n of Low-Power VLSI Circuits for IoT Applications		PO1, PO2, PO5, PO9, PO10, PO12	
8	20UG010378 20UG010383 20UG010421	Pritam Panigrahy G Sai Rajesh Kumar Patro Ashis Kumar Patra	Development of Advanced Communication Systems using 5G Technology	Software	PO1, PO3, PO5, PO7, PO10, PO12	PSO1
9	1901090059 1901090055 1901090019	Laxmi Subudhi Baibhav Dandsena Dilip Nayak	Design and Simulation of a Software-Defined Radio (SDR) System	Software	PO1, PO2, PO5, PO6, PO10, PO12	PSO1
10	1901090001 1901090002 1901090007	Sapan Kumar Sahu K. Bineeta Sudeep Kumar Panda	AI-Based Signal Processing for Noise Reduction in Communication Systems	Software	PO2, PO3, PO5, PO6, PO10, PO12	PSO1
11	1901090074 1901090067 1901090029	Andavarapu Satish Sarup Sahu Raichimi Sabar	Development of Low-Cost Health Monitoring System using IoT and Wireless Communication	Hardware/Software	PO1, PO3, PO5, PO7, PO10, PO12	PSO2
12	1901090028 1901090144 1901090137	Amlan Satapathy Debashish Mishra Balabhadra Mohanta	Quantum Cryptography for Secure Communication in IoT	Software	PO1, PO3, PO8, PO9, PO10, PO12	PSO1
13	1901090142 1901090135	Sidhartha Biswal Asutosh Sahoo	Design of a Real-Time Gesture Recognition System using Machine Learning	Software	PO1, PO2, PO5, PO10, PO12	PSO2

14	1901090032	V.Venkata Ramana	Performance Analysis of Cognitive Radio Networks for Dynamic Spectrum Management	Software	PO2, PO5, PO7, PO10, PO12	PSO1
	1901090033	Swati Mishra				
	1901090120	Abhijeet Rai				
15	1901090036	Prangyan Rani Pani	Energy Harvesting Systems for Wireless Sensor Networks	Hardware	PO1, PO3, PO5, PO7, PO10, PO12	PSO1
	1901090037	Kali Prasad Senapati				
	1901090143	Soumya Ranjan Panda				
16	1901090026	Ankit Raul	Analysis and Implementation of Visible Light Communication (VLC) Systems	Hardware	PO1, PO3, PO5, PO7, PO10, PO12	PSO1
	1901090030	Ajit Kumar Das				
17	1901090091	Raj Kumar	Design of Smart Grid Communication Systems for Efficient Power Distribution	Software	PO1, PO5, PO7, PO10, PO12	PSO1
	1901090053	Aditya Narayan Panda				
	1901090146	Ankita Mallick	Wireless Power Transfer for Biomedical Implant Devices	Hardware	PO1, PO3, PO5, PO7, PO10, PO12	PSO1
18	1901090058	Akash Prashar				
19	1901090054	Pritam Senapati	Development of Smart Antenna Systems for MIMO-Based Communication	Hardware	PO1, PO3, PO5, PO9, PO10, PO12	PSO1
	1901090147	Mohit Kumar				
	1901090148	Ankit Hota				
20	1901090057	Ayush Prakash	Simulation and Performance Evaluation of Optical Fiber	Software	PO2, PO5, PO7, PO10, PO12	PSO1
	190109LE03	Ganesh Bihari				

			Communication Systems			

Review-Based Projects

These projects involve an extensive literature survey, comparative analysis, and synthesis of information on a particular topic.

Example: Design of a FSO link for various weather conditions of Odisha.

Relevance: Enhances critical thinking (PO10), life-long learning (PO12), and strengthens theoretical understanding in PSOs.

Table 2.2.5: Review-Based Projects.

Sl.No.	Regd. No.	Name of the student	Project Title	Category	PO mapping	PSO mapping
1	20UG010571	Rokkam Ajit Kumar	Comparison of Non-Chirped, Chirped NRZ, Alternate-Chirped NRZ, and VSB Modulation Techniques for Free-Space Optical (FSO) Systems	Software	PO1, PO2, PO5, PO7, PO10, PO12	PSO1
	20UG01LE43	Jami Manikanta				
	20UG010516	P. Rupa				
2	20UG010578	Tirtharaj Sethi	Modulation Techniques for Wireless Communication	Software	PO2, PO3, PO5, PO7, PO10, PO12	PSO1, PSO2
	20UG010547	Anubhav Baral				
3	20UG010545	Debasis Sahoo	Survey of IoT-Based Smart Home Systems and Applications	Software	PO2, PO3, PO7, PO10, PO10, PO12	PSO2
	20UG010549	Atul Gouda				
	20UG010557	Basudev Biswal				
4	20UG010576	Alisha Nallana	Comparative Study of Communication Protocols for IoT Networks	Software	PO2, PO3, PO5, PO7, PO10, PO12	PSO1, PSO2
	20UG010577	Kotini Manikanta				
	20UG010522	Subudhi Sai Sudeshna				

5	20UG010528	P. Ravi Kumar	Machine Learning Techniques for Image Processing	Software	PO2, PO3, PO5, PO6, PO10, PO12	PSO1
	20UG010544	Sipun Panda				
	20UG010583	Amit Kumar Patro				
6	1901090105	Bishnu Prasad Maharana	Survey on Energy-Efficient Design Techniques in Communication Systems	Software	PO2, PO3, PO7, PO10, PO12	PSO1, PSO2
	1901090106	Shakti Prasad Swain				
7	1901090110	Chandan Padhan	Analog and Digital Filters in Signal Processing	Hardware/Software	PO2, PO3, PO5, PO7, PO10, PO12	PSO1
	1901090114	Anand Gupta				
8	1901090056	Barsha Choudhury	Application of 5G Technology in Wireless Networks	Software	PO2, PO3, PO6, PO7, PO10, PO12	PSO1
	1901090042	Sudha Subhalaxmi Muduli				
	1901090035	Amit Kumar Behera				
9	1901090075	Sibasish Tripathy	Comparison of Superconducting and Semiconductor Materials for Communication Systems	Hardware	PO2, PO3, PO5, PO10, PO12	PSO1
	1901090077	Mohit Ranjan Jena				
10	19010900 4	Saikat Mahakur	Low-Power VLSI Design Techniques	Hardware	PO2, PO3, PO5, PO7, PO10, PO12	PSO1, PSO2
	1901090020	Rashmi Ranjan Kindal				
	1901090023	Sidharth Baral				
	1901090081	Somya Ranjan Pradhan	Survey of Quantum Communication Systems	Software	PO2, PO3, PO6, PO7, PO10, PO12	PSO1, PSO2
	1901090082	Shree Krishna Kumar Agrahari				
11	1901090052	Pragyan Paramita Behera				
12	1901090076	Nabendu Pasayat	Software-Defined Radio (SDR) Technology	Software	PO2, PO3, PO5, PO7, PO10,	PSO1, PSO2
	1901090093	Subhram Patel				

			and Applications		PO12	
	1901090125	D Neeraj Kumar				
13	1901090124	Harihar Dalai	Use of AI in Communication System Optimization	Software	PO2, PO3, PO5, PO6, PO10, PO12	PSO1, PSO2
14	1901090084	Kishan Kumar Sahu	RFID Technology and Its Applications in Security Systems	Hardware/Software	PO2, PO3, PO5, PO7, PO10, PO12	PSO2
	1901090083	Abhijit Pusti				
	1901090119	Kiran Kumar Duan				
15	1901090090	Yash Sahu	Impact of 5G on IoT Systems	Software	PO2, PO3, PO5, PO7, PO10, PO12	PSO1
	1901090092	Abhinav Raj				

Experimental/Validation-Based Projects

These projects involve prototype development and validation through experimental setups.

Example: Performance analysis of lead-acid vs. lithium-ion batteries under real-time load conditions.

Relevance: Improves hands-on skills (PO5), experimental investigations (PO4), and aligns with PSOs focused on energy management.

Table 2.2.6: Experimental/Validation Based Projects.

Sl. No.	Regd. No.	Name of the student	Project Title	Category	PO mapping	PSO mapping
1	20UG010536	Abhijit Maharana	Smart Helmet for Accident Prevention using IoT	Hardware	PO1, PO2, PO3, PO5, PO6, PO7, PO10, PO12	PSO1
	20UG010537	Sowmya Ranjan Swain				
	20UG010540	Bhaskar Kattayan				

2	20UG010524	Mohit Kumar	Automatic Vehicle Number Plate Recognition using AI	Hardware	PO1, PO3, PO5, PO9, PO10, PO12	PSO1, PSO2
	20UG010581	Rahul Kumar				
3	20UG010568	Davis Senapati	IoT-Based Smart Water Quality Monitoring System	Hardware	PO1, PO2, PO3, PO5, PO6, P10, PO12	PSO1, PSO2
	20UG010584	Rohit Kumar				
	20UG01LE45	Suraj K Pandey				
4	20UG010379	Sidharth Sankar Sahoo	Air Pollution Monitoring using IoT Sensors	Hardware	PO1, PO3, PO4, PO5, PO10, PO12	PSO2
	20UG010394	Sibasankar Swain				
	20UG010400	Ashirbad Sahoo				
5	20UG010402	Satyajeet Nath	Automatic Fire Detection and Suppression System	Hardware	PO1, PO3, PO4, PO5, PO6, PO10, PO12	PSO1, PSO2 PSO2
	20UG010411	Soumya Ranjan Muduli				
	20UG010418	Pranjal Barik				
6	20UG010416	Utkalika Mohapatra	Remote-Controlled Surveillance Drone using IoT	Hardware	PO1, PO2, PO3, PO5, PO6, PO7, PO10, PO12	PSO2
	20UG010417	Rahul Kumar Palai				
	20UG010422	Jyotirmaya Jena				
7	20UG010403	Titikshu Tarun Behera	Smart Energy Meter with IoT Integration	Hardware	PO1, PO3, PO5, PO6, PO7, PO10, PO12	PSO, PSO2
	20UG010406	Saswat Panda				
	20UG010423	Prasanna Kumar Choudhary				

8	20UG010415	Omkar Patra	Hand Gesture-Based Control System for Disabled People	Hardware	PO1, PO2, PO3, PO5, PO7, PO10, PO12	PSO1, PSO2
	20UG010419	Khushi Kumari				
	20UG010409	Nandita Roy				
9	20UG010412	Prabhu Kalyan Sahoo	IoT-Based Intelligent Street Lighting System	Hardware	PO1, PO3, PO5, PO6, PO7, PO10, PO12	PSO1
	20UG010414	Vipul Kumar				
	20UG010420	Dhiresh Kumar Patel				
10	190109003	Sahukari Vamsy	GSM-Based LPG Leakage Detection System	Hardware	PO1, PO3, PO5, PO6, PO10, PO12	PSO1, PSO2
	19010 90021	Santra Sourabh Kumar				
	19010 90132	Likith Patnaik				
11	19010 90010	Debabrata Dehury	AI-Based Chatbot for Smart Healthcare	Software	PO1, PO3, PO4, PO5, PO10, PO12	PSO1
	19010 90018	Santosh Kumar Panda				
	19010 90128	Swetarani Panda				
12	19010 90031	Vishnu Priya Misra	Smart Helmet for Accident Prevention using IoT	Hardware	PO1, PO3, PO5, PO6, PO7, PO10, PO12	PSO2
	19010 90040	Ranjit Padhy				
	19010 90138	B. Priyanka				
13	19010 90082	Rudra Narayan Nath	Smart Traffic Management System using AI	Software	PO1, PO3, PO5, PO10, PO12	PSO1, PSO2
	19010 90098	Subham Pattnaik				
	19010 90117	Krishnakanta Naik				
14	19010 90034	Gudla Amrut	Microstrip Patch Antenna Design for 5G Applications	Hardware	PO1, PO3, PO5, PO6 PO10, PO12	PSO1
	19010 90022	Pramod Utthansingh				
	19010 90113	Anupam Raj Gupta				
15	19010 90096	Botu Jasmine Subudhi	Wireless Notice Board using IoT and Bluetooth		PO1, PO3, PO5, PO7, PO10,	PSO1

	19010 90087	Brahma Nanda Panda		Hardware	PO12	
	19010 90088	Biswajit Nayak				
16	19010 90103	Ashish Pradhan	Automated Toll Collection System using RFID	Hardware	PO1, PO3, PO5, PO7, PO10, PO12	PSO1 PSO1
	19010 90111	Tapaswini Mohapatra				
	19010 90127	Priya Dash				
17	19010 90118	Kumar Adarsh	IoT-Based Smart Parking System	Hardware	PO1, PO3, PO5, PO6, PO10, PO12	PSO1 , PSO2
	19010 90101	Kollikani Vinay Kumar				
	19010 90094	Rashmi Kumari Sahoo				
18	19010 90134	Rajat Kumar Hota	Air Pollution Monitoring using IoT Sensors	Hardware	PO1, PO3, PO5, PO7, PO10, PO12	PSO1
	19010 90140	Piyush Kumar				
	19010 90141	Ashutosh Mahapatra				
19	19010 90112	Satya Brata Behura	Automated Railway Gate Control using IoT	Hardware	PO1, PO3, PO5, PO7, PO10, PO12	PSO1
	19010 90115	Suchitra Mahapatra				
	19010 90116	Raj Sharma				
20	19010 90061	Anupam Shakya	Obstacle Avoidance Robot using Ultrasonic Sensors	Hardware	PO1, PO3, PO5, PO6, PO10, PO12	PSO1 , PSO2
	19010 90062	Gyan Ranjan Pradhani				
	19010 9005	Soumya Ranjan Sahoo				

Factors Influencing Capstone Project Development

Environmental & Sustainability Considerations: Alignment with sustainability goals is ensured in the project design (e.g., a solar-powered water purification system, PO7).

Safety Considerations: User safety and risk assessment are incorporated as integral parts of the engineering process (e.g., EV battery management system).

Ethical Aspects: Ethical principles such as data privacy and professional integrity are addressed throughout the project development (e.g., AI-based fair recruitment system).

Cost & Economic Feasibility: Financial viability and affordability for end-users are taken into account during the design and implementation phases (e.g., low-cost IoT hydroponic system).

Industry Standards & Compliance: Adherence to relevant industry standards such as IEEE, ISO, IEC, and BIS are ensured (e.g., FSO system design with ITU-R 802.11 compliance).

Continuous Monitoring Process

Continuous monitoring of UG major projects is essential to ensure structured progress, research quality, and attainment of Course Outcomes (COs) and Program Outcomes (POs). The monitoring is carried out exclusively by the respective project guides and the project coordinator of that respective batch.

Continuous Monitoring Process for UG Major Projects

Monitoring UG major projects follows a structured approach involving regular meetings, milestone tracking, and performance evaluation. The process includes the following key aspects:

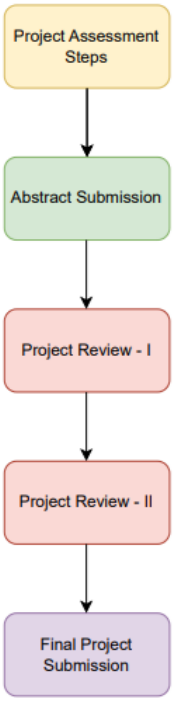


Figure No. 2.2.2 Steps for Final Project Assessment of students.

Project Selection & Approval:

- Students propose project topics, which are reviewed and approved by the project coordinator and assigned project guides based on relevance, feasibility, and innovation.
- Approved projects align with CO-PO mapping to ensure academic and industry relevance.

Periodic Review by Project Guides:

- Project guides conduct regular monitoring sessions with assigned students to track progress, address technical challenges, and guide research methodologies.
- Ensures that students follow the proposed timeline and meet expected deliverables.

Documentation and Reporting:

- Students submit progress reports, project documentation, and technical papers as per defined deadlines.
- Guides review reports and provides constructive feedback for improvement.

Implementation and Testing:

- Continuous assessment of design, simulation, prototype development, and experimental validation.
- Guides ensure that students document results, interpretations, and comparative analysis.

Final Review and Submission:

- The HoD and project guides conduct a final evaluation based on project quality, innovation, implementation, and report submission.
- The evaluation considers technical accuracy, CO-PO attainment, and societal impact.
- Process for Continuous Monitoring (Meeting Records & Frequency)

Biweekly Project Review Meetings

- Conducted every two weeks by the assigned project guide.
- Discussions include project progress, challenges faced, methodology refinement, and corrective measures.

- Documents Maintained:
- Project Progress Reports (submitted by students).

Mid-Semester Evaluation Meeting

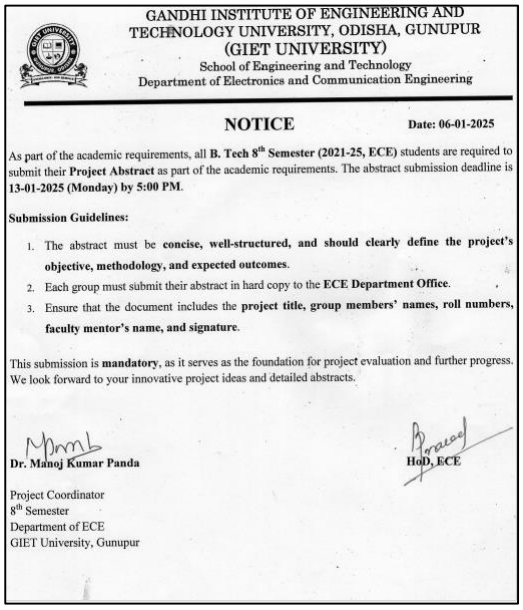
- Conducted once per semester by the HoD and all project guides.
- Reviews progress, prototype development, experimental results, and CO-PO mapping.
- Documents Maintained:
- Mid-Semester Project Evaluation Report (including student performance and corrections suggested).
- Checklist of Deliverables verified by the project guide.

Final Project Evaluation & Viva

- Conducted by the HoD, project guides, project coordinator and an internal/external expert panel.
- Evaluation is based on innovation, implementation quality, technical depth, and report submission.

Documents Maintained:

- Final Project Evaluation Score Sheet.
- CO-PO Attainment Report.
- Final Submission Report with recommended modifications.



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School of Engineering and Technology
Department of Electronics and Communication Engineering

NOTICE Date: 06-01-2025

As part of the academic requirements, all **B. Tech 8th Semester (2021-25, ECE)** students are required to submit their **Project Abstract** as part of the academic requirements. The abstract submission deadline is **13-01-2025 (Monday) by 5:00 PM**.

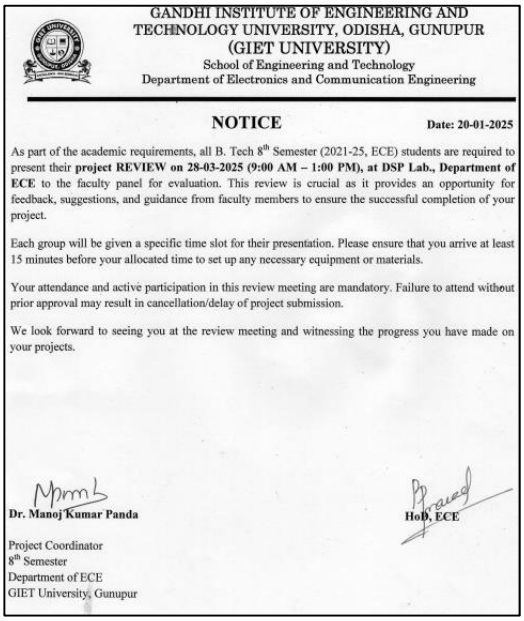
Submission Guidelines:

1. The abstract must be **concise, well-structured, and should clearly define the project's objective, methodology, and expected outcomes**.
2. Each group must submit their abstract in hard copy to the **ECE Department Office**.
3. Ensure that the document includes the **project title, group members' names, roll numbers, faculty mentor's name, and signature**.

This submission is **mandatory**, as it serves as the foundation for project evaluation and further progress. We look forward to your innovative project ideas and detailed abstracts.

Dr. Manoj Kumar Panda
Project Coordinator
8th Semester
Department of ECE
GIET University, Gunupur

HoD, ECE



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NOTICE Date: 20-01-2025

As part of the academic requirements, all B. Tech 8th Semester (2021-25, ECE) students are required to present their **project REVIEW on 28-03-2025 (9:00 AM – 1:00 PM), at DSP Lab., Department of ECE** to the faculty panel for evaluation. This review is crucial as it provides an opportunity for feedback, suggestions, and guidance from faculty members to ensure the successful completion of your project.

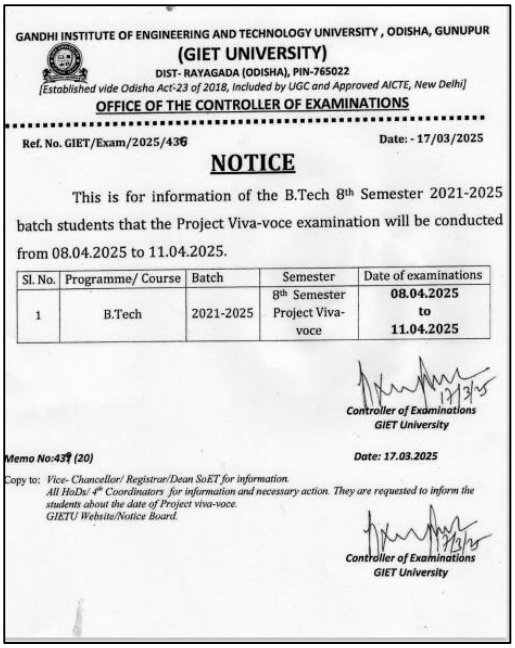
Each group will be given a specific time slot for their presentation. Please ensure that you arrive at least 15 minutes before your allocated time to set up any necessary equipment or materials.

Your attendance and active participation in this review meeting are mandatory. Failure to attend without prior approval may result in cancellation/delay of project submission.

We look forward to seeing you at the review meeting and witnessing the progress you have made on your projects.

Dr. Manoj Kumar Panda
Project Coordinator
8th Semester
Department of ECE
GIET University, Gunupur

HoD, ECE



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[Established vide Odisha Act-23 of 2018, Included by UGC and Approved AICTE, New Delhi]
OFFICE OF THE CONTROLLER OF EXAMINATIONS

Ref. No. GIET/Exam/2025/436 Date: - 17/03/2025

NOTICE

This is for information of the B.Tech 8th Semester 2021-2025 batch students that the Project Viva-voce examination will be conducted from 08.04.2025 to 11.04.2025.

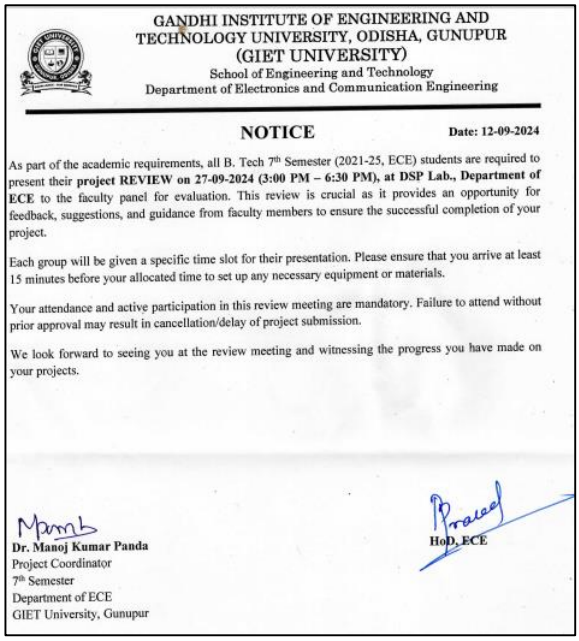
Sl. No.	Programme/ Course	Batch	Semester	Date of examinations
1	B.Tech	2021-2025	8th Semester Project Viva-voce	08.04.2025 to 11.04.2025

Controller of Examinations
GIET University

Memo No:437 (20) Date: 17.03.2025

Copy to: Vice- Chancellor/ Registrar/Dean SoET for information.
All HoDs/ 4th Coordinators for information and necessary action. They are requested to inform the students about the date of Project viva-voce.
GIETU Website/Notice Board.

Controller of Examinations
GIET University



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NOTICE Date: 12-09-2024

As part of the academic requirements, all B. Tech 7th Semester (2021-25, ECE) students are required to present their **project REVIEW on 27-09-2024 (3:00 PM – 6:30 PM), at DSP Lab., Department of ECE** to the faculty panel for evaluation. This review is crucial as it provides an opportunity for feedback, suggestions, and guidance from faculty members to ensure the successful completion of your project.

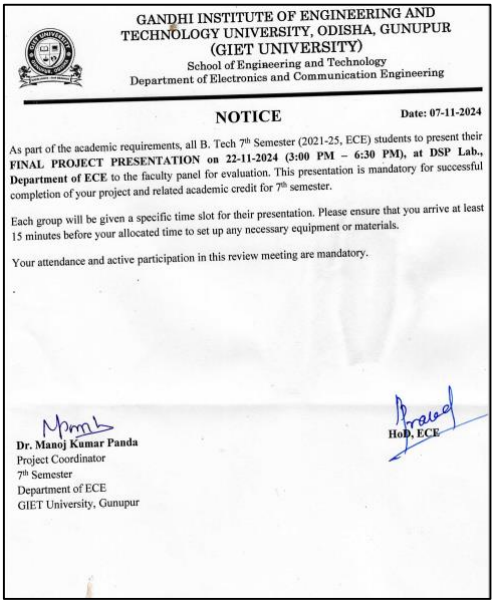
Each group will be given a specific time slot for their presentation. Please ensure that you arrive at least 15 minutes before your allocated time to set up any necessary equipment or materials.

Your attendance and active participation in this review meeting are mandatory. Failure to attend without prior approval may result in cancellation/delay of project submission.

We look forward to seeing you at the review meeting and witnessing the progress you have made on your projects.

Dr. Manoj Kumar Panda
Project Coordinator
7th Semester
Department of ECE
GIET University, Gunupur

HoD, ECE



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Department of Electronics and Communication Engineering

NOTICE Date: 07-11-2024

As part of the academic requirements, all B. Tech 7th Semester (2021-25, ECE) students to present their **FINAL PROJECT PRESENTATION on 22-11-2024 (3:00 PM – 6:30 PM), at DSP Lab., Department of ECE** to the faculty panel for evaluation. This presentation is mandatory for successful completion of your project and related academic credit for 7th semester.

Each group will be given a specific time slot for their presentation. Please ensure that you arrive at least 15 minutes before your allocated time to set up any necessary equipment or materials.

Your attendance and active participation in this review meeting are mandatory.

Dr. Manoj Kumar Panda
Project Coordinator
7th Semester
Department of ECE
GIET University, Gunupur

HoD, ECE

Figure No. 2.2.3: Notices for continuous project assessment process.

2.3 Internship/Industrial Training (10)

(Describe process, duration, POs/PSOs addressed.)

Process of Internship/Industrial Training for Students

Internships and industrial training play a vital role in Outcome-Based Education (OBE) by bridging the gap between theoretical knowledge and practical applications. The structured process ensures that students gain hands-on experience, industry exposure, and relevant

competencies necessary to become industry-ready professionals. The following steps outline the internship process:

Step 1: Identification and Planning of Internship

- ✓ The institution collaborates with industries, startups, and research organizations to identify potential internship opportunities.
- ✓ The objectives of the internship are mapped with Program Outcomes (POs) and Program-Specific Outcomes (PSOs) to ensure alignment with academic learning and industry demands.
- ✓ Learning goals are defined to emphasize real-world problem-solving, application of theoretical knowledge, and skill development.

Step 2: Internship Enrolment and Approval Process

- ✓ Students register for internships through the institution's internship cell or placement department.
- ✓ The selection process is based on academic performance, skillset, and industry requirements, which may include interviews, aptitude tests, or technical assessments.
- ✓ Faculty mentors and placement cell review and approve internship applications to ensure alignment with the curriculum.

Step 3: Execution and Learning Process

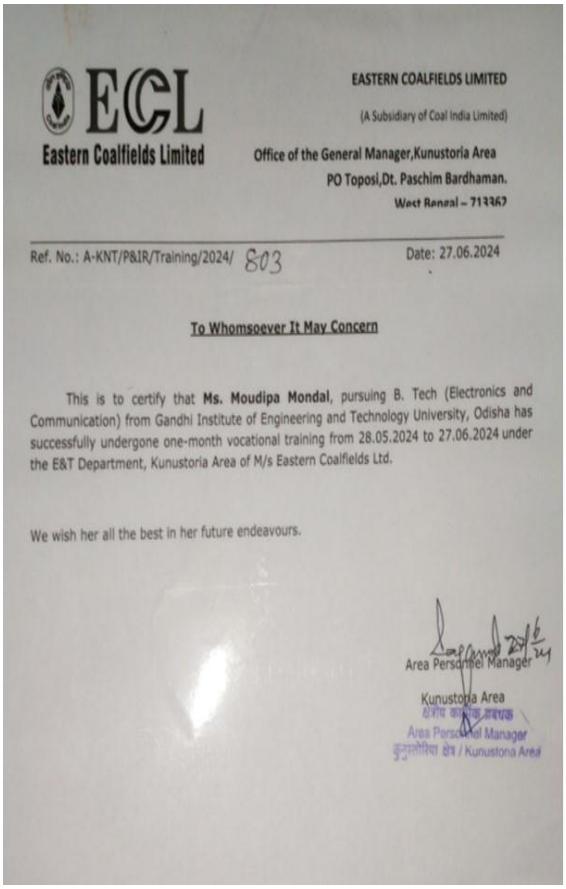
- ✓ Students undergo structured training according to an industry-defined curriculum.
- ✓ The training focuses on technical skills (software, hardware, and domain-specific tools), professional skills (communication, teamwork, problem-solving), and project-based learning (real-world projects and case studies).
- ✓ Periodic evaluations, including progress reports and mentor feedback, track students' learning and engagement.

Step 4: Assessment and Outcome Evaluation

- ✓ Students submit a comprehensive internship report detailing the industry overview, tasks performed, key learnings, challenges, and solutions.
- ✓ Presentations are conducted to demonstrate knowledge gained.
- ✓ Faculty and industry mentors assess performance based on technical competency, problem-solving abilities, and industry feedback.

Step 5: Continuous Improvement and Feedback Implementation

- ✓ Feedback from students and industry mentors is collected to identify strengths and areas for improvement.
- ✓ Institutions use insights from feedback to refine internship programs, update curriculum, and strengthen industry partnerships.



ECL
Eastern Coalfields Limited

EASTERN COALFIELDS LIMITED
(A Subsidiary of Coal India Limited)
Office of the General Manager,Kunustoria Area
PO Toposi,Dt. Paschim Bardhaman.
West Bengal – 713363

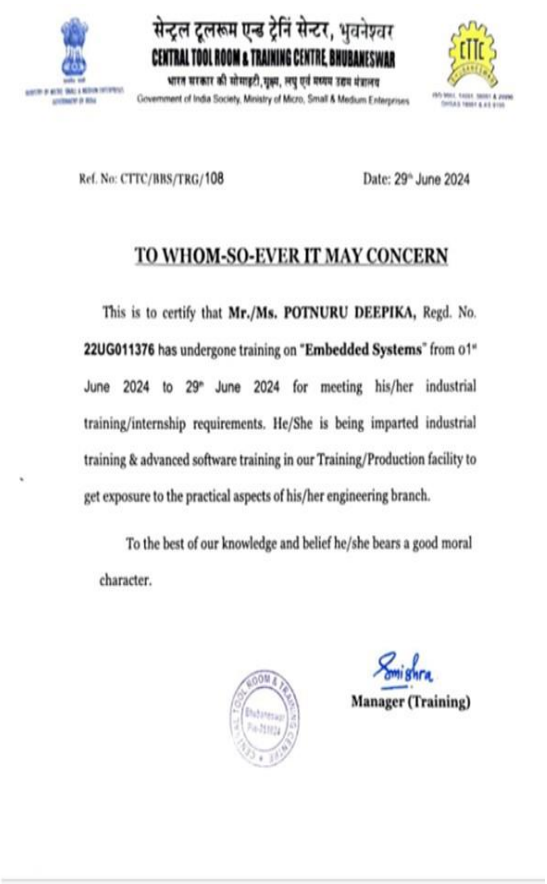
Ref. No.: A-KNT/P&IR/Training/2024/ 803 Date: 27.06.2024

To Whomsoever It May Concern

This is to certify that **Ms. Moudipa Mondal**, pursuing B. Tech (Electronics and Communication) from Gandhi Institute of Engineering and Technology University, Odisha has successfully undergone one-month vocational training from 28.05.2024 to 27.06.2024 under the E&T Department, Kunustoria Area of M/s Eastern Coalfields Ltd.

We wish her all the best in her future endeavours.

Area Personnel Manager
Kunustoria Area



सेन्ट्रल टूलरूम एन्ड ट्रेनिं सेन्टर, भुवनेश्वर
CENTRAL TOOL ROOM & TRAINING CENTRE, BHUBANESWAR
भारत सरकार की सोसाइटी, सूक्ष्म, लघु एवं मध्यम उद्यम मंत्रालय
Government of India Society, Ministry of Micro, Small & Medium Enterprises

Ref. No: CTTC/BBS/TRG/108 Date: 29th June 2024

TO WHOM-SO-EVER IT MAY CONCERN

This is to certify that **Mr./Ms. POTNURU DEEPIKA**, Regd. No. **22UG011376** has undergone training on "**Embedded Systems**" from 01st June 2024 to 29th June 2024 for meeting his/her industrial training/internship requirements. He/She is being imparted industrial training & advanced software training in our Training/Production facility to get exposure to the practical aspects of his/her engineering branch.

To the best of our knowledge and belief he/she bears a good moral character.

Manager (Training)

Figure No. 2.3.1: Sample copy of student internship certificate.

Mapping of Industrial Training/Internships with POs And PSOs

Internships and industrial training contribute significantly to achieving Program Outcomes (POs) and Program-Specific Outcomes (PSOs). This structured mapping helps measure the effectiveness of industry exposure in engineering education and ensures that students acquire essential competencies.

Table 2.3.1: Mapping of Industrial Training/Internships.

Sl. No	Regd. No.	Name of the Student	Date		No of Days Attended	Name of the Company	Topic	PO mapping	PSO mapping
			From	To					
1	22UG011281	Roshan Kumar Sethi	01-06-2024	29-06-2024	29 days	CTTC, Bhubaneswar	VLSI	PO1, PO2, PO3, PO4, PO5, PO9, PO12	PSO1, PSO2
2	22UG011283	Moudipa Mondal	28-05-2024	27-06-2024	29 Days	ECL, Kunustoria Area, West Bengal	Vocational training	PO8, PO9, PO10, PO11, PO12	PSO1
3	22UG011285	Priyabrata Sahoo	01-06-2024	01-07-2024	30 days	NTPC Limited, Talcher Kaniha, Odisha	Management Information System	PO1, PO2, PO3, PO5, PO7, PO8, PO9, PO12	PSO2
4	22UG011287	Aryan Kumar	27-05-2024	30-06-2024	33 days	Jindal, Ramgarh, Jharkhand	Industrial Instrumentation and Automation	PO1, PO2, PO3, PO5, PO6, PO9, PO12	PSO1, PSO2
5	22UG011289	Kanha Mirdha	24-05-2024	23-06-2024	29 days	Paradip Port Authority, Paradip, Odisha	Internship training	PO1, PO2, PO3, PO5, PO6, PO9, PO12	PSO1, PSO2
6	22UG011295	Sujal Panda	01-06-2024	29-06-2024	29 days	CTTC, Bhubaneswar	VLSI	PO1, PO2, PO3, PO4, PO5,	PSO1, PSO2

								PO9, PO12	
7	22UG011298	Simhadri Saroj Kumar	27-05-2024	22-06-2024	27 days	BSNL, Visakhapatnam	Telecom Networking	PO1, PO2, PO3, PO5, PO6, PO7, PO9, PO12	PSO1, PSO2
8	22UG011304	Balaji Sahu	27-05-2024	22-06-2024	27 days	Rastriya Ispat Nigam Ltd, Visakhapatnam	Wireless Communication System	PO1, PO2, PO3, PO5, PO6, PO9, PO12	PSO1, PSO2
9	22UG011306	Sribardhan Dash	01-06-2024	29-06-2024	29 days	CTTC, Bhubaneswar	VLSI	PO1, PO2, PO3, PO4, PO5, PO9, PO12	PSO1, PSO2
10	22UG011310	Snehanjali Dash	01-06-2024	29-06-2024	29 days	CTTC, Bhubaneswar	VLSI	PO1, PO2, PO3, PO4, PO5, PO9, PO12	PSO1, PSO2
11	22UG011318	Subha Prasad Behera	01-06-2024	29-06-2024	29 days	CTTC, Bhubaneswar	VLSI	PO1, PO2, PO3, PO4, PO5, PO9, PO12	PSO1, PSO2
12	22UG011320	Subudhi Ashish	27-05-2024	22-06-2024	27 days	BSNL, Visakhapatnam	Telecom Networking	PO1, PO2, PO3, PO5, PO6, PO7,	PSO1, PSO2

								PO9, PO12	
13	22UG011322	Setti Harshita	20-05-2024	14-06-2024	25 days	BSNL, Bhubaneswar	Advance Communication	PO1, PO2, PO3, PO5, PO7, PO9, PO12	PSO1, PSO2
14	22UG011326	Ashwini Kumar Biswal	03-06-2024	28-06-2024	27 days	BSNL, Bhubaneswar	Advance Communication	PO1, PO2, PO3, PO5, PO7, PO9, PO12	PSO1, PSO2
15	22UG011332	Abhishek Tripathy	21-05-2024	20-06-2024	30 days	Munitions India Limited, Ordinace factory, Badmal, Balangir	In-plant practical training	PO1, PO2, PO3, PO5, PO6, PO9, PO12	PSO1, PSO2
16	22UG011334	Tulasi Prasad Kumbhar	27-05-2024	22-06-2024	27 days	BSNL, Visakhapatnam	Telecom Networking	PO1, PO2, PO3, PO5, PO6, PO7, PO9, PO12	PSO1, PSO2
17	22UG011336	Lolugu Ganesh	27-05-2024	22-06-2024	27 days	BSNL, Visakhapatnam	Telecom Networking	PO1, PO2, PO3, PO5, PO6, PO7, PO9, PO12	PSO1, PSO2
18	22UG011342	Amrut Prusty	01-06-2024	01-07-2024	30 days	NTPC, Talcher, Odisha	Internship tranning	PO1, PO2, PO3, PO5, PO6,	PSO1, PSO2

								PO9, PO12	
19	22UG011344	Swati Swagatika Nanda	01-06-2024	29-06-2024	29 days	CTTC, Bhubaneswar	VLSI	PO1, PO2, PO3, PO4, PO5, PO9, PO12	PSO1, PSO2
20	22UG011348	Tejaswini Behera	01-06-2024	29-06-2024	29 days	CTTC, Bhubaneswar	VLSI	PO1, PO2, PO3, PO4, PO5, PO9, PO12	PSO1, PSO2
21	22UG011360	Aswin Kumar Nayak	15-05-2024	19-06-2024	35 days	Munitions India Limited, Ordinace factory, Badmal, Balangir	In-plant practical training	PO1, PO2, PO3, PO5, PO6, PO9, PO12	PSO1, PSO2
22	22UG011362	Swati Saswati Biswal	10-06-2024	09-07-2024	30 days	HAL, Sunabeda, Koraput	Diff. Coating process used in Aerospace component	PO1, PO2, PO3, PO5, PO6, PO9, PO12	PSO1, PSO2
23	22UG011366	Rudranarayan Biswal	06-06-2024	05-07-2024	29 days	NALCO, Damanjodi	Vocational Trainning	PO8, PO9, PO10, PO11, PO12	PSO1
24	22UG011371	Ankush Behera	06-06-2024	05-07-2024	29 days	NALCO, Damanjodi	Vocational Trainning	PO8, PO9, PO10, PO11, PO12	PSO1

25	22UG011374	Dhanurjaya Pradhan	03-06-2024	28-06-2024	25 days	RTTC, BSNL, Bhubaneswar	Advance Telecom	PO1, PO2, PO3, PO5, PO7, PO9, PO12	PSO1, PSO2
26	22UG011376	Potnuru Deepika	01-06-2024	29-06-2024	29 days	CTTC, Bhubaneswar	Embedded System	PO1, PO2, PO3, PO5, PO6, PO7, PO9, PO12	PSO1, PSO2
27	22UG011378	Pranati Swain	20-05-2024	14-06-2024	25 days	BSNL, RTTC, Bhubaneswar	Advance Telecom	PO1, PO2, PO3, PO5, PO7, PO9, PO12	PSO1, PSO2
28	22UG011380	Bhabani Shankar Pradhan	01-06-2024	29-06-2024	29 days	CTTC, Bhubaneswar	VLSI	PO1, PO2, PO3, PO4, PO5, PO9, PO12	PSO1, PSO2
29	22UG011398	Tutika Sai Gouam	27-05-2024	22-06-2024	27 days	BSNL, Visakhapatnam	Telecom Networking	PO1, PO2, PO3, PO5, PO6, PO7, PO9, PO12	PSO1, PSO2
30	22UG01LE54	Piyush Patel	01-06-2024	29-06-2024	29 days	CTTC Bhubaneswar	VLSI	PO1, PO2, PO3, PO4, PO5, PO9, PO12	PSO1, PSO2

31	22UG01LE56	G Akhila	28-05-2024	24-06-2024	27 days	BSNL, Nellore	Mobile Communication System	PO1, PO2, PO3, PO5, PO6, PO7, PO9, PO12	PSO1, PSO2
32	22UG01LE60	Anshu Ojha	20-05-2024	20-06-2024	30 days	Tata Motor, Jamshedpur	Analysis of Electrical Power Distribution	PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO12	PSO1, PSO2

Student Feedback on Training/Internships and Its Analysis

To enhance the effectiveness of industrial training programs, institutions implement a structured feedback mechanism to assess student experiences, identify gaps, and improve future internships. The feedback collection and analysis process follow these steps:

Step 1: Designing the Feedback Form

The feedback form captures both qualitative and quantitative aspects of the internship.

Key areas include:

- Relevance of training to academic curriculum and career goals.
- Skills and technical knowledge gained.
- Industry exposure and real-world application of concepts.
- Quality of mentorship from faculty and industry supervisors.
- Challenges encountered and recommendations for improvement.
- Overall internship experience rating.

Step 2: Feedback Collection Methods

- Online surveys using Google Forms, Microsoft Forms, or institutional Learning Management Systems (LMS).
- Structured interviews to gain deeper insights into student experiences.
- Focus group discussions to identify common trends and issues.
- Self-assessment reports where students document their key takeaways.

Step 3: Analysis of Student Feedback

- Quantitative Analysis: Ratings and numerical data on learning effectiveness, supervision, and industry exposure.
- Qualitative Analysis: Open-ended responses highlighting strengths, challenges, and suggestions.
- Trend Identification: Recurring positive aspects and areas requiring improvement.

Step 4: PO-PSO Mapping and Attainment Analysis

- Feedback is analysed to assess the extent to which internships contribute to POs and PSOs.

Examples:

- If students report proficiency in industry tools, it validates PO5 (Modern Tool Usage).
- If problem-solving abilities improve, it confirms PO2 (Problem Analysis).

Step 5: Identifying Areas for Improvement

- Low PO-PSO Attainment: If students highlight insufficient practical exposure, corrective actions are taken.
- Common Challenges Identified:
- Lack of structured mentorship.
- Insufficient hands-on opportunities.
- Mismatch between academic knowledge and industry expectations.

Step 6: Corrective Actions and Program Enhancement

- Strengthening Industry Collaborations: Partnering with industries offering better hands-on training.
- Improving Internship Curriculum: Aligning internships with emerging industry trends.
- Enhancing Faculty & Industry Mentor Training: Conducting Faculty Development Programs (FDPs) to improve mentorship.
- Providing Structured Learning Plans: Clearly defined project deliverables and progress tracking.

- Addressing Student Concerns: Introducing grievance redressal mechanisms and offering alternative internship options (virtual internships, research-based projects).

Through systematic evaluation and feedback-driven improvements, industrial training programs can be continually enhanced to better serve students, institutions, and industry partners.

2.4. Seminars and Mini/Micro Projects (10)

(Describe process, POs/PSOs addressed.)

Seminars and mini/micro projects are integral components of the Electronics and Communication Engineering (ECE) curriculum, designed to enhance research aptitude, critical thinking, technical knowledge, and practical skills among students. These activities are embedded in the academic framework to ensure holistic development and alignment with Program Outcomes (POs) and Program-Specific Outcomes (PSOs). The structured process of conducting seminars and projects follows a well-defined methodology to ensure students derive maximum learning benefits.

Mapping of Seminars Presented by Students with POs and PSOs

Process of Conducting Seminars

Topic Selection: Students select seminar topics based on current technological advancements, industry trends, and personal interests. Faculty advisors provide guidance to ensure relevance and academic rigor.

Proposal Submission: A formal proposal is submitted detailing the objectives, research methodology, expected outcomes, and relevance to the ECE domain.

Execution: Students conduct in-depth research, analyzing case studies, scientific papers, and technological developments to build expertise in the chosen topic.

Presentation: Findings are presented in a structured format to an audience comprising faculty members and peers, followed by a Q&A session to assess the depth of understanding and research quality.

Documentation: A comprehensive seminar report is submitted, documenting the research process, conclusions, and references.

Mapping of Seminars with POs & PSOs

Seminars contribute to multiple Program Outcomes (POs), and to Program-Specific Outcomes (PSOs) by reinforcing domain-specific knowledge and skills. A detailed list of conducted seminars, along with their corresponding PO and PSO mapping, is maintained to evaluate student contributions toward achieving program outcomes.

Table 2.4.1: Mapping of Seminars with POs & PSOs.

Sl. No	Regd. No	Name of the student	Title of the seminar	PO mapping	PSO mapping
1	1901090043	Arfan Ahmed	Robotics and Automation in Electronics Industry	PO1, PO2, PO3, PO5, PO6, PO9	PSO1, PSO2
2	1901090049	Rishi Kumar Patnaik	Secure Symmetric Authentication for RFID Tags	PO2, PO3, PO4, PO5, PO6, PO7	PSO1, PSO2
3	1901090036	Prangyan Rani Pani	Embedded Systems and Real-time Operating Systems (RTOS)	PO1, PO2, PO5, PO6, PO9, PO11	PSO1, PSO2
4	190109002	K. Bineeta	Communication through Visible Light	PO5, PO6, PO7, PO8, PO10	PSO1
5	1901090019	Dilip Nayak	Wireless Power Transfer and Energy Harvesting Technologies	PO1, PO3, PO5, PO6, PO7, PO8, PO9	PSO1
6	20UG010566	Sathweeka Patnaik	Advanced Techniques in Low Power VLSI Design	PO5, PO6, PO7, PO8, PO10	PSO1, PSO2,
7	20UG010539	Rupali Panda	Monitoring System for Smart Garden with IoT	PO4, PO6, PO7, PO8, PO9	PSO1
8	20UG010550	Sayed Inayat Nadim	Design and Implementation of VLSI Circuits for 5G Networks	PO3, PO4, PO6, PO7, PO8, PO11	PSO1, PSO2
9	20UG010569	Abhisek Pattnaik	Data Catching of IoT through Machine Learning.	PO5, PO6, PO7, PO8, PO10	PSO1
10	20UG01LE43	Jami Manikanta	IoT-based Waste Management System	PO1, PO2, PO7, PO8, PO9, PO11	PSO1, PSO2
11	21UG010890	Reyya Sohit Rao	Powering the Internet of Things through LoRa & embedded machine learning	PO3, PO4, PO6, PO7, PO8	PSO1, PSO2
12	21UG010842	Ansh Kumar	Embedded Web Server using ARM	PO3, PO4, PO5, PO8, PO9, PO10, PO11	PSO1, PSO2

13	21UG010843	Arpita Sahoo	Quantum Computing and VLSI	PO3, PO4, PO6, PO7, PO8	PSO1, PSO2
14	21UG010900	Soumya Prasad Mohanty	IR Plastic Solar Cell	PO1, PO2, PO7, PO8, PO9,	PSO1
15	21UG010841	Allapa Bhargavi	Security Issues in Cloud Computing	PO1, P03, PO5, PO6, PO7, PO11	PSO1,
16	22UG011260	Priyanka Mohapatra	Artificial Intelligence Impact on Employment	PO3, PO6, PO7, PO8, P09, PO10, PO11	PSO1, PSO2
17	22UG011396	Ramkrishna Jena	Challenges and Innovations in 3D IC Design	PO5, PO6, PO7, PO8, PO10	PSO1, PSO2
18	22UG011385	Priyanshu Kumar Patro	Voice over LTE, VoLTE Technology	PO3, PO6, PO7, PO9	PSO2
19	22UG011384	Bhawani Sahu	Photonics in Space communication	PO2, PO3, PO5, PO8, PO10	PSO1, PSO2
20	22UG011401	Vivek Kumar Dhal	Monitoring System of Water Quality based on IoT	PO1, PO3, PO7, PO8, PO10, PO11	PSO1, PSO2

Mapping of Mini/Micro Projects and Their Contribution with POs and PSOs

Process of Conducting Mini/Micro Projects

Project Selection: Students choose projects based on technological relevance, research feasibility, and faculty recommendations.

Proposal Submission: A detailed proposal outlining problem definition, methodology, expected deliverables, and PO/PSO mapping is submitted for approval.

Design & Implementation: Projects involve hardware/software development, simulations, or system modelling.

Testing & Validation: Performance analysis, troubleshooting, and validation of project outcomes against defined objectives.

Presentation & Demonstration: The developed project is demonstrated before faculty and peers, with discussions on innovation, feasibility, and future enhancements.

Documentation: A structured project report is submitted, including technical details, challenges faced, and references.

Mapping of Mini/Micro Projects with POs

Mini and micro projects help in attaining various POs & PSOs by integrating theoretical and practical knowledge. A detailed list of conducted projects, along with their corresponding PO and PSO mapping, is maintained to evaluate student contributions toward achieving program outcomes. The documentation includes:

Table 2.4.2: Mapping of Mini/Micro Projects with POs and PSOs.

Sl. No.	Regd. No.	Name of the student	Project Title	Category	PO mapping	PSO mapping
1	21UG010879	Pilla Sai Kiran	FSO Attenuation condition under different atmospheric conditions	Hardware	PO1, PO2, PO5, PO10, PO12	PSO1, PSO2
	21UG010866	Kotini Omkar				
	21UG010890	Reyya Sohit Rao				
2	21UG010863	Jyotiraditya Rath	Light sensor and darkness detector using LDR	Hardware	PO1, PO3, PO5, PO10, PO12	PSO1, PSO2
	21UG010914	Yashwant Kumar				
	21UG010905	Suman Kumar Singh				
3	21UG010899	Siripuram Pavan Kalyan	Design and implementation of mobile signal jammer circuit	Hardware	PO2, PO3, PO5, PO10, PO12	PSO1, PSO2
	21UG010859	Himanshu Poi				
	21UG010871	Nafees Ahmad				
4	21UG010910	V Manikantha	Laser-based	Hardware	PO1, PO3, PO5, PO10, PO12	PSO1, PSO2

	21UG010894	Santunu Kumar Pradhan	security alarm using Arduino board			
	21UG010847	Avishna Maharana				
5	21UG010875	Pankhuri Singh	Simulation of RL parallel Circuit using Proteus software	Hardware	PO5, PO4, PO10, PO12	PSO1, PSO2
	21UG010885	Raja Gouda				
	21UG010857	Dinesh Kumar Paricha				
6	21UG010897	Shirsendu Fouzdar	Analysis of series RC circuit in signal processing	Hardware	PO1, PO2, PO3, PO6, PO10, PO12	PSO1, PSO2
	21UG010891	Ritesh Kumar Patro				
	21UG010912	Voleti Anitha Kameswari				
7	21UG010854	Chintalu Gangadhar	Design and implementation of BJT-based NAND gate circuit with LED indicators	Hardware	PO1, PO3, PO5, PO10, PO12	PSO1, PSO2
	21UG010877	Payal Priyadarshini				
	21UG010878	Peluru Sai Santosh				
8	21UG010867	Kuna Parida	IoT-based pothole detection system in vehicles	Hardware	PO2, PO5, PO10, PO12	PSO1, PSO2
	21UG010893	Sachidananda Padhy				
	21UG010842	Ansh Kumar				
9	21UG010908	Tapas Ranjan Acharaya	Smart helmet system	Hardware	PO1, PO3, PO5, PO10, PO12	PSO1, PSO2
	21UG010887	Rakesh Kumar Banchhor				

	21UG010884	Priyanshu Sekhar Bag				
10	21UG010901	Spandan Panigrahi	Wi-fi door security with ESP32-CAM and Blynk	Hardware & Software	PO1, PO3, PO5, PO10, PO12	PSO1, PSO2
	21UG010882	Priyabrata Rath				
	21UG010841	Allapa Bhargavi				
11	21UG010900	Soumya Prasad Mohanty	RFID Door locking system	Hardware	PO1, PO5, PO10, PO12	PSO1, PSO2
	21UG010889	Rashmi Ranjan Sahu				
	21UG010896	Shashi Shankar Mohanty				
12	21UG010876	Patoji Sagar	Simulation of series RLC circuit	Hardware	PO1, PO4, PO5, PO10, PO12	PSO1, PSO2
	21UG010913	Vysyaraju Pavan Kumar				
	21UG010846	Asutosh Nayak				
13	21UG010892	Rohit Mandal	IoT-based solar energy monitoring	Software	PO1, PO3, PO5, PO6, PO10, PO12	PSO1, PSO2
	21UG010844	Ashutosh Padhan				
	21UG010909	Tejas Kumar Sahu				
14	21UG010852	Bommi Bhavana	Performance analysis of Multiuser Ultra dense WDM network based on DQPSK technique	Software	PO1, PO4, PO5, PO3, PO7, PO10, PO12	PSO1, PSO2
	21UG010886	Rajrishu Kumar				
	21UG010902	Subhasis Mahapatra				

15	21UG010845	Asutosh Mahapatro	Comparison of MDRZ, CSRZ, and DRZ schemes using different communication channels	Software	PO1, PO2, PO5, PO10, PO12	PSO1, PSO2
	21UG010855	Deepak Maharana				
	21UG010888	Rangala Ashish Kumar				
16	22UG011281	Roshan Kumar Sethi	Implementation of mathematical algorithm on Basys3 FPGA board using Verilog	Software	PO1, PO4, PO5, PO10, PO12	PSO1, PSO2
	22UG011282	Ganesh Sethi				
	22UG011283	Moudipa Mondal				
17	22UG011284	Kajol Sahu	IoT-based attendance system	Software	PO1, PO3, PO5, PO10, PO12	PSO1, PSO2
	22UG011285	Priyabrata Sahoo				
	22UG011286	Sandeep Kumar Sahu				
18	22UG011287	Aryan Kumar	Design and implementation of prepaid energy meter supported by RFID and GSM	Software	PO1, PO3, PO5, PO10, PO12	PSO1, PSO2
	22UG011288	Kalpana Choudhury				
	22UG011296	Akash Jena				
19	22UG011297	Nikhil Kumar	IoT-based smart energy meter for	Software	PO1, PO3, PO5, PO10, PO12	PSO1, PSO2
	22UG011298	Simhadri Saroj Kumar				

	22UG011299	Chandan Kumar Satpathy	real-time power monitoring and efficient energy management			
20	22UG011300	Bhadrasi Varun	IoT-enabled smart wheelchair	Software	PO1, PO2, PO3, PO5, PO10, PO12	PSO1, PSO2
	22UG011301	Debashish Mallik				
	22UG011310	Snehanjali Dash				
21	22UG011311	Nitish Kumar Prasad	IoT-based logistic tracking system	Software	PO1, PO3, PO4, PO5, PO10, PO12	PSO1, PSO2
	22UG011313	P. Binaya				
	22UG011312	Amolina Mohanty				
22	22UG011314	Anurag Das	Detection of air pollution in vehicle using Embedded System	Software	PO1, PO2, PO3, PO10, PO12	PSO1, PSO2
	22UG011315	Papun Gouda				
	22UG011316	Voona Rahul				
23	22UG011317	Tarun Kumar Dalapati	Gesture-controlled industrial robot	Software	PO1, PO2, PO3, PO6, PO10, PO12	PSO1, PSO2
	22UG011326	Ashwini Kumar Biswal				
	22UG011329	Ponnitivalasa Devraj				
24	22UG011330	Trilochan Behera	Audio transmission using light fidelity (Li-Fi)	Hardware & Software	PO1, PO2, PO5, PO10, PO12	PSO1, PSO2
	22UG011331	Apurba Kumar Swain				
	22UG011332	Abhishek Tripathy				

25	22UG011333	Dewaraseti Pratyusha	Design and implementation of E-NOSE system using sensors	Hardware & Software	PO1, PO3, PO5, PO10, PO12	PSO1, PSO2
	22UG011334	Tulasi Prasad Kumbhar				
	22UG011335	Tutika Durga Prasad				
26	22UG011336	Lolugu Ganesh	Dual-axis solar tracking system with automation	Hardware & Software	PO1, PO3, PO7, PO10, PO12	PSO1, PSO2
	22UG011337	Tamada Lallu Kumar				
	22UG011338	Rabindra Goudo				
27	22UG011339	Rudra Prasad Swain	NAND Gate based LED inverter	Hardware & Software	PO1, PO2, PO3, PO5, PO10, PO12	PSO1, PSO2
	22UG011340	Bibek Baliarsingh				
	22UG011341	Shubham Satapathy				
28	22UG01LE60	Anshu Ojha	Smart plant orchestra	Hardware & Software	PO1, PO3, PO5, PO10, PO12	PSO1, PSO2
	22UG011342	Amrut Prusty				
	22UG011343	Potnuru Teja				
29	22UG011344	Swati Swagatika Nanda	Light-based Automated Street Lighting System	Hardware	PO1, PO2, PO3, PO4, PO5, PO10, PO12	PSO1, PSO2
	22UG011345	Labhala Sasya				
	22UG011346	Sweta Rani				
30	22UG011347	Bhumika Pradhan	Digital Temperature Monitoring System	Hardware	PO1, PO3, PO5, PO10, PO12	PSO1, PSO2
	22UG011384	Bhawani Sahu				
	22UG011385	Priyanshu Kumar Patro				

31	22UG011383	Cherukuri Naveen	Smart Watering System Using IoT	Hardware/ Software	PO1, PO2, PO3, PO4, PO5, PO10, PO12	PSO1, PSO2
	22UG011398	Tutika Sai Goutam				
	22UG010769	Mahesh Sabar				
32	23UG011079	Omprasad Nayak	Smart Traffic Control System Using Microcontroller	Hardware/ Software	PO1, PO3, PO4, PO5, PO10, PO12	PSO1, PSO2
	23UG011081	Binaya Kumar Bastia				
	23UG011083	Wilson Sahani				
33	23UG011085	Sumit Kumar Harichandan	Home Automation Using Bluetooth	Hardware/ Software	PO1, PO2, PO4, PO5, PO10, PO12	PSO1, PSO2
	23UG011087	Sambit Subhankar Sahoo				
	23UG011089	Himanshu Sahoo				
34	23UG011091	Ajay Kumar Behera	Automated Irrigation System Based on Soil Moisture	Hardware/ Software	PO1, PO3, PO5	PSO1, PSO2
	23UG011093	Tirtha Jagat				
	23UG011097	Ranjan Mandal				
35	23UG011028	Dibya Jyoti Acharya	IoT-based Smart Health Monitoring System	Hardware/ Software	PO1, PO3, PO4, PO5, PO10, PO12	PSO1, PSO2
	23UG011030	Pallavi Purohit				
	23UG011032	Himanshu Bidika				
36	23UG011034	Mukhi Kausik	RF-based Wireless Communication System	Hardware	PO1, PO2, PO3, PO5, PO10, PO12	PSO1, PSO2
	23UG011036	Pruthibi Raj Patro				
	23UG011038	Paidisetty Saranya				

37	23UG0 11040	K Dilip Kumar Reddy	Voice-Controlled Home Automation System	Hardware/ Software	PO1, PO2, PO3, PO5, PO10, PO12	PSO1, PSO2
	23UG0 11041	Adarsh Kumar Hota				
	23UG0 11043	Omkar Priyadarshi Padhy				
38	23UG0 11045	Gandi Abhita Rani	Automated Waste Management System	Hardware/ Software	PO1, PO3, PO4, PO5, PO10, PO12	PSO1, PSO2
	23UG0 11047	Swagat Pradhan				
	23UG0 11049	Manas Kumar Padhiari				
39	23UG0 11051	Nayan Kumar Sahu	Smart Energy Meter with IoT Integration	Hardware/ Software	PO1, PO2, PO3, PO5, PO10, PO12	PSO1, PSO2
	23UG0 11053	Pitta Srinivasu				
	23UG0 11055	Gannavarapu Goutam				
40	23UG0 11057	Sanjay Kumar Mohapatra	Gesture Recognition System Using Microcontroller	Hardware/ Software	PO1, PO2, PO3, PO5, PO10, PO12	PSO1, PSO2
	23UG0 11059	Ayush Kumar Singh				
	23UG0 11061	Stephan Pani				
41	23UG0 11027	Atithya Prakash Rout	Simple RF-based Remote-Control System	Hardware	PO1, PO2, PO4, PO5, PO10, PO12	PSO1, PSO2
	23UG0 11029	Cherukuru Eswar Rao				
	23UG0 11031	Subham Labala				
42	23UG0 11033	Biswajit Sahu	Sound-activated Light System	Hardware	PO1, PO2, PO3, PO5, PO10, PO12	PSO1, PSO2
	23UG0 11035	Suman Patra				
	23UG0 11037	Sunil Nagabansa				

43	23UG011039	Panyuta Rath	Temperature and Humidity Monitoring System with IoT	Hardware/ Software	PO1, PO3, PO5, PO10, PO12	PSO1, PSO2
	23UG011042	Santosh Senapati				
	23UG011044	Sai Aditya Sahu				

2.5. Case Studies and Real-Life Examples (10)

(Type and complexity, POs/PSOs addressed.)

Incorporating case studies and real-life examples into the teaching-learning process is an effective pedagogical approach that enhances students' ability to apply theoretical concepts to practical scenarios. This approach bridges the gap between theory and real-world applications, fostering problem-solving skills, critical thinking, and professional competency. The inclusion of case studies aligns with Outcome-Based Education (OBE), ensuring that student learning outcomes are assessed through their contribution to Program Outcomes (POs) and Program-Specific Outcomes (PSOs).

Mapping of Case Studies and Real-Life Examples with POs & PSOs

The use of case studies and real-life examples significantly contributes to the attainment of various POs and PSOs as detailed below:

Table 2.5.1: Mapping of Case Studies Projects with POs and PSOs.

Sl. No	Regd. No.	Name of the student	Case Studies	Subject area	Type and complexity	PO mapping	PSO mapping
1	20UG010395	Pravash Ranjan Nayak	IoT-Based Smart Farming System	Internet of Things (IoT), Agriculture Technology	IoT and Medium	PO1, PO3, PO5, PO6, PO7	PSO1, PSO2
	20UG010396	Biswaranjan Rout					
	20UG010397	Sapneswar Pradhan					
2	20UG010385	Ayush Kumar Pati	Energy Harvesting Using Piezoelectric Materials	Internet of Things (IoT), Agriculture Technology	Renewable Energy and Medium	PO1, PO3, PO5, PO7	PSO1, PSO2
	20UG010387	Sonal Raj Singh					
3	20UG010398	Bhabatosh Panda	AI-Powered	Artificial Intelligence	AI and High	PO1, PO3,	PSO1

	20UG010399	Satyapriya Nayak	Traffic Management System	(AI), Urban Planning		PO4, PO5, PO6	
	20UG010414	Vipul Kumar					
4	20UG010420	Dhiresh Kumar Patel	Wireless Health Monitoring System	Healthcare Technology, Wireless Communication	Wireless Communication and Medium	PO1, PO3, PO5, PO6	PSO1, PSO2
	20UG010425	Arshad Khan					
	20UG010405	Sunil Swain					
5	20UG010388	Satartha Mohanty	Smart Waste Management System	IoT, Environmental Engineering	IoT and Medium	PO1, PO3, PO5, PO6, PO7	PSO1, PSO2
	20UG010389	Meenakhi Senapati					
6	1901090095	Durga Prasad Swain	5G Communication System Analysis	Telecommunications, Network Technology	Telecommunications and Medium	PO1, PO3, PO5, PO9	PSO1, PSO2
	1901090097	Mohit Kumar Mahato					
7	1901090107	Jyoti Ranjan Sahoo	Autonomous Drone for Disaster Management	Robotics, Disaster Management	Robotics And High	PO1, PO3, PO5, PO6	PSO1
	1901090108	Subhrajit Tripathy					
	1901090109	Md Sahid Raza					
8	1901090084	Kishan Kumar Sahu	Secure Communication Using Quantum Cryptography	Quantum Computing, Cybersecurity	Cybersecurity and Very High	PO1, PO3, PO5, PO9, PO10	PSO1, PSO2
	1901090085	Tarun Kumar Golari					
	1901090089	Satyabrata Sahoo					

Table 2.5.2: Mapping of Real-life examples Projects with POs and PSOs.

Sl. No	Regd. No.	Name of the student	Real-life examples	Subject area	Type and complexity	PO mapping	PSO mapping
1	20UG010386	Rahulraj Mohanty	Smart Traffic Signal	IoT-Based Smart Farming System	IoT and Medium	PO1, PO3, PO4, PO5,	PSO1, PSO2
	20UG010384	Amrit Padhy					

	20UG010390	Gupta Dami	Control System			PO6, PO7, PO9	
2	20UG010391	D Shiva Sathwik	IoT-Based Smart Home Automation	Energy Harvesting Using Piezoelectric Materials	IoT and Medium	PO1, PO3, PO5, PO6	PSO1, PSO2
	20UG010393	Sk Md Samim Akhtar					
3	20UG010401	Narottam Prusty	Wireless Patient Monitoring System	AI-Powered Traffic Management System	Wireless Communication and Medium	PO1, PO3, PO5, PO6	PSO1, PSO2
	20UG010404	Phalguni Panigrahi					
4	20UG010407	Doleswar Choudhury	Solar-Powered Water Pump Controller	Wireless Health Monitoring System	Embedded Systems and Low to Medium	PO1, PO3, PO5, PO6, PO7	PSO1, PSO2
	20UG010408	Asutosh Sahoo					
	20UG010410	Rahul Kumar Kuila					
5	1901090121	T Pavan Kalyan	Automated Waste Segregation System	Smart Waste Management System	Automation and Medium	PO1, PO3, PO5, PO6, PO7	PSO1, PSO2
	1901090122	Pawan Kumar Tiwari					
	1901090123	Amarnath Kumar Paul					
6	1901090130	Purushottam Kumar	Drone-Based Surveillance System	5G Communication System Analysis	Robotics and High	PO1, PO3, PO5, PO6	PSO1, PSO2
	1901090131	Sandhyarani Panda					
7	20UG010423	Prasanna Kumar Choudhary	Smart Energy Meter with Theft Detection	Autonomous Drone for Disaster Management	IoT, Security and Medium	PO1, PO3, PO5, PO6	PSO1, PSO2
	20UG010380	Shasank Kumar Nahak					

Process of Implementing Case Studies and Real-Life Examples in Teaching

Step 1: Selection of Relevant Case Studies

- Real-world case studies aligned with course objectives are identified.
- Industry-sponsored case studies are included to enhance authenticity.
- A mix of historical, contemporary, and futuristic examples is ensured to cover various engineering applications.

Step 2: Integration into Teaching Methodology

- A problem-based learning (PBL) approach is adopted to engage students in discussions.
- Group projects and individual research tasks based on real-world scenarios are assigned.
- Guest lectures and expert talks from industry professionals are incorporated.

Step 3: Assessment and PO-PSO Mapping

- Students are evaluated on their ability to analyse problems, develop solutions, and apply concepts in practical contexts.
- Assessment tools such as case study reports, presentations, and problem-solving exercises are used.
- Mapping levels are assigned as follows: Strong (3), Medium (2), Weak (1), or No Mapping (0).

Step 4: Continuous Improvement

- Student feedback on the effectiveness of case studies in improving learning outcomes is gathered.
- Gaps in learning are identified, and the teaching methodology is updated accordingly.
- Documentary evidence of case studies and their mapping with POs and PSOs is maintained for accreditation purposes.

This structured approach ensures that case studies and real-life examples are effectively utilized to enhance student learning, align with OBE requirements, and meet NBA accreditation standards.

2.6. SWAYAM/NPTEL/MOOC/Self-Learning (10)

(Number of students registered, certification and POs/PSOs addressed.)

- Massive Open Online Courses (MOOCs) offered through platforms like SWAYAM, NPTEL, Coursera, edX, Udacity, and Udemy provide flexible, high-quality learning opportunities for students and professionals. These platforms enhance Outcome-

Based Education (OBE) by enabling students to acquire additional skills, industry-relevant knowledge, and domain expertise beyond traditional classroom teaching.

- Mapping MOOCs with Program Outcomes (POs) and Program-Specific Outcomes (PSOs) ensures that these certifications contribute effectively to technical, analytical, and professional competency development, aligning with NBA accreditation requirements.

Process of Implementing MOOCs In Curriculum and Po-PSO Mapping

Step 1: Selection of MOOCs Based on Learning Objectives

- Domain-specific and interdisciplinary courses relevant to the curriculum are identified.
- Platforms providing industry-recognized certifications (SWAYAM, NPTEL, Coursera, etc.) are selected.

Step 2: Integration into Curriculum

- MOOCs are allowed as elective courses for credit transfer.
- Students are encouraged to complete a minimum required number of courses per semester.

Step 3: Assessment and PO-PSO Mapping

- Students are evaluated based on:
- Course completion certificates.
- Assignment scores and project submissions.
- Application of acquired skills in mini-projects, lab experiments, and internships.

Step 4: Measure Attainment & Continuous Improvement

- Student feedback surveys are conducted to improve course recommendations.
- Placement trends and skill improvements linked to MOOCs are tracked.
- The effectiveness of MOOCs in enhancing technical and professional competencies is analysed, and necessary updates to the curriculum are made accordingly.

Table 2.6.1: Mapping of MOOCS with POs and PSOs.

Sl. No.	Regd. No.	Name of the student	Name of the Course	Duration	PO mapping	PSO mapping
1	23UG01 1028	Pallavi Purohit	Google Cloud Computing Foundations	Aug-Oct 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
2	23UG01 0745	Prateek Dash	Google Cloud Computing Foundations	Aug-Oct 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
3	23UG01 1060	Preeti Modak	Big Data Computing	Aug-Oct 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
4	22UG01 1369	Ramakrushna Sahu	Signal Processing Techniques and its Application	Jan-Apr 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7,	PSO1, PSO2

					PO8, PO9, PO10, PO11, PO12	
5	22UG01 1378	Pranati Swain	The Joy of Computing using Python	Jan-Apr 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
6	22UG01 1381	P.M Pratik	Introduction to IoT	Jan-Apr 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
7	22UG01 1329	Ponnitv alasa Devraj	Block Chain and its Application	Jan-Apr 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
8	22UG01 1322	Setti Harshita	Cloud Computing	Jan-Apr 2024	PO1, PO2, PO3, PO4, PO5, PO6,	PSO1, PSO2

					PO7, PO8, PO9, PO10, PO11, PO12	
9	22UG01 1326	Ashwini Kumar Biswal	Biomedical Signal Processing	Jan-Apr 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
10	22UG01 1345	Labhala Sasya	Cloud Computing	Jan-Apr 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
11	22UG01 1358	Rakesh Pradhan	Cloud Computing	Jan-Apr 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
12	22UG01 1368	Harika Yadav	Foundation of Cloud IoT Edge ML	Feb-Apr 2024	PO1, PO2, PO3, PO4, PO5,	PSO1, PSO2

					PO6, PO7, PO8, PO9, PO10, PO11, PO12	
13	22UG011337	Tamada Lallu Kumar	Biomedical Signal Processing	Jan-Apr 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
14	22UG011338	Rabindra Gouda	Programming in Java	Jan-Apr 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
15	22UG011385	Priyanshu Kumar Patro	Signal Processing Techniques and its Application	Jan-Apr 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
16	22UG011323	Biswajit Panda	Introduction to Internet of Things	Jan-Apr 2024	PO1, PO2, PO3, PO4,	PSO1, PSO2

					PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	
17	22UG01 1401	Vivek Kumar Dhal	Cloud Computing	Jul-Oct 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
18	22UG01 1349	Putingic hiti Jiban	Cloud Computing	Jul-Oct 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
19	22UG01 1769	Mahesh Sabar	Cloud Computing	Jul-Oct 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
20	22UG01 1304	Balaji Sahu	Cloud Computing	Jul-Oct 2024	PO1, PO2, PO3,	PSO1, PSO2

					PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	
21	22UG01 1300	Bhadrasi Varun	The Joy of Computing using Python	Jul-Oct 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
22	22UG01 LE57	Lanka Lalitha	Cloud Computing	Jul-Oct 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
23	22UG01 1312	Amolina Mohanty	Cloud Computing	Jul-Oct 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2

24	22UG011330	Trilochan Behera	Cloud Computing	Jan-Apr 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
25	22UG011283	Moudipa Mondal	Technical English for Engineers	Aug-Oct 2024	PO6, PO8, PO9, PO10, PO11, PO12	PSO1
26	22UG011303	G Pravalika Gouri	Cloud Computing	Jul-Oct 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
27	22UG011307	Jhami Manisha	Cloud Computing	Jul-Oct 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
28	22UG011333	Dewarasetti Pratyusha	Cloud Computing	Jul-Oct 2024	PO1, PO2, PO3, PO4, PO5,	PSO1, PSO2

					PO6, PO7, PO8, PO9, PO10, PO11, PO12	
29	22UG011310	Snehanjali Dash	Cloud Computing	Jul-Oct 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
30	22UG011348	Tejawini Behera	Digital Circuit	Jul-Oct 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
31	21UG010842	Ansh Kumar	Data Structure and Algorithms Using Java	Jul-Oct 2023	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
32	21UG010842	Ansh Kumar	Cloud Computing	Jan-Apr 2024	PO1, PO2, PO3, PO4,	PSO1, PSO2

					PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	
33	21UG01LE67	Priya Kumari	The Joy of Computing using Python	Jan-Apr 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2
34	21UG010881	Priyabrata Dash	Data Analytics with Python	Jan-Apr 2024	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2


Elite

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India

This certificate is awarded to

PALLAVI PUROHIT

for successfully completing the course

Google Cloud Computing Foundations

with a consolidated score of 67 %

Online Assignments	23.75/25	Proctored Exam	43.23/75

Total number of candidates certified in this course: 6940

Aug-Oct 2024

(8 week course)

Prof. Haimanti Banerji

Coordinator, NPTEL

IIT Kharagpur

Indian Institute of Technology Kharagpur

swayam

Roll No: NPTEL24CS131S665300138 To verify the certificate No. of credits recommended: 2 or 3


Elite

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India

This certificate is awarded to

PRATEEK DASH

for successfully completing the course

Google Cloud Computing Foundations

with a consolidated score of 62 %

Online Assignments	15.42/25	Proctored Exam	46.88/75

Total number of candidates certified in this course: 6940

Aug-Oct 2024

(8 week course)

Prof. Haimanti Banerji

Coordinator, NPTEL

IIT Kharagpur

Indian Institute of Technology Kharagpur

swayam

Roll No: NPTEL24CS131S665300122 To verify the certificate No. of credits recommended: 2 or 3


NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to

RAMKRUSHNA SAHU

for successfully completing the course

Signal Processing Techniques and its Applications

with a consolidated score of 45 %

Online Assignments	15.31/25	Proctored Exam	30/75

Total number of candidates certified in this course: 216

Jan-Apr 2024

(12 week course)

Prof. Haimanti Banerji

Coordinator, NPTEL

IIT Kharagpur

Indian Institute of Technology Kharagpur

swayam

Roll No: NPTEL24EE76S556400068 To verify the certificate No. of credits recommended: 3 or 4


NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to

LABHALA SASYA

for successfully completing the course

Cloud Computing

with a consolidated score of 54 %

Online Assignments	24.38/25	Proctored Exam	30/75

Total number of candidates certified in this course:23872

Jan-Apr 2024

(12 week course)

Prof. Haimanti Banerji

Coordinator, NPTEL

IIT Kharagpur

Indian Institute of Technology Kharagpur

swayam

Roll No: NPTEL24CS17S470200909 To verify the certificate No. of credits recommended: 3 or 4


Elite

NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to

ANSH KUMAR

for successfully completing the course

Data Structure and Algorithms Using Java

with a consolidated score of 60 %

Online Assignments	24.44/25	Proctored Exam	36/75

Total number of candidates certified in this course: 3896

Jul-Oct 2023

(12 week course)

Prof. Haimanti Banerji

Coordinator, NPTEL

IIT Kharagpur

Indian Institute of Technology Kharagpur

swayam

Roll No: NPTEL23CS85S836400159 To verify the certificate No. of credits recommended: 3 or 4


Elite

NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to

NIKITA BARIK

for successfully completing the course

The Joy of Computing Using Python

with a consolidated score of 61 %

Online Assignments	25/25	Proctored Exam	36.37/75

Total number of candidates certified in this course:16145

Prof. Devendra Jalihal

Chairperson,

Centre for Outreach and Digital Education, IITM

Jul-Oct 2023

(12 week course)

Prof. Andrew Thangaraj

NPTEL, Coordinator

IIT Madras

Indian Institute of Technology Madras

swayam

Roll No: NPTEL23CS108S532400529 To verify the certificate No. of credits recommended: 3 or 4

Figure No. 2.6.1: Sample Copies of NPTEL Certificates.

Scope for Self-Learning & Facilities and Its Use

Self-learning is a learner-centric approach where students independently acquire knowledge beyond traditional classroom teaching. With the rise of digital education, MOOCs, online resources, and real-world case studies, self-learning has become an integral part of modern education, fostering critical thinking, innovation, and problem-solving skills.

In Outcome-Based Education (OBE), self-learning contributes significantly to Program Outcomes (POs) and Program-Specific Outcomes (PSOs) by enabling students to develop technical expertise, research capabilities, and lifelong learning habits.

Scope for Self-Learning in Technical Education

a) Enhancing Conceptual Understanding

Core subject concepts are explored through online resources such as YouTube, Khan Academy, Coursera, and NPTEL.

Personalized learning at an individual's own pace is facilitated through self-learning platforms.

b) Gaining Industry-Relevant Skills

Courses aligned with industry requirements are accessed through SWAYAM, Udemy, Coursera, and LinkedIn Learning.

Skills in AI, IoT, Data Science, Embedded Systems, and Automation are acquired through self-paced learning.

c) Learning through Case Studies and Real-Life Examples

Industry case studies, research papers, and technical reports are studied to enhance problem-solving abilities.

Real-world engineering challenges are analysed, and innovative solutions are formulated.

d) Exploring Open-Source Tools and Simulations

Self-learning opportunities in circuit design, simulation, and AI-ML development are provided by platforms like MATLAB Online, Arduino IDE, Proteus, PSCAD, and LabVIEW.

e) Applying Knowledge through Mini/Micro Projects

Hands-on projects are developed using online tutorials and technical documentation.

Prototypes, models, and innovative solutions are created through independent learning.

f) Preparing for Competitive Exams and Certifications

Self-learning resources are utilized for the preparation of GATE, GRE, CAT, and job recruitment exams.

Coding practice is conducted on platforms such as LeetCode, HackerRank, and CodeChef.

g) Improving Soft Skills and Career Development

Courses in technical writing, communication, leadership, and entrepreneurship are undertaken through self-learning platforms.

Resume-building, interview preparation, and startup incubation are enhanced through structured self-learning.

Process of Encouraging Self-Learning and PO-PSO Mapping

Step 1: Identifying Self-Learning Resources

- SWAYAM/NPTEL, Coursera, Udacity, Udemy, MIT OCW, and industry whitepapers are recommended by institutions.
- Faculty members guide students in selecting relevant online courses and technical resources.

Step 2: Integration into the Learning Process

- Self-learning modules are integrated into the curriculum through project-based assignments and research case studies.
- Findings from self-learning are presented in technical seminars and hackathons by students.

Step 3: Assessment and PO-PSO Attainment

- Evaluations are conducted based on:
- Completion of certifications (Coursera, SWAYAM, edX, etc.).
- Project submissions and implementation of self-learned concepts.
- Technical presentations, reports, and discussions.

Step 4: Continuous Monitoring and Feedback

- Faculty mentors assess progress, challenges, and the effectiveness of self-learning initiatives.
- Student feedback is collected on self-learning experiences, and improvements are suggested accordingly.
- This structured approach ensures that self-learning is effectively integrated into the curriculum, aligns with OBE requirements, and meets NBA accreditation standards.

2.7. Solving Complex Engineering Problems Incorporating Sustainability Goals (20)

(Provide details of core courses (Project based learning, problem-based learning), mini projects, integrated design projects, capstone projects, hackathon or any other activity-based learning towards solving complex engineering problems targeting relevant SDGs.)

In modern engineering education, various activity-based learning approaches such as Project-Based Learning (PBL), Problem-Based Learning (PrBL), Mini Projects, Integrated Design Projects (IDP), Capstone Projects, Hackathons, and Interdisciplinary Challenges are integrated to address complex real-world engineering problems. These methodologies align with Outcome-Based Education (OBE) and contribute to Program Outcomes (POs) and Program-Specific Outcomes (PSOs). The incorporation of sustainability, innovation, and technology-driven solutions ensures that engineering education supports the United Nations Sustainable Development Goals (SDGs).

