



# ELECTRONICS AND COMMUNICATION ENGINEERING

GOVERNMENT POLYTECHNIC  
GANDHINAGAR

SELF ASSESSMENT REPORT (SAR)

UNDERGRADUATE ENGINEERING PROGRAMS (TIER-II)



## SAR Contents

<b>Serial Code &amp; Link to the item</b>	<b>Item</b>	<b>Page Number</b>
<b>PART A</b>	<b>Institutional Information</b>	<b>I</b>
<b>PART B</b>	<b>Criteria Summary</b>	<b>V</b>
	<b>Program Level Criteria</b>	
<b>1</b>	<b>Vision, Mission and Program Educational Objectives</b>	<b>01</b>
<b>2</b>	<b>Program Curriculum and Teaching – Learning Processes</b>	<b>30</b>
<b>3</b>	<b>Course Outcomes and Program Outcomes</b>	<b>138</b>
<b>4</b>	<b>Students' Performance</b>	<b>183</b>
<b>5</b>	<b>Faculty Information and Contributions</b>	<b>207</b>
<b>6</b>	<b>Facilities and Technical Support</b>	<b>223</b>
<b>7</b>	<b>Continuous Improvement</b>	<b>268</b>
	<b>Institute Level Criteria</b>	
<b>8</b>	<b>Student Support Systems</b>	<b>277</b>
<b>9</b>	<b>Governance, Institutional Support and Financial Resources</b>	<b>309</b>
<b>PART C</b>	<b>Declaration by the Institution</b>	<b>367</b>
<b>Annexure-I</b>	<b>Program Outcomes(POs) &amp; Program Specific Outcomes(PSOs)</b>	<b>368</b>

## PART A: Institutional Information

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

Government Polytechnic Gandhinagar  
Opp. Tata Telecom, GIDC, K-6 Circle  
Sector-26, Gandhinagar,  
Gujarat Pin Code : 382028

### 2. Name and Address of the Directorate of Technical Education:

Directorate of Technical Education,  
Block No. 2, 6th Floor, Karmyogi Bhavan,  
Sector-10-A, Gandhinagar - 382 010  
Phone: +91-79-232 53546  
Fax: +91-79-232 53539  
Email: dire-dte[at]gujarat[dot]gov[dot]in

### 3. Year of establishment of the Institution: 1991

### 4. Type of the Institution:

University	
Deemed University	
Government Aided	
Autonomous	
Affiliated	✓

### 5. Ownership Status:

Central Government	
State Government	✓
Government Aided	
Self-Financing	
Trust	
Society	
Section 25 Company	
Any Other(Please specify)	

### 6. Other Academic Institutions of the Trust /Society / Company etc., if any:

Name of the Institution(s)	Year of Establishment	Programs of Study	Location
Not Applicable			

**7. Details of all the programs being offered by the institute under consideration:**

Sr. No	Program Name	Name of The Department	Year of Start	Intake	Increase/ decrease in intake if any	Year of increase	AICTE Approval	Accreditation Status
1	Diploma In Chemical Engineering	Chemical	2007	60	120	2009	YES	Granted accreditation for 3 years for the period (2025-28)
2	Diploma in Electronics & Communication Eng.	Electronics & Communication	1991	30	30	1998	yes	Granted accreditation for 5 years for the period (2006-11) Applied for Accreditation in 2025
				60	30	2008	yes	
				90	90	2009	yes	
				180	-150	2020	yes	
3	Diploma in Information Technology	Information Technology	2007	60	120	2008	yes	Granted accreditation for 3 years for the period (2025-28)
4	Diploma in Biomedical Engineering	Biomedical	2007	60	120	2009	YES	Not eligible for accreditation
				180	-30	2020	YES	
				150	-30	2022	YES	
				120	-60	2023	YES	
5	Diploma in Computer Engineering	Computer Engineering	1991	30	30	1998	YES	Granted accreditation for 3 years for the period (2025-28)
				60	30	2008	YES	
				90	90	2009	YES	
6	Diploma in Instrumentation and control	Instrumentation and control	1991	30	30	2002	YES	Granted accreditation for 5/ 6years for the period (2006-11) Applied for Accreditation in 2025
				60	120	2009	YES	
				180	-120	2020	Yes	
				60	-30	2022	YES	
7	Diploma in Electrical engineering	Electrical	2009	60	-	-	YES	Granted accreditation for 3 years for the period (2023-26)
8	Diploma in Automation And Robotics	Automation And Robotics	2022	60	-	-	YES	Not eligible for accreditation
9	Diploma in Civil Engineering	Civil Engineering	2022	60	-	-	YES	Not eligible for accreditation
10	Diploma In Information And Communication Technology	Information And Communication Technology	2022	60	-	-	YES	Not eligible for accreditation
11	Diploma In Mechanical Engineering	Mechanical Engineering	2022	60	-	-	YES	Not eligible for accreditation
12	Diploma In Metallurgy Engineering	Metallurgy Engineering	2022	60	-	-	YES	Not eligible for accreditation

**7.a Granted accreditation for 5/ 6 years for the period**

Sr. No.	Name of the Department	Name of the Program	Year of 1st Accreditation (if applicable)	Year of 2nd Accreditation (if applicable)	Year of 3rd Accreditation (if applicable)
1	Computer Engineering Department	Diploma in Computer Engineering	Granted accreditation for 5 years for the period (2006-11)	Granted accreditation for 3 years for the period (2022-25)	Granted accreditation for 3 years for the period (2025-28)
2	Instrumentation & Control Department	Diploma in Instrumentation and control	Granted accreditation for 5 years for the period (2006-11)	--	--
3	<b>Electronics &amp; Communication Department</b>	Diploma in Electronics & Communication	<b>Granted accreditation for 5 years for the period (2006-11)</b>	--	--
4	Chemical Engineering	Diploma in Chemical Engineering	Granted accreditation for 3 years for the period (2022-25)	Granted accreditation for 3 years for the period (2025-28)	--
5	Information Technology	Diploma in Information Technology	Granted accreditation for 3 years for the period (2022-25)	Granted accreditation for 3 years for the period (2025-28)	--
6	Electrical Engineering	Diploma in Electrical	Granted accreditation for 3 years for the period (2023-26)	--	--

**7.b Programs to be considered for Accreditation vide this application:**

Sr. No.	Program Name
1.	Diploma in Electronics & Communication Engineering
2.	Diploma in Instrumentation and control Engineering

**8. Total number of employees in the institution:**

**A. Regular\*Employees (Faculty and Staff):**

**Table A.9.1 Regular Employees**

Items		CAY (2024-25)		CAYm1 (2023-24)		CAYm2 (2022-23)	
		Min	Max	Min	Max	Min	Max
Faculty members in Engineering	M	80	81	81	81	74	81
	F	43	43	41	42	39	42
Faculty members in Maths, Science & Humanities	M	6	6	6	6	7	7
	F	4	4	4	4	5	5
Non-teaching staff	M	5	5	5	6	9	9
	F	4	4	4	4	5	5

\* Including B.E. faculties of individual departments

**Contractual Staff Employees \*(Faculty and Staff):** (Not covered in Table A):

**Table A.9.2 Contractual Staff Employees**

Items		CAY (2024-25)		CAYm1 (2023-24)		CAYm2 (2022-23)	
		Min	Max	Min	Max	Min	Max
Faculty members in Engineering	<b>M</b>	1	1	1	1	1	1
	<b>F</b>	5	5	5	5	5	5
Faculty members in Maths, Science & Humanities	<b>M</b>	0	0	0	0	0	0
	<b>F</b>	1	1	1	1	1	1
Non-teaching staff	<b>M</b>	0	0	0	0	0	0
	<b>F</b>	0	0	0	0	0	0

\* Including B.E. faculties of individual departments

**9.Total number of Engineering Students:**

**Table A.10.1 UG Students**

Item	CAY (2024-25)	CAYm1 (2023-24)	CAYm2 (2022-23)	CAYm2 (2021-22)
Total no. of boys	2035	2017	1916	1949
Total no. of girls	285	287	250	315
Total no. of students	2320	2304	2166	2264

**Table A.10.2 PG Students**

Item	CAY (2022-23)	CAYm1 (2021-22)	CAYm2 (2020-21)
Total no. of boys			
Total no. of girls		NA	
Total no. of students			

**10. Contact Information of the Head of the Institution and NBA coordinator, if designated:**

- i. Head of the Institution:  
 Name: Shree R. D. Raghani  
 Designation: Principal  
 Mobile No: 9428039918  
 Email id: gp-gnagar-dte@gujarat.gov.in
- ii. NBA coordinator, if designated:  
 Name: Shree J. T. Patankar  
 Designation: HOD (Instrumentation & Control Engg.)  
 Mobile No: 9825514819  
 Email id: nbaelectricalgpg@gmail.com

## Part B Criteria Summary

**Name of the program: Electronics and Communication Engineering**

<b>Criteria No.</b>	<b>Criteria</b>	<b>Mark/Weightage</b>
<b>Program Level Criteria</b>		
<b>1</b>	<b>Vision, Mission and Program Educational Objectives</b>	<b>50</b>
<b>2</b>	<b>Program Curriculum and Teaching – Learning Processes</b>	<b>200</b>
<b>3</b>	<b>Course Outcomes and Program Outcomes</b>	<b>100</b>
<b>4</b>	<b>Students‘ Performance</b>	<b>200</b>
<b>5</b>	<b>Faculty Information and Contributions</b>	<b>150</b>
<b>6</b>	<b>Facilities and Technical Support</b>	<b>100</b>
<b>7</b>	<b>Continuous Improvement</b>	<b>75</b>
<b>Institute Level Criteria</b>		
<b>8</b>	<b>Student Support Systems</b>	<b>50</b>
<b>9</b>	<b>Governance, Institutional Support and Financial Resources</b>	<b>75</b>
<b>Total</b>		<b>1000</b>

**1.1 State the Vision and Mission of the Department and Institution****A. Availability of the Vision & Mission statements of the Department****Institute Vision**

- To develop technically proficient and ethically sound diploma engineers contributing to industry and society needs.

**Institute Mission**

- To impart quality technical education.
- To shape students towards sensitizing in ethical values and contributing in nature.
- To familiarize students with the world of work.

**Department Vision:**

To develop technically sound and ethically strong diploma electronics and communication engineers contributing to industry and society.

**Department Mission:**

- To develop students' proficiency in the field of electronics & communication engineering to serve the industry and society.
- To focus on inculcating ethical values and contributory approach.
- To provide effective teaching learning to students through continuous faculty development.

## B. Appropriateness/Relevance of the Statements

### 1. Vision Statement

#### **Vision:**

"To develop technically sound and ethically strong diploma electronics and communication engineers contributing to industry and society."

#### **Justification:**

The vision statement of the department clearly articulates the long-term aspiration and desired future state. As per the definition, a vision statement should serve as an inspiring, future-oriented declaration that guides institutional efforts.

This vision is:

- **Clear and meaningful**, emphasizing both technical competence and ethical strength.
- **Aspirational and forward-looking**, addressing the contemporary demands of industry and society.
- **Aligned with professional and societal expectations**, reflecting the institution's commitment to producing responsible and capable diploma engineers.

Thus, it is **appropriate and correct from the definition perspective**, fulfilling the criteria of clarity, relevance, and alignment with long-term academic and professional goals.

### 2. Mission Statements

#### **Mission:**

1. To develop students' proficiency in the field of electronics & communication engineering to serve the industry and society.
2. To focus on inculcating ethical values and contributory approach.
3. To provide effective teaching learning to students through continuous faculty development.

#### **Justification:**

The mission statements precisely describe the operational strategies and immediate objectives through which the vision will be achieved. By definition, a mission statement should state the institution's purpose, address key stakeholders, and outline the means to accomplish the vision.

The given mission statements are:

- **Specific and relevant to the discipline of Electronics & Communication Engineering**, focusing on technical skill development and societal contribution.
- **Inclusive of core academic values** such as ethical practices and continuous learning.
- **Addressing key functional areas** like teaching-learning methodologies and faculty development, which are essential for maintaining academic excellence and delivering quality education.

The mission statements collectively ensure alignment with the vision and are **correctly framed, relevant, and appropriate from the definition perspective**.

### **3. Overall Appropriateness and Relevance**

The Vision and Mission statements:

- **Maintain internal consistency and complement each other.**
- **Reflect the core purpose of a diploma-level technical education program.**
- **Address the needs and expectations of stakeholders** including students, faculty, industry, and society.
- Are **correct as per standard definitions**, being clear, relevant, purposeful, and aligned with the long-term objectives of the department and institution.

The department vision and mission statements are highly relevant and appropriate in the context of Outcome-Based Education (OBE) as promoted by the National Board of Accreditation (NBA). Here's an analysis of their appropriateness:

1. **Focus on Outcomes:** The vision and mission clearly define the desired outcomes for students - technically sound, ethically strong engineers who can contribute to industry and society. This aligns well with OBE's emphasis on defining clear, measurable outcomes for educational programs.
2. **Holistic Development:** The statements address both technical proficiency and ethical values, which corresponds to NBA's focus on developing well-rounded professionals. This approach supports the development of both hard and soft skills.
3. **Industry and Society Relevance:** There's a strong emphasis on serving industry and society, which aligns with NBA's goal of ensuring that education is relevant to real-world needs and produces graduates who can contribute effectively to their field.
4. **Continuous Improvement:** The mission includes a commitment to continuous faculty development, which supports OBE's principle of ongoing improvement in educational quality.
5. **Specificity to the Field:** The vision and mission are specific to electronics and communication engineering at the diploma level, allowing for targeted outcome definition as required in OBE.
6. **Measurable Objectives:** While not explicitly stated, the mission points provide a basis for developing measurable learning outcomes, which is crucial in OBE.
7. **Stakeholder Focus:** By mentioning industry, society, and faculty development, the statements acknowledge key stakeholders in the educational process, which is important in NBA's accreditation framework.
8. **Ethical Component:** The emphasis on ethics aligns with NBA's recognition of the importance of professional ethics and values in engineering education.
9. **Teaching-Learning Process:** The mission specifically mentions effective teaching-learning, which is a key component of OBE and NBA's evaluation criteria.

Overall, these vision and mission statements provide a solid foundation for developing an OBE-compliant program that would meet NBA's accreditation standards.

## C. Consistency of the Department statements with the Institute statements

### Consistency analysis/Alignment of Department Vision statement with AICTE, GTU, CTE and Institute Vision statements

Statement	Institute	Department	Consistency Analysis
<b>Vision</b>	Develop technically proficient and ethically sound diploma engineers contributing to industry and society needs.	Develop technically sound and ethically strong diploma electronics and communication engineers contributing to industry and society.	Strong Consistency: Both statements emphasize the development of technically competent and ethical graduates who can contribute to the industry and society. The Department's vision specifically targets electronics and communication engineering, demonstrating a clear focus within the broader Institute vision.
<b>Mission 1</b>	To impart quality technical education.	To develop students' proficiency in the field of electronics & communication engineering to serve the industry and society.	Strong Consistency: The Department's mission directly supports the Institute's mission by focusing on imparting technical education in a specific field. The emphasis on serving industry and society further reinforces the Consistency.
<b>Mission 2</b>	To shape students towards sensitizing in ethical values and contributing in nature.	To focus on inculcating ethical values and contributory approach.	Strong Consistency: Both statements prioritize the development of ethical students who are committed to contributing to society. While the Institute's mission is broader, the Department's mission specifically targets ethical values and a contributory approach within the context of electronics and communication engineering.
<b>Mission 3</b>	To familiarize students with the world of work.	To provide effective teaching learning to students through continuous faculty development.	Moderate Consistency: The Institute's mission focuses on preparing students for the workplace, while the Department's mission centres on improving teaching and learning. Faculty development can ultimately contribute to student preparedness.

#### AICTE vision

To be a world-class organization leading technological and socio-economic development of the country by enhancing the global competitiveness of technical manpower and by ensuring high quality technical education to all sections of the society.

#### GTU vision

To be a global university for the creation and dissemination of knowledge and innovation in science & technology, humanities and multidisciplinary domains for sustainable development and enrichment of human life.

#### CTE vision

To facilitate quality technical and professional education having relevance for both industry and society, with moral and ethical values, giving equal opportunity and access, aiming to prepare globally competent technocrats.

#### Institute vision

Develop technically proficient and ethically sound diploma engineers contributing to industry and society needs.

**Department vision:**

Develop technically sound and ethically strong diploma electronics and communication engineers contributing to industry and society.

**Justification for Alignment:**

**Alignment with AICTE Vision:** The department's focus on developing technically sound engineers aligns with AICTE's goal of enhancing the global competitiveness of technical manpower. The emphasis on ethical strength also contributes to the overall quality of technical education.

**Alignment with GTU Vision:** While the department's vision does not explicitly mention innovation or sustainable development, the focus on developing technically sound engineers can contribute to these areas. By producing skilled engineers, the department contributes to the creation and dissemination of knowledge and innovation.

**Alignment with CTE Vision:** The department's vision aligns strongly with CTE's goals of quality technical education, relevance to industry and society, and preparing globally competent technocrats. The focus on both technical proficiency and ethical strength ensures that the department's graduates are well-prepared for the industry.

**Alignment with Institute Vision:** The department vision is a specific extension of the institute's vision. By focusing on electronics and communication engineering, the department contributes to the overall goal of developing technically proficient and ethically sound diploma engineers.

Vision Statement	Focus Area	Alignment with AICTE Vision	Alignment with GTU Vision	Alignment with CTE Vision	Alignment with Institute Vision	Justification
Department	Technically sound and ethically strong diploma electronics and communication engineers	Strong	Partial	Strong	Strong	The department's vision aligns well with the AICTE, CTE, and institute visions, focusing on the development of technically proficient and ethically sound engineers. However, its focus is more specific than GTU's vision, which emphasizes a broader scope of knowledge and innovation.

# **Consistency analysis/Alignment of Department Mission statement with AICTE, GTU, CTE and Institute Mission statements**

## **AICTE Mission**

1. A true facilitator and an objective regulator
2. Transparent governance and accountable approach towards the society
3. Planned and coordinated development of Technical Education in the country by ensuring world-class standards of institutions through accreditation
4. Emphasis on developing high quality institutions, academic excellence, and innovative research and development programs.
5. Networking with/ or a network of institutions for optimum resource utilization
6. Dissemination of knowledge
7. Technology forecasting and global manpower planning
8. Promoting industry-institution interaction for developing new products, services, and patents
9. Inculcating entrepreneurship
10. Encouraging indigenous technology
11. Focusing on non-formal education
12. Providing affordable education to all
13. Making Technical Education in India globally acceptable

## **GTU Mission**

1. To develop centers of academic excellence at university premises and at affiliated colleges in domains of science, engineering, technology, management, and environment for imparting comprehensive education, training, and research infrastructure as per the nation requirements.
2. To build resources, facilities, proficiencies and other related infrastructure of global standard for the development of knowledge, skills, and competencies in the various educational domains.
3. To develop research-oriented pedagogy for flourishing ideas and to nurture innovators, entrepreneurs and professionals of tomorrow
4. To build and enhance collaborations with other academic, research, industry, and government organizations as well as NGOs across the globe so that education, training and research at university and its affiliated colleges become aligned with national and global level requirements.
5. To encourage multidisciplinary research and develop flexible learning ecosystem.

## **CTE Mission**

1. Quality technical and professional education with continuous improvement of all the resources and personnel
2. To promote conducive ecosystem for Academic, Industry, Research, Innovations and Startups
3. To provide affordable quality professional education with moral values, equal opportunities, accessibility and accountability
4. To allocate competent and dedicated human resources and infrastructure to the institutions for providing world-class professional education to become a Global Leader (“Vishwa Guru”)

## Institute Mission

1. To impart quality technical education.
2. To shape students towards sensitizing in ethical values and contributing in nature.
3. To familiarize students with the world of work.

## Department Mission:

- To develop students' proficiency in the field of electronics & communication engineering to serve the industry and society.
- To focus on inculcating ethical values and contributory approach.
- To provide effective teaching learning to students through continuous faculty development.

## Justification for alignment:

- **Alignment with AICTE Mission:** The department mission aligns with elements of AICTE's mission, such as developing high-quality institutions (through proficient engineers) and promoting industry interaction (serving industry needs). However, it doesn't directly address technology forecasting, entrepreneurship, or affordable education (these may be addressed at the institute or university level).
- **Alignment with GTU Mission:** The department mission aligns with aspects of GTU's mission, like academic excellence (developing proficiency) and research (through faculty development). However, GTU's focus is broader, encompassing various disciplines and flexible learning, which are not explicitly mentioned in the department's mission.
- **Alignment with CTE Mission:** The department mission directly addresses all aspects of CTE's mission. It emphasizes quality technical education (developing proficiency), industry relevance (serving industry and society), ethical values (inculcating ethical values), and accessibility (through effective teaching-learning).
- **Alignment with Institute Mission:** The department mission aligns strongly with the institute's mission. Both focus on imparting quality technical education and shaping students ethically. The department mission provides a more specific focus on the field of electronics & communication engineering.

Mission Statement	Focus Area	Alignment with AICTE Mission	Alignment with GTU Mission	Alignment with CTE Mission	Alignment with Institute Mission	Justification
Department	Develop proficiency in electronics & communication engineering, inculcate ethical values, and provide effective teaching-learning	Strong	Partial	Strong	Strong	The department mission aligns well with all except GTU's broader focus on multiple disciplines and flexible learning.

# **Consistency Analysis and Mapping of Department Vision & Mission with NEP 2020**

## **Introduction to NEP 2020**

The National Education Policy (NEP) 2020 is a landmark education reform framework introduced by the Government of India, aiming to revamp the education system to meet the changing developmental needs of the country while retaining its cultural and human values. The policy emphasizes holistic, multidisciplinary, skill-based, and outcome-driven education, promoting equity, inclusivity, and value-based learning. It encourages vocational integration, ethical and humanistic education, continuous faculty development, and fostering employability through technical skill enhancement.

Key highlights of NEP 2020 include:

1. Focus on skill-based and vocational education from an early stage.
2. Integration of value-based, ethical, and socially responsible learning.
3. Emphasis on continuous professional development of teachers.
4. Adoption of modern, student-centric, ICT-enabled teaching-learning methods.
5. Promotion of industry-academia collaboration and experiential learning.
6. Outcome-based and flexible curricula aligned with national priorities.

The policy envisions India as a global knowledge superpower with a robust, employable, ethical, and socially responsible technical workforce.

## A. Detailed Mapping of Department Vision with NEP 2020

Department Vision Element	Relevant NEP 2020 Principle	Consistency Level	Justification for Alignment
To develop technically sound diploma electronics and communication engineers	Skill-based, vocational, and technical education; Employability-focused higher education	High	Aligns directly with NEP 2020's emphasis on promoting skill-based education and technical excellence for employability and meeting industrial demands.
To develop ethically strong engineers	Value-based, ethical and humanistic education; Constitutional and civic responsibility	High	Ensures technical graduates uphold integrity, fairness, and social responsibility, reflecting NEP's objective of integrating ethics into professional education.
Contributing to industry and society	Holistic and multidisciplinary education; National development; Sustainability and community engagement	High	Reflects NEP's vision for graduates to actively contribute to economic progress, sustainable development, and community welfare, supporting national goals.

## B. Detailed Mapping of Department Mission with NEP 2020

Department Mission Element	Relevant NEP 2020 Principle	Consistency Level	Justification for Alignment
Develop students' proficiency in the field of electronics & communication engineering to serve the industry and society	Skill-based, vocational and technical education; Outcome-based education; Industry-academia collaboration	High	Prepares students with industry-relevant technical skills, in line with NEP's goal of outcome-based, employability-enhancing education integrated with industry exposure.
Inculcate ethical values and contributory approach	Value-based education; Humanistic, ethical outlook; National and societal contribution	High	Embeds ethics, moral reasoning, and social sensitivity into professional education, consistent with NEP's emphasis on holistic, value-driven learning.
Provide effective teaching-learning to students through continuous faculty development	Pedagogical reforms; Continuous teacher education and professional development; ICT-enabled teaching-learning processes	High	Supports NEP's directives for continuous faculty upskilling, modern teaching methodologies, and student-centric, technology-enabled learning environments.

### Summary

The Department of Electronics & Communication Engineering's Vision and Mission statements are highly aligned with the principles of NEP 2020. Both emphasize:

- Technical skill development
- Ethical and value-based education
- Industry collaboration and societal contribution
- Outcome-based learning
- Continuous professional development for educators

This alignment ensures the department's educational strategies are contemporary, nationally relevant, and contribute meaningfully to the national goal of preparing an employable, ethical, and socially responsible technical workforce.

## **1.2. State the Program Educational Objectives (PEOs) Program Educational Objectives (PEOs)**

**PEO 1:** Students will apply their knowledge and skills in the field of electronics and communication engineering, to solve problems and contribute effectively to industry and society.

**PEO 2:** Students will uphold ethical principles to contribute to their communities as entrepreneurs and professionals.

**PEO 3:** Students will be lifelong learners who are capable of adapting to technological advancements and emerging trends through career advancement and as professionals.

## **Justification for Appropriateness of Program Educational Objectives (PEOs)**

(Diploma in Electronics and Communication Engineering)

The defined Program Educational Objectives (PEOs) are appropriately designed to reflect the vision, mission, stakeholder needs, and graduate attributes required by the NBA for diploma programs. Each PEO aligns with both technical competence and societal contribution, ensuring a well-rounded diploma graduate profile.

### **PEO 1: Application of Knowledge and Skills**

"Students will apply their knowledge and skills in the field of electronics and communication engineering, to solve problems and contribute effectively to industry and society."

Justification:

- This objective ensures that diploma graduates are job-ready, fulfilling the NBA's emphasis on program relevance to industry and society.
- It reflects the practical orientation of diploma education and aligns with Program Outcomes (POs) like problem solving, application of engineering fundamentals, and modern tool usage.
- The objective is consistent with stakeholder feedback gathered through SWOT analysis, especially industry and alumni inputs emphasizing employability, hands-on skills, and applied problem-solving.
- By linking curriculum application to real-world challenges, it upholds the NBA's outcome-based education model.

### **PEO 2: Ethical and Professional Contribution**

"Students will uphold ethical principles to contribute to their communities as entrepreneurs and professionals."

Justification:

- This PEO addresses the NBA-mandated emphasis on ethics, responsibility, and societal contribution, especially for diploma engineers working in the grassroots of technology deployment.
- Encouraging entrepreneurship aligns with national initiatives like Skill India and Start-up India, supporting self-reliant graduates.
- It also supports professionalism, which is vital in work environments where diploma holders take on critical implementation roles.
- Inclusion of ethics reflects the NBA's Graduate Attributes (GA) such as individual and team work, communication, and societal responsibility.

### **PEO 3: Lifelong Learning and Adaptability**

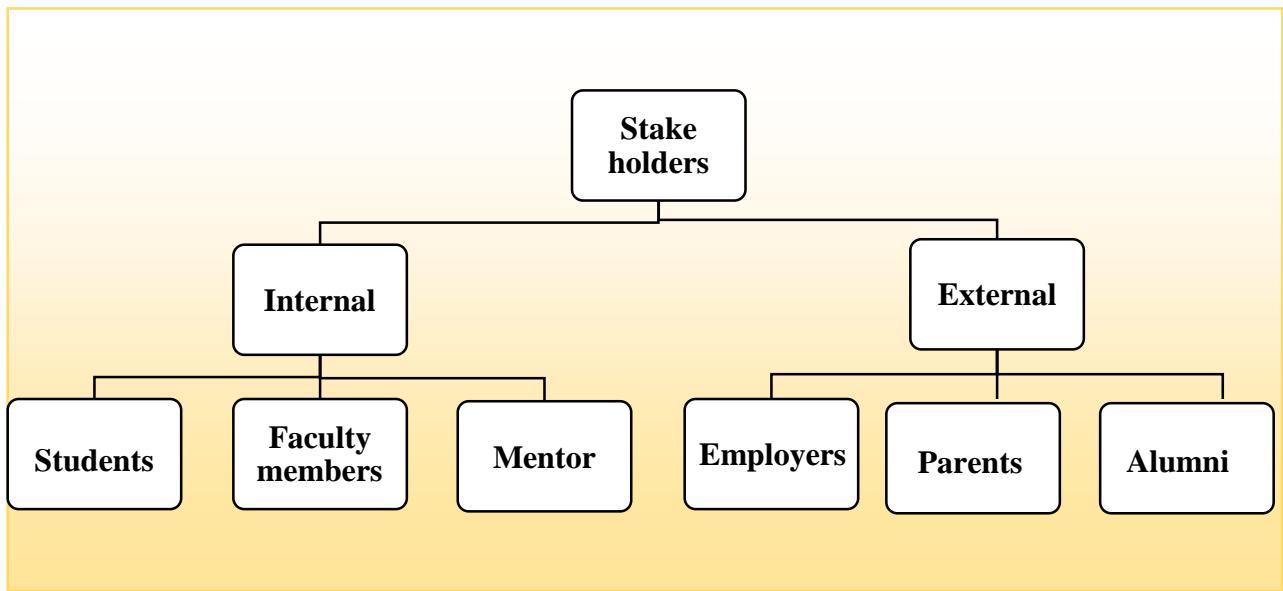
"Students will be lifelong learners who are capable of adapting to technological advancements and emerging trends through career advancement and as professionals."

Justification:

- In the dynamic field of electronics and communication, continuous learning is essential to remain employable and innovative.
- This PEO prepares diploma engineers to pursue higher education, technical certifications, or lateral professional growth — all promoted by the AICTE and NBA guidelines for vertical mobility.
- It reinforces the lifelong learning attribute, ensuring pass outs to remain relevant as technologies evolve (e.g., IoT, AI, 5G).
- Encourages flexibility, critical thinking, and self-driven learning — vital in today's technology-driven and multidisciplinary workplaces.

### **1.3. Indicate where and how the Vision, Mission and PEOs are published and disseminated among stakeholders**

- The mission and vision of the department are published on the institute and department website which can be viewed by all the stakeholders.
- The mission and vision displayed at prominent locations in the campus can be viewed by students, parents, faculty member and others.



**Figure-1. Diagram Showing the Various Types of Stake holders**

## **Students:**

- They have most important role in the program.
- Their feedback helps institute/department to improve pedagogy, to implement innovative teaching-learning methodologies, to improve other facilities and to organize various extracurricular and co-curricular activities.

## **Faculty:**

- They are important stake holders as they directly interact with the students through regular classes/laboratories and assess their performance through various evaluation techniques.
- They are members of various committees which execute/monitor curricular and co-curricular activities.
- They are contributing for framing Vision, Mission, PEOs, and Course Outcomes.

## **Mentor:**

The **Mentor** plays a crucial role in guiding and supporting the institution or department throughout the NBA accreditation process. Their responsibilities include:

1. **Guidance and Advice:**
  - The mentor provides expert guidance on how to prepare for NBA accreditation, sharing best practices and helping the institution understand NBA's criteria and expectations.
2. **Review and Feedback:**
  - They review the **Self-Assessment Report (SAR)** and offer constructive feedback, suggesting improvements and clarifications where needed.
3. **Support in Documentation:**
  - The mentor helps ensure that documentation is accurate, complete, and well-organized, in line with NBA's quality requirements.
4. **Preparation for Visit:**
  - They assist in preparing the faculty and staff for the NBA **team visit**, including **mock interviews** and ensuring that the physical and digital infrastructure aligns with NBA standards.
5. **Continuous Improvement:**
  - The mentor emphasizes **Outcome-Based Education (OBE)** and continuous improvement, helping the institution align its **vision, mission, PEOs, POs, and COs** with NBA guidelines.
6. **Problem Solving:**
  - Acts as a resource for addressing challenges or gaps in compliance with accreditation standards.

## **Employers:**

- They are one of the end users of the diploma engineers.
- They provide suggestion for curriculum gap to make the students industry ready and improve institute-industry interactions.

**Parents:**

- They entrust the program so that their wards meet their career goals.

**Alumni:**

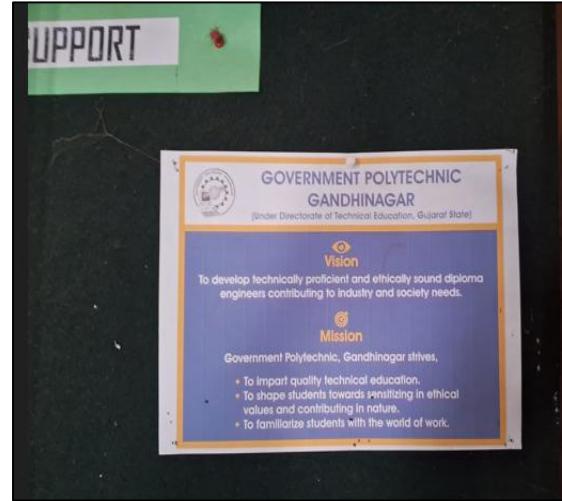
- They are the ambassadors of the program and their good footprint indicates long term success of the program.
- Their feedback helps to make necessary changes in curriculum to meet the challenging demands of the real world.

The vision, mission and PEOs are disseminated to the stakeholders of the program i.e., management, faculty, students, staff, alumni, parents and current and prospective employers through continuous interaction. The Vision and Mission of the department are published and disseminated through following:

Sr. No.	Place of Dissemination	Meant For
1	Institute Website- <a href="http://www.gpgh.cteguj.in/">http://www.gpgh.cteguj.in/</a>	Internal & External Stakeholder
2	Department Website- <a href="https://sites.google.com/polytechnicgnr.gujarat.gov.in/electronics/home">https://sites.google.com/polytechnicgnr.gujarat.gov.in/electronics/home</a>	Internal & External Stakeholder
3	Display Board at the entrance of department and Corridors	Internal & External Stakeholder
4	Departmental Notice Board	Internal & External Stakeholder
5	H.O.D. Office, Departmental Laboratories and Faculty cabins	Internal Stakeholder
6	Orientation/Induction Program	Internal & External Stakeholder
7	Course File	Internal Stakeholder
8	Brochure of department	Internal & External Stakeholder
9	Department email id signature (HOD-EC email id)	Internal & External Stakeholder
10	Newsletter of department	Internal & External Stakeholder



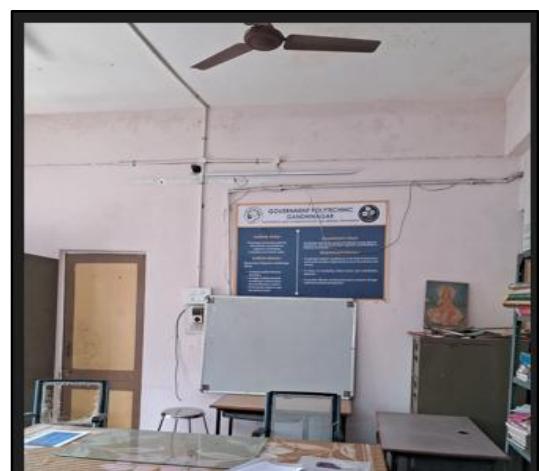
**Corridor**



**Notice Board**



**Laboratory /Faculty seating**



**HOD Cabin**



**Classroom**



**Orientation/Induction Program**

The PEOs of the department are published and disseminated through:

Sr. No.	Place of Dissemination	Meant For
1	Institute Website- <a href="http://www.gpgh.cteguj.in/">http://www.gpgh.cteguj.in/</a>	Internal & External Stakeholder
2	Department Website- <a href="https://sites.google.com/polytechnicgnr.gujarat.gov.in/electronics/home">https://sites.google.com/polytechnicgnr.gujarat.gov.in/electronics/home</a>	Internal & External Stakeholder
3	Departmental Notice Board	Internal & External Stakeholder
4	H.O.D. Office, Departmental Laboratories, and Faculty cabins	Internal Stakeholder
5	Course File	Internal Stakeholder

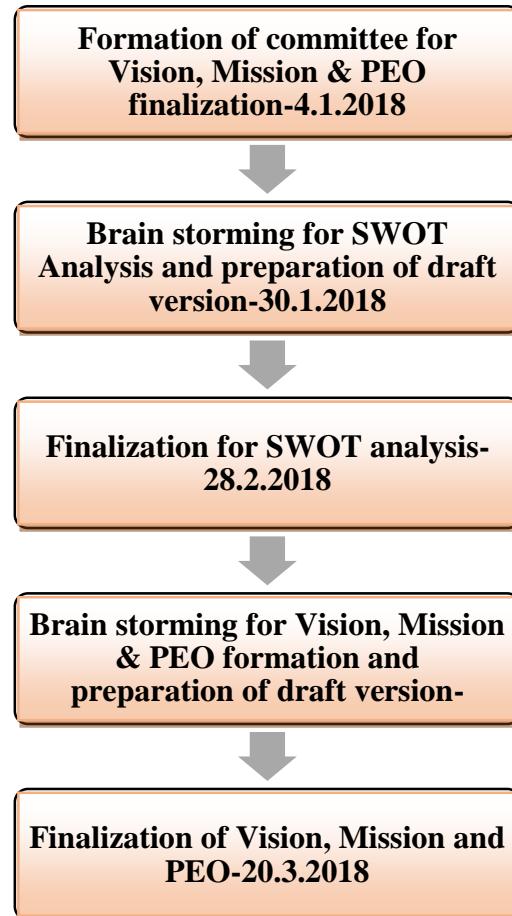
### **Process of Dissemination among stakeholders**

Vision, Mission and PEOs are disseminated to all the stakeholders of the program through faculty meetings, student workshops, parent meetings and placement and training activities at regular intervals. They are disseminated during lectures and lab sessions (In lab manuals) too. The Vision, Mission and PEOs are also disseminated during the first-year orientation program by department faculty members.

<b>Vision, Mission and PEO</b>	<b>Place of Display</b>	<b>Dissemination</b>	<b>Publication</b>
	<ul style="list-style-type: none"> <li>• HOD Chamber</li> <li>• Notice Boards</li> <li>• Classrooms</li> <li>• Laboratories</li> <li>• Staff Rooms</li> <li>• Corridor</li> </ul>	<ul style="list-style-type: none"> <li>• Seminars/Workshops</li> <li>• Alumni Meetings</li> <li>• Parents-Teacher Meeting</li> <li>• First Year orientation program</li> <li>• Meeting with HRs during placement drives</li> </ul>	<ul style="list-style-type: none"> <li>• Institute Website <a href="http://www.gpgh.cteguj.in/">http://www.gpgh.cteguj.in/</a></li> <li>• Department Website- <a href="https://sites.google.com/polytechnicgnr.gujarat.gov.in/electronics/home">https://sites.google.com/polytechnicgnr.gujarat.gov.in/electronics/home</a></li> <li>• Newsletter (<b>Vision, Mission</b>)</li> <li>• Course files</li> <li>• Department Brochure (<b>Vision, Mission</b>)</li> <li>• Lab manuals (<b>Vision, Mission</b>)</li> <li>• Department email id signature (HOD-EC email id) (<b>Vision, Mission</b>)</li> </ul>

#### **1.4. State the process for defining the Vision and Mission of the department, and PEOs of the Program**

- **Timeline and steps for SWOT, Vision, Mission and PEO formation**



**Timeline and steps for SWOT, Vision, Mission and PEO formation**

#### **SWOT Analysis – Draft Version**

##### **Strengths**

1. **Strategic Location** – Situated in the state capital, close to GIDC electronics estate, enabling better industry connectivity.
2. **Qualified & Motivated Faculty** – Balanced mix of young, experienced, and self-driven teaching staff.
3. **Adequate Infrastructure** – Sufficient facilities to support academic and co-curricular activities.
4. **AICTE Approval** – Recognized and approved diploma program in Electronics & Communication.
5. **Teamwork Culture** – Strong collaboration between faculty and students.
6. **Updated Curriculum** – Recently revised syllabus aligned with current industry trends.
7. **Academic Discipline** – Strict adherence to academic calendar and schedules.
8. **Resource-Rich Library** – Well-stocked with relevant books and reference materials.

9. **Modern Laboratories** – Equipped with necessary instruments for practical learning.
10. **Internet Connectivity** – Sufficient access to support teaching-learning activities.
11. **Industry Linkages** – Active Industry-Institute interaction for student benefit.

### **Weaknesses**

1. **Insufficient Supporting Staff** – Limited non-teaching manpower for smooth departmental functioning.
2. **No Department-Level Purchase Power** – Hurdles in quick procurement of materials/equipment.
3. **Low Student Enrolment** – Declining intake over recent years.
4. **Lower Merit Students** – Entry-level academic standards need improvement.
5. **Lack of Library Automation** – Manual processes impacting efficiency.
6. **Faculty Transfers** – Frequent changes affecting continuity.
7. **Limited Hands-on Exposure** – Students lack adequate practical exposure in curriculum.
8. **Inadequate Industry Visits/Exposure** – Limited real-world industry experience integrated into studies.

### **Opportunities**

1. **ICT-Based Teaching** – Adoption of modern digital tools for enhanced learning.
2. **Faculty Development** – Training in latest and emerging technologies.
3. **Student Startup Support** – Encouraging entrepreneurship and innovation.
4. **External Funding** – Potential to attract funds from donors, alumni, industries, and foundations.

### **Threats**

1. **Declining Interest in Diploma EC** – Fewer students opting for the branch.
2. **Competition from Private Institutes** – Self-financed institutions in the vicinity.
3. **Limited Electronics Industry in Gujarat** – Scarcity of design and manufacturing opportunities.
4. **High Dropout Rates** – Students leaving before completion of the course.

The Vision and Mission Statements of the department have been revised by considering the institutional Mission & Vision. The department has adopted a consultative approach to establish its vision and mission by involving the stakeholders of the institute such as faculty, students, staff, parents, alumni, industrial experts, and employers. While articulating the vision and mission statements for the department the future technology and societal requirements were also considered. Considering the institutional Vision and Mission as the base and incorporating global projections in the field of electronics and communication engineering, the Vision and Mission Statements of the department have been defined. The faculty members of the department met number of times to develop and cultivate a strong and meaningful Vision and Mission statements. SWOT analysis was done for the department as below.

### **Strength**

- Located in state capital nearby GIDC electronics estate
- Good blend of young, qualified, experienced and self-motivated faculty members
- Adequate infrastructure
- AICTE approved diploma EC
- Excellent team work among faculty and students
- Revised and updated curriculum of diploma EC
- Academic calendar is strictly adhered to the schedule
- Rich library
- Well-equipped laboratory
- Enough Internet access
- Good Industry Institute interaction

### **Weakness**

- Major lack of supporting staff
- No purchase power at department level
- Poor student enrollment
- Low merit students
- Lack of Library Automation
- Transfer of faculty
- Lack of exposure to students for hands on experience in curriculum
- Lack of industry exposure to students in curriculum

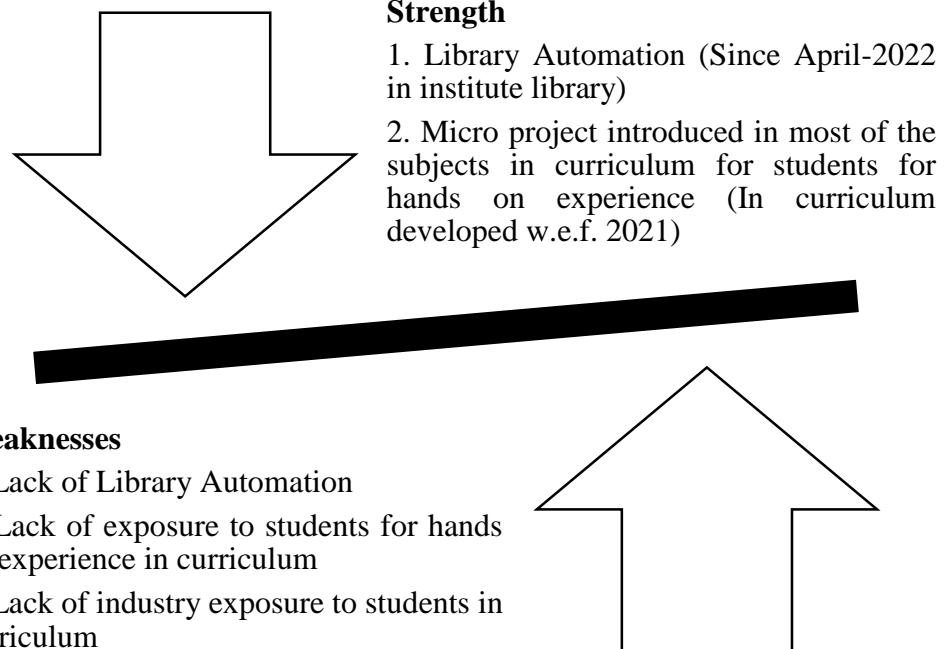
### **Opportunities**

- ICT based teaching learning
- Training of faculty members in emerging areas
- Student startup support
- Possibility of fund raising from Donors/Alumnus/Business/Foundation

### **Threats**

- Decreasing interest of students opting for diploma EC
- Self financed institutes in surroundings
- Lack of design and manufacturing industries in electronics field in Gujarat
- Major dropout of students

## Overcoming Weaknesses of the Department over the time



A series of discussions were conducted simultaneously among parents, students, alumni, Industry experts and expert from NBA accredited institute to finalize the Vision, Mission and PEOs.



**Stake Holder meeting for formation of vision, mission and PEOs of the department**

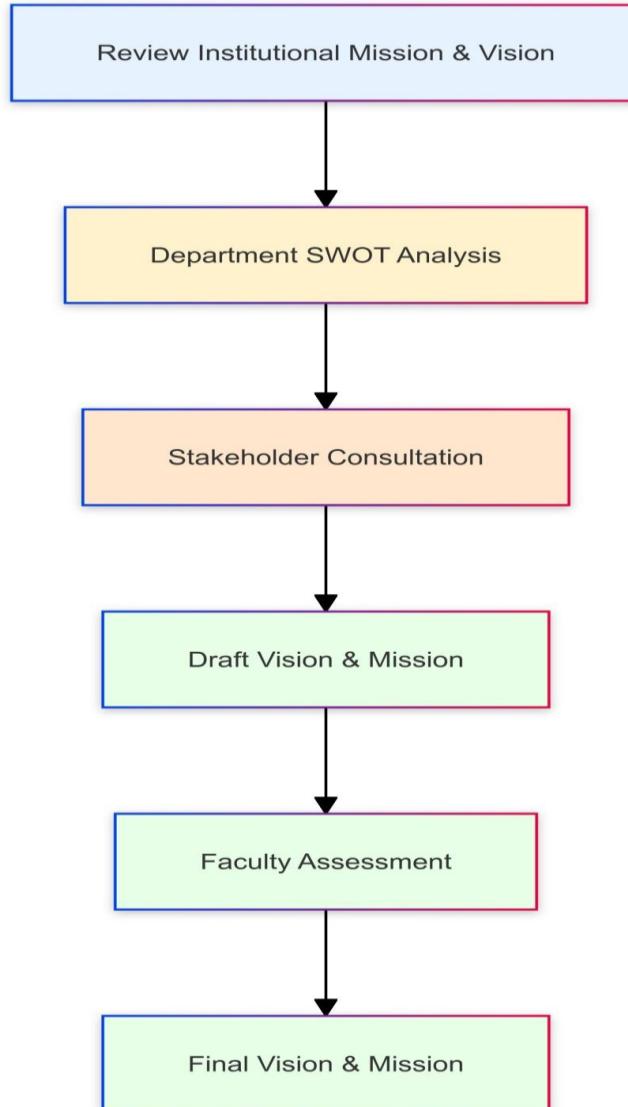


**Stake Holder meeting for formation of vision, mission and PEOs of the department**



**Department level meeting to develop and cultivate a strong and meaningful Vision, Mission and PEOs statements of the department**

## A. Description of process of defining Vision & Mission of the Department



### Process for Defining Vision and Mission of the Department

This flowchart describes the process of developing a department's vision and mission statement. The process flows from top to bottom with the following main steps:

1. The process starts by considering the institutional Mission & Vision.
2. SWOT analysis of the department is conducted in consultation with stakeholders.
3. A draft version of the Vision and Mission statements is formed based on inputs from various stakeholders (faculty, students, staff, parents, alumni, industrial experts, and employers).
4. An assessment of the draft version is done by faculty members.
5. Finally, the final Vision and Mission Statements are formed.