Core Courses with Project-Based Learning Approaches

(a) Project-Based Learning (PBL)

PBL is implemented as a student-cantered approach where long-term projects addressing real-world engineering challenges are undertaken. Multi-disciplinary collaboration, critical thinking, and creativity are encouraged, and assessments are conducted based on technical feasibility, innovation, and social impact. Projects aligned with SDGs include:

- ✓ Smart IoT-Based Water Management System (SDG 6: Clean Water and Sanitation)
- ✓ Renewable energy solutions (SDG 7: Affordable and Clean Energy)
- ✓ Smart infrastructure design (SDG 11: Sustainable Cities and Communities)

(b) Problem-Based Learning (PrBL)

PrBL involves the identification and analysis of real-world engineering problems, leading to the development of feasible solutions. Critical thinking, research, and application of engineering principles are emphasized. Solutions are assessed based on efficiency, sustainability, and feasibility. Projects addressing SDGs include:

- ✓ IoT-Based Air Pollution Monitoring System (SDG 13: Climate Action)
- ✓ Smart Irrigation Techniques Using AI (SDG 2: Zero Hunger, SDG 6: Clean Water and Sanitation)
- ✓ Waste-to-energy technologies (SDG 12: Responsible Consumption and Production)

(c) Mini Projects

Mini projects are executed in core engineering courses such as Semiconductor Devices and Embedded Systems, involving short-term implementations of engineering concepts. Experimentation, simulations, and hardware/software integration are emphasized. Relevant projects include:

- ✓ Smart Street Lighting System using Solar Energy (SDG 7, SDG 11)
- ✓ AI-Based Traffic Management System (SDG 11: Sustainable Cities)

(d) Integrated Design Projects (IDP)

IDPs involve interdisciplinary collaboration where students work on complex problems integrating mechanical, electrical, and computer engineering knowledge. Prototype development and testing are integral. Examples include:

- ✓ AI-Based Smart Agriculture System (SDG 2, SDG 12)
- ✓ EV Battery Management System with Predictive Maintenance (SDG 9: Industry, Innovation, and Infrastructure)

(e) Capstone Projects

Final-year capstone projects involve in-depth research, design, and implementation. These industry-relevant projects are conducted under faculty mentorship and focus on innovative, large-scale engineering solutions. Examples include:

- ✓ IoT-Based Disaster Early Warning System (SDG 11, SDG 13)
- ✓ Wastewater Recycling Solutions (SDG 6: Clean Water and Sanitation)

(f) Hackathons

Hackathons provide time-bound, innovation-driven competitions where rapid prototyping is undertaken to solve real-world challenges. Modern technologies such as AI, IoT, Blockchain, and Cloud Computing are utilized. Relevant hackathon challenges include:

- ✓ AI-Based Crop Disease Prediction System (SDG 2: Zero Hunger)
- ✓ Blockchain for Transparent Supply Chain Management (SDG 12: Responsible Consumption and Production)

(g) Other Activity-Based Learning Approaches

Industry-Driven Case Studies: Real-world case studies from leading industries such as Tesla, Google, and IBM are integrated into coursework (SDG 9: Industry, Innovation, and Infrastructure).

Research-Based Learning: Students are encouraged to publish research on SDG-aligned topics, such as marine ecosystem conservation using AI (SDG 14: Life Below Water).

Internships & Industrial Training: Hands-on exposure to SDG-driven technologies is provided through industry collaborations (SDG 7: Affordable and Clean Energy).

Impact of Project-Based Learning on SDGs

The implementation of Project-Based Learning (PBL), Problem-Based Learning (PrBL), Mini Projects, Capstone Projects, Hackathons, and Integrated Design Projects has been instrumental in equipping students with real-world problem-solving skills while addressing global challenges outlined in the SDGs. The integration of these learning approaches into the curriculum enhances PO-PSO attainment, improves industry readiness, and contributes to sustainable technological advancements.

Table 2.7.1: Mapping of projects with SDGs.

Sl. No	Regd. No.	Name of the student	Title of the project	Type	Problem addressed	SDGs mapping
1	20UG010380	Shasank Kumar Nahak	Battery controlled system for E-Vehicles	Hardware	Optimizing battery performance, managing energy efficiently.	SDG2, SDG7, SDG9, SDG11
	20UG010381	Manash Choudhary				
	20UG010412	Prabhu Kalyan Sahoo				
2	20UG010565	Tangudu Satish Kumar	Smart Attendance System	Software	Automating attendance tracking with real-time facial	SDG2, SDG7, SDG9, SDG11
	20UG010566	Sathweeka Patnaik				

			(using CCTV)		recognition, enhancing accuracy and efficiency.	
3	20UG010580	Syed Akhib	Poisonous gas alert system using HT12F, HT12D and MQ sensors	Hardware	Detecting hazardous gas leaks and providing timely alerts to ensure safety in industrial and residential environments.	SDG2, SDG7, SDG9, SDG11
	20UG010581	Rahul Kumar				
4	1901090007	Sudeep Kumar Panda	Smart fire detection system enhancing fire safety through IoT	Hardware	Enhances fire safety by enabling real-time detection and alerts through IoT-based sensors and systems	SDG2, SDG7, SDG9, SDG11
	1901090008	Trilochan Behera				
	1901090007	Sudeep Kumar Panda				
5	1901090054	Pritam Senapati	Density based waste segregation	Hardware	Efficiently separating waste materials based on their density to improve recycling and waste management processes.	SDG2, SDG6, SDG7, SDG9, SDG11
	1901090055	Baibhav Dandsena				
	1901090071	Varanasi Vinith				

2.8. Steps Taken for Enhancing Industry Institute Partnerships (15)

(Provide details of partial delivery of courses, industry supported labs, industry offered short-term programs/training etc.)

The Department of Electronics and Communication Engineering recognizes the significance of robust industry-institute collaborations in improving education quality and ensuring students are industry-ready. Multiple initiatives have been undertaken to strengthen this partnership, including the partial delivery of courses by industry experts, the establishment of industry-supported laboratories, and the provision of industry-led short-term programs and training.

Industry Involvement in The Partial Delivery of Regular Courses for Students

Industry participation in the partial delivery of regular courses plays a vital role in aligning academic curricula with industry requirements. In the framework of Outcome-Based

Education (OBE), this strategy enhances students' application-oriented learning and skill development.

Industry Collaboration for Course Delivery

Guest Lectures & Expert Sessions: Specialized lectures on emerging trends, case studies, and industrial practices are conducted by professionals from the industry.

Hands-on Training & Workshops: Sessions on industry-relevant tools, equipment, and problem-solving methodologies are organized by industry experts.

Co-Teaching Model: Select course modules are co-taught by faculty members and industry professionals, ensuring a balanced academic-industry approach.

Table 2.8.1: Industry involvement in the partial delivery of regular courses.

Industry-Institute Interaction Report (Academic Year: 2023-24)

Title of the Course	Name of the Industry	Date & Duration	Content Delivered	Name of the Resource Person	PO Mapping	PSO Mapping
Microwave Engineering	VVDN Technologies	18.03.2024 to 22.03.2024 (5 Days)	E/H-Plane, Hybrid Tee Junction, Ferrite Devices, Couplers, Resonators	Dr. Priyaranjan Meher	PO1, PO2, PO3, PO4, PO12	PSO1, PSO2
Embedded Systems	Synopsys Inc., Noida	12.02.2024 to 17.02.2024 (6 Days)	Embedded Hardware Design, Analog/Digital Components, IC Design, EDA Tools	Mr. Debadarshan Parida	PO1, PO2, PO3, PO4, PO5, PO12	PSO1, PSO2, PSO3
Electrical and Electronic Measurements	Vedanta	22.01.2024 to 25.01.2024 (4 Days)	Measurement Techniques, Wattmeter Principles and Construction	Mr. Satish Prasad Sadhangi	PO1, PO2, PO4, PO5, PO12	PSO1

Industry-Institute Interaction Report (Academic Year: 2022-23)

Title of the Course	Name of the Industry	Date & Duration	Content Delivered	Name of the Resource Person	PO Mapping	PSO Mapping
Electromagnetic Waves	VVDN Technologies	22.08.2022 to 26.08.2022 (5 Days)	Transmission Lines, Circuit Models, Load Matching, Field Equations	Dr. Priyaranjan Meher	PO1, PO2, PO3, PO4, PO12	PSO1, PSO2
Semiconductor Devices	Utkal Alumina	20.02.2023 to 25.02.2023 (6 Days)	Carrier Drift and Diffusion, Energy Diagrams, Recombination, Generation	Mr. Anup Padhy	PO1, PO2, PO3, PO12	PSO1
Digital VLSI Design	Marquee Semiconductor	28.03.2023 to 31.03.2023 (4 Days)	Timing, Delay Calculations, Switching Power Dissipation	Mr. Mukesh Sukla	PO1, PO2, PO3, PO4, PO5, PO12	PSO1, PSO2

Industry-Institute Interaction Report (Academic Year: 2021-22)

Title of the Course	Name of the Industry	Date & Duration	Content Delivered	Name of the Resource Person	PO Mapping	PSO Mapping
Electrical and Electronic Measurements	Vedanta	07.09.2021 to 11.09.2021 (5 Days)	Power Measurement Techniques, Wattmeter Principles	Mr. Satish Prasad Sadhangi	PO1, PO2, PO4, PO5, PO12	PSO1
Microwave Engineering	VVDN Technologies	18.01.2022 to 22.01.2022 (5 Days)	S-Parameter Analysis, Ferrite Devices, Tuners and Attenuators	Dr. Priyaranjan Meher	PO1, PO2, PO3, PO4, PO12	PSO1, PSO2
Digital VLSI Design	Synopsys, Bangalore	14.02.2022 to	Latch/Flip-Flop Circuits,	Mr. Akshya Sanbagh	PO1, PO2, PO3,	PSO1, PSO2

Title of the Course	Name of the Industry	Date & Duration	Content Delivered	Name of the Resource Person	PO Mapping	PSO Mapping
		17.02.2022 (4 Days)	Verilog/VHDL Design		PO5, PO12	

Industry-Offered Courses and Training

Industry-led courses and training programs play a pivotal role in bridging academic learning with real-world industrial applications. These initiatives contribute significantly to OBE by equipping students with hands-on experience, exposure to emerging technologies, and industry-relevant competencies.

Supplementing Regular Curriculum

Value-added training programs conducted by industry professionals extend beyond the academic syllabus, ensuring students acquire both domain-specific and interdisciplinary skills.

Enhancing Employability

Industry-certified courses emphasize job-oriented skills, practical training, and certifications that increase employability.

Bridging the Skill Gap

Exposure to the latest tools, techniques, and industry best practices ensures students remain industry-ready.

Examples of Industry-Offered Training

Courses in IoT, AI-ML, Cloud Computing, Cybersecurity, Power Electronics, Renewable Energy, and Hybrid Electric Vehicles are regularly offered.

Table 2.8.2: Guest Lecture details.

Sl No.	Title of the Program / Course / Training	Resource Person	Name of the Industry	Date	Duration	Content Delivered	PO Mapping	PSO Mapping
1	Agile Methodology, Digital Platforms	Mr. S.V.S. Bharadwaj	Koch Business Solutions India	24-03-25 to 29-03-25	6 Days	Utilization Agile Methodology	PO2, PO5, PO8	PSO1, PSO2
2	IoT Wireless & Cloud Computing Emerging Technologies	Mr. Sanjay GS	Entuple	03-03-25 to 06-03-25	5 Days	IoT cloud computing use and collects data across IoT devices	PO1, PO2, PO3, PO4, PO12	PSO1, PSO2
3	AI Meets Embedded Systems	Mr. Debadarshana Parida	Synopsys Inc.	17-02-25 to 22-02-25	6 Days	Driving the future of smart technology	PO1, PO2, PO3, PO5	PSO1, PSO2
4	IoT with Nodemcu	Mr. K. Manikanta	Brane Service, Hyderabad	20-08-24 to 24-08-24	5 Days	Specifications and working Principle	PO1, PO2, PO4	PSO1, PSO2
5	Real-Time Image Processing in Embedded Systems	Mr. Debadarshana Parida	Synopsys Inc.	05-02-24 to 09-02-24	5 Days	Introducing real-time image processing and how it differs from ordinary image	PO1, PO2, PO3, PO5	PSO1, PSO2

Sl No.	Title of the Program / Course / Training	Resource Person	Name of the Industry	Date	Duration	Content Delivered	PO Mapping	PSO Mapping
6	Agile Software Development	Mr. S.V.S. Bharadwaj	Koch Business Solutions India	06-03-23 to 10-03-23	5 Days	Working Agile Software	PO2, PO5, PO8	PSO2
7	IoT and Wearable Technology	Mr. Sanjay GS	Entuple	13-09-22 to 17-09-22	5 Days	Sensors and form factors	PO1, PO2, PO3, PO12	PSO1, PSO2
8	Robotics and Automation in Embedded Systems	Mr. Lavanam Ambala	WIPRO LTD., Bengaluru	09-08-21 to 13-08-21	5 Days	Robotic Applications of Embedded Systems	PO1, PO2, PO3, PO5	PSO1, PSO2
9	VLSI Design for Automotive Applications	Mr. Debadarshana Parida	Synopsys Inc.	20-09-21 to 25-09-21	6 Days	The Fusion of Automotive and VLSI Technology	PO1, PO2, PO3, PO12	PSO1, PSO2
10	Embedded Systems Design Methodologies	Mr. Jayant Prabhu	WIPRO LTD., Bengaluru	01-02-21 to 06-02-21	6 Days	Fundamental requirements of Embedded Systems	PO1, PO2, PO4, PO5	PSO1, PSO2

Industry-Supported Laboratories

Industry-supported laboratories significantly enhance technical education by providing students with real-world industrial applications, hands-on experience, and research-driven

learning environments. These laboratories, established in collaboration with industries, are equipped with modern tools, software, and infrastructure that align with industry standards. Their contributions to CO and PO attainment, along with PSO mapping, are considerable. The department has a 3D printing laboratory which is sponsored by WOL3D Pvt. Ltd and a PLC laboratory that is sponsored by prolific.

Objectives of Industry-Supported Laboratories

Enhancing Hands-on Learning: Theoretical knowledge is complemented with practical applications, exposing students to real-world challenges.

Strengthening Industry-Academia Collaboration: Knowledge transfer is facilitated through workshops, expert lectures, and collaborative projects.

Improving Employability and Skill Development: Industry-aligned certifications and training sessions enhance job prospects.

Encouraging Research and Innovation: Joint research initiatives, patent filings, and prototype development are undertaken with industry experts.

Supporting Entrepreneurship and Startups: Infrastructure for product development, prototyping, and testing is provided to encourage student-driven innovations.

Utilization of Industry-Supported Laboratories

Curriculum Enhancement: Laboratory resources are integrated into course structures to improve learning.

Skill Development Programs: Short-term and certification programs are conducted to enhance student competencies.

Project-Based Learning (PBL): Students work on industry-defined projects to develop problem-solving abilities.

Internships and Industrial Training: Labs facilitate student internships in collaboration with industry partners.

Faculty Development Programs (FDPs): Faculty members receive training on industry-specific tools and technologies.

Industry-Consultancy and Research Projects: Industry projects are executed within these labs, strengthening academia-industry research collaborations.

Impact Analysis and Actions Taken Thereof

Impact Analysis of Industry-Institute Partnerships

Improved Employability and Placements: Higher placement rates are recorded due to industry-relevant skills and training.

Enhanced Learning Outcomes: Increased CO-PO attainment levels are observed due to the integration of real-world case studies and industrial projects.

Boost in Research & Innovation: More patents, research papers, and funded projects emerge from industry-supported initiatives.

Strengthened Industry Collaboration & MoUs: Active industry participation in curriculum development and research projects increases.

Faculty Skill Enhancement: Faculty members receive industry training, participate in consultancy projects, and engage in knowledge exchange.

Actions Taken Based on Impact Analysis

Expansion of Industry-Driven Curriculum: Industry-driven electives and certification programs are introduced, and real-world case studies are incorporated.

Strengthening Internship & Placement Programs: Long-term internship opportunities and soft-skills training are reinforced to enhance job readiness.

Encouraging More Industry-Sponsored Research: Industry-specific problems are identified for student projects, and joint patents and publications are encouraged.

Increasing Faculty-Industry Engagement: Faculty exchange programs with industries are implemented, and industry certifications for faculty members are promoted.

The structured approach toward industry-institute partnerships ensures enhanced learning experiences, improved employability, and stronger academic-industry collaboration. These initiatives continue to reinforce Outcome-Based Education principles while fostering industry-aligned academic excellence.

Criterion 3: Outcome-Based Assessment (120)

3.1. Evaluation of Continuous Assessment: Assignments, Unit Tests, Mid-Term, etc. (10)

(Describe the process of evaluation followed during continuous assessment to maintain quality of assessment; constructive alignment of questions with COs and hence POs/ PSOs. Details to be kept in course files for evaluation.)

Evaluation of Continuous Assessment

Continuous Assessment (CA) plays a crucial role in monitoring student progress, ensuring consistent learning, and maintaining academic quality. The evaluation process involves multiple assessment components such as quizzes, assignments, class tests, and mid-term examinations. These components are systematically designed to align with Course Outcomes (COs), which contribute to achieving Program Outcomes (POs) and Program Specific Outcomes (PSOs).

Process of Evaluation in Continuous Assessment

Planning and Design of Assessments

Each assessment component is mapped to specific COs to ensure constructive alignment.

The weightage of quizzes, assignments, class tests, and mid-term examinations is distributed in accordance with the learning objectives of the course.

A Bloom's Taxonomy-based question design ensures a balance between lower-order (recall, understanding) and higher-order (application, analysis, synthesis) cognitive skills.

Assessment Components and Their Role in Learning

Assessment Type	Purpose	COs Targeted	Cognitive Level (Bloom's Taxonomy)
Quizzes	Short tests to assess conceptual understanding, are conducted periodically.	Selective COs (Based on unit topics)	Remember, Understand
Assignments	Application-based exercises that encourage problem-solving and research skills.	All COs over the semester	Apply, Evaluate, Create
Class Tests	Evaluations of students' ability to integrate concepts in a timed setting.	1-2 COs per test	Understand, Apply, Analyze

Mid-Term Examinations	Comprehensive assessments that check deeper understanding and application of knowledge.	3-4 COs per examination	Apply, Analyse, Evaluate

Ensuring Quality of Assessment

Moderation and Review: Questions and assignments are reviewed to maintain difficulty levels and relevance.

Rubric-Based Evaluation: Predefined grading rubrics for subjective assessments ensure transparency and consistency.

Feedback Mechanism: Students receive timely feedback to facilitate learning improvements.

Constructive Alignment with COs, POs, and PSOs

Each assessment component explicitly links to COs, ensuring that students achieve the intended learning outcomes.

Mapping Matrix: A mapping table ensures that COs contribute effectively to POs and PSOs, ensuring alignment with overall program educational objectives.

A. Process for Setting Internal Semester Question Paper

- Planning and Blueprint Development
- Define Question Paper Structure
- Objective Questions (MCQs, Fill in the Blanks, True/False): Quick knowledge checks.
- Short-Answer Questions: Concept clarity and brief explanations.
- Long-Answer & Problem-Solving Questions: Application, analysis, and critical thinking.
- Design-Based or Case Study Questions: Evaluate real-world problem-solving abilities.
- Define the weightage of each section based on the syllabus coverage and difficulty level.
- Easy (30%) – Fundamental and direct concept-based questions.
- Moderate (50%) – Requires application and problem-solving skills.
- Difficult (20%) – Higher-order thinking, real-world applications.

- Mapping Questions with COs
- A blueprint is prepared, ensuring that each question aligns with specific COs.

Bloom's Taxonomy is used to balance lower-order (recall, understanding) and higher-order (application, analysis, evaluation, and creation) cognitive levels.

Question Paper Setting

- Faculty members create a diverse set of questions ensuring coverage of all major topics.
- Questions are categorized into:
- Conceptual Understanding (Basic knowledge-based)
- Application-Based Questions (Problem-solving, real-life scenarios)
- Analytical/Design-Based Questions (Critical thinking, case studies)

Moderation and Quality Check

An internal committee is formed comprising all the subject coordinators, along with external experts**,** to set the question papers and ensure quality checks. The committee follows a structured process to maintain the standard and alignment of the assessments. The process includes the following steps:

- Internal Review by Subject Experts.
- Ensuring conceptual correctness, clarity, and appropriate difficulty levels.
- Avoiding ambiguity and repetition to maintain clarity and uniqueness.
- Verifying CO–Bloom's Taxonomy alignment to ensure constructive alignment with Course Outcomes (COs).
- C Cross-checking with past papers to ensure diversity, avoid redundancy, and ensure comprehensive syllabus coverage.

Post-Assessment Review

Performance Trend Analysis: Identifying learning gaps.

Modifications for Improvement: Adjustments in teaching strategies based on student outcomes.

B. Evaluation of Internal Semester Answer Scripts

Answer Sheet Evaluation Process

- **Allocation of Answer Scripts:** Faculty members are assigned answer scripts based on their subject expertise.
- **Marking Scheme Development:** A detailed marking scheme or answer key is prepared to ensure consistency in evaluation.
    - ✓ Key points for answers.
    - ✓ Step-wise marking for numerical problems.
    - ✓ Guidelines for evaluating analytical or essay-type questions.
- **Use of Rubrics for Subjective Answers:** Complex answers (e.g., design, case studies) are graded using rubrics to ensure fairness.
- **Cross-Checking for Accuracy:** A sample of evaluated papers is rechecked by a senior faculty member or moderation committee.

Grading and Marks Compilation

- **Tabulation of Marks:** Marks are recorded in a centralized system to maintain accuracy.
- **Normalization (if required):** If significant variations in scores are observed, necessary adjustments are made to maintain fairness and standardization.

Feedback Mechanism

- **Student Performance Analysis:** Strengths and weaknesses are identified based on overall trends.
- **Answer Script Review:** Students may be allowed to review their evaluated scripts to understand mistakes.
- **Constructive Feedback:** Faculty provides individual or group feedback on common errors and areas of improvement.

Moderation and Quality Assurance

- **Rechecking and Re-evaluation:** Students may apply for re-evaluation if they suspect an error.
- **Internal Moderation Committee Review:** A committee ensures assessment quality by reviewing selected answer scripts.

Result Declaration and Improvement Strategies

- **Result Submission:** Finalized marks are submitted to the department examination cell.
- **Performance-Based Improvement Plans:** If certain topics show poor performance, faculty may revise teaching methods or conduct remedial sessions.

C. Sharing of Post-Evaluation Feedback with Students for Performance Improvement

Modes of Feedback Sharing

Mode of Feedback	Purpose	Nature of Feedback
Individual Feedback	Personalized insights on strengths and weaknesses	Face-to-face discussion, written comments on answer sheets
Class-Wide Feedback	Address common mistakes and clarify concepts	Group discussions, summary analysis of test performance
Rubrics-Based Feedback	Ensure transparency in grading	Marking scheme and evaluation criteria shared
Online Feedback	Digital access to evaluations and corrections	Learning Management System (LMS), email communication

Steps in the Post-Evaluation Feedback Process

Step 1: Distribution of Evaluated Answer Sheets

- ✓ Students are allowed to review their graded answer scripts.
- ✓ Faculty explains the marking scheme, CO mapping, and where students lost marks.

Step 2: Identification of Common Mistakes

- ✓ Faculty compiles a list of frequently occurring errors (conceptual errors, calculation mistakes, misinterpretations).
- ✓ A classroom discussion addresses these errors to provide clarity.

Step 3: Suggesting Improvement Strategies

For Slow Learners:

- ✓ Extra assignments and revision materials.
- ✓ One-on-one mentoring sessions.
- ✓ Additional tutorial classes.

For Advanced Learners:

- ✓ Advanced-level problem-solving exercises.
- ✓ Encouragement to participate in projects and research activities.

Step 4: Encouraging Self-Reflection

- ✓ Students are guided to self-evaluate their performance by answering:
- ✓ What were my strengths in this test?
- ✓ What errors did I make?
- ✓ How can I improve next time?

Step 5: Conducting Re-Evaluation (If needed)

- ✓ If students request, re-evaluation or doubt-clearing sessions are conducted.
- ✓ Any potential grading errors are rectified to ensure fairness.

Tracking Improvement Over Time

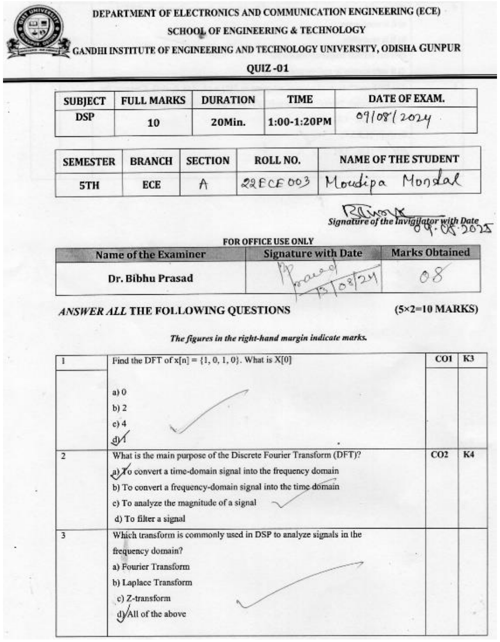
Progress Reports: Students' performance trends are analysed across multiple assessments.

Individual Learning Plans: Personalized strategies for continuous learning improvement.

Feedback Surveys: Students provide feedback on the assessment process to improve future evaluations.

This structured Continuous Assessment process enhances learning outcomes and aligns students' progress with COs, POs, and PSOs, ensuring fairness, effectiveness, and continuous improvement in student learning.

Sample Copy of Quiz:



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING (ECE)
SCHOOL OF ENGINEERING & TECHNOLOGY
GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA GUNPUR
QUIZ -01

SUBJECT	FULL MARKS	DURATION	TIME	DATE OF EXAM.
DSP	10	20Min.	1:00-1:20PM	09/08/2024

SEMESTER	BRANCH	SECTION	ROLL NO.	NAME OF THE STUDENT
5TH	ECE	A	22ECE003	Moudipa Mondal

Signature of the Invigilator with Date 09.08.2025

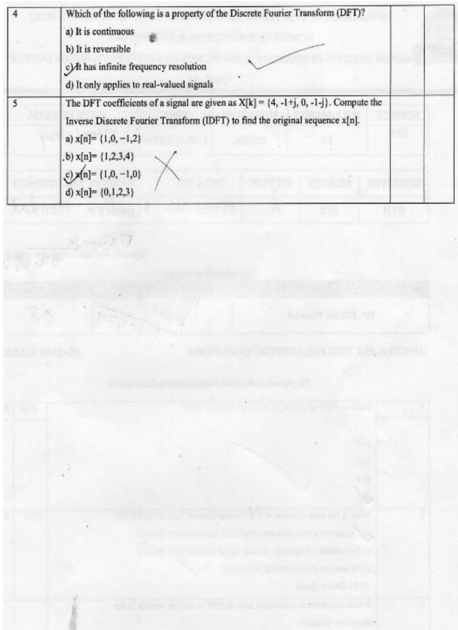
FOR OFFICE USE ONLY

Name of the Examiner	Signature with Date	Marks Obtained
Dr. Bibhu Prasad	15/08/24	08

ANSWER ALL THE FOLLOWING QUESTIONS (5×2=10 MARKS)

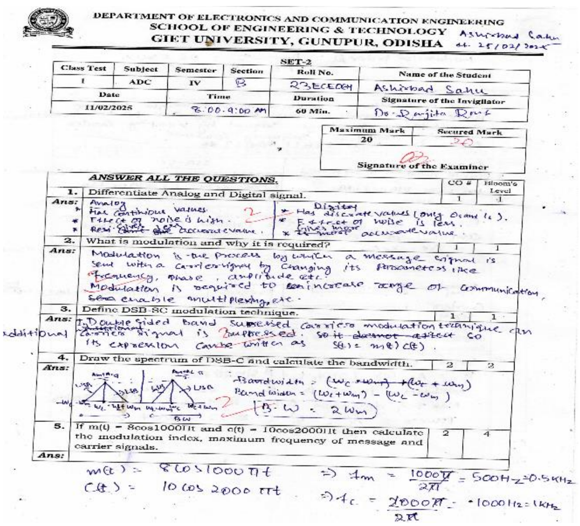
The figures in the right-hand margin indicate marks.

1	Find the DFT of x[n] = {1, 0, 1, 0}. What is X[0] a) 0 b) 2 c) 4 d) 1	CO1	K3
2	What is the main purpose of the Discrete Fourier Transform (DFT)? a) To convert a time-domain signal into the frequency domain b) To convert a frequency-domain signal into the time domain c) To analyze the magnitude of a signal d) To filter a signal	CO2	K4
3	Which transform is commonly used in DSP to analyze signals in the frequency domain? a) Fourier Transform b) Laplace Transform c) Z-transform d) All of the above		



4	Which of the following is a property of the Discrete Fourier Transform (DFT)? a) It is continuous b) It is reversible c) It has infinite frequency resolution d) It only applies to real-valued signals		
5	The DFT coefficients of a signal are given as X[k] = {4, -1+j, 0, -1-j}. Compute the Inverse Discrete Fourier Transform (IDFT) to find the original sequence x[n]. a) x[n]= {1,0,−1,2} b) x[n]= {1,2,3,4} c) x[n]= {1,0,−1,0} d) x[n]= {0,1,2,3}		

Sample Copy of Class Test:



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
SCHOOL OF ENGINEERING & TECHNOLOGY
GIET UNIVERSITY, GUNUPUR, ODISHA

SET-2

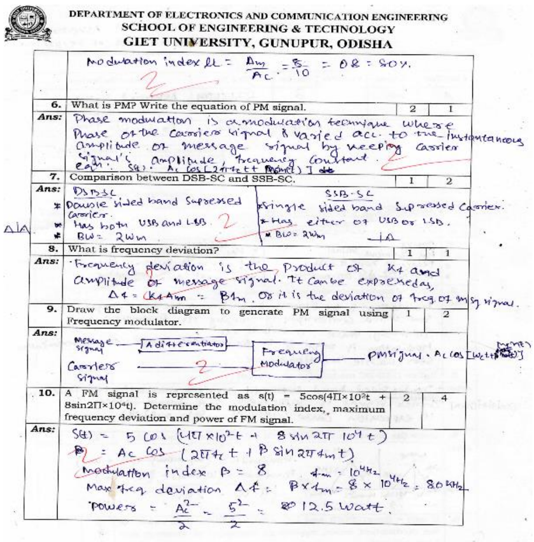
Class Test	Subject	Semester	Section	Roll No.	Name of the Student
I	ADC	IV	B	23ECE014	Ashirbad Sahu
Date		Time		Duration	Signature of the Invigilator
11/02/2025		8:00-9:00 AM		60 Min.	Dr. Rajita Rout

Maximum Mark 20 | Secured Mark

Signature of the Examiner

ANSWER ALL THE QUESTIONS.

1. Differentiate Analog and Digital signal.
2. What is modulation and why it is required?
3. Define DSB-SC modulation technique.
4. Draw the spectrum of DSB-C and calculate the bandwidth.
5. If m(t) = 8cos1000Πt and c(t) = 10cos2000Πt then calculate the modulation index, maximum frequency of message and carrier signals.



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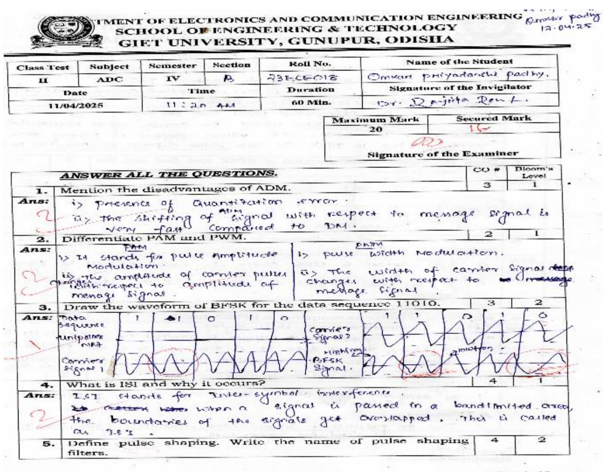
6. What is PM? Write the equation of PM signal.
7. Comparison between DSB-SC and SSB-SC.
8. What is frequency deviation?
9. Draw the block diagram to generate PM signal using Frequency modulator.
10. A FM signal is represented as s(t) = 5cos(4Π×10[8]t + 8sin2Π×10[4]t). Determine the modulation index, maximum frequency deviation and power of FM signal.



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GIET UNIVERSITY, GUNUPUR, ODISHA

Class Test	Subject	Semester	Section	Roll No.	Name of the Student
II	ADC	IV	B	23ECE018	Omman Priyadarshi Padhy
Date		Time		Duration	Signature of the Invigilator
11/04/2025		11:30 AM		60 Min.	Dr. Rajita Rout

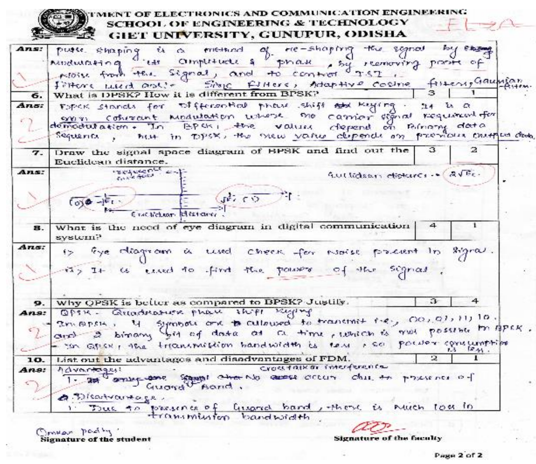
Maximum Mark 20 | Secured Mark

Signature of the Examiner

ANSWER ALL THE QUESTIONS.

1. Mention the disadvantages of ADM.
2. Differentiate PAM and PWM.
3. Draw the waveform of BFSK for the data sequence 11010.
4. What is ISI and why it occurs?
5. Define pulse shaping. Write the name of pulse shaping filters.

Page 1 of 2



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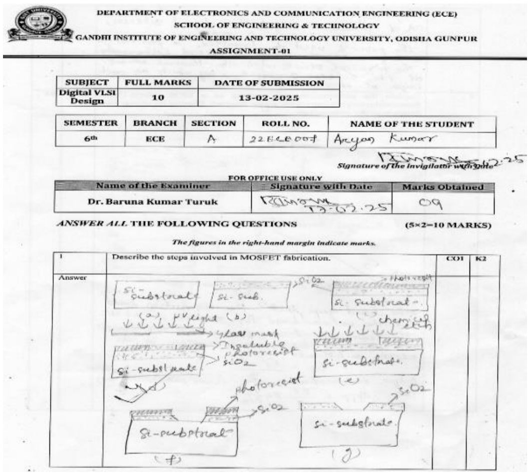
6. What is DPSK? How it is different from BPSK?
7. Draw the signal space diagram of BPSK and find out the Euclidean distance.
8. What is the need of eye diagram in digital communication system?
9. Why QPSK is better as compared to BPSK? Justify.
10. List out the advantages and disadvantages of FDM.

Signature of the student | Signature of the faculty

Page 2 of 2

Sample Copy of Assignment:


DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING (ECE)
SCHOOL OF ENGINEERING & TECHNOLOGY
GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA GUNPUR
ASSIGNMENT-01

SUBJECT	FULL MARKS	DATE OF SUBMISSION
Digital VLSI Design	10	13-02-2025

SEMESTER	BRANCH	SECTION	ROLL NO.	NAME OF THE STUDENT
6th	ECE	A	22ECE007	Aryan Kumar

Signature of the invigilator with date

FOR OFFICE USE ONLY

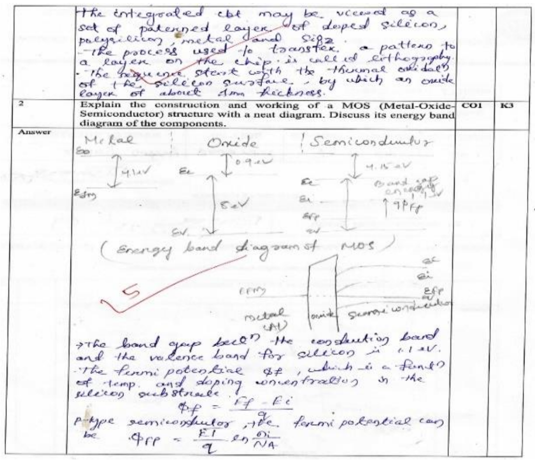
Name of the Examiner	Signature with Date	Marks Obtained
Dr. Baruna Kumar Turuk	13-03-25	09

ANSWER ALL THE FOLLOWING QUESTIONS (5×2=10 MARKS)

The figures in the right-hand margin indicate marks.

1	Describe the steps involved in MOSFET fabrication.	CO1	K2

Answer


The integrated ckt may be viewed as a set of patterned layers of doped silicon, polysilicon, metal and SiO2. The process used to transfer a pattern to a layer on the chip is called lithography. The sequence starts with the thermal oxidation of the silicon surface, by which an oxide layer of about 1 μm thickness.

2	Explain the construction and working of a MOS (Metal-Oxide-Semiconductor) structure with a neat diagram. Discuss its energy band diagram of the components.	CO1	K3

Answer

Metal Oxide Semiconductor

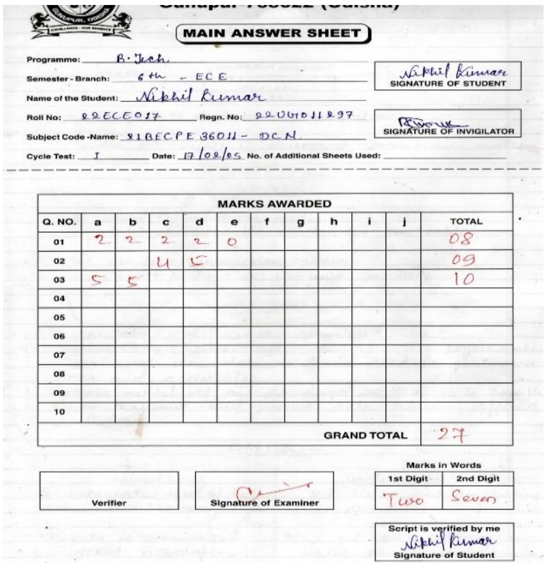
(Energy band diagram of MOS)

The band gap between the conduction band and the valence band for silicon is 1.1 eV. The Fermi potential ϕ_F, which is a function of temp. and doping concentration in the silicon substrate.

$\phi_F = \frac{E_F - E_i}{q}$

P-type semiconductor, the Fermi potential can be $\phi_{FP} = \frac{kT}{q} \ln \frac{n_i}{N_A}$

Sample Copy of Cycle Test:


MAIN ANSWER SHEET

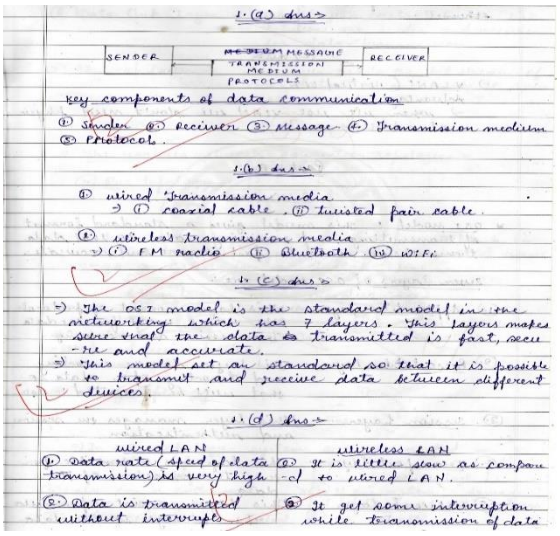
Programme: B.Tech.
Semester - Branch: 6th - ECE
Name of the Student: Nikhil Kumar
Roll No: 22ECE017 Regn. No: 22UG1011297
Subject Code -Name: 21BECPE3604 - DCN
Cycle Test: I Date: 17/02/25 No. of Additional Sheets Used:
SIGNATURE OF STUDENT
SIGNATURE OF INVIGILATOR

MARKS AWARDED

Q. NO.	a	b	c	d	e	f	g	h	i	j	TOTAL
01	2	2	2	2	0						08
02			4	5							09
03	5	5									10
04											
05											
06											
07											
08											
09											
10											
									GRAND TOTAL		27

Marks in Words: 1st Digit: Two; 2nd Digit: Seven

Verifier
Signature of Examiner
Script is verified by me: Nikhil Kumar
Signature of Student


1.(a) Ans:-

SENDER — MESSAGE / TRANSMISSION MEDIUM / PROTOCOLS — RECEIVER

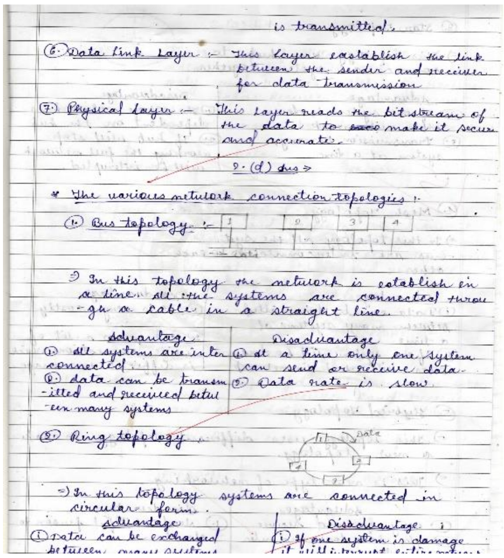
Key components of data communication:
① Sender ② Receiver ③ Message ④ Transmission medium ⑤ Protocol.

1.(b) Ans:-
① wired transmission media → ① coaxial cable ② twisted pair cable
② wireless transmission media → ① FM radio ② Bluetooth ③ WIFI

1.(c) Ans:-
→ The OSI model is the standard model in the networking which has 7 layers. This layers makes sure that the data is transmitted is fast, secure and accurate.
→ This model set an standard so that it is possible to transmit and receive data between different devices.

1.(d) Ans:-

wired LAN	wireless LAN
① Data rate (speed of data transmission) is very high	① It is little slow as compare to wired LAN.
② Data is transmitted without interrupts	② It get some interruption while transmission of data


is transmitted.

⑥ Data link Layer :- This layer establish the link between the sender and receiver for data transmission.

⑦ Physical Layer :- This layer reads the bit stream of the data to make it secure and accurate.

2.(d) Ans:-

* The various network connection topologies :-

① Bus topology :-

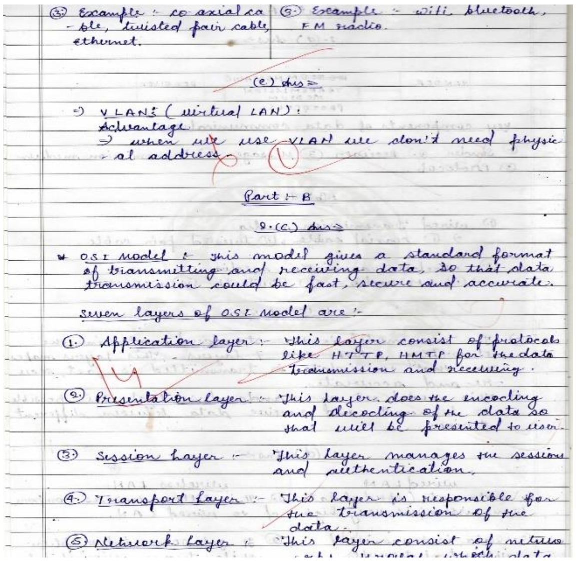
→ In this topology the network is establish in a line. All the systems are connected through a cable in a straight line.

Advantage	Disadvantage
① All systems are interconnected.	① At a time only one system can send or receive data.
② data can be transmitted and received between many systems	② Data rate is slow.

② Ring topology

→ In this topology systems are connected in circular form.

Advantage	Disadvantage
① Data can be exchanged between many systems	① If one system is damage [illegible]


③ Example :- co-axial cable, twisted pair cable, ethernet.	③ Example :- wifi, bluetooth, FM radio.

(e) Ans:-
→ VLAN: (virtual LAN).
Advantage
→ when we use VLAN we don't need physical address.

Part :- B

2.(c) Ans:-

* OSI model :- This model gives a standard format of transmitting and receiving data, so that data transmission could be fast, secure and accurate.

Seven layers of OSI model are :-

① Application layer :- This layer consist of protocols like HTTP, HMTP for the data transmission and receiving.

② Presentation layer :- This layer does the encoding and decoding of the data so that will be presented to user.

③ Session layer :- This layer manages the session and authentication.

④ Transport layer :- This layer is responsible for the transmission of the data.

⑤ Network layer :- This layer consist of network [illegible]

3.2. Evaluation of the Semester End Exam (SEE) Question Paper (10)

(Describe the process of setting SEE papers & their evaluation to maintain quality of assessment and constructive alignment of questions with COs and POs/PSOs. Details to be kept in course files for evaluation.)

Evaluation of the Semester End Examination (SEE) Question Paper

To ensure high-quality assessments, the Semester End Examination (SEE) question paper is designed and evaluated based on structured guidelines. The objective is to maintain academic rigor, align questions with Course Outcomes (COs), Program Outcomes (POs), and Program Specific Outcomes (PSOs), and ensure fairness in student evaluation.

A. Process for Setting Semester End Examination (SEE) Question Paper

1. Formation of the Question Paper Committee

- A committee comprising subject experts, course coordinators, and examiners is constituted.
- The committee ensures syllabus coverage, appropriate difficulty levels, and alignment with learning objectives.

2. Guidelines for Constructive Alignment with COs and POs/PSOs

- **CO-PO/PSO Mapping:** Each question is mapped to COs and relevant POs/PSOs to ensure comprehensive assessment.
- **Cognitive Level Distribution (Bloom's Taxonomy):** The paper includes:
  - ✓ L1 & L2 (Remembering & Understanding): 20-30%
  - ✓ L3 & L4 (Applying & Analysing): 40-50%
  - ✓ L5 & L6 (Evaluating & Creating): 20-30%
  - ✓ 3. Question Paper Blueprint Design
- **Balanced CO Coverage:** Ensuring equitable distribution of questions across COs.

Question Types:

- ✓ Short-answer questions (Conceptual Understanding)
- ✓ Problem-solving (Application & Analysis)
- ✓ Case studies/design-based questions (Higher-order Thinking)
- ✓ Open-ended questions (For research-oriented learning)

4. Moderation and Review Process

Internal moderation by subject experts ensures:

- No ambiguity in wording and structure.
- No out-of-syllabus questions.
- Proper cognitive level distribution.
- Alignment with COs and POs/PSOs.
- Revisions are made based on feedback before final approval.

5. Final Approval and Secure Printing

- The Controller of Examinations (CoE) approves the finalized paper.
- Secure printing and storage maintain confidentiality before the examination.

B. Evaluation of Semester End Examination (SEE) Answer Scripts

1. Centralized Evaluation System

- Centralized evaluation under strict guidelines ensures uniformity.
- Evaluators attend briefing sessions to standardize marking.

2. Assignment of Examiners

- Qualified faculty members evaluate answer scripts.
- An anonymous coding system prevents bias in grading.

3. Standardized Marking Scheme

- A detailed rubric ensures consistency.
- Training sessions standardize assessment criteria.

4. First-Level Evaluation

- Examiners assess scripts based on the marking scheme.
- Discrepancies or doubtful cases are flagged for review.

5. Second-Level Moderation

- A moderation committee cross-checks randomly selected script.
- Adjustments are made to eliminate inconsistencies.

6. Double Evaluation (if required)

- Conducted for critical courses or disputed results.
- Re-evaluation by a second examiner ensures fairness.

7. Result Compilation and Verification

- Marks are compiled, verified, and cross-checked before submission.

C. Post-Evaluation Process for Transparency

1. Result Compilation and Verification

- Marks are compiled and cross-verified by an evaluation committee to ensure accuracy.
- Random sample checking by senior faculty confirms consistent grading.
- A preliminary review of the results is conducted before finalizing and publishing the results.

2. Student Result Notification

- Results are officially published on the university portal with detailed mark sheets.
- Individual course-wise performance is shared with students through secure login credentials.

3. Grievance Redressal and Re-Evaluation Process

- Re-Totalling (Marks Verification Request): Students can apply for re-totalling if they suspect errors in mark calculation.
- Re-Evaluation (Answer Script Review Request): If students are unsatisfied, they can request re-evaluation by a different faculty member.
- Script Viewing (Transparency in Evaluation): In some cases, students may review their evaluated answer scripts to understand their mistakes.

4. Supplementary Examinations

- Students who fail to meet passing criteria can reappear in supplementary examinations.
- The supplementary examination follows the same quality guidelines as the regular SEE.

5. Faculty-Student Interaction for Feedback

- Post-exam review sessions allow faculty to discuss common mistakes and areas for improvement.
- Students receive clarifications on marking schemes for better understanding.

6. Departmental and Academic Council Review

- Result analysis is presented to the Academic Council and the Board of Studies (BoS) to identify trends and learning gaps.
- Faculty use this data to enhance teaching methodologies and adjust course content.

D. Measures to Ensure Fairness and Integrity

Measure	Purpose	Implementation
Anonymous Answer Scripts	Prevent bias in grading	Roll numbers replace student names
Multiple Faculty Review	Ensure consistency in the evaluation	Second faculty member reviews random answer scripts
Re-Evaluation & Grievance Redressal	Allow students to challenge grading discrepancies	Students can request a re-evaluation
Moderation of Results	Maintain assessment quality	Senior faculty verify borderline cases
Rubrics-Based Assessment	Standardize grading criteria	Defined rubrics guide evaluation
Academic Integrity Checks	Prevent malpractices	Plagiarism detection & strict invigilation policies

E. Continuous Improvement Based on Evaluation Review

- Result trends (pass percentage, average marks, CO attainment levels) are analysed.
- Workshops for faculty enhance question-setting and evaluation processes.
- Stakeholder feedback (students, faculty, alumni, employers) informs curriculum refinements.
- By adhering to these systematic procedures, the SEE process ensures fairness, maintains academic integrity, and fosters continuous quality improvement in assessment.

3.3. Evaluation of Laboratory Work and Workshop (Continuous and SEE) (10)

(Provide details of rubrics used to assess learnings in laboratories and workshops linking with COs and POs/PSOs targeted. Evidence of student assessments through rubrics to be kept in course files for evaluation.)

Evaluation of Laboratory Work and Workshop

The assessment of laboratory and workshop work follows a structured, rubric-based approach to evaluate students' practical skills, technical understanding, teamwork, and problem-solving abilities. The evaluation consists of Continuous Assessment (CA) during lab sessions and a Semester End Examination (SEE), ensuring students achieve the targeted Course Outcomes (COs), Program Outcomes (POs), and Program Specific Outcomes (PSOs).

A. Evaluation of Experiments Conducted in Laboratories and Workshops

1. Continuous Assessment (CA) in Laboratories/Workshops

The continuous assessment process ensures regular evaluation of students during laboratory and workshop sessions.

Component	Assessment Criteria	Weightage (%)	Mapped POs/PSOs/WKs
Preparation and Pre-Lab Work	Understanding of experiment objectives, theoretical concepts, and pre-lab assignments	10%	PO1, PO2, WK1, WK2
Execution of Experiment	Accuracy in performing the experiment, following procedures, and using proper tools	25%	PO5, PSO2, WK6
Observations & Data Recording	Proper documentation, accuracy of measurements, and logical interpretation	15%	PO4, PO5, WK3
Analysis and Calculations	Correctness of calculations, error analysis, and discussion of results	20%	PO2, PO3, PSO1, WK4
Teamwork & Collaboration	Ability to work in teams, division of tasks, and contribution to group activities	10%	PO8, WK9
Viva-Voce & Conceptual Understanding	Ability to explain concepts and answer technical questions	10%	PO1, PO9, WK7
Lab Report Quality & Presentation	Clarity, organization, and completeness of documentation	10%	PO9

2. Semester End Examination (SEE) for Laboratories/Workshops

The SEE assessment evaluates students' overall competency in practical skills, application of concepts, and ability to analyse experimental results.

Component	Assessment Criteria	Weightage (%)	Mapped POs/PSOs/WKs
Practical Execution	Ability to set up and conduct the experiment correctly	40%	PO5, PSO2, WK6
Observation & Analysis	Accuracy of data collection, calculations, and analysis	30%	PO4, PO3, PSO1, WK4
Viva-Voce	Understanding of theory, troubleshooting, and real-world applications	20%	PO1, PO9, WK7
Lab Report Submission	Completeness, clarity, and proper formatting of the final report	10%	PO9

B. Rubrics for Assessing Student Performance in Laboratories/Workshops

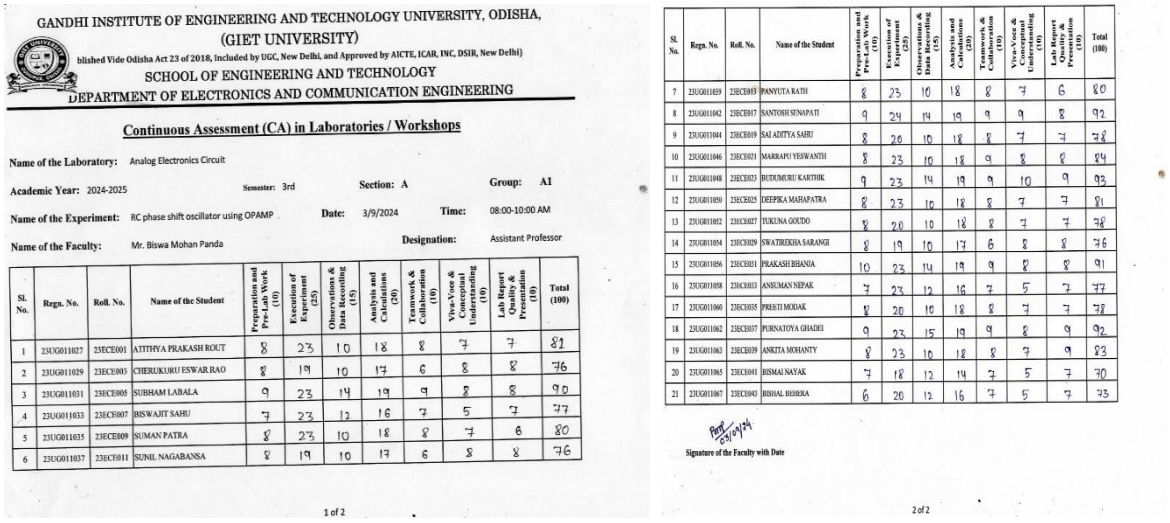
Criteria	Excellent (4)	Good (3)	Satisfactory (2)	Needs Improvement (1)	Mapped POs/PSOs/WKs
Preparation and Pre-Lab Work	Thorough understanding, complete pre-lab work	Understand but minor errors	Some understanding, incomplete work	Poor understanding, incomplete pre-lab	PO1, PO2, WK1, WK2
Execution & Procedure	Conducts experiment with precision, follows all steps	Follows most steps, minor errors	Needs assistance, some errors	Incorrect steps, struggles with execution	PO5, PSO2, WK6
Observations & Data Recording	Records all data accurately, proper format	Minor errors in recording	Some missing/incorrect observations	Incomplete or incorrect data	PO4, PO5, WK3
Analysis & Calculations	Correct calculations, well-explained interpretation	Minor errors, mostly correct interpretation	Some errors in calculations & analysis	Major errors in calculations & analysis	PO2, PO3, PSO1, WK4
Teamwork & Collaboration	Effective contribution, good communication	Works well but minor issues	Basic participation, lacks engagement	Poor teamwork and contribution	PO8, WK9

Conceptual Understanding (Viva-Voce)	Explains concepts clearly, answers all questions confidently	Understands concepts but struggles with some answers	Basic understanding, lacks confidence	Unable to answer, lacks understanding	PO1, PO9, WK7
Report Writing & Presentation	Well-organized, error-free, properly formatted	Well-written, minor errors	Basic report, some errors, missing details	Poorly written, incomplete	PO9

This structured evaluation ensures that students develop:

- Technical Competency through hands-on work (PO5, PSO2, WK6).
- Problem-Solving Skills by analysing experimental results (PO2, PO3, PSO1, WK4).
- Collaboration and Communication through teamwork and documentation (PO8, PO9, WK9).
- Professional Responsibility by emphasizing safety, ethical conduct, and precision.
- Innovation and Creativity by encouraging students to explore alternative methods and solutions.

Sample Copy of Continuous Assessment in Laboratories:



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blished Vide Odisha Act 23 of 2018, Included by UGC, New Delhi, and Approved by AICTE, ICAR, INC, DSIR, New Delhi)
SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Continuous Assessment (CA) in Laboratories / Workshops

Name of the Laboratory: Analog Electronics Circuit
Academic Year: 2024-2025 Semester: 3rd Section: A Group: A1
Name of the Experiment: RC phase shift oscillator using OPAMP Date: 3/9/2024 Time: 08:00-10:00 AM
Name of the Faculty: Mr. Biswa Mohan Panda Designation: Assistant Professor

Sl. No.	Regn. No.	Roll. No.	Name of the Student	Preparation and Pre-Lab Work (10)	Execution of Experiment (25)	Observations & Data Recording (15)	Analysis and Calculations (20)	Teamwork & Collaboration (10)	Viva-Voce & Conceptual Understanding (10)	Lab Report Quality & Presentation (10)	Total (100)
1	23UG011027	23ECE001	ATITHYA PRAKASH ROUT	8	23	10	18	8	7	7	81
2	23UG011029	23ECE003	CHERUKURU ESWAR RAO	8	19	10	17	6	8	8	76
3	23UG011031	23ECE005	SUBHAM LABALA	9	23	14	19	9	8	8	90
4	23UG011033	23ECE007	BISWAJIT SAHU	7	23	12	16	7	5	7	77
5	23UG011035	23ECE009	SUMAN PATRA	8	23	10	18	8	7	6	80
6	23UG011037	23ECE011	SUNIL NAGABANSA	8	19	10	17	6	8	8	76

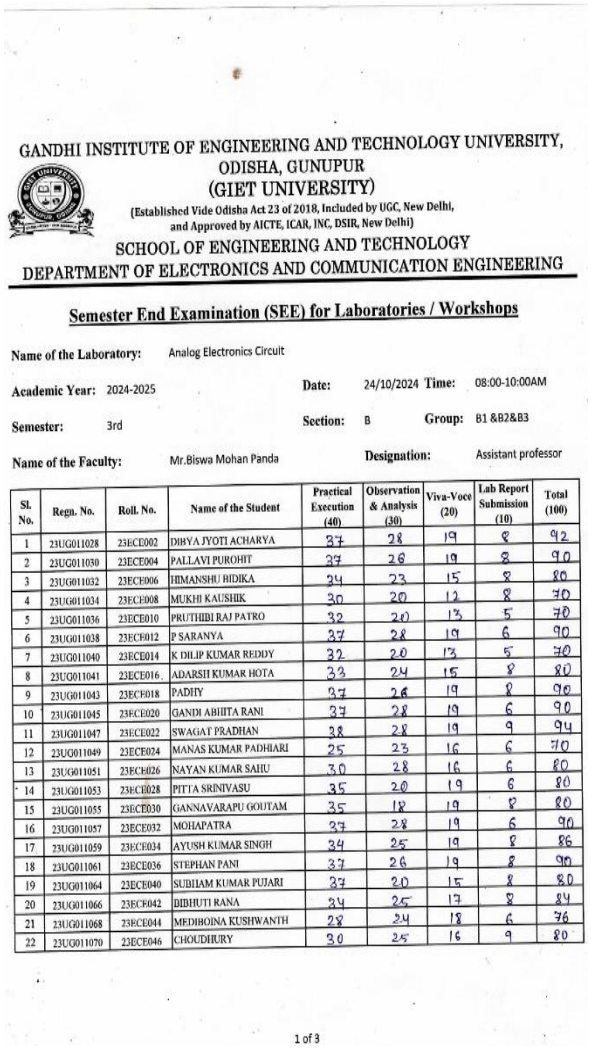
1 of 2

Sl. No.	Regn. No.	Roll. No.	Name of the Student	Preparation and Pre-Lab Work (10)	Execution of Experiment (25)	Observations & Data Recording (15)	Analysis and Calculations (20)	Teamwork & Collaboration (10)	Viva-Voce & Conceptual Understanding (10)	Lab Report Quality & Presentation (10)	Total (100)
7	23UG011029	23ECE013	PANYUTA RATH	8	23	10	18	8	7	6	80
8	23UG011042	23ECE017	SANTOSH SENAPATI	9	24	14	19	9	9	8	92
9	23UG011044	23ECE019	SAI ADITYA SAHU	8	20	10	18	8	7	7	78
10	23UG011046	23ECE021	MARRAPU YESWANTH	8	23	10	18	9	8	8	84
11	23UG011048	23ECE023	BUDUMURU KARTHIK	9	23	14	19	9	10	9	93
12	23UG011050	23ECE025	DEEPIKA MAHAPATRA	8	23	10	18	8	7	7	81
13	23UG011052	23ECE027	TUKUNA GOUDO	8	20	10	18	8	7	7	78
14	23UG011054	23ECE029	SWATIREKHA SARANGI	8	19	10	17	6	8	8	76
15	23UG011056	23ECE031	PRAKASH BHANJA	10	23	14	19	9	8	8	91
16	23UG011058	23ECE033	ANSUMAN NEPAK	7	23	12	16	7	5	7	77
17	23UG011060	23ECE035	PREETI MODAK	8	20	10	18	8	7	7	78
18	23UG011062	23ECE037	PURNATOYA GHADEI	9	23	15	19	9	8	9	92
19	23UG011063	23ECE039	ANKITA MOHANTY	8	23	10	18	8	7	9	83
20	23UG011065	23ECE041	BISMAI NAYAK	7	18	12	14	7	5	7	70
21	23UG011067	23ECE043	BISHAL BEHERA	6	20	12	16	7	5	7	73

Signature of the Faculty with Date

2 of 2

Sample Copy of Semester End Examination for Laboratories:



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ODISHA, GUNUPUR
(GIET UNIVERSITY)
(Established Vide Odisha Act 23 of 2018, Included by UGC, New Delhi, and Approved by AICTE, ICAR, INC, DSIR, New Delhi)
SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Semester End Examination (SEE) for Laboratories / Workshops

Name of the Laboratory: Analog Electronics Circuit
Academic Year: 2024-2025 Date: 24/10/2024 Time: 08:00-10:00AM
Semester: 3rd Section: B Group: B1 &B2&B3
Name of the Faculty: Mr.Biswa Mohan Panda Designation: Assistant professor

Sl. No.	Regn. No.	Roll. No.	Name of the Student	Practical Execution (40)	Observation & Analysis (30)	Viva-Voce (20)	Lab Report Submission (10)	Total (100)
1	23UG011028	23ECE002	DIBYA JYOTI ACHARYA	37	28	19	8	92
2	23UG011030	23ECE004	PALLAVI PUROHIT	37	26	19	8	90
3	23UG011032	23ECE006	HIMANSHU BIDIKA	24	23	15	8	80
4	23UG011034	23ECE008	MUKHI KAUSHIK	30	20	12	8	70
5	23UG011036	23ECE010	PRUTHIBI RAJ PATRO	32	20	13	5	70
6	23UG011038	23ECE012	P SARANYA	37	28	19	6	90
7	23UG011040	23ECE014	K DILIP KUMAR REDDY	32	20	13	5	70
8	23UG011041	23ECE016	ADARSH KUMAR HOTA	33	24	15	8	80
9	23UG011043	23ECE018	PADITY	37	26	19	8	90
10	23UG011045	23ECE020	GANDI ABHITA RANI	37	28	19	6	90
11	23UG011047	23ECE022	SWAGAT PRADHAN	38	28	19	9	94
12	23UG011049	23ECE024	MANAS KUMAR PADHIARI	25	23	16	6	70
13	23UG011051	23ECH026	NAYAN KUMAR SAHU	30	28	16	6	80
14	23UG011053	23ECE028	PITTA SRINIVASU	35	20	19	6	80
15	23UG011055	23ECE030	GANNAVARAPU GOUTAM	35	18	19	8	80
16	23UG011057	23ECE032	MOHAPATRA	37	28	19	6	90
17	23UG011059	23ECE034	AYUSH KUMAR SINGH	34	25	19	8	86
18	23UG011061	23ECE036	STEPHAN PANI	37	26	19	8	90
19	23UG011064	23ECE040	SUBHAM KUMAR PUJARI	37	20	15	8	80
20	23UG011066	23ECE042	BIBHUTI RANA	34	25	17	8	84
21	23UG011068	23ECE044	MEDIBOINA KUSHWANTH	28	24	18	6	76
22	23UG011070	23ECE046	CHOUDHURY	30	25	16	9	80

1 of 3

Sl. No.	Regn. No.	Roll. No.	Name of the Student	Practical Execution (40)	Observation & Analysis (30)	Viva-Voce (20)	Lab Report Submission (10)	Total (100)
23	23UG011072	23ECE048	BEWARA HARSHA VARDHAN	34	25	19	8	86
24	23UG011074	23ECE050	JAGAN BHOI	20	20	17	5	62
25	23UG011076	23ECE052	P ROUNAK PATRA	20	20	14	8	62
26	23UG011078	23ECE054	SUSANTA KUMAR SABAR	34	23	19	6	82
27	23UG011080	23ECE056	NISITA NAYAK	15	12	14	7	48
28	23UG011082	23ECE058	ACHYUT KUMAR SABAT	30	24	19	7	80
29	23UG011084	23ECE060	BISHNU CHARAN ADHIKARI	38	25	19	8	90
30	23UG011086	23ECE062	BIBUBANESWAR SAHU	30	25	19	8	82
31	23UG011088	23ECE064	ASHIRBAD SAHU	37	28	19	8	92
32	23UG011090	23ECE066	AADERSH KUMAR GUPTA	36	20	18	8	82
33	23UG011092	23ECE068	ASHUTOSH JAGDEV	35	25	13	7	80
34	23UG011094	23ECE070	PRATEEK SAHU	30	25	17	8	80
35	23UG011096	23ECE072	VIVEKSANTHO	30	25	17	8	80
36	23UG010705	23ECE074	PRITAM KUMAR GHIA	36	27	19	8	90
37	23UG010861	23ECE076	RADHAKRUSHNA DAS	37	28	9	8	82
38	23UG011102	23ECE078	OMM PRAKASH JENA	34	23	15	8	80
39	23UG011104	23ECE080	ADITYA NARAYAN	32	20	12	8	72
40	23UG011106	23ECE082	SNEHA PRADHAN	37	28	19	6	90
41	23UG011108	23ECE084	SUBHASMITA CHOUDHURY	33	24	15	8	80
42	23UG011110	23ECE086	RASHMI RANJAN MISHRA	33	24	15	7	79
43	23UG011112	23ECE088	SAMBIT KUMAR BEHERA	30	20	12	8	70
44	23UG011114	23ECE090	KHAGESWAR BISOI	32	20	12	8	72
45	23UG011116	23ECE092	RITUL MISHRA	35	20	19	6	80
46	23UG011118	23ECE094	PADHAN	30	25	19	8	82
47	23UG011120	23ECE096	KOYAN PANDA	32	20	12	8	72
48	23UG011122	23ECE098	KUNJA BIHARI BAGH	28	24	18	6	76
49	23UG011124	23ECE100	CHINMAYA MADHUAL	35	18	19	8	80
50	23UG011126	23ECE102	SUJAL KUMAR SAH	37	28	19	6	90
51	23UG011128	23ECE104	PREETAM PALO	34	23	15	8	80
52	23UG011130	23ECE106	PEDINI RAHUL	37	28	19	6	90
53	23UG011132	23ECE108	AMISHA PATEL	35	20	19	6	80
54	23UG011134	23ECE110	PRACHI PRIYADARSHINI	35	18	19	8	80
55	23UG011136	23ECE112	LIZA RANI JENA	37	28	19	6	90
56	23UG011138	23ECE114	OMKAR ROUT	36	20	18	8	82
57	23UG011140	23ECE116	SUBHAM SARANGI	30	25	19	8	82
58	23UG011142	23ECE118	ABHISHEK KUMAR	28	24	18	6	76
59	23UG011144	23ECE120	NIGAM ASHISH DAS	34	23	15	8	80
60	23UG011146	23ECE122	SATYASARATHI GIRI	30	20	12	8	70
61	23UG01LE26	23LEECE002	GUDLA SANTOSH	30	27	15	8	80
62	23UG01LE28	23LEECE004	RAKESH ROSHAN SHAHUKAR	37	28	19	8	92
63	23UG01LE30	23LEECE006	CHALLA SANDHYA	37	28	19	8	92

2 of 3

3.4. Evaluation of Industrial Training/Internship (Continuous and SEE) (10)

(Provide details of rubrics used to assess learnings in internships/industrial trainings linking POs/PSOs targeted for attainment. Evidence of student assessments through rubrics to be kept in course files for evaluation.)

Evaluation of Industrial Training/Internship

The evaluation of industrial training and internships ensures that students gain practical exposure, problem-solving abilities, teamwork skills, and industry-relevant knowledge. Assessment is conducted through Continuous Assessment (CA) and Semester-End Evaluation (SEE), aligning with POs, and PSOs.

A. Evaluation of Industrial Training/Internship

1. Continuous Assessment (CA) of Internship/Industrial Training

Evaluation is conducted periodically throughout the internship/industrial training to track progress and ensure students engage in meaningful learning experiences. Assessments will be conducted biweekly through progress reports, supervisor evaluations, and self-assessments.

Component	Assessment Criteria	Weightage (%)	Mapped POs/PSOs/WKs
Attendance and Participation	Regularity, punctuality, and active participation in assigned tasks	10%	PO8, WK9
Technical Skills and Knowledge Application	Ability to apply academic knowledge to real-world problems	20%	PO1, PO5, PSO2, WK3, WK6
Problem Solving and Innovation	Ability to analyze problems, suggest solutions, and adapt to industry challenges	15%	PO2, PO3, PSO1, WK2, WK4, WK8
Professional Conduct and Ethics	Adherence to ethical practices, workplace discipline, and teamwork	15%	PO7, PO8, WK9
Communication and Reporting	Regular documentation, clarity in technical report writing, and presentations	20%	PO9, WK7
Learning and Adaptability	Ability to learn new tools/technologies and adapt to industry needs	15%	PO11, PSO3, WK8
Industry Mentor Feedback	Evaluation by industry professionals on performance and engagement	5%	PO7, PO8, WK9

2. Semester-End Evaluation (SEE) of Internship/Industrial Training

At the end of the internship/industrial training, students undergo a final evaluation based on their performance, deliverables, and learning outcomes.

Component	Assessment Criteria	Weightage (%)	Mapped POs/PSOs/WKs
Internship Report Quality	Completeness, clarity, and depth of report covering tasks and learning	20%	PO9, WK7

Technical Skill Development	Application of engineering knowledge in real-world scenarios	25%	PO1, PO5, PSO2, WK3, WK6
Problem-Solving and Innovation	Analytical approach, ability to troubleshoot, and contribution to projects	20%	PO2, PO3, PSO1, WK2, WK4, WK8
Presentation and Communication	Effectiveness in explaining work, report structure, and Q&A response	15%	PO9, WK7
Industry Mentor Feedback	Feedback from industry professionals on performance and professionalism	10%	PO7, PO8, WK9
Self-Reflection and Learning Outcomes	Understanding of industry practices, challenges faced, and future scope	10%	PO11, WK8

B. Rubric for Industrial Training/Internship Evaluation

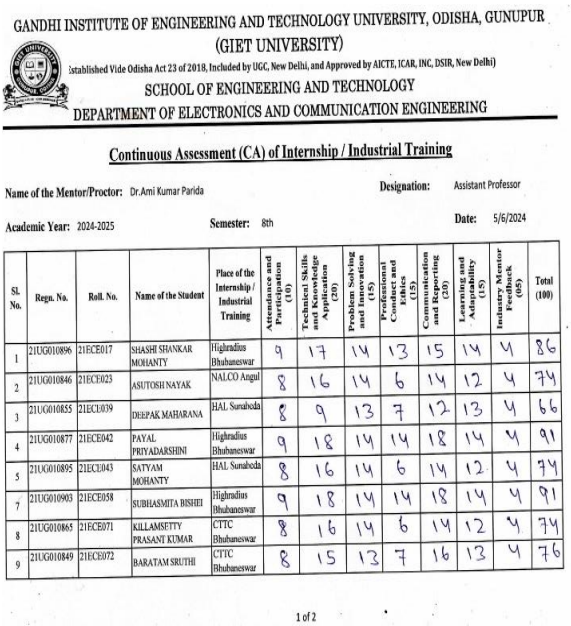
Criteria	Excellent (4)	Good (3)	Satisfactory (2)	Needs Improvement (1)	Mapped POs/PSOs/WKs
Attendance and Participation	Full attendance, actively involved in all tasks	Regular participation, minimal absences	Some absences, moderate engagement	Poor attendance, minimal engagement	PO8, WK9
Technical Skills Application	Applied concepts effectively with strong technical proficiency	Good understanding, minor errors	Basic application, needs improvement	Weak application, lacks technical depth	PO1, PO5, PSO2, WK3, WK6
Problem Solving and Innovation	Identified and solved problems innovatively	Showed good problem-solving skills	Some attempts at problem-solving	Lacked initiative in problem-solving	PO2, PO3, PSO1, WK2, WK4, WK8
Professional Conduct and Ethics	Maintained professionalism and ethical standards throughout	Mostly professional with minor lapses	Some professionalism but needs improvement	Lacked professionalism and ethics	PO7, PO8, WK9

Communication and Reporting	Clear, well-structured reports and excellent presentation	Good reports, minor improvements needed	Basic reports, lacks clarity	Poorly written reports, ineffective presentation	PO9, WK7
Learning and Adaptability	Quickly adapted to new tools, demonstrated high learning ability	Adapted well but needed guidance	Slow adaptation, needed significant help	Struggled to adapt, poor learning outcome	PO11, PSO3, WK8
Industry Relevance	Work aligns with industry trends, high practical impact	Mostly relevant, some areas for improvement	Limited industry alignment, needs refinement	Weak alignment with industry needs	PO1, PO5, PSO2, WK3, WK6

This structured evaluation ensures that industrial training/internships contribute to both technical and professional growth while aligning with POs and PSOs. It focuses on:

- Technical and Analytical Skills (PO1, PO2, PO5, PSO1, PSO2, WK2, WK3, WK6)
- Problem-Solving and Innovation (PO3, PO11, PSO3, WK4, WK8)
- Professionalism, Ethics, and Teamwork (PO7, PO8, WK9)
- Communication and Industry Readiness (PO9, WK7)

Sample Copy of Continuous Assessment of Internship:



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Established Vide Odisha Act 23 of 2018, Included by UGC, New Delhi, and Approved by AICTE, ICAR, INC, DSIR, New Delhi)
SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

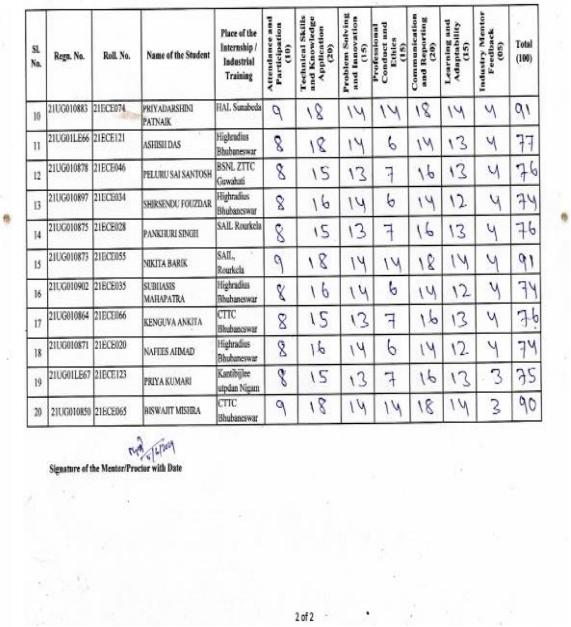
Continuous Assessment (CA) of Internship / Industrial Training

Name of the Mentor/Proctor: Dr.Ami Kumar Parida Designation: Assistant Professor

Academic Year: 2024-2025 Semester: 8th Date: 5/6/2024

Sl. No.	Regn. No.	Roll. No.	Name of the Student	Place of the Internship / Industrial Training	Attendance and Participation (10)	Technical Skills and Knowledge Application (20)	Problem Solving and Innovation (15)	Professional Conduct and Ethics (15)	Communication and Reporting (20)	Learning and Adaptability (15)	Industry Mentor Feedback (05)	Total (100)
1	21UG010896	21ECE017	SHASHI SHANKAR MOHANTY	Highradius Bhubaneswar	9	17	14	13	15	14	4	86
2	21UG010846	21ECE023	ASUTOSH NAYAK	NALCO Angul	8	16	14	6	14	12	4	74
3	21UG010855	21ECE039	DEEPAK MAHARANA	HAL Sunabeda	8	9	13	7	12	13	4	66
4	21UG010877	21ECE042	PAYAL PRIYADARSHINI	Highradius Bhubaneswar	9	18	14	14	18	14	4	91
5	21UG010895	21ECE043	SATYAM MOHANTY	HAL Sunabeda	8	16	14	6	14	12	4	74
7	21UG010903	21ECE058	SUBHASMITA BISHEI	Highradius Bhubaneswar	9	18	14	14	18	14	4	91
8	21UG010865	21ECE071	KILLAMSETTY PRASANT KUMAR	CTTC Bhubaneswar	8	16	14	6	14	12	4	74
9	21UG010849	21ECE072	BARATAM SRUTHI	CTTC Bhubaneswar	8	15	13	7	16	13	4	76

1 of 2



Sl. No.	Regn. No.	Roll. No.	Name of the Student	Place of the Internship / Industrial Training	Attendance and Participation (10)	Technical Skills and Knowledge Application (20)	Problem Solving and Innovation (15)	Professional Conduct and Ethics (15)	Communication and Reporting (20)	Learning and Adaptability (15)	Industry Mentor Feedback (05)	Total (100)
10	21UG010883	21ECE074	PRIYADARSHINI PATNAIK	HAL Sunabeda	9	18	14	14	18	14	4	91
11	21UG01LE66	21ECE121	ASHISH DAS	Highradius Bhubaneswar	8	18	14	6	14	13	4	77
12	21UG010878	21ECE046	PELURU SAI SANTOSH	BSNL ZTTC Guwahati	8	15	13	7	16	13	4	76
13	21UG010897	21ECE034	SHIRSENDU FOUZDAR	Highradius Bhubaneswar	8	16	14	6	14	12	4	74
14	21UG010875	21ECE028	PANKHURI SINGH	SAIL Rourkela	8	15	13	7	16	13	4	76
15	21UG010873	21ECE055	NIKITA BARIK	SAIL, Rourkela	9	18	14	14	18	14	4	91
16	21UG010902	21ECE035	SUBHASIS MAHAPATRA	Highradius Bhubaneswar	8	16	14	6	14	12	4	74
17	21UG010864	21ECE066	KENGUVA ANKITA	CTTC Bhubaneswar	8	15	13	7	16	13	4	76
18	21UG010871	21ECE020	NAFEES AHMAD	Highradius Bhubaneswar	8	16	14	6	14	12	4	74
19	21UG01LE67	21ECE123	PRIYA KUMARI	Kantibijlee utpdan Nigam	8	15	13	7	16	13	3	75
20	21UG010859	21ECE065	BISWAJIT MISHRA	CTTC Bhubaneswar	9	18	14	14	18	14	3	90

Signature of the Mentor/Proctor with Date

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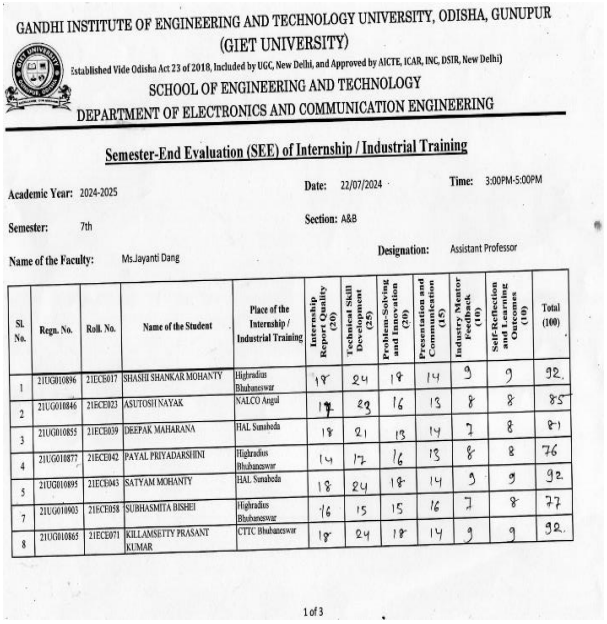
Sample Copy of Semester End Evaluation of Internship:



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SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Semester-End Evaluation (SEE) of Internship / Industrial Training

Academic Year: 2024-2025 Date: 22/07/2024 Time: 3:00PM-5:00PM
Semester: 7th Section: A&B
Name of the Faculty: Ms.Jayanti Dang Designation: Assistant Professor

Sl. No.	Regn. No.	Roll. No.	Name of the Student	Place of the Internship / Industrial Training	Internship Report Quality (20)	Technical Skill Development (25)	Problem-Solving and Innovation (20)	Presentation and Communication (15)	Industry Mentor Feedback (10)	Self-Reflection and Learning Outcomes (10)	Total (100)
1	21UG010896	21ECE017	SHASHI SHANKAR MOHANTY	Highradius Bhubaneswar	18	24	18	14	9	9	92
2	21UG010846	21ECE023	ASUTOSH NAYAK	NALCO Angul	17	23	16	13	8	8	85
3	21UG010855	21ECE039	DEEPAK MAHARANA	HAL Sunabeda	18	21	13	14	7	8	81
4	21UG010877	21ECE042	PAYAL PRIYADARSHINI	Highradius Bhubaneswar	14	17	16	13	8	8	76
5	21UG010895	21ECE043	SATYAM MOHANTY	HAL Sunabeda	18	24	18	14	9	9	92
7	21UG010903	21ECE058	SUBHASMITA BISHEI	Highradius Bhubaneswar	16	15	15	16	7	8	77
8	21UG010865	21ECE071	KILLAMSETTY PRASANT KUMAR	CTTC Bhubaneswar	18	24	18	14	9	9	92

1 of 3

Sl. No.	Regn. No.	Roll. No.	Name of the Student	Place of the Internship / Industrial Training	Internship Report Quality (20)	Technical Skill Development (25)	Problem-Solving and Innovation (20)	Presentation and Communication (15)	Industry Mentor Feedback (10)	Self-Reflection and Learning Outcomes (10)	Total (100)
9	21UG010849	21ECE072	BARATAM SRUTHI	CTTC Bhubaneswar	16	24	14	13	8	8	83
10	21UG010883	21ECE074	PRIYADARSHINI PATNAIK	HAL Sunabeda	15	20	14	14	7	8	78
11	21UG01L666	21ECE121	ASHISH DAS	Highradius Bhubaneswar	18	24	18	14	9	9	92
12	21UG010878	21ECE046	PELURU SAI SANTOSH	BSNL ZTTC Guwahati	17	24	16	13	8	8	86
13	21UG010897	21ECE034	SHIRSENDU FOUZDAR	Highradius Bhubaneswar	18	24	18	14	9	9	92
14	21UG010875	21ECE028	PANKHURI SINGH	SAIL Rourkela	18	24	18	14	9	9	92
15	21UG010873	21ECE055	NIKITA BARIK	SAIL, Rourkela	15	20	14	13	8	8	78
16	21UG010902	21ECE025	SUBHASIS MAHAPATRA	Highradius Bhubaneswar	17	24	16	13	8	8	86
17	21UG010864	21ECE066	KENGUVA ANKITA	CTTC Bhubaneswar	17	22	16	13	6	7	81
18	21UG010871	21ECE020	NAFEES AHMAD	Highradius Bhubaneswar	18	24	18	14	9	9	92
19	21UG01L667	21ECE123	PRIYA KUMARI	Kanthjiloe utpdan Nigam Ltd	16	15	15	16	7	8	77
20	21UG010850	21ECE065	BISWAJIT MISHRA	CTTC Bhubaneswar	18	24	18	14	9	9	92
21	21UG010920	21ECE076	RUTURAJ MAHARANA	SAIL, ROURKELA	17	24	15	13	8	8	85
22	21UG010901	21ECE007	SPANDAN PANIGRAHI	NALCO Angul	18	24	18	14	9	9	92
23	21UG010890	21ECE008	REVYA SOHIT RAO	BSNL ZTTC Guwahati	17	22	16	13	6	7	81
24	21UG010842	21ECE052	ANSH KUMAR	Highradius Bhubaneswar	16	16	16	14	8	8	78
25	21UG010893	21ECE050	SACHIDANANDA PADHY	Highradius Bhubaneswar	16	15	15	16	7	8	77
26	21UG010856	21ECE069	DHARMENDRA KUMAR NAYAK	SAIL, ROURKELA	18	24	18	14	9	9	92

2 of 3

Sl. No.	Regn. No.	Roll. No.	Name of the Student	Place of the Internship / Industrial Training	Internship Report Quality (20)	Technical Skill Development (25)	Problem-Solving and Innovation (20)	Presentation and Communication (15)	Industry Mentor Feedback (10)	Self-Reflection and Learning Outcomes (10)	Total (100)
27	21UG010872	21ECE047	NEHARIKA DORA	Highradius Bhubaneswar	17	24	16	13	8	8	86
28	21UG010881	21ECE062	PRIYABRATA DASH	SAIL, Rourkela	16	23	14	14	7	8	82
29	21UG010908	21ECE001	TAPAS RANJAN ACHARAYA	CTTC Bhubaneswar	17	22	16	13	6	7	81
30	21UG010845	21ECE027	ASUTOSH MAHAPATRO	Highradius Bhubaneswar	16	16	16	14	8	8	78
31	21UG010912	21ECE038	VOLETI ANITHA KAMESWARI	CTTC Bhubaneswar	18	22	18	12	9	9	88
32	21UG010867	21ECE048	KUNA PARIDA	CTTC Bhubaneswar	18	24	18	14	9	9	92
33	21UG010847	21ECE026	AVISHNA MAHARANA	Highradius Bhubaneswar	17	14	16	10	8	8	67
34	21UG010876	21ECE019	PATOJI SAGAR	CTTC Bhubaneswar	17	24	16	13	8	8	86
35	21UG010861	21ECE068	IPSITA NAYAK	HAL Sunabeda	17	22	16	13	6	7	81
36	21UG01L668	21ECE124	RAHUL KUMAR	CTTC Bhubaneswar	16	16	16	14	8	8	78
37	21UG010895	21ECE043	SATYAM MOHANTY	SAIL, ROURKELA	17	24	16	13	8	8	86
38	21UG010862	21ECE075	JASASWINI JENA	Highradius Bhubaneswar	17	21	14	15	7	8	82
39	21UG010891	21ECE036	RITESH KUMAR PATRO	Highradius Bhubaneswar	16	23	12	14	6	7	78

Jayanti Dang 22/07/2024
Signature of the Faculty with Date

3 of 3

3.5. Evaluation of Projects (20)

(Provide details of rubrics used to assess learnings in projects linking POs/PSOs targeted for attainment. Evidence of student assessments through rubrics to be kept in course files for evaluation.)