These stakeholders provide input into the drafting process. The flowchart indicates a structured approach to creating a department's vision and mission, incorporating perspectives from various stakeholders associated with the institution.

**Government polytechnic, Gandhinagar**  
**Electronics & Communication Engineering Department**

**Draft Vision and Mission**

Following points are to be considered while forming Vision and Mission of the department.

**Department Vision:** Empowering innovative electronics and communication engineers who drive technological advancement with integrity and societal impact.

**Department Mission:**

1. **Cultivate expertise:** Provide cutting-edge education in electronics and communication engineering, bridging academic knowledge with industry demands.
2. **Foster ethics:** Nurture responsible professionals who prioritize ethical considerations in their technical pursuits.
3. **Enhance learning:** Continuously improve educational quality through faculty development and innovative teaching approaches.
4. **Inspire impact:** Encourage students to apply their skills towards solving real-world challenges and contributing to societal progress.

**Pre-final version of Vision and Mission**

**Department Vision:**

To create diploma graduates in electronics and communication engineering who are technically proficient and ethically grounded, making significant contributions to industry and society.

**Department Mission:**

- To equip students with a strong foundation in electronics and communication engineering, preparing them to meet the needs of the industry and society.
- To instil ethical values and a sense of responsibility in students, encouraging them to contribute positively.
- To ensure a high-quality learning experience through ongoing faculty development and effective teaching methodologies.

## **Final version of Vision and Mission**

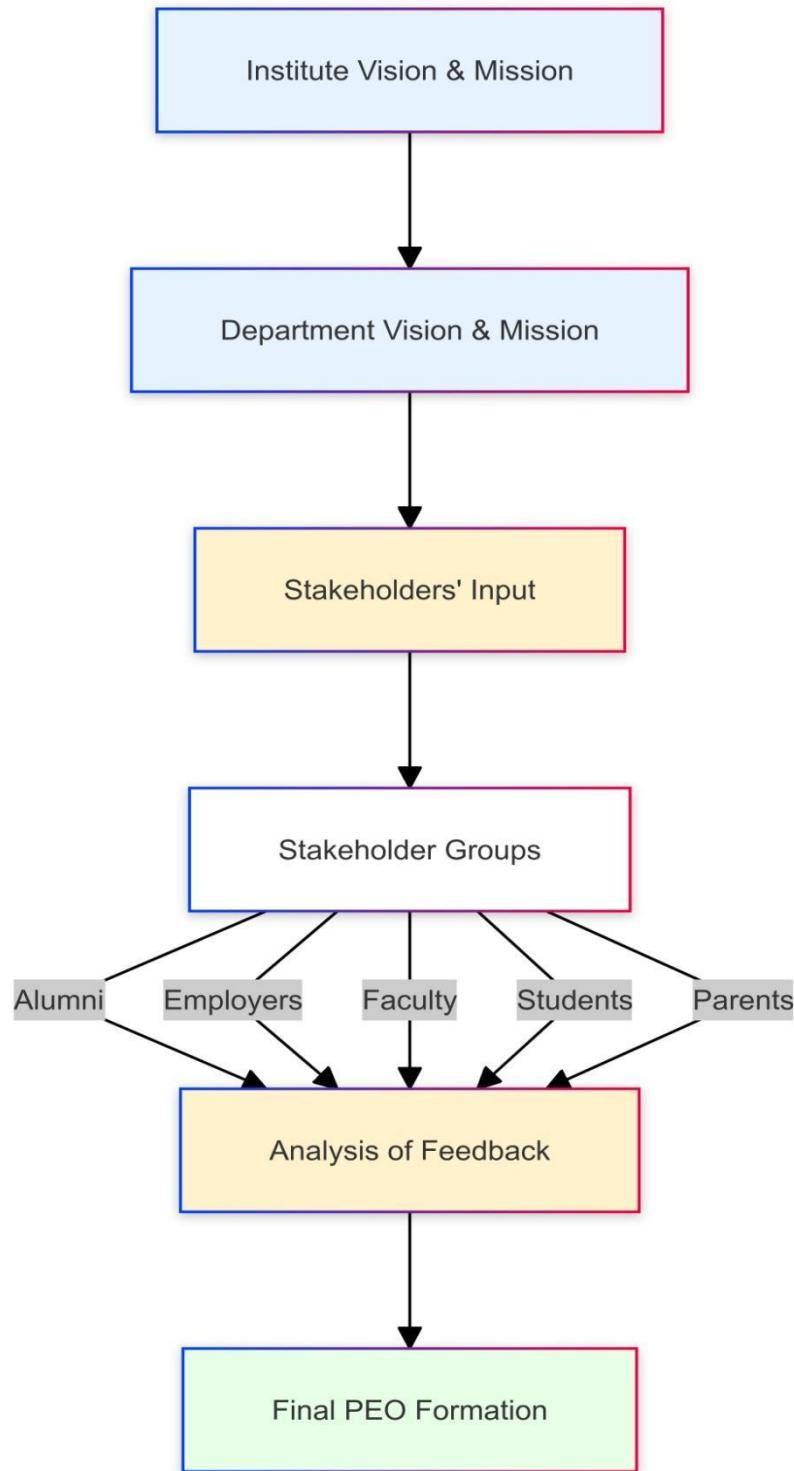
### **Department Vision:**

Develop technically sound and ethically strong diploma electronics and communication engineers contributing to industry and society.

### **Department Mission:**

- To develop students' proficiency in the field of electronics & communication engineering to serve the industry and society.
- To focus on inculcating ethical values and contributory approach.
- To provide effective teaching learning to students through continuous faculty development.

## B. Description of process involved in defining the PEOs of the program



**Process for Defining PEOs of the Department**

## **PEO-Definition:**

Broad **long-term career goals** that describe what diploma pass out students are expected to achieve **3–5 years** after completing the program.

### **Focus:**

**Professional achievement, lifelong learning, societal contribution, and ethical practice.**

### **Audience:**

Intended for **diploma pass outs** after they enter the workforce or pursue higher studies.

The image depicts a flowchart illustrating the process of developing and refining a department's vision and mission within an educational institution. This process involves multiple stakeholders and follows a structured approach. Here's a detailed description of the process shown:

#### **1. Institute Vision and Mission:**

The process begins with the overarching vision and mission of the institute. This serves as the foundation and guiding principle for all subsequent steps.

#### **2. Department Vision and Mission:**

Building on the institute's vision and mission, a preliminary department-specific vision and mission is formulated. This step ensures alignment between the department's goals and the broader institutional objectives.

#### **3. Stakeholders' View:**

This is a crucial phase where input is gathered from various stakeholders. The stakeholders included in this process are:

- Alumni: Former students who can provide perspectives based on their experiences.
- Parents & Students: Current students and their parents, offering insights into expectations and experiences.
- Employers: Organizations that hire graduates, providing industry perspectives and requirements.
- Faculty Members: Academic staff who are integral to implementing the vision and mission.
- Students: Current students who are directly affected by the department's policies and direction.

These stakeholders contribute their views, likely through surveys, meetings, or other feedback mechanisms. Their diverse perspectives ensure a comprehensive understanding of the department's role and impact.

#### **4. Summarize and Analyse Views:**

After collecting input from all stakeholders, the next step involves consolidating and analyzing the gathered information. This likely includes identifying common themes, priorities, and areas of concern across different stakeholder groups.

#### **5. Accept:**

Based on the analysis of stakeholder views, the department leadership makes decisions on what aspects to incorporate into the vision and mission. This step may involve discussions and refinements to ensure the final version adequately reflects stakeholder input while aligning with institutional goals.

#### **6. PEOs (Program Educational Objectives):**

The final step in this process is the formulation of Program Educational Objectives. These are specific, measurable goals that the department sets for its educational programs, directly informed by the newly refined vision and mission.

This systematic approach ensures that the department's vision, mission, and educational objectives are not created in isolation but are instead the result of a collaborative effort that considers multiple perspectives. It demonstrates a commitment to inclusivity and responsiveness to the needs and expectations of various groups connected to the department and institution.

## **1.5 Establish consistency of PEOs with Mission of the Department**

The PEOs ensure the accomplishments of the mission of the Department with special emphasis on technical competence of engineers, value addition, and sustainable solutions to engineering problems. For the mapping of PEOs and Mission, several meetings of the faculty members were conducted at department level. The feedback of the faculty members was taken into consideration and the mapping was finalized as below.

The Vision, Mission and PEOs were also finalized based on the following components:

- Departmental meeting
- Feedback from industries
- Feedback from students/ alumni
- Feedback from training and placement department
- Parents meet



**Department level meeting-1 for mapping of PEOs and Mission**



**Department level meeting-2 for mapping of PEOs and Mission**

## A. Preparation of a matrix of PEOs and elements of Mission statement

PEO	Mission	Mapping Level
<b>PEO 1:</b> Students will apply their knowledge and skills in the field of electronics and communication engineering, to solve problems and contribute effectively to industry and society.	<b>M1:</b> To develop students' proficiency in the field of electronics & communication engineering to serve the industry and society.	3
<b>PEO 1:</b> Students will apply their knowledge and skills in the field of electronics and communication engineering, to solve problems and contribute effectively to industry and society.	<b>M2:</b> To focus on inculcating ethical values and contributory approach.	1
<b>PEO 1:</b> Students will apply their knowledge and skills in the field of electronics and communication engineering, to solve problems and contribute effectively to industry and society.	<b>M3:</b> To provide effective teaching learning to students through continuous faculty development.	2
<b>PEO 2:</b> Students will uphold ethical principles to contribute to their communities as entrepreneurs and professionals.	<b>M1:</b> To develop students' proficiency in the field of electronics & communication engineering to serve the industry and society.	2
<b>PEO 2:</b> Students will uphold ethical principles to contribute to their communities as entrepreneurs and professionals.	<b>M2:</b> To focus on inculcating ethical values and contributory approach.	3
<b>PEO 2:</b> Students will uphold ethical principles to contribute to their communities as entrepreneurs and professionals.	<b>M3:</b> To provide effective teaching learning to students through continuous faculty development.	1
<b>PEO 3:</b> Students will be lifelong learners who are capable of adapting to technological advancements and emerging trends through career advancement and as professionals.	<b>M1:</b> To develop students' proficiency in the field of electronics & communication engineering to serve the industry and society.	3
<b>PEO 3:</b> Students will be lifelong learners who are capable of adapting to technological advancements and emerging trends through career advancement and as professionals.	<b>M2:</b> To focus on inculcating ethical values and contributory approach.	2
<b>PEO 3:</b> Students will be lifelong learners who are capable of adapting to technological advancements and emerging trends through career advancement and as professionals.	<b>M3:</b> To provide effective teaching learning to students through continuous faculty development.	2

## B. Consistency/justification of co-relation parameters of the above matrix

<b>PEO</b>	<b>Mission</b>	<b>Mapping Level</b>	<b>Justification</b>
PEO1	M1	3	This is strongly aligned (level 3) because both the PEO and M1 focus on developing proficiency in electronics and communication engineering to serve industry and society.
PEO1	M2	1	The weak alignment (level 1) is due to M2's focus on ethical values, which is not explicitly mentioned in PEO 1.
PEO1	M3	2	There's a moderate alignment (level 2) as effective teaching and faculty development indirectly support students' ability to apply knowledge and skills.
PEO2	M1	2	There's moderate alignment (level 2) as serving industry and society relates to contributing to communities, though ethics aren't explicitly mentioned in M1.
PEO2	M2	3	This is strongly aligned (level 3) due to the direct focus on ethical values in both PEO 2 and M2.
PEO2	M3	1	The weak alignment (level 1) is because faculty development doesn't directly address ethical principles or community contribution.
PEO3	M1	3	There is a strong alignment (level 3) as proficiency in the field directly supports adaptability to advancements, though lifelong learning.
PEO3	M2	2	The moderate alignment (level 2) comes from the contributory approach in M2, which relates to professional development, though it doesn't directly address technological adaptation.
PEO3	M3	2	This also has moderate alignment (level 2) because continuous faculty development indirectly supports the concept of lifelong learning, though it doesn't explicitly address students' adaptability.

**1. Slight (Low)**      **2.Moderate (Medium)**      **3. Substantial (High)**

## 2.1. Program Curriculum

### 2.1.1 State the process used to identify extent of compliance of the curriculum for attaining the Program Outcomes (POs) and Program Specific Outcomes (PSOs)

#### A. Process used to identify extent of compliance of curriculum for attaining POs & PSOs

Government Polytechnic Gandhinagar is affiliated to Gujarat Technological University (GTU). The course curriculum for diploma in electronics and communication engineering is provided by the university. Each syllabus is mentioned with course title and course code, semester in which it is offered, teaching and examination scheme with credit, content, percentage Weightage of each topic, distribution of marks for each cognitive level, course outcomes, list of experiments, list of equipment and reference books.

University started its academic activities in 2008 and first revised curriculum has been implemented from academic year 2012-13. GTU established CDC (Curriculum Development Cell) in 2012 to revise the curriculum of all diploma-engineering courses under the supervision of experts from NITTTR (National Institute of Technical Teachers Training and Research) Bhopal and GTU affiliated Diploma Colleges across the state. Syllabus design process Involve all the stake holders of the system, implementers, students, faculties, alumni and industry experts. CDC finalized the curriculum for each course. The structure of EC curriculum is shown in table 2.1.1.1.

Teaching Scheme and Course Category												
Course Code	Course Title	Teaching Scheme			Credit (L+T+P)	Theory Mark		Practical Mark		Grand Total	Course Category	
		L	T	P		ESE	PA	ESE	PA			
<b>SEMESTER – 1</b>												
3300001	Basic Mathematics	2	2	0	4	70	30	0	0	100	BM	
3300002	English	3	2	0	5	70	30	20	30	150	HS	
3300005	Basic Physics	3	0	2	5	70	30	20	30	150	ES	
3311101	Electronic Components & Practice	4	0	4	8	70	30	40	60	200	PC	
3320901	Basic of Electrical Engineering	3	0	2	5	70	30	20	30	150	ES	
3300013	Basic of Computer & Information Technology	0	0	4	4	0	0	40	60	100	ES	
<b>SEMESTER – 2</b>												
1990001	Contributor Personality Development	4	0	0	4	70	30	20	30	150	HS	
3320002	Advanced Mathematics (Group -1)	2	2	0	4	70	30	0	0	100	EM	
3300003	Environment Conservation & Hazard Management	4	0	0	4	70	30	0	0	100	HS	
3321101	Electronic Circuits & Applications	4	0	4	8	70	30	40	60	200	PC	
3321102	Electronic Networks	3	2	2	7	70	30	20	30	150	PC	
3321103	Electronics workshop	0	0	4	4	0	0	40	60	100	PC	
<b>SEMESTER – 3</b>												
3331101	Antenna & Wave Propagation	3	0	2	5	70	30	20	30	150	PC	
3331102	Analog Electronics	4	0	4	8	70	30	40	60	200	PC	
3331103	Principle Of Electronic Communication	3	0	2	5	70	30	20	30	150	PC	
3331104	Digital Logic Design	3	1	2	6	70	30	20	30	150	PC	
3331105	Programming In C	3	0	4	7	70	30	40	60	200	PC	
<b>SEMESTER – 4</b>												
3341101	Microprocessor And Assembly Language Programming	3	0	2	5	70	30	20	30	150	PC	
3341102	Digital Communication	3	0	2	5	70	30	20	30	150	PC	
3341103	Optical Communication	3	0	2	5	70	30	20	30	150	PC	
3341104	Electronics Instruments & Measurement	3	0	2	5	70	30	20	30	150	PC	
3341105	Industrial Electronics	4	0	2	6	70	30	20	30	150	PC	
3341106	Circuit Design Tools	0	0	4	4	0	0	40	60	100	PC	
<b>SEMESTER – 5</b>												
3351101	Microcontroller	4	0	2	6	70	30	20	30	150	PC	
3351102	Mobile Communication	4	0	2	6	70	30	20	30	150	PC	
3351103	Microwave & Radar Engineering	4	0	2	6	70	30	20	30	150	PC	
3351104	Software Practices	0	0	2	2	70	0	20	30	150	PC	
3351105	Computer Networks	4	0	2	6	70	30	20	30	150	PEC	
3351107	Project-I	0	0	4	4	0	0	40	60	100	PBC	
<b>SEMESTER - 6</b>												
3361101	Entrepreneurship and industrial management	4	0	0	4	70	30	0	0	100	M	
3361102	Consumer Electronics	4	0	2	6	70	30	20	30	150	PC	
3361103	Maintenance Of Electronics Equipments	0	0	2	2	0	0	20	30	50	PC	
3361104	VLSI	4	0	2	6	70	30	20	30	150	PEC	
3361105	Embedded System	4	0	2	6	70	30	20	30	150	PEC	
3361109	Project – II	0	0	6	6	0	0	200	100	300	PBC	

**Table 2.1.1.1. Teaching Scheme & Course Category (Old- For batches admitted before 2021)**

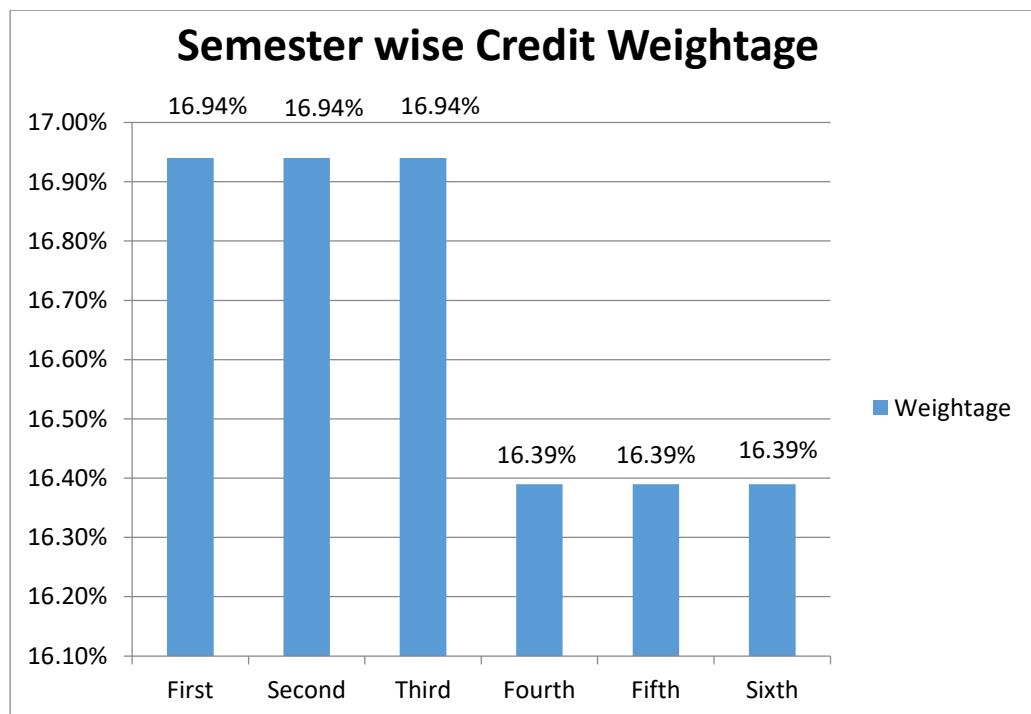
- **Abbreviations:**

HS – Humanities & Social Science Courses  
 BM – Basic Mathematics  
 EM – Engineering Mathematics  
 ES – Engineering Science Course  
 M – Management based course  
 PC – Program Core Course  
 PEC – Program Elective Course  
 PBC – Project Based Course

- **Semester wise Credit distribution and Weightage**

Sr. No	Semester	Credit	Weightage
1	First	31	16.94%
2	Second	31	16.94%
3	Third	31	16.94%
4	Fourth	30	16.39%
5	Fifth	30	16.39%
6	Sixth	30	16.39%
	Total	183	100.00%

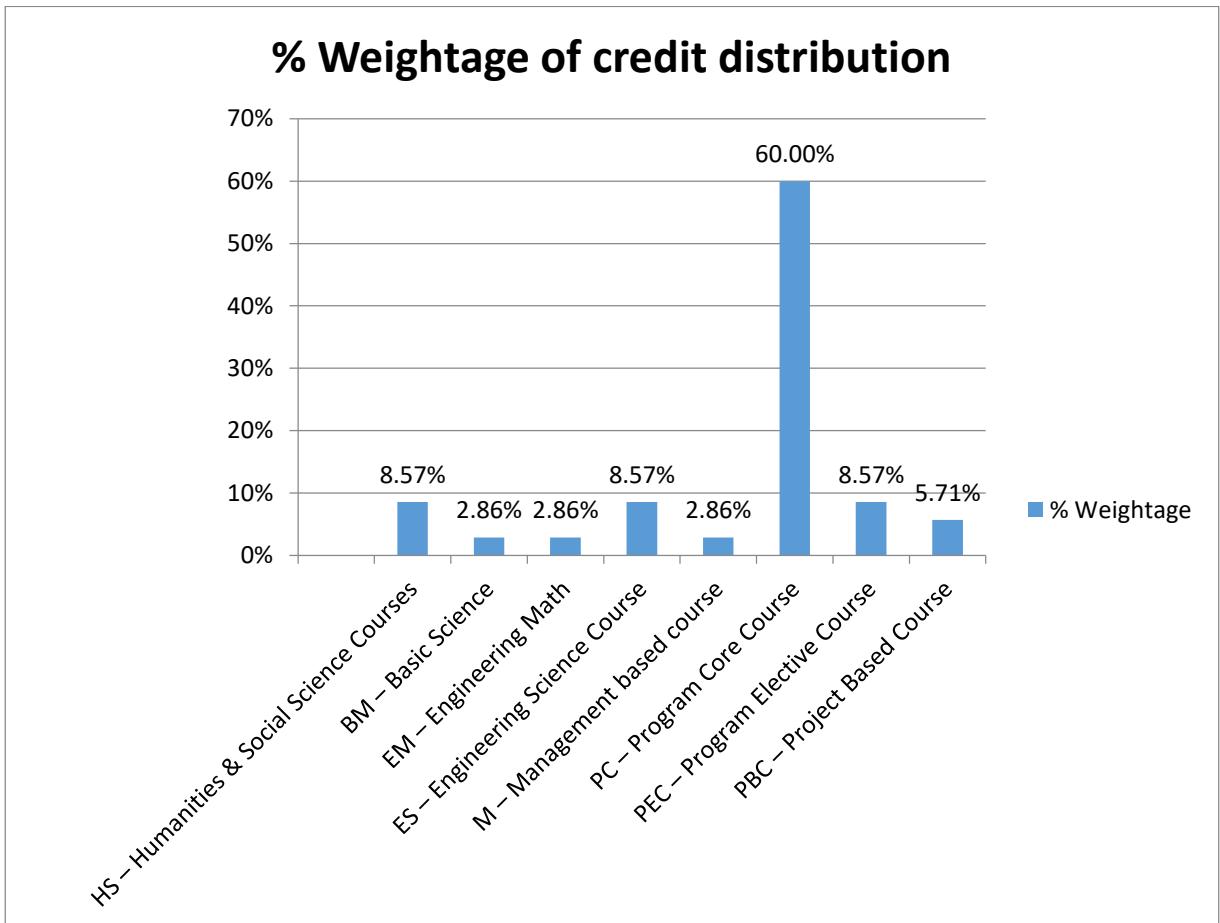
**Table 2.1.1.2. Credit distribution and its Weightage Semester wise**



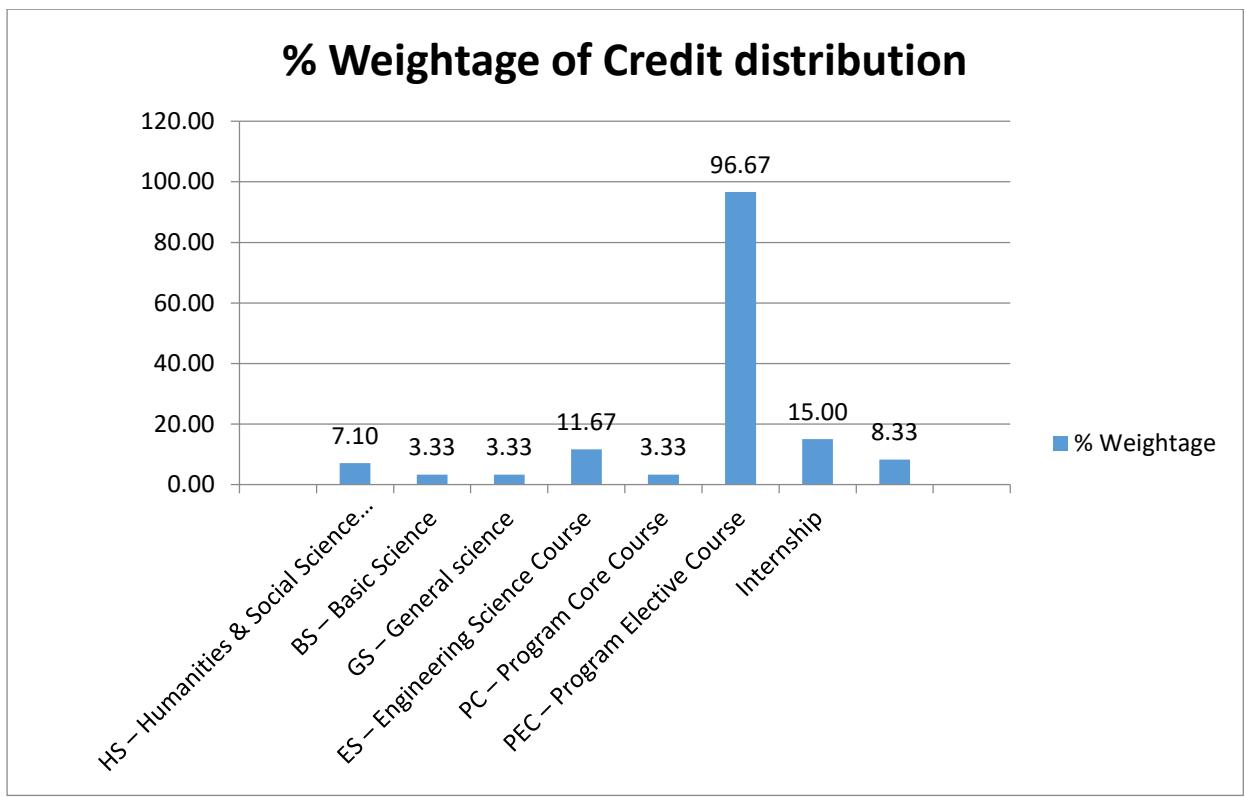
**Figure 2.1.1.1. Graphical Representation of Percentage Credit Distribution in Semester**

Sr No.	Components	Credit	No. of courses	% Weightage of course	% Weightage of course credit
1	HS – Humanities & Social Science Courses	13	3	8.57%	7.10%
2	BM – Basic Science	4	1	2.86%	3.33%
3	EM – Engineering Math	4	1	2.86%	3.33%
4	ES – Engineering Science Course	14	3	8.57%	11.67%
5	M – Management based course	4	1	2.86%	3.33%
6	PC – Program Core Course	116	21	60.00%	96.67%
7	PEC – Program Elective Course	18	3	8.57%	15.00%
8	PBC – Project Based Course	10	2	5.71%	8.33%
	Total	183	35	100%	100%

**Table 2.1.1.3. Percentage Weightage of course and credit distribution**



**Figure 2.1.1.2 Graphical Representation of Percentage Weightage of Credit Distribution in Semester**



**Figure 2.1.1.3 Graphical representation of percentage Weightage of course credit distribution**

To keep in line with AICTE model curriculum, Gujarat Technological University has made fourth revision and design Competency-focused Outcome-based Green Curriculum-2021 (COGC-2021) with nine different categories of courses. It was in effect from September 2021. First batch of this revised curriculum will pass out in June 2024.

As per the need of Industries some courses having programming with hardware as well as new course categories of Audit and Mandatory are added in the curriculum in line with NEP2020 from the year 2024-25.

New Teaching Scheme and Course Category											
Course Code	Course Title	Teaching Scheme/ Week		Credit (L+T+P)	Theory Mark	Practical Mark		Grand Total		Course Category	
		L	T	P	ESE	PA	ESE	PA			
<b>SEMESTER – 1</b>											
4300001	Mathematics	3	1	0	4	70	30	0	0	100	Basic science
4300002	Communication Skills in English	2	0	2	3	70	30	25	25	150	HS
4300005	Physics	3	0	2	4	70	30	25	25	150	Basic science
4300010	Basics of Information and Communication	0	0	4	2	0	0	25	25	50	Engineering
4300015	Sports and Yoga	0	0	2	0	0	0	50	0	50	HS
431101	Fundamentals of Electrical Engineering	3	0	2	4	70	30	25	25	150	Engineering
431102	Fundamentals of Electronics	4	0	2	5	70	30	25	25	150	Program Core
<b>SEMESTER – 2</b>											
4300003	Environment and Sustainability	3	0	0	3	70	30	0	0	100	General Science
4300012	Engineering Drawing and Computer Aided	0	0	4	2	0	0	25	25	50	Engineering
4300016	Indian Constitution	2	0	0	0	0	0	50	0	50	HS
4320002	Engineering Mathematics	3	1	0	4	70	30	0	0	100	Basic Sciences
4321101	Electronics Workshop	0	0	4	2	0	0	25	25	50	Engineering
4321102	Digital Electronics	3	0	2	4	70	30	25	25	150	Program Core
4321103	Electronic Circuits & Applications	3	0	2	4	70	30	25	25	150	Program Core
<b>SEMESTER – 3</b>											
4330001	Summer Internship-I	0	0	2	1	0	0	25	25	50	Summer Internship-1 (2 Weeks) after sem-
4331101	Electronic Circuits & Networks	3	0	2	4	70	30	25	25	150	Program Core
4331102	Electronic Measurements & Instruments	3	0	2	4	70	30	25	25	150	Program Core
4331103	Industrial Electronics	3	0	2	4	70	30	25	25	150	Program Core
4331104	Principle of Electronic Communication	3	0	2	4	70	30	25	25	150	Program Core
4331105	Programming In C	2	0	2	3	70	30	25	25	150	Program Core
<b>SEMESTER - 4</b>											
4340002	Contributor Personality Development	2	0	0	2	70	30	25	25	150	Program elective
4341101	Microprocessor & Microcontroller	3	0	2	4	70	30	25	25	150	Program Core
4341102	Digital Communication	3	0	2	4	70	30	25	25	150	Program Core
4341103	Fiber Optics Communication	3	0	2	4	70	30	25	25	150	Program elective
4341104	Circuit Design Tools	0	0	2	1	0	0	25	25	50	Program Core
4341105	Linear Integrated Circuit (Analog Electronics)	3	0	2	4	70	30	25	25	150	Program Core
4341106	Antenna & Wave Propagation	2	0	2	3	70	30	25	25	150	Program Core
<b>SEMESTER - 5</b>											
4300021	Entrepreneurship and Start-ups	3	0	0	3	70	30	0	0	100	Program Core
4351102	Embedded System	3	0	2	4	70	30	25	25	150	Program Core
4351103	Microwave and Radar Communication	3	0	2	4	70	30	25	25	150	Program elective
4351104	Mobile & Wireless Communication	3	0	2	4	70	30	25	25	150	Program Core
4351105	Software Practices	0	0	2	1	0	0	25	25	50	Program Core
4351106	Summer Internship-II	0	0	6	3	0	0	50	50	100	Program Core
4351107	Electronics and Communication Engineering	0	0	2	1	0	0	50	50	100	Program Core
4351108	OOPS & Python Programming	2	0	2	3	70	30	25	25	150	Program elective
<b>SEMESTER - 6</b>											
4361101	Computer Networks & Data Communication	3	0	2	4	70	30	25	25	150	Program Core
4361102	VLSI	3	0	2	4	70	30	25	25	150	Program Core
4361103	Electronics & Communication Engineering	0	0	2	1	0	0	25	25	50	Program Core
4361104	Android App Development	0	0	4	2	0	0	50	50	100	Program Core
4361106	Renewable Energy & Emerging Trends in	2	0	2	3	70	30	25	25	150	Program elective

**Table 2.1.1.4 New Teaching Scheme & course Category (New- For batches admitted from 2021)**

- Semester wise Credit distribution and Weightage

Sr. No	Semester	Credit	Weightage
1	First	22	18.33%
2	Second	19	15.83%
3	Third	20	16.67%
4	Fourth	22	18.33%
5	Fifth	23	19.17%
6	Sixth	14	11.67%
	Total	120	100%

Table 2.1.1.5 Credit distribution and its Weightage Semester wise

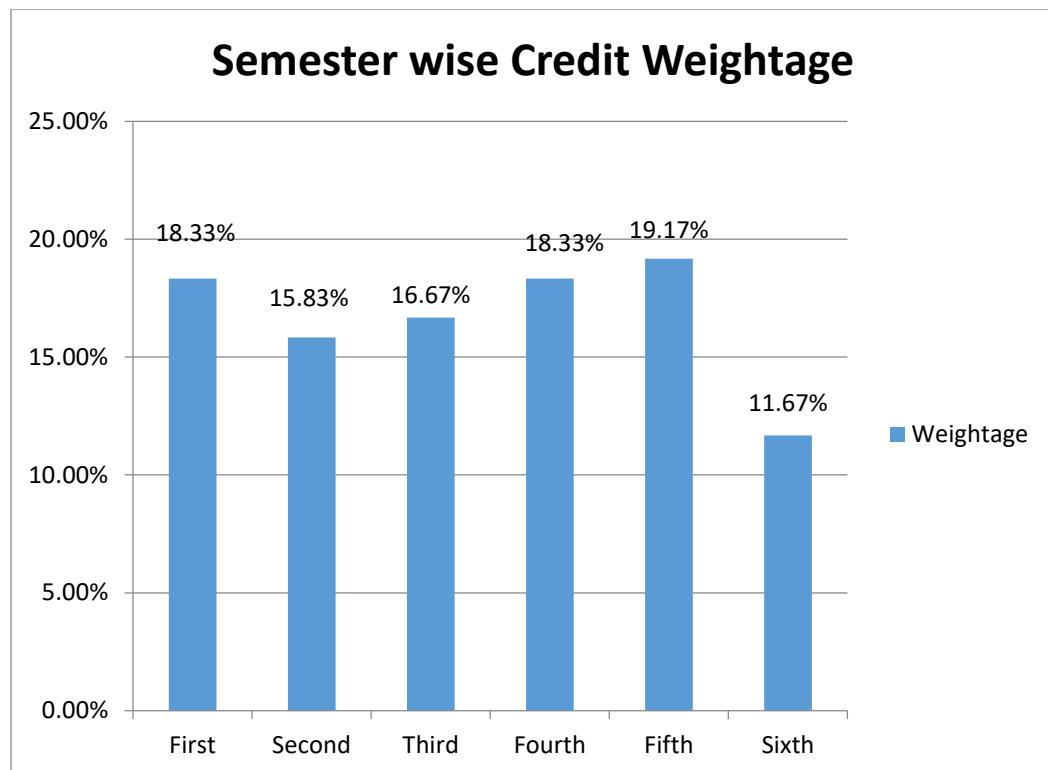
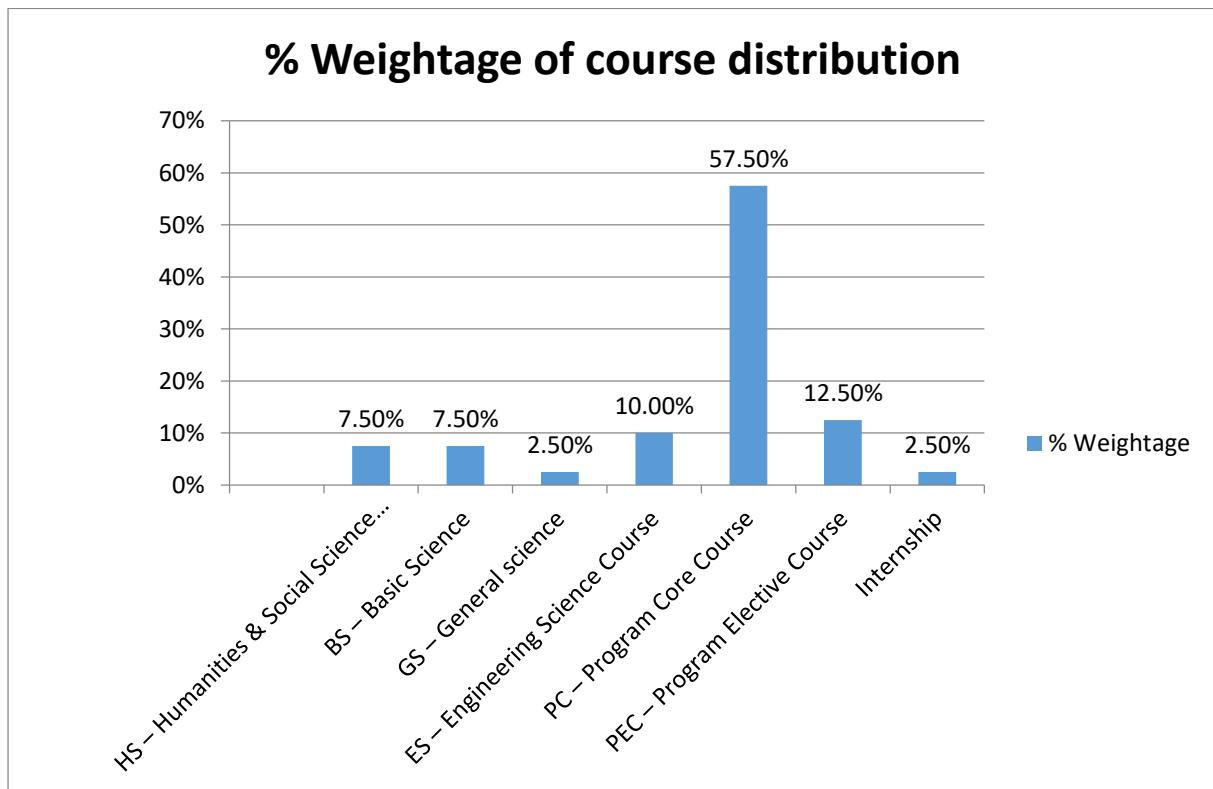


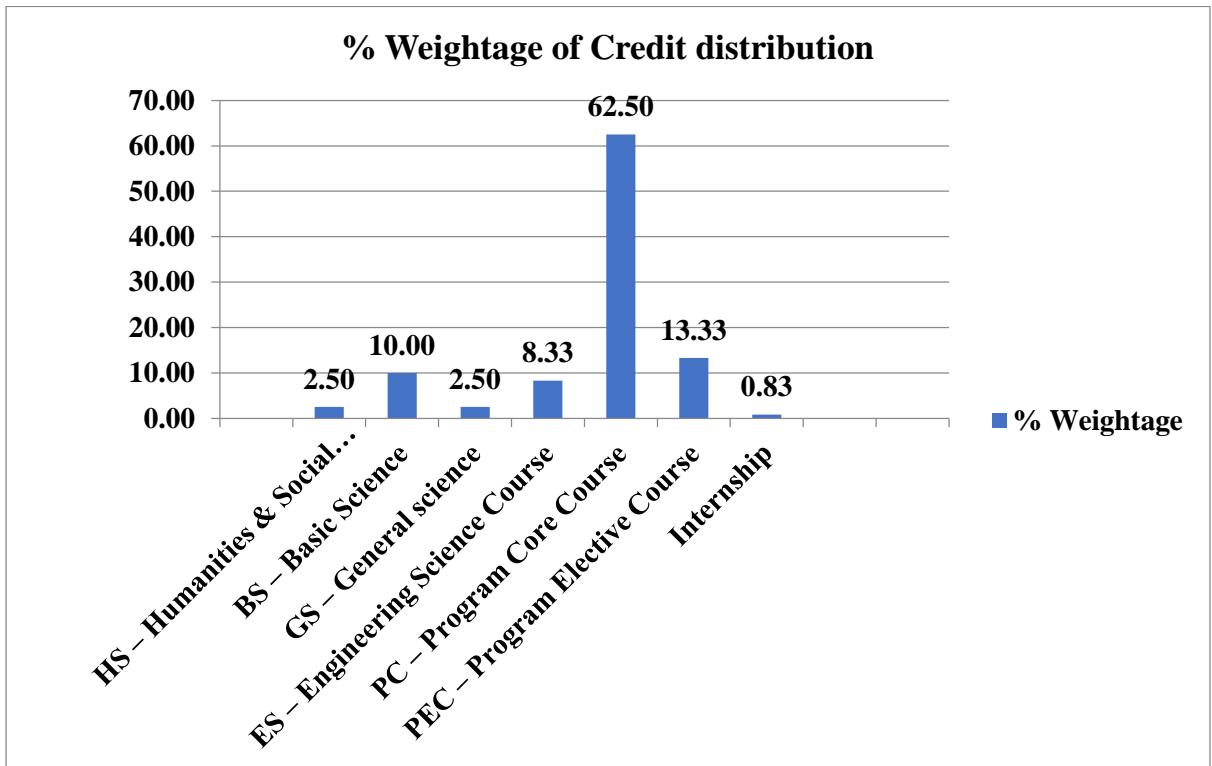
Figure 2.1.1.4. Graphical Representation of Percentage Weightage of Credit Distribution in Semester

Sr. No.	Components	Credit	No. of courses	% Weightage of course	% Weightage of course credit
1	HS – Humanities & Social Science Courses	3	3	7.50%	2.50%
2	BS – Basic Science	12	3	7.50%	10.00%
3	GS – General science	3	1	2.50%	2.50%
4	ES – Engineering Science Course	10	4	10.00%	8.33%
5	PC – Program Core Course	75	23	57.50%	62.50%
6	PEC – Program Elective Course	16	5	12.50%	13.33%
7	Internship	1	1	2.50%	0.83%
	<b>Total</b>	<b>120</b>	<b>40</b>	<b>100%</b>	<b>100%</b>

**Table 2.1.1.5 Percentage Weightage of course and credit distribution**



**Figure 2.1.1.6 Graphical representation of percentage Weightage of course distribution**



**Figure 2.1.1.6 Graphical representation of percentage course credit distribution**

## **Identification of Compliance of curriculum for attaining POs and PSOs**

The process of mapping of course outcome with POs and PSOs for each course is described in Criterion-3 in detail with justification.

### **Program Articulation Matrix**

The Program Articulation Matrix (PAM) is an essential academic tool in Outcome-Based Education (OBE), primarily utilized to systematically map the relationship between Course Outcomes (COs) and Program Outcomes (POs) as well as Program Specific Outcomes (PSOs) in an educational program.

Under the National Board of Accreditation (NBA) framework, the emphasis is on ensuring that the courses taught within a program contribute effectively to the achievement of clearly defined program outcomes. The PAM provides a structured visual representation of this alignment. It ensures that each course's intended learning outcomes (COs) meaningfully contribute to the overall diploma attributes specified by POs and PSOs.

The Program Articulation Matrix (PAM) is a powerful tool for:

- Ensuring systematic curriculum-outcome alignment
- Identifying areas of improvement within the curriculum
- Addressing curricular gaps through targeted interventions
- Providing evidence of outcome-based education implementation to NBA
- Supporting continuous improvement for educational quality assurance

The program articulation matrix indicates the extent each course helps to attain program outcomes.

Sr. No.	Course Code	Code ID	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
1	3300001	C111	Basic Mathematics	2.80	1.20	2.00	-	-	-	1.00	-	-
2	3300002	C112	English	1.00	-	2.00	-	-	1.00	1.00	-	-
3	3300005	C113	Basic Physics	3.00	1.00	1.00	2.00	1.00	-	-	-	-
4	3311101	C114	Electronic Components & Practice	2.40	1.80	1.80	2.80	2.00	2.00	1.80	1.20	1.40
5	3320901	C115	Basic Of Electrical Engineering	3.00	1.40	1.00	2.40	2.00	1.00	1.60	2.20	3.00
6	3300013	C116	Basic Of Computer & Information Technology	2.75	2.00	2.00	3.00	2.00	-	2.67	-	1.50
7	3990001	C121	Contributor Personality Development	1.00	-	2.00	-	-	1.00	2.67	-	-
8	3320002	C122	Advanced Mathematics (Group1)	2.80	1.20	2.00	-	-	-	1.00	-	-
9	3300003	C123	Environment Conservation & Hazard Management	3.00	-	3.00	-	2.33	-	2.00	-	-
10	3321101	C124	Electronic Circuits & Applications	3.00	2.50	1.80	2.50	2.00	2.00	2.00	2.20	2.60
11	3321102	C125	Electronic Networks	3.00	2.75	2.50	2.00	1.50	2.00	2.25	2.50	2.75
12	3321103	C126	Electronics Workshop	3.00	1.80	2.25	2.75	3.00	2.00	2.50	2.40	2.20
13	3331101	C231	Antenna & Wave Propagation	2.20	2.50	2.00	2.80	2.75	2.00	2.75	2.60	2.75
14	3331102	C232	Analog Electronics	3.00	2.25	1.67	2.60	2.33	2.00	2.25	2.60	2.80
15	3331103	C233	Principle Of Electronic Communication	2.80	1.75	1.50	2.50	2.00	2.00	2.50	2.40	2.20
16	3331104	C234	Digital Logic Design	3.00	2.75	1.60	2.75	1.75	1.00	2.00	2.75	2.80
17	3331105	C235	Programming In C	2.60	2.25	2.00	2.40	1.60	2.00	2.20	2.00	3.00
18	3341101	C241	Microprocessor And Assembly Language Programming	3.00	2.75	2.00	2.75	2.25	2.00	2.25	2.00	2.25
19	3341102	C242	Digital Communication	3.00	2.00	1.50	2.67	2.00	2.00	2.50	2.40	2.25
20	3341103	C243	Optical Communication	3.00	2.20	2.25	2.25	2.00	1.50	2.25	2.80	2.60
21	3341104	C244	Electronics Instruments And Measurement	3.00	1.75	2.33	2.60	2.00	2.00	2.60	2.80	2.40
22	3341105	C245	Industrial Electronics	3.00	2.00	2.00	2.60	2.20	-	2.60	2.80	2.40
23	3341106	C246	Circuit Design Tools	3.00	2.20	3.00	2.60	2.40	2.50	1.80	2.80	3.00
24	3351101	C351	Microcontroller	2.60	2.00	2.40	2.67	1.80	2.50	2.75	2.40	2.40

Sr. No.	Course Code	Code ID	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
25	3351102	C352	Mobile Communication	2.40	2.25	2.33	2.00	2.00	1.50	2.00	2.20	2.00
26	3351103	C353	Microwave & Radar Engineering	2.20	1.60	2.20	2.00	2.00	2.00	1.80	2.00	2.20
27	3351104	C354	Software Practices	2.80	2.00	3.00	3.00	1.75	2.00	2.25	2.60	3.00
28	3351105	C355	Computer Networks	1.80	1.75	1.50	2.25	1.50	-	1.80	2.20	1.67
29	3351107	C356	Project I	2.80	2.50	3.00	3.00	2.67	3.00	3.00	3.00	2.80
30	3361101	C361	Entrepreneurship And Industrial Management	3.00	2.00	1.00	1.00	2.00	2.00	3.00	2.20	2.00
31	3361102	C362	Consumer Electronics	3.00	1.60	2.40	2.20	2.00	-	2.60	2.80	2.40
32	3361103	C363	Maintenance Of Electronics Equipments	3.00	1.60	1.60	2.60	1.80	-	3.00	3.00	2.40
33	3361104	C364	VLSI	3.00	2.40	2.60	1.80	2.00	-	2.00	1.80	2.40
34	3361105	C365	Embedded System	3.00	2.00	2.20	2.50	2.00	2.20	2.80	2.80	2.40
35	3361109	C366	Project II	3.00	2.25	2.40	2.75	2.75	2.20	3.00	2.60	3.00
			Average Attainment	2.71	2.00	2.05	2.46	2.04	1.90	2.24	2.43	2.43