Evaluation of Projects

The evaluation of student projects is aimed at assessing their ability to apply engineering principles, problem-solving skills, teamwork, and communication effectiveness. The assessment is aligned with Program Outcomes (POs), and Program Specific Outcomes (PSOs) to ensure students attain the necessary competencies.

A. Evaluation Criteria

Projects are assessed based on the following criteria:

Component	Assessment Criteria	Weightage (%)	Mapped POs/PSOs/WKs
Technical & Conceptual Understanding	Clarity of problem statement, depth of research, and application of technical concepts	20%	PO1, PO2, WK1, WK4
Innovation & Creativity	Novelty of approach, originality in design, and creativity in overcoming challenges	10%	PO4, PSO1, WK6
Implementation & Execution	Quality of development, accuracy, completeness, and proper documentation	25%	PO3, PSO2, WK3, WK5
Project Report Quality	Clarity, completeness, logical flow, citation of references, and adherence to format	10%	PO9, WK7
Presentation & Communication Skills	Clarity and organization of the report, effectiveness of oral presentation, and ability to answer technical queries	15%	PO10, WK8
Teamwork & Collaboration	Equal contribution, coordination, time management, and problem-solving within the team	10%	PO9, PSO3, WK7
Complexity & Cost Considerations	Efficiency in design, cost-effectiveness, and feasibility of execution	10%	PO1, PO5, WK2
Relevance to Environment & Sustainability	Consideration of ethical, social, and environmental aspects in design and implementation	5%	PO7, PSO2, WK7
Project Management Concepts	Application of planning, scheduling, resource management, and risk assessment techniques	5%	PO11, WK9

B. Evaluation Methods

Projects undergo multiple stages of evaluation to ensure thorough assessment:

- Proposal Evaluation
- Students submit a detailed abstract outlining objectives, scope, and methodology.
- Faculty or project coordinators assess feasibility and relevance.
- Mid-Term Review
- Progress assessment through presentations and prototype demonstrations.
- Feedback provided to improve project direction.
- Final Evaluation

- Final presentation and project demonstration before an evaluation panel.
- Submission of a detailed report and viva-voce examination.
- Peer and Self-Evaluation
- Team members assess individual contributions.
- Self-reflection on learning outcomes and challenges faced.

C. Rubrics for Project Evaluation

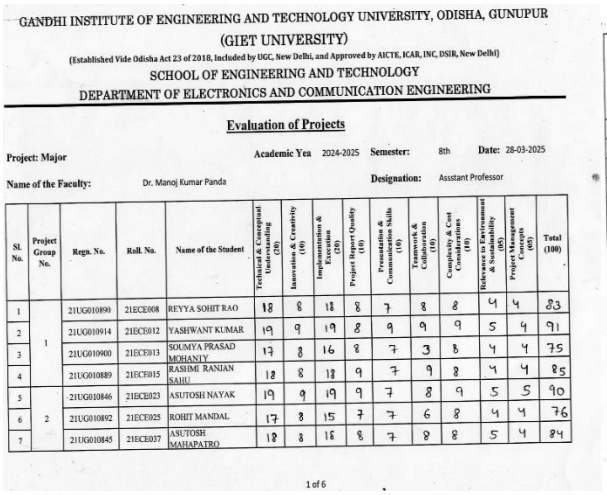
Evaluation Criteria	Excellent (4)	Good (3)	Satisfactory (2)	Needs Improvement (1)	Mapped POs/PSOs/WKs
Technical & Conceptual Understanding	Demonstrates in-depth knowledge, strong application of concepts	Good understanding, minor conceptual gaps	Basic understanding with some errors	Lacks fundamental understanding	PO1, PO2, WK1, WK4
Innovation & Creativity	Highly innovative, novel approach	Some innovation, partial novelty	Conventional approach, minimal creativity	Lacks originality, repetitive ideas	PO4, PSO1, WK6
Implementation & Execution	High-quality, accurate results, well-executed	Functional, with minor errors	Works with moderate issues	Poorly implemented, does not meet objectives	PO3, PSO2, WK3, WK5
Project Report Quality	Comprehensive, well-structured, properly cited and formatted	Minor flaws in structure or referencing	Adequate but lacks detail or proper format	Poor structure, missing references, lacks clarity	PO9, WK7
Presentation & Communication	Clear, well-structured, confident delivery	Mostly clear, minor organizational flaws	Basic clarity, lacks engagement	Poor communication, lacks structure	PO10, WK8
Teamwork & Collaboration	Excellent coordination, balanced workload	Good teamwork, some minor coordination gaps	Moderate contribution imbalance	Poor teamwork, lack of participation	PO9, PSO3, WK7
Complexity & Cost Considerations	Efficient design, cost-effective, well-optimized	Reasonable cost, moderate complexity	Higher cost, lacks optimization	High cost, excessive complexity, inefficient	PO1, PO5, WK2
Relevance to Environment & Sustainability	Strong environmental focus, sustainable design	Moderate sustainability considerations	Limited environmental awareness	No sustainability focus, wasteful design	PO7, PSO2, WK7

Project Management Concepts	Well-structured planning, excellent execution	Good planning, minor delays	Some planning issues, needs improvement	Poor planning, ineffective management	PO11, WK9

This structured evaluation and rubric-based assessment ensure transparency, consistency, and alignment with Course Outcomes (COs), POs, PSOs, and WKs. It helps students develop:

- Technical competency through hands-on work (PO5, PSO2, WK6).
- Problem-solving skills by analyzing experimental results (PO2, PO3, PSO1, WK3, WK5).
- Collaboration and communication through teamwork and documentation (PO8, PO9, WK7, WK9).

Sample Copy of Evaluation of Projects:



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SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Evaluation of Projects

Project: Major Academic Yea 2024-2025 Semester: 8th Date: 28-03-2025

Name of the Faculty: Dr. Manoj Kumar Panda Designation: Asstant Professor

Sl. No.	Project Group No.	Regn. No.	Roll. No.	Name of the Student	Technical & Conceptual Understanding (20)	Innovation & Creativity (10)	Implementation & Execution (20)	Project Report Quality (10)	Presentation & Communication Skills (10)	Teamwork & Collaboration (10)	Complexity & Cost Considerations (10)	Relevance to Environment & Sustainability (05)	Project Management Concepts (05)	Total (100)
1	1	21UG010890	21ECE008	REYYA SOHIT RAO	18	8	18	8	7	8	8	5	4	83
2		21UG010914	21ECE012	YASHWANT KUMAR	19	9	19	8	9	9	9	5	4	91
3		21UG010900	21ECE013	SOUMYA PRASAD MOHANTY	17	8	16	8	7	3	8	4	4	75
4		21UG010889	21ECE015	RASHMI RANJAN SAHU	18	8	18	9	7	9	8	4	4	85
5	2	21UG010846	21ECE023	ASUTOSH NAYAK	19	9	19	9	7	8	9	5	5	90
6		21UG010892	21ECE025	ROHIT MANDAL	17	8	15	7	7	6	8	4	4	76
7		21UG010845	21ECE037	ASUTOSH MAHAPATRO	18	8	18	8	7	8	8	5	4	84

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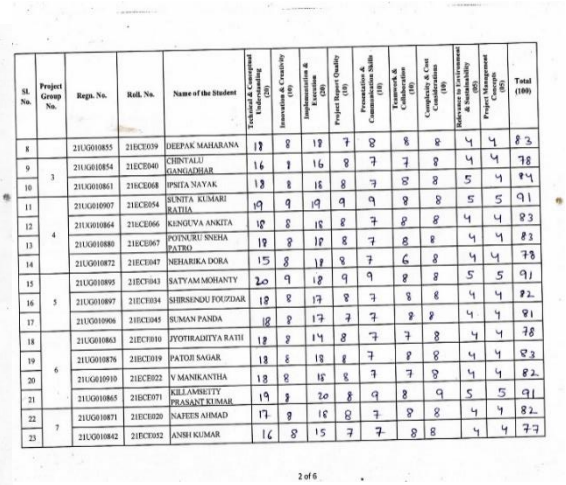

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8	3	21UG010855	21ECE039	DEEPAK MAHARANA	18	8	18	7	8	8	8	4	4	83
9		21UG010854	21ECE040	CHINTALU GANGADHAR	16	9	16	8	7	7	8	4	4	78
10		21UG010861	21ECE068	IPSITA NAYAK	18	8	18	8	7	8	8	5	4	84
11	4	21UG010907	21ECE054	SUNITA KUMARI RATHA	19	9	19	9	9	8	8	5	5	91
12		21UG010864	21ECE066	KENGUVA ANKITA	18	8	18	8	7	8	8	4	4	83
13		21UG010880	21ECE067	POTNURU SNEHA PATRO	18	8	18	8	7	8	8	4	4	83
14		21UG010872	21ECE047	NEHARIKA DORA	15	8	18	8	7	6	8	4	4	78
15	5	21UG010895	21ECE043	SATYAM MOHANTY	20	9	18	9	9	8	8	5	5	91
16		21UG010897	21ECE034	SHIRSENDU FOUZDAR	18	8	17	8	7	8	8	4	4	82
17		21UG010906	21ECE045	SUMAN PANDA	18	8	17	7	7	8	8	4	4	81
18	6	21UG010863	21ECE010	JYOTIRADITYA RATH	18	8	14	8	7	7	8	4	4	78
19		21UG010876	21ECE019	PATOJI SAGAR	18	8	18	8	7	8	8	4	4	83
20		21UG010910	21ECE022	V MANIKANTHA	18	8	16	8	7	7	8	4	4	82
21		21UG010865	21ECE071	KILLAMSETTY PRASANT KUMAR	19	8	20	8	9	8	9	5	5	91
22	7	21UG010871	21ECE020	NAFEES AHMAD	17	8	16	8	7	8	8	4	4	82
23		21UG010842	21ECE032	ANSH KUMAR	16	8	15	7	7	8	8	4	4	77

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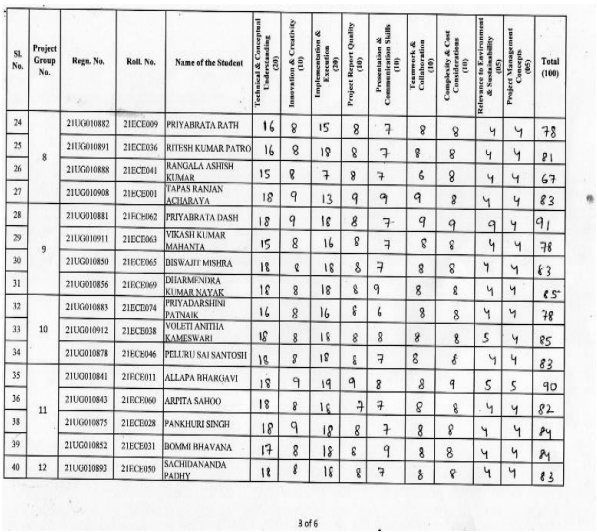

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24	8	21UG010882	21ECE009	PRIYABRATA RATH	16	8	15	8	7	8	8	4	4	78
25		21UG010891	21ECE036	RITESH KUMAR PATRO	16	8	19	8	7	8	8	4	4	81
26		21UG010888	21ECE041	RANGALA ASHISH KUMAR	15	8	7	8	7	6	8	4	4	67
27		21UG010908	21ECE001	TAPAS RANJAN ACHARAYA	18	9	13	9	9	9	8	4	4	83
28	9	21UG010881	21ECH062	PRIYABRATA DASH	18	9	18	8	7	9	9	9	4	91
29		21UG010911	21ECE063	VIKASH KUMAR MAHANTA	15	8	16	8	7	8	8	4	4	78
30		21UG010850	21ECE065	BISWAJIT MISHRA	18	8	18	8	7	8	8	4	4	83
31		21UG010856	21ECE069	DHARMENDRA KUMAR NAYAK	18	8	18	8	9	8	8	4	4	85
32	10	21UG010883	21ECE074	PRIYADARSHINI PATNAIK	16	8	16	8	6	8	8	4	4	78
33		21UG010912	21ECE038	VOLETI ANITHA KAMESWARI	18	8	18	8	8	8	8	5	4	85
34		21UG010878	21ECE046	PELLURU SAI SANTOSH	18	8	18	8	7	8	8	4	4	83
35	11	21UG010841	21ECE011	ALLAPA BHARGAVI	18	9	19	9	8	8	9	5	5	90
36		21UG010843	21ECE060	ARPITA SAHOO	18	8	16	7	7	8	8	4	4	82
38		21UG010875	21ECE028	PANKHURI SINGH	18	9	18	8	7	8	8	4	4	84
39		21UG010852	21ECE031	BOMMI BHAVANA	17	8	18	8	9	8	8	4	4	84
40	12	21UG010893	21ECE050	SACHIDANANDA PADHY	18	8	16	8	7	8	8	4	4	83

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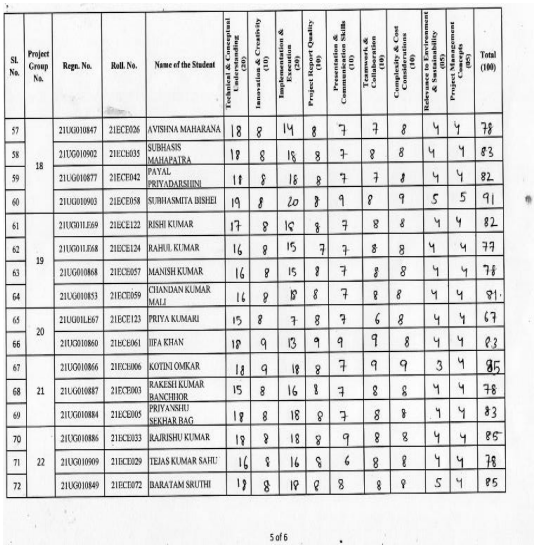

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57	18	21UG010847	21ECE026	AVISHNA MAHARANA	18	8	14	8	7	7	8	4	4	78
58		21UG010902	21ECH035	SUBHASIS MAHAPATRA	18	8	18	8	7	8	8	4	4	83
59		21UG010877	21ECE042	PAYAL PRIYADARSHINI	18	8	18	8	7	7	8	4	4	82
60		21UG010903	21ECE058	SUBHASMITA BISHEI	19	8	20	8	9	8	9	5	5	91
61	19	21UG011E69	21ECE122	RISHI KUMAR	17	8	16	8	7	8	8	4	4	82
62		21UG011E68	21ECE124	RAHUL KUMAR	16	8	15	7	7	8	8	4	4	77
63		21UG010868	21ECE057	MANISH KUMAR	16	8	15	8	7	8	8	4	4	78
64		21UG010853	21ECE059	CHANDAN KUMAR MALI	16	8	18	8	7	8	8	4	4	81
65	20	21UG011E67	21ECE123	PRIYA KUMARI	15	8	7	8	7	6	8	4	4	67
66		21UG010860	21ECE061	IIFA KHAN	18	9	13	9	9	9	8	4	4	83
67	21	21UG010866	21EC3006	KOTINI OMKAR	18	9	18	8	7	9	9	3	4	85
68		21UG010887	21ECE003	RAKESH KUMAR RANCHHOR	15	8	16	8	7	8	8	4	4	78
69		21UG010884	21ECE005	PRIYANSHU SEKHAR BAG	18	8	18	8	7	8	8	4	4	83
70	22	21UG010886	21ECE033	RAJRISHU KUMAR	18	8	18	8	9	8	8	4	4	85
71		21UG010909	21ECE029	TEJAS KUMAR SAHU	16	8	16	8	6	8	8	4	4	78
72		21UG010849	21ECE072	BARATAM SRUTHI	18	8	18	8	8	8	8	5	4	85

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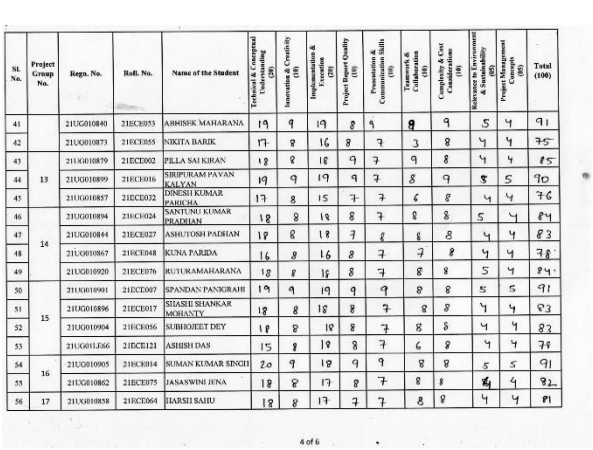

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41		21UG010840	21ECE053	ABHISEK MAHARANA	19	9	19	8	9	8	9	5	4	91
42		21UG010873	21ECE055	NIKITA BARIK	17	8	16	8	7	3	8	4	4	75
43	13	21UG010879	21ECE002	PILLA SAI KIRAN	18	8	18	9	7	9	8	4	4	85
44		21UG010899	21ECE016	SIRIPURAM PAVAN KALYAN	19	9	19	9	7	8	9	5	5	90
45		21UG010857	21ECE032	DINESH KUMAR PARICHA	17	8	15	7	7	6	8	4	4	76
46	14	21UG010894	21ECE024	SANTUNU KUMAR PRADHAN	18	8	19	8	7	8	8	5	4	84
47		21UG010844	21ECE027	ASHUTOSH PADHAN	19	8	18	7	8	8	8	4	4	83
48		21UG010867	21ECE048	KUNA PARIDA	16	8	16	8	7	7	8	4	4	78
49		21UG010920	21ECE076	KUTURAMAHARANA	18	8	18	8	7	8	8	5	4	84
50		21UG010901	21ECE007	SPANDAN PANIGRAHI	19	9	19	9	9	8	8	5	5	91
51	15	21UG010896	21ECE017	SHASHI SHANKAR MOHANTY	18	8	18	8	7	8	8	4	4	83
52		21UG010904	21ECE036	SUBHOJEET DEY	18	8	18	8	7	8	8	4	4	83
53		21UG011566	21ECE121	ASHISH DAS	15	8	19	8	7	6	8	4	4	79
54	16	21UG010905	21ECE014	SUMAN KUMAR SINGH	20	9	18	9	9	8	8	5	5	91
55		21UG010862	21ECE075	JASASWINI JENA	18	8	17	8	7	8	8	4	4	82
56	17	21UG010858	21ECE064	HARSH SAHU	18	8	17	7	7	8	8	4	4	81

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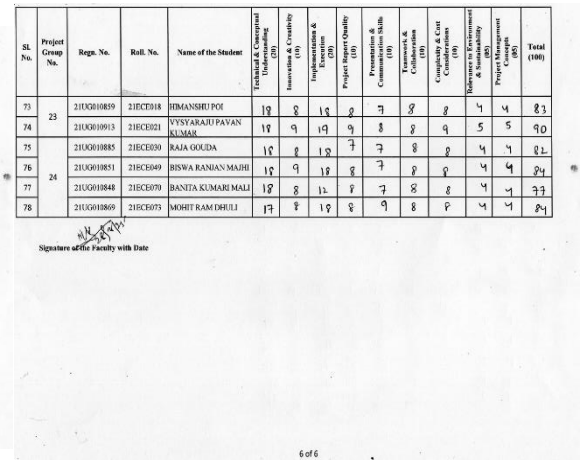

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73	23	21UG010859	21ECT018	HIMANSHU POI	18	8	18	8	7	8	8	4	4	83
74		21UG010913	21ECE021	VVSYARAJU PAVAN KUMAR	18	9	19	9	8	8	9	5	5	90
75	24	21UG010885	21ECE030	RAJA GOUDA	18	8	18	7	7	8	8	4	4	82
76		21UG010851	21ECE049	BISWA RANJAN MAJHI	18	9	18	8	7	8	8	4	4	84
77		21UG010848	21ECE070	BANITA KUMARI MALI	18	8	12	8	7	8	8	4	4	77
78		21UG010869	21ECE073	MOHIT RAM DHULI	17	8	19	8	9	8	8	4	4	84

Signature of the Faculty with Date

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3.6. Evidence of Addressing Sustainable Development Goals (SDG) (10)

(Provide details of student work carried out to meet sustainable development goals such as research work, project work, student activities, etc. Evidence in the form of a portfolio to be made available during the visit.)

Addressing Sustainable Development Goals (SDGs)

To align engineering education with global sustainability initiatives, student activities such as research work, projects, and extracurricular engagements demonstrate contributions to the United Nations Sustainable Development Goals (SDGs). Below is an outline of various student efforts that address these goals.

1. Research Work Addressing SDGs

Students engage in research projects aimed at solving real-world problems aligned with SDGs. Some key contributions include:

Research Topic	SDG Addressed	Key Outcomes
Renewable Energy-Based Power Solutions	SDG 7: Affordable and Clean Energy	Development of solar and wind energy models for rural electrification
AI for Precision Agriculture	SDG 2: Zero Hunger	AI-based crop monitoring system to improve food security
Smart Water Management	SDG 6: Clean Water and Sanitation	IoT-based water conservation and leakage detection system
E-Waste Recycling Techniques	SDG 12: Responsible Consumption and Production	Innovative methods for e-waste management and material recovery
Low-Cost Medical Devices	SDG 3: Good Health and Well-being	Affordable biosensors for early disease detection in rural areas

2. Project Work Addressing SDGs

Final-year and mini-projects contribute to sustainable solutions through innovation and engineering applications.

Project Title	SDG Addressed	Impact
IoT enabled intelligent public lighting system with learning techniques for real time control and support India digital transformation	SDG 11: Sustainable Cities and Communities	Reduces congestion, lowers fuel consumption, and minimizes emissions
IoT-Based Air Quality Monitoring	SDG 13: Climate Action SDG 3: Good Health and Well-being	Real-time pollution monitoring and alert system, environmental sustainability, and smarter urban management
Drone based intelligent system for agricultural farm management.	SDG 12: Responsible Consumption and Production SDG 9: Industry, Innovation, and Infrastructure	Eco-friendly alternative to reduce plastic pollution
Low-cost AI based smart solar microgrid for home application.	SDG 7: Affordable and Clean Energy SDG 9: Industry, Innovation, and Infrastructure	Optimizes power distribution, reducing energy waste
Wearable AI gadgets to reduce the the risk of older and disabled peoples	SDG 3: Good Health and Well-being SDG 10: Reduced Inequalities	Smart wearable devices for emergency alerts, and navigation assistance, ensuring greater safety, autonomy, and well-being for older and disabled people
Echo Fish: Smart Fishing Tool	SDG 2: Zero Hunger SDG 14: Life Below Water	reducing overfishing and fuel consumption. It enhances sustainable fishing, economic growth, and marine ecosystem protection under the Digital India initiative
Electrocruise – The Eco Charge	SDG 7: Affordable and Clean Energy SDG 9: Industry, Innovation, and Infrastructure	EV adoption, reduces fossil fuel dependency, and accelerates sustainable transportation, aligning with Digital India's green energy transition.

3. Student Activities Contributing to SDGs

Students participate in social and technical initiatives beyond academics to support sustainable development.

Community Engagement & Awareness Programs

- **Energy Conservation Awareness Campaigns (SDG 7):** Conducting workshops on energy efficiency in local communities.
- **Waste Management Drives (SDG 12):** Organizing e-waste collection and recycling initiatives on campus.
- **Water Conservation Projects (SDG 6):** Implementing rainwater harvesting systems in collaboration with local authorities.

Technical Events & Hackathons

- **Sustainable Innovation Hackathon (SDG 9, SDG 13):** Encouraging students to develop solutions for climate change and smart cities.
- **Tech-for-Good Workshops (SDG 3, SDG 4):** Training sessions on using technology to improve healthcare and education.

Entrepreneurship & Startups Focused on SDGs

- **GreenTech Startups (SDG 12, SDG 13):** Student-led startups developing eco-friendly products.
- **Social Entrepreneurship (SDG 1, SDG 8):** Business models aimed at poverty reduction and employment generation.

Startup Spotlight: "EcoPlast," a biodegradable plastic startup founded by students, secured funding for production and scaling.

4. Integration with Curriculum and Learning Outcomes

The contribution of student work to SDGs is mapped to Program Outcomes (POs), Program Specific Outcomes (PSOs), and Washington Accord Knowledge Profiles (WKs):

SDG Addressed	POs Addressed	PSOs Addressed	WK Profiles Addressed
SDG 2: Zero Hunger	PO1, PO3, PO6	PSO1, PSO3	WK1, WK5
SDG 3: Good Health and Well-being	PO2, PO6, PO9	PSO1, PSO2	WK3, WK6
SDG 6: Clean Water and Sanitation	PO3, PO5, PO6	PSO1, PSO3	WK4, WK7
SDG 7: Affordable and Clean Energy	PO1, PO3, PO4	PSO2, PSO3	WK2, WK5
SDG 9: Industry, Innovation, and Infrastructure	PO1, PO5, PO10	PSO1, PSO2	WK1, WK4

SDG 11: Sustainable Cities and Communities	PO2, PO6, PO9	PSO3	WK6, WK8
SDG 12: Responsible Consumption and Production	PO3, PO6, PO7	PSO2, PSO3	WK5, WK7
SDG 13: Climate Action	PO4, PO6, PO11	PSO3	WK3, WK9

3.7. Attainment of Course Outcomes (25)

3.7.1. Describe the Assessment Tools and Processes Used to Gather the Data for the Evaluation of Course Outcome (05)

(Describe different assessment tools (semester-end examinations, mid-semester tests, laboratory examinations, student portfolios, etc.) to measure student learning and hence attainment of course outcomes.)

Assessment Tools and Processes for Evaluating Course Outcomes (COs)

To ensure a comprehensive evaluation of Course Outcomes (COs), multiple assessment tools and processes are employed to measure student learning. These tools provide both direct and indirect methods of assessing CO attainment through examinations, assignments, laboratory work, and student engagement activities.

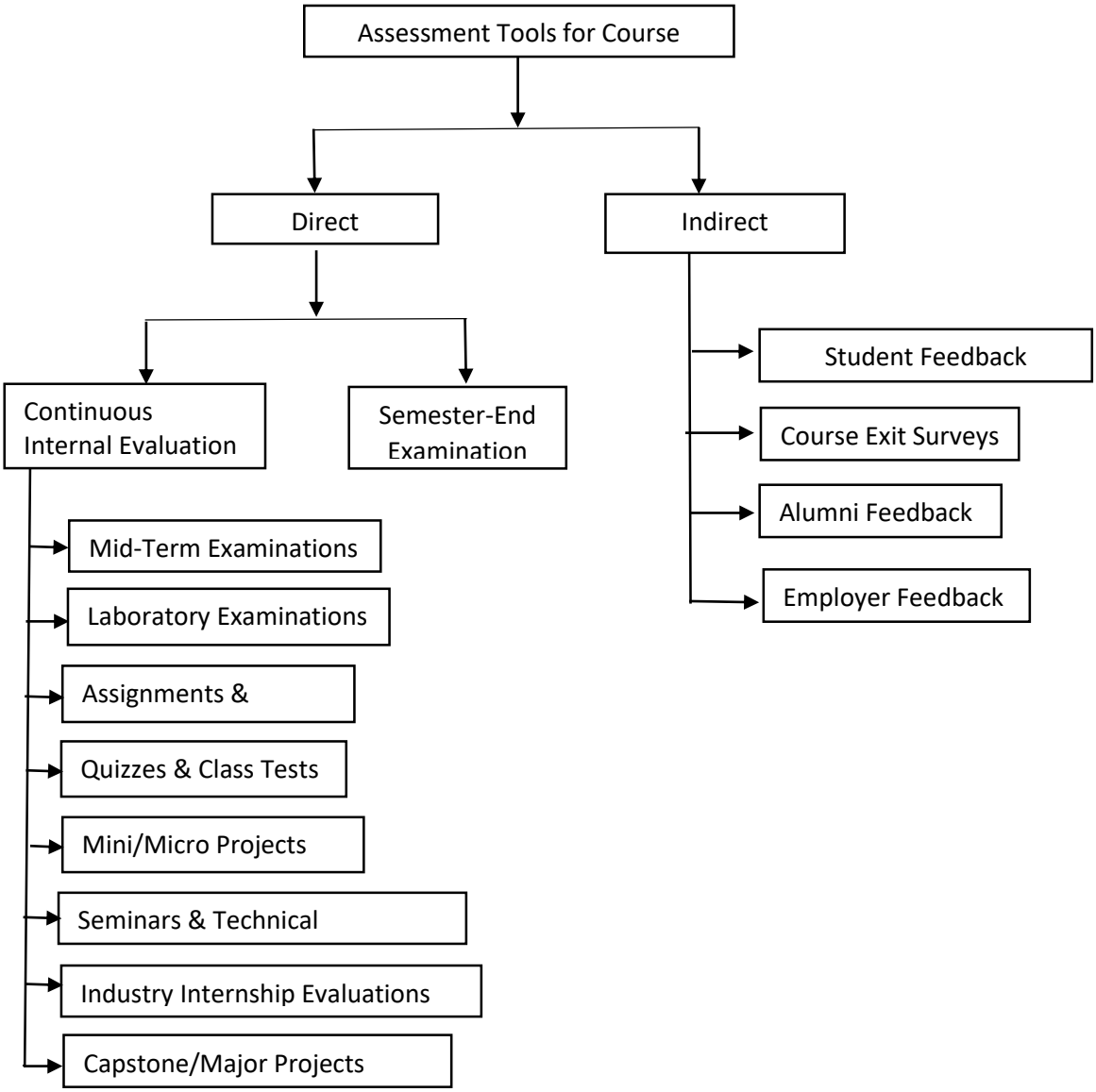
A. List of Assessment Tools and Processes

1. Direct Assessment Tools (Objective Evaluation of Student Performance)

Direct assessment tools involve measurable student performance in academic tasks and are used to evaluate students' attainment of course outcomes.

Assessment Tool	Description	Purpose
Semester-End Examination (SEE)	Final examination assessing theoretical and problem-solving abilities	Measures students' conceptual understanding and application
Mid-Term Examinations	Periodic tests covering a portion of the syllabus	Evaluates progress and retention of knowledge
Laboratory Examinations	Practical exams testing hands-on skills and application of concepts	Assesses students' ability to implement theoretical knowledge
Assignments & Tutorials	Individual problem-solving tasks and analytical exercises	Reinforces understanding and application of concepts
Quizzes & Class Tests	Short assessments covering key concepts	Measures comprehension and quick problem-solving ability
Mini/Micro Projects	Mini and major projects applying interdisciplinary knowledge	Evaluates innovation, problem-solving, teamwork, and real-world application

Seminars & Technical Presentations	Student presentations on research-based or technical topics	Assesses communication skills and depth of subject knowledge
Industry Internship Evaluations	Assessment of student performance during internships based on reports and mentor feedback	Evaluates practical skills, industrial exposure, and professional competencies
Capstone/Major Projects	Year-end projects integrating all learned concepts	Measures critical thinking, innovation, and technical expertise



2. Indirect Assessment Tools (Student Perception & Feedback-Based Evaluation)

Indirect assessment tools gather students' and stakeholders' perceptions about the course and their learning experience.

Assessment Tool	Description	Purpose
Student Feedback Surveys	Surveys to gauge student perception of course effectiveness	Identifies strengths and areas for improvement in learning
Course Exit Surveys	Feedback at the end of the course to measure perceived CO attainment	Provides insight into student confidence and learning experience
Alumni Feedback	Input from graduates on the applicability of course content in industry	Ensures the course remains relevant to industry needs
Employer Feedback	Feedback from employers on the technical competency of graduates	Helps refine course content to meet industry demands

B. Process for CO Attainment Evaluation

1. Data Collection

- Faculty members collect assessment data through examinations, assignments, and practical work.
- Surveys and feedback forms are distributed to students, alumni, and employers.

2. Mapping COs to POs & PSOs

- Each CO is linked to relevant Program Outcomes (POs) and Program-Specific Outcomes (PSOs)**.**
- A weightage is assigned to each assessment tool in CO evaluation.

3. CO Attainment Calculation

Direct Attainment: Based on marks obtained in Continuous Internal Examinations (CIE) and Semester End Examination (SEE). 70% weightage to Semester End Examination (SEE) and 30% weightage to Continuous Internal Examinations (CIE).

$$\text{Direct Attainment} = (0.70 * \text{SEE Score}) + (0.30 * \text{CIE Score})$$

where:

SEE Score = Average percentage of marks obtained by students in the Semester End Examination for a particular CO

CIE Score = Average percentage of marks obtained by students in Continuous Internal Examinations for a particular CO

Indirect Attainment: Based on feedback surveys and alumni or employer reviews.

$$\text{Indirect Attainment} = (\sum \llbracket \text{Survey Score} \rrbracket)/(\text{Total Responses}) * 100$$

where:

Survey Score = Average feedback rating converted to a percentage

Total Responses = Number of responses collected

Overall CO Attainment: 80% weightage to direct assessment and 20% weightage to indirect assessment.

$$\text{Overall CO Attainment} = (0.80 * \text{Direct Attainment}) + (0.20 * \text{Indirect Attainment})$$

4. Continuous Improvement Process

When CO attainment is satisfying the below benchmark, corrective actions such as syllabus modifications, teaching strategies, and additional student support programs are implemented.

A structured combination of direct and indirect assessment tools ensures a holistic and continuous evaluation of Course Outcomes (COs). These assessment methods ensure that students develop the necessary technical, analytical, and professional skills aligned with Program Outcomes (POs) and Program Specific Outcomes (PSOs).

Calculation of CO Attainment

Step 1: For each course, four Course Outcomes (COs) are defined and mapped to relevant Program Outcomes (POs) using a scale from 0 to 3. The average contribution of each CO to the respective POs is then calculated to assess alignment and outcome attainment.

BPCEC5030 DIGITAL SIGNAL PROCESSING 3-0-0

Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO303.1	3	3	2	3	-	-	-	-	-	-	-	3	2
CO303.2	3	2	2	2	-	-	-	-	-	-	-	2	2
CO303.3	3	3	2	2	-	-	-	-	-	-	-	2	3
CO303.4	3	3	2	2	-	-	-	-	-	-	-	2	3
Average	**3**	**2.75**	**2**	**2.25**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2.25**	**2.25**

Step2: For every Continuous Internal Evaluation (CIE), enter the maximum marks for each question along with its corresponding Course Outcome (CO) in the designated columns.

Enter the question-wise marks obtained by each student:

- Assign zero (0) for unanswered mandatory questions.
- Leave the cell blank only for optional/choice-based questions that were not attempted.
- Calculate and record the total marks obtained by each student in the last column.

			Internal Examination-1																																			
Sl. No	REGD NO	ROLL NO	QUIZ-1						CLASS TEST -1											CYCLE TEST-1														ASSIGNEMENT -1			Total	CONVERSION TO INTERNAL 30
Sl. No	REGD NO	ROLL NO	1	2	3	4	5	TOTAL	1	2	3	4	5	6	7	8	9	10	TOTAL	1.a	1b	1c	1d	1e	2a	2b	2c	2d	3a	3b	3c	3d	TOTAL	1	2	TOTAL	TOTAL	
Maximum Marks			2	2	2	2	2	10	2	2	2	2	2	2	2	2	2	2	20	2	2	2	2	2	5	5	5	5	5	5	5	5	30	5	5	10	70	30
	CO		1	1	1	1	2		1	2	2	2	1	2	2	2	1	2		1	2	2	2	1	2	1	1	2	1	2	3	4	18	3	2		3	4
1	22UG011281	22ECE001	2	1	2	1	2	8	2	0	1	0	0	0	2	2	2	1	10	0	0	0	0	0	1	[illegible]			3	3			9	2	4	6	33	15
2	22UG011283	22ECE003	2	1	3	2	1	9	2	1	2	1	2	2	2	0	0	2	14	2	1	2	2	2	5	5	5		5	5		5	29	4	4	8	60	26
3	22UG011285	22ECE005	1	1	2	1	2	7	0	2	2	1	0	1	2	2	2	2	14	0	2	2	1	1	2	2			2	2		2	14	4	4	8	43	19

Max marks for each Question

Mark earned by student

CO for each Question

Internal Mark

External Grade

Internal Examination-2																																						
QUIZ-2						CLASS TEST -2											CYCLE TEST-2														ASSIGNEMENT -2			TOTAL	CONVERSION TO INTERNAL 30	INTERNAL	EXTERNAL GRADE	GRADE IN TERMS OF MARKS
2	2	2	2	2	Total	1	2	3	4	5	6	7	8	9	10	TOTAL	1.a	1b	1c	1d	1e	2a	2b	2c	2d	3a	3b	3c	3d	TOTAL	1	2	TOTAL	TOTAL		INTERNAL	EXTERNAL GRADE	GRADE IN TERMS OF MARKS
2	2	2	2	2	10	2	2	2	2	2	2	2	2	2	2	20	2	2	2	2	2	5	5	5	5	5	5	5	5	30	5	5	10	70	30	30		
4	4	3		3	3	4	2	4	3	3	4	4	3		1	2	2	4	3	3	3	2	4	1	3	2	3	23	4	4	8	29						
2	1	2	1	2	8	2	0	1	0	0	0	2	2	2	1	10	0	2	2	1	1	2			2	2	2			12	4	4	8	38	17	17	D	5
2	1	3	2	1	9	2	1	2	1	2	2	2	0	0	2	14	0	0	0	0	0			1	0			4	4	9	4	4	8	40	18	25	B	7
1	1	2	1	2	7	0	2	2	1	0	1	2	2	2	2	14	2	1	2	2	2	5	5			5	5			29	4	4	8	58	25	24	D	5
2	1	2	1	2	8	2	1	2	0	2	2	1	2	1	2	15	0	2	2	1	1	2	2			2	2			14	4	4	8	45	20	20	B	7

External Grade

Step 3: Compute the “Class Average Mark”.

Step 4: Compute the “Number of students who score >= “Class Average Mark”.” for each question.

Step 5: Compute the “Number of students attempted” the questions for each question.

Step 6: Find the Percentage of students who scores >= Class Average Mark for each question.

$$\text{Percentage of students who got more than Class Average Mark} = \frac{\text{No. of students who got more than Class Average Mark}}{\text{No. of students attempted the Question}}$$

Step 7: Compute the CO attainment for each CIA using the following formula.

CO Attainment Level = 3, if (the avg. % of students who got >=70% for each CO) >= x

= 2, if (the avg. % of students who got >=51-69% for each CO) >= y

= 1, if (the avg. % of students who got <50% for each CO) >= z

Step 8: Repeat steps 2 to 8 for each CIA components.

Example for CO Attainment for Quiz-1 and Class Test -1 of Continuous Internal Examination -1.

Course Outcome	1	1	1	1	2	1	1	2	2	2	1	2	2	2	1
Class Average Mark	2	1	2	2	2	1	1	2	1	2	2	2	2	2	2
Course Outcome	1	1	1	1	2	1	2	2	2	1	2	2	2	1	2
Student Scored Above Average Mark	118	127	112	93	96	30	60	40	72	92	53	120	113	86	67
Students Attempted the Questions	127	127	127	126	127	127	127	127	127	127	127	127	127	127	127
% of Students Scored Above Average Mark	93	100	89	74	76	24	48	32	57	73	42	95	89	68	53
Attainment Level	3	3	3	3	3	1	1	1	2	3	1	3	3	2	2
CO303.1	3	3	3	3		1	1				1				2
CO303.2					3			1	2	3		3	3	2	
CO303.3															
CO303.4															

Step 8: Enter the Grades earned by the students in Semester End Examinations. Calculate its corresponding numeric grades in the next column. For example, Grade “O” will be converted as 10 in numeric. Also compute the percentage of students who got more than class average mark of marks in Semester End Examinations.

Grade Value	Mark
O	10
E	9
A	8
B	7
C	6
D	5
F	0
Ab	-

Direct Attainment: Based on marks obtained in Continuous Internal Examinations (CIE) and Semester End Examination (SEE). 70% weightage to Semester End Examination (SEE) and 30% weightage to Continuous Internal Examinations (CIE).

$$\text{Direct Attainment} = (0.70 * \text{SEE Score}) + (0.30 * \text{CIE Score})$$

CO	Continuous Internal Examinations Attainment	Semester End Examination (SEE) Attainment	Direct Attainment
CO303.1	2	2	2
CO303.2	2	2	2
CO303.3	1.90	2	1.97
CO303.4	2.21	2	2.06

Step 9: Indirect CO attainment. The exit survey feedback must include questionnaire for all CO.

Step 10: Convert the exit survey responses into its numerical equivalent and compute the percentage of each CO values.

Survey Responses	Strongly Agree	Agree	Disagree	Strongly Disagree
Numerical Equivalent	4	3	2	1

22UG011387	Strongly Agree	Agree	Disagree	Strongly Disagree	4	3	2	1
22UG011389	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	4	4	4	4
22UG011391	Agree	Agree	Strongly Agree	Strongly Agree	3	3	4	4
22UG011393	Strongly Agree	Strongly Disagree	Strongly Agree	Strongly Disagree	4	1	4	1
22UG011395	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	4	4	4	4
22UG011397	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	4	4	4	4
22UG011399	Agree	Strongly Agree	Disagree	Strongly Agree	3	4	2	4
22UG011401	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	4	4	4	4
22UG011250	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	4	4	4	4
22UG010769	Strongly Agree	Strongly Agree	Strongly Disagree	Strongly Agree	4	4	1	4
Average (CO wise)	3.85	3.91	3.96	3.91				
Overall Average	**2.93**							

Final Attainment Score = 80% of Direct Attainment Score+ 20% of Indirect Attainment Score

Average of Direct CO Attainment:	2.01
Average of In-direct CO Attainment:	2.9
Final CO Attainment:	2.19

Final Attainment Level of COs

CO	Final Attainment Level
CO303.1	2
CO303.2	2
CO303.3	1.95
CO303.4	2.11

3.7.2. Record the Attainment of Course Outcomes of all Courses with Respect to Set Attainment Levels (20)

(Program shall set course outcome attainment levels for each course. Measuring CO attainment through Continuous Internal Examinations (CIE) and Semester End Examination (SEE) needs to be detailed.

Target may be stated in terms of the percentage of students getting more than class average marks or set by the program in each of the associated COs in the assessment instruments (midterm tests, assignments, mini projects, reports and presentations, etc. as mapped with the COs.))

Course Code	Course	Target level	Attainment Level
C101	Engineering Mathematics-I	2.4	2.1
C102	Engineering Chemistry	2.2	1.9
C103	Basic Electronics	2	1.7
C104	Programming for Problem Solving	2.3	2
C105	Communicative English and Soft Skills	2	2.1
C106	Engineering Chemistry Laboratory	2	2.4
C107	Basic Electronics Laboratory	2.2	2.4
C108	Programming for Problem Solving Laboratory	2.1	2.3
C109	Communicative English and Soft Skills Laboratory	2	2.2
C110	Engineering Workshop	2	2.4
C112	Engineering Mathematics-II	2.4	2.1
C113	Engineering Physics	2.4	2.2

C114	Basics Electrical Engineering	2.2	2.4
C115	Data Structure and Algorithms	2.1	1.9
C116	Communicative English and Technical Communication	2.4	2.6
C117	Engineering Physics Laboratory	2.4	2.5
C118	Basics Electrical Engineering Laboratory	2.2	2.4
C119	Data Structure and Algorithms Laboratory	2	2.2
C120	Communicative English and Technical Communication Laboratory	2.4	2.4
C121	Engineering Graphics and Design	2	1.9
C201	Engineering Mathematics-III	2	1.8
C202	Analog Electronic Circuits	2	1.7
C203	Electrical and Electronic Measurements	2.4	1.9
C204	Network Theory	2.4	2.5
C205	Object-Oriented Programming using JAVA	2	2.2
C206	Organizational Behavior	2.4	2.2
C207	Analog Electronic Circuits Laboratory	2.4	2.5
C208	Electrical and Electronic Measurements Laboratory	2.4	2.6
C209	Object Oriented Programming Using Java Laboratory	2.4	2.2
C210	Summer Internship I	2.4	2.4
C212	Digital Electronics	2.4	2.2
C213	Analog Communication	2.4	2
C214	Semiconductor Devices	2.4	2.1
C215	Signals and Systems	2	1.8
C216	Database Management Systems	2	2
C217	Engineering Economics and Costing	2.4	2.4
C218	Digital Electronics Laboratory	2.4	2.5
C219	Analog Communication Techniques Laboratory	2.2	2.2
C220	Database Management Systems Laboratory	2.2	2.4
C221	Mini Project I	2.4	2.5

C301	Microprocessors and Microcontrollers	2.4	2.6
C302	Digital Communication	2.4	2.3
C303	Digital Signal Processing	2.4	2.2
C304	Electromagnetic Waves	2.4	2.1
C305	Fiber Optic Communication	2	2
C306	Fundamentals of Python Programming	2.2	2.4
C307	Human Value & Professional Ethics	2	2.4
C308	Microprocessors and Microcontrollers Laboratory	2.4	2.4
C309	Digital Communication Techniques Laboratory	2.4	2.5
C310	Digital Signal Processing Laboratory	2.4	2.8
C311	Mini Project II	2.4	2.5
C312	Summer Internship II	2.4	2.3
C313	Digital VLSI Design	2	2.2
C314	Microwave Engineering	2.4	2
C315	Computer Vision	2.4	2.1
C316	Machine Learning	2	2.2
C317	Operating Systems	2	2.1
C318	Internet of Things	2	1.8
C319	Dietetics and Nutrition	2.2	2.4
C320	Digital VLSI Design Laboratory	2.4	2.6
C321	Microwave Engineering Laboratory	2.4	2.6
C322	Mini Project III	2.4	2.4
C401	Mobile Communication	2.2	2.2
C402	Data Communications and Networking	2	2.4
C403	Artificial Intelligence	2	2.2
C404	Entrepreneurship Development	2.4	2.1
C405	Project Work I	2.2	2
C406	Summer Internship III	2.4	2.6
C407	Satellite Communication	2.4	2.5
C408	Soft Computing	2.4	2.1

C409	Intellectual Property Rights	2.2	2.4
C410	Project Work II and Dissertation	2.4	2.6

3.8. Attainment of Program Outcomes and Program Specific Outcomes (25)

(The attainment of POs and PSOs by direct assessment based on student performance and indirect assessment based on surveys are to be presented through program level Course-PO&PSO matrices as indicated.)

PO and PSO Attainment:

Direct Assessment Tools and Process:

Direct attainment of a PO/PSO is determined by taking the average across all courses addressing that PO/PSO.

Calculation of PO/PSO attainment

Step 1: To calculate PO attainment, we refer the following values.

(i) Final Attainment Level of COs

(ii) CO-PO mapping correlations

(iii) Maximum Correlation Value. i.e. 3

CO	Final Attainment Level
CO303.1	2
CO303.2	2
CO303.3	1.95
CO303.4	2.11

CO-PO Atticulation Matrix

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10	PO11	PO12	PSO1	PSO2
CO303.1	3	3	2	3									3	2
CO303.2	3	2	2	2									2	2
CO303.3	3	3	2	2									2	3
CO303.4	3	3	2	2									2	3

Step 2: The PO attainment for each CO is calculated as follows:

$$\text{PO/PSO Attainment}=\{\frac{\text{Final CO Attainment Level}}{\text{Max.Correlation Value}}\} * \text{CO} - \text{PO Mapping Correlation Value}$$

i.e. Final attainment of CO303.1 IS 2, CO1-PO1 mapping is 3, So the PO1 attainment w.r.to CO303.1 is = [2/3] *3=2

PO-PSO ATTAINMENT														
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO303.1	**2.00**	**2.00**	**1.33**	**2.00**									**2.00**	**1.33**
CO303.2	**2.00**	**1.33**	**1.33**	**1.33**									**1.33**	**1.33**
CO303.3	**1.95**	**1.95**	**1.30**	**1.30**									**1.30**	**1.95**
CO303.4	**2.11**	**2.11**	**1.40**	**1.40**									**1.40**	**2.11**
Average	**2.01**	**1.85**	**1.34**	**1.51**									**1.51**	**1.68**

Step 3: Repeat the calculation for all POs/PSOs

Step 4: Compute the average PO attainment for each POs/PSOs

Indirect Assessment Tools and Process:

Indirect assessment is done through Student Feedback Surveys, Course Exit Surveys, Alumni Feedback, Employer Feedback where Student Feedback Surveys, Course Exit Surveys 15%, and Employer Feedback are given a weightage of 20% each and Alumni Feedback is given a weightage of 50%.

Graduate Exit Survey: A exit survey is conducted for students who have graduated out of the department for that year. Relevant questionnaire in exit survey form to evaluate attainment of POs and PSOs is given in section (a) and relation of POs & PSOs with questionnaire is given in section (b).

(a) Questionnaire Format: Kindly rate the following criteria on a scale of 1-5. Your genuine response will be helpful for the continuous quality improvement of our UG programme in ECE.

5.Excellent 4. Very Good 3. Good 2. Average 1.Poor

Sl. No	Criterion	Rating
1	Opinion about the UG Program in ECE dept of GIET University	5
2	Ability acquired to apply knowledge of Mathematics, Science and Engineering in real time.	4
3	Competence developed to analyse and interpret data and design complex computing system or process specific needs.	4
4	Skill gained to apply modern engineering tools and techniques for engineering practice.	3

5	Responsibility level acquired to develop engineering solutions for sustainable development, ethically and economically.	4
6	Leadership qualities and team spirit inculcated through various student development programmes.	3
7	Zeal to engage in, to resolve contemporary issues and acquire lifelong learning.	4
8	Overall Rating.	4

(b) Evaluation Process: The questionnaire consists of 8 questions which is relevant for assessing each PO and PSO. Each question is having 5 options namely Excellent, Very Good, Good, Average and Poor, which is given marks 5,4,3,2,1 respectively. These survey results are tabulated and the average values corresponding to each PO and PSO are determined.

Alumni Survey: Feedback is taken from alumni. Relevant questionnaire in alumni survey form to evaluate attainment of POs and PSOs is given in section (i) and relation of POs & PSOs with\ questionnaire is given in section (ii).

(i) Questionnaire Format: Kindly rate the following criteria on a scale of 1-5. Your genuine response will be helpful for the continuous quality improvement of our UG programme in ECE.

(a) Questionnaire Format: Kindly rate the following criteria on a scale of 1-5. Your genuine response will be helpful for the continuous quality improvement of our UG programme in ECE.

5.Excellent 4. Very Good 3. Good 2. Average 1.Poor

Sl. No	Criterion	Rating
1	Extent of curriculum meeting the industry needs.	3
2	Your ability to apply knowledge and design electronic system or process to meet desired specifications and needs.	4
3	Benefit from value added certifications, workshops and training programmes conducted during your course.	4
4	Your ability to use techniques, skills and modern engineering tools necessary for engineering practice.	4
5	Benefit from communication skills, presentation skills and leadership qualities gained from the co-curricular and extracurricular activities.	5
6	Your ability to engage in, to resolve contemporary issues and acquire lifelong learning.	4
7	Competence to function on multidisciplinary teams	3

8	Skills attained to create, select and apply appropriate techniques, resources and modern engineering and IT tools.	5
9	Extent of Ethical, social and environmental values inculcated, helping you to relate Electrical and Electronics engineering issues with societal needs.	4

(b) Evaluation Process: The questionnaire consists of 9 questions which is relevant for assessing each PO and PSO. Each question is having 5 options namely Excellent, Very Good, Good, Average and Poor, which is given marks 5,4,3,2,1 respectively. These marks are tabulated and the average values corresponding to each PO and PSO are determined.

Final Attainment

80% of direct attainment and 20% of indirect attainments are added to find the final PO attainment of a programme.

CO Attainment and Gap Analysis

The CO attainment for each course will be compared with CO attainment target and the CO gaps can be closed by either enhancing the CO target or by enhancing the Teaching Learning process.

Continuous Improvement in PO/PSO Attainment

Based on the PO/PSO Attainment for a course, we take appropriate action to refine the course if target is not achieved. Also, we can suggest to refine the PO/PSO attainment target in future.

PO and PSO Attainment:

Table No.3.8.1: PO and PSO attainment value using direct assessment tools.

Course Code	Course Title	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10	PO11	PO12	PSO1	PSO2
C101	Engineering Mathematics-I	1.31	2.12	1.56	1.43	1.54								1.71	1.71
C102	Engineering Chemistry	2.1	1.83	1.59	1.42		1.12							2.23	1.53
C103	Basic Electronics	2.42	2.17	2.01	2.19	0.96								2.23	2.11
C104	Programming for Problem Solving	2.31	1.97	1.93	1.33	2.12				0.87	0.98	1.32	1.61	2.39	1.83
C105	Communicative English and Soft Skills							0.87	1.11	2.12	1.12	1.43			
C106	Engineering Chemistry Laboratory	1.97	1.98	1.76	2.18	0.94	0.87	0.84					0.87	1.89	1.99
C107	Basic Electronics Laboratory	2.23	2.23	2.1	1.33	0.78								2.33	2.21
C108	Programming for Problem Solving Laboratory	2.23	1.87	1.73	1.42	2.11							1.41	2.31	2.12
C109	Communicative English and Soft Skills Laboratory							0.81	0.63	1.78	1.31	1.34			
C110	Engineering Workshop	2.31	2.51	1.91	1.77	0.98								2.31	2.14
C111	Induction Program	0.89	0.79		1.13		1.32	2.42	1.33	1.98	1.13	1.34	0.78	0.98	1.41
C112	Engineering Mathematics-II	2.33	2.14	2,12	1.87	1.09								1.98	1.87

C113	Engineering Physics	2.11	2.17	2.03	1.62	1.33								1.91	1.72
C114	Basic Electrical Engineering	2.23	1.97	1.97	0.73							0.78	0.87	1.71	1.92
C115	Data Structure and Algorithms	2.33	1.97	2.13	1.97	1.51				0.96		0.91	1.53	1.72	2.42
C116	Communicative English and Technical Communication							0.83	0.87	2.27	0.98	1.53			
C117	Engineering Physics Laboratory	1.97	1.76	1.43	1.98	0.78					1.86			2.23	1.92
C118	Basic Electrical Engineering Laboratory	2.27	2.14	2.21	1.42	2.16								2.32	2.43
C119	Data Structure and Algorithms Laboratory		0.97	1.11	0.97	0.96							0.87		
C120	Communicative English and Technical Communication Laboratory							0.87	0.82	2.33	0.97	1.43			
C121	Engineering Graphics and Design	2.31	2.34	1.81	0.97	0.87								2.13	1.53
C122	NSS	0.93	0.87	1.12			1.42	1.98	1.89	1.32	1.43	1.92	0.98	1.42	0.97
C201	Engineering Mathematics-III	2.45	2.12	1.67	1.83									1.96	1.92
C202	Analog Electronic Circuits	1.73	1.33	0.97	0.73									1.43	0.96
C203	Electrical and Electronic Measurements	1.78	1.51		1.43						1.21		1.31	1.42	1.34

C204	Network Theory	1.84	2.11	1.54	1.32								1.91	1.76
C205	Object-Oriented Programming usingJAVA	1.89	1.52	0.97									1.87	0.98
C206	Organizational Behavior	2.03	2.51	0.91			1.42		1.23			0.93	0.78	1.83	1.46
C207	Analog Electronic Circuits Laboratory	1.63	1.32	1.41	0.97									1.67	1.43
C208	Electrical and Electronic Measurements Laboratory	2.23	1.43	0.93										1.51	1.61
C209	Object-Oriented Programming using JAVA Laboratory	2.36	1.87	1.34	0.98									1.81	1.54
C210	Summer Internship-I	1.93	1.31	1.34	1.12	0.78		1.87			1.31		1.32	1.48	1.33
C211	Essence of Indian Traditional Knowledge	1.73	1.12	-	1.33	-	-	1.89	2.09	1.89	-	-	1.43	0.98	1.43
C212	Digital Electronics	1.98	2.17	1.67	1.33	0.67							1.41	1.95	1.88
C213	Analog Communication	2.13	1.78	1.78	1.98	0.86				0.89	1.31	2.11	1.32	1..86	1.81
C214	Semiconductor Devices	2.23	2.12	1.86	1.42									1.91	1.43
C215	Signals and Systems	2.31	1.75	1.63										1.51	1.88
C216	Database Management Systems	1.94	0.87	0.93										1.53	0.89
C217	Engineering Economics and Costing	2.05	2.15	1.61	1.52	1.51							1.52	1.66	1.56
C218	Digital Electronics	2.19	2.27	1.76	1.22	0.73							1.41	2.13	2.21

	Laboratory														
C219	Analog Communication Techniques Laboratory	2.26	2.21	2.12	2.33	2.31							2.09	1.76
C220	Database Management Systems Laboratory	2.43	2.45	2.42	1.33	1.53				2.31	1.31			
C221	Mini Project-I	1.43	0.91	1.42	1.33	1.41	1.33	0.76	2.45	2.56	1.99	1.69	1.42	1.81	1.75
C222	Environmental Science	1.63	1.31	0.9	-	-	2.15	2.11	1.67	-	-	0.89	1.42	1.73	1.64
C301	Microprocessors and Microcontrollers	2.23	1.97	1.34		1.51								1.74	1.64
C302	Digital Communication	1.95	1.94	1.23	1.13	1.31								1.71	2.14
C303	Digital Signal Processing	2.01	1.76	1.43	1.51									1.71	1.69
C304	Electromagnetic Waves	1.91	1.53	1.87	1.12	1.31								2.45	1.32
C305	Fiber Optic Communication	2.04	1.41	1.23	0.85									1.41	1.43
C306	Fundamentals of Python Programming	2.27	1.83	1.94	2.1	1.12								0.98	1.73
C307	Human Values and Professional Ethics		1.33		1.89		1.67	0.91	1.51	1.87	1.31		1.41	0.98	
C308	Microprocessors and Microcontrollers Laboratory	1.63	1.73						1.12	1.34	1.53			1.87	1.93
C309	Digital Communication Techniques Laboratory	2.13	1.97	1.43	1.76	1.02								1.81	1.91

C310	Digital Signal Processing Laboratory	2.14	1.73	1.41	1.45	1.21								1.76	1.29
C311	Mini Project-II	1.91	1.78	2.31	1.64		1.28		1.32	2.24	1.33	1.14	1.31	1.74	1.94
C312	Summer Internship-II	1.82	1.72	1.65	1.62	1.63	0.98				1.44	1.77	2.42	1.76	2.25
C313	Digital VLSI Design	1.96	1.71	1.33	0.8	1.42								1.75	1.63
C314	Microwave Engineering	2.23	1.62	1.31	1.43									1.41	1.42
C315	Computer Vision	2.37	2.21	1.98	1.43	0.97								1.21	1.73
C316	Machine Learning	1.97	2.51	1.95	1.43	0.97								1.34	1.33
C317	Operating Systems	1.97	1.61	1.53										0.91	1.54
C318	Internet of Things	2.21	2.23	2.33	0.91	1.51								0.87	1.98
C319	Dietetics and Nutrition	0.99	0.91	0.67											
C320	Digital VLSI Design Laboratory	2.09	1.49	0.97				0.76	1.32					1.32	0.83
C321	Microwave Engineering Laboratory	2.22	1.53	2.57	1.41									0.97	1.43
C322	Mini Project-III	2.23	1.83	1.98	1.33	2.16			1.43			1.43	0.87	2.23	1.76
C401	Mobile Communication	2.34	2.31	1.43	1.37		0.67						1.31	2.31	
C402	Data Communications and Networking	2.31	2.31	1.11	1.89	2.09							1.31	2.21	2.41
C403	Artificial Intelligence	2.43	2.23	2.01	1.31									1.91	1.87
C404	Entrepreneurship Development	0.97	0.92	1.32	0.23									0.65	0.87
C405	Project Work-I	2.41	2.32	2.21	0.98	1.33			1.32			0.98	1.3	1.87	1.81
C406	Summer Internship-III	2.47	1.97	1.52	1.36	1.87	1.32							2.11	2.14
C407	Satellite	2.46	1.91	2.34	1.26	2.12	0.98	0.98				0.89	2.13	2.13	2.32

	Communication														
C408	Soft Computing	2.43	2.62	1.94	1.96									2.14	1.85
C409	Intellectual Property Rights								1.12		1.51		1.87		
C410	Project Work-II & Dissertation	2.31	1.83	1.87	1.98	1.89	1.29	1.98	1.63	1.51	1.61	1.32	1.44	1.97	1.83
	Average	**2.04**	**1.81**	**1.63**	**1.42**	**1.37**	**1.27**	**1.33**	**1.38**	**1.77**	**1.35**	**1.32**	**1.34**	**1.75**	**1.70**

Table No. 3.8.2: PO and PSO attainment value using indirect assessment tools.

Name of the Survey	**PO and PSO Attainment value using Indirect Assessment Tools.**												**PSO Attainment**	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**P10**	**PO11**	**PO12**	**PSO1**	**PSO2**
Student Feedback Surveys	2.13	2.14	1.82	1.87	2.14	1.13	1.21	1.32	1.41	1.56	1.56	1.87	2.22	2.14
Program Exit Surveys	1.98	2.13	2.15	1.76	1.87	1.32	1.87	1.92	1.65	1.42	1.78	1.86	1.92	2.01
Alumni Feedback	2.12	2.34	2.56	2.24	2.18	2.34	2.26	2.18	2.19	1.89	1.78	1.56	1.89	1.91
Employer Feedback	2.03	2.92	2.14	2.43	2.23	2.15	2.65	2.14	2.12	1.92	1.87	1.32	1.45	1.95
Indirect Attainment	**2.60**	**2.97**	**2.81**	**2.64**	**2.65**	**2.32**	**2.56**	**2.44**	**2.39**	**2.17**	**2.19**	**2.04**	**2.34**	**2.48**

Table No.3.8.3: Overall PO and PSO attainment value.

Direct Attainment	2.04	1.81	1.63	1.42	1.37	1.27	1.33	1.38	1.77	1.35	1.32	1.34	1.75	1.70
Indirect Attainment	2.60	2.97	2.81	2.64	2.65	2.32	2.56	2.44	2.39	2.17	2.19	2.04	2.34	2.48
Final Attainment	**1.83**	**1.65**	**1.50**	**1.34**	**1.29**	**1.22**	**1.26**	**1.30**	**1.61**	**1.28**	**1.26**	**1.28**	**1.60**	**1.56**

Criterion 4: Students' Performance (120)

Table No. 4A: Admission details for the program excluding those admitted through multiple entry and exit points.

Item (Information is to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	CAY 2024-25	CAYm1 2023-24	CAYm2 2022-23	CAYm3 2021-22	CAYm4 (LYG) 2020-21	CAYm5 (LYGm1) 2019-20	CAYm6 (LYGm2) 2018-19
N = Sanctioned intake of the program (as per AICTE /Competent authority)	120	120	120	120	180	180	120
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	117	120	120	120	122	148	116
N2 = Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	00	08	10	04	06	03	05
N3 = Separate division if any	00	00	00	00	00	00	00
N4 = Total no. of students admitted in the 1st year via all supernumerary quotas	00	00	00	01	00	02	00
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	117	128	130	125	128	153	121

CAY= Current Academic Year.

CAYm1= Current Academic Year Minus 1= Current Assessment Year.

CAYm2= Current Academic Year Minus 2= Current Assessment Year Minus 1.

LYG= Last Year Graduate.

LYGm1= Last Year Graduate Minus 1.

LYGm2= Last Year Graduate Minus 2.

Table No. 4B: Admission details for the program through multiple entry and exit points.

Item (No. of students admitted/exited through multiple entry and exit points) in the respective batch		CAY 2024-25	CAYm1 2023-24	CAYm2 2022-23	CAYm3 2021-22	CAYm4 (LYG) 2020-21	CAYm5 (LYGm1) 2019-20	CAYm6 (LYGm2) 2018-19
N5(Multiple entry) N5=N52+N53+N54	N52= No. of students admitted in 2nd year via multiple entry and exit points in same batch	00 (NA)	00	00	00	00	00	00
	N53= No. of students admitted in 3rd year via multiple entry and exit points in same batch	00 (NA)	00 (NA)	00	00	00	00	00
	N54= No. of students admitted in 4th year via multiple entry and exit points in same batch	00 (NA)	00 (NA)	00 (NA)	00	00	00	00
N5=N52+N53+N54		00 (NA)	00	00	00	00	00	00
N6 (Multiple exit) N6=N61+N62+N63	N61= No. of students exits after 1st year via multiple entry and exit points in same batch	00 (NA)	00	00	00	00	00	00
	N62= No. of students exit after 2nd year via multiple entry and exit points	00 (NA)	00 (NA)	00	00	00	00	00
	N63= No. of students exit after 3rd year via multiple entry and exit points in same batch	00 (NA)	00 (NA)	00 (NA)	00	00	00	00
N6=N61+N62+N63		00 (NA)	00	00	00	00	00	00

Table No. 4C: No. of students graduated within the stipulated period of the program.

Year of entry	Total no. of students (N1 + N2 + N3 + N4 + N5 - N6 as defined above)	Number of students who have successfully graduated in the stipulated period of study [Total of with Backlogs+ without Backlogs]			
		I Year	II Year	III Year	IV Year
CAY 2024-25	117 (117 + 0 (NA) + 0 + 0 + 0 (NA) - 0 (NA))				
CAYm1 2023-24	128 (120 + 8 + 0 + 0 + 0 – 0)	120			
CAYm2 2022-23	130 (120 + 10 + 0 + 0 + 0 – 0)	120	130		
CAYm3 2021-22	125 (120 + 4 + 0 + 1 + 0 – 0)	121	125	125	
CAYm4 (LYG) 2020-21	128 (122 + 6 + 0 + 0 + 0 – 0)	122	128	128	124
CAYm5 (LYGm1) 2019-20	153 (148 + 3 + 0 + 2 + 0 – 0)	150	153	152	147
CAYm6 (LYGm2) 2018-19	121 (116 + 5 + 0 + 0 + 0 – 0)	116	121	120	116

4.1. Enrolment Ratio in the First Year (20)

ER Points= 20 * (Average ER/100)

Table No.4.1.1: Student enrolment ratio in the 1st year.

Item (Students enrolled in the First Year on average over 3 academic years (CAY, CAYm1 and CAYm2))	CAY 2024-25	CAYm1 2023-24	CAYm2 2022-23
N = Sanctioned intake of the program in the 1st year (as per AICTE/Competent authority)	120	120	120
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	117	120	120
N4 = Total no. of students admitted in the 1st year via all supernumerary quotas	00	00	00
Enrolment Ratio (ER) = (N1+N4)/N	97.50	100	100
Average ER= (ER_1 + ER_2 + ER_3)/3	99.17 %		

Table No. 4.1.2: The marks distribution for enrolment ratio in the 1st year.

Item (Students enrolled in the First Year on average over 3 academic years (CAY, CAYm1 and CAYm2))	Marks
>= 90% students enrolled in the First Year on average over 3 academic years (CAY, CAYm1 and CAYm2)	20
>= 80% students enrolled in the First Year on average over 3 academic years (CAY, CAYm1 and CAYm2)	17
>= 70% students enrolled in the First Year on average over 3 academic years (CAY, CAYm1 and CAYm2)	14
>= 60% students enrolled in the First Year on average over 3 academic years (CAY, CAYm1 and CAYm2)	11
>= 50% students enrolled in the First Year on average over 3 academic years (CAY, CAYm1 and CAYm2)	08
>= 40% students enrolled in the First Year on average over 3 academic years (CAY, CAYm1 and CAYm2)	05

4.2. Success Rate of the Students in the Stipulated Period of the Program (15)

Success Rate (SR) = (No. of students who graduated from the program in the stipulated course duration) / (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).

Average SR = Mean of SR for the past three batches.

SR Points = 1.5 * Average SR/10.

Table No.4.2.1: The success rate in the stipulated period of a program.

Item	LYG 2023-24	LYGm1 2022-23	LYGm2 2021-22
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).	128	153	121
B = No. of students who graduated from the program in the stipulated course duration	124	147	116
Success Rate (SR) = (B/A) * 100	96.88	96.08	95.88
Average SR of three batches ((SR_1 + SR_2 + SR_3)/3)	96.28		

Note *: If the value of A in Table No. 4.2.1 is less than the sum of the sanctioned intake (N) and the lateral entry including leftover seats (N2), then the value of A in Table No. 4.2.1 should be the sum of the sanctioned intake (N) and the lateral entry including leftover seats (N2).

4.3. Academic Performance of the First-Year Students of the Program (10)

Academic Performance = Average Academic Performance Index (API), where

API = ((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))

* (Number of successful students/number of students appeared in the examination)

Successful students are those who have to proceeded to the 2nd year.

Table No.4.3.1: Academic Performance of the First-Year Students of the Program.

Academic Performance	CAYm1 2023-24	CAYm2 2022-23	CAYm3 2021-22
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)	7.62	7.21	7.11
Y= Total no. of successful students	120	120	121
Z = Total no. of students appeared in the examination	120	120	121
API = X* (Y/Z)	7.62	7.21	7.11
Average API = (AP1 + AP2 + AP3)/3	7.31		

4.4. Academic Performance of the Second Year Students of the Program (10)

Academic Performance = Average Academic Performance Index (API), where

API = ((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))

* (Number of successful students/number of students appeared in the examination).

Successful students are those who have proceeded to the 3rd year.

Table No.4.4.1: Academic Performance of the Second Year Students of the Program.

Academic Performance	CAYm1 2023-24	CAYm2 2022-23	CAYm3 2021-22
X= (Mean of 2nd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 2rd year/10)	7.20	7.18	7.78
Y = Total no. of successful students	130	125	128
Z = Total no. of students appeared in the examination	130	125	128
API = X* (Y/Z)	7.20	7.18	7.78
Average API = (AP1 + AP2 + AP3)/3	7.39		

4.5 Academic Performance of the Third Year Students of the Program (10)

Academic Performance = Average Academic Performance Index (API), where

API = ((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))

* (Number of successful students/number of students appeared in the examination).

Successful students are those who have proceeded to the 4th year.

Table No.4.5.1: 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)	7.37	7.70	7.89
Y= Total no. of successful students	125	128	153
Z= Total no. of students appeared in the examination	125	128	153
API = X* (Y/Z)	7.37	7.70	7.89
Average API = (AP1 + AP2 + AP3)/3	7.65		

4.6 Placement, Higher Studies and Entrepreneurship (30)

Placement index points= 0.3 * Average placement index (P).

Table No. 4.6.1: Placement, higher studies, and entrepreneurship details.

Academic Performance	CAYm1 2023-24	CAYm2 2022-23	CAYm3 2021-22
FS*=Total no. of final year students	128	153	120
X= No. of students placed	108	123	104
Y= No. of students admitted to higher studies	0	6	4
Z= No. of students taking up entrepreneurship	1	0	0
X + Y + Z =	109	129	108
Placement Index (P) = (((X + Y + Z)/FS) * 100)	85.16	84.31	90.00
Average placement index = (P_1 + P_2 + P_3)/3	86.49		

Note *: If the value of FS in Table No. 4.6.1 is less than the sum of the sanctioned intake (N) and the lateral entry including leftover seats (N2), then the value of FS in Table No. 4.6.1

should be the sum of the sanctioned intake (N) and the lateral entry including leftover seats (N2).