**Table 2.1.1.7. Program Articulation Matrix-Batch-Admitted before 2021 (Old)**

Sr. No.	Course Code	Code ID	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
1	4300001	C111.1	Mathematics	3.00	1.25	1.00	-	-	-	1.00	-	-
2	4300002	C112.1	Communication Skills in English	1.75	-	-	-	-	2.00	1.80	-	-
3	4300005	C113.1	Physics	3.00	1.00	1.00	2.00	1.00	-	1.00	-	-
4	4300010	C114.1	Basics of Information and Communication Technology	2.80	2.00	2.00	2.00	1.25	2.00	2.40	2.40	2.40
5	4300015	C115.1	Sports and Yoga	2.40	-	-	-	1.00	-	2.00	-	-
6	4311101	C116.1	Fundamentals of Electrical Engineering	3.00	2.00	-	1.00	3.00	1.00	2.00	1.75	1.50
7	4311102	C117.1	Fundamentals of Electronics	3.00	1.20	1.60	2.20	1.67	1.25	1.00	2.00	2.00
8	4300003	C121.1	Environment and Sustainability	2.00	1.80	1.60	1.00	1.80	1.25	1.40	2.00	2.00
9	4300012	C122.1	Engineering Drawing and Computer Aided Design	3.00	1.50	2.75	2.50	2.00	2.00	2.00	2.00	2.25
10	4300016	C123.1	Indian Constitution	-	1.00	1.00	-	2.00	1.00	2.00	-	-
11	4320002	C124.1	Engineering Mathematics	3.00	1.00	1.00	-	-	-	1.00	-	-
12	4321101	C125.1	Electronics Workshop	2.60	2.20	2.40	2.80	1.60	1.40	2.20	2.60	2.60
13	4321102	C126.1	Digital Electronics	3.00	1.80	1.80	1.80	2.00	1.80	1.20	2.50	2.80
14	4321103	C127.1	Electronic Circuits & Applications	3.00	2.20	2.40	2.40	1.50	2.80	1.60	2.20	2.60
15	4330001	C231.1	Summer Internship-I	1.40	1.00	1.50	1.20	1.00	1.00	1.00	3.00	2.80
16	4331101	C232.1	Electronic Circuits & Networks	3.00	2.80	2.60	2.20	1.60	1.80	2.20	2.00	2.50
17	4331102	C233.1	Electronic Measurements & Instruments	3.00	2.00	2.50	2.80	2.00	1.00	1.20	2.80	2.40
18	4331103	C234.1	Industrial Electronics	3.00	1.83	1.83	2.17	1.75	2.33	1.33	2.83	2.50
19	4331104	C235.1	Principle of Electronic Communication	2.80	2.00	1.60	2.20	1.60	1.00	2.60	2.60	2.20
20	4331105	C236.1	Programming In C	2.60	2.25	2.00	2.40	1.60	1.60	2.20	2.00	3.00
21	4340002	C241.1	Contributor Personality Development	-	1.00	1.00	-	-	1.00	1.50	-	-
22	4341101	C242.1	Microprocessor & Microcontroller	3.00	2.00	2.20	2.20	1.00	2.20	2.40	1.80	2.40
23	4341102	C243.1	Digital Communication	3.00	1.40	1.40	2.40	1.60	1.80	2.60	2.40	2.25
24	4341103	C244.1	Fiber Optics Communication	3.00	1.80	1.60	2.40	1.67	1.50	2.20	3.00	2.20
25	4341104	C245.1	Circuit Design Tools	2.50	2.67	2.67	3.00	1.67	1.00	1.25	2.75	3.00
26	4341105	C246.1	Linear Integrated Circuit (Analog Electronics)	3.00	2.60	2.40	2.20	2.00	2.80	2.40	2.60	2.80
27	4341106	C247.1	Antenna & Wave Propagation	3.00	2.80	2.60	2.20	1.60	1.80	2.20	2.60	2.75

Sr. No.	Course Code	Code ID	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
28	4300021	C351.1	Entrepreneurship and Start-ups	2.80	2.00	1.80	1.25	1.25	2.40	2.60	2.00	1.00
29	4351102	C352.1	Embedded System	3.00	2.40	2.00	2.00	1.67	2.20	2.40	2.00	2.80
30	4351103	C353.1	Microwave and Radar Communication	2.20	1.60	2.20	2.00	2.00	2.00	1.80	2.40	2.20
31	4351104	C354.1	Mobile & Wireless Communication	2.80	2.00	1.80	2.00	1.60	2.00	2.40	2.60	2.20
32	4351105	C355.1	Software Practices	3.00	2.20	2.00	2.40	1.00	1.33	3.00	2.00	1.00
33	4351106	C356.1	Summer Internship-II	1.60	2.00	1.80	1.20	2.20	1.60	2.00	3.00	2.00
34	4351107	C357.1	Electronics and Communication Engineering Project-I	3.00	2.00	1.40	1.60	1.80	1.40	3.00	3.00	2.80
35	4351108	C358.1	OOPS & Python Programming	2.25	2.00	2.00	1.75	-	1.25	2.50	2.00	2.00
36	4361101	C361.1	Computer Networks & Data Communication	3.00	2.20	1.80	1.60	1.40	2.20	2.80	1.60	2.80
37	4361102	C362.1	VLSI	2.60	2.40	2.00	2.20	2.67	2.33	2.20	2.00	2.00
38	4361103	C363.1	Electronics & Communication Engineering Project-II	3.00	1.00	2.33	1.80	2.00	2.00	2.00	3.00	2.40
39	4361104	C364.1	Android App Development	2.20	2.40	3.00	2.40	1.60	1.40	1.00	2.00	2.40
40	4361106	C365.1	Renewable Energy & Emerging Trends in Electronics	2.33	2.00	2.00	2.00	2.00	2.00	2.67	3.00	2.33
			Average Attainment	<b>2.70</b>	<b>1.88</b>	<b>1.91</b>	<b>2.04</b>	<b>1.69</b>	<b>1.71</b>	<b>1.95</b>	<b>2.38</b>	<b>2.33</b>

**Table 2.1.1.8. Program Articulation Matrix-Batch-Admitted in 2021 and onwards**

## **Process for Finding Curricular Gaps:**

The Entire Process of Finding Curricular Gaps Focuses On (Through Program Articulation Matrix):  
The basic steps for gap analysis include:

### **1. Mapping Outcomes through PAM:**

- The Program Assessment Matrix (PAM) serves as a critical tool to systematically link Course Outcomes (COs) to Program Outcomes (POs) and Program Specific Outcomes (PSOs).
- Each course offered in the curriculum is analyzed for its contribution to the attainment of POs and PSOs.
- The strength of mapping is usually quantified using levels (e.g., 1 – low, 2 – moderate, 3 – high), showing how strongly each course outcome supports specific program outcomes.
- This mapping provides a consolidated overview of how well the curriculum aligns with the intended program-level educational objectives.

### **2. Identifying Gaps:**

- Once the PAM is developed, gap identification involves a detailed analysis of the distribution and strength of mappings across all CO-PO and CO-PSO relationships.
- Gaps are identified when:
  - Certain POs or PSOs are not addressed or are mapped at a very low level (e.g., Level 0 or 1) across the entire program.
  - Some outcomes are underrepresented or overly dependent on a limited number of courses.
  - There is imbalanced mapping, where some POs are addressed excessively while others are neglected.
- It ensures that the curriculum's contribution to program goals is comprehensive and evenly distributed, without over-reliance on a few courses.

### **3. Addressing the Identified Gaps:**

- The insights derived from PAM directly inform stakeholders to take corrective actions.
- This may include updating syllabi, or organizing seminar, workshops, expert lectures, industrial visit where specific POs/PSOs are lacking.

## Flowchart of Process for finding curricular gaps

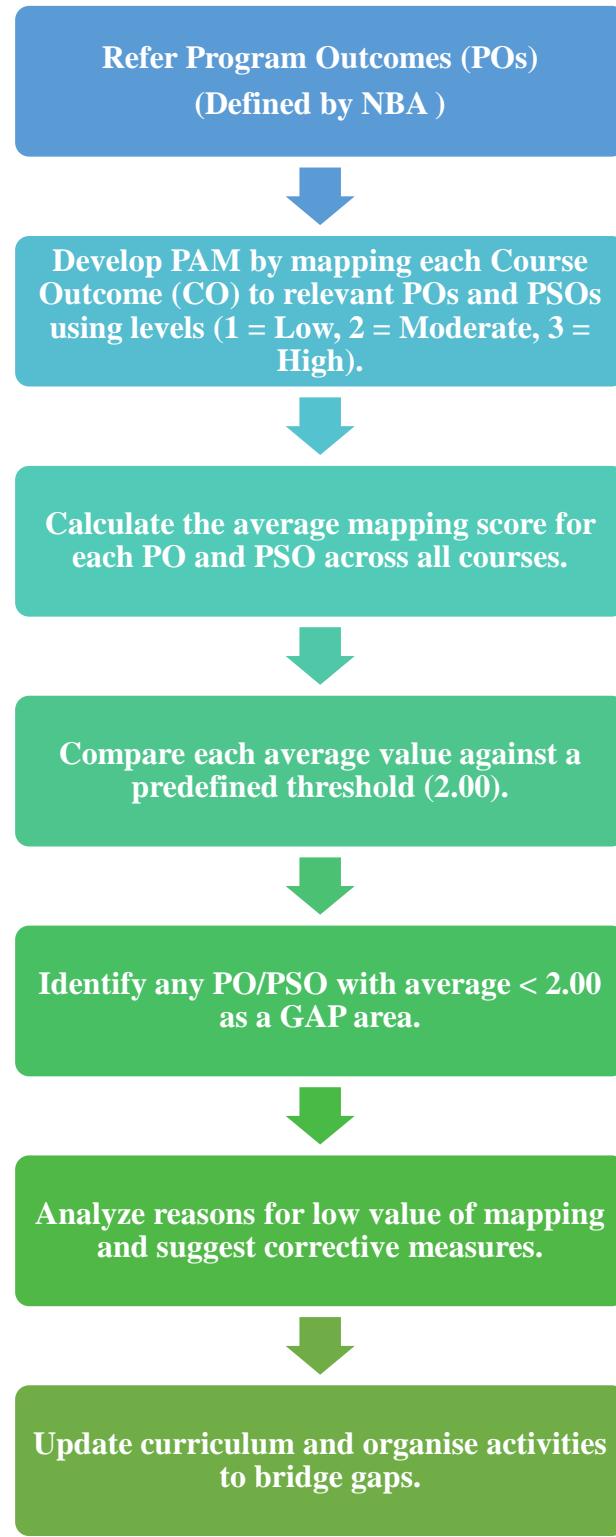


Figure 2.1.1.7 Process to identify gaps in curriculum

## **Step 1: Define Program Outcomes (POs) (Defined by NBA)**

Program Outcomes (POs) are specific competencies that students are expected to achieve upon completion of diploma. These are derived from the NBA. Clearly defining POs helps in aligning course objectives with broader educational expectations and ensures uniformity in curriculum planning and delivery.

## **Step 2: Develop PAM by mapping each Course Outcome (CO) to relevant POs and PSOs using levels (1 = Low, 2 = Moderate, 3 = High)**

The **Program Articulation Matrix (PAM)** is a structured tool where each Course Outcome (CO) is mapped against Program Outcomes (POs) and Program Specific Outcomes (PSOs). The mapping is based on the extent to which a course supports each outcome:

- **Level 1:** Low contribution
- **Level 2:** Moderate contribution
- **Level 3:** High contribution

## **Step 3: Calculate the average mapping score for each PO and PSO across all courses**

Once the matrix is filled, calculate the **average score** for each PO and PSO by aggregating the mapping levels across all relevant courses. This score gives an overall view of how strongly the curriculum supports each outcome and helps quantify program effectiveness.

## **Step 4: Compare each average value against a predefined threshold (2.00)**

A benchmark or threshold (commonly set at **2.00**) is used to assess adequacy. Each PO and PSO's average score is compared to this threshold:

- If the average is  $\geq 2.00$ , the outcome is considered adequately addressed.
- If it is  $< 2.00$ , there is a shortfall that must be investigated.

This numerical comparison adds objectivity to the evaluation process.

## **Step 5: Identify any PO/PSO with average $< 2.00$ as a GAP area**

Any Program Outcome or Program Specific Outcome with an average score below the threshold is flagged as a **curricular gap**. These gaps indicate that students may not be adequately achieving certain competencies or skills and highlight areas in need of academic attention.

## **Step 6: Analyse reasons for low value of mapping and suggest corrective measures**

Conduct a **root cause analysis** to identify why certain POs/PSOs are underachieved. Possible reasons may include:

- Insufficient course content addressing that PO/PSO
- Lack of practical exposure or contextual learning
- Misalignment of assessments with intended outcomes.
- Based on the analysis, formulate actionable recommendations to address the root causes.

## **Step 7: Update curriculum and organise activities to bridge gaps.**

Based on the identified gaps and their causes, implement curriculum changes such as:

- Organising expert lecture, workshops, seminars, industrial visit to fill the gap
- Introducing interdisciplinary learning
- Updating curriculum

This step is crucial for closing the loop in the Continuous Quality Improvement (CQI) process.

Based on the provided Program Articulation Matrix, the curricular gaps can be identified as below:

### **Curricular Gap Analysis for the Batch Admitted before 2021 (Old)**

#### PO mapping Summary and Gap Identification

Program Outcome	Average mapping	Gap Identified (Threshold < 2.00)
PO1 - Basic & Discipline specific knowledge	2.71	No
PO2 - Problem Analysis	2.00	No
PO3 - Design/Development of Solutions	2.05	No
PO4 - Engineering Tools, Experimentation and Testing	2.46	No
PO5 - Engineering practices for Society, Environment and Sustainability	2.04	No
PO6 - Project Management	1.90	Yes
PO7 - Life-long Learning	2.24	No
PSO1	2.43	No
PSO2	2.43	No

**Table 2.1.1.9. PO mapping Summary and Gap Identification**

### **Detailed Gap Analysis: PO6 – Project Management**

PO6 involves applying engineering project management principles as an individual, team member, or leader to manage projects and effectively communicate engineering activities. The PAM analysis indicates an average attainment of 1.90 for PO6, which is below the acceptable threshold of 2.00, hence indicating a gap.

#### **Reasons for Gap in PO6:**

- Limited exposure to management-oriented activities within technical subjects.
- Inadequate integration of project planning, resource management and team coordination exercises in core courses.
- Few standalone modules focused on professional communication or project handling.

#### **Suggested Actions to Bridge PO6 Gap:**

- Incorporate team work in mini and major project courses
- Arrange Industrial Visits, expert lectures, workshops from industry experts
- Promote collaborative projects and presentations to strengthen leadership and communication.

#### **Curricular Gap Analysis for the Batch Admitted from 2021 and onwards (New)**

##### PO mapping Summary and Gap Identification

Program Outcome	Average mapping	Gap Identified (Threshold < 2.00)
PO1 - Basic & Discipline specific knowledge	2.7	No
PO2 - Problem Analysis	1.88	Yes
PO3 - Design/Development of Solutions	1.91	Yes
PO4 - Engineering Tools, Experimentation and Testing	2.04	No
PO5 - Engineering practices for Society, Environment and Sustainability	1.69	Yes
PO6 - Project Management	1.71	Yes
PO7 - Life-long Learning	1.95	Yes

**Table 2.1.1.10. PO mapping Summary and Gap Identification**

## Detailed Gap Analysis

### PO2 – Problem Analysis

#### Reasons for Gap in PO2:

- Inconsistent application of standard analytical frameworks across subjects.
- Insufficient real-world problem-solving examples in labs or tutorials.

#### Suggested Actions to Bridge PO2 Gap:

- Organize project competitions.
- Arrange Industrial Visits, expert lectures, workshops.

### PO3 – Design/Development of Solutions

#### Reasons for Gap in PO3:

- Lack of interdisciplinary design thinking in curriculum.

#### Suggested Actions to Bridge PO3 Gap:

- Organize workshops/project hackathons focused on design innovation.
- Encourage collaborative system-building challenges in projects.
- Arrange Industrial Visits, expert lectures, workshops.

### PO5 – Engineering practices for Society, Environment and Sustainability

#### Reasons for Gap in PO5:

- Low integration of social or ethical impact into technical courses.
- No dedicated module on sustainability or technology ethics.

#### Suggested Actions to Bridge PO5 Gap:

- Motivate students to prepare Projects focused on this Program outcome.
- Arrange Industrial Visits, expert lectures, workshops.

### PO6 – Project Management

#### Reasons for Gap in PO6:

- Limited exposure to management-oriented activities within technical subjects.
- Inadequate integration of project planning, resource management and team coordination exercises in core courses.
- Few standalone modules focused on professional communication or project handling.

#### Suggested Actions to Bridge PO6 Gap:

- Incorporate team work in mini and major project courses
- Arrange Industrial Visits, expert lectures, workshops from industry experts.
- Promote collaborative projects and presentations to strengthen leadership and communication.

### PO7 – Life-long Learning

#### Reasons for Gap in PO7:

- Absence of subjects focused on life skills and professional skills.

#### Suggested Actions to Bridge PO7 Gap:

- Inclusion of more courses based on life skills.
- Organising industrial visit for exposure of real-world scenario.

**B. List the curricular gaps for the attainment of POs & PSOs**

**Curricular Gaps from Program Articulation Matrix for the Batch Admitted in 2019 & 2020**

Program Outcome	Average Mapping	Gap Identified	Appropriateness of the Gap
PO6 - Project Management	1.90	Yes	The average mapping for PO6 falls below the defined threshold of 2.00, indicating insufficient attainment in project management skills. This justifies its classification as a valid curricular gap. It reflects a lack of opportunities for students to practice planning, execution, leadership, and communication within real or simulated project environments. Hence, targeted interventions are appropriate and necessary to ensure students are industry-ready in terms of managing engineering projects effectively.

**Table 2.1.1.11. Curricular Gaps from Program Articulation Matrix for the Batch Admitted in 2019 & 2020**

**Curricular Gaps from Program Articulation Matrix for the Batch Admitted in 2021 and onwards**

<b>Program Outcome</b>	<b>Average Mapping</b>	<b>Gap Identified</b>	<b>Appropriateness of the Gap</b>
PO2 - Problem Analysis	1.88	Yes	The average mapping score for PO2 is below the 2.00 threshold, indicating insufficient development of students' analytical skills for engineering problems. This gap suggests that the curriculum may lack structured problem-solving exercises or application-based case studies. Addressing this will ensure students can effectively identify and analyze technical challenges using standard methods.
PO3- Design/Development of Solutions	1.91	Yes	With an average below 2.00, PO3 shows students are not gaining adequate experience in developing design solutions. This may result from limited design-centric assignments or lack of interdisciplinary projects. Bridging this gap can enhance innovation, creativity, and solution-based learning among students.
PO5- Engineering practices for Society, Environment and Sustainability	1.69	Yes	This gap reflects a low emphasis on integrating environmental, ethical, and societal aspects into the curriculum. A 1.69 average mapping indicates students may not fully understand the societal implications of technology. Strengthening this PO prepares students to be socially responsible engineers.
PO6- Project Management	1.71	Yes	The score for PO6 confirms that students have limited opportunities to practice management principles in projects. This includes leadership, communication, and resource planning skills, which are crucial for engineering practice. This gap supports the need for structured project-based learning and management workshops.
PO7-Life-long Learning	1.95	Yes	A score of 1.95 highlights the need to promote student autonomy in learning and staying updated with technological trends. This gap is appropriate as current pedagogy may not sufficiently foster continuous, self-driven learning habits. Addressing it can help build adaptability and resilience in professional life.

**Table 2.1.1.12. Curricular Gaps from Program Articulation Matrix for the Batch Admitted in 2021 and onwards**

The process of finding curricular gaps from the Program Articulation Matrix is crucial for meeting NBA accreditation criteria 2.1.2, which focuses on the attainment of Program Outcomes and Program Specific Outcomes.

## **Justification of the process to find curricular gap:**

1. Threshold Selection: The threshold of 2 for average attainment is chosen based on the common practice in outcome-based education. On a scale typically ranging from 1 to 3, a value of 2 represents satisfactory accomplishment. Anything below this indicates a need for improvement.
2. Comprehensive Evaluation: By calculating the average mapping for each PO and PSO across all courses, we get a holistic view of how well the curriculum is addressing each outcome.
3. Objective Identification of Gaps: Comparing each average mapping to the threshold provides an objective method to identify areas where the curriculum may be falling short. This removes subjectivity from the process.
4. Alignment with NBA Requirements: NBA criteria 2.1.2 specifically asks for the identification of curricular gaps concerning the attainment of POs and PSOs. This process directly addresses this requirement.
5. Basis for Improvement: Identifying these gaps provides a clear starting point for curriculum enhancement. It allows the institution to focus its efforts on the most critical areas needing improvement.
6. Continuous Improvement: This process supports the principle of continuous improvement, which is a key aspect of NBA accreditation. By regularly assessing and addressing curricular gaps, the program can evolve and better meet the needs of students and industry.

In conclusion, this process provides a systematic, objective, and comprehensive approach to identifying curricular gaps as required by NBA accreditation criteria 2.1.2. It enables institutions to pinpoint specific areas for improvement in their curriculum, supporting the overall goal of enhancing educational quality and student outcomes.

## 2.1.2 Content beyond the Syllabus (15)

### A. Steps taken to get identified gaps included in the curriculum

HOD EC <hodec623@gmail.com>  
To: info@gtu.ac.in

Tue, Nov 19, 2019 at 2:49 PM

kindly forward this mail to cdc department and academic department.

----- Forwarded message -----  
From: HOD EC <hodec623@gmail.com>  
Date: Mon, Nov 18, 2019 at 3:24 PM  
Subject: Regarding Curriculum GAP in Diploma EC (GP, Gandhinagar-623)  
To: HOD EC <hodec623@gmail.com>

Respected Sir,  
Ours is a government polytechnic, Gandhinagar offering diploma curse in Electronics and comm engineering. You are kindly requested to note that curriculum of Diploma EC program does not contain Industrial Training & Internship. Also community related projects are not part of curriculum of Diploma EC program.  
Kindly consider this as gap found in existing curriculum and request to do useful in this matter.  
Thanking you..

--  
Head , EC Department  
Government Polytechnic  
Gandhinagar-Gujarat India  
Tel: +917923287433, hodec623@gmail.com

Figure 2.1.2.1 Mail sent to university

Gmail HOD EC <hodec623@gmail.com>

Regarding curriculum Gap in Diploma EC (GP, Gandhinagar)  
1 message

HOD EC <hodec623@gmail.com> Thu, Oct 7, 2021 at 1:18 PM  
To: info@gtu.ac.in

Respected Sir,  
Government polytechnic, Gandhinagar offers a diploma course in Electronics and comm engineering.  
As a part of the curriculum feedback process, our department has contacted Industry stakeholders for their valuable suggestions.  
We have received the following suggestions from the stakeholders.

1. Internship should be a part of curriculum.
2. Industry collaboration to create a better skill set and job opportunities for students.
3. Inclusion of industry related advanced subjects such as IoT as a part of curriculum to keep the students updated and industry ready.

You are requested to note that the curriculum of the Diploma EC program does not contain industrial Training/Internship.  
Kindly consider this as gaps found in the existing curriculum. Request to do the useful.  
Thanking you in anticipation.

--  
i/c Head , EC Department  
Government Polytechnic  
Gandhinagar-Gujarat India

Figure 2.1.2.2 Mail sent to university

**B.State the delivery details of the content beyond the syllabus for the attainment of POs**

Sr. No.	Event Type	Academic Year	Date	Event Name
1	Webinar	2020-21	19-Oct-20	Care for wellbeing during corona crisis by Dr. Palak Ahir
2	Webinar	2020-21	29-Dec-20	Introduction to Deep Learning by Mr. Pratik Parmar
3	Webinar	2020-21	20-Mar-21	21st Century Skills - Ways to develop them by Dr. Pooja Mehta
4	Webinar	2020-21	28-Apr-21	Entrepreneurship, innovation and SSIP awareness by Mr. Ankit Didwania
5	Webinar	2020-21	21-May-21	Low power design approach in VLSI by Mr. Harshal K. Prajapati
6	Webinar	2020-21	25-May-21	Television systems by Mr. Hitesh Panchal
7	Webinar	2020-21	31-May-21	Electronics Hardware Development: Challenges and Scope in India by Mr. Hardik Galodiya
8	Expert Lecture	2021-22	18-Sep-21	Expert lecture on LEO Based Satellite Network- Starlink Case study by Mr. Pramod Tripathi, Lecturer IT, GP G'nagar
9	Industrial Visit	2021-22	24-Sep-21	Industrial visit at Dutt Electronics
10	Visit	2021-22	24-Jan-22	Toy making & joyful learning using Robotics
11	Workshop	2021-22	04-May-22	Smart soldering practice by Jayesh Sharma, Manish Verma, Kashyap Tiwari (GEC, Modasa)
12	Industrial Visit	2021-22	28-Jun-22	Industrial visit at Dutt Electronics
13	Workshop	2022-23	14-Sep-22	Electronics Workshop on Mobile Repairing by Mr. Pavan Maurya (Owner - P. K. Electronics)
14	Workshop	2022-23	12-Apr-23	Hands on practical on VLSI by Mr. Mihir Dave (Sr. Lect. EC, GP, Ahmedabad)
15	Expert Lecture	2022-23	19-05-23	Expert lecture on Mixed reality by Mr. Pratik Parmar (CREAR)
16	Workshop	2022-23	23-June-23	HAM Radio Workshop

17	Industrial Visit	2022-23	23-June-23	Exhibition - Space Application Center (ISRO), Ahmedabad
18	Technical Event	2023-24	28-July-23 to 30-July-23	SEMICON INDIA-2023 Exhibition
19	Expert Lecture	2023-24	26-Oct-2023	Awareness Program on National Cyber Security ("Cyber Chaitanya" Cyber awareness campaign 2.0)
20	Technical Event	2023-24	09-Dec-23	Startup Conclave-2023 Exhibition Visit @ Helipad Exhibition Centre, Gandhinagar
21	Expert Lecture	2023-24	3-Oct-23	Expert lecture on Career Opportunities for Engineers by Mr. Kalpesh Parmar, Asst. TPO & Lecturer EC, Govt Polytechnic Gandhinagar
22	Technical Event	2023-24	11-Jan-24	Vibrant Sumeet-2024 @ Mahatma Mandir, Gandhinagar visit report.
23	Industrial Visit	2023-24	08-Apr-24	Dutt Electronics, Gandhinagar
24	Industrial Visit	2023-24	08-Apr-24	Electro EMS Services, Gandhinagar
25	Industrial Visit	2023-24	01-May-24	BISAG-N, Gandhinagar
26	Visit	2023-24	04-May-24	Workshop at Centre for Creative Learning, IIT Gandhinagar
27	Industrial Visit	2024-25	09-Aug-24	Upeya Electronics LLP, Gandhinagar
28	Technical Event	2024-25	18-Sep-24	Re-Invest_4th Global Renewable Energy Investor Meet @ Mahatma Mandir Convention & Exhibition Centre, Gandhinagar, Gujarat
29	Technical Event	2024-25	15-Oct-24	Iconic Tower-2, GIFT City Gandhinagar visit under Vikash Saptah Celebration
30	Visit	2024-25	09-Dec-24	Visit at PDEU IIC
31	ISTE Event	2024-25	23-Jan-25	Darwing Competition on topic "Online gaming Addiction"
32	SSIP Event	2024-25	28-Jan-25	"Heritage Meets Innovation: Youth Entrepreneurship for Sustainable Growth in India"
33	ISTE Event	2024-25	01-Feb-25	Industrial Expert Seminar on "Industrial Application of AR/VR" under ISTE student chapter.

34	ISTE Event	2024-25	05-Feb-25	Industrial Expert Seminar on "The Bizzarness of Quantum Computing" under ISTE student chapter.
35	Gujarat Vidhan Sabha Visit	2024-25	25-Mar-25	Gujarat Vidhan Sabha
36	Industrial Visit	2024-25	04-Apr-25	Vikram Sarabhai Space Exhibition (VSSE) - Space Application Center (ISRO), Ahmedabad
37	Expert Lecture	2024-25	08-Apr-25	Expert Lecture on "Contributor Personality Development" - Subject Code: DI02000131
38	Short course-3 Months	2024-25	28-Aug-24 Onwards	Short course (3 Months) on New age engineering and creativity skills for polytechnic students by IITGN-CCL
39	Project Exhibition	2024-25	01-May-25	Project Exhibition of EC department
40	Expert lecture	2024-25	7-July-2025	Expert lecture on How to Create and Manage a LinkedIn Profile by Mr. Ankit Didwania, Lecturer, IT department, Government Polytechnic, Gandhinagar

**Table 2.1.2.1. Delivery details of the content beyond the syllabus**

### C. Mapping of content beyond syllabus with the POs & PSOs

Sr No.	Event Name	Academic Year	PO/PSO Mapping	Justification/Appropriateness of mapping
1	Care for wellbeing during corona crisis by Dr. Palak Ahir	2020-21	PO5, PO7	PO5: Raises awareness of ethical practices and societal well-being in a health crisis. PO7: Encourages adaptability and proactive learning during emergencies.
2	Introduction to Deep Learning by Mr. Pratik Parmar	2020-21	PO1, PO2	PO1: Provides foundational understanding of AI, rooted in engineering and mathematics. PO2: Equips students to analyze problems solvable through machine learning.
3	21st Century Skills - Ways to develop them by Dr. Pooja Mehta	2020-21	PO6, PO7	PO6: Develops communication and leadership for project management. PO7: Inspires students to pursue continuous self-improvement and skill development.
4	Expert lecture on Innovation and SSIP awareness by Mr. Ankit Didwania	2020-21	PO5, PO6	PO5: Encourages sustainable innovation with ethical considerations. PO6: Introduces project management principles through entrepreneurial lens.
5	Low power design approach in VLSI by Mr. Harshal K. Prajapati	2020-21	PO1, PO3	PO1: Uses engineering fundamentals in circuit design. PO3: Addresses need-based design for energy-efficient systems.
6	Television systems by Mr. Hitesh Panchal	2020-21	PO1, PO2	PO1: Builds understanding of core electronics principles in broadcasting. PO2: Analyzes signal transmission and system behavior.
7	Electronics Hardware Development: Challenges and Scope in India by Mr. Hardik Galodiya	2020-21	PO1, PO5	PO1: Strengthens understanding of E&C hardware challenges. PO5: Connects technology with India's sustainability goals.
8	Expert lecture on LEO Based Satellite Network- Starlink Case study	2021-22	PO1, PO7	PO1: Applies fundamentals to advanced satellite systems. PO7: Promotes exploration of emerging communication technologies.
9	Industrial visit at Dutt Electronics	2021-22	PO5, PO6, PO7	PO5: Observes ethical and sustainable engineering practices. PO6: Involves teamwork and communication in real project settings. PSO2: Demonstrates real-time problem-

				solving using hardware.
10	Toy making & joyful learning using Robotics	2021-22	PO2, PO3, PO4, PO5, PO6, PO7, PSO1, PSO2	<p>PO2: Identifies problems in educational toys.</p> <p>PO3: Involves design of robotic solutions.</p> <p>PO4: Uses tools for testing.</p> <p>PO5: Encourages educational sustainability.</p> <p>PO6: Manages learning tasks in a team.</p> <p>PO7: Promotes curiosity-driven learning.</p> <p>PSO1: Develops assembly and troubleshooting skills.</p> <p>PSO2: Integrates hardware and coding to solve real-life learning problems.</p>
11	Smart soldering practice by Jayesh Sharma et al	2021-22	PO2, PO3, PO4, PSO1, PSO2	<p>PO2: Learns to identify and resolve circuit-level issues.</p> <p>PO3: Assists in assembling functioning circuits.</p> <p>PO4: Uses soldering tools and testing methods effectively.</p> <p>PSO1: Enhances hands-on repair skills.</p> <p>PSO2: Applies real-world solutions using hardware.</p>
12	Industrial visit at Dutt Electronics	2021-22	PO5, PO6, PO7	<p>PO5: Observes sustainable and ethical practices.</p> <p>PO6: Engages in team-based learning.</p> <p>PO7: Recognizes evolving industry practices and tools.</p>
13	Electronics Workshop on Mobile Repairing by Mr. Pavan Maurya	2022-23	PO2, PO3, PO4, PSO1, PSO2	<p>PO2: Diagnoses faults in mobile devices.</p> <p>PO3: Involves structured repair solutions.</p> <p>PO4: Uses tools for testing and fixing.</p> <p>PSO1: Gains proficiency in device servicing.</p> <p>PSO2: Develops applied solutions using hardware.</p>
14	Hands on practicals on VLSI by Mr. Mihir Dave	2022-23	PO2, PO3, PO4, PSO1, PSO2	PO2: Understands and analyzes VLSI system design.

				PO3: Designs logic circuits.  PO4: Uses simulation tools and test benches.  PSO1: Builds hardware-oriented skills.  PSO2: Creates system-level solutions.
15	Expert lecture on Mixed reality by Mr. Pratik Parmar	2022-23	PO1, PO7	PO1: Introduces foundational concepts of AR/VR.  PO7: Encourages keeping pace with emerging immersive technologies.
16	HAM Radio Workshop	2022-23	PO2, PO3, PO4, PSO1, PSO2	PO2: Understands RF signal challenges.  PO3: Supports in designing basic communication setups.  PO4: Conducts tuning and performance tests.  PSO1: Installs and manages HAM systems.  PSO2: Creates working communication circuits.
17	Exhibition - Space Application Center (ISRO), Ahmedabad	2022-23	PO3, PO5, PO6, PO7, PSO2	PO3: Inspires system-level space tech thinking.  PO5: Highlights societal and environmental applications.  PO6: Involves communication with industry experts.  PO7: Motivates continuous knowledge seeking.  PSO2: Links real hardware with national problems.
18	SEMICON INDIA-2023 Exhibition	2023-24	PO5, PO6, PO7	PO5: Understands semiconductor impact on society.  PO6: Exposes students to project management insights.  PO7: Stimulates engagement in technological advancements.
19	Awareness Program on National Cyber Security	2023-24	PO1, PO2, PO7	PO1: Covers basic digital security knowledge.  PO2: Identifies security risks and solutions.  PO7: Motivates updating knowledge in dynamic tech space.
20	Startup Conclave-2023 Exhibition Visit	2023-24	PO2, PO3, PO5, PO6, PO7	PO2: Identifies real-world startup challenges.  PO3: Designs conceptual frameworks seen in startups.

				<p>PO5: Observes tech innovations for societal good.</p> <p>PO6: Gains insight into entrepreneurial project management.</p> <p>PO7: Encourages exploration of business innovations.</p>
21	Expert lecture on Career Opportunities for Engineers	2023-24	PO1, PO7	<p>PO1: Helps relate foundational knowledge to career domains.</p> <p>PO7: Encourages continual self-assessment and skill upgrades.</p>
22	Vibrant Sumeet-2024 Visit	2023-24	PO5, PO6	<p>PO5: Highlights innovations contributing to societal and environmental growth.</p> <p>PO6: Enhances understanding of organizing and managing public-scale tech events.</p>
23	Dutt Electronics, Gandhinagar	2023-24	PO5, PO6, PO7	<p>PO5: Provides exposure to industry practices and ethical operations.</p> <p>PO6: Enhances understanding of teamwork and communication in real projects.</p> <p>PO7: Promotes reflection and learning from observed innovations.</p>
24	Electro EMS Services, Gandhinagar	2023-24	PO5, PO6, PO7	<p>PO5: Demonstrates application of electronics in a sustainable and ethical context.</p> <p>PO6: Strengthens collaborative and project-related soft skills.</p> <p>PO7: Motivates technical curiosity and adaptability.</p>
25	BISAG-N, Gandhinagar	2023-24	PO5, PO6, PO7, PSO2	<p>PO5: Aligns technology with governance and sustainability.</p> <p>PO6: Supports communication of complex systems to varied audiences.</p> <p>PO7: Promotes engagement with innovative satellite-based applications.</p> <p>PSO2: Shows how software/hardware solutions serve real public needs.</p>
26	Workshop at Centre for Creative Learning, IIT Gandhinagar	2023-24	PO2, PO3, PO4, PO5, PO6, PSO1, PSO2	<p>PO2: Identifies problems in educational tools.</p> <p>PO3: Designs creative models for learning.</p> <p>PO4: Applies engineering tools and kits.</p> <p>PO5: Links creativity with sustainable educational practices.</p> <p>PO6: Builds team-based project skills.</p> <p>PSO1: Gains insight into troubleshooting learning kits.</p>

				PSO2: Develops hybrid learning solutions.
27	Upeya Electronics LLP, Gandhinagar	2024-25	PO5, PO6, PO7, PSO1, PSO2	PO5: Demonstrates sustainable practices in electronics design. PO6: Offers experience in workplace collaboration. PO7: Encourages learning through industrial observations. PSO1: Focuses on hands-on maintenance skills. PSO2: Supports creation of electronics-based innovations.
28	Re-Invest_4th Global Renewable Energy Investor Meet	2024-25	PO1, PO5, PO7	PO1: Connects core engineering concepts to energy solutions.  PO5: Showcases renewable energy's role in sustainability.  PO7: Emphasizes the importance of staying updated with green tech.
29	Iconic Tower-2, GIFT City Gandhinagar visit	2024-25	PO3, PO5, PO6	PO3: Explores integration of technology in infrastructure design. PO5: Reflects on societal and ecological aspects of urban innovation. PO6: Encourages professional communication during industrial interaction.
30	Visit at PDEU IIC	2024-25	PO5, PO6, PO7	PO5: Explores innovation with societal impact.  PO6: Enhances understanding of project ideation and management.  PO7: Encourages reflection on future entrepreneurial growth.
31	Drawing Competition on 'Online gaming Addiction'	2024-25	PO2, PO7	PO2: Analyzes behavioral and societal issues with a technical lens.  PO7: Encourages awareness and continuous learning about impact of gaming addiction on lifestyle.
32	Heritage Meets Innovation: Youth Entrepreneurship	2024-25	PO5, PO6	PO5: Fosters innovation with cultural and societal relevance.  PO6: Enhances entrepreneurial leadership and project planning skills.
33	Industrial Expert Seminar on 'Industrial Application of AR/VR'	2024-25	PO1, PO7	PO1: Builds conceptual knowledge of AR/VR technology.  PO7: Inspires curiosity to explore advanced tools for future industries.

34	Industrial Expert Seminar on 'The Bizzarness of Quantum Computing'	2024-25	PO1, PO7	<p>PO1: Introduces foundational understanding of quantum computing.</p> <p>PO7: Promotes lifelong learning in rapidly evolving computing domains.</p>
35	Gujarat Vidhan Sabha	2024-25	PO5, PO6, PO7	<p>PO5: Relates public policy to engineering ethics and sustainability.</p> <p>PO6: Offers exposure to administrative communication and decision-making.</p> <p>PO7: Encourages reflective engagement with policy processes.</p>
36	Vikram Sarabhai Space Exhibition (ISRO)	2024-25	PO5, PO6, PO7	<p>PO5: Demonstrates societal benefits of space technology.</p> <p>PO6: Develops communication and team coordination.</p> <p>PO7: Stimulates lifelong interest in scientific discovery.</p>
37	Expert Lecture on 'Contributor Personality Development'	2024-25	PO1, PO6, PO7	<p>PO1: Encourages students to apply foundational knowledge toward self-growth.</p> <p>PO6: Enhances soft skills and professionalism.</p> <p>PO7: Promotes commitment to continual improvement.</p>
38	Short course on New Age Engineering and Creativity Skills	2024-25	PO2, PO3, PO4, PO6, PO7, PSO1, PSO2	<p>PO2: Focuses on analyzing practical challenges.</p> <p>PO3: Cultivates creative design approaches.</p> <p>PO4: Involves testing and use of tools.</p> <p>PO6: Teaches project execution in collaborative environments.</p> <p>PO7: Fosters adaptive learning.</p> <p>PSO1: Emphasizes maintenance of creative engineering systems.</p> <p>PSO2: Develops functional prototypes.</p>
39	Project Exhibition	2024-25	PO2, PO3, PO4, PO6, PO7, PSO1, PSO2	<p>PO2: Showcases analytical problem-solving.</p> <p>PO3: Demonstrates design of engineering solutions.</p> <p>PO4: Involves testing, modeling, and</p>

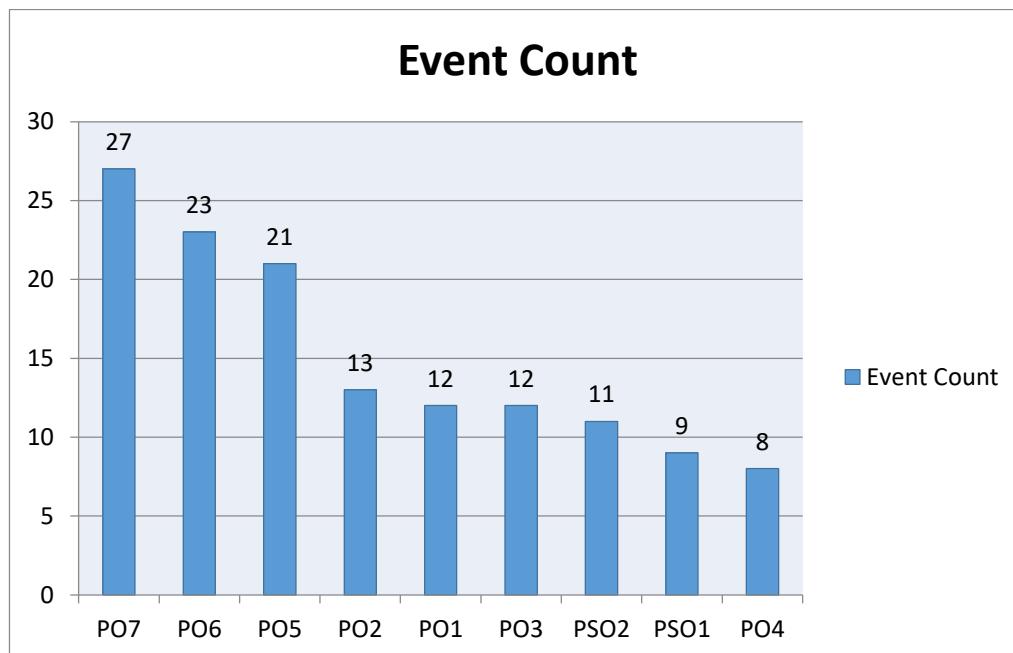
				<p>presentation.</p> <p>PO6: Encourages teamwork and leadership.</p> <p>PO7: Reflects continuous learning from project-based outcomes.</p> <p>PSO1: Applies real-time troubleshooting.</p> <p>PSO2: Builds deployable solutions for real-world needs.</p>
40	How to Create and Manage a LinkedIn Profile	2024-25	PO6, PO7	<p>PO6-Creating and managing a LinkedIn profile enhances a student's ability to communicate professionally, present projects effectively, and collaborate with peers or recruiters. These are core skills under project management and team roles.</p> <p>PO7-LinkedIn is a platform for continuous professional engagement and learning through networking, skill endorsements, job updates, and access to global industry trends, supporting lifelong learning.</p>

**Table 2.1.2.2. Mapping of content beyond syllabus with the POs & PSOs**

## PO-PSO Coverage analytics report

PO/PSO	Description	Event Count
PO7	Life-long learning: Analyze needs and engage in continual technological learning.	27
PO6	Project Management: Use management principles to lead/manage projects and communicate effectively.	23
PO5	Engineering practices for Society, Environment and sustainability: Apply technology in societal, sustainability, and ethical contexts.	21
PO2	Problem Analysis: Identify and analyze well-defined engineering problems using standard methods.	13
PO1	Basic & Discipline specific knowledge: Apply knowledge of mathematics, science, and engineering fundamentals to solve problems.	12
PO3	Design/Development of Solutions: Design solutions for technical problems and assist in system or process design.	12
PSO2	Create customized solutions for real-life problems using hardware and software.	11
PSO1	Develop proficiency in installation, maintenance and troubleshooting of electronics and communication systems.	9
PO4	Engineering Tools, Experimentation and Testing: Use modern tools and techniques to conduct standard tests and measurements.	8

**Table 2.1.2.3. PO-PSO Coverage analytics report**



**Figure 2.1.2.3. Graphical representation of PO-PSO Coverage analytics**

## **2.2. Teaching-Learning Process (160)**

### **2.2.1. Describe the Process followed to ensure/improve quality of Teaching Learning (25)**

#### **A. Adherence to Academic calendar (3):**

To ensure an effective and disciplined teaching-learning environment, the department follows a three-tier academic calendar system, starting from the University level down to the Department level.

##### **1. GTU Calendar:**

Gujarat Technological University (GTU) declares the academic calendar before the start of every term. It includes the start and end dates of the semester, tentative exam schedules, internship periods, and official vacation/holiday lists.

##### **2. Institute Calendar:**

Based on GTU's academic calendar, Government Polytechnic, Gandhinagar prepares its institutional calendar. It incorporates term duration, internal examinations, industrial visits, expert lectures and holidays.

##### **3. Department Calendar – Electronics and Communication Engineering:**

The department prepares a comprehensive academic calendar aligned with both GTU and institute calendars. It serves as the backbone for planning and implementing all departmental academic and co-curricular activities. It includes:

- Term start and end dates for each semester
- Class Test schedules
- Remedial exam periods and submission timelines
- Industrial/site visits, seminars, expert lectures, webinars and co-curricular activities
- Parent-teacher meetings and weak student support sessions
- Government-declared holidays and Diwali vacation

#### **Key Attributes of Calendar Adherence:**

- Smooth functioning of the teaching-learning process
- Clarity of all scheduled events across the campus
- A structured and well-organized academic environment
- Avoidance of clashes between various institutional activities
- Equal opportunity for students to participate in co-curricular and extracurricular activities
- Fair planning window for faculty to deliver the syllabus effectively

The academic calendar is published on departmental notice boards and through electronic media at the beginning of each term. This layered adherence enhances coordination, discipline, and overall academic quality at the department level.



**GOVERNMENT POLYTECHNIC, GANDHINAGAR**  
**ELECTRONICS AND COMMUNICATION DEPARTMENT**  
**ACADEMIC CALENDAR 2022-23 (EVEN) (222)**



Particulars	Semester 6
GTU Term Date	23-01-23 to 20-05-23
Test- 1	20-03-23 to 24-03-23
Parent Teacher Meeting	After Test – 1 result
Weak Students' classes (optional)	After Parent Teacher Meeting
Industrial Visit/Site Visit and Expert lecture/ Seminar/ Webinar/ Co-curricular activities	In month, Feb-2023, Mar-2023, Apr- 2023 (As per availability)
Test- 2	01-05-23 to 04-05-23
Remedial Exam	Last week of term (If needed)
Final Term work submission	Last week of term
Practical Exam (ESE)	As per GTU schedule
Final End Sem Exam by GTU	As per GTU schedule
Holidays: 26-01-23, 18-02-23, 08-03-23, 22-03-23, 30-03-23, 04-04-23, 07-04-23, 14-04-23 (As per Government of Gujarat holiday list)	
<b>Note:</b> All parents/Guardians are welcome to meet subject coordinator for feedback of their child on 1 <sup>st</sup> and 3 <sup>rd</sup> Saturday of every month except government holidays.	

  
HoD  
Electronics and Communication Department  
Government Polytechnic, Gandhinagar

**Figure 2.2.1.1 Department Academic calendar format**

## B. Use of various instructional planning and delivery methods (3)

Effective teaching–learning requires a mix of different instructional planning and delivery methods. The Department of Electronics and Communication uses a variety of teaching methods to ensure better understanding, active learning, and deeper engagement of students.

Below are the key teaching–learning methods adopted by the department:

### ❖ Traditional Black board and Chalk method

This is the most widely used teaching method where faculty teach using a blackboard (or green/white board) and chalk (or marker pens).



**Figure 2.2.1.2 Traditional black (Green) board and Chalk method**

#### **Importance:**

- Simple and effective for concept explanation
- Real-time interaction between faculty and students
- Immediate doubt solving and feedback
- Easy monitoring of student understanding
- Helps maintain classroom discipline and focus

### ❖ Multimedia method

Faculty members use various ICT tools like PowerPoint presentations, video lectures, animations, and simulation software to explain complex concepts in an interactive way.