BATCH: -2020-24			
PLACED STUDENT LIST			
SL. NO	**UNIVERSITY REGD.NO**	**STUDENT NAME**	**COMPANY NAME**
1	20UG010377	KIRAN KUMAR SAHU	DELOITTE CONSULTING
2	20UG010378	PRITAM PANIGRAHY	KRAZYTECH
3	20UG010379	SIDHARTH SANKAR SAHOO	TECH MAHINDRA 2.4 LPA
4	20UG010380	SHASANK KUMAR NAHAK	TEACHNOOK
5	20UG010381	MANASH CHOUDHARY	TECH MAHINDRA
6	20UG010382	KAMALAKANTA GOUDA	DELOITTE HC FUNCTIONAL-1
7	20UG010383	G SAI RAJESH KUMAR PATRO	ENLARGESOFTIT HUB
8	20UG010384	AMRIT PADHY	TECH MAHINDRA 2.4 LPA
9	20UG010385	AYUSH KUMAR PATI	TECH MAHINDRA 2.4 LPA
10	20UG010386	RAHULRAJ MOHANTY	TEACHNOOK
11	20UG010387	SONAL RAJ SINGH	ACCENTURE
12	20UG010388	SATARTHA MOHANTY	TECH MAHINDRA
13	20UG010389	MEENAKHI SENAPATI	ACCENTURE
14	20UG010391	D SHIVA SATHWIK	ZENUS GROUP
15	20UG010392	JAGANNATH KAR	DELOITTE HC TECHNICAL-1
16	20UG010393	SK MD SAMIM AKHTAR	TECH MAHINDRA
17	20UG010394	SIBASANKAR SWAIN	KREATIVAN TECHNOLOGY
18	20UG010395	PRAVASH RANJAN NAYAK	TECH MAHINDRA
19	20UG010396	BISWARANJAN ROUT	ITC INFOTECH
20	20UG010398	BHABATOSH PANDA	KRAZYTECH
21	20UG010399	SATYAPRIYA NAYAK	TEACHNOOK

22	20UG010400	ASHIRBAD SAHOO	KREATIVAN TECHNOLOGY
23	20UG010401	NAROTTAM PRUSTY	KRAZYTECH
24	20UG010402	SATYAJEET NATH	ACCENTURE
25	20UG010403	TITIKSHU TARUN BEHERA	ITC INFOTECH
26	20UG010404	PHALGUNI PANIGRAHI	CORPTEAM SOLUTIONS
27	20UG010405	SUNIL SWAIN	ACCENTURE
28	20UG010406	SASWAT PANDA	TECH MAHINDRA 2.4 LPA
29	20UG010407	DOLESWAR CHOUDHURY	ACCENTURE
30	20UG010408	ASUTOSH SAHOO	ACCENTURE
31	20UG010409	NANDITA ROY	DELOITTE HC FUNCTIONAL
32	20UG010410	RAHUL KUMAR KUILA	TECH MAHINDRA-3
33	20UG010411	SOUMYA RANJAN MUDULI	TECH MAHINDRA
34	20UG010412	PRABHU KALYAN SAHOO	DELOITTE HC TECHNICAL
35	20UG010414	VIPUL KUMAR	KRAZYTECH
36	20UG010415	OMKAR PATRA	DELOITTE HC TECHNICAL
37	20UG010416	UTKALIKA MOHAPATRA	ACCENTURE
38	20UG010417	RAHUL KUMAR PALAI	OMEGA HEALTHCARE
39	20UG010419	KHUSHI KUMARI	ACCENTURE
40	20UG010420	DHIRESH KUMAR PATEL	ACCENTURE
41	20UG010421	ASHIS KUMAR PATRA	TECH MAHINDRA-3
42	20UG010423	PRASANNA KUMAR CHOUDHARY	ACCENTURE
43	20UG010425	ARSHAD KHAN	DELOITTE HC TECHNICAL
44	20UG010426	SUBHAM KUMAR	TECH MAHINDRA
45	20UG010427	SHASHI RANJAN	CEASEFIRE INDUSTRIES
46	20UG010514	NIKHIL KUMAR NAIK	ACCENTURE
47	20UG010515	P ANAND	DELOITTE CONSULTING

48	20UG010516	P RUPA	ACCENTURE
49	20UG010517	ROSHAN KUMAR SAHU	PIGEON EDUCATION TECHNOLOGY - ODA CLASS
50	20UG010518	RUPAM BARAD	CYGNII
51	20UG010519	UMASHANKAR PADHY	DELOITTE CONSULTING
52	20UG010520	PEDDINA SIDHU	DELOITTE HC TECHNICAL-1
53	20UG010521	CH SREEVALLI	ACCENTURE
54	20UG010522	SUBUDHI SAI SUDHESHNA	ACCENTURE
55	20UG010523	SHUBHASMITA PRADHAN	ACCENTURE
56	20UG010524	MOHIT RANJAN JENA	TECH MAHINDRA
57	20UG010525	S SAHITYA	INVENIO LSI
58	20UG010526	ASHUTOSH KASHYAP	TECH MAHINDRA-3
59	20UG010527	PIYUSH KUMAR PADHY	TCS
60	20UG010528	POTNURU RAVI KUMAR	ZSCALER
61	20UG010529	SINGAMCHETTI VANDANA	ACCENTURE
62	20UG010531	VIVEK KUMAR BEHERA	TECH MAHINDRA 2.4 LPA
63	20UG010532	JAGAN KUMAR PANDA	KEOLIS HYD METRO
64	20UG010534	SUDHAKAR KUMAR	ACCENTURE
65	20UG010535	SANKALP KUNDU	HIGHRADIUS
66	20UG010536	ABHIJIT MAHARANA	ITC INFOTECH
67	20UG010537	SOUMYA RANJAN SWAIN	ACCENTURE
68	20UG010538	ANISHA KUMARI	INVENIO LSI
69	20UG010539	RUPALI PANDA	ACCENTURE
70	20UG010540	BHASKAR KATAYAYANA	TCS
71	20UG010541	P BALAJI PATRO	CYGNII
72	20UG010542	TANGUDU HEMANTH	DELOITTE HC TECHNICAL
73	20UG010544	SIPUN PANDA	ENLARGESOFTIT HUB

74	20UG010545	DEBASIS SAHOO	SURYA INTERNATIONAL
75	20UG010546	MANISH RAJ PANIGRAHI	APMOSYS
76	20UG010547	ANUBHAV BARAL	TECH MAHINDRA
77	20UG010548	G BHUBANI PATRA	APMOSYS
78	20UG010549	ATUL GOUDA	SURYA INTERNATIONAL
79	20UG010550	SAYED INAYAT NADIM	TECH MAHINDRA
80	20UG010551	ASTHA SINGH	TECH MAHINDRA
81	20UG010552	MAYUKH KHATUA	BOOKINGJINI
82	20UG010554	ANIMESH BARIK	TECH MAHINDRA
83	20UG010557	BASUDEV BISWAL	APMOSYS
84	20UG010559	PEDDINA AMINI	ZENUS GROUP
85	20UG010560	PEDDINA AKHILA	TECH MAHINDRA
86	20UG010561	RETUJA SINGH	ACCENTURE
87	20UG010563	ANWESHI ROUT	TECH MAHINDRA-3
88	20UG010564	TARUN KORKORIA	TECH MAHINDRA-3
89	20UG010565	TANGUDU SATISH KUMAR	TCS
90	20UG010566	SATHWEEKA PATNAIK	ACCENTURE
91	20UG010567	RAHUL RANJAN BISWAL	UDAYA SOLUTION
92	20UG010568	DAVIS SENAPATI	SILICON INDIA
93	20UG010569	ABHISEK PATTNAIK	ZENUS GROUP
94	20UG010570	SURYA SASWAT PATRA	ZENUS GROUP
95	20UG010571	ROKKAM AJIT KUMAR	KEOLIS HYD METRO
96	20UG010572	M HARISH KUMAR	APMOSYS
97	20UG010575	PAVAN KUMAR SAHU	TECH MAHINDRA
98	20UG010576	NALLANA ALISHA CHOUDHURY	ACCENTURE
99	20UG010577	KOTINI MANIKANTA	BRANE SERVICES PVT LTD

100	20UG010578	TIRTHARAJ SETHI	TECH MAHINDRA 2.4 LPA
101	20UG010579	AMBIKA DAS	ACCENTURE
102	20UG010580	SYED AKHIB	TEACHNOOK
103	20UG010581	RAHUL KUMAR	GENPACT-1
104	20UG010583	AMIT KUMAR PATRA	TECH MAHINDRA
105	20UG01LE43	JAMI MANIKANTA	TECH MAHINDRA
106	20UG01LE45	SURAJ KUMAR PANDEY	ACCENTURE
107	20UG01LE47	SUBHAM PATNAIK	TECH MAHINDRA
108	20UG01LE48	SAURAV DEVASHISH	EDGE TELECOM

BATCH: -2019-23			
PLACED STUDENT LIST			
SL. NO	**UNIVERSITY REGD.NO**	**STUDENT NAME**	**COMPANY NAME**
1	1901090001	SAPAN KUMAR SAHU	TPSODL
2	1901090002	K. BINEETA	SUTHERLAND GLOBAL
3	1901090003	SAHU KARIVAMSY	CYGNII AUTOMATION
4	1901090004	SAIKAT MAHAKUR	CYGNII AUTOMATION
5	1901090005	SOUMYA RANJAN SAHOO	TPSODL
6	1901090006	AVINASH BURMA	EVERTZ
7	1901090007	SUDEEP KUMAR PANDA	GENPACT
8	1901090009	KORADA ADARSH	SAVANTIS SOLUTIONS
9	1901090010	DEBABRATA DEHURY	DXC TECHNOLOGY
10	1901090011	MOTILAL KHUAS	HIGHRADIUS
11	1901090012	PRAGATI ARASAVILLI	DXC TECHNOLOGY
12	1901090013	BIPIN BIHARI PARIDA	PLANET SPARK
13	1901090014	NISHANTH KUMAR PRADHAN	CODITAS

14	1901090015	DEBASIS BEHERA	HIGHRADIUS
15	1901090016	AMIYA RANJAN SAHOO	SKILLVERTEX
16	1901090017	KORADA SUPRAJA	MGH INFRASTRUCTURE
17	1901090018	SANTOSH KUMAR PANDA	INTELLIPAAT
18	1901090019	DILIP NAYAK	KRAZY TECH
19	1901090021	SOURABH KUMAR	COFORGE
20	1901090023	SIDHARTH BARAL	MGH INFRASTRUCTURE
21	1901090024	SOURABH TIWARI	SMARTINFOSYS .NET
22	1901090025	PRINCE KUMAR	SCHWING STETTER
23	1901090026	ANKIT RAUL	CAPGEMINI
24	1901090027	DANANA VINEETH	SKOLAR
25	1901090028	AMLAN SATAPATHY	MSA SOFTWARE
26	1901090030	AJIT KUMAR DAS	MGH INFRASTRUCTURE
27	1901090031	VISHNUPRIYA MISRA	LIFERAY INDIA
28	1901090032	V.VENKATA RAMANA	KRAZY TECH
29	1901090035	AMIT KUMAR BEHERA	HIGHRADIUS
30	1901090037	KALI PRASAD SENAPATI	HIGHRADIUS
31	1901090038	LAXMIKANTA PADHY	GENPACT
32	1901090039	ADARSH DAKUA	INFOSYS
33	1901090040	RANJIT PADHY	BLUE FLAME LABS
34	1901090041	DEV RANJAN MAHATO	MEDIOLOGY SOFTWARE
35	1901090043	ARFAN AHMED	HIGHRADIUS
36	1901090045	AYESHA JENA	LAGOZON TECHNOLOGIES
37	1901090047	HITESH KUMAR PRAJAPATI	CAPGEMINI
38	1901090048	CHINMAYA PRUSETH	CAVISSON SYSTEMS INC
39	1901090049	RISHI KUMAR PATNAIK	MGH INFRASTRUCTURE

40	1901090050	M ROSHAN KUMAR	SMARTINFOSYS .NET
41	1901090051	ASUTOSH NAYAK	HCL TECHNOLOGY
42	1901090052	PRAGYAN PARAMITA BEHERA	SAVANTIS SOLUTIONS
43	1901090053	ADITYA NARAYAN PANDA	CAPGEMINI
44	1901090054	PRITAM SENAPATI	HIGHRADIUS
45	1901090055	BAIBHAV DANDSENA	HIGHRADIUS
46	1901090057	AYUSH PRAKASH	NESTORBIRD
47	1901090058	AKASH PRASHAR	KRAZY TECH
48	1901090059	LAXMI SUBUDHI	MGH INFRASTRUCTURE
49	1901090060	MADUGULA ARUN KUMAR	SKOLAR
50	1901090061	ANUPAM SHAKYA	CYGNII AUTOMATION
51	1901090062	GYAN RANJAN PRADHANI	INTELLIPAAT
52	1901090064	SATYA NARAYAN PANDA	QUALTECH CONSULT
53	1901090065	VOONA AKHILA	OSMOSYS SOFTWARE
54	1901090066	DHARMENDRA KUMAR SINGH	CAVISSON SYSTEMS INC
55	1901090067	SARUP SAHU	OSMOSYS SOFTWARE
56	1901090068	BIPLAB MONDAL	CAVISSON SYSTEMS INC
57	1901090069	AMAN RAJAK	HIGHRADIUS
58	1901090070	SUJIT SUBUDHI	DXC TECHNOLOGY
59	1901090071	VARANASI VINITH	OSMOSYS SOFTWARE
60	1901090072	ABHISEK BARIK	SAVANTIS SOLUTIONS
61	1901090074	ANDAVARAPU SATISH	MGH INFRASTRUCTURE
62	1901090075	SIBASISH TRIPATHY	HIGHRADIUS
63	1901090076	NABENDU PASAYAT	CAPGEMINI
64	1901090077	MOHIT RANJAN JENA	LAGOZON TECHNOLOGIES
65	1901090078	SNEHA	TPSODL

66	1901090079	BHARAT KUMAR PATRI	CAPGEMINI
67	1901090080	AJAY JANI	INTELLIPAAT
68	1901090081	MONALISHA GOUDA	EVINCE DEV
69	1901090082	RUDRA NARAYAN NATH	TPSODL
70	1901090083	ABHIJIT PUSTI	EVINCE DEV
71	1901090084	KISHAN KUMAR SAHU	QUALTECH CONSULT
72	1901090085	TARUN KUMAR GOLARI	OSMOSYS SOFTWARE
73	1901090086	SRITAM SUBHAM JENA	TCS
74	1901090087	BRAHMA NANDA PANDA	MGH INFRASTRUCTURE
75	1901090088	BISWAJIT NAYAK	CSS CORP
76	1901090089	SATYABRATA SAHOO	CAPGEMINI
77	1901090090	YASH SAHU	CAPGEMINI
78	1901090091	RAJ KUMAR	CSS CORP
79	1901090092	ABHINAV RAJ	MEDIOLOGY SOFTWARE
80	1901090093	SUBHRAM PATEL	HCL TECHNOLOGY
81	1901090094	RASHMI KUMARI SAHOO	GENPACT
82	1901090095	DURGA PRASAD SWAIN	INDUS TOWERS
83	1901090096	BOTU JASMINE SUBUDHI	TCS
84	1901090097	MOHIT KUMAR MAHATO	HCL TECHNOLOGY
85	1901090098	SUBHAM PATTNAIK	MEDIOLOGY SOFTWARE
86	1901090099	MOHAMMED JAVED	TCS
87	1901090100	SK MUKTAR ARIF MAHAMMAD	HIGHRADIUS
88	1901090101	KOLLIKANI VINAY KUMAR	INDUS TOWERS
89	1901090102	AKASH TARAI	EVINCE DEV
90	1901090103	ASHISH PRADHAN	QUALTECH CONSULT
91	1901090104	HRIDAY AMAN DAS	BLUE FLAME LABS

92	1901090105	BISHNU PRASAD MAHARANA	MEDIOLOGY SOFTWARE
93	1901090106	SHAKTI PRASAD SWAIN	SCHWING STETTER
94	1901090107	JYOTI RANJAN SAHOO	INDUS TOWERS
95	1901090108	SUBHRAJIT TRIPATHY	BLUE FLAME LABS
96	1901090109	MD SAHID RAZA	SCHWING STETTER
97	1901090110	CHANDAN PADHAN	BLUE FLAME LABS
98	1901090111	TAPASWINI MOHAPATRA	GENPACT
99	1901090112	SATYA BRATA BEHURA	GENPACT
100	1901090113	ANUPAM RAJ GUPTA	HCL TECHNOLOGY
101	1901090114	ANAND GUPTA	HIGHRADIUS
102	1901090115	SUCHITRA MAHAPATRA	EVINCE DEV
103	1901090116	RAJ SHARMA	QUALTECH CONSULT
104	1901090117	KRISHNAKANTA NAIK	TPSODL
105	1901090123	AMARNATH KUMAR PAUL	GENPACT
106	1901090124	HARIHAR DALAI	HCL TECHNOLOGY
107	1901090125	D NEERAJ KUMAR	HIGHRADIUS
108	1901090126	TAPAS KUMAR DASH	EVINCE DEV
109	1901090127	PRIYA DASH	QUALTECH CONSULT
110	1901090134	RAJAT KUMAR HOTA	HIGHRADIUS
111	1901090135	ASUTOSH SAHOO	HIGHRADIUS
112	1901090137	BALABHADRA MOHANTA	HIGHRADIUS
113	1901090138	B. PRIYANKA	HIGHRADIUS
114	1901090139	HARSHA PUJARI	HIGHRADIUS
115	1901090140	PIYUSH KUMAR	GENPACT
116	1901090141	ASHUTOSH MAHAPATRA	HCL TECHNOLOGY
117	1901090142	SIDHARTHA BISWAL	HIGHRADIUS

118	1901090143	SOUMYA RANJAN PANDA	EVINCE DEV
119	1901090144	DEBASHISH MISHRA	QUALTECH CONSULT
120	1901090148	ANKIT HOTA	HIGHRADIUS
121	1901090181	SOMYA RANJAN PRADHAN	COFORGE
122	1901090182	SHREE KRISHNA KUMAR AGRAHARI	OSMOSYS SOFTWARE
123	190109LE01	TANIYA NAYAK	HIGHRADIUS

BATCH: -2018-22			
PLACED STUDENT LIST			
SL. NO	**UNIVERSITY REGD.NO**	**STUDENT NAME**	**COMPANY NAME**
1	1801210001	A.B. MUKESH KUMAR BEHERA	MPHASIS
2	1801210004	ABANTIKA PADHY	MPHASIS
3	1801210012	ADARSH BADAJENA	CLEVERNIST
4	1801210025	AKASH BHARDWAJ	KAPTIUS TECH
5	1801210031	AKASH KUMAR KARMAKAR	WIPRO TECHNOLOGIES
6	1801210036	AKSHYA KUMAR BISOI	GAINSIGHT
7	1801210043	AMARJEET SAHOO	MINDTREE
8	1801210048	AMIT KUMAR MOHANTY	RUSHIL DÉCOR
9	1801210052	AMRENDRA KUMAR SINGH	TECH MAHINDRA
10	1801210055	ANAND PRAKASH	SATTRIX INFORMATION
11	1801210070	ANNAM KUMAR PANDA	HIGH RADIOUS(CO)
12	1801210081	ARSHAD ANSASRI	OSMOSYS
13	1801210084	ARVIND KUMAR RATHOUR	SAKTHI AUTO COMP LTD
14	1801210090	ASHIS KUMAR MOHAPATRA	INOSYSTEK SOLUTIONS
15	1801210093	ASHISH ROUTRAY	KAPTIUS TECH
16	1801210096	ASHUTOSH BISOYI	OSMOSYS

17	1801210099	ASHWIT ACHINTAM SAHU	INFOSYS
18	1801210100	ASIF RAZA	MPHASIS
19	1801210105	ATISH ROUT	WIPRO TECHNOLOGIES
20	1801210107	AVINASH AGARWAL	HIGH RADIOUS(CO)
21	1801210110	BAIBHAB PANIGRAHI	QUALTECH
22	1801210126	BIRANCHI NARAYANA PATTANAYAK	WIPRO TECHNOLOGIES
23	1801210129	BISWAJIT PATRA	ASCON SOFTTECH
24	1801210133	CHANCHAL AGRAWAL	OSMOSYS
25	1801210142	DEBASHISH PARIDA	CLEVERNIST
26	1801210146	DEBASISH JENA	GIRNAR SOFT
27	1801210156	DEVISARTHAK SWAIN	HIGH RADIOUS(BS)
28	1801210164	G.ANUDEEP	ZIGNUTS TECHNOLABS
29	1801210165	G.UDAY KIRAN	WIPRO TECHNOLOGIES
30	1801210166	GANAPATI SAHU	CODITAS
31	1801210167	GAURAV KUMAR SINGH	MPHASIS
32	1801210171	GURIYA KUMARI	PLANET SPARK
33	1801210186	JANMAJOY TRIPATHY	SATTRIX INFORMATION
34	1801210194	JIDAGA NAVEEN	MPHASIS
35	1801210200	JYOTI RANJAN PUROHIT	RUSHIL DÉCOR
36	1801210206	KANDULA ROHIT KUMAR	UPGRAD
37	1801210217	KISHU KUMAR	MPHASIS
38	1801210228	LIPSA NAYAK	MPHASIS
39	1801210230	M. PRATYUSHA	INVENIO BS
40	1801210233	MAHABIR BARIK	WIPRO TECHNOLOGIES
41	1801210235	MANAS RANJAN NAYAK	SAKTHI AUTO COMP LTD
42	1801210237	MANASI PANDA	WIPRO TECHNOLOGIES

43	1801210238	MANEET RAJ	HIGH RADIOUS(CO)
44	1801210244	MD OWAIS KARIM	PERSISTENT
45	1801210249	MRINAL KUMAR JHA	WIPRO TECHNOLOGIES
46	1801210260	NEHA GUPTA	HIGH RADIOUS(BS)
47	1801210266	NIKHIL KUMAR SINGH	TATA CONSULTANCY
48	1801210275	NISHIT MOHAPATRA	ALLSEC TECH
49	1801210282	P VENKAT RAMAN	CODITAS
50	1801210291	PARITOSH PANDA	SATTRIX INFORMATION
51	1801210293	PATIVADA MEGHANA	E CLINICAL WORKS
52	1801210297	PLABIN BISI	WIPRO TECHNOLOGIES
53	1801210298	PRABHAKAR KATAYAYAN	WIPRO TECHNOLOGIES
54	1801210304	PRAKASH KUNDU	SAKTHI AUTO COMP LTD
55	1801210306	PRASANNA PARIDA	TVARANA SOFTWARE
56	1801210311	PRATIK GHOSH	WIPRO TECHNOLOGIES
57	1801210314	PRAVEEN KUMAR SRIVASTAVA	CSS CORP
58	1801210316	PREETAM PALO	PERSISTENT
59	1801210318	PREM SUNDAR PADHY	MPHASIS
60	1801210319	PRERANA SAMAL	WIPRO TECHNOLOGIES
61	1801210322	PRITI PRAGNYA SATAPATHY	TATA CONSULTANCY
62	1801210326	PRIYANSHU MOHANTY	SATTRIX INFORMATION
63	1801210332	PUSPENDU MAHAKUL	CAVISSON TESTING
64	1801210334	R PAWAN KALYAN	HIGHRADIUS (TECK TRACK)
65	1801210341	RAJAT BISOI	HIGHRADIUS (TECK TRACK)
66	1801210342	RAJESH KUMAR PADHI	COGNIZANT GEN C ELE
67	1801210344	RAJNISH KUMAR KUSHWAHA	MPHASIS
68	1801210346	RAKESH MEHER	COGNIZANT GEN C

69	1801210348	RANA LOKESWAR RAO	MPHASIS
70	1801210350	RANI SWETASHRI NAIK	TATA CONSULTANCY
71	1801210365	S SAI PRANAY	HIGHRADIUS (TECK TRACK)
72	1801210366	S SUMAN KUMAR PATRA	SATTRIX INFORMATION
73	1801210369	SABINA NAHID	PIAGGIO VEHICLES
74	1801210391	SANKALPA PATTANAIK	SATTRIX INFORMATION
75	1801210393	SANKARSANA BEHERA	RUSHIL DÉCOR
76	1801210398	SAPHALYA KUMAR SAHU	CAPGEMINI
77	1801210402	SARTHAK RAJ PANDA	VVDN TECHNOLOGY
78	1801210420	SHAILESH SUMAN	HIGH RADIOUS(BS)
79	1801210421	SHAILJA SUMAN	WIPRO TECHNOLOGIES
80	1801210427	SHASHI SHEKHAR	MPHASIS
81	1801210429	SHIDDARTH KUMAR	CAVISSON TESTING
82	1801210432	SHIVANI SINGH	SATTRIX INFORMATION
83	1801210434	SHREE KRUSHNA MAJHI	SAKTHI AUTO COMP LTD
84	1801210437	SHUBHAM DASH	HIGH RADIOUS
85	1801210453	SIVANI SUBUDHI	MPHASIS
86	1801210465	SOUBHAGYA RANJAN SAHOO	ENVESTNET|YODLEE
87	1801210470	SOUMYA KUMAR NAIK	PERSISTENT
88	1801210471	SOUMYA RANJAN JENA	HIGHRADIUS (TECK TRACK)
89	1801210484	SUBHAM DEY	CAVISSON DEV
90	1801210485	SUBHAM KUMAR SAHOO	QUALITAS GLOBAL
91	1801210491	SUBUDHI SAI SUSMITHA	SURYA INTERNATIONAL
92	1801210496	SUMAN MANDAL	CAVISSON TESTING
93	1801210501	SURAJ SINGH	BHARAT FINANCIAL INCLUSION LTD
94	1801210503	SUSIL KUMAR SAHOO	SAKTHI AUTO COMP LTD

95	1801210506	SWADHIN POLEI	TATA CONSULTANCY
96	1801210507	SWAGAT KUMAR PATRO	SAKTHI AUTO COMP LTD
97	1801210512	SWOSTIK GHOSH	TATA CONSULTANCY
98	1801210526	TUSHAR RANJAN PATEL	QUALITAS GLOBAL
99	1801210531	UTTARALA SRIKANTH	RUSHIL DÉCOR
100	1801210540	VISHAL KUMAR	WIPRO TECHNOLOGIES
101	1921210026	ANUBRATA GIRI	HIGHRADIUS (TECK TRACK)
102	1921210027	DEEPA SAH	WIPRO TECHNOLOGIES
103	1921210029	TASMIN TRIPATHY	SATTRIX INFORMATION
104	1921210030	AMIT KUMAR MISHRA	HOFINCONS

BATCH: -2019-23

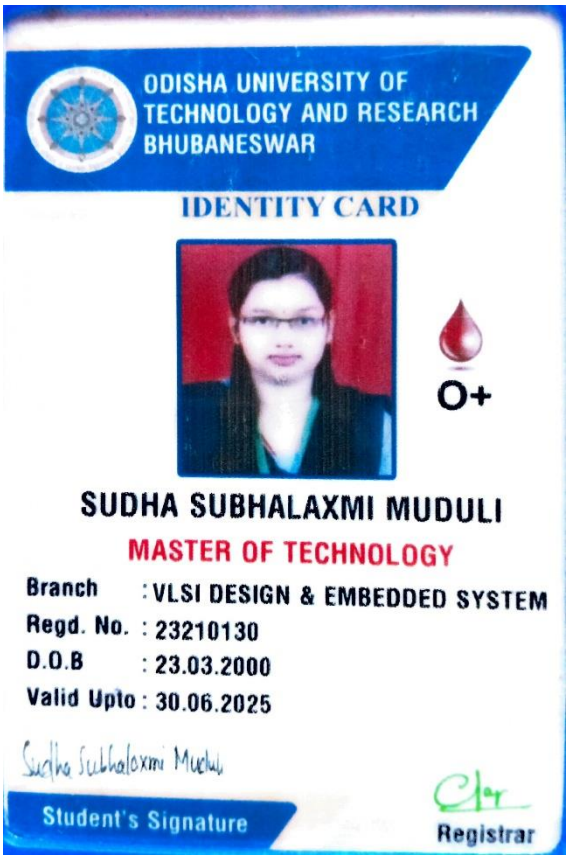
HIGHER STUDY STUDENT LIST

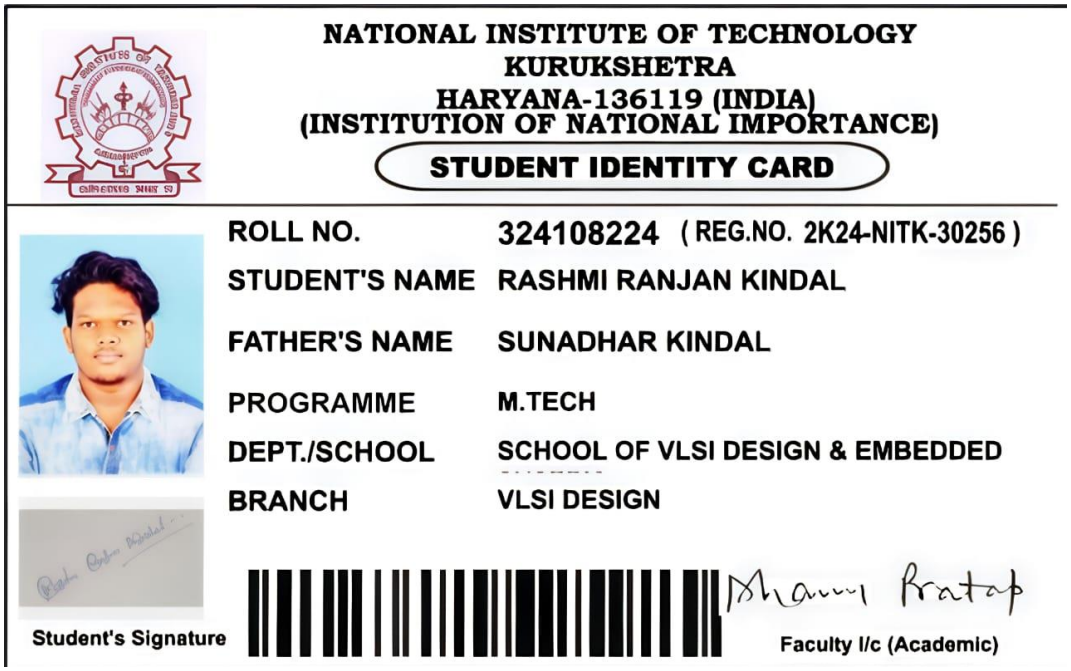
SL. NO	UNIVERSITY REGD.NO	STUDENT NAME	PROGRAMME
1	1901090034	GUDLA AMRUT	MBA
2	1901090073	NILIMA CHAKRA	MS
3	1901090020	RASHMI RANJAN KINDAL	M. TECH
4	1901090042	SUDHA SUBHALAXMI MUDULI	M. TECH
5	1901090036	PRANGYAN RANI PANI	M. TECH
6	1901090063	PRITAM JANA	M. TECH

BATCH: -2018-22

HIGHER STUDY STUDENT LIST

SL. NO	UNIVERSITY REGD.NO	STUDENT NAME	PROGRAMME
1	1801210227	LIPSA DAINI	MBA
2	1801210333	R BUDHI SAGAR	M.TECH
3	1801210378	SAILESH KUMAR PATRO	M.TECH
4	1801210461	SONALI MAHAPATARA	M.TECH





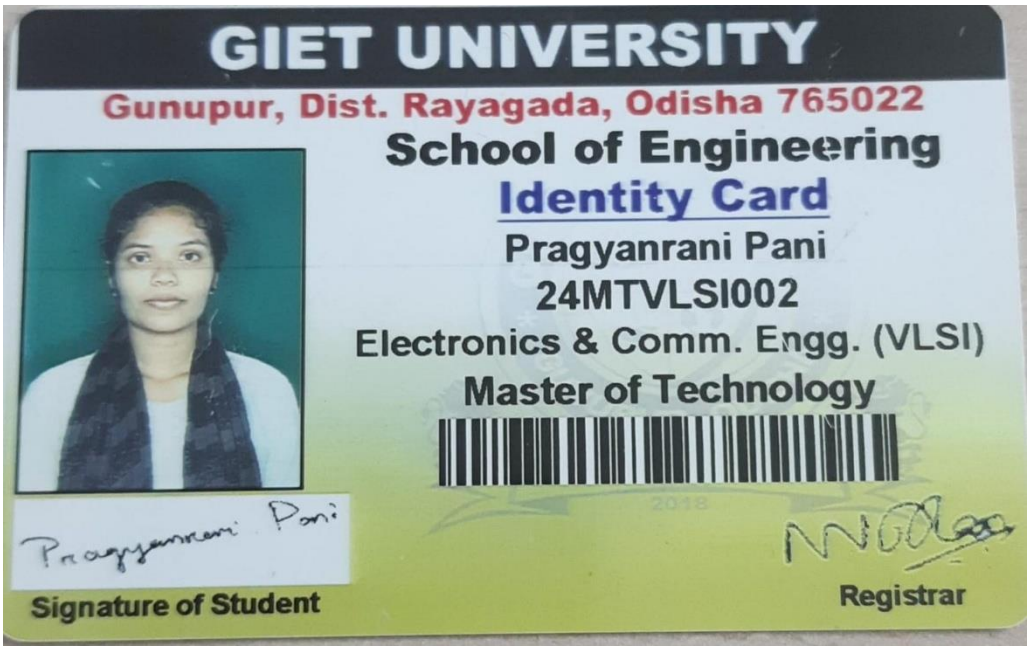
NATIONAL INSTITUTE OF TECHNOLOGY
KURUKSHETRA
HARYANA-136119 (INDIA)
(INSTITUTION OF NATIONAL IMPORTANCE)

STUDENT IDENTITY CARD

ROLL NO. 324108224 (REG.NO. 2K24-NITK-30256)
STUDENT'S NAME RASHMI RANJAN KINDAL
FATHER'S NAME SUNADHAR KINDAL
PROGRAMME M.TECH
DEPT./SCHOOL SCHOOL OF VLSI DESIGN & EMBEDDED
BRANCH VLSI DESIGN

Student's Signature

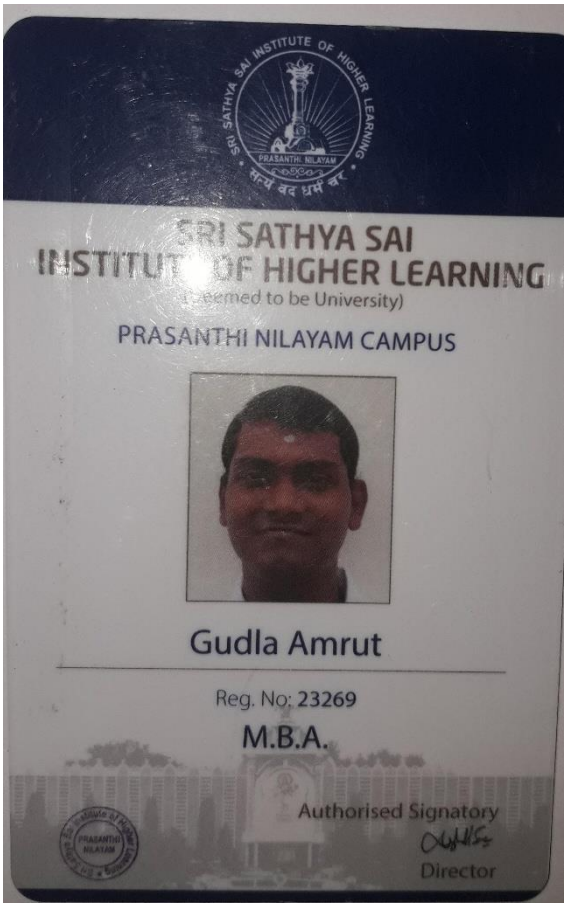
Faculty I/c (Academic)



GIET UNIVERSITY
Gunupur, Dist. Rayagada, Odisha 765022
School of Engineering
Identity Card
Pragyanrani Pani
24MTVLSI002
Electronics & Comm. Engg. (VLSI)
Master of Technology

Signature of Student

Registrar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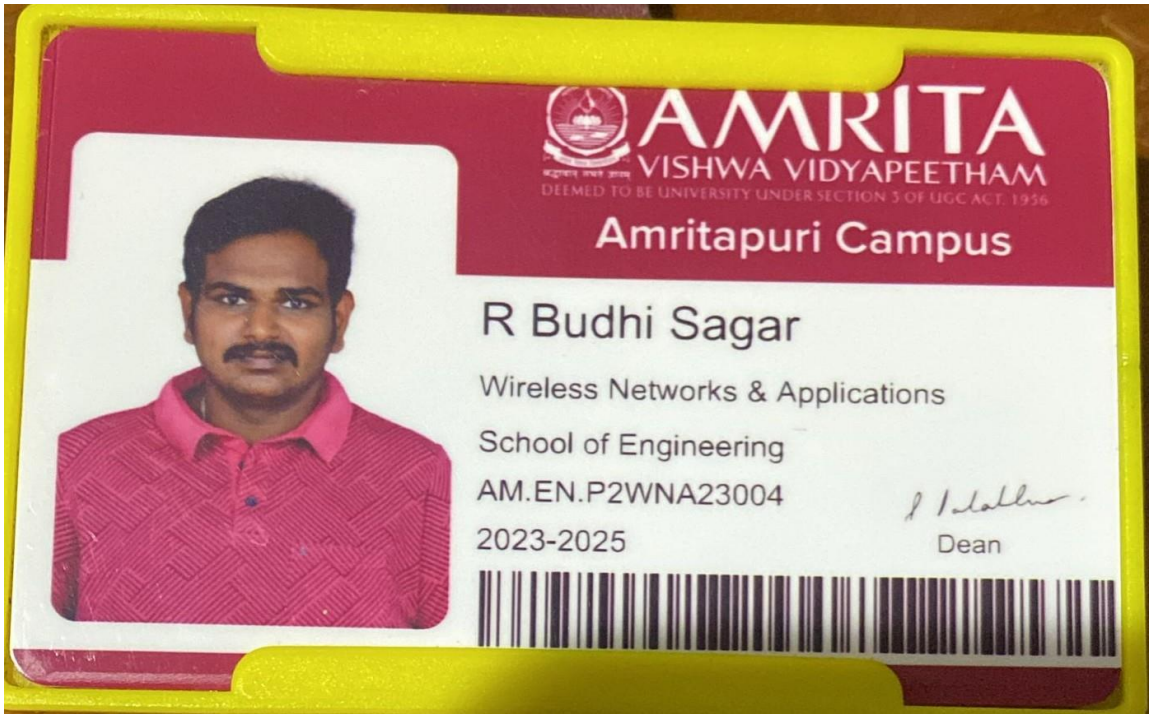
PRASANTHI NILAYAM CAMPUS
Gudla Amrut
Reg. No: 23269
M.B.A.
Authorised Signatory
Director


KALINGA INSTITUTE OF INDUSTRIAL TECHNOLOGY
Deemed to be University
(Established U/S 3 of UGC Act, 1956)
Bhubaneswar, Odisha, India
IDENTITY CARD
School of Computer Engineering
SONALI MAHAPATRA
Course : Int. M.Tech & Ph.D
Branch : CS&IS
Roll No : 2399001
Student No : 1000206280
Director Gen.


AMRITA
VISHWA VIDYAPEETHAM
DEEMED TO BE UNIVERSITY UNDER SECTION 3 OF UGC ACT, 1956
Amritapuri Campus
R Budhi Sagar
Wireless Networks & Applications
School of Engineering
AM.EN.P2WNA23004
2023-2025
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4.7 PROFESSIONAL ACTIVITIES (25)

4.7.1 Professional Societies/ Bodies, Chapters, Clubs, and Professional Engineering Events Organized (05)

(Provide a list of active professional societies/bodies, chapters, and clubs that exist at the departmental/cluster level in the past 3 years, and also provide a list of events organized by the professional societies, chapters, and clubs over the past 3 years.)

Table No. 4.7.1.1: List of active professional societies/bodies/chapters/clubs.

S.N.	Name of the Professional Societies/Bodies, Chapters, Clubs
1.	INDIAN SOCIETY FOR TECHNICAL EDUCATION (ISTE)
2.	THE INSTITUTION OF ELECTRONICS AND TELECOMMUNICATION ENGINEERS (IETE)
3.	COMPUTER SOCIETY OF INDIA (CSI)
4.	THE INSTITUTION OF ENGINEERS(IEI)
5.	AERIAL CLUB
6.	PHOTONICS CLUB
7.	INTELLIGENT SYSTEM CLUB
8.	VLSI VISONARY CLUB
9.	CIRCUIT CLUB

SL.NO.	NAME OF THE STUDENT	MEMBERSHIP NUMBER
1.	SAPAN KUMAR SAHU	3549
2.	K. BINEETA	3550
3.	SAHUKARI VAMSY	3551
4.	SAIKAT MAHAKUR	3552
5.	SOUMYA RANJAN SAHOO	3553
6.	AVINASH BURMA	3554
7.	SUDEEP KUMAR PANDA	3555
8.	KORADA ADARSH	3556
9.	DEBABRATA DEHURY	3557
10.	MOTILAL KHUAS	3558
11.	A. PRAGATI	3559
12.	BIPIN BIHARI PARIDA	3560
13.	PRADHAN KUMAR NISHANTH	3561
14.	DEBASIS BEHERA	3562

15.	AMIYA RANJAN SAHOO	3563
16.	KORADA SUPRAJA	3564
17.	SANTOSH KUMAR PANDA	3565
18.	DILIP NAYAK	3566
19.	RASHMI RANJAN KINDAL	3567
20.	SANTRA SOURABH KUMAR	3568
21.	SIDHARTH BARAL	3569
22.	SOURABH TIWARI	3570
23.	PRINCE KUMAR	3571
24.	ANKIT RAUL	3572
25.	DANANA VINEETH	3573
26.	AMLAN SATAPATHY	3574
27.	RAICHIMI SABAR	3575
28.	AJIT KUMAR DAS	3576
29.	VISHNU PRIYA MISRA	3577
30.	V.VENKATA RAMANA	3578
31.	SWATI MISHRA	3579
32.	GUDLA AMRUT	3580
33.	AMIT KUMAR BEHERA	3581
34.	PRANGYAN RANI PANI	3582
35.	KALI PRASAD SENAPATI	3583
36.	LAXMI KANTA PADHY	3584
37.	ADARSH DAKUA	3585
38.	RANJIT PADHY	3586
39.	DEV RANJAN MAHATO	3587
40.	SUDHA SUBHALAXMI MUDULI	3588
41.	ARFAN AHMED	3589
42.	KUMARI KALPANA BEHERA	3590
43.	HITESH KUMAR PRAJAPATI	3591
44.	CHINMAYA PRUSETH	3592
45.	RISHI KUMAR PATNAIK	3593
46.	M ROSHAN KUMAR	3594
47.	ASUTOSH NAYAK	3595
48.	PRAGYAN PARAMITA BEHERA	3596
49.	ADITYA NARAYAN PANDA	3597

50.	PRITAM SENAPATI	3598
51.	BAIBHAV DANDSENA	3599
52.	BARSHA CHOUDHURY	3600
53.	AYUSH PRAKASH	3601
54.	AKASH PRASHAR	3602
55.	LAXMI SUBUDHI	3603
56.	MADUGULA ARUN KUMAR	3604
57.	ANUPAM SHAKYA	3605
58.	GYAN RANJAN PRADHANI	3606
59.	PRITAM JANA	3607
60.	SATYA NARAYAN PANDA	3608
61.	VOONA AKHILA	3609
62.	DHARMENDRA KUMAR SINGH	3610
63.	SARUP SAHU	3611
64.	BIPLAB MONDAL	3612
65.	SUJIT SUBUDHI	3613
66.	VARANASI VINITH	3614
67.	ABHISEK BARIK	3615
68.	NILIMA CHAKRA	3616
69.	ANDAVARAPU SATISH	3617
70.	SIBASISH TRIPATHY	3618
71.	NABENDU PASAYAT	3619
72.	SNEHA	3620
73.	BHARAT KUMAR PATRI	3621
74.	AJAY JANI	3622
75.	SOMYA RANJAN PRADHAN	3623
76.	SHREE KRISHNA KUMAR AGRAHARI	3624
77.	ROSHAN KUMAR SETHI	6161
78.	GANESH SETHI	6162
79.	MOUDIPA MONDAL	6163
80.	KAJOL SAHU	6164
81.	PRIYABRATA SAHOO	6165
82.	SANDEEP KUMAR SAHU	6166
83.	ARYAN KUMAR	6167
84.	KALPANA CHOUDHURY	6168

85.	KANHA MIRDHA	6169
86.	KAMALAKANTA MEHER	6170
87.	RAJESWARI PATI	6171
88.	LAVETI JASWANTH	6172
89.	AMIT KUMAR HARICHANDAN	6173
90.	SUJAL PANDA	6174
91.	AKASH JENA	6175
92.	NIKHIL KUMAR	6176
93.	SIMHADRI SAROJ KUMAR	6177
94.	CHANDAN KUMAR SATPATHY	6178
95.	BHADRASI VARUN	6179
96.	DEBASHISH MALLIK	6180
97.	G. PRAVALIKA GOURI	6181
98.	BALAJI SAHU	6182
99.	VOONA RITIKA	6183
100.	SRIBARDHAN DASH	6184
101.	JHAMI MANISHA	6185
102.	KOTHAKOTA SIDHARDHA	6186
103.	JYOTIRMAYEE PANIGRAHI	6187
104.	SNEHANJALI DASH	6188
105.	NITISH KUMAR PRASAD	6189
106.	P. BINAYA	6190
107.	AMOLINA MOHANTY	6191
108.	ANURAG DAS	6192
109.	PAPUN GOUDA	6193
110.	VOONA RAHUL	6194
111.	TARUN KUMAR DALAPATI	6195
112.	SUBHA PRASAD BEHERA	6196
113.	KANHA GIRI	6197
114.	SUBUDHI ASHISH	6198
115.	SRUJAL KUMAR PATRA	6199
116.	SETTI HARSHITA	6200
117.	BISWAJIT PANDA	6201
118.	PITTA SAI	6202
119.	RAJA RAM BEHERA	6203

120.	ASHWINI KUMAR BISWAL	6204
121.	AKASH CHANDRA DAS	6205
122.	JYOTI RANJAN PRADHAN	6206
123.	PONNITIVALASA DEVRAJ	6207
124.	TRILOCHAN BEHERA	6208
125.	APURBA KUMAR SWAIN	6209
126.	ABHISHEK TRIPATHY	6210
127.	DEWARASETI PRATYUSHA	6211
128.	TULASI PRASAD KUMBHAR	6212
129.	TUTIKA DURGA PRASAD	6213
130.	LOLUGU GANESH	6214
131.	TAMADA LALLU KUMAR	6215
132.	RABINDRA GOUDO	6216
133.	BIBEK BALIARSINGH	6217
134.	SHUBHAM SATAPATHY	6218
135.	AMRUT PRUSTY	6219
136.	POTNURU TEJA	6220
137.	SWATI SWAGATIKA NANDA	6221
138.	LABHALA SASYA	6222
139.	SWETA RANI	6223
140.	BHUMIKA PRADHAN	6224
141.	TEJASWINI BEHERA	6225
142.	PUTINGICHITI JIBAN	6226
143.	RUDRA PRASAD SHADANGI	6227
144.	JYOTIRMAYEE SAHU	6228
145.	SUBHENDU SEKHAR SABAT	6229
146.	SUBHAM KUMAR TRIPATHY	6230
147.	CHANDAN KUMAR MAHANTA	6231
148.	KUMAR PRASANNAJIT SAHU	6232
149.	BADAL LENKA	6233
150.	RAKESH PRADHAN	6234
151.	M.VASANT VENKAT	6235
152.	ASWIN KUMAR NAYAK	6236
153.	JAGANNATH GOUDA	6237
154.	SWATI SASWATI BISWAL	6238

155.	SUSHANTA NUNDRUKA	6239
156.	AMAN KUMAR PATIKA	6240
157.	ASISH KUMAR PADHY	6241
158.	RUDRA NARAYAN BISWAL	6242
159.	AKASH BISWAL	6243
160.	VUNGA HARIKA YADAV	6244
161.	RAMKRUSHNA SAHU	6245
162.	ANKUSH BEHERA	6246
163.	AKASH BISWAL	6247
164.	MADDILA SAIKISHORE	6248
165.	ALOK PARIDA	6249
166.	DHANURJAYA PRADHAN	6250
167.	SAMANTULA SIVAJI	6251
168.	POTNURU DEEPIKA	6252
169.	DEBASISH SATAPATHY	6253
170.	PRANATI SWAIN	6254
171.	SUPARANA MOHARANA	6255
172.	BHABANI SHANKAR PRADHAN	6256
173.	P.M.PRATIK	6257
174.	MONISH MAHANKUDO	6258
175.	BHAWANI SAHU	6259
176.	PRIYANSHU KUMAR PATRO	6260
177.	CHERUKURI NAVEEN	6261
178.	KIRAN KUMAR GIRI	6262
179.	SUBHAJYOTI MOHANTY	6263
180.	M.SHEKHAR SUMAN REDDY	6264
181.	P TEJESHWAR RAO	6265
182.	ADITYA KUMAR MADHAV	6266
183.	DEVASHISH KUMAR	6267
184.	RUDRA PRASAD TAKIRI	6268
185.	SOURAV NAIK	6269
186.	KASHINATH GIRI	6270
187.	RAMKRISHNA JENA	6271
188.	CH PRASHANT KUMAR DORA	6272
189.	TUTIKA SAI GOUTAM	6273

190.	A P AMRIT PRADHAN	6274
191.	ROMAN PATRA	6275
192.	VIVEK KUMAR DHAL	6276
193.	SATASREE BARIK	6277
194.	JAGDISH RATH	6278
195.	PRIYANKA MOHAPATRA	6279
196.	MAHESH SABAR	6280
197.	ASHIRBAD MANGAL	6281
198.	PIYUSH PATEL	6282
199.	BAMUDI RAHUL	6283
200.	GUMUDI AKHILA	6284
201.	LANKA LALITHA	6285
202.	ALOK CHANDRA MISHRA	6286
203.	ANSHU OJHA	6287
204.	RAJARAM MISHRA	6288
205.	ATITHYA PRAKASH ROUT	4787
206.	DIBYA JYOTI ACHARYA	4788
207.	CHERUKURU ESWAR RAO	4789
208.	PALLAVI PUROHIT	4790
209.	SUBHAM LABALA	4791
210.	HIMANSHU BIDIKA	4792
211.	BISWAJIT SAHU	4793
212.	MUKHI KAUSIK	4794
213.	SUMAN PATRA	4795
214.	PRUTHIBI RAJ PATRO	4796
215.	SUNIL NAGABANSA	4797
216.	PAIDISETTY SARANYA	4798
217.	PANYUTA RATH	4799
218.	K DILIP KUMAR REDDY	4800
219.	ADARSH KUMAR HOTA	4801
220.	SANTOSH SENAPATI	4802
221.	OMKAR PRIYADARSHI PADHY	4803
222.	SAI ADITYA SAHU	4804
223.	GANDI ABHITA RANI	4805
224.	MARRAPU YESWANTH	4806

225.	SWAGAT PRADHAN	4807
226.	BUDUMURU KARTHIK	4808
227.	MANAS KUMAR PADHIARI	4809
228.	DEEPIKA MAHAPATRA	4810
229.	NAYAN KUMAR SAHU	4811
230.	TUKUNA GOUDO	4812
231.	PITTA SRINIVASU	4813
232.	SWATIREKHA SARANGI	4814
233.	GANNAVARAPU GOUTAM	4815
234.	PRAKASH BHANJA	4816
235.	SANJAY KUMAR MOHAPATRA	4817
236.	ANSUMAN NEPAK	4818
237.	AYUSH KUMAR SINGH	4819
238.	PREETI MODAK	4820
239.	STEPHAN PANI	4821
240.	PURNATOYA GHADEI	4822
241.	ANKITA MOHANTY	4823
242.	SUBHAM KUMAR PUJARI	4824
243.	BISMAI NAYAK	4825
244.	BIBHUTI RANA	4826
245.	BISHAL BEHERA	4827
246.	MEDIBOINA KUSHWANTH	4828
247.	SOMYA RANJAN BEHERA	4829
248.	B GOURAV KUMAR CHOUDHURY	4830
249.	ANWESH PANIGRAHI	4831
250.	BEWARA HARSHA VARDHAN	4832
251.	PRATIK MEHER	4833
252.	JAGAN BHOI	4834
253.	ADHYAYAN KUMAR	4835
254.	P ROUNAK PATRA	4836
255.	SUBHAM PATRA	4837
256.	SUSANTA KUMAR SABAR	4838
257.	OMPRASAD NAYAK	4839
258.	NISITA NAYAK	4840
259.	BINAYA KUMAR BASTIA	4841

260.	WILSON SAHANI	4842
261.	BISHNU CHARAN ADHIKARI	4843
262.	SUMIT KUMAR HARICHANDAN	4844
263.	BHUBANESWAR SAHU	4845
264.	SAMBIT SUBHANKAR SAHOO	4846
265.	ASHIRRBAD SAHU	4847
266.	HIMANSHU SAHOO	4848
267.	AADERSH KUMAR GUPTA	4849
268.	AJAY KUMAR BEHERA	4850
269.	ASHUTOSH JAGDEV	4851
270.	TIRTHA JAGAT	4852
271.	PRATEEK SAHU	4853
272.	AKASH KUMAR SATNAMI	4854
273.	CHANDRAVAMSAM VIVEK SANTHO	4855
274.	RANJAN MANDAL	4856

Table No. 4.7.1.2: List of events/programs organized.

S.N.	Name of the Professional Societies/Bodies/Chapters / Clubs	Name of the Event	National/ International level	Date of Event
CAYm1-2023-24				
1	INTELLIGENT SYSTEM CLUB	WORKSHOP ON ARTIFICIAL INTELLIGENCE	UNIVERSITY	14TH JUL 2023
2	INTELLIGENT SYSTEM CLUB	WORKSHOP ON IOT	UNIVERSITY	15TH JUL 2023
3	AERIAL CLUB	WORK SHOP ON “3D PRINTING	UNIVERSITY	11TH AUGUST 2023
4	INTELLIGENT SYSTEM CLUB	WORKSHOP ON” VISUAL DATA PROCESSING”	UNIVERSITY	12TH AUG 2023

5	CIRCUIT CLUB	3 DAYS WORK SHOP ON ELECRONIC CIRCUIT DESIGN (HANDS ON WORKSHOP)	UNIVERSITY	5TH - 7TH OCT 2023
6	PHOTONICS CLUB	2 DAYS SERB SPONSORED NATIONAL SEMINAR ON OPTICAL MATERIALS AND PHOTONICS	UNIVERSITY	1ST & 2ND DEC 2023
7	VLSI VISONARY CLUB	"HANDS-ON WORKSHOP ON VLSI DESIGN USING CADENCE TOOLS SUITE"	UNIVERSITY	6TH & 7TH FEB 2024
8	AERIAL CLUB	2 DAYS WORK SHOP ON ANTENNA DESIGN, STIMULATION AND PLOTTING OF GRAPHS WITH HFSS AND ORIGIN PRO SOFTWARE	UNIVERSITY	17TH & 18TH APRIL 2024
9	INTELLIGENT SYSTEM CLUB	AICTE SPONSORED TWO DAYS SEMINAR	UNIVERSITY	9TH & 10TH AUG 2024
10	INTELLIGENT SYSTEM CLUB	2 DAYS WORK SHOP ON IOT WITH NODEMCU	UNIVERSITY	23RD & 24TH AUG 2024

11	CIRCUIT CLUB	3DAYS WORK SHOP ON ELECTRONICS CIRCUIT DESIGN	UNIVERSITY	29TH -31ST AUG 2024
CAYm2-2022-23				
1	VLSI VISONARY CLUB	ONE DAY WEBINAR ON EXTREME ENVIRONMENT ELECTRON DEVICES ENGINEERING	UNIVERSITY	11TH JUL 2022
CAYm3-2021-22				
1	VLSI VISONARY CLUB	A TALK ON' HOW TO START PREPERATION OF GATE EXAM"	UNIVERSITY	2ND MAR 2021
2	CIRCUIT CLUB	ONE DAY WORKSHOP ON PROCESS AUTOMATION	UNIVERSITY	8TH MAR 2021
3	INDIAN SOCIETY FOR TECHNICAL EDUCATION (ISTE)	ISTE SPONSORED ONLINE WEBINAR ON CAREER OPPORTUNITIES IN COMPUTER NETWORKING	UNIVERSITY	13TH SEPTEMBER 2021
4	THE INSTITUTION OF ELECTRONICS AND TELECOMMUNICATION ENGINEERS (IETE)	IETE SPONSORED WORK SHOP ON FULL CUSTOM DESIGN FLOW & SEMI CUSTOM DESIGN FLOW BY	UNIVERSITY	28TH & 29TH SEPTEMBER 2021

		USING CADENCE TOOLS		
5	THE INSTITUTION OF ELECTRONICS AND TELECOMMUNICATION ENGINEERS (IETE)	IETE SPONSORED SKILL DEVELOPMENT CERTIFICATION PROGRAM ON MOBILE COMMUNICATIONS	UNIVERSITY	1ST TO 23RD FEBRUARY 2022
6	PHOTONICS CLUB	ONE DAY WORKSHOP ON RESEARCH ARTICLE WRITING	UNIVERSITY	6TH APR 2022
7	INTELLIGENT SYSTEM CLUB	TWO DAYS WORKSHOP ON HANDS ON IOT WITH ARDUINO	UNIVERSITY	22ND & 23RD APR 2022
8	VLSI VISONARY CLUB	ONE DAY WORKSHOP ON INTRODUCTION TO PLC, SCADA, DRIVES & MOTOR CONTROL	UNIVERSITY	24TH JUNE 2022


Two days Active Learning Program
on
Antenna Design, Simulation and Plotting of Graphs
with
HFSS and ORIGIN PRO Software
Resource Person : Dr. RIBHU ABHUSAN PANDA
Organized by
Department of Electronics and Communication Engineering
GIET University, Gunupur, Odisha
17th and 18th APRIL 2024
VENUE: VLSI LAB and PLC LAB


GPS Map Camera
GIET University, Gunupur, Rayagada, Odisha, India
Department of ECE , GIET University, Gunupur , Odisha.
Lat 19.048259°
Long 83.832192°
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Google


ELECTRONICS & COMM. ENGINEERING
AERIAL CLUB
WORKSHOP ON
3D PRINTING
2023-24
START DATE: 11-08-2023
END DATE: 11-08-2023
GIET University, Gunupur-765022, Odisha


Invitation
SERB SPONSORED
2 DAYS NATIONAL SEMINAR
ON
OPTICAL MATERIALS & PHOTONICS:
A FRONTIER
IN CUTTING - EDGE PHYSICS
OMPFCP– 2023
DATE: 1st & 2nd DECEMBER 2023
PHOTONICS CLUB
SERB
DIA


KEEP SILENCE


KEEP SILENCE
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GIET University, Gunupur, Rayagada, Odisha, India
Department of ECE , GIET University, Gunupur , Odisha.
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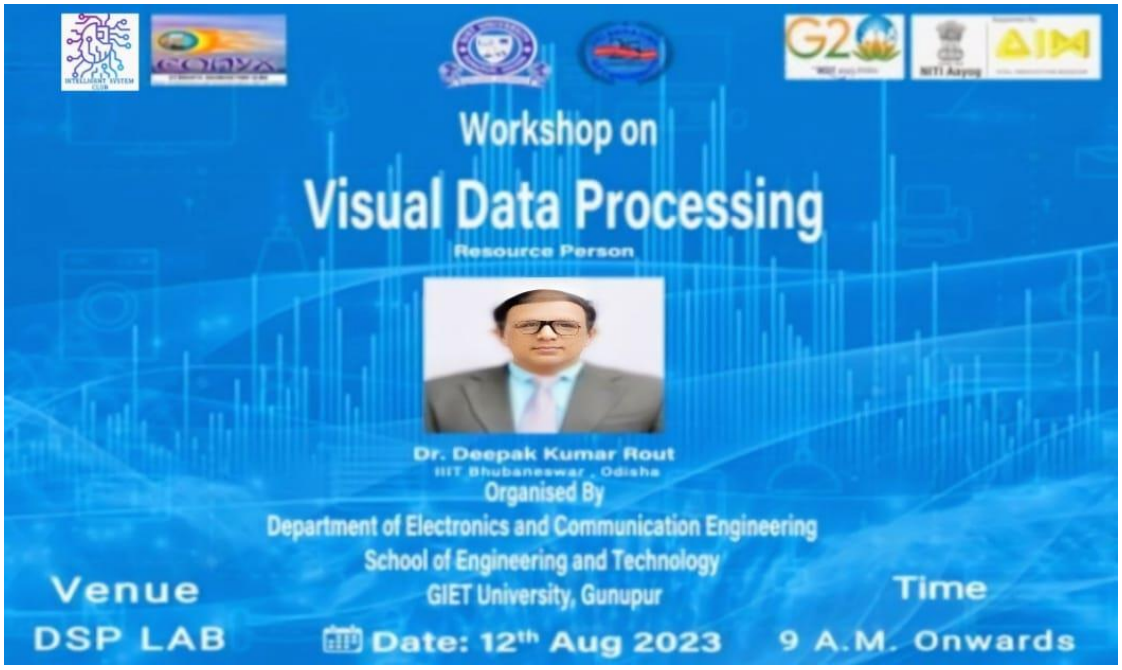
Google

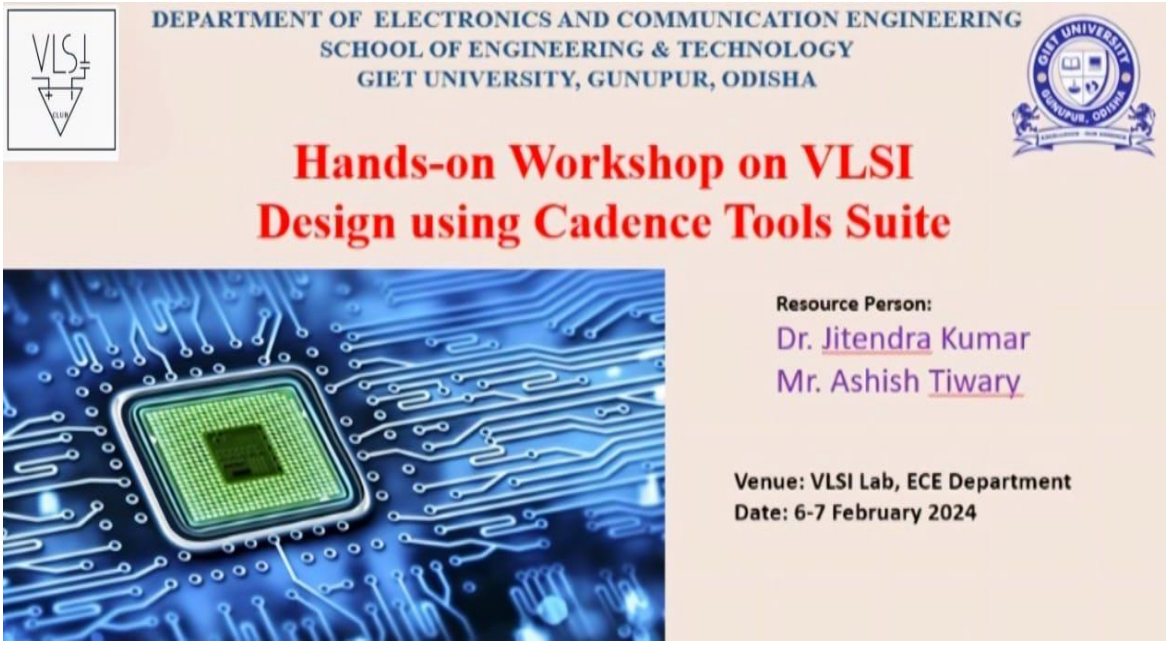

AICTE –VAANI ଯୋଜନା ଅଧୀନରେ ଦୁଇ ଦିନିଆ ସେମିନାର ପ୍ରାୟୋଜିତ
ଅନ୍
କ୍ୱାଣ୍ଟମ୍‌ଜନ୍ଧାଧମରେ ଭବିଷ୍ୟତ ଗଣନା ଏବଂ ଯୋଗାଯୋଗ ଅନୁସନ୍ଧାନ
9-10 ଅଗଷ୍ଟ 2024
ଦ୍ୱାରା ସଂଗଠିତ
ଇଲେକ୍ଟ୍ରୋନିକ୍ସ ଏବଂ ଯୋଗାଯୋଗ ଇଞ୍ଜିନିୟରିଂ ବିଭାଗ
&
କମ୍ପ୍ୟୁଟର ସାଇନ୍ସ ଏବଂ ଇଞ୍ଜିନିୟରିଂ ବିଭାଗ
ବିଦ୍ୟାଳୟ ଅଫ୍ ଇଞ୍ଜିନିୟରିଂ ଏବଂ ଟେକ୍ନୋଲୋଜି
GIET ବିଶ୍ୱବିଦ୍ୟାଳୟ, ଗୁଣୁପୁର-765022, ଓଡିଶା
AICTE Sponsored two days Seminar under AICTE –VAANI scheme
On
Exploring Future Computing and Communication through Quantum Vision
9th -10thAugust 2024
Organized By
Department of Electronics and Communication Engineering
&
Department of Computer Science and Engineering
School of Engineering and Technology
GIET University, Gunupur-765022, Odisha
INTELLIGENT SYSTEM CLUB


Workshop on
Visual Data Processing
Resource Person
Dr. Deepak Kumar Rout
IIIT Bhubaneswar , Odisha
Organised By
Department of Electronics and Communication Engineering
School of Engineering and Technology
GIET University, Gunupur
Venue
DSP LAB
Date: 12th Aug 2023
Time
9 A.M. Onwards


Workshop on IOT
"A Capacity Building Programme"
Resource Person
Mr. Biswaranjan Bhola
Organised By
Department of Electronics and Communication Engineering
School of Engineering and Technology
GIET University, Gunupur
Date: 15th July 2023

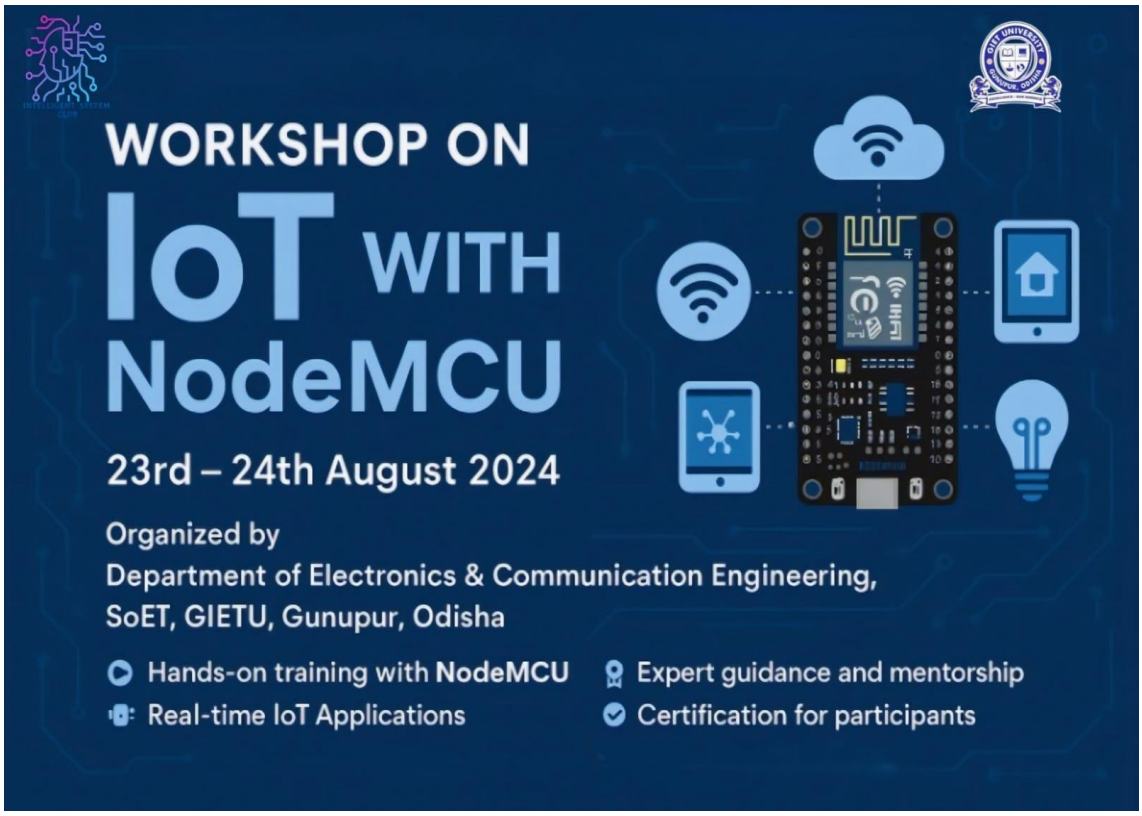

Workshop on IOT
"A Capacity Building Programme"

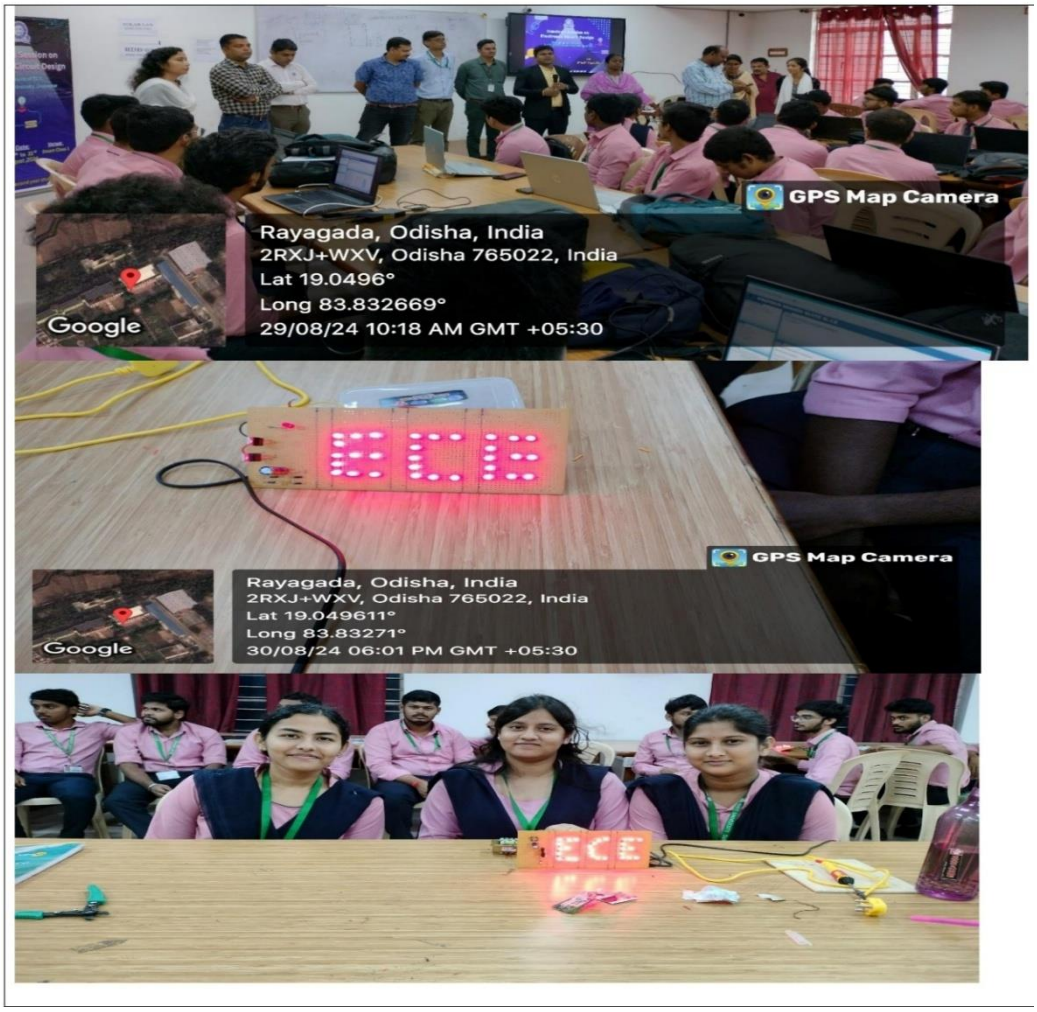

AI for Students
Build Your First GPT Project
Get AI Mastery Certificate
No previous coding knowledge needed
Organised by
Department of Electronics and Communication Engineering
GIET University , Gunupur
Trivikrama
AIR 93, IIT Delhi
AI Expert
14th July, 3 PM
Register Now
NXT WAVE


DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
SCHOOL OF ENGINEERING & TECHNOLOGY
GIET UNIVERSITY, GUNUPUR, ODISHA
Hands-on Workshop on VLSI
Design using Cadence Tools Suite
Resource Person:
Dr. Jitendra Kumar
Mr. Ashish Tiwary
Venue: VLSI Lab, ECE Department
Date: 6-7 February 2024


Schedule
5th Ocober, 2023 (DAY 1)
Time : 9.00 AM- 5.30 PM
6th October, 2023 (DAY 2)
Time : 9.00 AM-5.30 PM
7th October, 2023 (DAY 3)
Time : 9.00 AM-1.30 PM
Key points
Compulsory for ECE 3rd Semester Students.
Softcopy of the Certificates will be provided to each participant.
Both software and hardware knowledge will be provided.
Project can be done group wise (Groups are already formed).
Project will be given to the students.
After payment of fee kindly fill the google form
https://forms.gle/F66ri5dGZpyKqDXy7
GIET UNIVERSITY
Gunupur,Odisha-765022
ELECTRONIC CIRCUIT DESIGN
(Hands on Workshop)
5th-7th October, 2023
Organized by
Department of Electronics and Communication Engineering
School of Engineering & Technology
Patrons
Prof. L.M. Patnaik
Pro-Chancellor, GIET University, Gunupur, Odisha
Dr. A.V.N.L. Sharma
VC I/C, GIET University, Gunupur, Odisha
Dr. N. V. J. Rao
Registrar, GIET University, Gunupur, Odisha
Dr. A. B. Srinivasa Rao
Dean SoET, GIET University, Gunupur, Odisha
Dr. Bibhu Prasad
HoD, ECE, SoET, GIET University, Gunupur, Odisha
Registration and Payment
Registration fee is Rs 200/-
Per Individual Participant
Last date of Payment : 4th October, 2023.
QR Code for Payment
Contact Information
Dr. Tusarakanta Panda
Mobile No : 9040693050
Email ID: tkpanda@giet.edu


Hands-on Session on
Electronic Circuit Design
Department of ECE,
SoET,GIET University,Gunupur
Time
10 AM to 5 PM
Venue
SMART CLASS ROOM -1
on
29th to 31st August, 2024
(for second year students)


WORKSHOP ON
IoT WITH
NodeMCU
23rd – 24th August 2024
Organized by
Department of Electronics & Communication Engineering,
SoET, GIETU, Gunupur, Odisha
Hands-on training with NodeMCU
Expert guidance and mentorship
Real-time IoT Applications
Certification for participants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ECE


One Day Webinar
on
Extreme Environment Electron Devices Engineering
Resource Person
Dr. Kaushik Nayak,
Associate Professor,
Electrical Engineering,
IIT Hyderabad
Organized by
Department of Electronics an Communication Engineering ,
School of Engineering and Technology ,
GIET University , Gunupur
Date :11:07:2022 (Monday)
Time :03.00 PM to 05:00 PM
HYBRID MODE


INTELLIGENT SYSTEM CLUB
TWO DAY WORKSHOP
ON
"HANDS-ON IOT WITH ARDUINO"
IOT
ORGANISED BY
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
SCHOOL OF ENGINEERING AND TECHNOLOGY
GIET UNIVERSITY, GUNUPUR
DATE: 22 & 23 APRIL 2022


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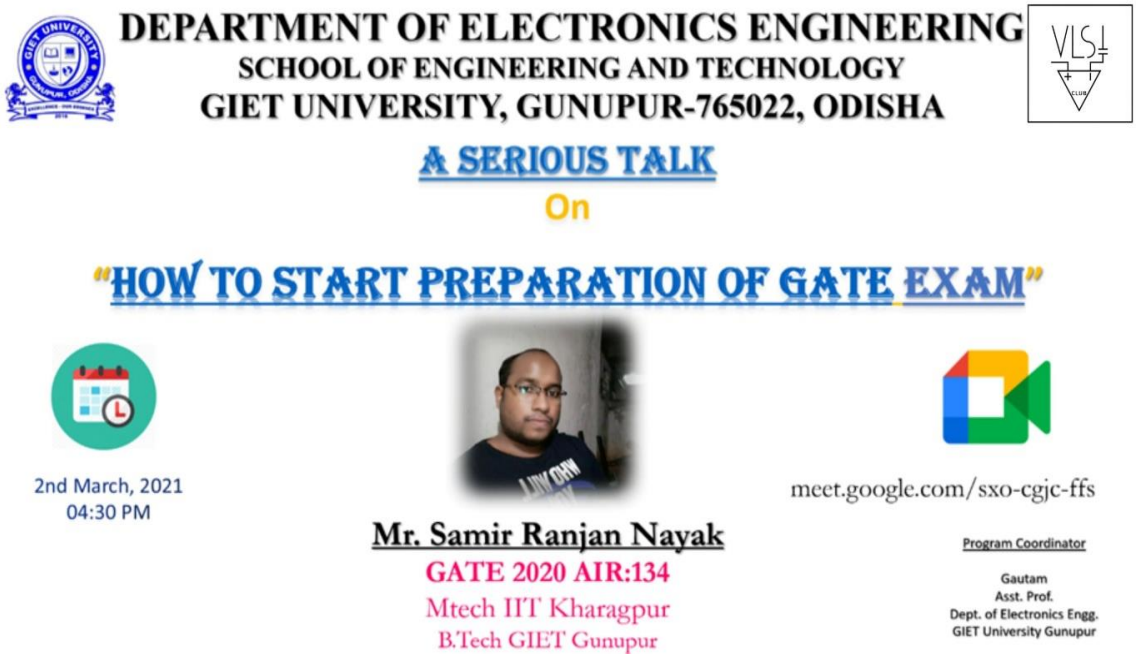
Long 83.832308°
06/10/23 12:28 PM GMT +05:30
Google


One Day Workshop on
PROLIFIC ODISHA
INTRODUCTION to PLC, SCADA, DRIVES & MOTOR CONTROL
Organised by
Department of ECE and EEE
School of Engineering and Technology
GIET University, Gunupur


ONE DAY WORKSHOP
ON
"PROCESS AUTOMATION"
ORGANISED BY
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
SCHOOL OF ENGINEERING AND TECHNOLOGY
GIET UNIVERSITY, GUNUPUR
MR. PRASENJIT SARKAR
TECHNICAL CONSULTANTS, INTRA PROJECTS, KOLKATA
DATE: 8 MARCH 2022
VENUE: ELECTRICAL AUDITORIUM



4.7.2 Student's Participations in Professional Events (10)

(Provide details of students, who have participated at other institutes in various professional events, such as hackathons, codeathons, ideathons, etc., over the past 3 years.)

Table No. 4.7.2.1: List of students participated in professional events

Sl. No	Name of the Student	Name of the Event	National /International Level	Date of Event	Name of Award If Any
CAYm1 2023-24					
1.	Bhawani Sahu	National Seminar On RAIABH	National	10th -11th August 2024	
2.	Bhawani Sahu	E-YUVA Fellowship Program	National	1st June 2024	Received Fellowship
3.	Kumar Prasanajit Sahu	National Seminar On RAIABH	National	10th -11th August 2024	

4.	Kumar Prasanajit Sahu	E-YUVA Fellowship Program	National	1st June 2024	Received Fellowship
5.	Priyanshu Kumar Patro	E-YUVA Fellowship Program	National	1st June 2024	Received Fellowship
6.	Priyanshu Kumar Patro	National Seminar On RAIABH	National	10th -11th August 2024	
7.	Ramakrushna Sahu	National Seminar On RAIABH	National	10th -11th August 2024	
8.	Ramakrushna Sahu	E-YUVA Fellowship Program	National	1st June 2024	Received Fellowship
9.	Priyanshu Kumar Patro	Life Science Startup Summit	National	5th October 2024	1st Position in The Best Poster Presentation
10	Ramakrushna Sahu	Life Science Startup Summit	National	5th October 2024	1st Position in The Best Poster Presentation
11	Priya Kumari	Undivided Koraput Power Lifting and Bodybuilding Championship	National	25th February2024	1st Position
12	Priya Kumari		National	26th January 2024	BEST NCC CADATE
13	Ms. Singamchetti Vandana	“Kho Kho” Organized At NIT, Rourkela	National	11th November 2023	1st Position
CAYm2 2022-2023					

Sl. No	Name of the Student	Name of the Event	National /International Level	Date of Event	Name of Award If Any
1.	Anisha Kumari	Google cloud career practitioner	National	23rd may 2023	
2.	Rahul Kumar	ESG Virtual Experience Program	National	25th may 2023	
3.	Rahul Kumar	Data visualisation: Empowering Business with Effective Insights	National	30th may 2023	
4.	Rahul Kumar	Solution Architecture Virtual Experience program	National	23rd may 2023	
5.	Rahul Kumar	Technology Consulting Virtual Experience Program	National	31st may 2023	
CAYm3 2021-2022					
Sl. No	**Name of the Student**	**Name of the Event**	**National /International Level**	**Date of Event**	**Name of Award If Any**
1.	Amrutashree Hota	1st idea hackathon	National	17th may 2022	1st position


Bio-NEST
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BRIC
Startup Odisha


BRIC
CERTIFICATE
OF ACHIEVEMENT
Proudly presented to
PRIYANSHU KUMAR PATRO
has been awarded the 1st Prize for the Best Poster Presentation at the Life Science Startup Summit 2024, held at the Institute of Life Sciences, Bhubaneswar.
Dr. Nivedita Jena
COO, DBT-ILS BIOINCUBAOR
Convener
Dr. Debasis Dash
DIRECTOR, BRIC ILS
Patron


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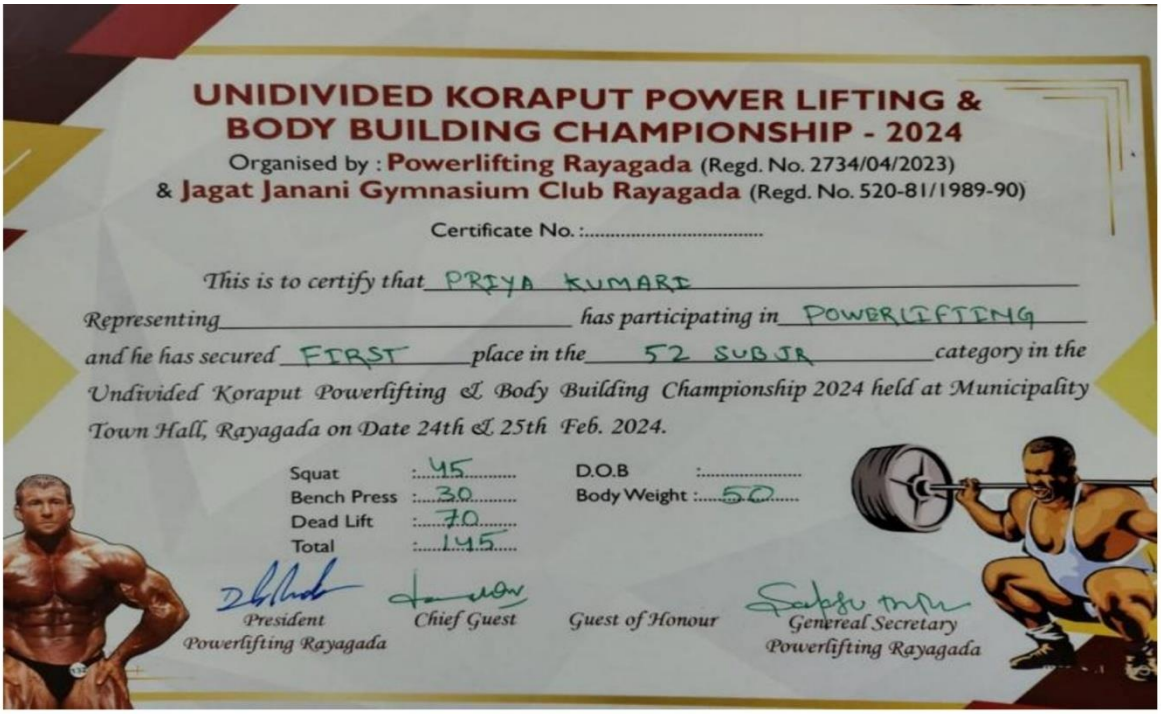


UNIDIVIDED KORAPUT POWER LIFTING &
BODY BUILDING CHAMPIONSHIP - 2024

Organised by : Powerlifting Rayagada (Regd. No. 2734/04/2023)
& Jagat Janani Gymnasium Club Rayagada (Regd. No. 520-81/1989-90)

Certificate No. :.....

This is to certify that PRIYA KUMARI

Representing _____ has participating in POWERLIFTING

and he has secured FIRST place in the 52 SUB JR category in the

Undivided Koraput Powerlifting & Body Building Championship 2024 held at Municipality Town Hall, Rayagada on Date 24th & 25th Feb. 2024.

Squat : 45
Bench Press : 30
Dead Lift : 70
Total : 145

D.O.B :.....
Body Weight : 50

President
Powerlifting Rayagada

Chief Guest

Guest of Honour

Genereal Secretary
Powerlifting Rayagada

1ST IDEA HACKATHON 2022

CERTIFICATE OF MERIT

This certificate is presented to

Mr./Ms. Amrutashree Hota from

GIET University

for securing I/ II/ III/ IV/ V position in 1st Idea Hackathon, held on May 17, 2022 organized by the Department of Electronics and Communication Engineering, SRM IST Delhi NCR Campus.

Dr. ROHIT SHARMA
Head - ECE

Dr. D.K. SHARMA
Dean

Dr. S. VISWANATHAN
Director

4.7.3 Publication of Journals Magazines, Newsletters, etc. in the Department (05)

(Provide details of journals, magazines, newsletters, etc., published by the department, along with the names of the editors, issue numbers, volume numbers, and a list of students involved for the past 3 years.)

Table No. 4.7.3.1: List of students involved in publication of journals, magazines, and newsletters, etc. in the Department.

S.N.	Name of the Journal, Magazine, Newsletter	Name of the Editor	Name of the Student & Semester	No. of Issues	Hard copy/ Soft copy
CAYm1 2023-24					
1	COMMUZINE, VOL-29	Dr. Tusharakanta Panda	Moudipa Mondal, 5th Sem	1	Soft Copy
2	COMMUZINE, VOL-30	Dr. Tusharakanta Panda	Bibek Baliarsingh, 6th Sem	1	Soft Copy
CAYm2 2022-23					
1	COMMUZINE, VOL-27	Mr. Ashish Tiwary	Satyam Ku. Mohanty, 5th Sem	1	Soft Copy
2	COMMUZINE, VOL-28	Mr. Ashish Tiwary	Ruturaj Maharana, 6th Sem	1	Soft Copy
CAYm3 2021-22					
1	COMMUZINE, VOL-24	Dr. Ami Kumar Parida	Sankalp Kundu, 5th	1	Soft Copy
2	COMMUZINE, VOL-25	Dr. Ami Kumar Parida	Anisha Kumari,6th	1	Soft Copy

4.7.4 Student Publications (05)

(Provide details of student publications in journals, conferences, etc., for the past 3 years.)

Table No. 4.7.4.1: List of student's publication in journals.

Sl. No	Name of The Student & Semester	Paper Title	Name of The Publisher	Name of The Journal	Volume No. & Issue No.	Name of the Award If Any
CAYm1 2023-24						
1.	Abhishek Tripathy5th Kanha Mirdha5th	DESIGN AND ANALYSIS OF LDR BASED LASER	FAST TRACK PUBLICATIONS	IRJET	Volume-11	

	Subha Prasad Behera5th Piyush Patel5th	SECURITY SYSTEM			Issn: 2395-0056	
2.	Swati Swagatika Nanda5th Tejaswini Behera5th Apurba Kumar Swain5th Swati Saswati Biswal5th	THERMOGLOW: TEMPERATURE GAUGE WITH LM35	FAST TRACK PUBLICATIONS	IRJET	Volume-11 Issn: 2395-0056	
3.	Amolina Mohanty5th Snehanjali Dash5th Jyotirmayee Panigrahi5th Jyotirmayee Sahu5th	DESIGN AND SIMULATION OF SMART BLIND STICK USING AUDRINO NANO	FAST TRACK PUBLICATIONS	IRJET	Volume-11 Issn: 2395-0056	
4.	Rudra Prasad Shadangi5th Alok Parida5th Satasree Barik5th	AUTOMATIC NIGHT LAMP USING LDR	FAST TRACK PUBLICATIONS	IRJET	Volume-11 Issn: 2395-0056	
5.	Kamalakanta Meher5th Rudra Prasad Swain5th Amrut Prusty5th	I0T HOME AUTOMATION WITH NODE MCU ESP8266AND BLYNK IOT INTERGATION	FAST TRACK PUBLICATIONS	IRJET	Volume-11 Issn: 2395-0056	

	Aswin Kumar Nayak5th					
6.	Tulasi Prasad Kumbhar5th Balaji Sahu5th Simhadri Saroj Kumar5th Lolugu Ganesh5th	DESIGN AND SIMULATION OF MOBILE SIGNAL JAMMER	FAST TRACK PUBLICATIONS	IRJET	Volume-11 Issn: 2395-0056	
7.	Moudipa Mondal5th Nikhil Kuamr5th Aryan Kumar5th	CELLULAR SIGNAL IDENTIFIER USING OPAMP	FAST TRACK PUBLICATIONS	IRJET	Volume-11 Issn: 2395-0056	
8.	Voona Rahul5th Pbinaya5th Trilochan Behera5th Tarun Kumar Dalapati5th	ALPHANUMERIC DISPLAY USING LCD	FAST TRACK PUBLICATIONS	IRJET	Volume-11 Issn: 2395-0056	
9.	Shubham Satapathy5th Ponnitivalasa Devraj5th Tutika Durga Prasad5th Tamada Lallu Kumar	12V DC TO 230V AC INVERTER	FAST TRACK PUBLICATIONS	IRJET	Volume-11 Issn: 2395-0056	
10.	Ganesh Sethi5th Nitish Kumar Prasad5th Bhumika Pradhan5th	IOT BASED SOLAR MONITORING SYSTEM USING AUDRINO	FAST TRACK PUBLICATIONS	IRJET	Volume-11 Issn: 2395-0056	

	Alok Chandra Mishra5th					
11.	Kalpana Choudhury5th Chandan Kumar Satapathy5th Rajaram Behera5th	SESIMOGRAPH SIMULATOR USING PROTEUS	FAST TRACK PUBLICATIONS	IRJET	Volume-11 Issn: 2395-0056	
12.	Kajol Sahu5th Rajeswari Pati5th Amit Kumar Harichandan5th Srujal Kumar Patra5th	DESIGN OF INTRUDER ALERTING SYSTEM USING LDR	FAST TRACK PUBLICATIONS	IRJET	Volume-11 Issn: 2395-0056	
13.	Dewaraseti Pratyusha5th Jhami Manisha5th G Pravalika Gouri5th Voona Ritika5th	DESIGN AND IMPLEMENTATION OF WIRELESS DEVICE TRACKER	FAST TRACK PUBLICATIONS	IRJET	Volume-11 Issn: 2395-0056	
14.	Pranati Swain,5th Suparna Moharana,5th Dhanurjay Pradhan,5th	ELECTRONIC VOTING MACHINE WITH FACE RECOGONIZATION SYSTEM	GIETU, GUNUPUR	GIETU JOURNAL	Volume-4 Issn :2583-5955	
15.	Kamalakanta Meher,5th Rudra Prasad Shadangi,5th	SMART RAIN DETECTOR MODULE	GIETU, GUNUPUR	GIETU JOURNAL	Volume-4 Issn :2583-5955	

	Debashish Mallik,5th Rudra Prasad Swain,5th					
16.	Balaji Sahu,5th Tulasi Prasad Kumbhar,5th Vunga Harika,5th Simhadri Saroj Kumar,5th	PARKING ASSISTANCE SYSTEM	GIETU, GUNUPUR	GIETU JOURNAL	Volume-4 Issn :2583-5955	
17.	Rudra Narayan Biswal,5th P. Tejeswar Rao,5th Sribardhan Dash,5th Piyush Patel,5th	ARDUINO BASED AUTOMATIC FIREFIGHTING ROBOT	GIETU, GUNUPUR	GIETU JOURNAL	Volume-4 Issn :2583-5955	
18.	Putingichiti Jiban,5th Cherukuri Naveen,5th Samantula Sivaji,5th Potnuru Teja,5th	IOT-BASED WEATHER MONITORING STATION	GIETU, GUNUPUR	GIETU JOURNAL	Volume-4 Issn :2583-5955	
19.	Amrut Prusty,5th Subham Tripathy,5th Aswin Kumar Nayak,5th	IOT BASED TEMPERATURE AND HUMIDITY CONTROLLER USING NODE MCU ESP8266 AND BLYNK IOT INTERGATION	GIETU, GUNUPUR	GIETU JOURNAL	Volume-4 Issn :2583-5955	

	Abhishek Tripathy,5th					
20.	Priyabrata Sahoo,5th Bibek Baliarsingh,5th Subhendu Sekhar Sabat,5th Bhabani Shankar Pradhan,5th	IOT BASED FLOOD MONITORING SYSTEM	GIETU, GUNUPUR	GIETU JOURNAL	Volume-4 Issn :2583-5955	
21.	Lolugu Ganesh G Pravalika Gouri,5th Voona Ritika,5th Gumudi Akhila,5th	WEARABLE PANIC BUTTON: A BLYNK-BASED IOT SOLUTION	GIETU, GUNUPUR	GIETU JOURNAL	Volume-4 Issn :2583-5955	
22.	Ap Amrit Pradhan,5th Jyotirmayee Panigrahi,5th	PASSIVE INFRARED SECURITY SYSTEM	GIETU, GUNUPUR	GIETU JOURNAL	Volume-4 Issn :2583-5955	
23.	Setti Harshita,5th Labhala Sasya,5th	PASSWORD-BASED CIRCUIT BREAKER FOR ELECTRIC LINEMAN SAFETY	GIETU, GUNUPUR	GIETU JOURNAL	Volume-4 Issn :2583-5955	
24.	Snehanjali Dash,5th Amolina Mohanty,5th Jyotirmayee Sahu,5th	LOW-COST VENTILATOR WITH VARIABLE BPM AND SPO2 SETTINGS	GIETU, GUNUPUR	GIETU JOURNAL	Volume-4 Issn :2583-5955	

	Badal Lenka,5th					
25.	D Pratyusha,5th Jhami Manisha,5th Tutika Sai Goutam,5th Lanka Lalitha,5th	MOTION SENSING LIGHT AUTOMATION SYSTEM	GIETU, GUNUPUR	GIETU JOURNAL	Volume-4 Issn :2583-5955	
26.	Kajol Sahu,5th Rajeswari Pati,5th Amit Kumar Harichandan, 5th Srujal Kumar Patra,5th	AUTOMATIC LPG GAS LEAKAGE DETECTION AND CUT-OFF SYSTEM	GIETU, GUNUPUR	GIETU JOURNAL	Volume-4 Issn :2583-5955	
27.	Rajaram Mishra,5th Ashwini Kumar Biswal,5th Anurag Das,5th Swati Swagatika Nanda,5th	ARDUINO BASED SOLAR TRACKING SYSTEM	GIETU, GUNUPUR	GIETU JOURNAL	Volume-4 Issn :2583-5955	
28.	Bhadrasi Varun,5th Kalpana Choudhury,5th Chandan Satapathy,5th Rajaram Behera,5th	SMART MEDICINE BOX USING NODE MCU	GIETU, GUNUPUR	GIETU JOURNAL	Volume-4 Issn :2583-5955	

29.	Jyoti Ranjan Pradhan,5th Roman Patra,5th	CONTACTLESS SWITCH FOR SMART HOMES	GIETU, GUNUPUR	GIETU JOURNAL	Volume-4 Issn :2583-5955	
30.	Mahesh Sabar,5th Vivek Ku Dhal,5th Kashinath Giri,5th Ramkrishna Jena,5th	RFID SECURE DOOR LOCK SYSTEM	GIETU, GUNUPUR	GIETU JOURNAL	Volume-4 Issn :2583-5955	
31.	Roshan Kumar Sethi,5th Sujal Panda,5th Akash Jena,5th Subha Prasad Behera,5th	IOT BASED FIRE DETECTOR WITH WIRELESS ALERT	GIETU, GUNUPUR	GIETU JOURNAL	Volume-4 Issn :2583-5955	
32.	Voona Rahul,5th Tarun Kumar Dalapati,5th Trilochan Behera,5th Rabindra Goudo,5th	ULTRASONIC DETECTION SYSTEM	GIETU, GUNUPUR	GIETU JOURNAL	Volume-4 Issn :2583-5955	
33.	Priyanka Mohapatra,5th Potnuru Deepika,5th M.Vasant Venkat,5th	AN ARDUINO-BASED ADAPTIVE TRAFFIC CONTROL SYSTEM	GIETU, GUNUPUR	GIETU JOURNAL	Volume-4 Issn :2583-5955	

34.	M. Shekhar Suman Reddy5th Subhajyoti Mohanty5th Rakesh Pradhan5th	DESIGN OF A NOISE DETECTION SYSTEM USING ARDUINO	GIETU, GUNUPUR	GIETU JOURNAL	Volume-3 Issn :2583-5955	
35.	Laveti Jaswanth5th Subudhi Ashish5th Pitta Sai5th Debashish Mallik5th	SIMPLE ELECTRONIC LETTER BOX FOR MAIL NOTIFICATION SYSTEM	GIETU, GUNUPUR	GIETU JOURNAL	Volume-3 Issn :2583-5955	
36.	P .Tejeswar Rao5th Ramkrishna Jena5th Rudra Narayan Biswal5th Kasi Nath Giri5th	DESIGN OF A MUSIC SYSTEM USING LM386 AMPLIFIER	GIETU, GUNUPUR	GIETU JOURNAL	Volume-3 Issn :2583-5955	
37.	Sandeep Kumar Sahu5th Akash Jena5th Biswajit Panda5th	WIRELESS POWER TRANSMISSION TO CHARGE A MOBILE	GIETU, GUNUPUR	GIETU JOURNAL	Volume-3 Issn :2583-5955	
38.	Ch Prashant Kumar Dora5th Sourav Naik5th	DESIGN AND IMPLEMENTATION OF A DIGITAL THERMOMETER USING	GIETU, GUNUPUR	GIETU JOURNAL	Volume-3 Issn :2583-5955	

	Devashish Kumar5th Aditya Kumar Madhav5th	ARDUINO AND LM35 SENSOR				
39.	Bhabani Sahu 5th P.M. Pratik5th Tutika Sai Goutam5th	AUTOMATIC SWITCH-OFF BATTERY CHARGER	GIETU, GUNUPUR	GIETU JOURNAL	Volume-3 Issn :2583-5955	
40.	Rabindra Goudo5th P. Teja5th Papun Gouda5th Aman Kumar Patika5th	AUTOMATIC STREET LIGHT CONTROLLER	GIETU, GUNUPUR	GIETU JOURNAL	Volume-3 Issn :2583-5955	
41.	Dhanurjaya Pradhan5th Monish Mahankudo5th M Sai Kishore5th	DESIGN AND SIMULATION OF A WIRED EMERGENCY ALARM SYSTEM	GIETU, GUNUPUR	GIETU JOURNAL	Volume-3 Issn :2583-5955	
42.	Jyoti Ranjan Pradhan5th Ashwini Kumar Biswal5th Anurag Das5th Jagannath Gouda5th	HIGH SPEED WIRELESS AUDIO DATA TRANSMISSION USING LI-FI TECHNOLOGY	GIETU, GUNUPUR	GIETU JOURNAL	Volume-3 Issn :2583-5955	
43.	Subhendu Sekhar Sabat5th	REMOTELY CONTROLLED	GIETU, GUNUPUR	GIETU JOURNAL	Volume-3 Issn	

	Ramkrushna Sahu5th Priyanshu Patro5th	JAMMER USING 555 TIMER IC			:2583-5955	
44.	Soumya Ranjan Panda5th Subham Kumar Tripathy5th Vivek Kumar Dhal5th Mahesh Sabar5th	GREENSENSE IOT NAVIGATOR USING ARDUINO	GIETU, GUNUPUR	GIETU JOURNAL	Volume-3 Issn :2583-5955	
45.	Setti.Harshita 5th Potnuru Deepika5th Kothakota Sidhardha5th Real Time Driver Sleep Detection Device	REAL TIME DRIVER SLEEP DETECTION DEVICE	GIETU, GUNUPUR	GIETU JOURNAL	Volume-3 Issn :2583-5955	
46.	Suparna Moharana5th Pranati Swain5th V Harika Yadav5th	SIMPLIFIED THERMOMETRY : CRAFTING A BASIC TEMPERATURE SENSOR	GIETU, GUNUPUR	GIETU JOURNAL	Volume-3 Issn :2583-5955	
47.	Gumudi Akhila5th Priyanka Mohapatra5th Lanka Lalitha5th Mediboina Vasant Venkat5th	TRAFFIC LIGHT MODEL PROCESSING WITH D-FLIP FLOP	GIETU, GUNUPUR	GIETU JOURNAL	Volume-3 Issn :2583-5955	

48.	Samantula Sivaji5th Kumar Prasanjit Sahoo5th Potnuru Teja5th	PERSISTENCE OF VISION (POV) DISPLAY USING ARDUINO	GIETU, GUNUPUR	GIETU JOURNAL	Volume-3 Issn :2583-5955	
CAYm2 2022-23						
1.	Prabhu Prasad Dash 7th	Performance Analysis Of A Perturbed Circular Dra For Different Dielectric Materials	Applied Mechanics And Materials	Applied Mechanics And Materials	Volume -911, Issn :1661-7482	
2.	Rani Swetashri Naik7th Mansi Panda7th Saphalya Kumar Sahu7th	Pentagonal Microstrip Patch Antenna With Circular Slot For 9 Ghz Applications	Smart Sustainable Technologie: Rural And Tribal Development Using Iot And Computing: Springer Nature Singapore	Smart Sustainable Technologie : Rural And Tribal Developme nt Using Iot And Computing: Springer Nature Singapore	Volume -1, Issn :978-981-19-2276-3	
3.	R.Budhi Sagar 7th	Planar Split Resonating Antenna Design	Smart Sustainable Technologie: Rural And Tribal Development Using Iot And Computing: Springer Nature Singapore	Smart Sustainable Technologie : Rural And Tribal Developme nt Using Iot And Computing: Springer Nature Singapore	Volume -1, Issn :978-981-19-2276-3	
CAYm3 2021-2022						

1.	A.B Mukesh Kumar Behera 5th G Uday Kiran5th Sivani Subudhi5th	Performance Evaluation Of 4*15 Gbps Cwdm Optical Transmission Link For Metropolitan Areas	IOPSCIENCE	IOPSCIENCE	VOLUME -107, ISSN :7201-7215	
2.	Sudha Subhalaxmi Muduli7th Laxmikant Padhy7th Swadhin Polei7th	Performance Analysis Of A High-Speed Optical Transmission System Using Various Pulse Generator	IOPSCIENCE	IOPSCIENCE	VOLUME -107, ISSN :7201-7215	
3.	Somya Ranjan Pradhan 7th Somya Ranjan Sahoo 7th Gyan Ranjan Pradhani7th	Chromatic Dispersion Compensation Using Adaptive Fiber Bragg Grating For High-Speed Optical Communication	IOP SCIENCE	IOPSCIENCE	VOLUME -107, ISSN :7201-7215	

Table No. 4.7.4.2: List of student's publication in conference.

Sl. No	Name of The Student & Semester	Name of Conference	Topic	Date of Conference	Place	Name Awards If Any
CAYm1 2023-2024						
1.	Anisha Kumari7th, Ambica Das7th, Sankalp Kundu7th, K Venkata Tirugopala Reddy7th	Icriceit-2023	Graphene Based Wearable Antenna With Different Dielectric Materials For 2.4 Ghz Applications	December 2023	Coimbatore, Tamil Nadu	
CAYm2 2022-2023						

1.	Reyya Sohit Rao7th, Rashmi Ranjan Sahu7th, Shashi Shankar Mohanty7th	Icmsmt-2023	Design And Comparison Of Three Unconventional Shaped Dras For 60ghz Application	April 2023	Coimbatore, Tamil Nadu	
2.	A.B Mukesh Kumar Behera5th Sudha Subhalaxmi Muduli5th	Springer	Simulation and Analysis of an 8 Channel Cwdm Optical Network Suitable For Smart City Applications	28th July, 2022	GIET University, Gunupur	
3.	Somya Ranjan Pradhan7th Subham Dey7th	Springer	Performance Evaluation Of FSO Under Different Atmospheric Conditions	28th July, 2022	GIET University, Gunupur	
CAYm3 2021-2022						
1.	Pragyan Paramita Behera 6th, Barsha Choudhury6th, M.Arun Kumar6th	ICMSMT-2021	Performance Analysis Of A Perturbed Circular Dra For Different Dielectric Materials	24th March 2022	Online Mode Coimbatore, Tamil Nadu, India.	
2.	Rani Swetashri Naik 5th, Manasi Panda5th, Saphalya Kumar Sahu5th	ICSST-2021	Pentagonal Microstrip Patch Antenna with Circular Slot For 9 Ghz Applications	Decembe r 2021	GIET University, Gunupur	
3.	Nishit Mohapatra 5th Subudhi Sai Susmitha 5th	ICSST-2021	Circular Patch Antenna with Perturbed Slots For Various Wireless Applications	Decembe r 2021	GIET University, Gunupur	

4.	Raghuvu Budhisagar 4th , G. Anudeep4th, Pritam Palo 4th	ICSST-2021	Planar Split Ring Resonating Antenna Design	December 2021	GIET University, Gunupur	
5.	Pragyanrani Pani, Barsha Choudhury, Madugula Arun Kumar	ICARAE-2021	Gain Enrichment of Perturbed Hexagonal Patch Antenna for X-Band Application	7th November 2021	Online Mode Cape Peninsula University Of Technology, Cape Town, Western Cape, South Africa	
6.	Swadhin Polei3rd Guriya Kumari3rd A. B. Mukesh Kumar Behera3rd	SPRINGER	Performance Analysis of Duo binary and CSRZ Modulation Formats On Self-Phase Modulation Effect in Optical Communication Network Using Fiber Bragg Grating (FBG)	15th June 2021	GIET University, Gunupur	

Criterion 5: Faculty Information (100)

Table No. 5A: Faculty details.

S.No.	Name of the Faculty	PAN No.	APAAR faculty ID*(if any)	Highest Degree	University	Area of Specialization	Date of Joining in this Institution	Experience in Years in Current Institute	Designation at Time Joining in this Institution	Present Designation	The date on which Designated as Professor/ Associate Professor if any	Nature of Association (Regular/ Contract/ Ad hoc)	If contractual mention Full time or (Part	Currently Associated (Y/N)	Date of Leaving if any (In case Currently Associated is "No")
1	Dr. SUDHANSU SEKHAR NAYAK	AAVPN5773C	NA	ME/M. Tech and PhD	Berhampur University, Berhampur, Odisha	Digital Signal Processing and Image Processing	01-08-2017	7.8	Professor	Professor	01-08-2017	Regular		Yes	
2	Dr. SRINIVASA RAO KUNA	AKDPK5526E	NA	ME/M. Tech and PhD	SunRise University, Alwar, Rajasthan	Wireless Sensor Network	04-01-2020	5.3	Professor	Professor	04-01-2020	Regular		Yes	
3	Dr. MARTHA NARAYAN MURTY	ACCPM9393E	NA	ME/M. Tech and PhD	Berhampur University, Berhampur, Odisha	Signal Processing	23-07-2020	4.8	Professor	Professor	23-07-2020	Regular		Yes	

4	Dr. GANANATH DASH	AAUPD0448B	NA	ME/M. Tech and PhD	Sambalpur University, Burla, Odisha	Semiconductor Physics	21-07-2021	3.9	Professor	Professor	21-07-2021	Regular		Yes	
5	Dr. VENKATESAN SELVARAJ	BNNPS7090H	NA	ME/M. Tech and PhD	Sathyabama University, Chennai, Tamil Nadu	Signal Processing	26-10-2021	2.6	Professor	Professor	26-10-2021	Regular		No	30-04-2024
6	Dr. DULU PATNAIK	AGQPP8334G	NA	ME/M. Tech and PhD	Fakir Mohan University University, Balasore, Odisha	Information and Communication Systems	14-02-2025	0.2	Professor	Professor	14-02-2025	Regular		Yes	
7	Dr. TOLADA APPARAO	AJOPT9654Q	NA	ME/M. Tech and PhD	Bharathiar University, Coimbatore, Tamil Nadu	Network Analysis	30-07-2009	15.8	Assistant Professor	Associate Professor	01-07-2019	Regular		Yes	
8	Dr. SIVA PRASAD RAO LAKKOJU	ACYPL4109K	NA	ME/M. Tech and PhD	Sambalpur University, Burla, Odisha	Embedded System	14-02-2013	12.2	Assistant Professor	Associate Professor	01-07-2019	Regular		Yes	
9	Dr. PRIYADARSAN PARIDA	ARMPP6630J	NA	ME/M. Tech and PhD	Veer Surendra Sai University of Technology, Burla, Odisha	Computer Vision	23-07-2018	6.8	Associate Professor	Associate Professor	23-07-2018	Regular		Yes	
10	Dr. RAJITA GURINDAPALLI	AMKPG1334P	NA	ME/M. Tech and PhD	Indian Institute of Technology (Indian School of Mines),	Sensors and Transducers	27-08-2019	5.7	Associate Professor	Associate Professor	27-08-2019	Regular		Yes	

					Dhanbad, Jharkhand										
11	Dr. VARADHANAMETI GAJENDRA KUMAR	AAMPG2168H		ME/M.Tech and PhD	Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu	Signal Processing	20-01-2020	2.5	Associate Professor	Associate Professor	20-01-2020	Regular		No	30-06-2022
12	Dr. THANGARAJ KRISHNAMOORTHY	AYUPK7981J	NA	ME/M. Tech and PhD	Annamalai University Annamalainagar, Tamil Nadu	Communication Systems	11-06-2020	4.10	Associate Professor	Associate Professor	11-06-2020	Regular		Yes	
13	Dr. MUKKAMALLA PRASADA REDDY	ARMPP2533L	NA	ME/M. Tech and PhD	Rayalaseema University, Kurnool, Andhra Pradesh	Wireless Sensor Network	13-07-2020	4.9	Associate Professor	Associate Professor	13-07-2020	Regular		Yes	
14	Dr. SANKARALINGAM VASANTHA SWAMINATHAN	AFLPV5455J	NA	ME/M. Tech and PhD	Annamalai University Annamalainagar, Tamil Nadu	Very Large Scale Integration (VLSI)	13-07-2020	4	Associate Professor	Associate Professor	13-07-2020	Regular		No	31-07-2024
15	Dr. SUBHRAJIT PRADHAN	AXNPP4931H	NA	ME/M.Tech and PhD	Berhampur University, Berhampur, Odisha	Optical Communication	21-11-2006	16	Assistant Professor	Associate Professor	01-07-2021	Regular		No	30-11-2022
16	Dr. AJIT KUMAR PATRO	ASIPP4510E	NA	ME/M. Tech and PhD	Centurion University of Technology and Management, Odisha,	Signal Processing	09-06-2006	18.10	Assistant Professor	Associate Professor	01-07-2022	Regular		Yes	

					Paralakhemundi, Odisha										
17	Dr. AMI KUMAR PARIDA	AWRPP3492L	NA	ME/M.Tech and PhD	Sri Satya Sai University of Technology and Medical Sciences, Sehore, Madhya Pradesh	Neural Network	21-10-2008	16.6	Assistant Professor	Associate Professor	01-07-2022	Regular		Yes	
18	Dr. JITENDRA KUMAR	BMAPK1091G	NA	ME/M.Tech and PhD	Indian Institute of Technology Guwahati, Guwahati, Assam	Very Large Scale Integration (VLSI)	11-08-2022	2.8	Associate Professor	Associate Professor	11-08-2022	Regular		Yes	
19	Dr. BIBHU PRASAD	BLAPP5966N	NA	ME/M.Tech and PhD	Sambalpur University, Burla, Odisha	Optical Communication	22-09-2008	16.6	Assistant Professor	Associate Professor	01-07-2023	Regular		Yes	
20	Dr. TUSARAKANTA PANDA	BKYPP2180B	NA	ME/M.Tech and PhD	Sambalpur University, Burla, Odisha	Optical Communication	26-08-2008	16.7	Assistant Professor	Associate Professor	01-07-2023	Regular		Yes	
21	Dr. SASMITA DASH	AOIPD6968E	NA	ME/M.Tech and PhD	Indian Institute of Technology Roorkee, Roorkee, Uttarakhand	Microwave Engineering and Antennas	03-07-2023	1.9	Associate Professor	Associate Professor	03-07-2023	Regular		Yes	
22	Mr. RABINDRA KUMAR MISHRA	AXPPM3097H	NA	M.E/M.Tech	Biju Patnaik University of Technology,	Sensors and Transducers	01-10-	27.6	Assistant	Assistant		Regular		Yes	

					Odisha, Rourkela, Odisha		1997		Professor	Professor					
23	Dr. RANJITA ROUT	AQSPR0234P	NA	ME/M. Tech and PhD	GIET University, Odisha, Gunupur	Biomedical Image Processing	10-01-2007	18.3	Assistant Professor	Assistant Professor		Regular		Yes	
24	Dr. RADHANATH PATRA	BKRPP9841G	NA	ME/M. Tech and PhD	Berhampur University, Berhampur, Odisha	Machine Learning	28-07-2008	16.8	Assistant Professor	Assistant Professor		Regular		Yes	
25	Mrs. BANDANA MALLICK	BIBPM7078Q	NA	M.E/M.Tech	Biju Patnaik University of Technology, Odisha, Rourkela, Odisha	Quantum Key Distribution	28-07-2008	16.8	Assistant Professor	Assistant Professor		Regular		Yes	
26	Mrs. PADMINI MISHRA	AQWPM7979E	NA	M.E/M.Tech	Biju Patnaik University of Technology, Odisha, Rourkela, Odisha	Optical Communication	29-08-2008	16.7	Assistant Professor	Assistant Professor		Regular		Yes	
27	Dr. JAGANA BIHARI PADHY	BKYPP2022C	NA	ME/M.Tech and PhD	International Institute of Information Technology Bhubaneswar, Bhubaneswar, Odisha	Optical Communication	26-06-2009	13.2	Assistant Professor	Assistant Professor		Regular		No	30-08-2022

28	Dr. ASHIMA SINDHU MOHANTY	BAAPM1195B	NA	ME/M.Tech and PhD	Sambalpur University, Burla, Odisha	Artificial Intelligence	08-08-2011	13.8	Assistant Professor	Assistant Professor		Regular		Yes	
29	Dr. ASHISH TIWARY	AHOPT6595L	NA	ME/M.Tech and PhD	GIET University, Odisha, Gunupur	Micro-Electro-Mechanical Systems (MEMS)	26-07-2011	13.8	Assistant Professor	Assistant Professor		Regular		Yes	
30	Dr. SUKANTA KUMAR TULO	AUUPT0509M	NA	ME/M.Tech and PhD	Indian Institute of Technology Madras, Chennai, Tamil Nadu	Image Processing	04-07-2011	13	Assistant Professor	Assistant Professor		Regular		No	16-07-2024
31	Dr. PRIYA RANJAN MEHER	BTVPM1317D	NA	ME/M.Tech and PhD	International Institute of Information Technology Bhubaneswar, Odisha	Radio Frequency (RF) and Microwave	18-02-2013	12.2	Assistant Professor	Assistant Professor		Regular		Yes	
32	Dr. RIBHU ABHUSAN PANDA	BZIPP0650D	NA	ME/M.Tech and PhD	Veer Surendra Sai University of Technology, Burla, Odisha	Microwave Engineering and Antennas	08-08-2016	8.8	Assistant Professor	Assistant Professor		Regular		Yes	
33	Mr. PRAMOD MARTHA	CHAPM4181P	NA	M.E/M.Tech	Veer Surendra Sai University of Technology, Burla, Odisha	Very Large Scale Integration (VLSI)	03-01-2017	5.6	Assistant Professor	Assistant Professor		Regular		No	13-07-2022
34	Mrs. SUBHASHREE	CSOPB2795P	NA	M.E/M.Tech	Biju Patnaik University of	Communication Systems	09-01-	8.3	Assistant	Assistant		Regular		Yes	

	SAKTIMAYEE BISWAL				Technology, Odisha, Rourkela, Odisha		2017		Professor	Professor					
35	Dr. SHASANKA SEKHAR ROUT	AMDPR3998P	NA	ME/M. Tech and PhD	Biju Patnaik University of Technology, Odisha, Rourkela, Odisha	Very Large Scale Integration (VLSI)	18-06-2019	3.11	Assistant Professor	Assistant Professor		Regular		No	31-05-2023
36	Dr. SHIRSHENDU ROY	AVYPR2226A	NA	ME/M. Tech and PhD	National Institute of Technology Rourkela, Rourkela, Odisha	Very Large-Scale Integration (VLSI)	07-09-2019	3.8	Assistant Professor	Assistant Professor		Regular		No	31-05-2023
37	Mrs. SOWMYA NAGAVARAPU	AMZPN2304F	NA	M.E/M.Tech	Biju Patnaik University of Technology, Odisha, Rourkela, Odisha	Very Large-Scale Integration (VLSI)	19-01-2017	6.5	Assistant Professor	Assistant Professor		Regular		No	26-06-2023
38	Dr. MANOJ KUMAR PANDA	BTZPP0013K	NA	ME/M. Tech and PhD	Indian Institute of Technology Jammu, Ban, Jammu & Kashmir	Image and Video Processing	10-08-2022	2.8	Assistant Professor	Assistant Professor		Regular		Yes	
39	Dr. BARUNA KUMAR TURUK	AFTPT2941P	NA	ME/M. Tech and PhD	National Institute of Technology Jamshedpur,	Micro-Electro-Mechanical Systems (MEMS)	13-07-2024	0.9	Assistant Professor	Assistant Professor		Regular		Yes	

					Jamshedpur, Jharkhand										
40	Dr. SARAN SRIHARI SRIPADA PANDA	DGMPP2454L	NA	ME/M. Tech and PhD	National Institute of Technology Goa, Goa	Microwave Engineering and Antennas	05-08-2024	0.8	Assistant Professor	Assistant Professor		Regular		Yes	
41	Mr. TANGUDU JAGANATHA PATRO	BEQPP7972B	NA	M.E/M.Tech	Berhampur University, Berhampur, Odisha	Electronic Information System	07-08-2024	0.8	Assistant Professor	Assistant Professor		Regular		Yes	
42	Mrs. PRIYAMBADA PARIDA	BJXPP5027R	NA	M.E/M.Tech	Biju Patnaik University of Technology, Odisha, Rourkela, Odisha	Embedded System	04-07-2017	7.9	Assistant Professor	Assistant Professor		Regular		Yes	
43	Mr. SANDEEP SAHU	HOPPS6138D	NA	M.E/M.Tech	GIET University, Odisha, Gunupur	Optical Communication	09-04-2021	4	Assistant Professor	Assistant Professor		Regular		Yes	
44	Mrs. ALAKA KUMARI PANIGRAHI	CVWPP1237M	NA	M.E/M.Tech	GIET University, Odisha, Gunupur	Communication Systems	07-07-2021	3.9	Assistant Professor	Assistant Professor		Regular		Yes	
45	Mrs. ANUSHA BHASKARABHATLA	CTWPB9700P	NA	M.E/M.Tech	GIET University, Odisha, Gunupur	Communication Systems	08-07-2021	3.9	Assistant Professor	Assistant Professor		Regular		Yes	
46	Ms. JAYANTI DANG	CAZPD1988B	NA	M.E/M.Tech	GIET University, Odisha, Gunupur	Digital Image Processing	15-03-2022	3.1	Assistant Professor	Assistant Professor		Regular		Yes	

47	Mr. BISWA MOHAN PANDA	DYKPB3186F	NA	M.E/M.Tech	Biju Patnaik University of Technology, Odisha, Rourkela, Odisha	Communication Systems	01-04-2024	1	Assistant Professor	Assistant Professor		Regular		Yes	

Note 1: Please provide details of the faculty in the Department and allied Departments, including cumulative information for all three academic years starting from the current academic year (CAY) in the specified format. Programs such as MCA, BCA, and other non-engineering programs running in the Department or allied Departments need to have sufficient faculty members to support those programs. Note that these faculty members should not be included in the above said Table no. 5A.

Note 2: All the faculty whether regular or contractual (except part-time or hourly based), will be considered. All regular faculty members shall meet the AICTE qualifications and experience requirements. The contractual faculty appointed with any terminology whatsoever, who have taught for 2 consecutive semesters with or without break between the 2 semesters in corresponding academic year on full-time basis shall be considered for the purpose of calculation in the faculty student ratio. However, following will be ensured in case of contractual faculty

A. Shall have the AICTE prescribed qualifications and experience.

B. Shall be appointed on full time basis and worked for consecutive two semesters with or without break between the 2 semesters during the particular academic year under consideration.

C. Should have gone through an appropriate process of selection and the records of the same shall be made available to the visiting team during NBA visit.

Note 3:

A. Faculty members in the Department who do not have teaching, or practical loads, will not be counted.

B. Director/ Principal/ Dean/ other academic/administrative posts, who has teaching/ practical load in the Department will be counted.

C. Visiting faculty/adjunct faculty, who are working on hourly based faculty will not be counted

5.1. Student-Faculty Ratio (30)

(SFR to be calculated at Department level considering all UG and PG engineering programs in the Department; include allied department programs/clusters as well.)

- No. of UG (Engineering) programs in Department including allied departments/ clusters (UG_n): 02
  - UG_1 = B. Tech (Electronics and Communication Engineering)
  - UG_2 = B. Tech (Electronics Engineering (VLSI Design and Technology))
    - **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 (PG_m): 02
  - PG_1 = M. Tech (Electronics and Communication Engineering)
  - PG_2 = M. Tech (Electronics and Communication Engineering (VLSI Design))
    - **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)).

***Note:**

If the number of students admitted in 2nd year via lateral entry including left over seats (L) is more than 10% of the sanctioned intake in the respective program, then the total number of students considered to be admitted in the program (ST) should be the sanctioned intake program plus 10% of the sanctioned intake program. Additionally, the (ST) value cannot exceed 132 in the given example.

Table No. 5.1.1: Student-faculty ratio.

Year	CAY 2024-25	CAYm1 2023-24	CAYm2 2022-23
UG_1. B	120 + 08 = 128	120 + 10 = 130	120 + 04 = 124
UG_1. C	120 + 10 = 130	120 + 04 = 124	180 + 06 = 186
UG_1. D	120 + 04 = 124	180 + 06 = 186	180 + 03 = 183
UG_1 **(B. Tech (Electronics and Communication Engineering))**	UG_1.B + UG_1.C + UG_1.D = **382**	UG_1.B + UG_1.C + UG_1.D = **440**	UG_1.B + UG_1.C + UG_1.D = **493**
UG_2. B	60 + 0 = 60	0	0
UG_2. C	0	0	0
UG_2. D	0	0	0
UG_2 **(B. Tech (Electronics Engineering (VLSI Design and Technology)))**	UG_2.B + UG_2.C + UG_2.D = **60**	UG_2.B + UG_2.C + UG_2.D = **0**	UG_2.B + UG_2.C + UG_2.D = **0**
PG_1. A	18	18	18
PG_1. B	18	18	18
PG_1 **(M. Tech (Electronics and Communication Engineering))**	PG_1.A + PG_1.B = **36**	PG_1.A + PG_1.B = **36**	PG_1.A + PG_1.B = **36**
PG_2. A	18	18	0
PG_2. B	18	0	0
PG_2 **(M. Tech (Electronics and Communication Engineering (VLSI Design)))**	PG_2.A + PG_2.B = **36**	PG_2.A + PG_2.B = **18**	PG_2.A + PG_2.B = **0**
DS = Total no. of students in all UG and PG programs in the Department	514	494	529
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 = UG_1 + UG_2 + PG_1 + PG_2 = **514**	S2 = UG_1 + UG_2 + PG_1 + PG_2 = **494**	S3 = UG_1 + UG_2 + PG_1 + PG_2 = **529**
DF = Total no. of faculty members in the Department	36	35	37
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)	**36**	**35**	**37**
FF = The faculty members in F who have a 100% teaching load in the first-year courses	1	1	1
Student Faculty Ratio (SFR) = S/(F-FF)	SFR1 = S1/(F1-FF1) = **14.69**	SFR2 = S2/(F2-FF2) = **14.53**	SFR3 = S3/(F3-FF3) = **14.69**
Average SFR for 3 years	Average SFR=(SFR1 + SFR2 + SFR3)/3 = **14.64**		

Note: Programs such as MCA, BCA, and other non-engineering programs running in the Department or allied Departments need to have sufficient faculty members to support those programs. These faculty members and students should not be included in Table No. 5.1.2.

Note:

Marks to be given proportionally from a maximum of 30 to a minimum of 10 for average SFR between 15:1 to 25:1, and zero for average SFR higher than 25:1. Marks distribution is given as below:

SFR < 15 - 30 Marks
< 17 - 26 Marks
< 19 - 22 Marks
< 21 - 18 Marks
< 23 - 14 Marks
< 25 - 10 Marks
> 25 - 00 Mark

5.2. Faculty Qualification (25)

- 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 5.1 of SAR; (RF=S/20).

Table No. 5.2.1: Faculty qualification.

Year	X	Y	RF	FQI = 2.5 * [(10X + 4Y)/RF]
CAY 2024-25	22	14	26	26.54
CAYm1 2023-24	23	12	25	27.80
CAYm2 2022-23	22	15	26	26.92
Average Assessment				**27.09**

Note:

- To determine the RF value (No. of required faculty in the Department, including allied Departments to adhere to the 20:1 Student-Faculty ratio), all students (S as defined in section 5.1 of SAR) in the department, as well as those in allied departments, need to be considered.
- The programs, such as MCA, BCA, and other non-engineering programs running in the Department or allied Departments, need to have sufficient faculty members to support those programs and exclude the faculty members and students listed in Table No. 5.2.1 (X, Y, and RF).

5.3. Faculty Cadre Proportion (25)

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 section 5.1 of SAR.
- 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 5.1 of SAR.
- 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 5.1 of SAR.

- Faculty cadre and qualification and experience should be as per AICTE/UGC norms.

Table No. 5.3.1: Faculty cadre proportion details.

Year	Professors		Associate Professors		Assistant Professors	
	Required Faculty (RF1)	Available Faculty (AF1)	Required Faculty (RF2)	Available Faculty (AF2)	Required Faculty (RF3)	Available Faculty (AF3)
CAY 2024-25	3	4	6	12	17	20
CAYm1 2023-24	3	5	5	13	17	17
CAYm2 2022-23	3	5	6	10	17	22
Average Numbers	RF1 = 3	AF1 = 5	RF2 = 6	AF2 = 12	RF3 = 17	AF3 = 20

$$\text{Faculty Cadre Proportion Marks} = \left[\left[\frac{AF1}{RF1}\right] + \left[\frac{AF2}{RF2} * 0.6\right] + \left[\frac{AF3}{RF3} * 0.4\right]\right] * 12.5$$

$$\text{Faculty Cadre Proportion Marks} = \left[\left[\frac{5}{3}\right] + \left[\frac{12}{6} * 0.6\right] + \left[\frac{20}{17} * 0.4\right]\right] * 12.5$$

$$= 41\ (limited\ to\ 25)$$

- If AF1 = AF2 = 0, then zero mark
- Maximum marks should be limited to 25 if they exceed the allocated marks
  - Case 1: AF1/RF1=1; AF2/RF2=1; AF3/RF3=1
    Faculty Cadre Proportion marks= (1+0.6+0.4) * 12.5 = 25.
  - Case 2: AF1/RF1=1; AF2/RF2=4/2; AF3/RF3=8/9
    Faculty Cadre Proportion marks= (1+1.2+0.36) * 12.5 = 32(limited to 25)

Note:

- All Professors (RF1, AF1), all Associate Professors (RF2, AF2), and all Assistant Professors (RF3, AF3) in the department, as well as those in allied departments, should be considered for the calculation of faculty cadre proportion marks.
- To determine the RF1, RF2, and RF3 values, all students (S as defined in the section 5.1 of SAR) in the department, as well as those in allied departments, need to be considered.
- The programs, such as MCA, BCA, and other non-engineering programs running in the Department or allied Departments, need to have sufficient faculty members to support them and exclude the faculty members listed in Table No. 5.3.1 (AF1, AF2, AF3).

5.4. Visiting/Adjunct Faculty/Professor of Practice (10)

(Provide details of participation and contributions in teaching, learning, or practical work by visiting, adjunct, emeritus faculty, professors of practice, etc., from industry, research organizations & reputed institutions as well as retired professors, during the assessment period.)

- Provision of visiting or adjunct faculty/emeritus professor/professor of practice etc. (1)
- Minimum 50 hours per year of interaction with adjunct faculty from industry or research organization, retired professors, etc. (9)
- A minimum of 50 hours of interaction in a year will result in 3 marks for that year (3 marks * 3 years = 9 marks).

Table No. 5.4.1: List of visiting/adjunct faculty/professor of practice and their teaching and practical loads.

S.N.	Name of the Person	Designation & Organization	Name of the Course	No. of hours handled
CAYm1 2023-24				
1	Mr. S.V.S.Bharadwaj	Koch Business Solutions India Bengaluru, Karnataka	Utilization Agile Methodology	16
2	Mr. Sanjay GS	Entuple Technologies Private Ltd Bengaluru, Karnataka	IoT cloud computing use and collects data across IoT devices	12
3	Mr. Debadarshana Parida	Synopsys India Pvt Ltd Noida, Uttar Pradesh	Driving the future of smart technology	16
4	Mr. K. Manikanta	Brane Service, Hyderabad, Telangana	Specifications and working Principle of IoT and Autonomous Drones Engineer	12
			Total no. of hours:	**56**
CAYm2 2022-23				
1	Mr. Debadarshana Parida	Synopsys lnc.	Introducing real-time image processing and how it differs from ordinary image	18
2	Mr. S.V.S.Bharadwaj	Koch Business Solutions India	Working Agile Software	18

		Bengaluru, Karnataka		
3	Mr. Sanjay GS	Entuple Technologies Private Ltd Bengaluru, Karnataka	Sensors and form factors	16
			Total no. of hours:	**52**
CAYm3 2021-22				
1	Mr. Lavanam Ambala	WIPRO LIMITED Bengaluru, Karnataka	Robotic Applications of Embedded Systems	16
2	Mr. Debadarshana Parida	Synopsys lnc.	The Fusion of Automotive and VLSI Technology	18
3	Mr. Jayant Prabhu	WIPRO LIMITED Bengaluru, Karnataka	Fundamental requirements of Embedded Systems	16
			Total no. of hours:	**52**

5.5. Faculty Retention (10)

Table No. 5.5.1: Faculty retention ratio.

Item	CAYm1 2023-24	CAYm2 2022-23	CAYm3 2021-22
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 5.1 of SAR; (RF=S/20).	494/20 = 25	529/20 = 26	531/20 = 27
AF = The no. of available faculty members in the Department including allied Departments	35	37	37
A = The no. of faculty members at the current institute with less than 1 year of experience (A in AF)	1	4	4
B = The no. of faculty members at the current institute with more than 1 year and less than 2 years of experience (B in AF)	4	4	7
C = The no. of faculty members at the current institute with more than 2 years and less than 3 years of experience (C in AF)	4	6	2
D = The no. of faculty members at the current institute with more than 3 years and less than 4 years of experience (D in AF)	5	2	1

E = The no. of faculty members at the current institute with more than 4 years of experience (E in AF)	21	21	23
FR=(((A*0)+(B*1)+(C*2)+(D*3)+(E*4))/RF)*2.50 (points limited to 10)	FR_1 = 10	FR_2 = 10	FR_3 = 9.98
Average FR = ((FR_1 + FR_2 + FR_3)/3) (marks limited to 10)	**9.99**		

Note:

- To determine the RDF value (Number of faculty required to comply with the 20:1 student-faculty ratio in the Department including allied Departments), all students (S as defined in section 5.1 of SAR) in the department need to be considered.
- The programs, such as MCA, BCA, and other non-engineering programs running in the Department or allied Departments, need to have sufficient faculty members to support them and exclude the faculty members listed in Table No. 5.5.1 (AF).

Criterion 6: Faculty Contribution (120)

6.1. Professional Development Activities (60)

6.1.1. Memberships in Profession Societies at National/International Levels (05)

(Provide details of faculty members, who have active recognized professional memberships and their positions and contributions to professional societies during the assessment period.)

Table No. 6.1.1.1: List of faculty members and their memberships.

S.N.	Name of the Faculty	Name of the Professional Society/Body at National and International Level	Name of the Grade/Level/Position
1	Dr. Sudhansu Sekhar Nayak	Institute of Electrical and Electronics Engineers	Member Number (93142729)
2	Dr. Srinivasa Rao Kuna	The Institution of Electronics and Telecommunication Engineers (IETE)	Member (4344)
3	Dr. Martha Narayan Murty	Indian Society for Technical Education (ISTE)	Life Member (LM 55836)
4	Dr. Gananath Dash	Institution of Engineers (IEI) Indian Society for Technical Education (ISTE)	Member (M-15132-4) Life Member (LM45656)
5	Dr. Venkatesan Selvaraj	Instrument Society of India (ISOI)	Life Member (LM 2478)
6	Dr. Dulu Patnaik	The Institution of Electronics and Telecommunication Engineers (IETE)	Member (3249)
7	Dr. Tolada Apparao	Institution of Engineers (India) (IEI) Indian Society for Technical Education (ISTE)	Life Member (LM89842) Life Member (LM-167534-8)
8	Dr. Siva Prasad Rao Lakkoju	Indian Society for Technical Education (ISTE)	Life Member (LM82386)
9	Dr. Priyadarsan Parida	International Association of Engineers The Society of Digital Information and Wireless Communication	Life Member (185657) Life Member (20055)
10	Dr. Rajita Gurindapalli	Indian Society for Technical Education (ISTE)	Life Member (LM-198734-8)
11	Dr. Varadhanameti Gajendra Kumar	Computer Society of India (CSI)	Associate Grade (I1702925)
12	Dr. Thangaraj Krishnamoorthy	Institution of Engineers (India) (IEI)	Life Member (LM93442)
13	Dr. Mukkamalla Prasada Reddy	The Society of Digital Information and Wireless Communication International Research Association of Computer Science and Technology	Life Member (13375) Life Member (20161003)
14	Dr. Sankaralingam Vasantha Swaminathan	Indian Society for Technical Education (ISTE)	Life Member (LM58946)
15	Dr. Subhrajit Pradhan	Institution of Engineers (IEI)	Life Member (AM1603214)
16	Dr. Ajit Kumar Patro	Indian Society for Technical Education	Life Member (LM 66836)

		(ISTE) Instrument Society of India (ISOI) The Institution of Engineers (India) (IEI) Computer Society of India (CSI) The Institution of Electronics and Telecommunication Engineers (IETE)	 Life Member (LM 2217) Member (M-151203-4) Grade - Associate (I1504121) Member (M-501578)
17	Dr. Ami Kumar Parida	Computer Society of India (CSI) Institution of Engineers (India) (IEI) Indian Society for Technical Education (ISTE) The Institution of Electronics and Telecommunication Engineers (IETE)	Grade - Associate (1504127) Life Member (LM86742) Life Member (LM-168594-8) Life Member (4141)
18	Dr. Jitendra Kumar	Indian Society for Technical Education (ISTE)	Life Member (LM97896)
19	Dr. Bibhu Prasad	The Institution of Engineers (India) Instrument Society of India (ISOI) The Institution of Electronics and Telecommunication Engineers (IETE) Computer Society of India (CSI) Indian Society for Technical Education (ISTE) The Institution of Electronics and Telecommunication Engineers (IETE)	 Member (AM1685980) Life Member (2218) Member (M-501582) Grade - Associate (I1504122) Life Member (LM85862) Life Member (4142)
20	Dr. Tusarakanta Panda	Computer Society of India (CSI) Institution of Engineers (IEI) Indian Society for Technical Education (ISTE) The Institution of Electronics and Telecommunication Engineers (IETE)	Grade - Associate (I1504118 AM) Life Member (158444-0) Life Member (LM80090) Member (4144)
21	Dr. Sasmita Dash	Institute of Electrical and Electronics Engineers	Member Number (93142245)
22	Mr. Rabindra Kumar Mishra	Indian Society for Technical Education (ISTE)	Life Member (LM57846)
23	Dr. Ranjita Rout	Computer Society of India (CSI) Institution of Engineers (IEI) Indian Society for Technical Education (ISTE) The Institution of Electronics and Telecommunication Engineers (IETE)	 Associate Grade (I1504125) Life Member (AM1685964) Life Member (LM81204) Member (4139)
24	Dr. Radhanath Patra	Computer Society of India (CSI) Institution of Engineers (IEI) Indian Society for Technical Education (ISTE) The Institution of Electronics and Telecommunication Engineers (IETE)	Grade - Associate (1504126) Associate Member (AM-1685956) Life Member (LM81346) Life Member (4140)
25	Mrs. Bandana Mallick	Computer Society of India (CSI) Institution of Engineers (IEI) Indian Society for Technical Education	Associate Grade (AM1704276) Life Member (I1504124)

		(ISTE) Institute of Electronics & Telecommunication Engineers (IETE)	Life Member (LM84553) Life Member (4143)
26	Mrs. Padmini Mishra	The Institution of Engineers (IEI) Computer Society of India (CSI) The Institution of Electronics and Telecommunication Engineers (IETE) Indian Society for Technical Education (ISTE)	Life Member (M-501585) Associate Grade (I1504120) Life Member (AM158446-7) Life Member (LM82302)
27	Dr. Jagana Bihari Padhy	Indian Society for Technical Education (ISTE)	Life Member (LM89784)
28	Dr. Ashima Sindhu Mohanty	Institution of Engineers (IEI) Instrument Society of India (ISOI)	Life Member (AM1704268) Life Member (LM 2220)
29	Dr. Ashish Tiwary	Indian Society for Technical Education (ISTE)	Life Member (LM 140266)
30	Dr. Sukanta Kumar Tulo	Institution of Engineers (IEI) Indian Society for Technical Education (ISTE)	Life Member (AM-1704255) Life Member (LM83554)
31	Dr. Priya Ranjan Meher	Indian Society for Technical Education (ISTE) Institute of Electrical and Electronics Engineers	Life Member (LM83778) Member No. (92994055)
32	Dr. Ribhu Abhusan Panda	Institution of Engineers (IEI)	Life Member (AM-185148-1)
33	Mr. Pramod Martha	The Institution of Electronics and Telecommunication Engineers (IETE)	Member (4235)
34	Mrs. Subhashree Saktimayee Biswal	Institution of Engineers (IEI)	Life Member (AM-186248-1)
35	Dr. Shasanka Sekhar Rout	Institution of Engineers (IEI)	Life Member (AM1804268)
36	Dr. Shirshendu Roy	Instrument Society of India (ISOI)	Life Member (LM 2765)
37	Mrs. Sowmya Nagavarapu	Indian Society for Technical Education (ISTE)	Life Member (LM 140322)
38	Dr. Manoj Kumar Panda	Indian Society for Technical Education (ISTE)	Life Member (LM97876)
39	Dr. Baruna Kumar Turuk	Institute of Electrical and Electronics Engineers	Member Number (97892245)
40	Dr. Saran Srihari Sripada Panda	Instrument Society of India (ISOI)	Life Member (LM 2423)
41	Mr. Tangudu Jaganatha Patro	Indian Society for Technical Education (ISTE)	Life Member (LM83288)
42	Mrs. Priyambada Parida	Institution of Engineers (IEI)	Life Member (AM1801268)
43	Mr. Sandeep Sahu	Instrument Society of India (ISOI)	Life Member (LM 2320)
44	Mrs. Alaka Kumari Panigrahi	Indian Society for Technical Education (ISTE)	Life Member (LM85968)
45	Mrs. Anusha Bhaskarabhatla	Institute of Electrical and Electronics Engineers	Member No. (92981855)

46	Ms. Jayanti Dang	Indian Society for Technical Education (ISTE)	Life Member (LM87128)
47	Mr. Biswa Mohan Panda	Indian Society for Technical Education (ISTE)	Life Member (LM85618)

6.1.2 Faculty as Resource Persons or Participants in STTPs/FDPs (10)

6.1.2.1 Faculty as Resource Persons in STTPs/FDPs (05)

(Provide details of the faculty involved as resource persons in STTP/FDP events during the assessment period.)

Table No. 6.1.2.1.1: List of faculty members as resource person in STTP/FDP events.

S.N.	Name of the Faculty as Resource Person	Name of the STTP/FDP	Date	Location	Organized by
CAYm1 2023-24					
1	Dr. Jitendra Kumar	Five Days Hands-on Workshop on Quantum Computing and Security	19/01/2024	Gunupur	GIET University
2	Dr. Tusharkanta Panda	Optical Materials & Photonics: A Frontier in Cutting-Edge Physics	02/12/2023	Gunupur	GIET University
`CAYm2 2022-23					
1	Dr. Ami Kumar Parida	One Week Online Faculty Development Program on Design and Critical Thinking	14/07/2022	Gunupur	GIET University
2	Dr. Ajit Kumar Patro	One Week Online Faculty Development Program on Design and Critical Thinking	11/07/2022	Gunupur	GIET University
CAYm3 2021-22					
1	Dr. Shasanka Sekhar Rout	Aatmanirbhar Bharat With Innovative Educators & Entrepreneurs	11/08/2021	Online	Yuva IncubatED in association with K.I.T.E.S Education
2	Dr. Shasanka Sekhar Rout	Latest Technological Developments For System On Chip (Soc) Applications	29/07/2021	Gunupur	GIET University

3	Dr. Subhrajit Pradhan	Latest Technological Developments For System On Chip (Soc) Applications	28/07/2021	Gunupur	GIET University
4	Dr. Priyadarsan Parida	Bio-Medical Signal Processing for Smarter Mobile Healthcare	23/07/2021	Gunupur	GIET University

6.1.2.2 Faculty Members' Participation in STTPs/FDPs (05)

(Provide details of faculty participated in STTP/FDP events during the assessment period with special reference to the faculty competency for the program under consideration for accreditation. Please do not give duplicate data from the section 6.1.4.)

- A Faculty scores maximum five points for participation
- Participation in 2 to 5 days Faculty/ Faculty development program: 3 Points
- Participation in >5 days Faculty/ Faculty development program: 5 points.

Table No. 6.1.2.2.1: List of faculty members participated in STTP/FDP events.

S.N.	Name of the Faculty as Resource Person or Participant	Max. 5 per Faculty		
		CAYm1 2023-24	CAYm2 2022-23	CAYm3 2021-22
1	Dr. Sudhansu Sekhar Nayak			
2	Dr. Srinivasa Rao Kuna			
3	Dr. Martha Narayan Murty			
4	Dr. Gananath Dash		5	5
5	Dr. Venkatesan Selvaraj		3	3
6	Dr. Tolada Apparao	5	5	5
7	Dr. Siva Prasad Rao Lakkoju			
8	Dr. Priyadarsan Parida	5	5	5
9	Dr. Rajita Gurindapalli		5	5
10	Dr. Varadhanameti Gajendra Kumar			5
11	Dr. Thangaraj Krishnamoorthy		5	
12	Dr. Mukkamalla Prasada Reddy		5	
13	Dr. Sankaralingam Vasantha Swaminathan		5	
14	Dr. Subhrajit Pradhan			5
15	Dr. Ajit Kumar Patro	5	5	5
16	Dr. Ami Kumar Parida	5	5	5
17	Dr. Jitendra Kumar	5	5	
18	Dr. Bibhu Prasad	5	5	5
19	Dr. Tusarakanta Panda	5	5	5
20	Dr. Sasmita Dash	5		
21	Mr. Rabindra Kumar Mishra	5	5	5
22	Dr. Ranjita Rout	5	5	5
23	Dr. Radhanath Patra	5	5	5
24	Mrs. Bandana Mallick	5	5	5
25	Mrs. Padmini Mishra	5	5	5

26	Dr. Jagana Bihari Padhy			5
27	Dr. Ashima Sindhu Mohanty	3	3	3
28	Dr. Ashish Tiwary	5	5	5
29	Dr. Sukanta Kumar Tulo		5	
30	Dr. Priya Ranjan Meher		5	
31	Dr. Ribhu Abhusan Panda	5	5	5
32	Mr. Pramod Martha			5
33	Mrs. Subhashree Saktimayee Biswal			5
34	Dr. Shasanka Sekhar Rout		5	
35	Dr. Shirshendu Roy		5	
36	Mrs. Sowmya Nagavarapu		5	5
37	Dr. Manoj Kumar Panda	5	5	
38	Mrs. Priyambada Parida		5	5
39	Mr. Sandeep Sahu	5	5	5
40	Mrs. Alaka Kumari Panigrahi		5	
41	Mrs. Anusha Bhaskarabhatla			5
42	Ms. Jayanti Dang	5	5	5
Sum		93	151	131
RDF = Number of faculty required to comply with the 20:1 student-faculty ratio in the Department alone, as per section 5.1 of SAR (RDF=DS/20).		25	26	27
Assessment Points (AP)= (Sum/(0.5* RDF)) (Points limited to 5 for each assessment year)		5	5	5
Average assessment points over 3 years= ((AP_1+AP_2+AP_3)/3) (Marks limited to 5 over the assessment period)		5		

Note:
We need to consider all students (DS) in the department alone to determine the RDF value (Number of faculty required to comply with the 20:1 student-faculty ratio in the Department).
Faculty members who participated in the FDP/STP programs at the parent institute will not be counted. Only participation in external programs will be considered.

S. N.	Name of the Faculty Participated	Name of the STTP/FDP	Date	Location	Organized by
CAYm1 (2023-24)					
1	Ms Jayanti Dang	Workshop on Quantum computing and Security	15/01/24 - 19/01/24	GIET University	NITTTR, Kolkata
2	Mrs. Padmini Mishra	Workshop on Quantum computing and Security	15/01/24 - 19/01/24	GIET University	Department of ECE and CSE, GIET University
3	Dr. Manoj Kumar Panda	Workshop on Quantum computing and Security	15/01/24 - 19/01/24	GIET University	Department of ECE and CSE, GIET University

4	Dr. Jitendra Kumar	Workshop on Quantum computing and Security	15/01/24 - 19/01/24	GIET University	Department of ECE and CSE, GIET University
5	Dr. Ranjita Rout	Workshop on Quantum computing and Security	15/01/24 - 19/01/24	GIET University	Department of ECE and CSE, GIET University
6	Ms Sandhyarani Swain	Workshop on Quantum computing and Security	15/01/24 - 19/01/24	GIET University	Department of ECE and CSE, GIET University
7	Dr. Apparao Todla	Workshop on Quantum computing and Security	15/01/24 - 19/01/24	GIET University	Department of ECE and CSE, GIET University
8	Dr. Ami Kumar Parida	Workshop on Quantum computing and Security	15/01/24 - 19/01/24	GIET University	Department of ECE and CSE, GIET University
9	Dr. Tusarakanta Panda	Artificial Intelligence and Data Science	21/08/23 - 25/08/23	Jio Institute,Navi Mumbai	ATAL
10	Dr. Radhanath Patra	Artificial Intelligence and Data Science	21/08/23 - 25/08/23	Jio Institute,Navi Mumbai	ATAL
11	Dr. Priyadarsan Parida	Artificial Intelligence and Data Science	21/08/23 - 25/08/23	Jio Institute,Navi Mumbai	ATAL
12	Dr. Bibhu Prasad	Artificial Intelligence and Data Science	21/08/23 - 25/08/23	Jio Institute,Navi Mumbai	ATAL
13	Dr. Ami Kumar Parida	Artificial Intelligence and Data Science	21/08/23 - 25/08/23	Jio Institute,Navi Mumbai	ATAL
14	Dr. Manoj Kumar Panda	Artificial Intelligence and Data Science	21/08/23 - 25/08/23	Jio Institute,Navi Mumbai	ATAL
15	Ms Jayanti Dang	Artificial Intelligence and Data Science	21/08/23 - 25/08/23	Jio Institute,Navi Mumbai	ATAL
16	Dr. Jitendra Kumar	Artificial Intelligence and Data Science	21/08/23 - 25/08/23	Jio Institute,Navi Mumbai	ATAL
`CAYm2 (2022-23)					
1	Dr. Manoj Kumar Panda	Induction Training	09/05/2023 - 13/05/2023	NITTTR, Kolkata	NITTTR, Kolkata

2	Ms Jayanti Dang	Induction Training	09/05/2023 - 13/05/2023	NITTTR, Kolkata	NITTTR, Kolkata
3	Dr. Jitendra Kumar	Induction Training	09/05/2023 - 13/05/2023	NITTTR, Kolkata	NITTTR, Kolkata
4	Dr. Thangaraj Krishnamoorthy	Improving Teaching-Learning Process Through Technical Interventions	09/01/2023 – 20/01/2023	Shri Vaishnav Vidyapeeth Vishwavidyalaya Indore	Shri Vaishnav Vidyapeeth Vishwavidyalaya Indore
5	Dr. Mukkamalla Prasada Reddy	Improving Teaching-Learning Process Through Technical Interventions	09/01/2023 – 20/01/2023	Shri Vaishnav Vidyapeeth Vishwavidyalaya Indore	Shri Vaishnav Vidyapeeth Vishwavidyalaya Indore
6	Dr. Sankaralingam Vasantha Swaminathan	Improving Teaching-Learning Process Through Technical Interventions	09/01/2023 – 20/01/2023	Shri Vaishnav Vidyapeeth Vishwavidyalaya Indore	Shri Vaishnav Vidyapeeth Vishwavidyalaya Indore
7	Dr. Priya Ranjan Meher	Improving Teaching-Learning Process Through Technical Interventions	09/01/2023 – 20/01/2023	Shri Vaishnav Vidyapeeth Vishwavidyalaya Indore	Shri Vaishnav Vidyapeeth Vishwavidyalaya Indore
8	Mrs. Priyambada Parida	Improving Teaching-Learning Process Through Technical Interventions	09/01/2023 – 20/01/2023	Shri Vaishnav Vidyapeeth Vishwavidyalaya Indore	Shri Vaishnav Vidyapeeth Vishwavidyalaya Indore
9	Dr. Shasanka Sekhar Rout	Improving Teaching-Learning Process Through Technical Interventions	09/01/2023 – 20/01/2023	Shri Vaishnav Vidyapeeth Vishwavidyalaya Indore	Shri Vaishnav Vidyapeeth Vishwavidyalaya Indore
10	Dr. Shirshendu Roy	Improving Teaching-Learning Process Through Technical Interventions	09/01/2023 – 20/01/2023	Shri Vaishnav Vidyapeeth Vishwavidyalaya	Shri Vaishnav Vidyapeeth Vishwavidyalaya

				Indore	Indore
11	Dr. Radhanath Patra	AI Machine Learning Faculty Development Program	29/10/2022 – 06/11/2022	VSSUT, Burla	VSSUT, Burla
12	Dr. Priyadarsan Parida	AI Machine Learning Faculty Development Program	29/10/2022 – 06/11/2022	VSSUT, Burla	VSSUT, Burla
13	Dr. Bibhu Prasad	AI Machine Learning Faculty Development Program	29/10/2022 – 06/11/2022	VSSUT, Burla	VSSUT, Burla
14	Dr. Ami Kumar Parida	AI Machine Learning Faculty Development Program	29/10/2022 – 06/11/2022	VSSUT, Burla	VSSUT, Burla
15	Ms. Sandhyarani Swain	AI Machine Learning Faculty Development Program	29/10/2022 – 06/11/2022	VSSUT, Burla	VSSUT, Burla
16	Dr. Ranjita Rout	AI Machine Learning Faculty Development Program	29/10/2022 – 06/11/2022	VSSUT, Burla	VSSUT, Burla
17	Dr. Apparao Todla	AI Machine Learning Faculty Development Program	29/10/2022 – 06/11/2022	VSSUT, Burla	VSSUT, Burla
CAYm3 (2021-22)					
1	Dr. Bibhu Prasad	Latest Technological Developments For System On Chip (Soc) Applications	26/07/2021 - 30/07/2021	Online	AICTE ATAL Academy
2	Dr.Tusarakanta Panda	Latest Technological Developments For System On Chip (Soc) Applications	26/07/2021 - 30/07/2021	Online	AICTE ATAL Academy
3	Mrs. Padmini Mishra	Latest Technological Developments For System On Chip (Soc) Applications	26/07/2021 - 30/07/2021	Online	AICTE ATAL Academy
4	Mrs. Ashima Sindhu Mohanty	Latest Technological Developments For System On Chip (Soc) Applications	26/07/2021- 30/07/2021	Online	AICTE ATAL Academy
5	Dr. Priyadarsan Parida	Bio-Medical Signal Processing for Smarter	19/07/2021 -	Online	AICTE ATAL

		Mobile Healthcare	23/07/2021		Academy
6	Dr.Tusarakanta Panda	Bio-Medical Signal Processing for Smarter Mobile Healthcare	19/07/2021 - 23/07/2021	Online	AICTE ATAL Academy
7	Mrs. Padmini Mishra	Bio-Medical Signal Processing for Smarter Mobile Healthcare	19/07/2021 - 23/07/2021	Online	AICTE ATAL Academy
8	Dr. Bibhu Prasad	Bio-Medical Signal Processing for Smarter Mobile Healthcare	19/07/2021 - 23/07/2021	Online	AICTE ATAL Academy
9	Dr. Ranjita Rout	Bio-Medical Signal Processing for Smarter Mobile Healthcare	19/07/2021 - 23/07/2021	Online	AICTE ATAL Academy
10	Dr. Apparao Todla	Bio-Medical Signal Processing for Smarter Mobile Healthcare	19/07/2021 - 23/07/2021	Online	AICTE ATAL Academy
11	Dr. Ami Kumar Parida	Bio-Medical Signal Processing for Smarter Mobile Healthcare	19/07/2021 - 23/07/2021	Online	AICTE ATAL Academy
12	Mrs. Ashima Sindhu Mohanty	Bio-Medical Signal Processing for Smarter Mobile Healthcare	19/07/2021- 23/07/2021	Online	AICTE ATAL Academy
13	Dr. Varadhanameti Gajendra Kumar	Bio-Medical Signal Processing for Smarter Mobile Healthcare	19/07/2021- 23/07/2021	Online	AICTE ATAL Academy
14	Dr. Subhrajit Pradhan	Bio-Medical Signal Processing for Smarter Mobile Healthcare	19/07/2021- 23/07/2021	Online	AICTE ATAL Academy
15	Dr. Jagana Bihari Padhy	Bio-Medical Signal Processing for Smarter Mobile Healthcare	19/07/2021- 23/07/2021	Online	AICTE ATAL Academy
16	Mr. Pramod Martha	Bio-Medical Signal Processing for Smarter Mobile Healthcare	19/07/2021- 23/07/2021	Online	AICTE ATAL Academy

6.1.3 Faculty Contribution in Development of SWAYAM MOOCs and other E-Content (05)

(Provide details of faculty members developed courses for various educational initiatives, including SWAYAM MOOCs/SWAYM PLUS/NPTEL, e-PG Pathshala and other e-contents during the assessment period.)

Table No. 6.1.3.1: List of faculty members developed MOOC course for the past 3 years.

S.N.	Name of the Faculty	Name of the Course Developed and available online on Swayam platform by your Department faculty
1	Dr. Tusarakanta Panda	Optical Fibre Communication
2	Dr. Radhanath Patra	Soft Computing
3	Dr. Priyadarsan Parida	Introduction to Digital Signal Processing
4	Dr. Jitendra Kumar	Very Large Scale Integration
5	Mrs. Padmini Mishra	Digital Electronics Circuit
6	Dr. Ribhu Abhusan Panda	Electromagnetic Waves
7	Mr. Biswa Mohan Panda	Analog Electronics Circuit

6.1.4 Faculty Certification of MOOCs through SWAYAM, etc. (10)

(Provide details of faculty members, who have obtained MOOCs (Massive Open Online Courses) certification through platforms like SWAYAM/SWAYM PLUS/NPTEL and other approved programs during the assessment period.)

Table No. 6.1.4.1: List of faculty members obtained certification of MOOCs for the past 3 years.

S. N.	Name of the Faculty	Name of Course Passed	Course Offered by (agency)	Grade obtained if any
1	Dr. Ranjita Rout	Outcome Based Pedagogic Principles for Effective Teaching	NPTEL	61%
2	Dr. Ranjita Rout	Digital Image Processing	NPTEL	69%
3	Ms. Bandana Mallick	Analog Communication	NPTEL	54%
4	Dr. Priyadarsan Parida	Implementation of NEP2020 for University and College Teachers	IGNOU	A
5	Mr. Ajit Kumar Patro	Digital Circuits	NPTEL	66%
6	Ms Jayanti Dang	Digital Circuits	NPTEL	54%
7	Ms Sandhyarani Swain	Advance Topics in Wireless Communication	NPTEL	48%
8	Dr. Baruna Kumar Turuk	Cloud Computing	NPTEL	51%
9	Dr. Manoj Kumar Panda	Cloud Computing	NPTEL	64%
10	Dr. Ami Kumar Parida	Introduction to Industry 4.0 and Industrial Internet of Things	NPTEL	56%

11	Mr. Biswamohan Panda	Introduction to Industry 4.0 and Industrial Internet of Things	NPTEL	55%
12	Mrs. Nagavarapu Sowmya	CMOS Digital VLSI Design	NPTEL	56%
13	Mr. Ashish Tiwary	CMOS Digital VLSI Design	NPTEL	63%
14	Dr. Priyadarsan Parida	The Joy of Computing using Python	NPTEL	77%
15	Mr. Ajit Kumar Patro	Digital Image Processing	NPTEL	56%
16	Mr. Bibhu Prasad	Digital Image Processing	NPTEL	66%
17	Mrs. Padmini Mishra	Microelectronics: Devices to Circuits	NPTEL	64%
18	Mr. Tusharkanta Panda	Microelectronics: Devices to Circuits	NPTEL	67%
19	Mr. Ribhuabhusan Panda	Computer Networks and Internet Protocol	NPTEL	55%
20	Mr. Ashish Tiwary	Computer Networks and Internet Protocol	NPTEL	54%
21	Mrs. Ranjita Rout	Computer Networks and Internet Protocol	NPTEL	66%
22	Mrs. Bandana Mallick	Sensors and Actuators	NPTEL	64%
23	Mr. Radhanath Patro	Sensors and Actuators	NPTEL	61%
24	Dr. T. Apparao	Sensors and Actuators	NPTEL	52%
25	Dr. Manoj Kumar Panda	Data Analytics with Python	NPTEL	62%
26	Dr. Jitendra Kumar	Data Analytics with Python	NPTEL	55%
27	Ms. jayanti Dang	Data Analytics with Python	NPTEL	57%
28	Dr. Ajit Kumar Patro	Digital Circuits	NPTEL	69%
29	Dr. Ami Kumar Parida	Digital Circuits	NPTEL	71%
30	Dr. Priyadarsan Parida	Digital Circuits	NPTEL	66%
31	Dr. Ashima Sindhu Mohanty	Introduction to Electromagnetic Theory	NPTEL	60%
31	Dr. Ashima Sindhu Mohanty	Principle of communication system-1	NPTEL	90%
32	Rabindra Kumar Mishra	Bioinformatics	NPTEL	66%

6.1.5 FDP/STTP Organized by the Department (10)

(Provide details of the number of faculty development programs and short-term training programs organized by the department individually or in collaboration with other departments over the past 3 years.)

The minimum duration of FDP/STTP is 5 days.
2 points per FDP/STTP, with a maximum of 4 marks per assessment year and a total maximum of 10 marks

Table No. 6.1.5.1: List of FDPs/STPs organized by Department for the past 3 years.

S.N.	Name of the Program	Date of the Program	Duration of the Program	Name of the Speaker & Designation and Organization	No. of People Attended
CAYm1 2023-24					
1	Workshop on Quantum computing and Security	15/01/2024 - 19/01/2024	5 Days	Sh. Animesh Aryan, Founder & Director, Taqbit Labs. Bengaluru Mr. Vikash Dwivedi, Co Founder Simnovus & Bhumi iTech, Delhi Mr. Amod Kumar ,DRDO, Govt of India, New Delhi Mr. Teja Chintapalli, DSCI, Govt of India, Noida Mr. Manan Narang, Founder, Silicofeller Quantum, Noida Mr. Sreekuttan L S, Research Scientist, QKrishi Mr. Arvind Kumar Sharma, SAMEER, MeitY Dr. Kumar Gautam, Founder (QRACE &EGREEN QUANTA)Delhi, Dr. Sudan Jha, Kathmandu University, Nepal Dr. Manju Khari, Professor, CSE, Jawaharlal Nehru University, New Delhi Dr. Prasanta K. Panigrahi, Professor of Physics, IISER Kolkata Ms. Aparna Shreedharan, Taqbit Labs. Bengaluru Dr. Abhijit Mitra, IIIT Delhi	120
2	Optical Materials & Photonics: A	01/12/2023 - 05/12/2023	5 Days	Dr. Partha Roy Chaudhuri, Professor, IIT Kharagpur Dr. Rajan Jha,	100

	Frontier in Cutting-Edge Physics			Professor , IIT Bhubaneswar Dr. Ramesh Laxminarayan Gardas, Dr. Sukanta Kumar Tripathy, Dr. Anirban Dhar, Dr. Ritwick Das , Dr. Bijayananda Patnaik, Associate Professor , NIT Raipur Dr. Deepak Jain, Assistant Professor, IIT Delhi Dr. Krishna Chandra Patra, Assistant Professor, SUIIT, Sambalpur University	
CAYm2 2022-23					
1	Industrial Power Electronics for Sustainable Microgrids and E-Mobility	03/04/2023 - 14/04/2023	21 Days	Prof. Bidyadhar Subudhi –IIT Goa, India (Director, NIT Warangal) Dr. V. S. S. Pavan Kumar Hari –IIT Bombay Dr. Harish Krishnamoorth – University of Houston (UH), USA Dr. Avik Bhattacharya, IIT Roorkee Dr. D. Venkatramanan, IIT Bombay Dr. Gururaj Mirle Vishwanath – IIT Kanpur, India Dr. Rakesh Ramachandran – Grundfos, Denmark Dr. Jai Sai Praneeth AV – BorgWarner, Luxembourg Dr. Kin Lung Jerry Kan – Ontario Tech University, Canada Dr. Chittaranjan Pradhan – Power Electronics and ESE Architect, E-Mobility Engineer, Sweden Dr. (Eng.) KMSY Konara – University of Ruhuna, Sri Lanka Dr. Siddavatam Ravi Prakash Reddy –IIT Bombay Dr. P Prathap Reddy –IIT Indore Mohammad Wasiq – Fraunhofer IWES,	43

				Bremerhaven, Germany	
2	Navigating Recent Trends Devices And Challenges in Semiconductor Devices	16/12/2022 - 21/12/2022	5 Days	Dr. Sudeb Dasgupta Professor, Indian Institute of Technology, Roorkee Dr. Preetam Singh Principal Scientist, CSIR-National Physical Laboratory, New Delhi Dr. Pooja Devi Principal Scientist, CSIR-Central Scientific Instruments Organisation, Chandigarh. Dr. Menka Yadav Assistant Professor, Malaviya National Institute of Technology Jaipur Dr. Anurag Gaur Associate Professor, Netaji Subhas University Of Technology(NSUT), New Delhi	105
CAYm3 2021-22					
1	Latest Technological Developments For System On Chip (SoC) Applications	26/07/2021 - 30/07/2021	5 Days	Prof. (Dr.) Sudeb Dasgupta, IIT, Roorkee Prof. (Dr.) Maryam Shojaei Baghini, IIT, Bombay Dr. Ambika Prasad Shah, IIT, Jammu Prof. (Dr.) Debiprasad Priyabrata Acharya, NIT, Rourkela Prof. (Dr.) Ajit Kumar Panda, ECoE, Bhubaneswar Dr. Shubhankar Majumdar, NIT, Meghalaya Dr. Ranjan Kumar Barik, Thales Group, France Dr Ashish Raman, NIT, Jalandhar Dr. Koushik Guha, NIT, Silchar Dr. Subhrajit Pradhan, GIETU,	200

				Gunupur Dr. Shasanka Sekhar Rout, GIETU, Gunupur Mr. Asif Mohammed, CMO, Prodigy Tennnovations Mrs. Sarmila Garnaik, VSSUT, Burla Mr. Renjith. C. V, Philips India LTD, Pune	
2	Bio-Medical Signal Processing for Smarter Mobile Healthcare	19/07/2021 - 23/07/2021	5 Days	Dr. Ganapati Panda, IIT BBSR Dr. Tapan Kumar Gandhi, IIT Delhi Dr. Ram Bilas Pachori, IIT Indore Dr. Suvendu Rup, IIIT Bhubaneswar Dr. Chittaranjan Nayak, SRM Chennai Dr. Akash Kumar Bhoi, SMIT Sikkim Dr. Priyadarsan Parida, GIETU Gunupur Dr. Subhrajit Pradhan, GIETU Gunupur Prof. Sharmila Garnayak, VSSUT (Yoga) Dr. Sitanshu Sekhar Sahu, BITS Mesra Dr. Rutupurna Panda, VSSUT Burla Dr. Nitin V. George, IIT Gandhinagar Dr. Pradyut Biswal, IIIT Bhubaneswar	200

6.1.6 Faculty Support in Student Innovative Projects (10)

(Provide details of faculty supports as a mentor, facilitator, etc. in student innovation projects in various events like hackathons, codeathons, ideathons, open research, etc.)

Table No. 6.1.6.1: List of faculty members involved in student innovative projects.

S.N.	Name of the Faculty	Name of the Event	Date of Event	Place of Event	Website Link if any
CAYm1 2023-24					
1	Priyadarsan Parida, Manoj Kumar Panda, Bibhu Prasad, Ranjita Rout, Bandana Mallick, Ajit Kumar Patro	Patent	21/06/2024	IPO India	Patent No. 202431042 731
2	Dr. Tusarakanta Panda Padmini Mishra	Smart India Hackathon 2023	19-20 December 2023	Chandigarh Group of Colleges, Mohali	
CAYm2 2022-23					
1	Mr. Ribhu Abhusan Panda	Fifth International Conference on Materials Science and Manufacturing Technology (ICMSMT-2023)	12-14 April 2023	TamilNadu	https://iopscience.iop.org/article/10.1088/1757-899X/1291/1/012043/meta
2	Mr. Ribhu Abhusan Panda	E-FIESTA 2K22	11-12 November 2022	GIET University	
CAYm3 2021-22					
1	Mr. Ribhu Abhusan Panda	First International Conference on Smart and Sustainable Technologies (ICSST	16-18 December 2021	GIET University	https://link.springer.com/chapter/10.1007/978-981-19-2277-0_8

		2021)			
2	Mrs. Nagavarapu Sowmya	First International Conference on Smart and Sustainable Technologies (ICSST 2021)	16-18 December 2022	GIET University	https://link.springer.com/chapter/10.1007/978-981-19-2277-0_22
3	Mr. Tusharkant Panda	First International Conference on Technologies for Smart Green Connected Society	29-30 November 2021	USA	https://iopscience.iop.org/article/10.1149/10701.7351ecst/meta

6.1.7 Faculty Internship/Training/Collaboration with Industry (10)

(Provide details of faculty members who have undergone internships or training in industry and research organizations, or a list of faculty members who are actively collaborating with industry.

The outcomes of internships, training, and collaborations including the number of programs organized for students and faculty members, the development of working models and prototypes, the publication of joint research papers, the number of funded projects received, etc. for the assessment period.)

Table No. 6.1.7.1: Faculty internship/training/collaboration details.

S.N.	Name of the Faculty	Name of the Internship/ Training/ Collaboration	Name of the Company & Place	Duration	Outcomes of Internship/ Training/ Collaboration
1	Dr. Tusarakanta Panda	Fiber Modeling and fabrication	CSIR-CGCIR, Kolkata	1 year Jan 2024 - Jan 2025	Fiber Fabrication
2	Dr. Bibhu Prasad	Academic Collaboration (Publication of Research Papers)	American University of the Middle East, Eqaila 54200, Kuwait Innovative Technologies Laboratories (ITL) from King Abdullah University of	2 Years Mar 2023 - Feb 2025	Publication of Research papers

			Science and Technology (KAUST).		
3	Dr. Priyadarsan Parida	Academic Collaboration (Publication of Research Papers)	Taif University, TURSP-2020/313 American University of the Middle East, Eqaila 54200, Kuwait Innovative Technologies Laboratories (ITL) from King Abdullah University of Science and Technology (KAUST).	4 years Jun 2021 – July 2024	Publication of Research papers
4	Dr. Manoj Kumar Panda	Academic Collaboration (Publication of Research Papers)	National Institute of Technology Goa Indian Institute of Technology Jammu Laboratoire MIA, University of La Rochelle, La Rochelle,France	2 Years Nov 2022 – Dec 2024	Publication of Research papers
5	Dr. Jitendra Kumar	Academic Collaboration (Publication of Research Papers)	Department of Electronics and Communication Engineering, National Institute of Technology Jamshedpur, Jamshedpur, Jharkhand, India	2 Years Dec 2022 – Jan 2025	Publication of Research papers
6	Mrs. Bandana Mallick	Academic Collaboration (Publication of Research Papers)	American University of the Middle East, Eqaila 54200, Kuwait Innovative Technologies Laboratories (ITL) from King Abdullah University of Science and	2 Years Mar 2023 - Feb 2025	Publication of Research papers

			Technology (KAUST).		
7	Dr. Ashish Tiwary	Academic Collaboration (Publication of Research Papers)	Department of Electronics and Communication Engineering, National Institute of Technology Jamshedpur, Jamshedpur, Jharkhand, India	3 Years Dec 2021 – Jan 2025	Publication of Research papers
8	Dr. Ranjita Rout	Academic Collaboration (Publication of Research Papers)	Taif University, TURSP-2020/313	2 years Dec 2022 – Jan 2025	Publication of Research papers

6.2 Research and Development Activities (60)

6.2.1 Academic Research (10)

(Provide details of compiled list including research papers, available online or in hard- copy, from reputable publishers and should be list of Scopus/WoS. Only papers with the faculty member's affiliation aligned with the current institution are considered. Each entry in the comprehensive list includes details such as DOI, publisher, and month/year of publication.

Table No. 6.2.1.1: Faculty publication details.