**Figure 2.2.1.3 Multimedia teaching**

## Importance

- Learning is more effective and interesting
- Easy understanding of topics
- Students may get additional knowledge of topics.
- Video lecture provide practical application of knowledge to industries.

### ❖ Demonstration method

The demonstration of equipment / instrument is one of the practical methods to explain concept to students. Various models and charts in different subjects in department are useful to clear the concepts of topics.

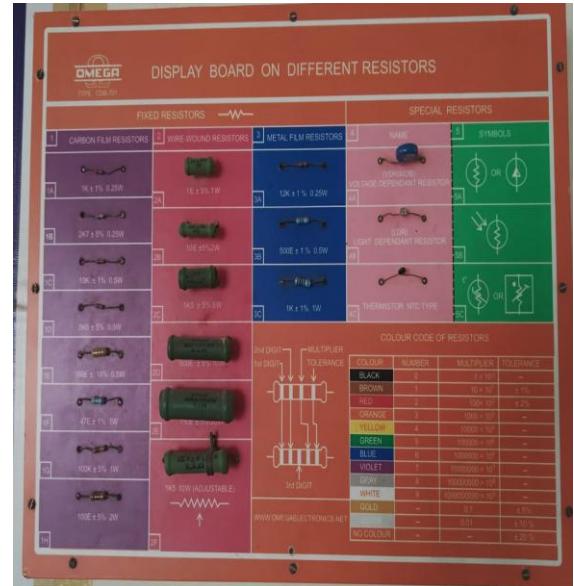


Figure 2.2.1.4 Demonstration teaching method

## Importance

- Improves conceptual clarity through hands-on learning
- Encourages active participation of students
- Builds confidence and interest in subjects
- Enhances practical skills and real-time observation

### ❖ Seminars / Presentation

Students are assigned topics from the curriculum or related fields. They research, prepare, and present in front of peers and faculty.



Figure 2.2.1.5 Seminar/Presentation teaching method

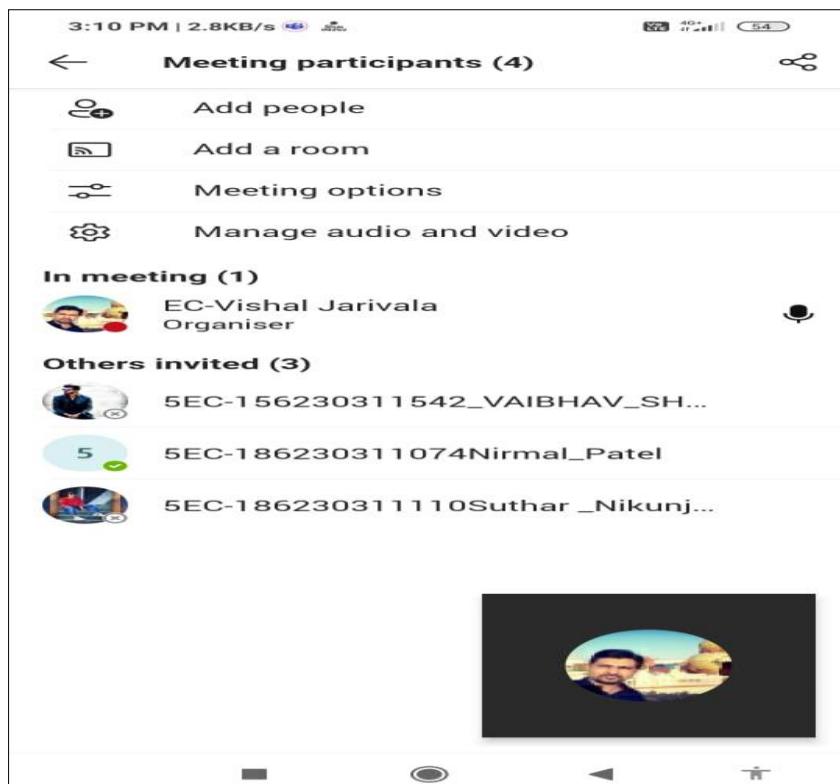
## **Importance**

- Improves understanding of topics in depth
- Enhances communication and presentation skills
- Builds self-confidence and teamwork
- Promotes self-learning and research attitude

### **❖ Teaching through online Platform**

During the COVID-19 pandemic, the Department of Electronics and Communication adopted Microsoft Teams as the primary platform for conducting online classes. It enabled faculty members to deliver lectures, conduct assessments, and interact with students effectively during lockdown periods. Microsoft team was used for following aspects:

- Live online classes with screen sharing and digital whiteboard
- Conducting quizzes, unit tests, and viva exams
- Maintaining subject-wise channels for better class management
- Organizing parent-teacher meetings and online mentoring
- Sharing of lecture recordings for revision



**Figure 2.2.1.6 Microsoft Team online teaching**

However, post-pandemic, the department has transitioned to using Google Classroom as the primary online platform for supporting academic activities, and it continues to be used effectively even in the current academic sessions. Google classroom is used for following aspects.

- Uploading of study materials, notes, and recorded video lectures
- Sharing of assignments, question banks, and lab manuals
- Collection of written submissions such as assignments and practical journals
- Continuous communication between faculty and students outside classroom hours

**Figure 2.2.1.7 Google classroom online teaching**

#### **Importance:**

- Supports blended learning with a mix of online and offline resources
- Students can access content anytime, aiding revision and self-paced learning
- Encourages the habit of independent and responsible learning
- Provides a structured digital environment for academic content management
- Bridges the gap in case of student absenteeism or special needs

#### **❖ Use of Models, Charts, and Posters**

Models and wall charts are placed in classrooms and labs to give visual support to theoretical topics.



**Figure 2.2.1.8 Chart/poster in laboratory**

#### **Importance :**

- Enhances memory retention through visual aids
- Encourages students' interest in the subject
- Helps in quick revision and referencing during practicals.
- Aids in better classroom environment and decorum

**Conclusion:**

The department continuously adopts innovative teaching–learning strategies to improve academic delivery. The blend of traditional and modern instructional methods ensures that students grasp core concepts, apply knowledge in real-life situations, and become confident professionals.

## **C.Methodologies to support weak students and encourage bright students (4)**

Students entering diploma programs exhibit diverse academic abilities and learning speeds. Some students require additional support to grasp core concepts, while others excel and seek enrichment beyond the standard curriculum. To ensure no student is left behind and every learner is nurtured to their potential, the department has implemented a policy for the identification and support of Weak Students and the advancement of Bright Students. This initiative helps improve academic outcomes, ensures balanced growth, and fosters a performance-driven culture.

### **Weak Students – Identification**

Weak students (slow learners) are identified through:

- Academic performance: Scoring less than 50% in unit/mid-semester/class tests.
- Attendance: Less than 75% attendance, as low presence often correlates with poor understanding.
- Conceptual clarity: Difficulty in grasping basic topics, requiring repeated explanations.
- Class engagement: Low participation in discussions, hesitation in asking doubts, and poor assignment submission record.
- Past academic history: Consistently low performance in previous semesters.

### **Steps Taken for Weak Students**

To support weak students, the department implements structured academic interventions such as:

- Remedial/Extra Classes for concept revision and doubt-solving.
- Personalized Mentoring by subject faculty during lectures.
- Assignments/question bank is provided focused on university question patterns and basic concept reinforcement.
- Youtube subject related video links are provided aligned with the syllabus.
- One-to-One Counselling with subject teachers and mentors for motivation.
- Parent-Teacher Interaction to ensure parental support and track attendance.

### **Improvement in Weak Students (Result-Based Evidence)**

- Continuous support has led to gradual improvement in internal marks (from <50% to 55–65% range) in many students.
- Increased attendance and classroom participation observed after mentoring and counseling and parent teacher meeting.
- Students identified as weak in one semester have progressed to average or higher academic standing in the following semesters.
- The “loop is closed” by tracking their university result and documenting it, ensuring measurable outcomes.

### **Bright Students – Identification**

Bright students are identified based on:

- Scoring more than 60% in class/unit/mid-semester exams.
- Strong previous academic record and consistent performance.
- Quick grasp of concepts, problem-solving skills, and self-learning capabilities.
- Active participation in class discussions, group activities, and leadership roles.
- High attendance and academic discipline.

## **Steps Taken for Bright Students**

To encourage high performers, the department offers:

- Encouraging them to participate in technical workshops and competitions.
- Advanced Learning via NPTEL videos and Youtube subject related videos and additional reference material aligned with the syllabus.
- Recognition & Motivation through certificates and displaying achievers on department notice boards or websites.
- Regular Feedback and encouragement from faculty to promote innovation, curiosity, and self-directed learning.

## **Improvement in Bright Students (Result-Based Evidence)**

- These students consistently achieve good grades (60% and above) in internal and university exams.
- Results show that these students maintaining or improving their academic standing across semesters.

## **Conclusion**

The implementation of this policy has significantly contributed to academic upliftment and holistic development of the students. Through early identification, customized academic planning, and consistent monitoring, the policy has helped to bridge learning gaps. This initiative directly supports the vision of outcome-based education and reflects the department's commitment to student-centric academic excellence.



**Figure 2.2.1.9 Parents Teacher Meeting**

## **D.Quality of classroom teaching ( 3 )**

The Electronics & Communication Engineering Department emphasizes effective and engaging classroom teaching to ensure attainment of Course Outcomes (COs) and foster deep learning among diploma students.

### **1. Academic Planning & Preparedness**

The department strictly follows the academic calendar issued by GTU and the institute. Subject allotment is done well in advance before the commencement of each semester, enabling faculty members to prepare:

- Lesson plans
- Laboratory plans
- PowerPoint presentations / study materials / lecture notes

This ensures that teaching aligns with the academic schedule and individual faculty timetables approved by the Head of Department (HOD).

### **2. Course File Preparation**

Each subject coordinator, along with associated faculty members, prepares a comprehensive Course File which includes:

- University syllabus
- Lesson plan
- List of practicals and lab manual
- Study materials
- Assignment questions for weak students
- Class test papers mapped with COs
- Attendance records
- Counseling and mentoring records

This documentation ensures transparency and structured delivery of curriculum.

### **3. Teaching Methodology**

Faculty members adopt a variety of instructional methods to cater to diverse learning needs:

- Whiteboard and chalk method
- Multimedia teaching (PowerPoint, videos, animations)
- Demonstration-based teaching
- Seminar and discussion method

At the end of every session, students are encouraged to summarize key points, ask questions, and clarify doubts, which enhance interactive learning.

### **4. Learner-Centric Approach**

The teaching approach promotes a positive and conducive environment for active participation. Faculty members frequently use question-answer techniques, brainstorming, and problem-solving sessions to test and reinforce student understanding.

### **5. Assessment of Learning**

Various internal assessment tools are implemented to evaluate the learning outcomes:

- Class/Mid test (Internal)
- Practical viva

These assessments are mapped with COs to ensure proper monitoring of learning objectives.

### **6. Industry Interaction & Exposure**

To bridge the gap between industry and academics, the department regularly organizes:

- Expert talks and seminars on emerging technologies
- Industrial visits to enhance practical understanding and real-world relevance
- MOUs with industries

## **7. Faculty Development & Up-gradation**

The department places strong emphasis on continuous faculty development to ensure high-quality teaching and subject expertise. Faculty members actively participate in Faculty Development Programs (FDPs), MOOCs, Workshops, and Short-Term Training Programs (STTPs) to upgrade their technical knowledge and pedagogical skills.

In addition to this:

- One faculty member has successfully completed their M.E. and two have also earned Ph.D. degrees.
- A number of faculty members are currently pursuing higher studies (M.E./ M.Tech or Ph.D.) in reputed institutions.
- These academic pursuits enhance the subject depth, research orientation, and overall teaching quality of the department.

This continuous focus on faculty up-skilling ensures that students receive updated, industry-relevant, and research-backed instruction.

## **8. Monitoring and Feedback**

- The HOD conducts surprise classroom and lab visits to verify coverage of lesson plans, proper resource utilization, and teaching effectiveness.
- Feedback from students is periodically collected and analyzed. Based on this, HOD provides constructive suggestions for continuous improvement in teaching quality.
- CCTV surveillance in classrooms ensures real-time monitoring and discipline.

## **9. Infrastructure Support**

The campus is Wi-Fi enabled, facilitating access to digital content and online learning resources during classroom sessions.

### **Conclusion:**

The department ensures high-quality classroom teaching through planning, varied instructional methods, regular assessments, industry-academia linkage, and continuous monitoring. These initiatives collectively aim to enhance student learning, achieve COs, and maintain academic excellence.

## **E. Conduct of experiments (3)**

The Electronics & Communication Engineering Department places strong emphasis on the effective conduct of laboratory experiments to ensure practical understanding and application of theoretical concepts. The process is well-structured and mapped with Course Outcomes (COs) to measure student learning effectively.

### **1. Planning of Practical Sessions**

The Subject Coordinator prepares a detailed list of experiments and laboratory manual as per the GTU-prescribed syllabus, which also clearly outlines the intended learning outcomes and their mapping with Course Outcomes (COs). A course file is maintained which includes:

- List of experiments
- Weekly laboratory planning
- Lab manuals
- Assessment rubrics

### **2. Common Laboratory Manuals**

- From the academic year 2021-22, the Director of Technical Education (DTE) has implemented a standardized approach by introducing common laboratory manuals for each subject.
- This initiative ensures uniformity in experiment delivery, evaluation, and alignment with learning outcomes across all polytechnics.

### **3. Hands-on Learning Environment**

- Practical sessions are conducted in well-equipped laboratories, where students perform experiments in small groups to ensure better individual attention and learning.
- Faculty members provide detailed explanation and demonstration before allowing students to perform the experiments, ensuring that students understand both theory and application.

### **4. Alternative Learning Resources**

In case of non-availability of specific equipment or trainers, the department adopts alternative strategies to ensure continuity in practical learning, such as:

- Simulation software
- Mobile applications
- Virtual laboratories (Govt. of India initiatives)
- YouTube video lectures and animations
- Visits to other polytechnic institutes for hands-on demonstration

### **5. Assessment of Practical Outcomes**

- Faculty members use rubrics-based evaluation at the end of each practical session to assess the student's performance and achievement of learning outcomes.
- Regular feedback is given to students to improve their practical skills and understanding.
- A practical examination is conducted at the end of each semester as per GTU norms, which further ensures attainment of the practical component of the curriculum.

#### **Conclusion:**

The department ensures that practical sessions are planned, delivered, and assessed effectively using a mix of physical and virtual resources. Emphasis on hands-on experience,

standardization of lab manuals, and continuous evaluation ensures the holistic development of technical skills among diploma students.



**Figure 2.2.1.10 Lab Experiment**

## **F. Continuous assessment in the laboratory ( 3 )**

A well-defined continuous assessment system is implemented across all laboratory courses to ensure consistent and fair evaluation of student performance throughout the semester.

- **Regular Evaluation:**

Students are assessed in each lab session based on their participation, performance, sincerity, and timely submission of assigned work.

- **Assessment Approach:**

Continuous assessment is carried out by the concerned subject in-charge using pre-decided assessment parameters. The criteria are designed to suit the nature of the subject and the type of laboratory (e.g., software-based, hardware-based, etc.).

- **End-Semester Practical Examination:**

Practical examinations are conducted at the end of each semester.

- For Semesters 5 and 6, external examiners appointed by Gujarat Technological University (GTU) to conduct the evaluation.
- For Semesters 1 to 4, the departmental faculty conducts the examination as per institute and university norms.

This structured approach ensures that students are continuously monitored, guided, and evaluated throughout the semester.

Assessment criterion	Excellent 5 or 4 marks	Very Good 3 or 2 marks	Good 1 or 0 mark	Fair	Marks
Program Completeness/ Correctness	Code is completely functional	Code is completely functional with minor implementation issues	Code is marginally functional with multiple errors and/or incomplete code sections.	Code is minimally functional with significant portion of the code missing or incomplete	
Readability	Code is extremely well organized, properly formatted and easy to follow. Related code sections are logically grouped.	Code is reasonably easy to follow with logically grouped codes. Minor formatting problems.	Code is readable with significant efforts. Significant problems with code organization.	Code is poorly organized with little to no consistency in formatting and logical grouping.	
Design testing	All the test cases are covered with proper simulation results	Reasonable test cases are covered with issues in very few test cases	Testing of the code with very few test cases.	Test case design is erroneous or inconsistent with the code.	
Efficiency	Code is efficient without sacrificing readability and understanding	Code is mostly efficient with a scope to improve by selection of different constructs or modelling	Code is marginally efficient with significant scope to improve by changing coding styles and constructs.	Code unable to achieve the result with an irrelevant patched coding	
Documentation/ Presentation	Code is well documented with related comments and design details. No typos/grammatical errors	Code is well documented with minor formatting issues. Minimal typing mistakes and grammatical errors	Significant portions of the code are undocumented or poorly documented	Major portion of the code is not documented or is with wrong/irrelevant comments.	
<b>Total marks</b>					

**Figure 2.2.1 (11) Practical rubrics**

## G.Student feedback of teaching learning process and action taken (3)

The institute follows a defined policy to collect, analyze, and act upon student feedback to continuously improve the teaching–learning process (TLP). Feedback is taken with transparency, confidentiality, and without hurting their progress.

### 1) Feedback Collection Process

#### a) Direct feedback

- A well-defined process is implemented at department level.
- All students are encouraged to submit feedback.
- Feedback is collected once each semester, either offline or online, coordinated by the Head of Department (HoD) / department coordinator.
- The questionnaire covers key aspects of TLP (content knowledge, delivery, communication, punctuality/regularity, interaction, response to queries, prerequisite coverage, real-life examples, and learning support).
- Responses are recorded on a five points scale (Excellent/ Very good/Good/Fair/Satisfactory).
- Data confidentiality is maintained; only consolidated results are shared.

#### b) Indirect feedback

- HoD conduct periodic campus/classroom interactions with students regarding academics, laboratories, and support services.
- Course Exit Survey (for each course) and Program Exit Survey (for pass-out students) are administered every semester/year to capture attainment against course/program outcomes.

### 2) Data Analysis & Reporting

- Department compiles the received feedback, prepares consolidated analysis reports, and identifies strengths and areas for improvement at course and faculty levels.
- Reports are discussed by HoD with concerned faculty members.

### 3) Action Taken Mechanism

- The HoD may suggest and guide faculty as per the feedback, which may include:
  - Participation in FDPs and workshops for pedagogy enhancement.
  - Adjustments in lesson planning, pace of delivery, and learner engagement methods.
  - Additional tutorials, remedial sessions, lab demonstrations and Youtube videos.
  - Improvement/addition of learning resources (notes, PPTs, manuals, question banks).
- **Appreciation/Motivation:** Faculty showing consistently high or improved feedback receive appreciation certificates from the department.

### 4) Effectiveness

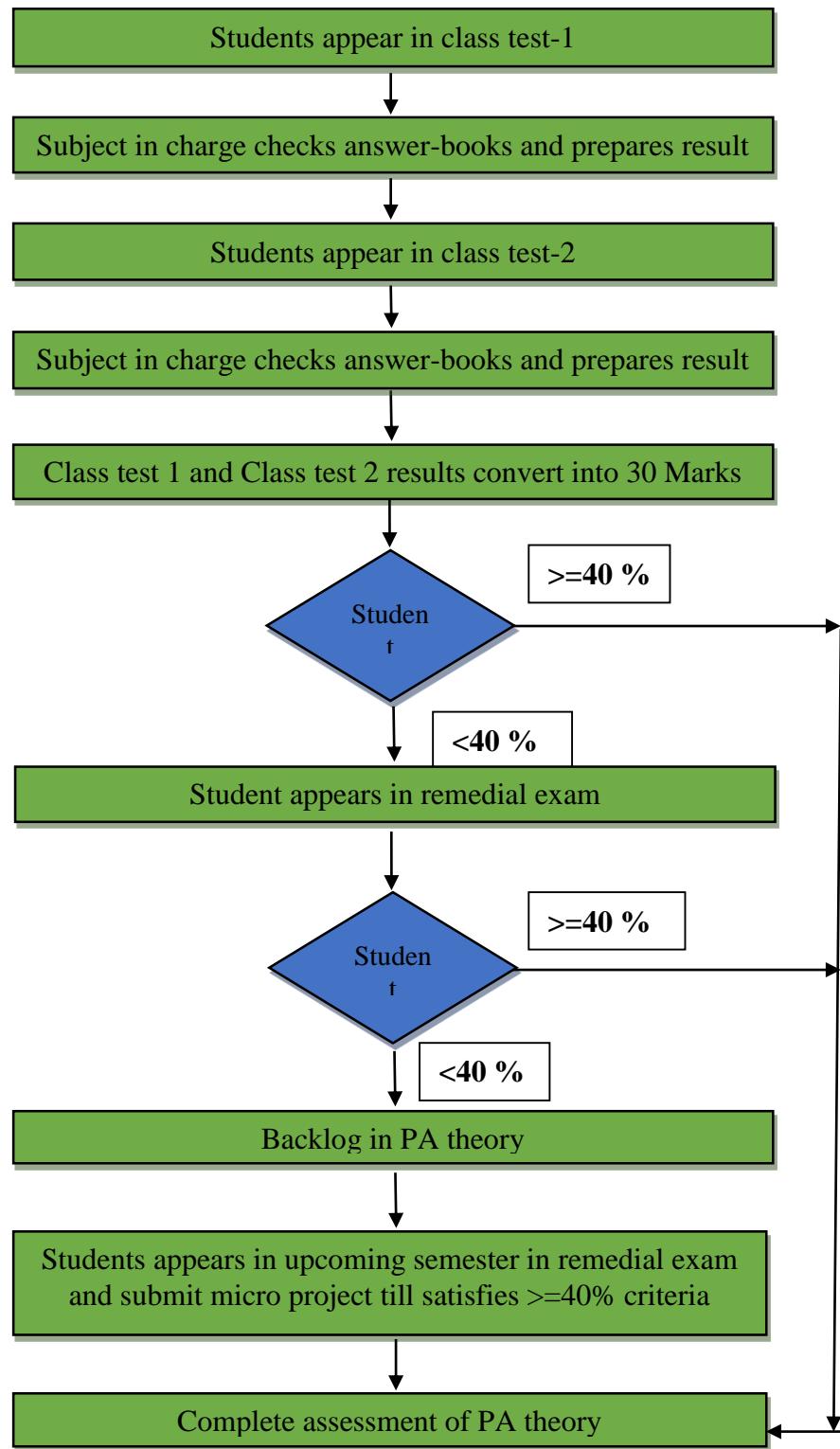
- Improvements are monitored in the subsequent feedback cycle(s) and reflected through better consolidated scores, increased student satisfaction, and improved CO/PO attainment trends.
- Continuous review closes the feedback loop and sustains TLP quality.