S.N.	Item	CAYm1	CAYm2	CAYm3
1	No. of peer reviewed journal papers published	22	12	14
2	No. of peer reviewed conference papers published	8	11	14
3	No. of books/book chapters published	7	5	2

Journal Summary

Sl. No.	Title of paper	Name of the author/s	Name of journal	Year of publication	ISSN number
1	Secure real-time transmission of multi-spectral satellite images inducing a 6D hyper-chaotic system and BB84 QKD protocol	Bandana Mallick, Priyadarsan Parida, Manoj Kumar Panda, Bibhu Prasad,	Alexandria Engineering Journal	2025	1110-0168
2	ODIRNet: A Robust Deep Neural Network for Diabetic Retinopathy	Priyadarsan Parida	Engineering Research Express	2025	2631-8695
3	Infrared and visible image fusion using quantum computing induced edge preserving filter	Manoj Kumar Panda, Priyadarsan Parida	Image and Vision Computing	2025	0262-8856
4	HybridGT: An Integration of Graph Transformer and LSTM for Effective Hyperspectral Band Selection	Manoj Kumar Panda	International Journal of Remote Sensing	2025	0143-1161
5	Finding the Efficiency of ConvBi-LSTM Over Anticipation of Adverseries in WBANs	Ajit Kumar Patro	Recent Patents on Engineering	2025	2212-4047
6	Enhancing Secirity in WBANs: novel multi-vibrate time series analysis for adversial attack prediction in intensive care settings	Ajit Kumar Patro	International Journal of System Assurance Engineering and Management	2025	0976-4348
7	Comparative Analysis of Heterogeneous Adders:	Ranjita Rout	Journal of Information Assurance & Security	2025	1554-1010

	Evaluating Performance across 12-bit, 14-bit, and 16-bit Configurations.				
8	Comprehensive performance evaluation and comparative study of DRZ, MDRZ, AND CSRZ modulation techniques for optimized high-capacity optical communication systems	Padmini Mishra, Bibhu Prasad	Journal of Optics	2025	0972-8821
9	A Dual Band Second-order Planar BPF Using Aperature Coupling for C/Ku-Band Applications	Ajit Kumar Patro	Microwave Review	2024	2406-1050
10	Realization of an efficient long-haul optical link using compensating fiber via dispersion mitigation	Padmini Mishra, Bibhu Prasad, Tusharkant panda	Journal of Optics	2024	0972-8821
11	Optimal design of RBFNN equalizer based on modified forms of BOA	Priyadarsan Parida	International Journal of Hybrid Intelligent Systems	2024	1448-5869
12	Empowering Diabetic Eye Disease Detection: Leveraging Differential Evolution for Optimized Convolution Neural Networks	Priyadarsan Parida	International Journal of Online and Biomedical Engineering	2024	2626-8493
13	Saliency Induced Fusion for Skin Lesion Detection	Ranjita Rout, Priyadarsan Parida, Manoj Kumar Panda	International Journal of Computer Information Systems and Industrial Management Applications	2024	2150-7988

14	MultiTumor Analyzer (MTA-20–55): A network for efficient classification of detected brain tumors from MRI images	Priyadarsan Parida, Manoj Kumar Panda, Ashima Sindhu Mohanty	Biocybernetics and Biomedical Engineering	2024	0208-5216
15	Vehicle detection in varied weather conditions using enhanced deep YOLO with complex wavelet	Priyadarsan Parida	Engineering Research Express	2024	2631-8695
16	A weight induced contrast map for infrared and visible image fusion	Manoj Kumar Panda, Priyadarsan Parida	Computers and Electrical Engineering	2024	0045-7906
17	Long distance QKD propagation using optical single sideband scheme	Bandana Mallick, Priyadarsan Parida, Bibhu Prasad	Optics Continuum	2024	2770-0208
18	Physiological signal processing for wellness	Priyadarsan Parida	Frontiers in Signal Processing	2024	2673-8198
19	MultiTumor Analyzer (MTA-20–55): A network for efficient classification of detected brain tumors from MRI images	Ashima Sindhu Mohanty	Biocybernetics and biomedical engineering	2024	0208-5216
20	Saliency Induced Fusion for Skin Lesion Detection	Ranjita Rout, Priyadarsan Parida, Manoj Kumar Panda	International Journal of Computer Information Systems and Industrial Management Applications	2024	2150-7988
19	MultiTumor Analyzer (MTA-20–55): A network for efficient classification of detected brain tumors from MRI images	Priyadarsan Parida, Manoj Kumar Panda, Ashima Sindhu Mohanty	Biocybernetics and Biomedical Engineering	2024	0208-5216

20	A weight induced contrast map for infrared and visible image fusion	Manoj Kumar Panda, Priyadarsan Parida	Computers and Electrical Engineering	2024	1879-0755
21	A ResNet-101 deep learning framework induced transfer learning strategy for moving object detection	Manoj Kumar Panda	Image and Vision Computing	2024	0262-8856
22	An Improved VGG-19 Network Induced Enhanced Feature Pooling For Precise Moving Object Detection In Complex Video Scenes	Manoj Kumar Panda	IEEE Access	2024	2169-3536
23	Molecular docking based comparative study of antiviral compounds on SARS-CoV-2 spike protein	N. Sowmya, Jitendra Kumar, Pradyut K Biswal	Natural Product Research	2024	1478-6419
24	Cavity Model Analysis of Gauging Trowel Shaped Patch Antenna with Circular Metal Rings	Dr.Ribhu Abhusan Panda, R.Budhi Sagar	Wireless Personal Communication	2024	0929-6212
25	A Multi-scale Contrast Preserving Encoder-Decoder Architecture for Local Change Detection from Thermal Video Scenes	Manoj Kumar Panda	IEEE Transactions on Information Forensics and Security	2024	1556-6013
26	SNSDeepNet: spike and non-spike detection in epilepsy	Manoj Kumar Panda	Engineering Research Express	2024	2631-8695
27	A novel infrared thermography	Manoj Kumar Panda	e-Prime-Advances in Electrical Engineering,	2024	2772-6711

	image analysis for transformer condition monitoring		Electronics and Energy		
28	Enhanced Neonatal Brain Tissue Analysis via Minimum Spanning Tree Segmentation and the Brier Score Coupled Classifier	Priyadarsan Parida	Computers	2024	2073-431X
29	Vision-based gait analysis to detect Parkinson's disease using hybrid Harris hawks and Arithmetic optimization algorithm with Random Forest classifier	Priyadarsan Parida	International Journal of System Assurance Engineering and Management	2024	0976-4348
30	Artificial Intelligent Based Energy Saving System in Thermal Power Plant	Rabindra Kumar Mishra, S. Venkatesan, and N. K. Barpanda,	ES Energy & Environment	2024	2578-0677
31	Hybrid deep neural network with clustering algorithms for effective gliomas segmentation	Priyadarsan Parida	International Journal of System Assurance Engineering and Management	2023	0975-6809
32	Efficient simultaneous segmentation and classification of brain tumors from MRI scans using deep learning	Priyadarsan Parida	Biocybernetics and Biomedical Engineering	2023	0208-5216
33	Automatic Skin Lesion Segmentation using a Hybrid Deep Learning Network	Ranjita Rout Priyadarsan Parida	International Journal of Computer Information Systems and Industrial Management Applications	2023	2150-7988
34	A multi-view human gait	Priyadarsan Parida	Image and Vision Computing	2023	1872-8138

	recognition using hybrid whale and gray wolf optimization algorithm with a random forest classifier				
35	An improved DNN with FFCM method for multimodal brain tumor segmentation	Priyadarsan Parida	Intelligent Systems with Applications	2023	2667-3053
36	Quantum key distribution over FSO channel using error reconciliation protocol	Bandana Mallick, Priyadarsan Parida	Wireless Networks	2023	1022-0038
37	Bayesian's probabilistic strategy for feature fusion from visible and infrared images	Manoj Kumar Panda	The Visual Computer	2023	1432-2315
38	Modified ResNet-152 Network With Hybrid Pyramidal Pooling for Local Change Detection	Manoj Kumar Panda	IEEE Transactions on Artificial Intelligence	2023	2691-4581
39	Quantum key distribution over FSO channel using error reconciliation protocol	Bandana Mallick , Priyadarsan Parida	Wireless Networks	2023	1572-8196
40	Analysis of CNT-based SAW sensor for the detection of volatile organic compounds	Ashish Tiwary, Jitendra Kumar, Basudeba Behera	Physica B: Condensed Matter	2023	0921-4526
41	Neuromorphic Processor Design and FPGA Implementation for Handwritten Digits Employing Spiking Neural Network	N. Sowmya, Jitendra Kumar, S. Roy, S. Pradhan, Pradyut K Biswal	International Journal of Computing and Digital Systems	2023	2210-142X

42	Nanotechnology in Image Sensor to Enhance the Sensing Capability: A Survey	Manoj Kumar Panda, Jitendra Kumar, Ribhu Abhusan Panda	GIET University Journal	2023	2583-5955
43	Design and development of waste heat reutilization technology by using artificial intelligence at thermal power plant	Rabindra Kumar Mishra, S. Venkatesan, and N. K. Barpanda,	Indian Chemical Engineer	2023	0019-4506
44	A novel approach for BOA trained ANN for channel equalization problems	Priyadarsan Parida	Journal of Information and Optimization Sciences	2022	0252-2667
45	Design and Analysis of Various Characteristics of a MEMS-Based PIB/CNT/LiNbO3 Multilayered SAW Sensor for CO2 Gas Detect	Ashish Tiwary, Shasank Sekhar Rout, Basudeba Behera	Transactions on Electrical and Electronic Materials	2022	2092-7592
46	ASD detection using an advanced deep neural network	Ashima Sindhu Mohanty, Priyadarsan Parida	Journal of Information and Optimization Sciences	2022	0252-2667
47	Human gait recognition using firefly template segmentation	Priyadarsan Parida	Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization	2022	2168-1163
48	Edge preserving noise robust deep learning networks for vehicle classification	Priyadarsan Parida	Concurrency and Computation: Practice and Experience	2022	1532-0626
49	Mathematical analysis for resonant frequencies of a novel 3-element log periodic patch array	Ribhu Abhusan Panda & Debasis Mishra	International Journal of System Assurance Engineering and Management	2022	0975-6809

50	Skin Lesion Extraction Using Multiscale Morphological Local Variance Reconstruction Based Watershed Transform and Fast Fuzzy C-Means Clustering	Ranjita Rout, Priyadarsan Parida	Symmetry	2021	2073-8994
51	Improvement on Deep Features through Various Enhancement Techniques for Vehicles Classification	Priyadarsan Parida	Sensing and Imaging	2021	1557-2072
52	Toddler ASD Classification Using Machine Learning Techniques	Ashima Sindhu Mohanty, Priyadarsan Parida	International Journal of Online & Biomedical Engineering	2021	2626-8493
53	Retinal Blood Vessel Extraction from Fundus Images Using Enhancement Filtering and Clustering	Priyadarsan Parida	Electronic Letters on Computer Vision and Image Analysis	2020	1577-5097
54	A novel method for melanocytic skin lesion extraction and analysis	Ranjita Rout, Priyadarsan Parida	Journal of Discrete Mathematical Sciences and Cryptography	2020	0972-0529
55	Vehicle Detection and Classification: A Review	Priyadarsan Parida	Journal of Information Assurance and Security	2020	1554-1010
56	A contemporary Survey on Human Gait Recognition	Priyadarsan Parida	Journal of Information Assurance and Security	2020	1554-1010
57	Transition region-based approach for skin lesion segmentation	Priyadarsan Parida, Ranjita Rout	Electronic Letters on Computer Vision and Image Analysis	2020	1577-5097
58	Optical Wireless Systems With ASK & PSK Using Coupler Based Delay Line	Bibhu Prasad, Bandana Mallick	Journal of Optical Communications	2020	2191-6322

	Filter				
59	Optimal spectrum and power allocation using evolutionary algorithms for cognitive radio networks	Kiran Kumar Anumandla, Samrat L Sabat, Rangababu Peesapati, Prabu AV, JRK Kumar Dabbakuti, Ranjita Rout	Wiley	2020	1613-6829
60	Efficient Design of Bi-circular Patch Antenna for 5G Communication with Mathematical Calculations for Resonant Frequencies	Ribhu Abhusan Panda & Debasis Mishra	Wireless Personal Communication	2020	0929-6212

Conference Summary

Sl. No.	Title of paper	Name of the author/s	Name of conference	Year of publication
1	Keystroke Authentication Using a Novel RTS Framework	Priyadarsan Parida, Manoj Kumar Panda	4th International Conference on Applied Electromagnetics, Signal Processing, & Communication (AESPC)	2025
2	iLearn: Electronic-English Teaching Platform Based on Artificial Intelligence (AI) For the College Students	Dr. Martha Narayan Murty	Proceeding International Conference on Religion, Science and Education(2024) 3, 477-483	2024
3	The Role of Artificial Intelligence (AI) as Learning Style Master of Student in Digital Era	Dr. Srinivasa Rao Kuna	Proceeding International Conference on Religion, Science and Education(2024) 3, 147-156	2024
4	Improvement of laboratory courses in biochemistry for medical students using an electronic textbook	Dr. Sankaralingam Vasantha Swaminathan	BIO Web of Conferences	2024

5	Implementing Electronic Health Records – Objectives, Obstacles, Outcomes	Thangaraj Krishnamoorthy	Proceedings of 22nd European Conference on Computer-Supported Cooperative Work. Rimini, Italy. 17 June - 21 June, 2024	2024
6	MedAlign: A Clinician-Generated Dataset for Instruction Following with Electronic Medical Records	Dr. Sankaralingam Vasantha Swaminathan	The Thirty-Eighth AAAI Conference on Artificial Intelligence (AAAI-24)	2024
7	A Novel Electronic Wheel Chair Design using Artificial Intelligence Assisted Smart Sensors and Controller	Dr. Tolada Apparao	2024 5th International Conference on Intelligent Communication Technologies and Virtual Mobile Networks (ICICV)	2024
8	Towards a Validation System for a THz Graphene-Based Epidermal Electronics System	Dr. Siva Prasad Rao Lakkoju	2025 International Conference on Mobile and Miniaturized Terahertz Systems (ICMMTS)	2024
9	The Synergistic Role of Deep Learning and Neural Architecture Search in Advancing Artificial Intelligence	Mrs. Anusha Bhaskarabhatla	2024 International Conference on Electronics and Devices, Computational Science (ICEDCS)	2024
10	Time Series Modeling for Heart Rate Prediction: From ARIMA to Transformers	Mr. Sandeep Sahu	2024 6th International Conference on Electronic Engineering and Informatics (EEI)	2024
11	Exploring Diverse Methods in Visual Question Answering	Mrs. Subhashree Saktimayee Biswal	2024 5th International Conference on Electronic Communication and Artificial Intelligence (ICECAI)	2024
12	An Effective Threshold Based Technique for Retinal Image Blood Vessel Segmentation on Fundus Image Using Average and Gaussian Filters	Priyadarsan Parida	Second International Conference, CoCoLe 2023, Warangal, India, August 29–31, 2023	2024
13	Moving Object Detection for Thermal Video Using Encoder-Decoder Type Deep Learning Framework	Manoj Kumar Panda	2024 Parul International Conference on Engineering and Technology (PICET)	2024

14	Breaking News Identification Using a Learning-Based Approach	Manoj Kumar Panda	2024 Parul International Conference on Engineering and Technology (PICET)	2024
15	Effective Use of Clustering Techniques for Brain Tumor Segmentation	Priyadarsan Parida	IEEE 3rd International Conference on Applied Electromagnetics, Signal Processing, & Communication (AESPC), IEEE, Nov. 2023	2024
16	Design and simulate a gas sensor using one port multilayer SAW device	Baruna Kumar Turuk,Basudeba Behera	3rd internationa and 15th National conference on Industrial problems on Machines & Mechanisms(IPRoMM 2024)	2024
17	Machine Learning and Neural Network based Early Prediction of Corona Virus and Diagnosing the Status of heart diseases	N. Sowmya, J. Kumar and P. K. Biswal	2024 IEEE International Conference on Communication, Computing and Signal Processing (IICCCS)	2024
18	Graphene Based Wearable Antenna with different dielectric materials for 2.4 GHz Applications	Ribhu Abhusan Panda ,Anisha Kumari , Ambica Das , Sankalp Kundu	Recent Innovations in Computer Engineering and Information Technology (ICRICEIT-2023)	2023
19	Comparison of Two Gain Enhancement Techniques for a rectangular patch designed for 6G	Ribhu Abhusan Panda	Fifth International Conference on Advances in Materials and Manufacturing (ICRAMM 2023)	2023
20	Polyisobutylene and carbon nanotube based heterostructure SAW sensor for detection of TCM gas	Ashish Tiwary, Jitendra kumar, S. Pradhan, Basudeb Behera	2023 Fifth International Conference on Electrical, Computer and Communication Technologies (ICECCT)-IEEE	2023
21	A hybrid deep learning network for skin lesion extraction	Ranjita Rout, Priyadarsan Parida	14th International Conference on Soft Computing and Pattern Recognition (SoCPaR 2022)	2023
22	Implementation of Optimized Logic Gate Circuits with Majority Voter using QCA Technology	Mr. Anjaiah Talamala Dr. Ajit Kumar Patro Dr. Kishore Pinninti	2023 14th International Conference on Computing Communication and Networking Technologies (ICCCNT) 2023 IEEE	2023
23	Parametric and non parametric analysis on mango leaf disease detection via optimized	Madumini Mohapatro, Ami Kumar Parida,	2023 1st international conference on circuits ,power and intelligent systems/(CCPIS)	2023

	hybrid model	Pradeep Kumar Mallick		
24	Polyisobutylene and carbon nanotube based heterostructure SAW sensor for detection of TCM gas	Ashish Tiwary, Subhrajit Pradhan, Jitendra Kumar, Basudeba Behera	2023 Fifth International Conference on Electrical, Computer and Communication Technologies (ICECCT)	2023
25	Performance analysis of a perturbed circular DRA for different dielectric materials	Ribhu Abhusan Panda	ICMSMT-2021	2022
26	An End to End Encoder-Decoder Network with Multi-scale Feature Pulling for Detecting Local Changes From Video Scene	Manoj Kumar Panda	2022 18th IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS)	2022
27	An adaptive firefly optimization algorithm for human gait recognition	Priyadarsan Parida	First International Conference on Smart and Sustainable Technologies (ICSST 2021)	2022
28	Melanocytic skin lesion extraction using mean shift clustering	Ranjita Rout, Priyadarsan Parida	International Conference on Electronic Information Technology and Smart Agriculture (ICEITSA), 2021	2022
29	Review on Difference Expansion based Reversible Watermarking	Samudrala Jagadeesh, Ami Kumar Parida, Meenakshi K, Subhrajit Pradhan	2022 3rd International Conference for Emerging Technology (INCET) Belgaum, India	2022
30	Simulation and Analysis of an Optical Communication System Implementing DCF with Various Pulse Generators**.**	Padmini Mishra, Subhrajit Pradhan, Gopinath Palai, and Partha Sarkar	Smart and Sustainable Technologies: Rural and Tribal Development Using IoT and Cloud Computing.	2022
31	Prediction of lung cancer using machine learning classifier	Radhanath Patra	International Conference on Computing Science, Communication and Security	2022
32	Simulation platform of a free-space optical network under multipath fading channel	Bandana Mallick , Priyadarsan Parida ,Gopinath Palai	First International Conference on Advances in Smart Sensor, Signal Processing & Communication Technology (ICASSCT 2021)	2021

33	ASD classification in adolescent and adult utilizing Deep Neural Network	Ashima Sindhu Mohanty, Priyadarsan Parida	3rd International Conference on Integrated Intelligent Computing Communication & Security (ICIIC 2021)	2021
34	ASD classification for children using Deep Neural Network	Ashimas Sndhu Mohanty, Priyadarsan Parida	International Conference on Computing System and its Applications (ICCSA- 2021)	2021
35	Vehicle recognition using extensions of pattern descriptors	Priyadarsan Parida	International Conference on Materials Science and Manufacturing Technology (ICMSMT 2021) 8th-9th April 2021, Coimbatore, India	2021
36	Identification of Autism Spectrum Disorder using Deep Neural Network	Ashima Sindhu Mohanty, Priyadarsan Parida	First International Conference on Advances in Smart Sensor, Signal Processing and Communication Technology (ICASSCT 2021), 19-20, March 2021, Goa, India	2021
37	Automatic clustering based approach for brain tumor extraction	Priyadarsan Parida	First International Conference on Advances in Smart Sensor, Signal Processing and Communication Technology (ICASSCT 2021), 19-20, March 2021, Goa, India	2021
38	Ultra High Rate Inter-Satellite Optical Wireless Transmission Using DP-QPSK	Bibhu Prasad, Ami Kumar Parida, Jagana Bihari Padhy, Bandana Mallick, and Ajit Kumar Patro	Springer International Conference on Smart & Sustainable Technologies (Rural & Tribal Development Using IoT and Cloud Computing) (ICSST-2021)	2021
39	A Survey on Deep Learning Techniques for Anomaly Detection in Human Activity Recognition	R. N. L. S. Kalpana, D. Nageshwar Rao, and Ajit Kumar Patro	Springer International Conference on Smart & Sustainable Technologies (Rural & Tribal Development Using IoT and Cloud Computing) (ICSST-2021)	2021
40	Energy Conservation Perspective for Recharging Cell Phone Battery Utilizing Speech Through Piezoelectric System	Ashish Tiwary, Yashraj, Amar Kumar, Mandeep Biruly	10th International Conference on Innovations in Bio-Inspired Computing and Applications (IBICA 2019) held in Gunupur, Odisha, India during December 16-18, 2019	2021

41	Comparative Analysis of a Dispersion Compensating Fiber Optic Link Using FBG Based on Different Grating Length and Extinction Ratio for Long Haul Communication	Padmini Mishra, Shasanka Sekhar Rout, G. Palai, and L. Spandana	10th International Conference on Innovations in Bio-Inspired Computing and Applications (IBICA 2019) held in Gunupur, Odisha, India during December 16-18, 2019	2021
42	Analysis and prediction of Pima Indian Diabetes Dataset using SDKNN classifier technique	Radhanath Patra, Bonomali Khuntia	IOP Conference series: materials science and …, 2021	2021
43	Gauging trowel shaped patch with circular rings for 60 GHz WLAN	Ribhu Abhusan Panda; Debasis Mishra; Puja Kumari; Baha Hansdah; Rohit Kumar Singh	2020 7th International Conference on Signal Processing and Integrated Networks (SPIN)	2020
44	Simple Quadrilateral Patch with a novel Gain Enhancement technique for 2.4 GHz application	Ribhu Abhusan Panda; Debasis Mishra; Raghu Budhi Sagar; S. Sai Pranay; Rani Swetashri Naik	2020 International Conference on Computer Science, Engineering and Applications (ICCSEA)	2020
45	3-Element Log periodic array of Bi-circular Patch with DGS for X-Band Application	Ribhu Abhusan Panda; Rani Swetashri Naik; S. Sai Pranay; Priti Pragnya Satapathy; Debasis Mishra	2020 IEEE International Symposium on Sustainable Energy, Signal Processing and Cyber Security (iSSSC)	2020
46	A clustering based approach for meningioma tumors extraction from brain MRI images	Priyadarsan Parida	IEEE International Symposium on Sustainable Energy, Signal Processing and Cyber Security (iSSSC), 2020	2020
47	Methods for automatic gait recognition: A Review	Priyadarsan Parida	10th International Conference on Innovations in Bio-Inspired Computing and Applications (IBICA 2019) held in Gunupur, Odisha, India during December 16-18, 2019	2020

48	Vehicle detection and classification: A Review	Priyadarsan Parida	10th International Conference on Innovations in Bio-Inspired Computing and Applications (IBICA 2019) held in Gunupur, Odisha, India during December 16-18, 2019	2020
49	Investigation of a 16 channel 40 Gbps varied GVD DWDM system using dispersion compensating fiber	Padmini Mishra, Tusarakant Panda, Shasanka Sekhar Rout and G. Palai	2020 International Conference on Computer Science, Engineering and Applications (ICCSEA), Gunupur, India, 13-14 March 2020	2020
50	An Empirical Study of Waste Heat Re-utilization in Thermal Power Plant Using Advanced Fuzzy–PID Technology	Rabindra Kumar Mishra, S. Venkatesan, and N. K. Barpanda	ECS Transactions	2020

Book Chapter Summary

Sl. No.	Name of the teacher	Title of the book published	Title of the chapters published	Year of publication
1	Priyadarsan Parida	AI and Blockchain in Smart Grids: Fundamentals, Methods, and Applications	An Improved Object Detection Algorithm for Maritime Search and Rescue Based on Drone Imagery	2025
2	Priyadarsan Parida , Ashima Sindhu Mohanty	Machine Learning in Medical Imaging and Computer Vision	Text recognition using CRNN models based on temporal classification and interpolation methods	2024
3	Ranjita Rout, Priyadarsan Parida	Privacy Preservation of Genomic and Medical Data	Techniques for Removing Hair From Dermoscopic Images A Survey of Current Approaches	2023
4	Priyadarsan Parida, Ranjita Rout	Technological Tools for Predicting Pregnancy Complications	Machine Learning Algorithms for Pregnant Women	2023
5	Priyadarsan Parida	Handbook of Research on Thrust Technologies' Effect on Image Processing	Glaucoma Assessment Using Super Pixel Classification	2023
6	Priyadarsan Parida	Handbook of Research on Quantum Computing for Smart Environments	Artificial Intelligence Models for Blockchain-Based Intelligent Networks Systems: Concepts, Methodologies, Tools, and Applications	2023
7	Priyadarsan Parida	Advancements in Bio-Medical Image Processing	An Enhanced Gabor Filter Based on Heat-Diffused Top	2023

		and Authentication in Telemedicine	Hat Transform for Retinal Blood Vessel Segmentation	
8	Ribhu Abhusan Panda		Quantum machine learning for biomedical data analysis	2023
9	Dr.Ribhu Abhusan Panda	Antenna and Microwave Engineering		2023
10	Ashima Sindhu Mohanty, Priyadarsan Parida	Machine Learning and Deep Learning in Medical Data Analytics and Healthcare Applications	Usage of ML Techniques for ASD Detection	2022
11	Dr.Ribhu Abhusan Panda	Circular patch antenna with perturbed slots for various wireless applications	Circular patch antenna with perturbed slots for various wireless applications	2022
12	Dr.Ribhu Abhusan Panda		Pentagonal Microstrip Patch Antenna with Circular Slot for 9 GHz Applications	2022
13	Dr.Ribhu Abhusan Panda		Planar +C18:D18Split Ring Resonating Antenna Design	2022
14	Dr.Ribhu Abhusan Panda		Design and Analysis of a Biconcave DRA by Using Machine Learning Algorithms for 5G Application	2022
15	Ashima Sindhu Mohanty, Priyadarsan Parida	Applications of Artificial Intelligence in COVID-19	Effect of COVID-19 on Autism Spectrum Disorder: Prognosis, Diagnosis, and Therapeutics Based on AI	2021
16	Padmini Mishra, Subhrajit Pradhan	Smart and Sustainable Technologies:Rural and Tribal Devlopment Using IOT and Cloud Computing	Simulation and Analysis of an Optical Communication System Implementing DCF with Various Pulse Generators	2022
17	Ashish Tiwary, Shasanka Sekhar Rout	Electrical and Electronic Devices, Circuits and Materials	MEMS Devices and Thin Film-Based Sensor Applications	2021

6.2.2 Ph.D. Student Details (05)

(No. of Ph.D. students' enrollment and graduated in the Department during the assessment period.)

Table No. 6.2.2.1: Ph.D. details.

S.N.	Item	CAYm1	CAYm2	CAYm3
1	No. of students enrolled for Ph.D. in the Department	6	6	15
2	No. of Ph.D. students graduated in the Department	2	2	0

6.2.3 Development Activities (10)

(Provide details of patents granted/published, working models, and prototypes developed by faculty members in the last 3 years.)

Utility Patents Published/Granted (IPO)

Sl. No.	Patent Application No.	Status of Patent (Filed / Published / Granted)	Inventor/s Name	Title of the Patent	Applicant/s Name	Patent Filed Date (DD/MM/YYYY)	Patent Published Date (DD/MM/YYYY)	Patent Granted Number	Patent Granted Date (DD/MM/YYYY)
1	202041040671	**Granted**	1. Dr. Podugu Srinivasa Rao **2. Dr. T. Apparao** 3. Dr. Dasari Nataraj 4. Dr. Narendra Kumar Yegireddy 5. Dr. S. Sridhar 6. Dr. Avagaddi Prasad 7. Mr. B. Srinivasa Rao 8. Podugu Gayathri	MANUALLY OPERATED MULTI-LEVEL MODULAR BRICK MOULDING APPARATUS	1. Dr. Podugu Srinivasa Rao 2. Podugu Gayathri	19/9/2020	25/9/2020	390170	23/2/2022

2	202141041399	Published	1 . Dr P Ramesh **2 . Dr.Ami Kumar Parida** **3 . Mr. Ajit Kumar Patro** 4 . Mrs.Santoshi Kanagala 5 . Dr. B. Jagadeesh 6 . Dr. G. Anand Kumar 7 . Mr. Nellore Manoj Kumar	AN ULTRA-FAST WIRELESS MOBILE CHARGING SYSTEM FOR 5G BASED PORTABLE COMMUNICATION DEVICES	1 . Dr P Ramesh **2 . Dr.Ami Kumar Parida** **3 . Mr. Ajit Kumar Patro** 4 . Mrs.Santoshi Kanagala 5 . Dr. B. Jagadeesh 6 . Dr. G. Anand Kumar 7 . Mr. Nellore Manoj Kumar	14/9/2021	1/10/2021		
3	202131040837	Published	1 . Dr. Ansuman Samal 2 . Dr.Anand Sharma 3 . Mrs. Arudra Annepu **4 . Mr. Ribhu Abhusan Panda** 5 . Dr. Sathish Kumar Penchala 6 . Mr. Keshav Kaushik 7 . Dr. Pariza Kamboj 8 . Ms.M.Mohan	DEEP LEARNING BASED SMART ATTENDENCE MANAGEMENT SYSTEM	1 . Dr. ANSUMAN SAMAL 2 . Dr.ANAND SHARMA 3 . Mrs. ARUDRA ANNEPU **4 . Mr. Ribhu Abhusan Panda** 5 . Dr. SATHISH KUMAR PENCHALA 6 . Mr. KESHAV KAUSHIK 7 . Dr. PARIZA KAMBOJ 8 . Ms.M.MOHANASUNDARI 9 . Dr. AJAY SINGH YADAV	9/9/2021	3/12/2021		

			a Sundari 9 . Dr. Ajay Singh Yadav 10 . Mr. Saurabh Gupta 11 . Dr.Konda Swathi		10 . Mr. SAURABH GUPTA 11 . Dr.KONDA SWATHI				
4	202241039555	Published	1 . Dr. Kamalakkannan Adhisekar 2 . Dr .J . Prabhakaran 3 . Dr. Gunda Surendra 4 . Firdous Ahmad Lone 5 . Ravi Kumar M 6 . Prashant P Patavardhan 7 . Adiseshaiah Sade **8 . Dr. Ribhu Abhusan Panda**	AN INNOVATIVE PARADIGM FOR THE DIGITAL TRANSFORMATION OF ORGANISATIONAL FINANCIAL MANAGEMENT BY USING BIG-DATA TECHNOLOGY	1 . Dr. Kamalakkannan Adhisekar 2 . Dr .J . Prabhakaran 3 . Dr. Gunda Surendra 4 . Firdous Ahmad Lone 5 . Ravi Kumar M 6 . Prashant P Patavardhan 7 . Adiseshaiah Sade **8 . Dr. Ribhu Abhusan Panda**	9/7/2022	22/7/2022		

5	202241039582	Published	1 . Mr. Jangili Srinivasa Rao **2 . Dr. Jagana Bihari Padhy** **3 . Dr. Bibhu Prasad** **4 . Dr. Ami Kumar Parida** **5 . Mrs. Bandana Mallick** 6 . Dr. Tariq Ahmed Ahanger 7 . Dr. E. Poorna Chandra Prasad 8 . Dr. Ashish Verma 9 . Mrs. Sherry Nasir 10 . Mr. Chandra Prakash Jain	A system for IoT connected devices for data migration and synchronization	1 . Mr. Jangili Srinivasa Rao **2 . Dr. Jagana Bihari Padhy** **3 . Dr. Bibhu Prasad** **4 . Dr. Ami Kumar Parida** **5 . Mrs. Bandana Mallick** 6 . Dr. Tariq Ahmed Ahanger 7 . Dr. E. Poorna Chandra Prasad 8 . Dr. Ashish Verma 9 . Mrs. Sherry Nasir 10 . Mr. Chandra Prakash Jain	10/7/2022	22/7/2022		
6	202241043129	Published	1 . Dr. Nellore Manoj Kumar **2 . Dr. Ajit Kumar Patro** **3 . Dr. Jagana Bihari Padhy** **4 . Dr. Bibhu Prasad** **5 . Dr. Tusharkant**	An AI & ML based system for tagging for connected devices in a wireless network and method thereof	1 . Dr. Nellore Manoj Kumar **2 . Dr. Ajit Kumar Patro** **3 . Dr. Jagana Bihari Padhy** **4 . Dr. Bibhu Prasad** **5 . Dr. Tusharkant Panda** 6 . Dr. Hari Kishan	27/7/2022	19/8/2022		

			Panda 6 . Dr. Hari Kishan Chapala 7 . Dr. Grandhi Prasuna 8 . Mr. K. Shyam Sundar Rao 9 . Dr. D. V. Lokeswar Reddy		Chapala 7 . Dr. Grandhi Prasuna 8 . Mr. K. Shyam Sundar Rao 9 . Dr. D. V. Lokeswar Reddy				
7	202341062976	Published	1 . Dr. G.S.Anantha Selvi 2 . Harvi Arvindbhai Patel **3 . Ribhu Abhusan Panda** 4 . Dr. G. Suganya 5 . Mr. Anshumali Parashar 6 . Prof. Jayshree D. Vishe 7 . Prof Venkat Namdev Ghodke 8 . Dr.Askarunisa	AI and IoT Based Intelligent System in Waste/Salt Water Treatment For Sustainable Waste Water Management System To Attain Reuse/Recycle/Reduce For Chemical/Agricultural/Domestic Purposes	1 . Dr. G.S. Anantha Selvi 2 . Harvi Arvindbhai Patel **3 . Ribhu Abhusan Panda** 4 . Dr. G. Suganya 5 . Mr. Anshumali Parashar 6 . Prof. Jayshree D. Vishe 7 . Prof Venkat Namdev Ghodke 8 . Dr.Askarunisa A	19/9/2023	6/10/2023		

			A						
8	202331077158	Published	**1 . Dr. Ajit Kumar Patro** 2 . Dr. Nellore Manoj Kumar 3 . Ms. Sandiri Swetha 4 . Mr. Lokesh K 5 . Mrs. M. Surya 6 . Dr. M. Sailaja 7 . Dr. P. Tarangani	Machine Learning Models for Predicting Student Engagement in e-Learning Environments	**1 . Dr. Ajit Kumar Patro** 2 . Dr. Nellore Manoj Kumar 3 . Ms. Sandiri Swetha 4 . Mr. Lokesh K 5 . Mrs. M. Surya 6 . Dr. M. Sailaja 7 . Dr. P. Tarangani	12/11/2023	17/11/2023		
9	202331082919	Published	**1 . Dr. Bibhu Prasad** 2 . Dr. Manoj Kumar Merugumalla 3 . Dr. S. Sarayu Priyadharshini 4 . Dr. Nellore Manoj Kumar 5 . Smt. N. Lavanya	Curriculum Optimization using Machine Learning and AI: Towards Personalized Learning Experiences	**1 . Dr. Bibhu Prasad** 2 . Dr. Manoj Kumar Merugumalla 3 . Dr. S. Sarayu Priyadharshini 4 . Dr. Nellore Manoj Kumar 5 . Smt. N. Lavanya 6 . Dr. M. Sailaja 7 . Dr. Sajja Suneel	5/12/2023	19/1/2024		

			6 . Dr. M. Sailaja 7 . Dr. Sajja Suneel						
10	202331082922	Published	**1 . Dr. Ami Kumar Parida** 2 . Dr. Elia Thagaram 3 . Dr. S. Sarayu Priyadharshini 4 . Dr. D. Sudhakar 5 . Dr. Nellore Manoj Kumar 6 . Dr. M. Sailaja 7 . Dr. S. Rasheed Mansoor Ali	Incorporation of AI Assistants in Classroom Settings for Enhanced Learning Outcomes	**1 . Dr. Ami Kumar Parida** 2 . Dr. Elia Thagaram 3 . Dr. S. Sarayu Priyadharshini 4 . Dr. D. Sudhakar 5 . Dr. Nellore Manoj Kumar 6 . Dr. M. Sailaja 7 . Dr. S. Rasheed Mansoor Ali	5/12/2023	19/1/2024		
11	202441007161	Published	**1. Dr. Tusarkanta Panda** **2. Dr. Ranjita Rout** **3. Dr. Ajit Kumar Patro** **4. Dr. Subhrajit Pradhan**	DEEP LEARNING BASED SPEAKER ADAPTIVE POST FILTERING WITH LIMITED DATA FOR EMBEDDED TEXT TO SPEECH SYSTEMS	**Dr. Tusarkanta Panda** **Dr. Ranjita Rout** **Dr. Ajit Kumar Patro** **Dr. Subhrajit Pradhan** **Dr. Amit Kumar Parida** **Mrs. Padmini Mishra** **Dr. Bibhu Prasad**	2/2/2024	8/3/2024		

			5. Dr. Amit Kumar Parida 6. Mrs. Padmini Mishra 7. Dr. Bibhu Prasad 8. Mrs. Bandana Mallick		**Mrs. Bandana Mallick**				
12	202431034635	Published	**1 . Tushar Kanta Panda 2 . Dr. Raghvendra Kumar 3 . Mrs. Padmini Mishra 4 . Om Prakash Das 5 . Swaraj Rao 6 . Jagyasen Bhatra**	SMART VIDEO DUBBING SOFTWARE	**1 . Tushar Kanta Panda 2 . Dr. Raghvendra Kumar 3 . Mrs. Padmini Mishra 4 . Om Prakash Das 5 . Swaraj Rao 6 . Jagyasen Bhatra**	1/5/2024	10/5/2024		
13	202441036152	Published	1 . Mr.Gaurav Kumar 2 . Dr. Rajeswari Das **3 . Dr. Ribhu Abhusan Panda** 4 . Dr. Ajay Keshav Talele 5 . Patnala	IOT BASED WEATHER AND AGRI-GRAIN PROTECTION ROOF SHED USING RASPBERRY PI PICO	1 . Mr.Gaurav Kumar 2 . Dr. Rajeswari Das **3 . Dr. Ribhu Abhusan Panda** 4 . Dr. Ajay Keshav Talele 5 . Patnala Madhukumar 6 . Mrs. G. Vidhyapriya	7/5/2024	17/5/2024		

			Madhukumar 6 . Mrs. G. Vidhyapriya 7 . Mr. M. Devadas 8 . Ms. Soni Gupta 9 . K. Balasubramanyam		7 . Mr. M. Devadas 8 . Ms. Soni Gupta 9 . K. Balasubramanyam				
14	202431042731	Published	**1 . Priyadarsan Parida 2 . Manoj Kumar Panda 3 . Bibhu Prasad 4 . Ranjita Rout 5 . Bandana Mallick 6 . Ajit Kumar Patro 7 . Priyabrata Dash 8 . Vikash Kumar Mahanta 9 . Biswajit Mishra 10 . Dharmendra Kumar Nayak**	AN IoT-BASED FALL DETECTION SYSTEM WITHIN A WASHROOM	**1 . Priyadarsan Parida 2 . Manoj Kumar Panda 3 . Bibhu Prasad 4 . Ranjita Rout 5 . Bandana Mallick 6 . Ajit Kumar Patro 7 . Priyabrata Dash 8 . Vikash Kumar Mahanta 9 . Biswajit Mishra 10 . Dharmendra Kumar Nayak**	1/6/2024	21/6/2024		

15	202441050591	Published	1 . Sandiri Swetha **2 . T Appa Rao** 3 . Dr. Sachinkumar 4 . Dr. T. Anuradha 5 . Mr. Harshawardhan P. Ahire 6 . Dr. K. Rasadurai 7 . S M K Sukumar Reddy 8 . Kesani Niranjan Kumar 9 . Dr. Sanjay Kumar Suman	IMPLEMENTATION OF MULTI-BIT ERROR DETECTION AND CORRECTION USING LOW-DENSITY PARITY-CHECK CODES	1 . Sandiri Swetha **2 . T Appa Rao** 3 . Dr. Sachinkumar 4 . Dr. T. Anuradha 5 . Mr. Harshawardhan P. Ahire 6 . Dr. K. Rasadurai 7 . S M K Sukumar Reddy 8 . Kesani Niranjan Kumar 9 . Dr. Sanjay Kumar Suman	2/7/2024	5/7/2024		

Design Patents Published/Granted (IPO)

Sl. No.	Patent Application No.	Status of Patent (Filed / Published / Granted)	Inventor/s Name	Title of the Patent	Applicant/s Name	Date of Registration (DD/MM/YYYY)	Journal No	Journal Date (DD/MM/YYYY)
1	379719-001	Granted		Artificial Intelligence Based Nerve Activation Device for Healthcare Treatement	1. Dr.R.Kavitha 2. Dr. Sudhanshu Kumar Jha **3. Dr. Ribhu Abhusan Panda**	20/2/2023	20/2023	19/5/2023

					4. Dr. Parismita Sarma 5. Dr. Nitin Jagannath Patil 6. Dr. Venkatesan Hariram			
2	408188-001	Granted		WIRELESS SMARTPHONE CHARGER	1. Srinivas. D **2. Dr. Bibhu Prasad** 3. Dr. P Ramesh Naidu 4. Dr. Mandeep Singh 5. Roopa R Kulkarni 6. Prashant P Patavardhan 7. Dr. Vinoth Kanna I **8. Mrs. Bandana Mallick**	20/2/2024	16/2024	19/4/2024

UK Design Patent

Sl. No.	Design number	Status of Patent (Filed / Published / Granted)	Title of the Patent	Applicant/s Name	Registration Date (DD/MM/YYYY)	Grant Date (DD/MM/YYYY)

1	6322973	Granted	SMART BIOSENSOR DEVICE TO DETECT LUNG CANCER	Dr. Naveen Kalenahalli Bhoganna, Dr. Manojkumar Shivalli Boraiah, Rahul Yadav, Dr. Sampada Abhijit Dhole, **Dr. Ribhu Abhusan Panda,** Dr. Jayamala Kumar Patil, Dr. Palanikkuma Durai Thirunavukkarasu, Sejal Thakkar	31/10/2023	9/11/2023

Working Models and Prototypes Developed by Faculty Members

Sl. No.	Name of the Faculty	Name of the Model/ Prototype
1	Dr. Manoj Kumar Panda Mr. Sandeep Sahu Dr. Bibhu Prasad	VI Characteristics of PN-Junction Diode

6.2.4 Sponsored Research Project (15)

(Provide details of funded research projects from the external sources including Corporate Social Responsibility (CSR). List includes Principal Investigator (PI), Co-PI name, name of the dept where project is sanctioned, project title, funding agency, sanctioned amount, duration and sanctioned year. Also, provide the cumulative funding amount received during CAYm1, CAYm2, and CAYm3. Please do not give duplicate data from the sections 6.2.5 and 6.2.6.)

Amount ≥20 Lacs – 15 Marks
Amount ≥16 Lacs and < 20 lacs– 12 Marks
Amount ≥12 Lacs and < 16 lacs –9 Marks
Amount ≥ 8 Lacs and < 12 lacs –6 Marks
Amount ≥ 4 Lacs and < 8 lacs –3 Marks
Amount ≥ 1 Lacs and < 4 lacs –1 Mark
Amount < 1 Lac – 0 Mark.

Table No. 6.2.4.1: List of sponsored research projects received from external agencies.

S.N.	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)
CAYm1 2023-24							
1	Dr. Priyadarsan Parida		ECE	Five Days Hands-on Workshop on Quantum Computing and Security	AICTE ATAL Academy	5 Days	2
Amount received (Rs.)							**2**
CAYm2 2022-23							
1	Dr. Bibhu Prasad	Dr. Ami Kumar Parida	ECE	Power Bank Design	Cellecor Gadgets	6 Months	6
Amount received (Rs.)							**6**
CAYm3 2021-22							
1	Dr. Subhrajit Pradhan		ECE	Low Power, Low Cost and Low Noise Receiver Front End Design	AICTE-MODROBS	2 Years	12.94118
Amount received (Rs.)							**12.94118**
Total Amount (Lacs) Received for the Past 3 Years							**20.94118**

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

6.2.5 Consultancy Work (15)

(Provide details of consultancy projects from the external sources. List includes Principal Investigator (PI), Co-PI name, name of the dept where project is sanctioned, project title, funding agency, sanctioned amount, duration and sanctioned year. Also, provide the cumulative funding amount received during CAYm1, CAYm2, and CAYm3. Please do not give duplicate data from the sections 6.2.4 and 6.2.6.)
Amount ≥20 Lacs – 15 Marks
Amount ≥16 Lacs and < 20 lacs–12 Marks
Amount ≥12 Lacs and < 16 lacs –9 Marks
Amount ≥ 8 Lacs and < 12 lacs –6 Marks
Amount ≥ 4 Lacs and <8 lacs –3 Marks
Amount ≥ 1 Lacs and <4 lacs –1 Mark
Amount < 1 Lac – 0 Mark.

Table No. 6.2.5.1: List of consultancy projects received from external agencies.

S.N.	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	Amou nt (Lacs)
CAYm1 2023-24							
1	Manoj Kumar Panda		ECE	AI based Solar panel control	Surya Kiran solar systems	Dec-2023 to Feb-2024	4.34
2	Tusharkant Panda		ECE	Solar Intensity Detection	Suryabala Energy Solutions Pvt. Ltd.	Sept-2023 to Oct-2023	5.21
						Amount received (Rs.)	9.55
CAYm2 2022-23							
1	Ribhu Abhusan Panda		ECE	IoT based Panel Control	Evretron Energies India Private Limited	June-2023 to July-2023	5.11
						Amount received (Rs.)	**5.11**
CAYm3 2021-22							
1	Ribhu Abhusan Panda		ECE	IoT based Panel Control	Noble Enterprises	June 2022 to July 2022	5.79
2	Priyadarshan Parida		ECE	Charger Development	Cheriesh power	May 2022 to Sept 2022	5.86

					technologies		
3	Ribhu Abhusan Panda		ECE	Multipurpose IoT device	Purewatt Renewables Pvt. Ltd.	May 2022 to July 2022	5.14
						Amount received (Rs.)	**16.79**
						Total amount (Lacs) received for the past 3 years	**31.45**

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

6.2.6 Institution Seed Money or Internal Research Grant to its Faculty for Research Work (05)

(Provide details of faculty members received Institution seed money grants to its faculty for research work. Also, provide the cumulative funding amount received and utilized during CAYm1, CAYm2, and CAYm3. Please do not give duplicate data from the sections 6.2.4 and 6.2.5. The outcomes of the project are no. of publications, no. of working models/prototypes, no. of Ph.D. students graduated, no. of M.E students graduated, amount generated, etc.)
Amount received (3 marks)
Amount $\geq$ 6 Lacs – 3 Marks
Amount $\geq$ 4 Lacs and < 6 lacs– 2 Marks
Amount $\geq$ 2 Lacs and < 4 lacs – 1 Mark
Amount < 1 Lac – 0 Mark.
Amount utilized (2 marks).

Table No. 6.2.6.1: List of faculty members received seed money or internal research grant from the institution.

S.N.	Faculty name	Project title/ Support for Activity	Duration	Amount (Lacs)	Amount Utilized (Lacs)	Outcomes of the project
CAYm1 2023-24						
1	Dr. Priyadarshan Parida	Development of PoC for diagnosis of lung cancer	2 Years	2.6	2.6	Algorithm Development in Process
2	Mr. Radhanath Patra	Application of Artificial Intelligence for Plant Disease Detection and Moving Object Detection Using Drone	1 Year	3.925	3.925	Prototype development in Process
					Amount received (Rs.)	**6.525**
CAYm2 2022-23						
1	Ms. Bandana	IoT based smart agriculture monitoring	2 Years	2	2	Prototype developed

	Mallick	system using Arduino with GPRS modem				
2	Mrs. Padmini Mishra	Real-time radioactive gas mixture detection and identification using nanoporous inorganic scintillator-based sensors	2	2.530	2.530	Prototype developed
3	Dr. Tushar Kanta Panda	Analysis of a Multi-channel DWDM link using DCF in various configurations transmitting data up to 328 Gbps	2		2.190	Model Developed
Amount received (Rs.)						**6.72**
CAYm3 2021-22						
1	Dr. Bibhu Prasad	Energy Efficient Routing Algorithm with Mobile Sink Support for Wireless Sensor Networks	2	2.111	2.111	Algorithm developed and Paper Published
2	Mr. T. Appa Rao	Manually operated multi level modulator brick modulating apparatus	2	1.900	1.900	Patent Published
3	Mr. Radhanath Patra	Swachani- A New Way to Clean India	1	1.800	1.800	Model Developed
Amount received (Rs.)						**5.811**
Total amount (Lacs) received for the past 3 years						**19.056**

Criterion 7: Facilities and Technical Support (100)

7.1. Adequate and Well-Equipped Laboratories, and Technical Manpower (40)

(Provide details of various laboratories for the program and at the department level. Also, please provide a list of technical support staff appointed by the College for the Department and their qualifications. Please do not give duplicate data from the sections 7.2 and 7.5.)

Table No.7.1.1: List of laboratories and technical manpower.

S. N.	Name of the Laboratory	No. of students per setup (Batch Size)	Name of the major equipment	Weekly utilization status (all the courses for which the lab is utilized)	Technical Manpower support		
					Name of the technical staff	Designation	Qualification
1	Basic Electrical and Electronics Engineering Laboratory (124.86 square metre)	4	DC/AC power supplies (e.g., 0-30V, 0-5A) Digital and analog multimeters Dual-channel 1MZ function generator. Digital Storage Oscilloscope (DSO) with 20 MHz bandwidth. PN Junction Diode Characteristic Trainer Kit (4 MR-65 Analogue Meters) Half Wave, Full Wave & Bridge Rectifiers Trainer Kit Clipper and clamper Trainer Kit	36	Mr. Srinibas Patro	Lab Assistant	Diploma
2	Electronic Measurements and Instrumentation Laboratory (141.21 square metre)	4	Cathode Ray Oscilloscope (CRO) (0- 30MHz) Power supply Signal Generators (0-3MHz) Digital measuring meters like Voltmeter (0- 200V), (0- 20V),	27	Mr. Ramakanto Mohapatra	Lab Assistant	Diploma

			Ammeter (0- 2mA), (0- 200mA)				
3	Analog Electronic Circuits Laboratory (66.89 square metre)	4	Regulated power supply (0-30V) CRO (0-20MHz) Function Generators (1Hz - 1MHz)	30	Mr. Goura Chandra Gouda	Lab Assistant	BTech
4	Digital System Design Laboratory (141.21 square metre)	4	Dual trace Oscilloscope Regulated power supply Function Generators Logic Gates Kit Flipflop Kit 4X1Multiplexer&Demultiplexer Kit 2X4 Decoder Kit 8X1 Multiplexer Kit 4-bit Decade counter Kit	27	Mr. Pradeep Kumar Nimala	Lab Assistant	Diploma
5	Microcontrollers and Computer Architecture Laboratory (141.21 square metre)	4	8085 Based Microprocessor Trainer Kits 8086 Based Microprocessor Trainer Kits 8051 Microcontroller Trainer Kits A.D.C. & D.A.C. Interface 8051 Development Board & Programmer kits 8255 Study Card 8251 USART Interface 8279 Keyboard Display Interface 8257 DMA Controller	36	Mr. Ramakanto Mohapatra	Lab Assistant	Diploma
6	Analog and Digital Communication Laboratory (66.89 square metre)	4	Digital Storage Oscilloscope (0-20MHz) Function Generator 0-1MHZ Dual channel Cathode Ray Oscilloscope Dc Regulated Power Supply(0-30V) Antenna Trainer System	18	Mr. Akshya Kumar Satapathy	Lab Assistant	BTech

			AM & F.M. Transmitter & Receiver Kit Pulse Code Modulation & Demodulation Kit Digital Time Division Multiplexing Modulator & Demodulator Kits Amplitude Shift Keying Modulator & Demodulator Kits QAM Modulator & Demodulator Kits DPSK Modulator & Demodulator Kits QPSK Modulator & Demodulator Kits				
7	Digital Signal Processing Laboratory (90.01 square metre)	1	10th Generation Desktop Computer MATLAB Software LAN Trainer Kit Network Interface Card of LAN Trainer Kit	18	Mr. Umamaheswar Rao	Hardware and Softwae Assistant	BTech
8	Digital VLSI Design Laboratory (74.32 square metre)	1	Xilinx Vivado Software Nexys 4A7 FPGA Board 10th Generation Personal Computers	18	Mr. Umamaheswar Rao	Hardware and Softwae Assistant	BTech
9	Antennas and Microwave Engineering Laboratory (62.70 square metre)	4	Reflex Klystron Mount Gunn Oscillators Reflex klystron Power Supply Gunn Power Supply VSWR Meter Frequency Meters Slotted Line Sections Variable Attenuators S – S Tuners Directional Couplers Magic Tee E – Plane Tee H – Plane Tee Matched Termination Detector Mount Movable Shot PIN Modulator Fixed Attenuators Isolators	18	Mr. Akshya Kumar Satapathy	Lab Assistant	BTech

			Circulators Plane Wave Guides				
10	Embedded Systems and Internet of Things Laboratory (90.01 square metre)	2	Arduino U.N.O. essential kit. 8051Development board and Programmer kit Proteus Virtual Software 10th Generation Personal Computer Interfacing Boards	36	Mr. Goura Chandra Gouda	Lab Assistant	BTech

Figure No. 7.1.1 (a) Basic Electrical and Electronics Engineering Laboratory

Figure No. 7.1.1 (b) Basic Electrical and Electronics Engineering Laboratory

Figure No. 7.1.1 (c) (Basic Electrical and Electronics Engineering Laboratory)

Figure No. 7.1.2 (a) (Electronic Measurements and Instrumentation Laboratory)

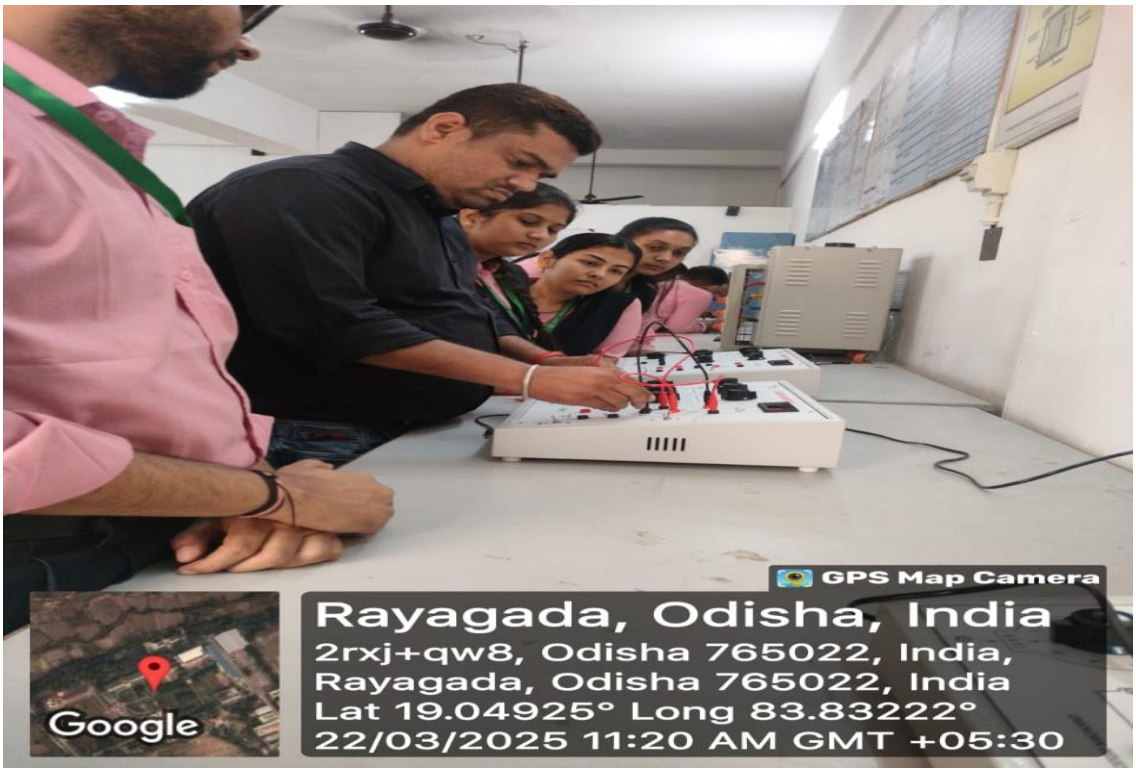


Figure No. 7.1.2 (b) (Electronic Measurements and Instrumentation Laboratory)

Figure No. 7.1.3 (a) (Analog Electronic Circuits Laboratory)

Figure No. 7.1.3 (b) (Analog Electronic Circuits Laboratory)

Figure No. 7.1.3 (c) (Analog Electronic Circuits Laboratory)

Figure No. 7.1.4 (a) (Digital System Design Laboratory)

Figure No. 7.1.4 (b) (Digital System Design Laboratory)

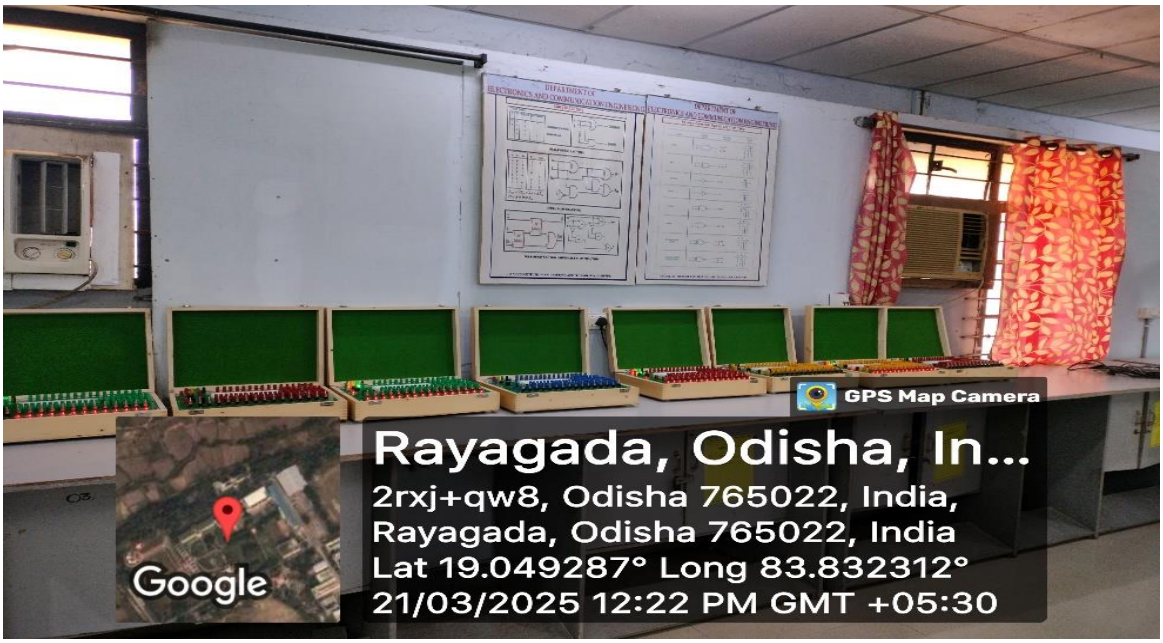


Figure No. 7.1.4 (c) (Digital System Design Laboratory)

Figure No. 7.1.5 (a) (Microcontrollers and Computer Architecture Laboratory)

Figure No. 7.1.5 (b) (Microcontrollers and Computer Architecture Laboratory)

Figure No. 7.1.5 (c) (Microcontrollers and Computer Architecture Laboratory)

Figure No. 7.1.6 (a) (Analog and Digital Communication Laboratory)

Figure No. 7.1.6 (b) (Analog and Digital Communication Laboratory)

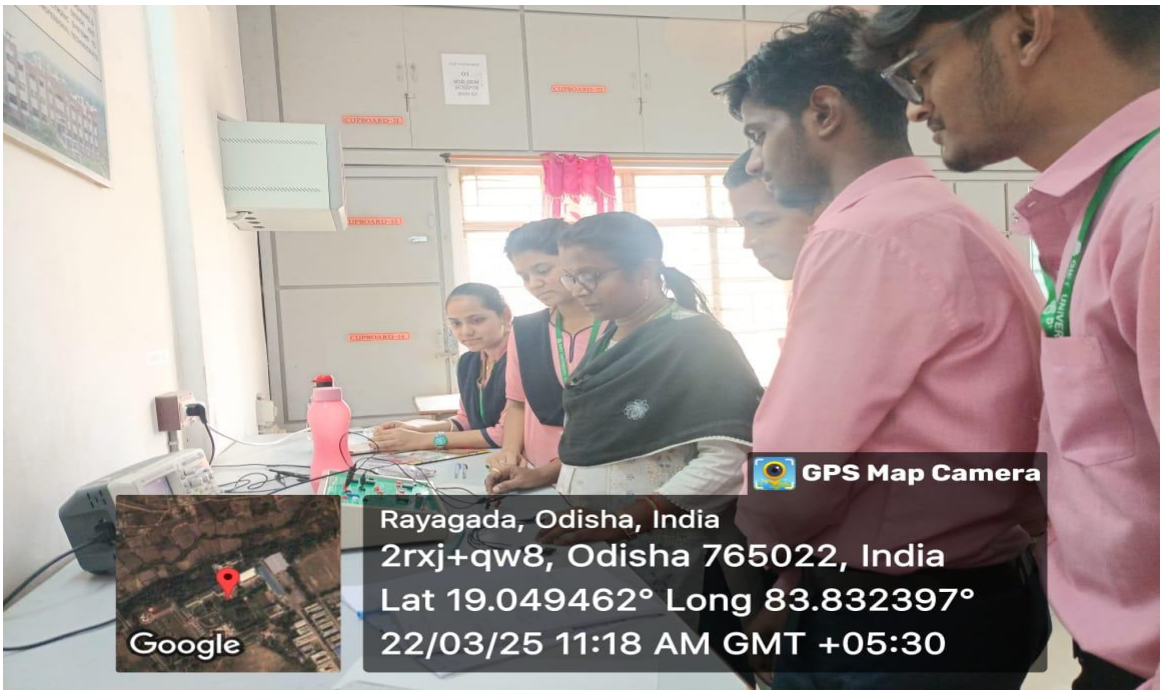


Figure No. 7.1.6 (c) (Analog and Digital Communication Laboratory)

Figure No. 7.1.7 (a) (Digital Signal Processing Laboratory)

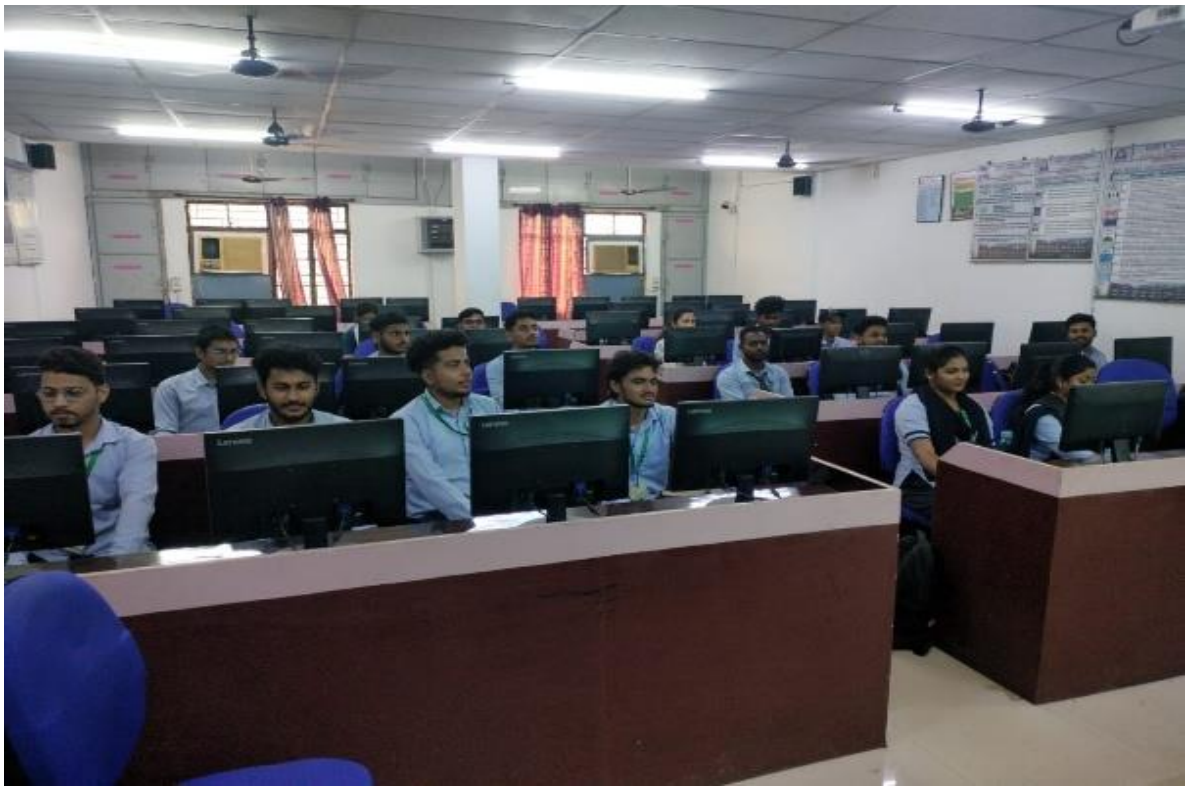


Figure No. 7.1.7 (b) (Digital Signal Processing Laboratory)

Figure No. 7.1.7 (c) (Digital Signal Processing Laboratory)

Figure No. 7.1.8 (a) (Digital VLSI Design Laboratory)

Figure No. 7.1.8 (b) (Digital VLSI Design Laboratory)

Figure No. 7.1.9 (a) (Antennas and Microwave Engineering Laboratory)

Figure No. 7.1.9 (b) (Antennas and Microwave Engineering Laboratory)

Figure No. 7.1.10 (a) (Embedded Systems and Internet of Things Laboratory)

Figure No. 7.1.10 (b) (Embedded Systems and Internet of Things Laboratory)

7.2. Additional Facilities Created for Improving the Quality of Learning Experience in Laboratories (20)

(Provide details of various additional facilities provided by the department to enhance the quality of learning in laboratories. Please do not give duplicate data from the sections 7.1 and 7.5.)

To enhance the quality of learning in laboratories and provide students with industry-relevant skills, the department has established various additional facilities. These facilities support hands-on learning, foster innovation, and improve student engagement with practical applications of theoretical concepts.

Table No.7.2.1: List of additional facilities.

S. N.	Name of the Facility	Details	Purpose for creating facility	Utilization	Relevance to POs/PSOs
1	State-of-the-Art Equipment	Modern Test and Measurement Instruments**:** The department is equipped with the latest oscilloscopes, spectrum	Equip students and researchers with the latest technology and tools to foster innovation, hands-on learning, and	24 Hours	PO1, PO2, PO5, PSO1, PSO2, WK3,

		analyzers, signal generators, logic analyzers, and other measurement instruments to allow students to work with industry-standard equipment.	advanced research in the field of electrical and computer engineering.		WK4, WK6
2	Industry specific Updated Software and Technologies	Digital Simulation Tools: Software like MATLAB, Simulink, Cadence,Proteus ,NEC2 and OptiSystem are provided to perform simulations, design circuits, and run signal processing algorithms.	Licensing for the latest software, simulation tools, and analytical programs ensures students can use the most relevant and up-to-date resources in their studies.	16 Hours	PO1, PO3, PO5, PSO1, PSO2, WK2, WK4, WK6
3	Virtual and Remote Labs	To provide a complete Learning Management System around the Virtual Labs where the students can avail the various tools for learning, including additional web resources, video lectures, animated demonstrations, and self-evaluation.	Students have access to virtual labs to conduct experiments and simulations remotely, providing flexibility in their learning process.	18 Hours	PO4, PO6, PO11, PSO1, PSO3, WK2, WK5, WK8

7.3. Maintenance of Laboratories and Overall Ambiance (10)

(Provide details of overall laboratories maintenance and overall ambiance in the Department.)

- Maintenance of Laboratories
- All laboratories are well equipped and maintained hygienically.
- Equipment will be serviced and calibrated at the starting of the semester and before the commencement of examinations.
- All laboratories are mopped, cleaned and dusted with help of a vacuum cleaner every day.
- Computer-related Laboratories are connected with an Internet speed 100Mbps.
- All laboratories are connected to UPS systems.
- Stock registers, issue registers are maintained in each and every laboratory.

Overall Ambiance

- All laboratories are provided with tube lights, fans, windows for lighting and ventilation purposes.
- All laboratories are provided with curtains to prevent excess sunlight exposure.
- All labs are provided with LCD projectors.
- Notice boards are provided in each laboratory for displaying lab-related information like time table, batch list etc.
- Informative charts like Circuit/Pin Diagram/Algorithms are displayed in laboratories.
- Racks are provided in each laboratory for keeping students' belongings like bags, books.
- Separate Racks are provided at the entrance of the lab for student's footwear.

7.4. Safety Measures in Laboratories (10)

(Provide details of various safety measures deployed in each laboratory within the Department.)

Table No. 7.4.1: List of various safety measures in laboratories.

S.N.	Name of the Laboratory	Basic Safety measures	Lab-specific safety measures
1	Basic Electrical and Electronics Engineering Laboratory	• Specific Safety Rules in the form of Do's and Don'ts are Displayed in the Laboratory. • Cell phones are not allowed in the lab. • Sanitizer are provided in laboratory • Avoid direct contact with any power source. Turn off all power sources when not needed. • Keep workstations free from food and drink to prevent contamination and damage to instruments. • First aid boxes and fire extinguishers are kept in the laboratory. • All Students should wear leather shoes with proper	• Rubber or insulated gloves are mandatory when handling electrical circuits to prevent the risk of electrical shock. • High Quality MCB is used to trip excess voltages • Always check the ground connections before using equipment. • Know that the circuit and connections are correct before applying power to the circuit. if needed have the instructor review the circuit before applying power.

		uniform before entering into the lab	
2	Electronic Measurements and Instrumentation Laboratory	• Specific Safety Rules in the form of Do's and Don'ts are Displayed in the Laboratory. • Cell phones are not allowed in the lab. • Sanitizer are provided in laboratory • Avoid direct contact with any power source. Turn off all power sources when not needed. • Keep workstations free from food and drink to prevent contamination and damage to instruments. • First aid boxes and fire extinguishers are kept in the laboratory. • All Students should wear leather shoes with proper uniform before entering into the lab	• Rubber or insulated gloves are mandatory when handling electrical circuits to prevent the risk of electrical shock. • High Quality MCB is used to trip excess voltages • Always check the ground connections before using equipment. • Know that the circuit and connections are correct before applying power to the circuit. if needed have the instructor review the circuit before applying power.
3	Analog Electronic Circuits Laboratory	• Specific Safety Rules in the form of Do's and Don'ts are Displayed in the Laboratory. • Cell phones are not allowed in the lab. • Sanitizer are provided in laboratory • Avoid direct contact with any power source. Turn off all power sources when not needed. • Keep workstations free from food and drink to prevent contamination and damage to instruments. • First aid boxes and fire extinguishers are kept in the laboratory. • All Students should wear leather shoes with proper uniform before entering into the lab	• Rubber or insulated gloves are mandatory when handling electrical circuits to prevent the risk of electrical shock. • High Quality MCB is used to trip excess voltages • Always check the ground connections before using equipment. • Know that the circuit and connections are correct before applying power to the circuit. if needed have the instructor review the circuit before applying power.
4	Digital System Design Laboratory	• Specific Safety Rules in the form of Do's and Don'ts are Displayed in the Laboratory.	• Rubber or insulated gloves are mandatory when handling electrical

		• Cell phones are not allowed in the lab. • Sanitizer are provided in laboratory • Avoid direct contact with any power source. Turn off all power sources when not needed. • Keep workstations free from food and drink to prevent contamination and damage to instruments. • First aid boxes and fire extinguishers are kept in the laboratory. • All Students should wear leather shoes with proper uniform before entering into the lab	circuits to prevent the risk of electrical shock. • High Quality MCB is used to trip excess voltages • Always check the ground connections before using equipment. • Know that the circuit and connections are correct before applying power to the circuit. if needed have the instructor review the circuit before applying power.
5	Microcontrollers and Computer Architecture Laboratory	• Specific Safety Rules in the form of Do's and Don'ts are Displayed in the Laboratory. • Cell phones are not allowed in the lab. • Sanitizer are provided in laboratory • Avoid direct contact with any power source. Turn off all power sources when not needed. • Keep workstations free from food and drink to prevent contamination and damage to instruments. • First aid boxes and fire extinguishers are kept in the laboratory. • All Students should wear leather shoes with proper uniform before entering into the lab	• Properly connect the kit and interfacing boards with power supply terminals. • Switch on the power supply after checking connections • Know that the circuit and connections are correct before applying power to the circuit. if needed have the instructor review the circuit before applying power • Handle the trainer kit carefully. • High Quality MCB is used to trip excess voltages
6	Analog and Digital Communication Laboratory	• Specific Safety Rules in the form of Do's and Don'ts are Displayed in the Laboratory. • Cell phones are not allowed in the lab. • Sanitizer are provided in laboratory • Avoid direct contact with any power source. Turn off	• Switch on the power supply after checking connections • Know that the circuit and connections are correct before applying power to the circuit. if needed have the instructor review the circuit before applying power

		all power sources when not needed. • Keep workstations free from food and drink to prevent contamination and damage to instruments. • First aid boxes and fire extinguishers are kept in the laboratory. • All Students should wear leather shoes with proper uniform before entering into the lab	• Handle the trainer kit carefully. • High Quality MCB is used to trip excess voltages
7	Digital Signal Processing Laboratory	• Specific Safety Rules in the form of Do's and Don'ts are Displayed in the Laboratory. • Cell phones are not allowed in the lab. • Sanitizer are provided in laboratory • Avoid direct contact with any power source. Turn off all power sources when not needed. • Keep workstations free from food and drink to prevent contamination and damage to instruments. • First aid boxes and fire extinguishers are kept in the laboratory. • All Students should wear leather shoes with proper uniform before entering into the lab •	• Keep all your files in one folder with proper password. • Sign in the logout register before leaving the Lab. • For any debugging, virus problems consult the programmer • Don't inserts floppies, C.D.s, and Pen drives without prior permission • Don't tells your password to any other person. • Don't forgets to shut down your system properly. • High Quality MCB is used to trip excess voltages
8	Digital VLSI Design Laboratory	• Specific Safety Rules in the form of Do's and Don'ts are Displayed in the Laboratory. • Cell phones are not allowed in the lab. • Sanitizer are provided in laboratory • Avoid direct contact with any power source. Turn off all power sources when not needed. • Keep workstations free from food and drink to prevent contamination and damage to instruments.	• Keep all your files in one folder with proper password. • Sign in the logout register before leaving the Lab. • For any debugging, virus problems consult the programmer • Don't inserts floppies, C.D.s, and Pen drives without prior permission • Don't tells your password to any other person. • Don't forgets to shut down your system properly.

		• First aid boxes and fire extinguishers are kept in the laboratory. • All Students should wear leather shoes with proper uniform before entering into the lab	• High Quality MCB is used to trip excess voltages
9	Antennas and Microwave Engineering Laboratory	• Specific Safety Rules in the form of Do's and Don'ts are Displayed in the Laboratory. • Cell phones are not allowed in the lab. • Sanitizer are provided in laboratory • Avoid direct contact with any power source. Turn off all power sources when not needed. • Keep workstations free from food and drink to prevent contamination and damage to instruments. • First aid boxes and fire extinguishers are kept in the laboratory. • All Students should wear leather shoes with proper uniform before entering into the lab	• Care must be exercised to look through a fiber cable, to ensure that there is visible light coming through the cable • Prior to looking into the end of a cable, use an optical tracer or continuity checker to determine if the fiber is dark. • Keep hands away from face. Tiny splinters from the fibers can penetrate the soft skin on the face and be very difficult to remove. • High Quality MCB is used to trip excess voltages
10	Embedded Systems and Internet of Things Laboratory	• Specific Safety Rules in the form of Do's and Don'ts are Displayed in the Laboratory. • Cell phones are not allowed in the lab. • Sanitizer are provided in laboratory • Avoid direct contact with any power source. Turn off all power sources when not needed. • Keep workstations free from food and drink to prevent contamination and damage to instruments. • First aid boxes and fire extinguishers are kept in the laboratory. • All Students should wear leather shoes with proper uniform before entering into the lab	• Incorrect connection of power to the I.C.s could result in them exploding or becoming very hot - with the possible serious injury occurring to the students working on the experiment. • Ensure that the power supply polarity and all components and connections are correct before switching on power. • Sign in the logout register before leaving the Lab. • For any debugging, virus problems consult the programmer • Don't forgets to shut down your system properly.

			• High Quality MCB is used to trip excess voltages

7.5. Project Laboratory/Research Laboratory /Centre of Excellence (20)

(Provide details of laboratories for supporting projects, research, Centre of Excellence, innovation, and startups etc. Please do not give duplicate data from the sections 7.1 and 7.2.)

Table No. 7.5.1: Details of Laboratory.

S.N.	Name of the Laboratory	Objectives of Laboratory	Details of Laboratory	Utilization
1	Project Laboratory	• Project labs are utilized by the students for their projects. • Discussions and implementations of innovative ideas about mini projects and final year projects are carried out in Project laboratory. • Project lab is exclusively for the research and project work with the hardware and software facilities	• Universal VLSI FPGA-CPLD Trainer system with Xlinix (sparten) (HI-QFPGA)-Model • Embedded development Module with 8051 family (P89C51RD2P1G34570082) • Embedded-c software • Keil µ Vision software • UNI PRO Universal IC Programmer • 10th Generation Desktop Computers.	24 Hours
2	Research Laboratory	• The laboratories are equipped with modern and industry-standard equipment, ensuring that students gain hands-on experience with the latest technology. • This Laboratories are capable of supporting advanced research and development in various	• High-performance computing systems (10th Generation) • Signal processing software (MATLAB, Python) • OptiSystem Software • FRDM Kits, Wi-Fi Module, Sensors Module, IOT Module	30 Hours

		specializations of ECE. • Laboratories are adhere to safety protocols, with proper handling, safety gear, and emergency procedures.		
3	Centre of Excellence	• Training to students on the basic and advanced knowledge of National Instruments' LabVIEW, NEC2 software, Cadence software and peripheral systems to carry out quality projects in cutting edge areas in industry.	• Cadence University Standard Bundle Licence Software. • NEC2 Open Source Software • NI Lab VIEW License Software, MYDAC, MYRIO	24 Hours

Criterion 8: Continuous Improvement (80)

8. 1. Actions Taken Based on the Results of Evaluation of the COs, POs, and PSOs (40)

8.1.1. Actions Taken Based on the Results of Evaluation of the COs Attainment (20)

(Identify the areas of weaknesses in the program based on the analysis of evaluation of COs attainment levels. Measures identified and implemented to improve COs attainment levels for the assessment year (CAYm1) including curriculum intervention, pedagogical initiatives, support system improvements, etc.)

Table No.8.1.1: Course-wise CO Attainment Analysis Comparing Target and Actual Levels with Identified Gaps and Remedial Actions

Course Code	Course	Target level	Attainment Level	Identified Gaps	Actions Taken
C101	Engineering Mathematics-I	2.4	2.1	Limited understanding complex topics and Inadequate practice of numerical problems.	Incorporated interactive teaching methods and real-life examples.
C102	Engineering Chemistry	2.2	1.9	Inadequate conceptual understanding of chemical bonding and molecular geometry.	Utilized 3D models and digital simulations to visualize molecular structures.
C103	Basic Electronics	2	1.7	Difficulty in analysing diode and transistor-based circuits.	Provided circuit analysis practice through dedicated tutorials.
C104	Programming for Problem Solving	2.3	2	Lack of clarity in function usage and modular programming.	Conducted hands-on sessions to practice user-defined

					functions and parameter passing.
C105	Communicative English and Soft Skills	2	2.1	Target Achieved.	
C106	Engineering Chemistry Lab	2	2.4	Target Achieved.	
C107	Basic Electronics Lab	2.2	2.4	Target Achieved.	
C108	Programming for Problem Solving Lab	2.1	2.3	Target Achieved.	
C109	Communicative English and Soft Skills Lab	2	2.2	Target Achieved.	
C110	Engineering Workshop	2	2.4	Target Achieved.	
C112	Engineering Mathematics-II	2.4	2.1	Lack of clarity in fundamental concepts and poor application in problem-solving across subjects.	Conducted remedial sessions, hands-on lab work, and interactive problem-solving activities to bridge knowledge gaps.
C113	Engineering Physics	2.4	2.2	Weak in understanding fundamental concepts of mechanics, thermodynamics, and electromagnetism.	Delivered concept-based tutorials with visual aids and practical demonstrations to clarify key principles.

C114	Basics Electrical Engineering	2.2	2.4	Target Achieved.	
C115	Data Structure and Algorithms	2.1	1.9	Difficulty in understanding the fundamentals of data structures like arrays, linked lists, and trees.	Delivered concept-driven lectures and hands-on sessions with visual tools to demonstrate data structure operations.
C116	Communicative English and Technical Communication	2.4	2.6	Target Achieved.	
C117	Engineering Physics Lab	2.4	2.5	Target Achieved.	
C118	Basics Electrical Engineering Lab	2.2	2.4	Target Achieved.	
C119	Data Structure and Algorithms Lab	2	2.2	Target Achieved.	
C120	Communicative English and Technical Communication Lab	2.4	2.4	Target Achieved.	
C121	Engineering Graphics and Design	2	1.9	Lack of proficiency in using CAD software for design and drafting.	Conducted hands-on CAD workshops and provided step-by-step tutorials for practical design exercises.

C201	Engineering Mathematics-III	2	1.8	Lack of clarity in numerical methods and transforms.	Organized focused tutorial sessions and regular assessments.
C202	Analog Electronic Circuits	2	1.7	Difficulty in understanding the behavior of semiconductor devices like diodes, transistors, and operational amplifiers.	Conducted hands-on lab sessions with circuit simulations and real-world examples to illustrate device characteristics.
C203	Electrical and Electronic Measurements	2.4	1.9	Difficulty in understanding measurement principles and instrument accuracy.	Conducted detailed sessions on measurement theory with practical demonstrations of various instruments.
C204	Network Theory	2.4	2.5	Target Achieved.	
C205	Object-Oriented Programming using JAVA	2	2.2	Target Achieved.	
C206	Organizational Behavior	2.4	2.2	Difficulty in understanding the impact of organizational culture and structure on behavior.	Incorporated case studies and real-world examples to highlight the relationship between culture, structure, and behavior.
C207	Analog Electronic Circuits Laboratory	2.4	2.5	Target Achieved.	

C208	Electrical and Electronic Measurements Laboratory	2.4	2.6	Target Achieved.	
C209	Object Oriented Programming Using Java Lab	2.4	2.2	Limited ability to apply OOP concepts in practical scenarios.	Arranged guided lab sessions and peer programming support.
C210	Summer Industry Internship	2.4	2.4	Target Achieved.	
C212	Digital Electronics	2.4	2.2	Inability to design and analyze sequential circuits, including flip-flops and registers.	Organized lab sessions with hands-on circuit design and simulation software to visualize sequential circuit operations.
C213	Analog Communication	2.4	2	Inadequate knowledge of various analog communication components such as oscillators and amplifiers.	Organized hands-on lab sessions to familiarize students with the operation and use of communication components.
C214	Semiconductor Devices	2.4	2.1	Difficulty in understanding the fundamental principles of semiconductor physics.	Conducted detailed lectures on the band theory, charge carriers, and the behavior of semiconductors

					with visual aids and diagrams.
C215	Signals and Systems	2	1.8	Difficulty in applying numerical techniques using computational tools.	Introduced MATLAB/Excel-based workshops and step-by-step problem solving.
C216	Database Management Systems	2	2	Target Achieved.	
C217	Engineering Economics and Costing	2.4	2.4	Target Achieved.	
C218	Digital Electronics Laboratory	2.4	2.5	Target Achieved.	
C219	Analog Communication Techniques Laboratory	2.2	2.2	Target Achieved.	
C220	Database Management Systems Laboratory	2.2	2.4	Target Achieved.	
C221	Mini Project-I	2.4	2.5	Target Achieved.	
C301	Microprocessors and Microcontrollers	2.4	2.6	Target Achieved.	
C302	Digital Communication	2.4	2.3	Difficulty in understanding the principles of digital modulation techniques	Delivered interactive tutorials and demonstrations on digital modulation

					schemes with visual aids and real-time simulations.
C303	Digital Signal Processing	2.4	2.2	Weak comprehension of Fourier transforms and their application in signal analysis.	Conducted step-by-step tutorials on Fourier analysis, including practical examples using MATLAB for signal transformation.
C304	Electromagnetic Waves	2.4	2.1	Limited understanding of transmission lines, waveguides, and their applications in electromagnetic wave propagation.	Organized practical sessions and case studies on the design and analysis of transmission lines and waveguides in communication systems.
C305	Fiber Optic Communication	2	2	Target Achieved.	
C306	Fundamentals of Python Programming	2.2	2.4	Target Achieved.	
C307	Human Value & Professional Ethics	2	2.4	Target Achieved.	
C308	Microprocessors and Microcontrollers Laboratory	2.4	2.4	Target Achieved.	

C309	Digital Communication Techniques Laboratory	2.4	2.5	Target Achieved.	
C310	Digital Signal Processing Laboratory	2.4	2.8	Target Achieved.	
C311	Mini Project-II	2.4	2.5	Target Achieved.	
C312	Summer Internship-II	2.4	2.3	Lack of exposure to real-world industry applications and hands-on experience.	Organized industry visits and provided live project opportunities to bridge the gap between theoretical knowledge and practical application.
C313	Digital VLSI Design	2	2.2	Target Achieved.	
C314	Microwave Engineering	2.4	2	Weak understanding of microwave measurement techniques and instrumentation.	Provided hands-on training with specialized microwave measurement tools like vector network analysers (VNAs) and spectrum analyzers.
C315	Computer Vision	2.4	2.1	Weak comprehension of object detection, recognition, and tracking methods in	Organized coding workshops where students built simple object detection systems using

				computer vision.	pre-trained models and datasets.
C316	Machine Learning	2	2.2	Target Achieved.	
C317	Operating Systems	2	2.1	Target Achieved.	
C318	Internet of Things	2	1.8	Poor understanding of optimization models and solution techniques.	Implemented software-based learning using Excel Solver and Python tools.
C319	Dietetics and Nutrition	2.2	2.4	Target Achieved.	
C320	Digital VLSI Design Laboratory	2.4	2.6	Target Achieved.	
C321	Microwave Engineering Laboratory	2.4	2.6	Target Achieved.	
C322	Mini Project-III	2.4	2.4	Target Achieved.	
C401	Mobile Communication	2.2	2.2	Target Achieved.	
C402	Data Communications and Networking	2	2.4	Target Achieved.	
C403	Artificial Intelligence	2	2.2	Target Achieved.	

C404	Entrepreneurship Development	2.4	2.1	Limited understanding of financial management concepts, including budgeting, funding, and cash flow analysis.	Delivered detailed lectures on financial planning, with hands-on exercises using business simulation tools and financial forecasting.
C405	Project Work-I	2.2	2	Weak understanding of project management methodologies and tools for scheduling and resource allocation.	Introduced tools like Gantt charts and project management software and organized practical sessions on how to use them.
C406	Summer Internship-III	2.4	2.6	Target Achieved.	
C407	Satellite Communication	2.4	2.5	Target Achieved.	
C408	Soft Computing	2.4	2.1	Difficulty in understanding the core concepts of fuzzy logic and fuzzy sets.	Delivered detailed sessions with real-world examples to explain fuzzy logic concepts, followed by hands-on exercises using fuzzy logic toolboxes.
C409	Intellectual Property Rights	2.2	2.4	Target Achieved.	

C410	Project Work-II & Dissertation	2.4	2.6	Target Achieved.	

8.1.2. Actions taken based on the results of evaluation of each of the POs & PSOs (20)

(Identify the areas of weaknesses in the program based on the analysis of evaluation of POs/PSOs attainment levels. Measures identified and implemented during two years to improve POs attainment levels including curriculum intervention, pedagogical initiatives, support system improvements, etc.)

Identify the areas of weaknesses in the program based on the analysis of evaluation of POs & PSOs attainment levels. Measures identified and implemented to improve POs & PSOs attainment levels for the assessment years.

Examples of analysis and proposed action:

Sample 1: Analysis: Some of the advanced communication experiments, such as modulations and demodulations, were not producing reliable results due to outdated signal generators and insufficient bandwidth of existing equipment.

Action Taken: The signal generators were replaced with modern models capable of higher frequency ranges, and the oscilloscope bandwidth was upgraded to improve the accuracy of the experiments.

Sample 2: Analysis: In the Microwave Engineering course, students have been struggling with the practical aspects of waveguide design and impedance matching. After reviewing the performance of previous batches, it was discovered that the lack of hands-on experience and insufficient explanation of theoretical concepts led to these challenges.

Action Taken: The course was revised to include additional practical sessions focused on waveguide design and impedance matching using modern simulation tools like HFSS and CST Microwave Studio. The instructor was also changed to someone with more experience in practical microwave applications.

Sample 3: Analysis: In the VLSI Design course, students working on group projects did not consider public health and safety implications of their designs, particularly in relation to semiconductor manufacturing processes and radiation safety. Feedback indicated that these aspects were overlooked during project execution.

Action Taken: The project guidelines and rubrics were updated to explicitly require students to address health, safety, and environmental concerns in their designs. Specific discussions on these aspects were integrated into the course, ensuring they were included in the project planning and evaluations.

Table No.8.1.2: POs Attainment Levels and Actions for improvement – 2023-24

POs	Target Level	Attainment Level	Observations	Action Taken
PO1: Engineering knowledge				
PO1	2.0	1.83	Students faced challenges in independently analysing complex ECE-related problems, especially in circuit analysis and system modeling.	• Guest lectures and workshops were organized for further enhancement.
PO2: Problem analysis				
PO2	1.8	1.65	Students demonstrated limited ability in designing ECE systems that meet realistic constraints such as safety, sustainability, and reliability.	• Case-based and real-world problems integrated into teaching. • Conducted analytical problem-solving tutorials. • Expert sessions on structured analysis techniques. • Promoted collaborative learning.
PO3: Design/development of solutions				
PO3	1.8	1.50	Difficulty observed in formulating hypotheses, conducting experiments, and	• Hands-on design projects introduced. • Conducted design thinking workshops.

			interpreting results in practical lab settings.	• Emphasized sustainability and safety in assignments. • Encouraged industry internships.
PO4: Conduct investigations of complex problems				
PO4	1.6	1.34	Students lacked proficiency in using essential modern ECE tools such as MATLAB, Multisim, Xilinx, or CADENCE for simulations and design.	• Coaching classes beyond regular schedule. • Case studies through mini projects and workshops.
PO5: Modern tool usage				
PO5	1.4	1.29	Students showed minimal awareness of societal and ethical implications of engineering solutions, including legal and cultural contexts.	• Training sessions for tools like MATLAB, Cadence. • Tool integration in coursework. • Industry expert talks. • Additional lab sessions.
PO6: The engineer and society				
PO6	1.4	1.22	Understanding of how ECE technologies impact the environment and the importance of sustainable engineering practices was found to be weak.	• Case studies on engineering ethics and social impact. • Seminars and guest lectures. • Community outreach programs.
PO7: Environment and sustainability				
PO7	1.6	1.26	Students exhibited a lack of awareness about professional responsibilities, ethical conduct, and decision-making in real-world	• Environmental impact analysis included in projects. • Expert seminars on sustainability. • Visits to eco-friendly industries. • Mini-projects on renewable energy.

			engineering scenarios.	• Participation in green initiatives.
PO8: Ethics				
PO8	1.5	1.30	Difficulties were noted in coordinating effectively within teams, distributing tasks, and maintaining accountability in group-based projects.	• Introduced 2-credit course on Human Values and Ethics. • Department efforts ongoing to achieve target.
PO9: Individual and team work				
PO9	1.8	1.61	Students struggled to articulate technical concepts clearly through reports, presentations, and interpersonal communication.	• Increased the number of team-based projects with clear role distribution and accountability. • Implemented peer assessments to evaluate individual contributions. • Organized workshops on teamwork, including conflict resolution and effective communication. • Encouraged interdisciplinary collaborations to improve diverse team dynamics.
PO10: Communication				
PO10	1.4	1.28	Limited understanding was observed in planning and managing projects, resource estimation, and budgeting in an engineering context.	• Communication skill sessions by T&P cell. • Subject-wise technical seminars organized.
PO11: Project management and finance				
PO11	1.4	1.26	Students showed low self-motivation to pursue	• Introduced mini-projects with basic budgeting and scheduling components.

			knowledge or upskilling through independent learning or engagement with online platforms like NPTEL.	• Conducted workshops on project management tools like MS Project and Gantt charts. • Integrated case studies on real-world engineering project planning and cost control. • Included finance basics and resource allocation topics in relevant subjects.
PO12: Life-long learning				
PO12	1.4	1.28	Students showed limited engagement in activities promoting continuous learning and skill development beyond the academic curriculum.	• Remedial classes have been conducted for lower graduate subjects and COs are redefined by keeping in view of the lifelong leaning • NPTEL courses are made available for the above subjects. • Expert lectures conducted on future scope of chemical Engineering and various job opportunities in India and abroad.

Table No.8.1.3: PSOs Attainment Levels and Actions for improvement – 2023-24

PSOs	Target Level	Attainment Level	Observations	Action Taken
PSO-1	1.8	1.60	Students demonstrated limited ability to integrate chemical engineering principles with interdisciplinary skills for solving real-world problems.	• Students demonstrated limited capability in applying ECE fundamentals alongside interdisciplinary domains such as IoT, machine learning, and automation for solving practical problems. • They struggled with integrating knowledge across domains in mini-projects and practical applications.
PSO-2	1.6	1.56	Students showed limited ability to design sustainable	• Students exhibited difficulty in designing

			and safe chemical processes using modern tools, both individually and in teams.	reliable and sustainable electronic systems using modern simulation and design tools. • Challenges were also observed in teamwork, circuit-level analysis, and incorporating safety and environmental aspects into project work.

8.2. Academic Audit and actions taken thereof during the period of Assessment (10)

(Academic audit system/process and its implementation in relation to continuous improvement.)

Academic Auditing:

The process of Academic Auditing is aimed at monitoring and enhancing the quality of education by implementing well-defined guidelines for both faculty members and students, with the objective of ensuring that the department produces highly competent engineers and researchers.

Objectives:

- To ensure academic accountability.
- To define and maintain quality in each component of the program.
- To safeguard the core functions of technical education.
- To evaluate the effectiveness of the teaching–learning process and optimize output.

Internal audit committees have been formed, comprising of a Registrar as the Chairperson, and two internal experts, apart from IQAC representative. Departments are asked to prepare and maintain documents containing pertinent data, which are verified by the audit team periodically, following a preannounced schedule. An audit report, with comments and recommendations, is filed by the audit team, with steps for mid-course correction. An action taken report is to be filed by the departments, indicating the compliance or deviations, if any.

Academic audit and actions taken are carried out with the help of following different components

1. Course file evaluation

2. Lectures/ Lab evaluation

3. Faculty development program (FDP)

4. Review

Faculty members are assessed again at the end of the semester for any improvement in their performance with respect to their teaching efficiency. This assessment helps to compare their performance at the beginning of the semester with that of, at the end of the semester.

Actions taken:

- Faculty members have to follow the suggestions given by the academic committee to fill the gaps if any in their teaching methodology and to ensure high quality instruction.
- Faculty members have to follow the teaching methodology which should be understandable to all categories of students in a class. They are instructed to complete the syllabus in time as per the proposed lesson plan prepared at the beginning of the semester.
- The faculty members are asked for course completion status at the end of every month and if any shortfall regarding course completion is found, they should go for extra classes to complete the course in time.
- Regular result analysis of internal assessment examinations of all the subjects is made and the concerned faculties are advised to take necessary actions if any discrepancies are found in the result. Extra classes for the weak students are conducted separately to make them cope up with other students.
- Faculty members are advised to attend FDPs which is required for the overall development of teaching skills in terms of communication, methodology of teaching and research activity.
- The academic audit is carried out at the beginning of the semester when the faculty members are all set with their course files.
- Student feedback is taken twice in a semester for each subject to assess the reachability of the teaching by the concerned subject teacher. The feedback is collected confidentially in the absence of the subject teacher to avoid biasness.
- FDPs for communication skills and on teaching-learning methodology for the faculties are regularly carried out at the college by training and placement

department. Besides that, Technical FDPs, expert lectures, seminars etc. are conducted at department level at least once in a semester.

Table No.8.2.1: Academic Audit Conduct Mechanism

GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA, GUNUPUR

Academic Administrative Audit (AAA)

GIET University Campus
Gunupur, At – Gobriguda, Po- Kharling, Dist. - Rayagada, Odisha -India, 765022, 06857-250170, 06857-250172

1 Academic Administrative Audit (AAA)-GIET UNIVERSITY

OFFICE OF THE REGISTRAR
GIET UNIVERSITY
Gunupur-765022, Dist. Rayagada, Odisha, India

Ref. No. 46 /Reg/GIETU Date: 21-02-2024

CIRCULAR

This is for all concerned that the department review meeting shall be held as per the schedule given below.

DATE	SCHOOL	DEPARTMENT
11-03-24	SCHOOL OF ENGINEERING & TECHNOLOGY	Biotechnology
12-03-24	SCHOOL OF ENGINEERING & TECHNOLOGY	Electronics and Communication Engineering
13-03-24	SCHOOL OF ENGINEERING & TECHNOLOGY	Electrical Engineering/Electrical and Electronics Engineering
14-03-24	SCHOOL OF ENGINEERING & TECHNOLOGY	Civil Engineering
15-03-24	SCHOOL OF ENGINEERING & TECHNOLOGY	Chemical Engineering
16-03-24	SCHOOL OF SCIENCES	BCA & MCA
18-03-24	SCHOOL OF MANAGEMENT STUDIES	BBA and MBA
19-03-24	SCHOOL OF ENGINEERING & TECHNOLOGY/ SOS	Basic Science and Humanities & SOS
20-03-24	SCHOOL OF AGRICULTURE	B.Sc. (HONS) AGRICULTURE
21-03-24	SCHOOL OF NURSING	B.Sc. NURSING
22-03-24	SCHOOL OF ENGINEERING & TECHNOLOGY	Computer Science and Engineering
23-03-24	SCHOOL OF ENGINEERING & TECHNOLOGY	Mechanical Engineering

All Deans / HoDs and Staff members are advised to keep all related documents updated which are to be submitted during the review meeting for verification including course files.

Registrar
GIET UNIVERSITY
GUNUPUR

Memo No. 47 /GIETU/2024

Copy to:
1. President / Vice President for kind information.
2. Director General / Vice Chancellor for kind Information.
3. Dean (Academic) / Dean (R&D) / Dean (SoET) / Dean (SoAg) / Dean (SoMS) / HoD-PG Courses (School of Sciences) / HoDs of all Departments for information and necessary action.
4. All Ph.D. and M.Tech Coordinator for information and necessary action.
5. IQAC for information and necessary action.
6. Guard file for record.

OFFICE OF THE REGISTRAR
GIET UNIVERSITY
Gunupur-765022, Dist. Rayagada, Odisha, India

Ref. No. 2650 Date: 02-07-2022

CIRCULAR

This is for all concerned that the department review meeting shall be held as per the schedule given below.

DATE	SCHOOL	DEPARTMENT
11-07-2022	SCHOOL OF ENGINEERING & TECHNOLOGY	Computer Science and Engineering
12-07-2022		Chemical Engineering
13-07-2022		Mechanical Engineering
14-07-2022		Biotechnology
15-07-2022		Civil Engineering
18-07-2022		Electrical Engineering & Electrical and Electronics Engineering
19-07-2022		Electronics and Communication Engineering
20-07-2022		Basic Science and Humanities
21-07-2022	SCHOOL OF MANAGEMENT STUDIES	BBA and MBA
22-07-2022	SCHOOL OF SCIENCES	All M.Sc Courses
23-07-2022	SCHOOL OF AGRICULTURE	B.Sc Agriculture
25-07-2022		All M.Tech Coordinators
26-07-2022		All Ph.D. Coordinators

All Deans / HoDs and Staff members are advised to keep all registers, files, and related documents updated which are to be submitted during the review meeting for verification.

Registrar
GIET UNIVERSITY
GUNUPUR
Registrar
GIET University, Gunupur

Memo No. 2651 /GIETU/2022

Copy to:
1. President / Vice President for kind information.
2. Director General / Vice Chancellor for kind Information.
3. Dean (Academic) / Dean (R&D) / Dean (SoET) / Dean (SoAg) / Dean (SoMS) / HoD-PG Courses (School of Sciences) / HoDs of all Departments for information and necessary action.
4. IQAC for information and necessary action.
5. Guard file for record.

OFFICE OF THE REGISTRAR
GIET UNIVERSITY
Gunupur-765022, Dist. Rayagada, Odisha, India

Ref. No. 2446 Date: 02/09/2021

CIRCULAR

This is for information of all concerned that department review meeting for the month of January - August 2021 shall be held as per schedule given below.

Date	Name of the School	Department
16/09/2021	SCHOOL OF SCIENCES	ALL PG (M.Sc.) COURSES
17/09/2021	SCHOOL OF AGRICULTURE	B.SC. AGRICULTURE
18/09/2021	SCHOOL OF MANAGEMENT STUDIES	MBA/BBA
20/09/2021	SCHOOL OF ENGINEERING & TECHNOLOGY	BSH
21/09/2021		CSE & CST
22/09/2021		EE & EEE
23/09/2021		ECE
24/09/2021		MECHANICAL/ AGRICULTURE
25/09/2021		BIOTECH/CHEMICAL/CIVIL
27/09/2021		DEPARTMENTS WITH M.Tech COURSES (All M.Tech Coordinators)
28/09/2021		All PhD Co- ordinators

All HODs/ Deans and Staff members are advised to keep all registers, files and related documents updated which are to be submitted during the review meeting for verification.

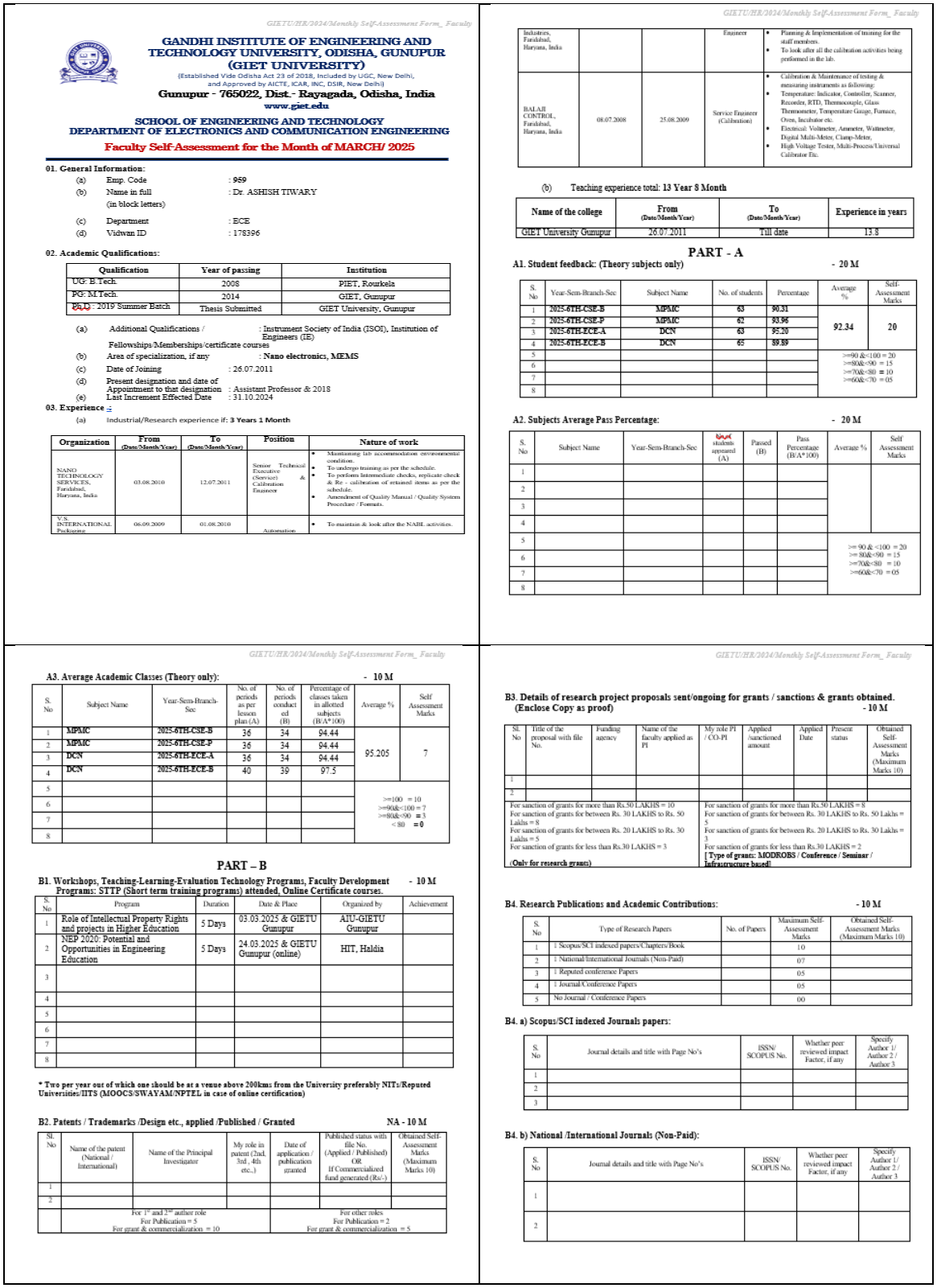
Registrar
GIET UNIVERSITY
GUNUPUR

Memo No. 2447 /GIETU/2021

Copy to:
1. President/Vice President for kind information.
2. Director General/Vice Chancellor for kind Information.
3. Dean (Academic) / Dean (R&D) / Dean (SoET) / Dean (SoA) /Dean (SMS) / HOD-PG Courses (School of Sciences) /HODs of all Departments (School of Engineering)
4. IQAC for information and necessary action
5. Guard file for record.

Assessment Criteria:

Table No.8.2.2: Monthly Appraisal Form



GIETU/HR/2024/Monthly Self-Assessment Form_ Faculty

GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA, GUNUPUR (GIET UNIVERSITY)

(Established Vide Odisha Act 23 of 2018, Included by UGC, New Delhi, and Approved by AICTE, ICAR, INC, DSIR, New Delhi)

Gunupur - 765022, Dist.- Rayagada, Odisha, India

www.giet.edu

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Faculty Self-Assessment for the Month of MARCH/ 2025

01. General Information:

(a) Emp. Code : 959

(b) Name in full (in block letters) : Dr. ASHISH TIWARY

(c) Department : ECE

(d) Vidwan ID : 178396

02. Academic Qualifications:

Qualification	Year of passing	Institution
UG: B.Tech.	2008	PIET, Rourkela
PG: M.Tech.	2014	GIET, Gunupur
PhD : 2019/ Summer Batch	Thesis Submitted	GIET University, Gunupur

(a) Additional Qualifications / Fellowships/Memberships/certificate courses : Instrument Society of India (ISOI), Institution of Engineers (IE)

(b) Area of specialization, if any : **Nano electronics, MEMS**

(c) Date of Joining : 26.07.2011

(d) Present designation and date of Appointment to that designation : Assistant Professor & 2018

(e) Last Increment Effected Date : 31.10.2024

03. Experience :-

(a) Industrial/Research experience if: **3 Years 1 Month**

Organization	From (Date/Month/Year)	To (Date/Month/Year)	Position	Nature of work
NANO TECHNOLOGY SERVICES, Faridabad, Haryana, India	03.08.2010	12.07.2011	Senior Technical Executive (Service) & Calibration Engineer	• Maintaining lab accommodation environmental condition. • To undergo training as per the schedule. • To perform Intermediate checks, replicate check & Re - calibration of retained items as per the schedule. • Amendment of Quality Manual / Quality System Procedure / Formats.
V.S. INTERNATIONAL Packaging	06.09.2009	01.08.2010	Automation	• To maintain & look after the NABL activities.

GIETU/HR/2024/Monthly Self-Assessment Form_ Faculty

Industries, Faridabad, Haryana, India			Engineer	• Planning & Implementation of training for the staff members. • To look after all the calibration activities being performed in the lab.
BALAJI CONTROL, Faridabad, Haryana, India	08.07.2008	25.08.2009	Service Engineer (Calibration)	• Calibration & Maintenance of testing & measuring instruments as following: • Temperature: Indicator, Controller, Scanner, Recorder, RTD, Thermocouple, Glass Thermometer, Temperature Gauge, Furnace, Oven, Incubator etc. • Electrical: Voltmeter, Ammeter, Wattmeter, Digital Multi-Meter, Clamp-Meter, • High Voltage Tester, Multi-Process/Universal Calibrator Etc.

(b) Teaching experience total: **13 Year 8 Month**

Name of the college	From (Date/Month/Year)	To (Date/Month/Year)	Experience in years
GIET University Gunupur	26.07.2011	Till date	13.8

PART - A

A1. Student feedback: (Theory subjects only) - 20 M

S. No	Year-Sem-Branch-Sec	Subject Name	No. of students	Percentage	Average %	Self-Assessment Marks
1	2025-6TH-CSE-B	MPMC	63	90.31	92.34	20
2	2025-6TH-CSE-P	MPMC	62	93.96		
3	2025-6TH-ECE-A	DCN	63	95.20		
4	2025-6TH-ECE-B	DCN	65	89.89		
5					>=90 &<100 = 20 >=80&<90 = 15 >=70&<80 = 10 >=60&<70 = 05	
6						
7						
8						

A2. Subjects Average Pass Percentage: - 20 M

S. No	Subject Name	Year-Sem-Branch-Sec	Students appeared (A)	Passed (B)	Pass Percentage (B/A*100)	Average %	Self Assessment Marks
1							
2							
3							
4							
5						>= 90 & <100 = 20 >=80&<90 = 15 >=70&<80 = 10 >=60&<70 = 05	
6							
7							
8							

GIETU/HR/2024/Monthly Self-Assessment Form_ Faculty

A3. Average Academic Classes (Theory only): - 10 M

S. No	Subject Name	Year-Sem-Branch-Sec	No. of periods as per lesson plan (A)	No. of periods conducted (B)	Percentage of classes taken in allotted subjects (B/A*100)	Average %	Self Assessment Marks
1	MPMC	2025-6TH-CSE-B	36	34	94.44	95.205	7
2	MPMC	2025-6TH-CSE-P	36	34	94.44		
3	DCN	2025-6TH-ECE-A	36	34	94.44		
4	DCN	2025-6TH-ECE-B	40	39	97.5		
5						>=100 = 10 >=90&<100 = 7 >=80&<90 = 3 <80 = 0	
6							
7							
8							

PART – B

B1. Workshops, Teaching-Learning-Evaluation Technology Programs, Faculty Development Programs: STTP (Short term training programs) attended, Online Certificate courses. - 10 M

S. No	Program	Duration	Date & Place	Organized by	Achievement
1	Role of Intellectual Property Rights and projects in Higher Education	5 Days	03.03.2025 & GIETU Gunupur	AIU-GIETU Gunupur	
2	NEP 2020: Potential and Opportunities in Engineering Education	5 Days	24.03.2025 & GIETU Gunupur (online)	HIT, Haldia	
3					
4					
5					
6					
7					
8					

*** Two per year out of which one should be at a venue above 200kms from the University preferably NITs/Reputed Universities/IITS (MOOCS/SWAYAM/NPTEL in case of online certification)**

B2. Patents / Trademarks /Design etc., applied /Published / Granted NA - 10 M

Sl. No	Name of the patent (National / International)	Name of the Principal Investigator	My role in patent (2nd, 3rd , 4th etc.,)	Date of application / publication granted	Published status with file No. (Applied / Published) OR If Commercialized fund generated (Rs/-)	Obtained Self-Assessment Marks (Maximum Marks 10)
1						
2						
	For 1st and 2nd author role For Publication = 5 For grant & commercialization = 10				For other roles For Publication = 2 For grant & commercialization = 5	

GIETU/HR/2024/Monthly Self-Assessment Form_ Faculty

B3. Details of research project proposals sent/ongoing for grants / sanctions & grants obtained. (Enclose Copy as proof) - 10 M

Sl. No	Title of the proposal with file No.	Funding agency	Name of the faculty applied as PI	My role PI / CO-PI	Applied /sanctioned amount	Applied Date	Present status	Obtained Self-Assessment Marks (Maximum Marks 10)
1								
2								

For sanction of grants for more than Rs.50 LAKHS = 10
For sanction of grants for between Rs. 30 LAKHS to Rs. 50 Lakhs = 8
For sanction of grants for between Rs. 20 LAKHS to Rs. 30 Lakhs = 5
For sanction of grants for less than Rs.30 LAKHS = 3
(Only for research grants)

For sanction of grants for more than Rs.50 LAKHS = 8
For sanction of grants for between Rs. 30 LAKHS to Rs. 50 Lakhs = 5
For sanction of grants for between Rs. 20 LAKHS to Rs. 30 Lakhs = 3
For sanction of grants for less than Rs.30 LAKHS = 2
[Type of grants: MODROBS / Conference / Seminar / Infrastructure based]

B4. Research Publications and Academic Contributions: - 10 M

S. No	Type of Research Papers	No. of Papers	Maximum Self-Assessment Marks	Obtained Self-Assessment Marks (Maximum Marks 10)
1	1 Scopus/SCI indexed papers/Chapters/Book		10	
2	1 National/International Journals (Non-Paid)		07	
3	1 Reputed conference Papers		05	
4	1 Journal/Conference Papers		05	
5	No Journal / Conference Papers		00	

B4. a) Scopus/SCI indexed Journals papers:

S. No	Journal details and title with Page No's	ISSN/ SCOPUS No.	Whether peer reviewed impact Factor, if any	Specify Author 1/ Author 2 / Author 3
1				
2				
3				

B4. b) National /International Journals (Non-Paid):

S. No	Journal details and title with Page No's	ISSN/ SCOPUS No.	Whether peer reviewed impact Factor, if any	Specify Author 1/ Author 2 / Author 3
1				
2				

B4. c) Reputed Conference Papers:

S. No	Title with Page No's	International / National Conference	Details of Conference	Specify Author 1/ Author 2 / Author 3
1				
2				

B4. d) Journal / Conference Papers:

S. No	Title with Page No's	International / National Journals Conference	Details of Journal / Conference	Specify Author 1/ Author 2 / Author 3
1				
2				

B5. Proctoring Students Average Value additions: - 10 M

S. No	No. of students allotted for proctoring	Year-Sem-Branch-Sec	No. of students participated in Paper presentations/Posters presentations/Technical exhibitions etc outside the campus (A)	No. of students won prizes (B)	percentage (B/A) *100	Average %	Self-Assessment Marks
1	18	2024-VI-ECE-A & B					
2						For Merely Participation = 5 For winning prize = 5 Nil = 0	
3							
4							
5							

*** 06 different students in a semester to be participated**

Staff Appraisal – Points Earned:

PART A	Students feedback % (20M)	20
	Subjects Average Pass % (20M)	
	Average Academic Class % (10M)	7

3					

C4. Industrial Visits Arranged for the Students

S. No	Name of the Organization visited	Students got exposed to which area of their study	No. of faculty /students benefited	Date of Visit	Remarks
1					
2					
3					

C5. Number of Leaves availed:

CL	AL	OD	Any other Leave
0	0	0	0

C6. Additional responsibilities in the Department / University:

S. No	Responsibility	Assigned by	Duration	Outcome
1	**Convener (SARS Club)**	**Central**	**Aug 2023- onward**	**On-going**
2	**Department representative (T&P)**	**HoD (ECE)**	**July 2023- onward**	**On-going**
3	**Convener (Sports)**	**Central**	**July 2022- onward**	**On-going**
4				

Date: 08/04/2025 **Signature of Faculty**

Note: Faculty members are required to share the soft copy of the filled form along with the supporting documents to their concerned HoD / Dean of School / Principal / HR

	Sum of A	27
PART B	Workshops/ STTP/ FDP/ Online course (10M)	10
	Patents / Trademarks /Design etc., applied /Published / Granted (10M)	-
	Details of research project proposals sent/ongoing for grants / sanctions & grants obtained. (10M)	-
	Research Publications and Academic Contributions (10M)	
	Proctoring Students Average Value additions % (10M)	
	Sum of B	10
TOTAL SUM (A +B)	Total out of (100 M)	37

PART - C

C1. Ph.D. Guidance: (Ph. D holders only)

S. No	Name of the Scholar	Area of Research	Ph. D Registration No	Status
1				
2				
3				
4				
5				

C2. Details of any consultancy work / extension activity undertaken: (Enclose Copy as proof)

S. No	Type of consultancy work (Academic/Industrial)	Name of the consultancy project	Date & Duration	Total cost of the project	Revenue generated (In INR)
1					
2					
3					

C3. Linkages/ MoUs with institutions/industries for internship on-the job Training, project work sharing of research facilities etc.

S. No	Name of the Organization	Nature of linkages	No. of faculty /students benefited	Date	Duration
1					
2					

Table No.8.2.3: Yearly Appraisal Form

GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA, GUNUPUR
(GIET UNIVERSITY)
(Established Vide Odisha Act 23 of 2018, Included by UGC, New Delhi, and Approved by AICTE, ICAR, INC, DSIR, New Delhi)
Gunupur - 765022, Dist.- Rayagada, Odisha, India
www.giet.edu

SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Faculty Self-Assessment for the Year of 2024

01. General Information:

(a) Emp. Code : 2738
(b) Name in full (in block letters) : JITENDRA KUMAR
(c) Department : ECE
(d) Vidwan ID : 312887

02. Academic Qualifications:

Qualification	Year of passing	Institution
UG : B. Tech	2010	HIT Haldia, West Bengal
PG : NA		
Ph.D : Ph.D	2019	IIT Guwahati

(a) Additional Qualifications / Fellowships/Memberships/certificate courses : NA
(b) Area of specialization, if any : VLSI, Nanoelectronics, MEMS
(c) Date of Joining : 10-10-2022
(d) Present designation and date of Appointment to that designation : Assistant Professor (from 10-10-2022)
(e) Last Increment Effected Date : Oct. 2023

03. Experience :-

(a) Industrial/Research experience if any : 2 Year 6 Month

Organization	From (Date/Month/Year)	To (Date/Month/Year)	Position	Experience in years
IIT Guwahati	20/07/2016	24/01/2019	Senior Research Fellow	Establishment of Class-1000 Clean Room for Nano-fabrication of Electronic Devices. Electrical/Electronic characterization Laboratory setup.

(b) Teaching experience total : 3 Year 6 Month

Name of the college	From (Date/Month/Year)	To (Date/Month/Year)	Experience in years
GIET University	10/10/2022	Continue	2 Y 2 Months
NIT Meghalaya	25/01/2019	20/05/2020	1 Y 4 Months

PART - A

A1. Student feedback: (Theory subjects only) - 20 M

S. No	Year-Sem-Branch-Sec	Subject Name	No.of students	Percentage	Average %	Self-Assessment Marks
1	2024-VI-CSE-I	Digital Electronics	62	96.21	~93	20
2	2024-VI-CSE-F	Digital Electronics	62	96.04		
3	2024-V-EE/EEE-A	MPMC	29	89.42		
4	2024-VI-ECE-A	Digital VLSI Design	39	92.30		
5	2024-VI-ECE-B	Digital VLSI Design	38	90.34	>=90 &<100 = 20 >=80&<90 = 15 >=70&<80 = 10 >=60&<70 = 05	
6	2024-VI-CSE-C	MPMC	65	92.79		
7						
8						

A2. Subjects Average Pass Percentage: - 20 M

S. No	Subject Name	Year-Sem-Branch-Sec	No. of students appeared (A)	Passed (B)	Pass Percentage (B/A*100)	Average %	Self-Assessment Marks
1	Digital VLSI Design	2024-VI-ECE-A	39	37	94.87	~95	20
2	Digital VLSI Design	2024-VI-ECE-B	38	36	94.78		
3	MPMC	2024-VI-CSE-C	65	63	96.92		
4							
5						>= 90 & <100 = 20 >= 80& <90 = 15 >=70&<80 = 10 >=60&<70 = 05	

A3. Average Academic Classes (Theory only): - 10 M

S. No	Subject Name	Year-Sem-Branch-Sec	No. of periods as per lesson plan (A)	No. of periods conducted (B)	Percentage of classes taken in allotted subjects (B/A*100)	Average %	Self Assessment Marks
1	Digital Electronics	2024-III-CSE-F	62	62	100	100	10
2	Digital Electronics	2024-VI-ECE-I	58	58	100		
3	MPMC	2024-V-EE/EEE-A	54	54	100		
4	Digital VLSI Design	2024-VI-ECE-A	58	58	100		
5	Digital VLSI Design	2024-VI-ECE-A	58	58	100	>=100 = 10 >=90&<100 = 7 >=80&<90 = 3	
6	MPMC	2024-VI-CSE-C	56	56	100		

						<80 = 0

PART – B

B1. Workshops, Teaching-Learning-Evaluation Technology Programs, Faculty Development Programs: STTP (Short term training programs) attended, Online Certificate courses. - 10 M

S. No	Program	Duration	Date & Place	Organized by	Achievement
1	FDP on DevOps	5 Days	26-30 December 2024, GIET University	GIET University	Successfully completed
2	Hands-on workshop on quantum computing	5 Days	9-13 December 2024, GIET University	AIU-GIET-AADC	Successfully completed
3	IQAC workshop on NAAC Criteria	5 Days	25-29 June 2024, GIET University	GIET University	Successfully completed
4	Train the Trainer Program on Quantum Computing and its Application	5 Days	20-24 June 2024, GIET University	Dept. of CSE	Successfully completed
5	SERB Sponsored Workshop On Quantum Computing and Security	5 Days	15-19 Jan 2024, GIET University	Dept. of ECE & Dept. of CSE	Successfully completed
6					

*** Two per year out of which one should be at a venue above 200kms from the University preferably NITs/Reputed Universities/IITS (MOOCS/SWAYAM/NPTEL in case of online certification)**

B2. Patents / Trademarks /Design etc., applied /Published / Granted - 10 M

Sl. No	Name of the patent (National / International)	Name of the Principal Investigator	My role in patent (2nd, 3rd, 4th etc.,)	Date of application / publication granted	Published status with file No. (Applied / Published) OR If Commercialized fund generated (Rs/-)	Obtained Self-Assessment Marks (Maximum Marks 10)
1						
2						
	For 1st and 2nd author role For Publication = 5 For grant & commercialization = 10			For other roles For Publication = 2 For grant & commercialization = 5		

B3. Details of research project proposals sent/ongoing for grants / sanctions & grants obtained. (Enclose Copy as proof) - 10 M

Sl. No	Title of the proposal with file No.	Funding agency	Name of the faculty applied as PI	My role PI / CO-PI	Applied /sanctioned amount	Applied Date	Present status	Obtained Self-Assessment Marks (Maximum Marks 10)
1	**Development of a Point of Care (POC) device for Lung Cancer Identification using Diagnostic Sonography.**	**ICMR**	**Dr. P. Parida**	**CO-PI**	**~1 Cr**	**18-04-2023**	**Applied**	–
2								

For sanction of grants for more than Rs.50 LAKHS = 10 For sanction of grants for between Rs. 30 LAKHS to Rs. 50 Lakhs = 8 For sanction of grants for between Rs. 20 LAKHS to Rs. 30 Lakhs = 5 For sanction of grants for less than Rs.30 LAKHS = 3	For sanction of grants for more than Rs.50 LAKHS = 8 For sanction of grants for between Rs. 30 LAKHS to Rs. 50 Lakhs = 5 For sanction of grants for between Rs. 20 LAKHS to Rs. 30 Lakhs = 3 For sanction of grants for less than Rs.30 LAKHS = 2 **[Type of grants: MODROBS / Conference / Seminar / Infrastructure based]**
(Only for research grants)	

B4. Research Publications and Academic Contributions: - 10 M

S. No	Type of Research Papers	No. of Papers	Maximum Self-Assessment Marks	Obtained Self-Assessment Marks (Maximum Marks 10)
1	1 Scopus/SCI indexed papers/Chapters/Book	1	10	
2	1 National/International Journals(Non Paid)		07	
3	1 Reputed conference Papers	1	05	
4	1 Journal/Conference Papers		05	
5	No Journal / Conference Papers		00	

B4. a) Scopus/SCI indexed Journals papers:

S. No	Journal details and title with Page No's	ISSN/ SCOPUS No.	Whether peer reviewed impact Factor, if any	Specify Author 1/ Author 2 / Author 3
1	Natural Product Research "Molecular Docking based Comparative Study of Antiviral Compounds on SARS-CoV-2 Spike Protein"	**SCIE 1478-642?**	**Yes, 2.2**	**Author 2 (Corresponding Author)**
2				

B4. b) National /International Journals (Non Paid):

S. No	Journal details and title with Page No's	ISSN/ SCOPUS No.	Whether peer reviewed impact Factor, if any	Specify Author 1/ Author 2 / Author 3
1				

B4. c) Reputed Conference Papers:

S. No	Title with Page No's	International / National Conference	Details of Conference	Specify Author 1/ Author 2 / Author 3
1	Machine Learning and Neural Network based Early Prediction of Corona Virus and Diagnosing the Status of heart diseases	International Conference	IEEE International Conference on Communication, Computing and Signal Processing, IICCCS-2024.	Author 2

B4. d) Journal / Conference Papers:

S. No	Title with Page No's	International / National Journals Conference	Details of Journal / Conference	Specify Author 1/ Author 2 / Author 3
1				

B5. Proctoring Students Average Value additions: - 10 M

S. No	No. of students allotted for proctoring	Year-Sem-Branch-Sec	No. of students participated in Paper presentations/Posters presentations/Technical exhibitions etc outside the campus (A)	No. of students won prizes (B)	percentage (B/A)*100	Average %	Self-Assessment Marks
1	19	2024-IV-ECE-A/B	10	30	80	84	10
2	30	2023-V-CSE-DS/AIML	30	22	88		
3						For Merely Participation = 5 For winning prize = 5 Nil = 0	

*** 06 different students in a semester to be participated**

Staff Appraisal – Points Earned:

PART A	Students feedback % (20M)	20
	Subjects Average Pass % (20M)	20
	Average Academic Class % (10M)	10
	Sum of A	50
PART B	Workshops/ STTP/ FDP/ Online course (10M)	10
	Patents / Trademarks /Design etc., applied /Published / Granted (10M)	
	Details of research project proposals sent/ongoing for grants / sanctions & grants obtained. (10M)	
	Research Publications and Academic Contributions (10M)	10
	Proctoring Students Average Value additions % (10M)	10
	Sum of B	30
TOTAL SUM (A +B)	Total out of (100 M)	80

PART - C

C1. Ph.D. Guidance: (Ph. D holders only)

S. No	Name of the Scholar	Area of Research	Ph.D Registration No	Status
1	**Mr. Ashish Tiwary**	**MEMS**	**19SPHEC-036**	**Completed Ph.D Viva-Voce on 28-09-2024.**
2	**Ms. Nagavarapu Sowmya**	**VLSI**	**19SPHEC-030**	**Ph. D Thesis Submitted. Both report received.**
3	Mr. P. Bala Srinivas	VLSI	19SPHEC-035	Submitted two journal
4				

C2. Details of any consultancy work / extension activity undertaken: (Enclose Copy as proof)

GIETU/HR/2024/Annual Self-Assessment Form_ Faculty

S. No	Type of consultancy work (Academic/Industrial)	Name of the consultancy project	Date & Duration	Total cost of the project	Revenue generated (In INR)
1					

C3. Linkages/ MoUs with institutions/industries for internship on-the job Training, project work, sharing of research facilities etc.

S. No	Name of the Organization	Nature of linkages	No. of faculty /students benefited	Date	Duration
1					

C4. Industrial Visits Arranged for the Students

S. No	Name of the Organization visited	Students got exposed to which area of their study	No. of faculty /students benefited	Date of Visit	Remarks
1					

C5. Number of Leaves availed:

CL	AL	OD	Any other Leave
12.5	0	0	0

C6. Additional responsibilities in the Department / University:

S. No	Responsibility	Assigned by	Duration	Outcome
1	**Project Coordinator 3rd Sem ECE (2023-27)**	**HoD (ECE)**	**July 2024- onward**	**On-going (Out of 20 Project group, 17 group have written the journal/paper, we are going to communicate it shortly)**
2	**Project Coordinator 8th Sem ECE (2020-24)**	**HoD (ECE)**	**Jan 2024 to May 2024**	**Completed**
3	**Project Coordinator 7th Sem ECE (2020-24)**	**HoD(ECE)**	**July 2023 to December 2023**	**Completed**
4				

Jitendra kumar

Date: 06/01/2025 **Signature of Faculty**

Note: Faculty members are required to share the soft copy of the filled form along with the supporting documents to their concerned HoD / Dean of School / Principal / HR

8.3 Improvement in Faculty Qualification/Contribution (15)

(Assessment is based on improvement in qualification and publications with respect to the Department)

Table No.8.3.1: Improvement in qualification and publications

Item	CAYm1 2023-24	CAYm2 2022-23	CAYm3 2021-22
No. of Faculty members with Ph.D. degree	23	22	16
No. of publications in peer reviewed journals	22	12	14
No. of publications in conferences	18	11	14

8.4 Improvement in Academic Performance (10)

(Provide details of improvement in academic performance of 1st year, 2nd year, 3rd year students during the assessment period.)

Table No.8.4.1: Improvement in academic performance

Item	CAYm1 2023-24	CAYm2 2022-23	CAYm3 2021-22
Academic Performance Index (API) of the First- Year Students in the Program (Refer to section 4.3)	7.62	7.21	7.11
Academic Performance Index of the Second-Year Students in the Program (Refer to section 4.4)	7.20	7.18	7.78
Academic Performance Index of the Third Year Students in the Program (Refer to section 4.5)	7.37	7.70	7.89

Criterion 9: Student Support System and Governance (120)

9.1. First-Year Student-Faculty Ratio (FYSFR) (05)

(Data for first-year courses to calculate the FYSFR)

Table No. 9.1.1: 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
CAY 2024-25	1020	51	58	20	((58×0.8) + (20×0.2)) / 51 = 98.82%
CAYm1 2023-24	1050	53	59	21	((59×0.8) + (21×0.2)) / 53 = 96.98%
CAYm2 2022-23	990	50	57	19	((57×0.8) + (19×0.2)) / 50 = 98.80%
Average Percentage					**98.20%**

Note:

> 90% of faculty members; 05 marks.
> 80% to < 90 of faculty members; 04 marks.
> 70% to < 80 of faculty members; 03 marks.
> 60% to < 70 of faculty members; 02 marks.
> 50% to < 60 of faculty members; 01 mark.
< 50% of faculty members; 00 mark.

9.2. Mentoring System (05)

(Type of mentoring: Professional guidance/career advancement/course work specific/ laboratory specific/all-round development. Number of faculty mentors: Number of students per mentor: Frequency of meeting:
The institution should report the details of the mentoring system, its implementation and effectiveness through impact studies, services both online and physical, and the mentoring of seniors (final year students) to juniors (freshmen) if any, etc.).

Type of Mentoring:	All-round development (academic guidance, career counselling, course-specific, laboratory-specific, emotional and psychological support)
Number of Faculty Mentors:	Sufficient to maintain a 1:20 mentor-mentee ratio
Number of Students per Mentor:	20
Frequency of Meetings:	Regularly scheduled one-on-one sessions (minimum once a month) and additional meetings as required
Mode of Mentoring:	Both physical and online platforms
Peer Mentoring:	Final-year students mentor junior students as part of departmental clubs and student chapters

A. Mentoring System - Implementation

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur (GIET University) has implemented a structured and comprehensive mentor-mentee system that plays a pivotal role in the academic and emotional well-being of its students. The system is institutionalized as follows:

- **Mentor/Proctor Allotment:** Every student is assigned a faculty mentor/proctor at the beginning of the academic year. Each mentor/proctor is responsible for guiding up to 20 students, ensuring individual attention and support.
- **Structured Mentoring:** Mentors/proctors meet with students regularly to track their progress in academics, attendance, co-curricular, and extracurricular activities. These sessions are recorded through the institutional ERP system.
- **Monitoring by Coordinators or Supervisors:** A **Mentor Coordinator/Proctor Supervisor** is appointed in each department to monitor, support, and facilitate the mentoring process at the departmental level. To ensure consistency and overall quality, a **Chief Proctor Supervisor** oversees the activities of all departmental proctor supervisors and ensures that the mentoring framework is uniformly and effectively implemented across the university.
- **ERP-Based Documentation:** Performance tracking and mentoring feedback are documented through ERP, ensuring transparency and continuity.
- **Parental Engagement:** Periodic parent–mentor/proctor meetings are held to discuss student progress. Mentors/proctors maintain direct communication with parents, sharing updates and addressing concerns.

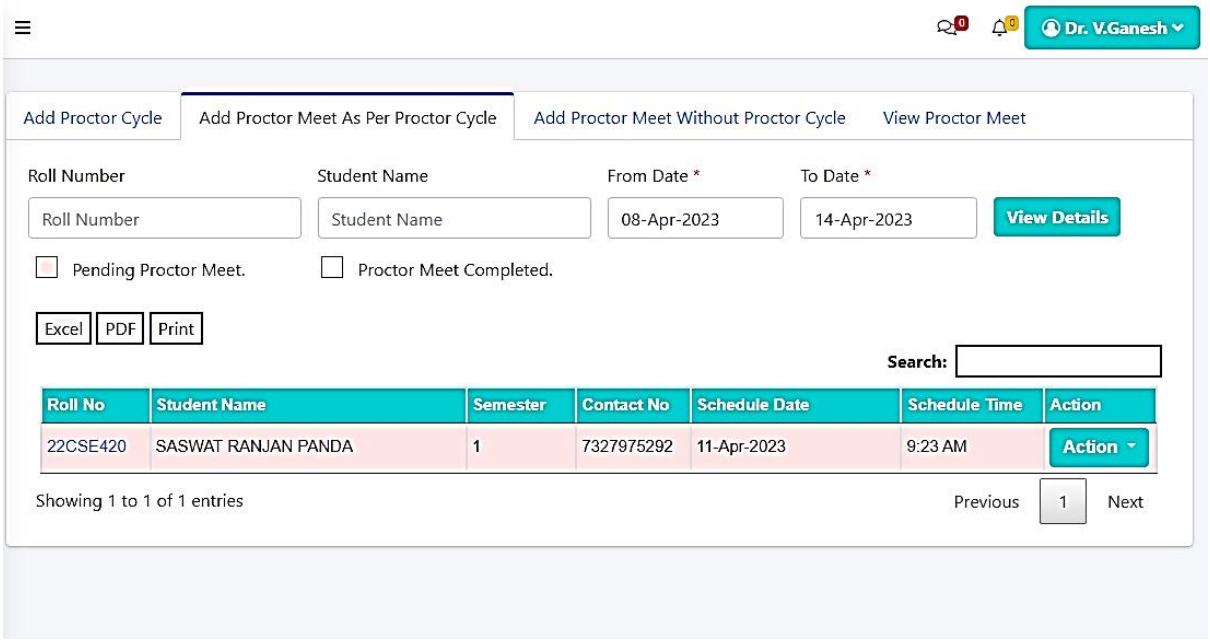


Figure No. 9.2.1: Proctor-student meet: View student as per cycle plan.

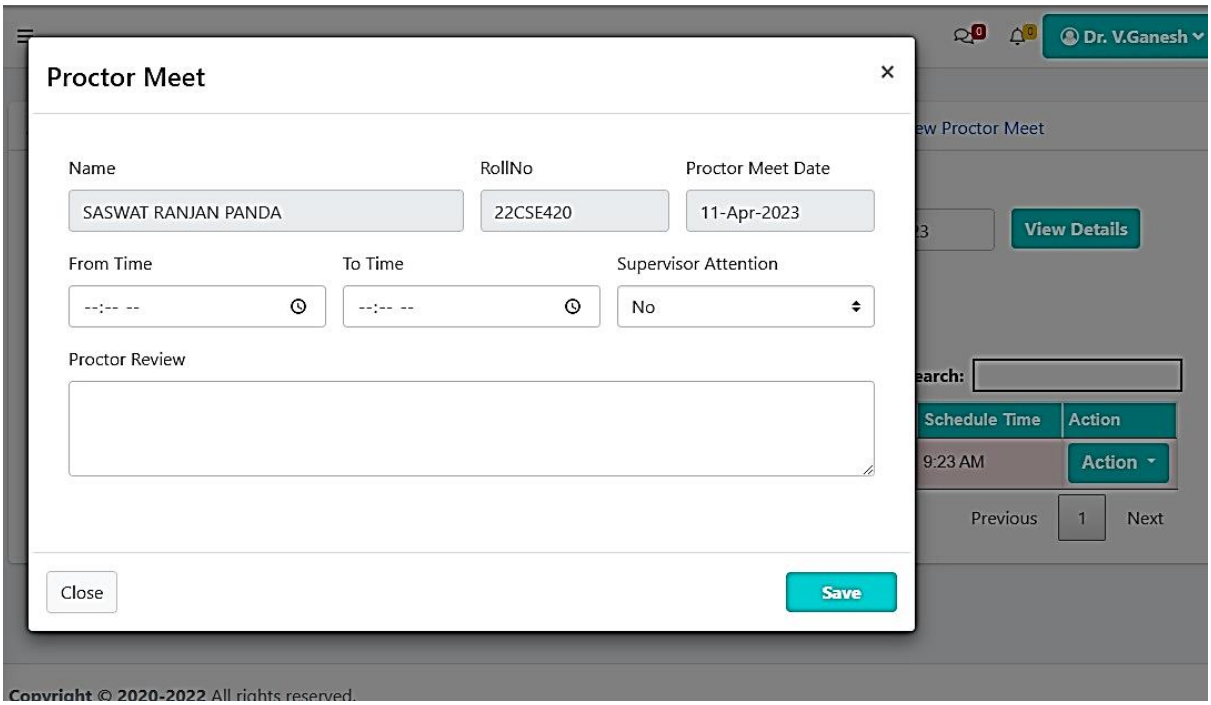


Figure No. 9.2.2: Proctor-student interaction details.

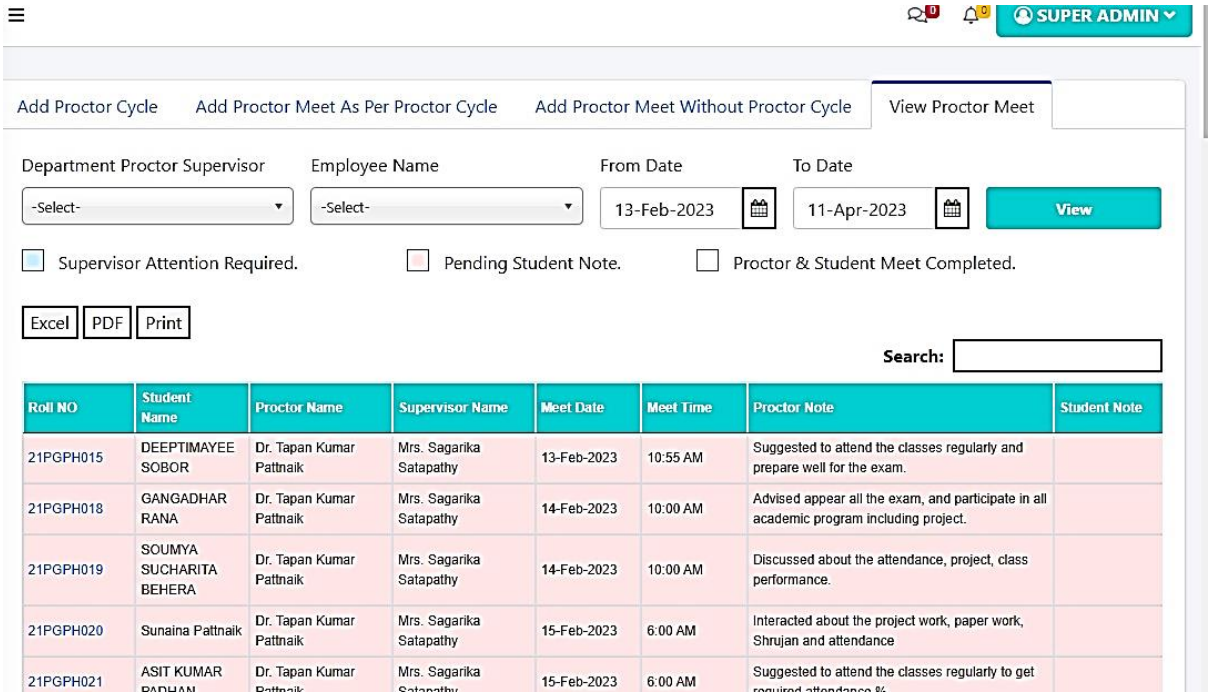


Figure No. 9.2.3: View student interaction details with a proctor.

B. Effectiveness of the Mentoring System

The mentoring system has demonstrated significant positive outcomes in terms of both academic success and personal development:

- **Academic Support:** Mentors/proctors guide students in understanding course content, improving attendance, and aligning their learning goals with long-term career objectives. Students with poor attendance or academic struggles receive timely intervention and counselling.
- **Psychological & Emotional Well-being:** Faculty mentors/proctors act as trusted confidants, creating a secure environment for students to discuss personal and academic issues. This has helped reduce stress and improve emotional resilience among students.
- **Career Advancement & Skill Development:** Mentors/proctors actively encourage participation in value-added programs such as workshops, conferences, training programs, and industry exposure opportunities.
- **Student Feedback & Outcome:** Impact studies through feedback mechanisms show a high level of student satisfaction, improved academic performance, and increased involvement in institutional activities.
- **Peer Mentoring:** Senior students (especially final-year) provide informal mentoring to their juniors through department clubs and student chapters, helping create a collaborative and inclusive learning environment.
- **Holistic Growth:** The mentor-mentee relationship fosters a culture of openness, trust, and mutual respect, contributing to the overall development of students—academically, emotionally, and professionally.

GIET University's dedication to student-centric education is demonstrated by this strong mentoring program. It guarantees that students have the self-assurance and life skills needed to succeed in both their personal and professional lives, in addition to the academic information they need.

9.3. Feedback Analysis (10)

9.3.1. Feedback on Teaching and Learning Process and Corrective Measures Taken, if any (05)

(Provide details of the feedback collection process on TLP, average percentage of students who participate; Specify the feedback analysis process; Basis of reward/ corrective measures during the assessment period. Specify the number of corrective measures taken. Exhibit the details of analysis done.)

A. Feedback Questionnaire Used

The feedback on the Teaching and Learning Process (TLP) is collected using a well-structured questionnaire comprising both quantitative ratings and qualitative comments. The questionnaire is designed to evaluate the following parameters:

- Teaching Effectiveness and Engagement
- Curriculum Relevance and Industry Alignment
- Practical Knowledge and Skill Development
- Availability and Use of Learning Resources
- Responsiveness and Support from Faculty
- Effectiveness of Student Support Services

Sample Feedback form is attached below:

GIET UNIVERSITY GUNUPUR

HUMAN RESOURCES DEPARTMENT

DATE OF FEED BACK							
		Excellent	Very Good	Good	Fair	Poor	
Teacher is punctual and regular							
Level of preparation in the subject							
Teacher speaks clearly and audibly							
Teacher uses Black/White Board ,Power point Presentation and other online tools properly							
Teacher provides examples of concept /Principle	A						
Teacher answers the questions and clarifies the doubts on the subject							
Teacher makes the class interesting , interactive and simulates interest on the subject							
Teacher maintains discipline in the class							
Teacher offers assistance and counselling as and when needed							
Teacher is impartial to all the students							
NO. OF STUDENT							
	TOTAL	0.00					
COMMENTS							

INDUSTRY FEEDBACK FORM- GIET UNIVESITY

We shall very much appreciate and be grateful to you if you can spare some of your valuable time to fill up this feedback form. It will help us to improve the University further and give you better employees in future.

Tick the number that best describes your level of satisfaction at each question:

1 - Far from Satisfied 2 - Not satisfied 3 – Satisfied 4 – Happy 5 - Very Happy

How satisfied are you with the student/s work performance in each of these areas:	**1**	**2**	**3**	**4**	**5**
1. General communication skills					
2. Developing practical solutions to work place problems					
3. Working as part of a team					
4. Creative in response to workplace challenges					
5. Their planning and organization skills					
6. Self-motivated and taking on appropriate level of responsibility					
7. Open to new ideas and learning new techniques					
8. Using technology and workplace equipment					
9. Ability to contribute to the goal of the organization					
10. Technical knowledge/skill					
11. Ability to manage/leadership qualities					
12. Innovativeness, creativity					
13. Relationship with seniors/peers/subordinates					
14. Involvement in social activities					
15. Ability to take up extra responsibility					
16. Obligation to work beyond schedule if required					

Please write Comments/Suggestions to improve Academics/Curriculum and Ambience of the University

Name: Mobile No:

Designation: Email:

Organization Name:

Location: **Signature**

C. Record of Corrective Measures Taken and Impact

Based on the feedback, the institution has implemented several corrective and improvement measures, including:

1. Faculty Development Programs (FDPs):
   - Sessions on Outcome-Based Education (OBE), digital tools, and innovative pedagogies
   - Conducted 12 FDPs in the last three years
2. Curriculum and Content Revisions:
   - Integrated emerging topics such as AI, Data Analytics, Sustainability
   - Introduced industry-aligned electives
3. Learning Support Enhancements:
   - Encouraged MOOCs via NPTEL, SWAYAM, Coursera
   - Offered credit transfers for certified online courses
4. Academic Support for Weak Students:
   - Conducted remedial and bridge courses
   - Personal mentoring by faculty members
5. Industry Integration:
   - Increased project-based learning
   - Facilitated internships and industrial visits
6. Infrastructure Improvements:
   - Upgraded smart classrooms and laboratory equipment
   - Expanded digital library access and study spaces
7. Faculty Accountability:
   - Faculty receiving <80% satisfaction in feedback were counselled and asked for action plans for improvement
   - Monitored progress in the following semester

Conducted workshops for quality Improvement of Faculty Members

9.3.2. Feedback on Academic Facilities (05)

(Provide details of the feedback collection process on facilities, its analysis and corrective actions taken during the assessment period.)

A. Feedback Questionnaire Used

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur (GIET University) utilizes a comprehensive feedback mechanism to gather insights on academic and associated facilities. Feedback is collected through:

- Online**:** Google Forms distributed to final year students and alumni.
- Offline**:** Printed forms administered to students during department events.
- Direct Interactions**:** Verbal feedback through student council meetings, mentor-mentee sessions, and departmental reviews.

The feedback questionnaire includes parameters such as:

- Quality of teaching and departmental engagement
- Laboratory facilities
- Library resources
- Hostel and canteen amenities
- Campus safety and cleanliness
- ICT facilities and infrastructure

B. Frequency of Feedback Collection and Analysis

Feedback is collected throughout the academic year, with additional focus during:

- End-of-semester reviews
- Post-facility upgrades (e.g., new labs, library systems)
- Special events such as workshops and seminars

Analysis Process:

- Data is compiled by the Feedback Analysis Committee.
- Responses are categorized into:
    - Positive feedback (highlighting institutional strengths)
    - Areas needing improvement (triggering corrective actions)

Sample feedback forms:

GIET UNIVERSITY

VISITING ALUMNI FEEDBACK

ESSENTIAL DETAILS

Name			
Date of Birth (DD/MM/YY)	_____ / _____ / _____	Mobile No.	
Year of Passing out		Department	
University Registration No.		Roll No.	
Present Organisation		Designation	
E-mail ID :			
Present Address :			
Permanent Adress :			
Father's Name :		Mobile No.	
Mother's Name :		Mobile No.	

Sl. No.	Statement	Agree	Sometimes	Disagree
1	Do you feel proud to be associated with GIETU as Alumni ?			
2	University organizes various kind of activities for overall development of students ?			
3	Are you willing to contribute in the development of the University ?			
4	University handles Alumni's grievance ?			
5	University is having adequate laboratories and equipment for practical experiences ?			
6	Is education imparted at GIETU is useful and relevant in your present job ?			
7	Have you obtained sufficient technical knowledge (both in theory and practical) ?			

Contd. Pg. 2..

8	Has the T&P Cell provided ample On Campus and Off Campus Placement opportunities ?			
9	Do you like to join the University Alumni Association ?			
10	Is University providing good hospitality as Alumni after passing out ?			
11	Do you recive regular updates from the University through Mails / Calls Etc. ?			

Most Memorable moment in the University:

_____

_____

_____

Suggestion for improvements:

Departments _____

_____

_____

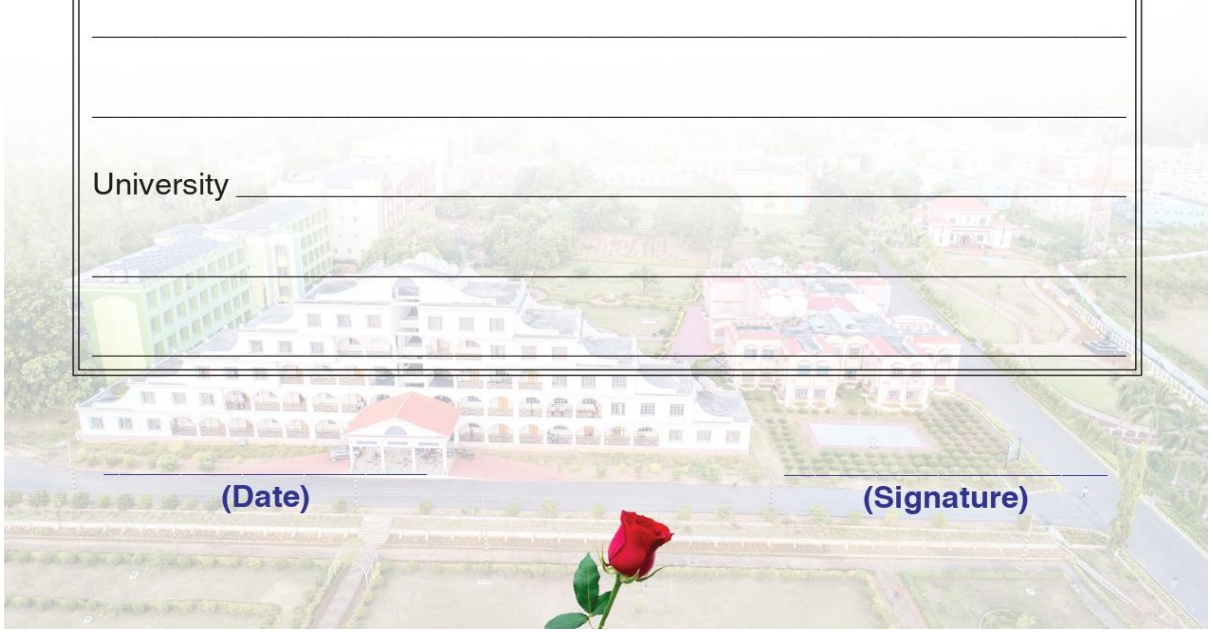
University _____

_____

_____

_____ _____

(Date) (Signature)



C. Record of Corrective Measures Taken

Feedback has been crucial in identifying improvement areas, leading to significant corrective actions. The institution maintains a record of issues, actions taken, and outcomes, as summarized below:

Identified Issue	Corrective Action Taken	Outcome
Projector malfunctions in classrooms	Installed new projectors	Improved classroom engagement
Insufficient computers in Lab	Procured more than 300 new computers; upgraded software over last 3 years	Enhanced practical learning sessions
Poor Wi-Fi in hostels	Increased bandwidth; installed additional routers	Better internet access and speed
Inadequate library resources	Added books, digital journals; introduced IP-based intranet journal access	Broader academic resource access
Infrastructure complaints (washrooms, lighting)	Renovated washrooms, improved ventilation, added lighting fixtures	Safer and more comfortable learning spaces

This structured approach ensures continuous enhancement of academic facilities, based on regular, inclusive feedback and timely interventions.

9.4. Training and Placement Support (10)

(Provide details of the training and placement supports, calendar of scheduled training, career guidance and effectiveness of career guidance, industry interaction exclusively for pre-placement/internship/placement/counselling and support for higher study, etc.)

Gandhi Institute of Engineering and Technology University (GIET University), Gunupur, Odisha, has a well-established and dedicated **Training and Placement Cell (T&P Cell)** aimed at enhancing students' employability, preparing them for industry, and supporting them in achieving their career goals. The T&P Cell serves as a vital link between students and recruiters, offering a comprehensive set of services including technical training, soft skills development, career guidance, placement assistance, and support for higher education.

A. Facilities of Training and Placement Cell

The T&P Cell is supported by modern infrastructure and resources, ensuring seamless execution of training and placement activities:

- A dedicated Training and Placement Office with full-time staff.

- Multiple auditoriums equipped with audio-visual facilities:
    - 1 auditorium with 800 seating capacity
    - 3 auditoriums with 450 seating capacity
    - 4 auditoriums with 200 seating capacity
- Designated interview cabins and group discussion rooms.
- Computer laboratories with internet access for placement-related activities such as online assessments.
- Centralized student database with full access for recruiters and staff.

B. Adequate Staff

The T&P Cell is managed by a competent and experienced team comprising:

- A full-time Training and Placement Officer (TPO) with extensive industry experience.
- Departmental faculty coordinators.
- Administrative staff for logistical and communication support.
- Student volunteers for smooth coordination of training sessions and placement drives.

Team Members:

Sl. No.	Officers Name	Designation
1	Dr. N. V. Jagannadha Rao	Placement Advisor
2	Dr. Jyotirmaya Mishra	Prof- In charge, Training and Placement
3	Dr. Sumita Padhi	Deputy Manager – Corporate Relations
4	Mr. Sanjay Kumar Gouda	Placement Officer
5	Mr. B K Karan	Placement Officer
6	Mr. Mohammed Kashif Ahmed	Placement Officer
7	Mr. Manoj Kumar Pradhan	Placement Officer
8	Mr. Sunil Kumar Nanda	Placement Officer
9	Ms. Renuka Mandal	Junior Placement Officer
10	Mr. Rajiv Lochan Padhi	Senior Manager
11	Mr. Sarita Rani Satapathy	Alumni Officer
12	Mr. Preetam Majhi	Placement Executive

C. Pre-placement Training Activities

The T&P Cell organizes regular pre-placement training sessions to prepare students for recruitment processes. Activities include:

- **Aptitude & Reasoning Training:** Conducted by expert trainers from 3rd year onwards to enhance analytical and problem-solving skills.
- **Soft Skills & Communication:** Personality development, presentation skills, group discussion, and interview skills are emphasized from the 2nd year.
- **Technical Training:** Department-specific training sessions, coding bootcamps, and workshops in collaboration with industry partners.

- **Mock Interviews and Resume Building:** Sessions by HR professionals to simulate real interview scenarios and refine CVs.

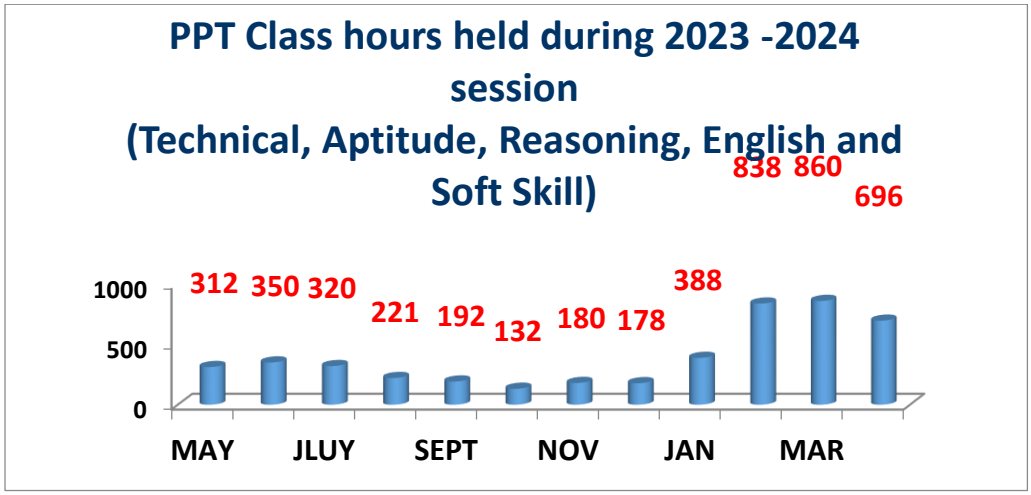
A well-structured Training Calendar is followed, which aligns with academic schedules and upcoming placement seasons.

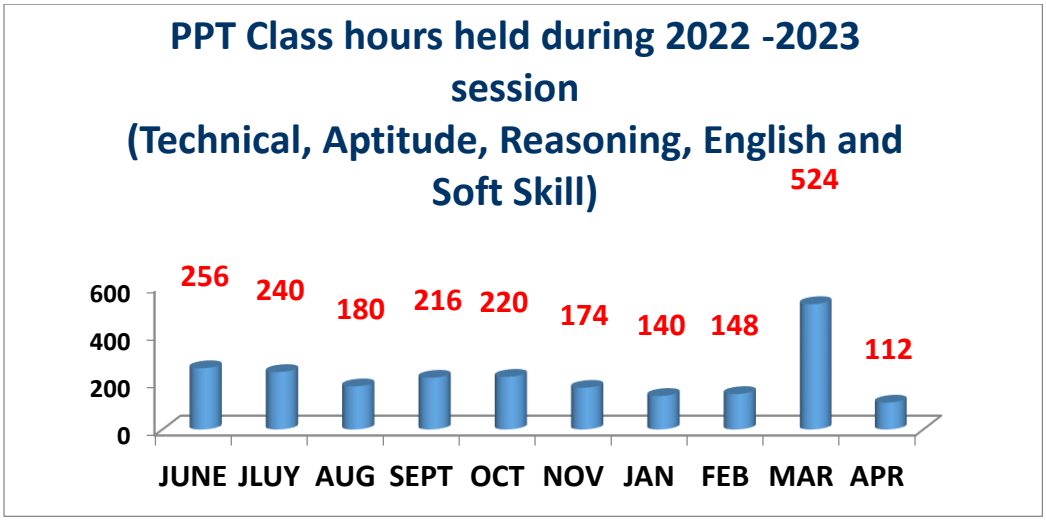
Training Calendar:

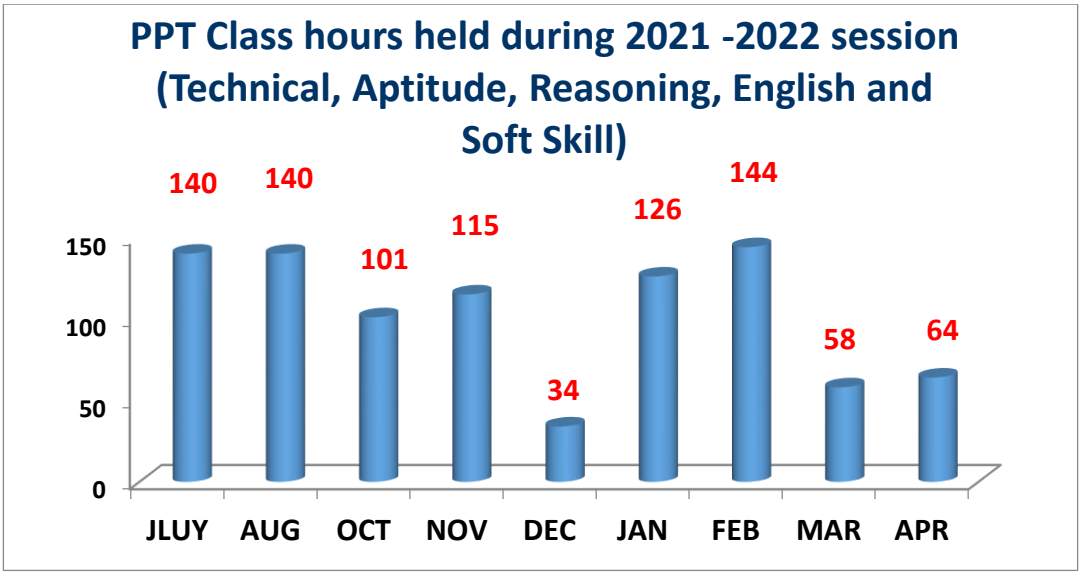
- Placement Cycle: August to April
- Training Periods: June – November and January – April

Pre-Placement Training Hours Delivered:

Year	Duration	Total Hours Delivered
2023-24	06.06.2023- 12.11.2023	1885
	18.01.2024- 08.04.2024	2782
2022-23	06.06.2022- 12.11.2022	1286
	18.01.2023- 08.04.2023	924
2021-22	05.07.2021- 15.12.2021	922
	10.01.2022- 09.04.2022	392

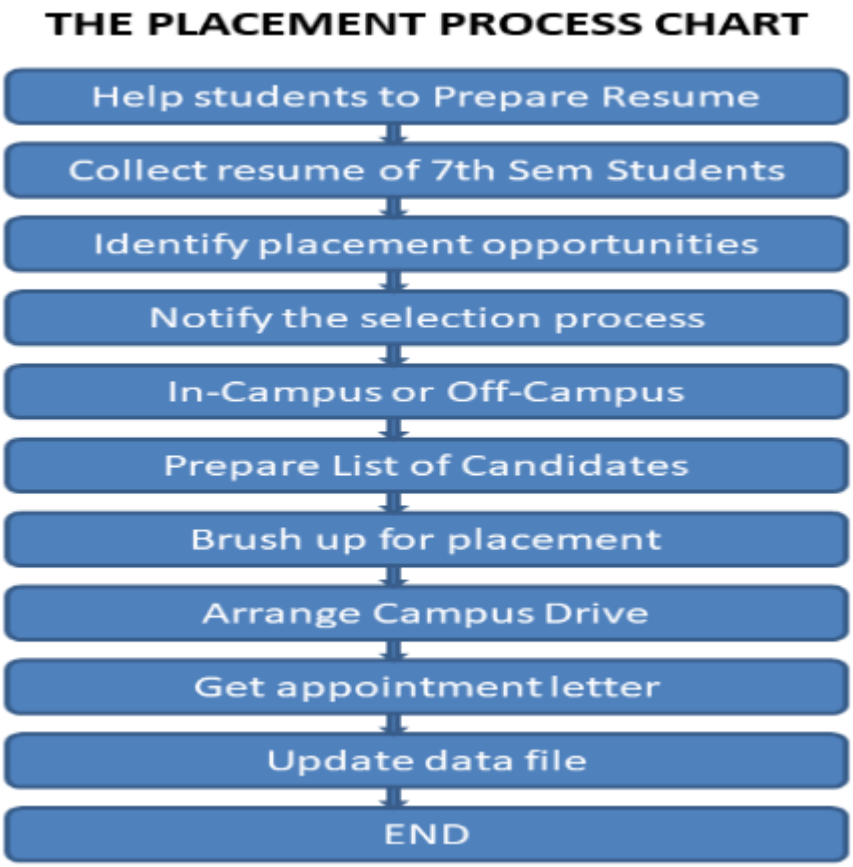






TRAINING PROCESS CHART

Sl No	Year	Training Activities	Training Agency
1	1st Year	Communicative English	External Experts
		Personality Development techniques	External Experts
2	2nd Year	Business English Communication (BEC Vantage)	British Council, Kolkata
		Accent Training	Internal Faculty
		Oracle (SQL / PL SQL) Technology	Internal Faculty
		Summer Training	Visit to Industries
3	3rd Year	Pre Placement Training - Arithmetic, Reasoning, General English	External Experts
		PPT - C, C++, DS, JAVA, DBMS, Linux & OS	Internal Faculty
		GD /PI Techniques, Technology training- Angular React, Node JS, JAVA/ J2EE, Power Builder	External Experts
		Campus Oriented Brush up Sessions	Industry HRs & Experts
		Mock Test / Very Similar Test	Online Web Portal
		Campus Connect Program	Infosys
4	4th Year	Training GAP Analysis	T & P Cell
		Company specifics FAQs - Discussion	External Experts
		HR Meet and Interaction session	Industry Experts
		Recruitment Drives Starts	TCS, Tech Mahindra etc.



D. Career Guidance and Effectiveness

Career counselling is an integral part of the student support system. Activities include:

- **Individual Counselling Sessions:** Provided by faculty mentors and external counsellors to guide students on career options.
- **Workshops/Seminars:** Focused on career opportunities, resume building, interview techniques.
- **Entrepreneurship Support:** Collaboration with the institution's incubation centre to encourage start-up ideas and innovation.

Feedback is regularly collected from students and recruiters to assess and improve the effectiveness of career guidance initiatives.

E. Industry Interaction

To bridge the academia-industry gap, the university encourages strong engagement with industries:

- **Guest Lectures and Expert Talks:** Regularly organized from industry leaders and alumni to share insights on current trends and employability skills.

- **HR Meets and Industry Advisory Sessions:** Annual T&P conclaves with participation from industry leaders, HR managers, and alumni to forecast industry hiring trends.
- **Internship Opportunities:** Facilitated through MoUs with reputed companies to ensure pre-placement exposure.
- **Industry Visits:** Organized to offer real-time exposure to industrial work environments and processes.

F. Support for Higher Studies

GIET University provides dedicated support for students aspiring for higher education:

- Counselling for Higher Education: One-on-one guidance by faculty and external experts regarding courses, institutions, and countries.
- Preparation Support: Coaching sessions for GATE, GRE, TOEFL, IELTS, and other competitive exams.
- Seminars/Webinars: Regularly organized with alumni and academic counsellors to provide insights into study options in India and abroad.
- Library and Digital Resources: Access to preparatory material, past question papers, and online platforms for self-learning.

This comprehensive, structured, and consistent support system helps GIET University students become industry-ready professionals and achieve commendable placements and admissions in top institutions.

9.5. Start-up and Entrepreneurship Activities (05)

(Describe the initiatives, facilities created/utilization and their effectiveness in encouraging students for innovation, entrepreneurship, incubation and start-up. Also, provide the list of beneficiaries.)

The Entrepreneurship Cell / Incubation Cell at ACIC GIETU Foundation consists of the following key components:

ACIC (Atal Community Innovation Centre - GIETU Foundation)

- A start-up incubator supporting innovation, entrepreneurship, and skill development.
- Provides mentorship, funding, training, and networking opportunities.
- Supported by Start-up India Seed Fund Scheme (SISFS) and industry-academia partnerships.

E-YUVA BIRAC

- A biotech-focused incubation program funded by BIRAC (Biotechnology Industry Research Assistance Council).
- Supports start-ups in health-tech, bio-engineering, waste-to-energy, and agricultural bio-innovation.
- Provides financial assistance, mentorship, and research infrastructure.

IncubateX

- A specialized incubator supporting textile-based innovations and sustainable manufacturing solutions.
- Focuses on eco-friendly materials, smart textiles, and innovative production techniques.
- Encourages entrepreneurs in the textile and fashion-tech industry.

Key Events & Training Programs Conducted

The following events and training programs have significantly contributed to building entrepreneurial capacity among students:

- **Entrepreneurship Development Program (EDP):** 12-day mentorship-driven start up program with DIC Rayagada and ACIC experts.
- **IDE Boot Camp (AICTE & MIC):** Innovation and design thinking boot camp at Visakhapatnam and Sambalpur.
- **PROGATI (in collaboration with IIT Ropar):** Start-up networking and funding facilitation program.
- **Skill Development Workshop (IIT TIHAN, Hyderabad):** Training on Secure Robotics & Machine Learning (Jan 6–11, 2025).
- **World Wildlife Week:** Awareness drive aligned with SDGs, focusing on biodiversity and sustainability.
- **Catalyst Innovation Fellowship (CIF) Review Meetings:** Periodic reviews to ensure progress and mentorship for fellows.
- **E-YUVA Biotech Innovation Events:** Domain-specific support for biotech start-ups.

Start-ups & Innovations Supported

Catalyst Innovation Fellowship (CIF):

- **Total Fellows Selected:** 3 (2 active, 1 exited)
- **Community Innovator Fellowship (ACIC):**
    1. **Dr. Golmei Langangmeilu** – *Project:* Low-Cost Cotton Biochar Production & Validation.
    2. **Mr. Hemant Kumar Sahoo** – *Project:* Integrated Green Building Design & Construction.

E-YUVA BIRAC Start-ups:

- Focused on biotech innovations in healthcare, bio-engineering, waste management, and agriculture.
- Startups funded and mentored under the E-YUVA program.

Start-up India Seed Fund Scheme (SISFS):

- Multiple early-stage startups incubated and supported with financial aid, mentorship, and product development facilities.
- Planned expansion includes **on boarding 5 new CIF fellows**.

Funding & Financial Assistance

- ₹1.6 lakh sanctioned per CIF fellow for prototype development.
- SISFS-backed funding provided to eligible start-ups.
- BIRAC grants for biotech-based ventures.
- Collaborative industry-academic funding in deep-tech and sustainability domains.

Student Participation and Beneficiaries

- **73 student groups** engaged in **MSME 4.0** entrepreneurial activities.
- **83 students** participated in the **IDE Bootcamp** program.
- **120 students** expressed active interest in **prototype/model design and development**.

Sl. No.	Description	Name	Date
1	Outreach Events	Narasinghamunda	20.01.2022
		Regada	15.02.2022
		Gadiakhola	25.04.2022
		Pagadabili	27.12.2023
		Bijayapur	27.12.2023
		Entimunigaon	24.01.2024
		Jagannathpur	29.01.2024
		Khalagumuda	29.01.2024
		Pradhaniguda	16.02.2024
		Oxypro Pvt. Ltd, Bikrampur	17.01.2025
2	Ideathons	CAMPUS AMBASSADOR with SELCO Foundation	09.11.2023
		Startup Odisha Yatra 3.0 Boot Camp	14.11.2023
		"SEARCH OF WISDOM" with SELCO Foundation	29.11.2023
		HACK THE HARVEST	20.04.2024
		World Entrepreneurship Day	23.08.2024
		MSME HACKATHON 4.0	29.10.2024 & 30.10.2024
		Pravesh 1.0	27.01.2025
3	Intellectual property Events	World Intellectual Property Day	27.04.2024
4	Capacity Building Programs	Women's Entrepreneurship Summit-2023	25.11.2023
		Valedictory Function of project "SOCH" based on G20 Nations	02.12.2023
		National Startup Day	16.01.2024
		Innovation Talk Series	02.03.2024

		Rayagada Food Processing Conclave	19.07.2024
		World Youth Skills Day	23.07.2024
		Utkarsh Odisha Conclave 2025	09.01.2025
		3D Printing Workshop	12.08.2023
5	Workshop & Training	National Science Day	28.02.2024
		Workshop on 3D Printing	04.03.2024 to 09.03.2024
		New Ideas and Opportunities for Food Processing Sector in Odisha	29.04.2024 to 30.04.2024
		Subham Bio CNG Pvt. Ltd.	25.02.2023 to 24.02.2024
6	Incubated Startup	Analytics Drift	21.12.2022 to 20.12.2023
		Orifebtextile India private limited	22.12.2022 to 21.12.2023
		Azeedo	6.11.2022 to 05.11.2023
		Fingerprint Digital Media	22.12.2022 to 21.12.2023
		Focalpreneur Technologies & Services Pvt. Ltd.	11.12.2024 to 10.12.2026
		ECHRA Innovations Pvt. Ltd.	08.01.2025 to 07.01.2026
		Biomexia Healthcare Pvt. Ltd.	25.11.2024 to 24.11.2026
		Olemus Bioteck Pvt. Ltd.	28.02.2024 to 27.02.2025
		Purewatt Renewables Pvt. Ltd.	08.04.2024 to 07.04.2025

9.6. Governance and Transparency (25)

9.6.1. Availability of the Institutional Strategic Plan and its Effective Implementation and Monitoring (10)

(Provide details of the Institute's strategic plan or Institutional Development Plan (IDP), its approval by the competent authority, and its implementation.)

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur (GIET University) has a well-defined **Institutional Strategic Plan/Institutional Development Plan (IDP)** that outlines its vision, mission, core values, long-term goals, and strategic objectives. The plan has been developed through extensive consultation with stakeholders, including faculty members, students, administrative staff, alumni, and industry partners.

The Strategic Plan focuses on key areas such as:

- Academic Excellence and Curriculum Development
- Research and Innovation
- Infrastructure and Resource Development
- Student Support and Skill Development
- Community Engagement and Social Responsibility
- Governance and Administrative Efficiency

1. Approval by the Competent Authority:

The Institutional Strategic Plan was formally approved by the **Board of Governors/Academic Council** in February 2019. The approval process included:

- Presentation of the draft plan
- Review by the Internal Quality Assurance Cell (IQAC)
- Incorporation of feedback from stakeholders
- Final ratification by the governing body

2. Implementation Mechanism:

To ensure effective implementation, the institution has established a **Strategic Plan Implementation Committee (SPIC)** or equivalent body. Each strategic objective is broken down into actionable goals with defined timelines and responsible units. The implementation is carried out through:

- Annual operational plans
- Departmental and unit-level targets
- Allocation of budgetary resources
- Training and capacity-building programs
- Integration with the institution's Performance-Based Appraisal System

3. Monitoring and Evaluation:

A robust **Monitoring and Evaluation (M&E) framework** has been put in place to track progress. This includes:

- Periodic review meetings (quarterly/bi-annual)
- KPI-based performance measurement
- Internal audits and progress reports
- Feedback loops involving all stakeholders
- Mid-term and end-term reviews of the Strategic Plan

The Internal Quality Assurance Cell (IQAC) plays a central role in monitoring the progress and making necessary adjustments to align with emerging challenges and opportunities.

4. Outcome and Impact:

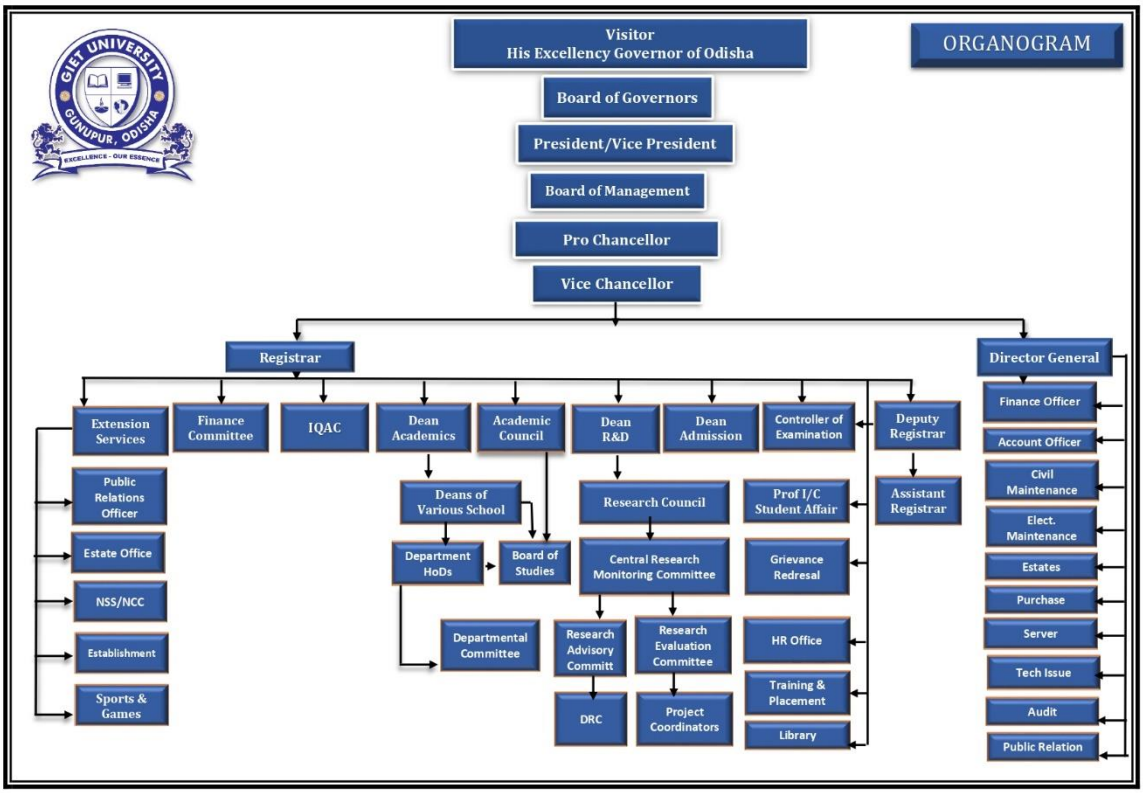
As a result of the Strategic Plan implementation, the institution has seen measurable improvements in academic outcomes, research productivity, student placements, accreditation achievements, and stakeholder satisfaction.

Supporting documents such as the Strategic Plan document, minutes of approval meetings, implementation progress reports, and performance dashboards are maintained and available for verification.

9.6.2. Governing Body, Administrative Setup, Functions of Various Bodies, Service Rules, Recruitment Procedures and Promotion Policies (10)

(Provide details of statutory and non-statutory administrative committees like the Governing body, Academic Council/ Senate, Grievance redressal Committee, IQAC, Anti-Raging committee, Disciplinary committee in place; Internal Complaints Committee (Women harassment mitigation committee), etc., provide the approval of these committees along with details of members, the meetings details (meeting notice, agenda, minutes, action taken, etc. The service rules, policies and procedures; year of publication are to be listed.)

A. Administrative Setup



B. Statutory and Non-Statutory Administrative Committees

Statutory Administrative Committees (Governed by regulatory bodies like UGC, AICTE, etc.)		
Committee	**Purpose / Function / Role**	**Meeting Frequency**
Board of Governors (BoG)	Highest decision-making body; sets vision, policy, governance and overall development strategy.	Quarterly / As needed
Board of Management (BoM)	Executes BoG policies; oversees administration, finance, and HR.	Quarterly
Academic Council	Decides academic policies, curricula, and academic planning.	At least twice a year
Finance Committee	Reviews budgets, financial planning, and expenditure.	Quarterly / Biannually
Planning and Monitoring Board (PMB)	Plans academic and infrastructure growth; monitors implementation.	Quarterly
Board of Studies (BoS)	Designs curriculum, recommends syllabus and course structure.	Biannually / As needed
Internal Quality Assurance Cell (IQAC)	Ensures continuous improvement in academic and administrative performance.	Quarterly
Academic Audit Committee	Reviews academic performance and quality assurance.	Annually
Institutional Ethics Committee	Approves research ethics; ensures compliance with ethical standards.	Quarterly / As needed
Internal Complaint Committee (ICC)	Addresses sexual harassment complaints; ensures a safe working environment.	Quarterly / As required
Grievance Redressal Committee	Handles staff and student grievances impartially.	Monthly / As needed
Anti-Ragging Committee	Prevents and addresses ragging cases in campus.	Quarterly / As required
SC/ST/OBC Cell	Ensures equal opportunity and grievance redressal for reserved categories.	Quarterly / As needed
Right to Information (RTI) Committee	Handles applications under the Right to Information Act.	Monthly / As required
Non-Statutory Administrative Committees		
Committee	**Purpose / Function / Role**	**Meeting Frequency**
Curriculum Development	Designs and reviews curriculum and pedagogy innovations.	Semester-wise / As needed

Committee		
Faculty Development Committee	Plans training, FDPs, workshops for faculty upskilling.	Quarterly / As needed
Feedback and Stakeholder Committee	Collects and analyzes feedback from students, alumni, employers, and faculty for improvement.	Semester-wise
Research Advisory Committee	Provides strategic guidance on research priorities, policies, and quality enhancement.	Biannually / As needed
Research and Development (R&D) Cell	Promotes research activities, funding, and publications.	Monthly / As required
Intellectual Property Rights (IPR) Cell	Encourages patents, copyrights, and innovation protection.	Quarterly / As needed
Entrepreneurship Development Cell (EDC)	Encourages student startups and entrepreneurship initiatives.	Monthly
Innovation and Incubation Cell	Supports prototyping, startup incubation, and innovation.	Monthly
Training and Placement Cell	Facilitates internships, placements, industry training.	Monthly / As needed
Institute Industry Cell	Strengthens collaboration with industries for internships, projects, and lectures.	Quarterly
Career Guidance and Counselling Cell	Guides students on career choices and mental well-being.	Monthly
E-Governance / Digital Transformation Committee	Oversees digital infrastructure and automation.	Quarterly / As required
Website/IT Management Committee	Manages institutional website updates, digital content, hosting, and IT infrastructure.	Monthly / As needed
Editorial/Publication Committee	Oversees newsletters, journals, research proceedings, and other official publications.	Quarterly / As needed
Admission Committee	Manages admission processes, counseling, and criteria.	Admission Season (Annually)
International Relations / Foreign Students Cell	Supports foreign students and global academic collaborations.	Monthly / As needed
Examination Committee	Plans and conducts exams, manages results and evaluation.	Monthly / Per exam cycle
Library Committee	Enhances library resources, policies, and	Quarterly

	infrastructure.	
Students Welfare Committee	Ensures student support services, health, welfare, and well-being.	Monthly
Disciplinary Committee	Maintains discipline, investigates misconduct, and enforces code of conduct.	Monthly / As needed
Mentorship and Counseling Committee	Provides academic and personal mentoring to students.	Monthly / Semester-wise
Green Campus/Sustainability Committee	Implements eco-friendly initiatives, monitors waste management, energy, and water conservation.	Quarterly / As needed
Cultural Committee	Organizes cultural events, fests, and celebrations.	Monthly / Event-based
Sports Committee	Promotes sports activities, events, and fitness.	Monthly / Event-based
NSS/NCC Unit	Manages community service, national cadet corps programs.	Monthly / Event-driven
Alumni Association/Cell	Engages alumni for networking, mentorship, and contributions.	Biannually / Annually
Faculty Club	Promotes faculty bonding, cultural events, and recreation.	Monthly / Quarterly

Board of Governors		
The Board of Governors shall consist of the following members, namely: -		
a)	The President	Dr. Satya Prakash Panda Chairman, Vidya Bharati Educational Trust, Gunupur (*Ex officio* Chairman)
b)	The Vice-President	Dr. Chandra Dhwaj Panda Secretary, Vidya Bharati Educational Trust, Gunupur
c)	The Vice-Chancellor	Prof. (Dr.) A. V. N. L. Sharma
d)	Three persons nominated by the Trust	1. Smt. Pratima Panda
		2. Smt. Basanta Manjari Panda
		3. Dr. Jagadish Panda
e)	Two experts nominated by the State Government	Prof. (Dr.) Chittaranjan Mohanty Principal, Parala Maharaja Engineering College, Berhampur, Odisha
		Prof. (Dr.) Sudeep Kumar Chand

		Professor, Department of Civil Engineering, Indira Gandhi Institute of Technology, Sarang, Dhenkanal, Odisha
f)	One member of the Odisha Legislative Assembly nominated by the Speaker in consultation with the leader of the House and the leader of opposition	Smt. Latika Pradhan Hon'ble MLA, Odisha Legislative Assembly, Bhubaneswar
g)	The Secretary to Government, Skill Development and Technical Education Department	Member *ex officio*
h)	Two Deans of the University by rotation, to be nominated by the President in consultation with the Vice-President	1. Dean, School of Engineering and Technology
		2. Dean, School of Management Studies
i)	One Expert of Finance to be nominated by the President in consultation with the Vice-President	Mr. Sanat Kumar Pattanayak Chartered Accountant, Bhubaneswar
j)	Registrar of the University	Dr. N. V. Jagannadha Rao (*Ex officio* Secretary)

Board of Management		
The Board of Management shall consist of the following members, namely:-		
a)	The Vice-Chancellor of the University	Prof. (Dr.) A. V. N. L. Sharma (*Ex officio* Chairman)
b)	The Registrar of the University	Dr. N. V. Jagannadha Rao (*Ex officio* Secretary)
c)	The Finance Officer of the University	Mr. Sanat Kumar Pattanayak
d)	Two members of the Board of Governors, nominated by the Sponsoring Body	1. Dr. Satya Prakash Panda
		2. Dr. Chandra Dhwaj Panda
e)	Three Deans of the University	1. Dean, School of Engineering and Technology
		2. Dean, School of Sciences
		3. Dean, School of Management Studies
f)	Two senior Professors of the University	1. Dean Academics
		2. Dean R&D

Academic Council		
The Academic Council shall consist of the following members, namely:-		
	Internal Members	
1.	Prof. (Dr.) A. V. N. L. Sharma Vice-Chancellor	*Ex officio* Chairman
2.	Dr. N. V. Jagannadha Rao Registrar	*Ex officio* Secretary
3.	Dr. P. Vijayakumar Controller of Examinations	Member
4.	Dr. G. R. K. D. Satya Prasad Director, R&D and HoD, EE & EEE, SoET	Member
5.	Dr. Dulu Patnaik Dean, SoET	Member
6.	Dr. V. S. Devadas Dean, SoA	Member
7.	Ms. Chanchal Kumari Principal, SoN	Member
8.	Dr. Satya Narayan Das Deputy Dean Academics and HoD, CSA, SoS	Member
9.	Dr. K. Murali Gopal Deputy Dean, Computational Sciences, SoET	Member
10.	Mr. Sibo Prasad Tripathy Deputy Registrar	Member
11.	Dr. Prativa Kar HoD, BSH, SoET	Member
12.	Dr. Manoja Das HoD, BT, SoET	Member
13.	Dr. Suman Mishra HoD, CHE, SoET	Member
14.	Dr. Ashis Kumar Samal HoD, CE, SoET	Member
15.	Dr. Bibhu Prasad HoD, ECE, SoET	Member
16.	Dr. Kali Charan Rath HoD, ME, SoET	Member
17.	Dr. Sachikanta Dash HoD, CSE (2021-2025 Batch), SoET	Member
18.	Dr. Premansu Sekhara Rath HoD, CSE (2022-2026 Batch), SoET	Member
19.	Dr. D. Anil Kumar HoD, CSE (2023-2027 Batch), SoET	Member

20.	Dr. Saumendra Das HoD, SoMS	Member
21.	Dr. B. Rabi Prasad HoD, SoS	Member
22.	Dr. Sadananda Sahoo HoD, SoHSS	Member
23.	Dr. Jyotirmaya Mishra Professor I/C, T&P Cell	Member
24.	Mr. Ashok Kumar Mishra Associate Dean (Administration), SoA	Member
25.	Dr. Ajit Kumar Patro Asst. Registrar (Academics)	Member
26.	Mr. Shakti Prasanna Khadanga Asst. Registrar (IQAC)	Member
27.	Mr. Satya Narayan Sahu Asst. Controller of Examinations	Member
	External Members	
1.	Mr. Ramesh Naidu Director, Invenio Business Solutions Pvt. Ltd., Hyderabad, Telangana	Member
2.	Prof. (Dr.) Siba Sankar Mahapatra Professor, Department of Mechanical Engineering, National Institute of Technology, Rourkela, Odisha	Member
3.	Prof. (Dr.) Siba Kumar Udgata Professor, School of Computer and Information Sciences, University of Hyderabad, Hyderabad, Telangana	Member
4.	Prof. (Dr.) Sarbesh Mishra Professor and Dean - Executive Education, Placements & Industry Engagements, NICMAR University of Construction Studies, Hyderabad, Telangana	Member
5.	Prof. (Dr.) Jaydev Rana Professor, Department of Mechanical Engineering, Veer Surendra Sai University of Technology, Burla, Odisha	Member
6.	Dr. Jami Sagar Prusty, MBBS, MS, Ph.D. Professor and Head, Department of Anatomy, M.K.C.G. Medical College, Berhampur, Odisha	Member
7.	Dr. Lalita Mohan Garnayak Director of Research, Central Agricultural University, Imphal, Manipur (Former Dean, PGF-com-DRI Professor and Head, Department of Agronomy, CoA, OUAT, Bhubaneswar)	Member

8.	Dr. S. Satapathy Principal Scientist (Agricultural Entomology), In-Charge, Division of Crop Protection ICAR-Central Research Institute for Jute and Allied Fibres (ICAR-CRIJAF) Nilgunj, West Bengal	Member

Finance Committee		
The Finance Committee shall consist of the following members, namely:-		
a)	The Vice-Chancellor of the University	Prof. (Dr.) A. V. N. L. Sharma (*Ex officio* Chairman)
b)	The Registrar of the University	Dr. N. V. Jagannadha Rao (*Ex officio* Secretary)
c)	The Finance Officer	Mr. Sanat Kumar Pattanayak Chartered Accountant, Bhubaneswar
d)	Such other members as may be nominated by the Board of Governors	Dr. Satya Prakash Panda President, GIET University
		Dr. Chandra Dhwaj Panda Vice-President, GIET University
		Dr. Jagadish Panda Director General, GIET University
		Mr. Sarat Chandra Panda Accounts Officer, GIET University

Grievance Redressal Committee (GRC)			
Sl. No.	**Name**	**Designation**	**Position**
1	Dr. N. V. Jagannadha Rao	Registrar	Chairperson
2	Dr. P. Vijayakumar	Controller of Examinations	Member
3	Prof. (Dr.) Chittaranjan Mohanty	Principal, Parala Maharaja Engineering College, Berhampur, Odisha	Member
4	Dr. Ranjeet Kumar Panigrahi	Professor I/C, Student Affairs and Grievance Cell	Member
5	Dr. Ashima Sindhu Mohanty	Assistant Professor, Dept. of ECE, SoET	Member
6	Mr. Santosh Kumar Tripathy	Assistant Professor, Dept. of ME, SoET	Member

Internal Quality Assurance Cell (IQAC)	
The composition of the IQAC is as follows:	
Chairperson	
Prof. (Dr.) A. V. N. L. Sharma	Vice-Chancellor
Administrative Officers	
Dr. N. V. Jagannadha Rao	Registrar
Dr. Dulu Patnaik	Dean SoET
Dr. G. R. K. D. Satya Prasad	Director (Research & Development)
Dr. P. Vijayakumar	Controller of Examinations
Dr. Ranjeet Kumar Panigrahi	Professor I/c Student Affairs and Grievance Cell
Management Member	
Dr. Jagadish Panda	Director-General
One of the Senior Teachers as the Coordinator of the IQAC	
Mr. Shakti Prasanna Khadanga	Assistant Professor, Dept. of ME, SoET
One of the Senior Teachers as the Co-coordinator of the IQAC	
Dr. Ajit Kumar Patro	Associate Professor, Dept. of ECE, SoET
External Experts	
Prof. (Dr.) Sarbesh Mishra	Professor and Dean - Executive Education, Placements & Industry Engagements, NICMAR University of Construction Studies, Hyderabad, Telangana
Senior Teachers as Members	
Dr. Laxmipriya Parida	Assistant Professor, Dept. of BSH, SoET
Dr. B. Rabi Prasad	Assistant Professor, Dept. of BT, SoET
Dr. Radha Krushna Padhi	Associate Professor, Dept. of CHE, SoET
Ms. Niharika Patel	Assistant Professor, Dept. of CE, SoET
Dr. Bidush Kumar Sahoo	Associate Professor, Dept. of CSE, SoET
Mr. Bhabani Sankar Panda	Assistant Professor, Dept. of CSE, SoET
Dr. Srikant Misra	Associate Professor, Dept. of EE, SoET
Dr. Ranjita Rout	Assistant Professor, Dept. of ECE, SoET
Dr. Sasank Shekhar Panda	Assistant Professor, Dept. of ME, SoET
Dr. Jnana Raghavendra I	Associate Professor, SoMS
Dr. Biplab Kumar Rath	Associate Professor, SoS
Dr. Bhramara Bar Biswal	Assistant Professor, Dept. of CSA, SoS
Dr. Rajeswari Das	Assistant Professor, SoAg
Mr. Kotha Ratan Kumar	Assistant Professor, SoN

Industrial Nominee	
Mr. Tridip Sarma	AGM, Patel Engineering Ltd., Mumbai, Maharashtra
Local Society Nominee	
Mr. K P Bebarta	Agriculturalist & Environmentalist
Alumni Nominee	
Mr. Julen Mohanty	Sr. Director, CTS
Student Members	
Mr. Ayush Sharma	Student
Ms. Rupali Panda	Student

Anti-Ragging Committee			
Sl. No.	**Name**	**Designation**	**Position**
1	Dr. N. V. Jagannadha Rao	Registrar	Convener
2	Dr. Ranjeet Kumar Panigrahi	Professor I/C, Student Affairs & Grievance Cell	Co-Convener
3	Mr. Ajay Barik	SDPO, Gunupur	Member
4	Dr. G. R. K. D. Satya Prasad	Director, R&D and HoD, EE & EEE, SoET	Member
5	Dr. Dulu Patnaik	Professor and Dean, SoET	Member
6	Dr. V. S. Devadas	Professor and Dean, SoA	Member
7	Dr. Satya Narayan Das	Deputy Dean Academics and HoD, CSA, SoS	Member
8	Dr. K. Murali Gopal	Deputy Dean, Computational Sciences, SoET	Member
9	Dr. Prativa Kar	Associate Professor and HoD, BSH, SoET	Member
10	Dr. Manoja Das	Associate Professor and HoD, BT, SoET	Member
11	Dr. Suman Mishra	Associate Professor and HoD, CHE, SoET	Member
12	Dr. Ashis Kumar Samal	Associate Professor and HoD, CE, SoET	Member
13	Dr. Bibhu Prasad	Associate Professor and HoD, ECE, SoET	Member
14	Dr. Kali Charan Rath	Associate Professor and HoD, ME, SoET	Member
15	Dr. Sachikanta Dash	Associate Professor and HoD, CSE (2021-2025 Batch), SoET	Member
16	Dr. Premansu Sekhara Rath	Associate Professor and HoD, CSE (2022-2026 Batch), SoET	Member
17	Dr. D. Anil Kumar	Associate Professor and HoD, CSE	Member

		(2023-2027 Batch), SoET	
18	Dr. Saumendra Das	Associate Professor and HoD, SoMS	Member
19	Dr. B. Rabi Prasad	Associate Professor and HoD, SoS	Member
20	Dr. Jyotirmaya Mishra	Professor I/C, T&P Cell	Member
21	Mr. Ashok Kumar Mishra	Associate Dean (Administration), SoA	Member
22	Dr. Rinny Swain	Associate Professor, SoA	Member
23	Mrs. K. Jayashree	Professor, SoN	Member
24	Mr. Kotha Ratan Kumar	Assistant Professor, SoN	Member
25	Mr. Rabindra Kumar Panda	Sports Officer	Member
26	Mr. Raghunath Panda	HR Officer	Member
27	Mr. Sunkari Sibajee	Law Officer	Member
28	Mr. Durga Prasad Rath	SEO	Member
29	Mr. Kali Prasad Pattanaik	Warden (Campus Hostels)	Member
30	Mr. Ashok Kumar Mohapatra	Warden (Town Hostels)	Member
31	Mr. Maheswar Mohapatra	Parent	Member

Disciplinary Committee			
Sl. No.	**Name**	**Designation**	**Position**
1	Dr. Srikant Misra	Associate Professor, Dept. of EE, SoET	Convener
2	Mr. Nalinikanta Panda	Assistant Professor, Dept. of ME, SoET	Co-convener
3	Dr. Tapas Ranjan Panigrahi	Assistant Professor, Dept. of BSH, SoET	Member
4	Dr. Prakash Ranjan Sahoo	Assistant Professor, Dept. of CE, SoET	Member
5	Mr. Santosh Kumar Panda	Assistant Professor, Dept. of CSE, SoET	Member
6	Mrs. Archana Patnaik	Assistant Professor, Dept. of CSE, SoET	Member
7	Mr. Balaram Das	Assistant Professor, Dept. of EE, SoET	Member
8	Mrs. Swati Gouda	Assistant Professor, Dept. of EE, SoET	Member
9	Mr. Biswa Mohan Panda	Assistant Professor, Dept. of ECE, SoET	Member
10	Ms. Sandhyarani Swain	Teaching Assistant, Dept. of ECE, SoET	Member

11	Dr. Smruti Rekha Sahoo	Assistant Professor, SoMS	Member
12	Mr. Girija Sankar Pradhan	Assistant Professor, SoMS	Member
13	Dr. Swastik Behera	Assistant Professor, Dept. of LS, SoS	Member
14	Mrs. Priyanka Sahu	Assistant Professor, Dept. of CHEM, SoS	Member
15	Ms. Lipsa Mishra	Assistant Professor, Dept. of CSA, SoS	Member
16	Mrs. Sucharita Panda	Assistant Professor, SoA	Member
17	Dr. Prateek Ranjan Behera	Assistant Professor, SoA	Member
18	Ms. T. Priyanka	Assistant Professor, SoN	Member
19	Mr. Siddharth Sahoo	Tutor, SoN	Member

Internal Complaints Committee (ICC)			
Sl. No.	**Name**	**Designation**	**Position**
1	Dr. Prativa Kar	Associate Professor and HoD, Dept. of BSH, SoET	Convener
2	Dr. Suman Mishra	Associate Professor and HoD, Dept. of CHE, SoET	Member
3	Dr. Rinny Swain	Associate Professor, SoA	Member
4	Dr. Rashmita Panigrahi	Assistant Professor, Dept. of CSE, SoET	Member
5	Ms. Ghanistha Prusty	Assistant Professor, Dept. of LS, SoS	Member
6	Dr. Ranjita Rout	Assistant Professor, Dept. of ECE, SoET	Member
7	Mrs. Manasi Choudhury	Asst. HR Officer	Member
8	Mrs. Sujata Mishra	Office Assistant	Member
9	Dr. Ranjeet Kumar Panigrahi	Professor I/C, Student Affairs and Grievance Cell	Member
10	Mr. Uttam Kumar Sahoo	IIC, Gunupur	Member
11	Mr. Kali Prasad Pattanaik	Warden	Member
12	Mr. Sunkari Sibajee	Law Officer	Member
13	Mr. Durga Prasad Rath	NGO Swabalamban	Member
14	Mr. Saroj Sathpathy	Student	Member
15	Ms. Divya Bharati Kerketa	Student	Member
16	Ms. Bhawani Sahu	Student	Member

SC/ST/OBC Cell

Sl. No.	Name	Designation	Position
1	Dr. Nilambar Sethi	Associate Professor, Dept. of CSE, SoET	Convener
2	Dr. Bibhu Prasad	Assistant Professor, Dept. of ECE, SoET	Member
3	Mr. B. Vikram Anand	Assistant Professor, Dept. of EE, SoET	Member
4	Mr. P. Sudheer Babu	Assistant Professor, Dept. of CSE, SoET	Member
5	Ms. Manaswini Nagabansa	Assistant Professor, Dept. of CSA, SoS	Member
6	Mr. Dara Venugopal	Assistant Professor, Dept. of BSH, SoET	Member
7	Dr. Tarapatla Lokeswara Rao	Associate Professor, SoMS	Member
8	Mr. R. Chandramohan	Assistant Professor, Dept. of CSE, SoET	Member
9	Ms. T. Priyanka	Assistant Professor, SoN	Member
10	Ms. Renuka Mandal	Assistant Professor, Dept. of BSH, SoET	Member

9.6.3. Transparency (05)

(Information on policies, rules, processes, delegation of financial powers, faculty, students, etc., and dissemination of this information to stakeholders should be made available on the Institute's website. Agendas and minutes of the Governing Body, Academic Council, and Senate are also required to be uploaded on the Institute's website. Additionally, state the extent of awareness among the stakeholders.)

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur (GIET University) is committed to upholding the highest standards of transparency in its governance, academic, and administrative functions. The following measures are in place to ensure that all stakeholders have easy access to critical information:

A. Mandatory Disclosure as per UGC/AICTE/AISHE on the Institute Website

GIET University strictly adheres to the guidelines laid down by statutory bodies such as UGC, AICTE, and AISHE. All mandatory disclosures, including institutional data, faculty details, program offerings, student intake, infrastructure, and financial information, are regularly updated and made available on the official Institute website. These disclosures comply with the formats and timelines specified by the respective authorities.

B. Availability of Policies, Rules, and Processes on the Institute's Website

All GIET University policies - including academic regulations, examination rules, grievance redressal mechanisms, financial delegation powers, and administrative procedures are accessible through the Institute's website. These documents are updated periodically to reflect changes and improvements and are structured for ease of understanding by students, faculty, parents, and other stakeholders.

Additionally, agendas and minutes of key decision-making bodies such as the Board of Governors, Board of Management, Academic Council, Board of Studies, and Finance Committee are published on the website to promote institutional transparency and accountability.

Awareness Among Stakeholders

Stakeholders are made aware of these resources through orientation programs, newsletters, emails, regular meetings, and announcements. Feedback from faculty, students, and parents indicates a high level of awareness and satisfaction regarding the transparency and availability of institutional information.

9.7. Budget Allocation, Utilization, and Public Accounting at Institute Level (12)

(Provide a summary of the financial year's budget and actual expenditure incurred exclusively for the institution in the three financial years: CFYm1, CFYm2, and CFYm3. If the management oversees multiple Institutions, exclusive audited records for each Institute must be provided and made available on the Institute's website. The budget should be approved by the Institute BoG/GB/GC before the start of the financial year.)

CFY=Current Financial Year.
CFYm1=Current Financial Year Minus 1.
CFYm2=Current Financial Year Minus 2.
CFYm3=Current Financial Year Minus 3.

For CFYm1 [2023-24]

Table No. 9.7.1: Summary of budget and actual expenditure incurred at Institute level for CFY m1 [2023-24].

Total Income in the CFYm1 [2023-24]: ₹ 1,27,03,06,936				**Actual expenditure in the CFYm1 [2023-24]**	**Total Students in the institute**	**Expenditure per student in CFYm1 [2023-24]:**
Fee	**Govt.**	**Grant(s)**	**Other Sources** (Rent/ Interest/ Consultancy/ Misc./ Funds from Trust A/C)			
₹ 1,01,85,46,477	₹ 2,45,04,041	₹ 25,00,000	₹ 22,47,56,418	₹ 1,29,05,49,412	3,432	₹ 94,000

For CFYm2 [2022-23]

Table No. 9.7.2: Summary of budget and actual expenditure incurred at Institute level for CFY m1 [2022-23].

Total Income in the CFYm1 [2022-23]: ₹ 1,42,56,10,396				**Actual expenditure in the CFYm1 [2022-23]**	**Total Students in the institute**	**Expenditure per student in CFYm1 [2022-23]:**
Fee	**Govt.**	**Grant(s)**	**Other Sources** (Rent/ Interest/ Consultancy/ Misc./ Funds from Trust A/C)			
₹ 1,04,02,93,200	₹ 48,17,500	₹ 20,00,000	₹ 37,84,99,696	₹ 1,32,70,35,602	3,813	₹ 87,000

For CFYm3 [2021-22]

Table No. 9.7.3: Summary of budget and actual expenditure incurred at Institute level for CFY m1 [2021-22].

Total Income in the CFYm1 [2021-22]: ₹ 1,02,24,29,006				**Actual expenditure in the CFYm1 [2021-22]**	**Total Students in the institute**	**Expenditure per student in CFYm1 [2021-22]:**
Fee	**Govt.**	**Grant(s)**	**Other Sources** (Rent/ Interest/ Consultancy / Misc./ Funds from Trust A/C)			
₹ 77,92,45,380	₹ 2,02,81,912	₹ 22,00,000	₹ 22,07,01,714	₹ 98,27,01,194	3,193	₹ 77,000

Note:

❖ Audited statements for CFYm1, CFYm2, and CFYm3 are to be uploaded on the website.

Table No. 9.7.2: Budget and actual expenditure incurred at Institute level.

Items	**Budgeted in CFY 2024-25**	**Actual expenses in CFY 2024-25 (till 31-04-2025)**	**Budgeted in CFYm1 2023-24**	**Actual Expenses in CFYm1 2023-24**	**Budgeted in CFYm2 2022-23**	**Actual Expenses in CFYm2 2022-23**	**Budgeted in CFYm3 2021-22**	**Actual Expenses in CFYm3 2021-22**
Infrastructure Built-Up	₹ 18,00,00,000	₹ 17,96,84,562	₹ 17,80,00,000	₹ 17,85,83,755	₹ 17,00,00,000	₹ 15,98,02,552	₹ 14,00,00,000	₹ 13,29,73,621
Library	₹ 1,80,00,000	₹ 1,74,56,845	₹ 1,75,00,000	₹ 1,75,94,212	₹ 1,65,00,000	₹ 1,65,14,702	₹ 14,00,000	₹ 1,36,87,960
Laboratory equipment	₹ 7,85,00,000	₹ 7,87,12,968	₹ 7,60,00,000	₹ 7,58,59,941	₹ 7,10,00,000	₹ 7,04,57,118	₹ 4,00,00,000	₹ 3,98,12,746
Teaching and non-teaching staff salary	₹ 57,00,00,000	₹ 54,18,19,856	₹ 56,50,00,000	₹ 53,57,68,609	₹ 54,00,00,000	₹ 51,49,79,902	₹ 44,00,00,000	₹ 43,72,59,068

Outreach Programs	₹ 11,00,00,000	₹ 10,87,54,633	₹ 10,00,00,000	₹ 10,37,23,924	₹ 9,75,00,000	₹ 9,65,28,283	₹ 6,75,00,000	₹ 6,86,76,182
R&D	₹ 1,00,00,000	₹ 98,78,653	₹ 1,00,00,000	₹ 93,16,403	₹ 1,00,00,000	₹ 98,31,601	₹ 96,00,000	₹ 93,27,389
Training, Placement and Industry linkage	₹ 1,25,00,000	₹ 1,21,14,728	₹ 1,00,00,000	₹ 1,02,80,615	₹ 1,55,00,000	₹ 1,54,95,447	₹ 1,45,00,000	₹ 1,41,49,260
SDGs	₹ 1,95,00,000	₹ 1,94,52,628	₹ 1,90,00,000	₹ 1,66,52,968	₹ 1,90,00,000	₹ 1,87,85,011	₹ 1,85,00,000	₹ 1,39,69,631
Entrepreneurship	₹ 1,00,00,000	₹ 98,47,546	₹ 95,00,000	₹ 90,95,173	₹ 85,00,000	₹ 84,15,484	₹ 80,00,000	₹ 79,14,546
Others, (Repair maint. / fees /other capital assets /student expenditure	₹ 22,50,00,000	₹ 22,87,35,442	₹ 23,50,00,000	₹ 21,53,40,665	₹ 27,20,00,000	₹ 27,02,03,514	₹ 24,00,00,000	₹ 21,08,05,608
Total Amount	**₹ 1,23,35,00,000**	**₹ 1,20,64,57,861**	**₹ 1,22,00,00,000**	**₹ 1,17,22,16,265**	**₹ 1,22,00,00,000**	**₹ 1,18,10,13,614**	**₹ 97,95,00,000**	**₹ 94,85,76,011**

9.8. Program Specific Budget Allocation, Utilization (08)

(Total budget at program level: CFYm1, CFYm2 & CFYm3
CFY=Current Financial Year.
CFYm1=Current Financial Year Minus 1.
CFYm2=Current Financial Year Minus 2.
CFYm3=Current Financial Year Minus 3.)

For CFYm1 [2023-24]

Table No. 9.8.1: Summary of budget and actual expenditure incurred at program level for CFYm1 [2023-24].

Total Budget in CFYm1: ₹ 3,84,15,780		**Actual expenditure in CFYm1:** ₹ 3,40,40,152		**Total No. of students in CFYm1**: 370
Demanded	**Actual Allocated**	**Actual Expenditure**	**% Spent**	**Expenditure per student**
₹ 3,90,00,000	₹ 3,84,15,780	₹ 3,40,40,152	88.61	₹ 92,000

For CFYm2 [2022-23]

Table No. 9.8.2: Summary of budget and actual expenditure incurred at program level for CFYm2 [2022-23].

Total Budget in CFYm2: ₹ 3,48,32,800		**Actual expenditure in CFYm2:** ₹ 3,36,58,997		**Total No. of students in CFYm2**: 374
Demanded	**Actual Allocated**	**Actual Expenditure**	**% Spent**	**Expenditure per student**
₹ 3,50,00,000	₹ 3,48,32,800	₹ 3,36,58,997	96.63	₹ 87,000

For CFYm3 [2021-22]

Table No. 9.8.3: Summary of budget and actual expenditure incurred at program level for CFYm3 [2021-22].

Total Budget in CFYm3: ₹ 3,37,56,000		**Actual expenditure in CFYm3:** ₹ 3,21,19,895		**Total No. of students in CFYm3** : 365
Demanded	**Actual Allocated**	**Actual Expenditure**	**% Spent**	**Expenditure per student**
₹ 3,40,00,000	₹ 3,37,56,000	₹ 3,21,19,895	95.15	₹ 84,000

Note: Justification and process of budgeting to be listed.

Table No. 9.8.2: Budget and actual expenditure incurred at program level.

Items	**Budgeted in CFY (2024-25)**	**Actual expenses in CFY 2024-25 (till 31-03-25)**	**Budgeted in CFYm1 2023-24**	**Actual Expenses in CFYm1 2023-24**	**Budgeted in CFYm2 2022-23**	**Actual Expenses in CFYm2 2022-23**	**Budgeted in CFYm3 2021-22**	**Actual Expenses in CFYm3 2021-22**
Laboratory equipment	₹ 29,00,000	₹ 28,14,276	₹ 26,00,000	₹ 24,57,089	₹ 26,00,000	₹ 25,04,716	₹ 25,00,000	₹ 24,64,765
Software	₹ 4,50,000	₹ 4,32,500	₹ 4,00,000	₹ 3,98,700	₹ 4,00,000	₹ 3,75,800	₹ 3,50,000	₹ 3,38,500
SDGs	₹ 11,00,000	₹ 10,86,315	₹ 9,50,000	₹ 9,87,564	₹ 9,50,000	₹ 9,12,817	₹ 8,50,000	₹ 8,42,745
Support for faculty development	₹ 3,00,000	₹ 2,97,300	₹ 2,50,000	₹ 2,42,596	₹ 2,50,000	₹ 2,01,184	₹ 2,00,000	₹ 1,77,564
R & D	₹ 4,00,000	₹ 3,96,758	₹ 4,00,000	₹ 4,14,136	₹ 3,50,000	₹ 3,14,318	₹ 3,00,000	₹ 2,96,482

Industrial Training, Industry expert, Internship	₹ 4,50,000	₹ 3,95,476	₹ 3,25,000	₹ 3,14,936	₹ 3,15,000	₹ 3,07,219	₹ 2,50,000	₹ 2,38,652
Miscellaneous expenses (seminar/ Workshop /Lab consumable & maint.\, Overhead & other misc. / Library & other exp.	₹ 58,00,000	₹ 57,36,948	₹ 55,00,000	₹ 53,97,549	₹ 55,00,000	₹ 54,76,142	₹ 53,00,000	₹ 52,76,522
Total amount	**₹ 1,14,00,000**	**₹ 1,11,59,573**	**₹ 1,04,25,000**	**₹ 1,02,12,570**	**₹ 1,03,65,000**	**₹ 1,00,92,196**	**₹ 97,50,000**	**₹ 96,35,230**

9.9. Quality of Learning Resources (Hard/Soft) (05)

(Provide details of available learning resources, including e-resources (books and journals), as well as information on the accessibility of these resources to students. Additionally, describe the support provided to students for self-learning activities.)

GIET University offers a comprehensive array of learning resources, both in hard and soft formats, to support students' academic and self-learning needs.

A. Availability of Relevant E-Learning Resources of the Program

GIET University provides access to a wide range of e-learning resources relevant to the program. These include:

- **E-books and online journals** through subscriptions to databases such as **Science Direct, NPTEL etc**.
- course materials, recorded lectures, assignments, and quizzes for all subjects are being hosted in the University Website.
- Access to **virtual labs**, simulation software, and subject-specific tools (e.g., MATLAB, AutoCAD, Python IDEs, etc.), depending on the discipline.
- **Digital library services** allow students to access thousands of academic titles across disciplines.

B. Accessibility of Learning Resources to Students

Students have 24/7 access to all digital learning resources through institutional login credentials. Key features include:

- **Remote access** to e-resources via the institution's digital portal, allowing learning from anywhere.
- A well-equipped **central library** with high-speed internet, e-reading terminals, and dedicated support for accessing e-journals and databases.
- **Departmental resource centers** provide subject-specific books, project reports, and software tools.
- **Orientation sessions and workshops** are regularly conducted to train students in utilizing e-resources effectively.
- **Mentoring and faculty support** are available for guiding students in self-learning and research activities.

GIET University ensures that students from all backgrounds can easily access and effectively use learning materials, fostering a strong self-learning culture.

Timing of the library	ROUND THE CLOCK (24 × 7)
Total Area of Library	1206 Sq.mt.
Two Reading Halls with Seating Capacity	1000
Number of Books (Textbook and Reference)	81629
Number of Titles	13224
Number of Back Volume	3107
Number of CDs & DVDs	4667
Number of Periodicals- Hard Copies (Magazines)	28
Number of Periodicals- Hard Copies Journals (National and International)	61
Number of E-Journals Subscribed including WoS	1118 form 04 Publishers
Number of Newspapers	17
Number of NPTEL Web and Video Materials	576
Library Software	Koha Open LMS-21.05.03.001
Plagiarism Software	Turnitin
e-library (e-book, NPTEL, Remote Access)	KNIMBUS (https://new.knimbus.com)
Total Number of Library Staff	15
Technical Staff	4
Library Membership	DELNET and National Digital Library (NDL)
Computerization for searching and indexing	Yes
Reprographic Facilities	Yes (Photocopy, Spiral, Lamination)

9.10. E-Governance (05)

(E-governance initiatives, sustainable practices in academic and learning management, campus-wide computing resources, and their accessibility and availability to support academic and professional activities for students and faculty.)

GIET University actively promotes **e-governance** as a vital enabler of transparency, efficiency, and accessibility in academic and administrative functions. A combination of digital infrastructure, policy implementation, and stakeholder engagement ensures that governance processes are streamlined and inclusive.

E-Governance Initiatives

Key administrative and academic operations are digitized using robust **Enterprise Resource Planning (ERP)** systems. These platforms manage everything from admissions, examinations, attendance, and performance tracking to finance and human resource management. Online grievance redressal systems and e-feedback portals encourage transparency and student participation.

Sustainable Practices in Academic and Learning Management

To ensure environmental responsibility and reduce paper-based processes, the institution has adopted e-notices, and online application systems for certificates, leaves, and internal communication. Course materials, syllabi, and learning resources are shared online to reduce the need for printing. Virtual classrooms and blended learning approaches are encouraged, supporting both synchronous and asynchronous learning.

Campus-wide Computing Resources

GIET University maintains a comprehensive digital infrastructure, including high-speed internet connectivity across the campus, computer laboratories with modern hardware, and access to licensed software for specialized disciplines. Faculty and students benefit from institutional subscriptions to e-journals, databases, and online libraries (e.g., SWAYAM-NPTEL).

Accessibility and Availability

To promote inclusive education, computing resources are made available through extended lab hours, remote access tools, and centralized helpdesk services. Tech support teams ensure regular maintenance and troubleshooting. E-resources are accessible via institutional credentials, allowing students and faculty to use them off-campus as well. Awareness and training sessions are conducted to improve digital literacy and maximize resource utilization.

9.11. Initiatives and Implementation of Sustainable Development Goals (SDGs) (10)

(Provide details of initiatives taken towards implementation of SDG specifically on green energy, waste management, preserving water, net zero, quality education, reuse, recycle, less use to renewables, etc. Provide evidence on implementation (projects assigned, R & D activities, entrepreneurial activities, outreach programs, etc.)

GIET University has actively undertaken several initiatives aligned with the United Nations Sustainable Development Goals (SDGs), focusing on environmental sustainability, quality education, and responsible consumption. Key initiatives include:

1. **Green Energy (SDG 7 - Affordable and Clean Energy)**

- **Solar Power Installation:** Solar panels with a capacity of **500 kW** have been installed on campus rooftops to meet part of the institution's energy needs.
- **Energy Efficiency:** LED lighting systems and smart energy meters have been deployed across departments to reduce electricity consumption.
- **R&D in Renewable Energy:** Faculty and student research projects have focused on solar energy optimization, energy storage solutions, and hybrid renewable energy systems.

2. **Waste Management (SDG 12 - Responsible Consumption and Production)**

- **Solid Waste Segregation:** Implementation of a three-bin system for waste segregation (organic, recyclable, and landfill waste).
- **Composting Units:** Organic waste is processed in on-campus composting units and used as manure for campus landscaping.
- **E-Waste Disposal Drives:** Adopted Solid waste and bio-waste disposal mechanism
- **Recycling Paper and Plastic:** Use of recycled paper for internal printing and promoting the reduction of single-use plastics.

3. **Preserving Water (SDG 6 - Clean Water and Sanitation)**

- **Rainwater Harvesting:** Installation of rainwater harvesting pits to recharge groundwater and reduce surface runoff.
- **Low-Flow Fixtures:** Use of water-efficient taps and dual-flush systems in washrooms to minimize water wastage.
- **Awareness Programs:** Periodic campaigns and workshops to promote water conservation practices among students and staff.

4. **Net Zero Commitment (SDG 13 - Climate Action)**

- **Tree Plantation Drives:** Regular plantation drives are conducted to increase green cover and carbon sequestration.

- **Green Campus Certification:** Steps have been initiated towards attaining Green Campus Certification by implementing sustainable practices.

5. **Quality Education (SDG 4 - Quality Education)**

- **Curriculum Integration:** Courses on environmental studies, sustainable development, and green technologies are incorporated across programs.
- **SDG Awareness Workshops:** Regular seminars and webinars are conducted to sensitize students about the importance and implementation of SDGs.
- **Innovation & Incubation:** Support to student-led start-ups and projects related to sustainability through incubation centres.

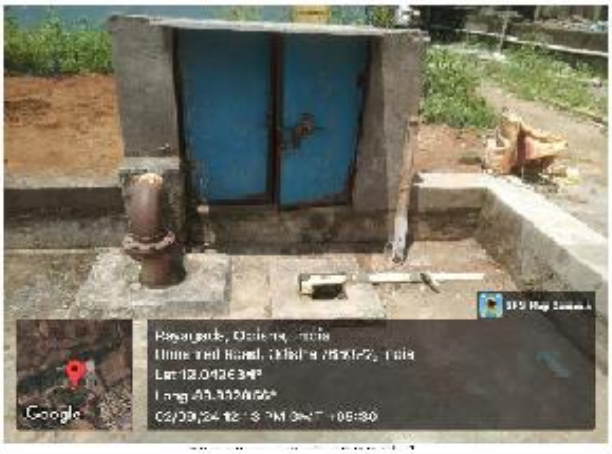
6. **Circular Economy Initiatives: Reuse, Recycle, Reduce, Renewables**

- **Upcycling Initiatives:** Student clubs are encouraged to design products from waste materials (e.g., eco-bricks, art from scrap).
- **Minimal Paper Usage:** Promotion of digital documentation and e-governance systems to reduce paper use.
- **Reuse Drives:** Organization of donation drives for books, clothes, and stationery.

7. **Community Outreach Programs**

- **Village Adoption Program:** Sustainable development models implemented in adopted villages - such as solar street lighting, sanitation awareness, and water conservation.
- **Entrepreneurial Projects:** Student-led initiatives such as biodegradable product development, solar-powered devices, and low-cost water filters.



9.12. Innovative Educational Initiatives and Implementation (05)

(Provide details of initiatives taken towards mobility of students, implementation of academic bank of credits, and support for holistic education including human values, multidisciplinary/interdisciplinary curriculum/programs, initiatives on Indian Knowledge System, Contribution towards and implementation of teaching in Indian language, etc. Policies on inclusivity and equity and their implementation, support for economically, socially and physically challenged students. Action plan and its implementation for slow learners.)

GIET University has undertaken several forward-thinking initiatives aligned with the National Education Policy (NEP) 2020 to enhance educational quality, inclusivity, and flexibility. These initiatives focus on promoting student mobility, interdisciplinary learning, inclusivity, and cultural integration, while also supporting slow learners and marginalized communities.

1. **Student Mobility and Academic Bank of Credits (ABC)**

- GIET University has registered with the **Academic Bank of Credits** (ABC) platform to facilitate student mobility across higher education institutions. Students are encouraged to earn and deposit credits in the ABC, promoting lifelong learning and flexibility in academic pursuits.
- The Choice-Based Credit System (CBCS) is fully implemented, allowing horizontal and vertical academic mobility.

2. **Holistic Education and Human Values**

- Value-added courses focusing on **ethics, empathy, leadership, and environmental consciousness, Human Values etc.** are embedded into the curriculum to promote holistic development.
- Regular workshops, seminars, and guest lectures on **emotional intelligence, mindfulness, and social responsibility** are conducted for both students and faculty.

3. **Multidisciplinary and Interdisciplinary Programs**

- GIET University has introduced **interdisciplinary elective courses** allowing students to choose subjects across departments.
- Projects and assignments often involve **cross-disciplinary collaboration**, encouraging students to integrate knowledge and skills from multiple domains.

4. **Indian Knowledge Systems (IKS) and Language Promotion**

- Courses and awareness programs on **Indian Knowledge Systems** including Yoga, Essence of Indian Traditional Knowledge, Constitution of India etc. are offered.
- **Teaching in Indian languages** has been encouraged; select programs offer **bilingual instruction (English and regional language)** to support regional learners.
- Cultural events, workshops, and national festivals are celebrated to sensitize students about Indian heritage.

5. **Policies on Inclusivity and Equity**

- GIET University ensures **equitable access to quality education** through transparent admission policies and merit-cum-means scholarships.
- Support systems such as **Remedial Coaching, Equal Opportunity Cell**, and **Women Empowerment Cell** are actively functioning.

- Regular sensitization programs on **gender, caste, and disability rights** are conducted to foster an inclusive campus culture.

6. **Support for Economically, Socially, and Physically Challenged Students**

- Fee concessions, scholarships, and financial aid are provided to economically weaker sections.
- The campus infrastructure is **differently-abled friendly** with ramps, lifts, and accessible restrooms.
- A **Student Counselling Centre** provides academic and emotional support.
- Dedicated faculty mentors are assigned to guide and support socially disadvantaged students.

7. **Action Plan for Slow Learners**

A structured intervention system is in place, which includes:

- **Bridge courses and foundation classes** at the beginning of each academic session.
- **Remedial classes, peer tutoring, and mentoring** throughout the semester.
- **Continuous assessment and feedback** mechanisms to track progress.
- **Customized learning materials and one-on-one sessions** for targeted support.

9.13. Faculty Performance Appraisal and Development System (FPADS) (10)

(Faculty members of Higher Educational Institutions today have to perform a variety of tasks pertaining to diverse roles. In addition to instruction, faculty members need to innovate and conduct research for their self-renewal, keep abreast of changes in technology, and develop expertise for the effective implementation of curricula. They are also expected to provide services to the industry and community to understand and contribute to solving real-life problems in industry. Another role involves shouldering administrative responsibilities and cooperating with other faculty, heads of departments, and the head of the institute. An effective performance appraisal system for faculty is vital for optimizing the contribution of individual faculty to institutional performance.
The assessment is based on a well-defined system for faculty appraisal for all the assessment years and its implementation and effectiveness.)

The Faculty Performance Appraisal and Development System (FPADS) at Gandhi Institute of Engineering and Technology University, Odisha, Gunupur (GIET University) is designed to assess and enhance faculty members' contributions in teaching, research, innovation, curriculum development, industry and community engagement, and administration. This system ensures continuous professional growth and aligns faculty performance with institutional goals.

GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA, GUNUPUR
(GIET UNIVERSITY)
(Established Vide Odisha Act 23 of 2018, Included by UGC, New Delhi, and Approved by AICTE, ICAR, INC, DSIR, New Delhi)
Gunupur - 765022, Dist.- Rayagada, Odisha, INDIA
www.giet.edu

SCHOOL OF ENGINEERING AND TECHNOLOGY (SoET)

FACULTY SELF ASSESSMENT FOR THE ACADEMIC YEAR:

01. General Information:

(a) Emp. Code :
(b) Name in full :
(in block letters)
(c) Department :

02. Academic Qualifications:

Qualification	Year of passing	Institution

(a) Additional Qualifications / Fellowships / Memberships / Certificate courses :
(b) Area of specialization, if any :
(c) Date of Joining :
(d) Present designation and Date of appointment to that designation :
(e) Last Increment Effected Date :

03. Experience :

(a) Industrial experience if any :
(b) Teaching experience total :

Name of the college	From (Date/Month/Year)	To (Date/Month/Year)	Experience in years
GIET University			
Other Colleges / Organizations			

PART - A

A1. Student feedback (Theory subjects only): - **20 M**

S. No	Year-Sem-Branch-Sec	Subject Name	No. of students	Percentage	Average %	Self-Assessment Marks
1						
2						
3						
4						

5					>=90&<100 = 20 >=80&<90 = 15 >=70&<80 = 10 >=60&<70 = 05
6					
7					
8					

A2. Subjects Average Pass Percentage: **- 20 M**

S. No	Subject Name	Year-Sem-Branch-Sec	No. of students appeared (A)	Passed (B)	Pass Percentage (B/A*100)	Average %	Self-Assessment Marks
1							
2							
3							
4							
5						>=90&<100 = 20 >= 80&<90 = 15 >=70&<80 = 10 >=60&<70 = 05	
6							
7							
8							

A3. Average Academic Classes (Theory only)**:** **- 10 M**

S. No	Subject Name	Year-Sem-Branch-Sec	No. of periods as per lesson plan (A)	No. of periods conducted (B)	Percentage of classes taken in allotted subjects (B/A*100)	Average %	Self-Assessment Marks
1							
2							
3							
4							
5						>=100 = 10 >=90&<100 = 7 >=80&<90 = 3 <80 = 0	
6							
7							
8							

PART - B

B1. Workshops, Teaching-Learning-Evaluation Technology Programs, Faculty Development Programs, STTP (Short term training programs) attended, Online Certificate courses: **- 10 M**

S. No	Program	Duration	Date & Place	Organized by	Achievement
1					
2					
3					
4					
5					

***Two per year out of which one should be at a venue above 200 Kms from the University preferably NITs/Reputed Universities/IITS (MOOCS/SWAYAM/NPTEL in case of online certification)**

B2. Patents / Trademarks / Design etc., Applied / Published / Granted: **- 10 M**

S. No	Name of the patent (National / International)	Name of the Principal Investigator	My role in patent (2nd, 3rd, 4th etc.,)	Date of application / publication / granted	Published status with file No. (Applied / Published) OR If Commercialized fund generated (Rs/-)	Obtained Self-Assessment Marks (Maximum Marks 10)
1						

2						
3						
4						
For 1st and 2nd author role For Publication = 5 For grant & commercialization = 10				For other roles For Publication = 2 For grant & commercialization = 5		

B3. Details of research project proposals sent / ongoing for grants / sanctions & grants obtained:
(Enclose Copy as proof) - **10 M**

S. No	Title of the proposal with file No.	Funding agency	Name of the faculty applied as PI	My role PI / CO-PI	Applied / sanctioned amount	Applied Date	Present status	Obtained Self-Assessment Marks (Maximum Marks 10)
1								
2								
3								
4								
For sanction of grants for more than Rs.50 Lakhs = 10 For sanction of grants for between Rs. 30 Lakhs to Rs. 50 Lakhs = 8 For sanction of grants for between Rs. 20 Lakhs to Rs. 30 Lakhs = 5 For sanction of grants for less than Rs.30 Lakhs = 3 **(Only for research grants)**				For sanction of grants for more than Rs.50 Lakhs = 8 For sanction of grants for between Rs. 30 Lakhs to Rs. 50 Lakhs = 5 For sanction of grants for between Rs. 20 Lakhs to Rs. 30 Lakhs = 3 For sanction of grants for less than Rs.30 Lakhs = 2 **[Type of grants: MODROBS / Conference / Seminar / Infrastructure based]**			

B4. Research Publications and Academic Contributions: - **10 M**

S. No	Type of Research Papers	No. of Papers	Maximum Self-Assessment Marks	Obtained Self-Assessment Marks (Maximum Marks 10)
1	1 Scopus/SCI indexed papers/Chapters/Book		10 M	
2	1 National/International Journals (Non-Paid)		07 M	
3	1 Reputed Conference Papers		05 M	
4	1 Journal/Conference Papers		05 M	
5	No Journal / Conference Papers		0 M	

B4. a) Scopus/SCI indexed Journals Papers:

S. No	Journal details and title with Page No's	ISSN/ SCOPUS No.	Whether peer reviewed impact Factor, if any	Specify Author 1 / Author 2 / Author 3
1				
2				
3				
4				

B4. b) National /International Journals (Non-Paid) Papers:

S. No	Journal details and title with Page No's	ISSN/ SCOPUS No.	Whether peer reviewed impact Factor, if any	Specify Author 1 / Author 2 / Author 3
1				
2				
3				
4				

B4. c) Reputed Conference Papers:

S. No	Title with Page No's	International/National Conference	Details of Conference	Specify Author 1 / Author 2 / Author 3
1				
2				
3				

B4. d) Journal / Conference Papers:

S. No	Title with Page No's	International/National Journal/Conference	Details of Journal / Conference	Specify Author 1 / Author 2 / Author 3
1				
2				
3				

B5. Proctoring Students Average Value additions: **- 10 M**

S. No	No. of students allotted for proctoring	Year-Sem-Branch-Sec	No. of students participated in Paper presentations/Posters presentations/Technical exhibitions etc. outside the campus (A)	No. of students won prizes (B)	Percentage (B/A) *100	Average %	Self-Assessment Marks
1							
2							
3						For Merely Participation = 5 For winning prize = 5 Nil = 0	
4							

***06 different students in a semester to be participated**

Staff Appraisal – Points Earned:

PART A	Students feedback % (20M)	
	Subjects Average Pass % (20M)	
	Average Academic Class % (10M)	
	Sum of A	
PART B	Workshops / STTP / FDP / Online Course (10M)	
	Patents / Trademarks /Design etc., Applied / Published / Granted (10M)	
	Details of research project proposals sent/ongoing for grants / sanctions & grants obtained. (10M)	
	Research Publications and Academic Contributions (10M)	
	Proctoring Students Average Value additions % (10M)	
	Sum of B	
TOTAL SUM (A +B)	Total out of (100 M)	

PART - C

C1. Ph.D. Guidance: (Ph. D holders only)

S. No	Name of the Scholar	Area of Research	Ph.D. Registration No	Status
1				
2				
3				
4				
5				

C2. Details of any consultancy work / extension activity undertaken: (Enclose copy as proof)

S. No	Type of consultancy work (Academic/Industrial)	Name of the consultancy project	Date & Duration	Total cost of the project	Revenue generated (In INR)
1					
2					
3					

C3. Linkages/MoUs with institutions/industries for internship on-the job training, project work, sharing of research facilities etc.:

S. No	Name of the Organisation	Nature of linkages	No. of faculty /students benefited	Date	Duration
1					
2					
3					

C4. Industrial Visits Arranged for the Students:

S. No	Name of the Organisation visited	Students got exposed to which area of their study	No. of faculty /students benefited	Date of visit	Remarks
1					
2					
3					
4					

C5. Additional responsibilities in the Department / University:

S. No	Responsibility	Assigned by	Duration	Outcome
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Date: Signature of Faculty

Performance Based Appraisal – Points Earned

PART A	Students feedback % (20M)	
	Subjects Average Pass % (20M)	
	Average Academic Class % (10M)	
	Sum of A	
PART B	Workshops/ STTP/ FDP/Online course (10M)	
	Patents / Trademarks / Design etc., Applied / Published / Granted (10M)	
	Details of research project proposals sent/ongoing for grants / sanctions & grants obtained. (10M)	
	Research Publications and Academic Contributions (10M)	
	Proctoring Students Average Value additions % (10M)	
	Sum of B	
TOTAL SUM (A +B)	Total out of (100 M)	

Remarks of the HoD:

Signature

Remarks of the Dean / Principal:

Signature

Page **7** of **7**

1. Objectives of FPADS

- To evaluate faculty performance systematically based on predefined parameters.
- To promote faculty development through training and research opportunities.
- To maintain transparency in the appraisal process and encourage self-improvement.
- To enhance institutional excellence through continuous faculty growth.

2. Appraisal Parameters

Faculty performance is assessed based on the following key parameters:

- Teaching & Learning
- Research & Publications
- Industry Interaction & Consultancy
- Administrative & Institutional Responsibilities
- Professional Development

3. Implementation of FPADS

3.1. Data Collection & Evaluation

- Faculty members submit a Self-Appraisal Report with supporting documents.
- Department Heads and Academic Committees review performance.
- Student feedback is considered as part of the teaching evaluation process.

3.2 Performance Review Meetings

- A review committee evaluates the compiled appraisal data.
- Faculty members receive feedback and guidance for improvement.
- Performance outcomes are linked to increment, promotions and incentives.

4. Effectiveness of FPADS

4.1. Performance Improvement Trends

- A 20% increase in faculty research publications has been recorded over the past three years.
- There is a marked rise in faculty participation in Faculty Development Programmes (FDPs) and workshops, enhancing pedagogical skills.
- Orientation classes are conducted before each semester, during which faculty members deliver demonstration classes on the subjects assigned for the upcoming semester.

4.2. Transparency and Feedback Mechanism

- Faculty members are granted access to their detailed performance reports.

- Regular feedback sessions help refine the appraisal process and support professional development.

The FPADS at GIET University plays a crucial role in fostering a culture of accountability, continuous learning, and excellence among faculty members, thereby contributing significantly to the university's academic and institutional growth.

9.14. Outreach Activities (05)

(Provide details of outreach activities such as community service, Unnat Bharat Abhiyan, social internship and society connect activities undertaken by the students and their achievements.)

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur (GIET University) places a strong emphasis on community engagement and social responsibility through a wide range of outreach programs. These activities aim to foster holistic development among students while making a meaningful impact on society. The following outreach initiatives were undertaken:

Community Service Initiatives:

Students actively participated in cleanliness drives, blood donation camps, tree plantation programs, and awareness campaigns related to health, hygiene, and education. These activities were conducted in collaboration with local NGOs and municipal bodies. Over 500 students participated, contributing more than 3,000 hours of service collectively.

Unnat Bharat Abhiyan (UBA):

Under the UBA initiative, the institution adopted five villages in the surrounding region. Regular surveys and need assessments were conducted, leading to the implementation of solutions such as solar-powered street lighting, awareness sessions on digital literacy, and health check-up camps. The initiative fostered a strong connection between the students and rural communities, encouraging sustainable rural development.

Social Internships:

GIET University's NSS students actively interact with the elderly at nearby assisted living facilities as part of their social internship. The goal of this program is to help kids develop empathy, compassion, and social responsibility. Students perform health and wellness awareness classes, plan cultural and recreational events, help with everyday chores, and spend quality time with the residents while they are there. In addition to giving seniors happiness and company, these exchanges give students important insights into the needs and lives of senior persons, which motivates them to make constructive contributions to the community.

Society Connect Programs:

GIET University's National Service Scheme (NSS) division is essential in encouraging students' civic engagement and social responsibility. It actively engages in a range of extension and outreach initiatives all year long. Important programs include the Spandan Program, Special Camps, Winter Camps in the chosen communities, Swachh Bharat Abhiyan, and Health Awareness Campaigns. These programs address significant societal concerns while attempting to inculcate in pupils a sense of civic responsibility, compassion, and leadership. The NSS unit assists students develop into responsible, compassionate citizens while also improving society through these initiatives.

Faculty Mentorship:

Each outreach group was assigned faculty mentors to ensure structured planning, execution, and reflection on learning outcomes.

Society Connect Activities Undertaken by the Students:

Number of extension and outreach programs conducted by the institution through organised forums like NSS/NCC with involvement of community year wise during the last four years are

Sl. no.	Name of the activity	Organising unit/Forum/ collaborating agency	Date of the activity	Number of students participated in such activities
1	Observation of National Girl Child Day in Regeda	NSS	24.01.2021	150
2	Organised a Marathon based on the observation Fit India Program	NSS	02.10.2021	150
3	Organised a camp on “Har Ghar Tiranga”	NSS	11.08.2021	150
4	Observation of Swami Vivekananda Jayanti	NSS	12.01.2021	80
5	Road Safety week	NSS	13.01.2021	50
6	Appreciation to COVID-19 Warriors	NSS	14.02.2021	10
7	Observation of International Yoga Day	NSS	21.06.2021	Planation of 50 Neem plants with 60 students
8	Observation of Fit India Movement	NSS	29.08.2021	Cyclothon with help of 30 students
9	Swachha Bharat Program	NSS	22.08.2021	100
10	Awareness program on World AIDS day	NSS	01.12.2021	100
11	Observation of World Environment Day	NSS	05.06.2022	60
12	Bahuda Car Festival	NSS	09.07.2022	90

13	Skill Development Programme: Sankalp India	NSS	03.08.2022	60
14	Organised a camp on “Har Ghar Tiranga”	NSS	13.08.2022	150
15	Children's Day celebration	NSS	14.11.2022	50
16	Community Reach Programme at Ghannantari Village Regarding New Farming Technology	School of Agriculture with Shubham Bio CNG	17.11.2022	30
17	Sri Gundicha Car Festival	NSS	22.07.2022	90
18	Road Safety Week	NSS	15.01.2022	65
19	Organization of Blood Donation Camp	NSS	23.01.2022	121 Blood Unit
20	Awareness Program on World Cancer Day	NSS	04.02.2022	30
21	Shiva Ratri Camp at Shiv Temple in Shefali Hill	NSS	01.03.2022	100
22	Swabhalamban Programme: Regular Driving Training Programme	GIET University	15.03.2022	10
23	Sri Gundicha Car Festival	NSS	01.07.2022	90
24	Bahuda Car Festival	NSS	29.07.2022	95
25	Observation of National Girl Child Day	NSS	24.01.2022	100
26	Tree Plantation Programme	NSS/NCC	07.07.2022	95
27	Observation of Van Mahotsav week	NSS	05.07.2022	90
28	Spandan Program on National Daughter's Day	NSS	22.09.2023	42
29	Spandan Program on Gandhi Jayanti	NSS	02.10.2022	45
30	Observation of World Mental Health Day	NSS	13.10.2022	20
31	Special Camp: Free Medical Checkup	NSS	10.12.2022	40
32	Village Survey Camp for awareness of Hygiene and Cleanliness in village Regeda	NSS	05.11.2023	36
33	Swachha Bharat Abhiyan on birth day of Rani Laxmi Bai	NSS	19.11.2023	40
34	Blood Donation Camp	NSS	22.03.2023	20
35	Swabhalamban Programme: Regular Driving Training Programme	GIET University	15.03.2023	15 untrained people
36	Winter Special Camp	NSS	06.01.2023	50
37	Special Camp	NSS	10.01.2023	55
38	Girl Children Awareness Programme	NSS	15.01.2023	46
39	Road Safety week	NSS	16.01.2023	55
40	Blood Donation Program on Netaji Subhas Chandra Jayanti	NSS	23.01.2023	45
41	Beti Bachao Beti Padhao: Observation of National Girl Child Day	NSS	24.01.2023	50
42	Celebration of Marty’s Day	NSS	30.01.2023	60

43	Awareness Program on world Cancer Day	School of Nursing	04.02.2023	50
44	Shiva Ratri Camp at Shiv Temple at Shefali Hill	NSS	18.02.2023	100
45	Workshop on Self Defence on occasion of International Women's Day	NSS	08.03.2023	40
46	Family Survey on Poshan Abhiyan on Rastriya Poshan Maah	NSS	14.03.2023	78
47	Spandan Program	NSS	30.03.2023	70
48	Awareness Program on World Water Day	NSS	22.03.2023	49
49	Awareness Programme on TB Day	NSS	24.03.2023	35
50	Distribution of Butter Milk on Rama Navami	NSS	30.03.2023	80
51	Observation of World Environment Day	NSS	05.06.2023	100
52	Van Mahotsav Program in the vacant area of the main road	NSS	07.07.2023	100
53	International Youth Day	NCC	12.08.2023	60
54	Nutrition Awareness Program on Malnutrion Day	NSS	18.09.2023	38
55	Blood Donation Camp on World Heart Day	NSS	29.09.2023	50
56	Plantation Program on Gandhi Jayanti	NSS	02.10.2023	70
57	Observation of Constitution Day	NSS	26.11.2023	30
58	Lunger on the eve of GIET Foundation Day	NSS	27.12.2023	150
59	Monitoring and Evaluating Cauliflower harvesting INM in Progressive Farmer of Bijaypur Village	School of Agriculture with ACIC	27.12.2023	46
60	Children's Day Celebration at Orphanage	NSS	14.11.2023	80
61	Awareness on safety and the laws against sexual harassment of girl's program organized	NSS	15.01.2023	60
62	Swachha Bharat Abhiyan	NSS	26.10.2023	58
63	Training of Mushroom Production at Bijipur village Mohana Gajapati District	NSS	16.11.2023	42 Farmers
64	Swachha Bharat Abhiyan on birth day of Rani Laxmi Bai	NSS	19.11.2023	45
65	Observation of "Anti-Tobacco Day"	NSS	31.05.2023	70
66	Organized a Swachha Bharat Program	NSS	26.11.2023	60
67	Diagnostic field visit to a Progressive Farmer	NSS	19.09.2023	65
68	Skill Development of farm Women on Mushroom production	NSS	24.11.2023	25 Farm women with 30 students

69	NSS camp at Rath Yatra for distribution of Curd Water	NSS	20.06.2023	48
70	Organization of blood donation camp	NSS	23.01.2023	40
71	Independence Day Celebration	NCC	15.08.2023	45
72	Plantation programme on the occasion of National Unity Day	NSS	31.10.2023	
73	Observation of World AIDS Day	School of Nursing	01.12.2023	50
74	Mega Blood donation camp	NSS	23.01.2024	150
75	Swabhalamban Programme: Regular Driving Training Programme	GIET University	14.02.2024	10
76	Butter milk distribution in Pakhala Diwas	NSS	20.03.2024	69
77	Swachha Bharat Program at Badaguda	NSS	23.03.2024	10
78	NSS Spl Camp	NSS	24.03.2024	60
79	Awareness programme on World Tuberculosis Day	NSS	29.03.2024	55
80	Monitoring Harvest of Tomato of progressive farmer	ACIC & School of Agriculture	25.01.2024	1 progressive farmer with 6 students
81	Republic Day Camp	NCC	26.01.2024	3
82	Household Survey in Badaguda Adopted village	NSS	25.03.2024	50
83	Shiva Ratri Camp at Shiv Temple in Sefali Hill	NSS	08.03.2024	100
84	Mushroom Training programme to female farmers	NSS	11.03.2024	20 farmers and 15 students
85	Monitoring Harvest of Tomato at Bijayapur Village	School of Agriculture	12.04.2024	4 farmers and 4 students
86	Diagnostic Field visit in Pandrajholi village	School of Agriculture	27.02.2024	3 farmers with 15 students
87	Free Medical Camp at Badaguda	NSS	27.03.2024	50
88	Road Safety week	NSS	14.01.2024	60
89	Encouraging Farm Women for Mushroom cultivation	School of Agriculture	17.01.2024	20 Farm Women with 20 students
90	Blood Donation Program On World Blood Donor Day	NSS	14.06.2024	60
91	Spandan Programme on Guru Purnima	NSS	21.07.2024	50
92	Observation of “Bond of Protection” on the occasion of Rakshya Bandhan at Orphanage	NSS	19.08.2024	55
93	Organisation of an awareness program for village people to save themselves and others from sudden fire caught	NSS	28.03.2024	70
94	Agricultural camp to educate students and local farmers on sustainable	NSS	29.03.2024	50

	farming practices, soil health and modern agricultural techniques			
95	NSS camp at Rath Yatra for distribution of Curd Water	NSS	07.07.2024	150
96	Blood Donation Camp on Utkal Diwas	NSS	01.04.2024	44
97	Rally on World Health Day	NSS	07.04.2024	55
98	Mini Blood Donation Camp	NSS	12.04.2024	54
99	Encouraged a progressive farmer K. Shiv Kumar for scaling up his Horti-based Farm	School of Agriculture	12.04.2024	1 Farmer with 10 students
100	Butter milk distribution on Pana Sankranti	NSS	13.04.2024	48
101	Night Meeting conducted in Village Karama for forming Krushak Sangha	School of Agriculture	15.04.2024	16 farmers with 10 students
102	Swachha Bharat Abhiyan	NSS	03.05.2024	45
103	Providing awareness regarding Vermicompost and Vermi wash.	School of Agriculture	15.05.2024	8 farmers with 30 students
104	Survey Programme conducted on household consumer expenditure	NSS	15.05.2024	50 volunteers
105	NSS camp at Bahuda Yatra for distribution of Curd Water	NSS	15.07.2024	150
106	Mega Blood Donation camp coordination with National Thalasemia Forum, Odisha and Civil Supply Department, Gunupur	NSS	04.08.2024	80
107	Blood Donation Camp	NSS	08.08.2024	52
108	Spandan Program	NSS	30.03.2024	50
109	Conduct of Awareness program to avoid Sunstroke at Regeda village	NSS	24.03.2024	70
110	Blood Donation on Blood Cancer Day	NSS	28.05.2024	48
111	Van Mahotsav Programme	NSS	04.07.2024	55
112	Spandan Programme on Guru Purnima	NSS	21.07.2024	50
113	Kargil Diwas Celebration	NCC	25.07.2024	30
114	Khelo India Campaign	NSS, NCC	01.08.2024	80
115	Rally on Anti-ragging Day	NSS, NCC	12.08.2024	50 NSS and 25 NCC
116	Kousal Bharat Abhiyan	NSS	17.08.2024	35 NSS Volunteers
117	Bond of protection on the occasion of Rakshya Bandhan	NSS	19.08.2024	59 NSS volunteers
118	Sticky trap demonstration	School of Agriculture	29.08.2024	20 students and 10 farmers
119	Farmer Interaction to mitigate agricultural problems	School of Agriculture	29.08.2024	20 students and 8 farmers
120	Farmer Interaction to mitigate agricultural problems	School of Agriculture	04.09.2024	20 students and 9 farmers

121	Mega Blood Donation Camp	NSS	24.09.2024	50 NSS volunteers and 602 unit of blood collected
122	Organised Plantation program on the theme of "Ek Ped Maa Ki Naam"	NSS	17.09.2024	40 NSS volunteers
123	Organised Mega Tree Plantation Program (200 saplings are planted)	NSS	18.09.2024	100 NSS Volunteers
124	Observation of Gandhi Jayanti and Conducted one Swachh Bharat Program in the Campus	NSS	02.10.2024	25 NSS volunteers
125	Swachh Bharat Program at Jagannath Temple, Gunupur	NSS	27.10.2024	50 NSS Volunteers
126	Observation of Patha Utsav at Sub-Collector Office	NSS	29.10.2024	50 NSS Volunteers

These outreach activities have not only enhanced students' understanding of social challenges but also instilled values of empathy, leadership, and civic responsibility.

2023- NSS Unit of GIET University, Gunupur has received appreciation from Blood Bank, Rayagada, Berhampur, Parlakhemundi and Srikakulum for major contribution

NSS Unit of GIET University, Gunupur has got District Green Champion award for the year 2023

Inauguration of Winter Camp (Female Volunteers)

Inauguration of Winter Camp (Male Volunteers)

Household Survey in Badoguda

Household Survey in Badoguda

Free Medical Camp at Bodoguda

Awareness program on Fire safety and emergency preparedness

Spandan Program

Spandan Program

Van Mohachav Program in the vacant area of the main road, Gunupur on 07.07.2023

Declaration

The head of the institution needs to make a declaration as per the format given below:

I undertake that, the institution is well aware about the provisions in the NBA's accreditation manual concerned for this application, rules, regulations, notifications, and NBA expert visit guidelines in force as on date and the institute shall fully abide by them.

It is submitted that the information provided in this Self-Assessment Report is factually correct. I understand and agree that appropriate disciplinary action against the Institute will be initiated by the NBA in case any false statement/information is observed during the pre-visit, visit, post-visit, and subsequent to the grant of accreditation.

19/4/2025

Dr. N. V. Jagannadha Rao
Registrar, GIET University

Signature & Name

Date: 19-Apr-2025

Place: Gunupur

Head of the Institution with seal