## **2.2.2 Initiatives to improve the quality of semester tests and assignments (15)**

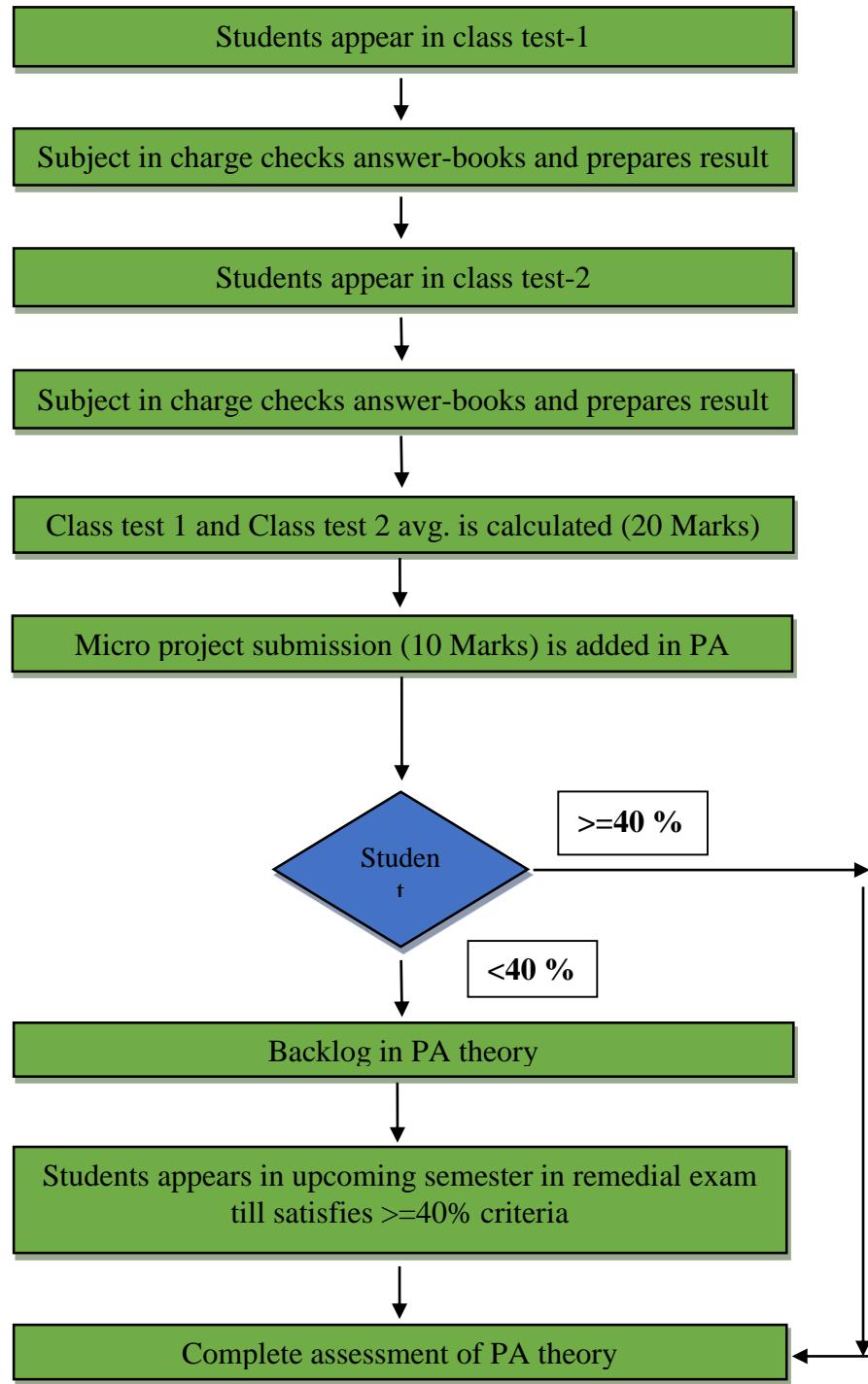
### **A. Process for internal semester question paper setting and evaluation and effective process implementation ( 5 )**

Internal assessment for each course is conducted through class tests. The following structured process is followed for question paper setting, evaluation, and implementation to ensure transparency and academic effectiveness:

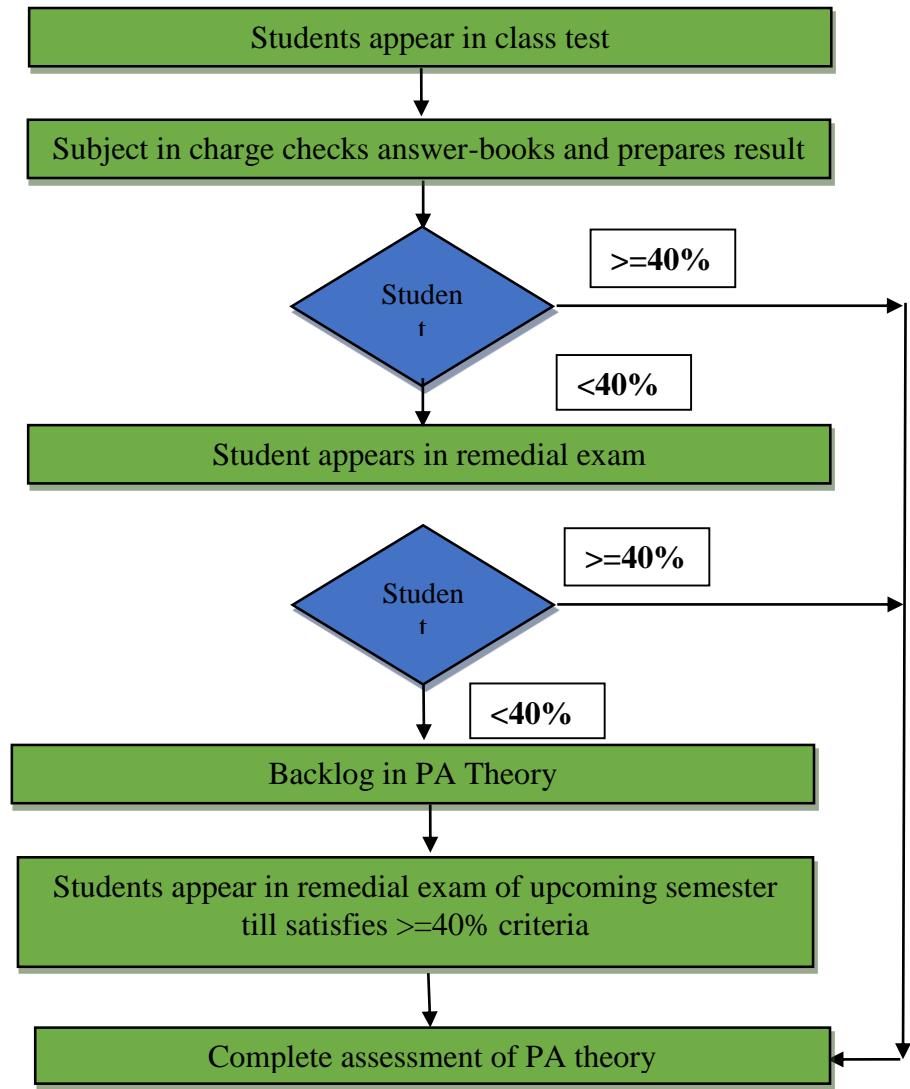
- The Head of Department (HOD) appoints a subject in-charge for each course, responsible for setting the class test paper and evaluating student performance.
- The subject in-charge, in consultation with the subject coordinator, defines the syllabus coverage for the class test and informs students in advance.
- The question paper is designed by the subject in-charge with clear mapping to Course Outcomes (COs). Questions are framed as per Bloom's Taxonomy levels, ensuring inclusion of various cognitive domains (R/U/A) as per suggestion provided by the Departmental IQAC Committee/ Head of Department.
- The question papers are submitted to the Department GTU Coordinator for smooth conduction of the test.
- Students are briefed regarding the question paper format, evaluation scheme, and syllabus coverage. Seating arrangements and test schedules are displayed on the department notice board and/or digital media.
- After the test, answer sheets are evaluated by the subject in-charge. Marks and performance are declared as per the scheduled timeline.
- Result analysis is carried out by the subject in-charge to identify slow learners. Remedial measures such as counselling and remedial classes are conducted to support their improvement.
- During COVID-19 pandemic, the same procedure was followed through online platforms, maintaining consistency and academic integrity in internal assessments.



**Figure 2.2.2 (1) Assessment for PA Theory Component (Old Syllabus)**



**Figure 2.2.2 (2) Assessment for PA Theory Component  
(Competency-focused Outcome-based Green Curriculum)**



**Figure 2.2.2 (3) Assessment for PA Theory Component (NEP syllabus)**

## B. Question paper setting taking into account outcomes / learning levels (5)

For internal assessment through class tests, question paper setting is carried out systematically with a clear focus on **Course Outcomes (COs)** and **student learning levels**.

- The subject in-charge prepares the question paper by mapping each question to the appropriate Course Outcome (CO) and Bloom's Taxonomy level, ensuring coverage of different cognitive domains such as knowledge, comprehension and application.
- The question paper also reflects the learning level expected from students based on the syllabus and academic progression of the course.
- Once the paper is prepared, the subject coordinator provides the test paper to the departmental GTU coordinator for the smooth conduct of the class test.
- During the CO-wise assessment review, the following key aspects are verified for each question paper:
  - Type of exam (Class Test, Remedial Test, etc.)
  - Bloom's Taxonomy level addressed (e.g., Remember, Understand, Apply)
  - Weightage of each CO as per the course assessment scheme

This structured approach ensures that question papers are not only academically sound but also outcome-based and student-centric.

## C. COs covering in Class test / Mid - term tests and assignment ( 5 )

To ensure proper alignment of internal assessments with Course Outcomes (COs), a structured assessment plan is prepared and implemented for each subject.

- At the beginning of the semester, the subject in-charge prepares the assessment plan (a part of the lesson plan).
- The assessment plan clearly outlines the CO-wise mapping for each evaluation method and covers the following elements:
  - Course COs assessment is done by class test/mid test.
- This systematic approach ensures continuous and outcome-based evaluation throughout the semester.
- A standard class test format is used across all subjects, as shown in the sample provided below. The format includes:
  - Mapping of each question with the corresponding CO
  - Indication of cognitive level (Remembering / Understanding / Applying, i.e., R/U/A)
  - Marks distribution for each question
  - Structured layout with optional and compulsory sections, ensuring coverage of the entire CO range

This process promotes transparency, uniformity, and enables CO attainment tracking effectively across all subjects and assessments.

# Government Polytechnic, Gandhinagar

## EC Department

Class Test-I, Sem-6

**Date:** 19/02/2025

**Time:** 11:30AM To 12:30 PM

**Subject:** VLSI

**Subject Code:** 4361102

**Marks:** 20

**Instructions:**

1. Attempt all questions.
2. Make Suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

**Course Outcomes:**

CO1-Describe working of MOSFET system.

CO2 -Maintain MOS inverters.

CO5 - Develop VERILOG Programs for combinational and sequential circuits.

<b>Q.No.</b>	<b>Questions</b>	<b>CO</b>	<b>R/U/A</b>	<b>Marks</b>
<b>Q:1</b>	Attempt any two: 1. Draw the symbols of N-channel and P-channel depletion type MOSFET. 2. List out advantages and disadvantages of scaling. (at least two). 3. Draw Accumulation region of MOS system under external bias with band diagram.	CO1	R	4
<b>Q:2</b>	Draw and explain linear region and saturation region of MOSFET Transistor	CO1	U	4
<b>OR</b>				
<b>Q:2</b>	Draw and explain inversion region of MOS system under external bias with band diagram.	CO1	U	4
<b>Q:3</b>	(A) Define any two: (i) $V_{OL}$ (ii) $V_{IH}$ (iii) $V_{IL}$ (B) Draw VTC of ideal inverter.	CO2	R	3
<b>OR</b>				
	Draw voltage transfer characteristic of CMOS with all regions and voltage levels.	CO2	R	3
<b>Q:4</b>	Explain working and voltage transfer characteristic of enhancement type load inverter.	CO2	U	4
<b>OR</b>				
<b>Q:4</b>	Explain working and voltage transfer characteristic of nMOS inverter.	CO2	U	4
<b>Q:5</b>	Write a Verilog code for AND gate using data flow modelling style and OR gate using structural modelling style.	CO5	A	2
<b>OR</b>				
<b>Q:5</b>	Write a Verilog code for Half adder using behavioural modelling style.	CO5	A	2
<b>Q:6</b>	Write Verilog code for 4 x 1 multiplexer using behavioural modelling style	CO5	A	3
<b>OR</b>				
<b>Q :6</b>	Verilog code for full adder – Using case statement.	CO5	A	3

**Figure 2.2.2 (4) Sample Class test paper**

## 2.2.3 Quality of Experiments (15)

### A. Experimental methodologies (5)

- In Electronics & communication department we have allotted all courses in six (06) different laboratories. Details of laboratories are given in below table.
- For all the courses laboratory experiments are designed as per suggested experiment list in GTU curriculum.
- Batch size for laboratory session is decided as per guideline of Department of Technical Education.
- The laboratory sessions are conducted as per time table approved by Head and Principal.
- The procedure/theory/learning outcome is explained by faculties in prior to performance of experiment.
- Groups of 4 to 5 students are allowed to perform the practical for hands-on practice under the supervision of faculties and staff.
- Students are encouraged to perform practical on bread board in courses where experiments kits are not available.
- Students are encouraged to design and develop circuits on PCB in courses like Electronics Workshop and Project for testing and troubleshooting.
- Students prepare laboratory manual during course work which is continuously evaluated by concern faculty.
- Laboratory-in charge is allocated for each laboratory, to take care of laboratory.
- Equipment utilization register is maintained for each laboratory and it is duly signed by faculty.
- Experiments are performed on equipment or trainer kit. Some subjects are having computer related experiment so those are performed on computer lab.
- If there is no equipment or trainer kit available then that practical is performed either with simulation software or with virtual labs.
- For better practical understanding, in the courses like AWP and VLSI, we try to arrange workshop and hand on practical of these courses at nearby institute.



**Figure: 2.2.3. (1)Workshop at GP, Ahmedabad on HAM Radio application for emergency communication**



**Figure: 2.2.3. (2) Hands on practical on VLSI at GP, Ahmedabad**

#### **Features of laboratory manual/ file**

- Laboratory manuals for all course are available with the department in hard copy/ soft copy.
- The list of experiment is prepared as per the suggested list of experiment by GTU in curriculum.
- DTE provides standardized common lab manuals for all subjects to ensure uniform practical training across all polytechnic institutes. These manuals help maintain consistency in laboratory work and assessments.
- Each title of the experiment is mapped with relevant course outcome of the course.
- Sample laboratory manual of each course with reading and observation is available to refer and verify the respective experiment data.

#### **Availability of adequate and well-equipped workshops, Laboratories**

- The Electronics and communication engineering department of Government Polytechnic Gandhinagar having sufficient number of workshops and laboratories for conducting various laboratory sessions
- All Laboratories are furnished with efficient equipments for students to engage in hands on activities with equipments and participate in experiential learning during the practical sessions as well as during flexible times as per their own interest.
- Equipments are stored in their designated location with appropriate tagging for the easy accessibility.
- Our laboratories consist of a comprehensive array of instruments and facilities, providing ample resources to support experimentation endeavors.
- All laboratories are provided with adequate display boards/Charts for necessary information to students and sufficient furniture facilities.
- The laboratories slots are provided as per curriculum requirement.

<b>SR. NO</b>	<b>ROOM NO.</b>	<b>LAB NAME</b>	<b>NAME OF LAB INCHARGE</b>	
<b>1</b>	<b>115</b>	<b>Computer and Communication Lab</b>	Mr. P. J. DALVADI	Mr. B. D. PRAJAPATI
<b>2</b>	<b>117</b>	<b>Digital and Computer Lab</b>	Ms. L. K. CHHAYA	Mr. H. P. SUTARIYA
<b>3</b>	<b>120</b>	<b>Microprocessor and Microcontroller Lab</b>	Mr. K. M. PARMAR	
<b>4</b>	<b>121</b>	<b>Electronics Lab</b>	Mr. V. P. JARIWALA	Ms. A. K. KONKANI
<b>5</b>	<b>125</b>	<b>Industrial Electronics and optics Lab</b>	Ms. D. R. VARADIYA	
<b>6</b>	<b>126</b>	<b>Antenna and microwave Lab</b>	Mrs. Z. B. MODI	Ms. A. K. KONKANI

**Table: 2.2.3. (1) Name of Laboratory and in charge**

### **B. Innovative experiments including industry attached practices, virtual labs (05)**

- In many courses, we use some innovative practices to attach students more with new technologies. Faculties of the department are always starving for innovative laboratory experiments.
- Apart from experiments defined by the curriculum, mini-projects are to be given to the students that are in alignment with the industrial requirements as well as current trends. To enhance the simulation skills of students.

<b>SR. NO</b>	<b>SEMESTER</b>	<b>SUBJECT</b>	<b>TOOL</b>	<b>DETAIL</b>
1	6	VLSI	QUARTUS-II	SIMULATION SOFTWARE
2	2	DE	MULTIMEDIA LOGIC	SIMULATION SOFTWARE
3	6	ADD	MIT APP INVENTOR	SIMULATION SOFTWARE
4	5,6	CN	CISCO PACKET TRACER	SIMULATION SOFTWARE
5	5,6	Microcontroller, EMBEDDED SYSTEM	Proteus	Device interfacing and simulation with 8051 microcontrollers
6	5,6	KEIL MCUIDE 8051	Microcontroller	8051 Programming
7	4	Scilab	DCOM	Modulation and demodulation of analog and digital communication
8	5	Scilab	Software practices	All the practicals as per manual are performed.

**Table: 2.2.3. (2) Sample copy of ICT Tools and Software**

### **Nodal center for Virtual lab, IIT Delhi.**

- Our institute has been recognized as a Virtual Lab Nodal Center by IIT Delhi, providing students with hands-on access to virtual experiments and simulations that enhance their practical learning experience.

- The Virtual Lab data is maintained centrally and is available with the designated coordinator. All relevant documents and access credentials are stored in the central file of the department. Faculty members or students requiring access may contact the coordinator.

 <p><b>Expression of Interest in setting up Virtual Labs<sup>1</sup></b> Nodal Center (NC)</p> <p>*Name of the Institute: <b>EXCELSIOR INSTITUTE OF POLYTECHNIC</b> Acronym of Institute: <b>GTPGP</b> GANDHINAGAR</p> <p>*Address: <b>SECTOR-24, CADC CIRCLE, GANDHINAGAR</b> Pin Code: <b>382026</b> Latitude: <b>23.223351</b> Longitude: <b>72.647223</b></p> <p>*Affiliated to: <b>CRAJAPAT TECHNOLOGICAL UNIVERSITY (AICTE)</b></p> <p>*Approved By (AICTE/UGC/University): (Attach the AICTE/UGC/University Affiliation Letter of the Institution with the EOI)</p> <p>*Approval Number: <b>1-43656234421</b></p> <p>*AISHE Code: <b>C-237</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Branch of Engineering / Science</th> <th style="text-align: center;">No. of Students</th> <th style="text-align: center;">No. of Faculty Members</th> </tr> </thead> <tbody> <tr> <td>a. CSE / IT</td> <td style="text-align: center;">360</td> <td style="text-align: center;">37</td> </tr> <tr> <td>b. ECF / EE</td> <td style="text-align: center;">90</td> <td style="text-align: center;">25</td> </tr> <tr> <td>c. CE / ME</td> <td style="text-align: center;">60</td> <td style="text-align: center;">10</td> </tr> <tr> <td>d. Applied Sciences</td> <td style="text-align: center;">—</td> <td style="text-align: center;">—</td> </tr> <tr> <td>e. Any Other (15)</td> <td style="text-align: center;">60</td> <td style="text-align: center;">05</td> </tr> <tr> <td><b>TOTAL</b></td> <td style="text-align: center;"><b>570</b></td> <td style="text-align: center;"><b>72</b></td> </tr> </tbody> </table> <p>*Name of the Head of Institute / Principal: <b>Mrs. R. D. PA GHAM</b> Email: <b>dec623@outlook.com</b> Mobile: <b>9428039918</b></p> <p>*Proposed Institute Nodal Coordinator: <b>DR. MONALI R PRAJAPATI</b> Email: <b>Monali199410p623@gmail.com</b> Mobile: <b>+9198052256</b> Department: <b>Electronics &amp; Communication</b></p> <p>It is certified that:</p> <p>a) The institute is recognized by the AICTE/UGC/University.  b) The institute has the necessary and adequate infrastructure to host the Virtual Labs.  c) Strict adherence to standard lab procedures and cyber security laws to be followed.  d) Virtual Labs may withdraw/stop connectivity without giving any prior notice or reasons.  e) This EOI for Virtual Labs usage is valid until 31<sup>st</sup> December 2025 and requires renewal by the coordinating institute for continued support.</p> <p>Signature:  Head of Institute / Principal <b>Principal</b> <b>Government Polytechnic</b> <b>Sector-26,Gandhinagar-382444 (Guj.) INDIA</b></p> <p>Date: <b>16/02/2025</b></p> <p><i>DY. M. R. Prajapati</i></p>	Branch of Engineering / Science	No. of Students	No. of Faculty Members	a. CSE / IT	360	37	b. ECF / EE	90	25	c. CE / ME	60	10	d. Applied Sciences	—	—	e. Any Other (15)	60	05	<b>TOTAL</b>	<b>570</b>	<b>72</b>	<p><b>NAME OF DEPARTMENT : ELECTRONICS &amp; COMMUNICATION</b></p> <p><b>SEMESTER - 1</b></p> <p>Course Title: Fundamentals of Electronics (Course Code: 4311102) PRACTICAL NO . 1 TO 12 <a href="https://be-iitgp.vlabs.ac.in&gt;List%20of%20experiments.html">https://be-iitgp.vlabs.ac.in&gt;List%20of%20experiments.html</a></p> <p><b>SEMESTER - 2</b></p> <p>Course Title: Digital Electronics (Course Code: 4321102) PRACTICAL NO . 1 TO 12 <a href="https://de-iitr.vlabs.ac.in&gt;List%20of%20experiments.html">https://de-iitr.vlabs.ac.in&gt;List%20of%20experiments.html</a></p> <p><b>SEMESTER - 3</b></p> <p>Course Title: Programming In C (Course Code: 4331105) PRACTICAL NO 1 TO 9 <a href="https://cse02-iith.vlabs.ac.in&gt;List%20of%20experiments.html">https://cse02-iith.vlabs.ac.in&gt;List%20of%20experiments.html</a></p> <p><b>SEMESTER - 4</b></p> <p>Course Title: Linear Integrated Circuit (Analog Electronics) (Course Code: 4341105) <a href="https://ae-iitr.vlabs.ac.in&gt;List%20of%20experiments.html">https://ae-iitr.vlabs.ac.in&gt;List%20of%20experiments.html</a></p> <p>PRACTICAL NO . 1 TO 7</p> <p><b>SEMESTER - 5</b></p> <p>Course Title: Embedded System &amp; Microcontroller Application (Course Code: 4351102) <a href="http://vlabs.iitkgp.ac.in/rtes/index.html#">http://vlabs.iitkgp.ac.in/rtes/index.html#</a></p> <p>PRACTICAL - AS PER SUBJECT FACULTY ASSIGNMENT</p> <p><b>SEMESTER - 6</b></p> <p>Course Title: VLSI (Course Code: 4361102) <a href="https://vlsi-iitg.vlabs.ac.in/">https://vlsi-iitg.vlabs.ac.in/</a></p> <p>PRACTICAL - AS PER SUBJECT FACULTY ASSIGNMENT</p> <p><b>VIRTUAL LAB - NODAL COORDINATOR , GP GANDHINAGAR - DR. M R PRAJAPATI</b></p>
Branch of Engineering / Science	No. of Students	No. of Faculty Members																				
a. CSE / IT	360	37																				
b. ECF / EE	90	25																				
c. CE / ME	60	10																				
d. Applied Sciences	—	—																				
e. Any Other (15)	60	05																				
<b>TOTAL</b>	<b>570</b>	<b>72</b>																				

**Figure: 2.2.3. (3) Nodal center for Virtual lab copy**

### Relevance to outcomes (05)

- For all the courses, laboratory experiments to be performed are mapped with CO.
- DTE provides standardized common lab manuals for all subjects to ensure uniform practical training across all polytechnic institutes.
- The assessment is done based on rubrics for performance-based courses.
- Maximum COs are included in the list of experiments to be performed.
- The remaining COs are assessed through CO-wise examinations and other activities suggested by course coordinator.

**Practical Outcome - Course Outcome matrix : Course Outcomes (COs): Microwave and Radar Communication) (4351103)**

- a) CO1 Distinguish Electromagnetic wave propagation through reflections from voltage and Current transmission
- b) CO2 Analyze performance of microwave components from a field point of view.
- c) CO3 Maintain microwave components and Set up of microwave bench for optimum Operation.
- d) CO4 Maintain microwave semiconductor devices used to realize amplifiers and Oscillators.
- e) CO5 Maintain SONAR and RADAR systems as microwave applications.

S. No.	Practical Outcome/Title of experiment	CO1	CO2	CO3	CO4	CO5
1	Demonstrate Transmission line and its parameters.	v				
2	Identify various microwave components in the microwave circuit.		v			
3	Test different control functions of GUNN power supply and draw V/I characteristics.		v	v	v	
4	Set the microwave bench for optimum operation.		v	v		
5	Measure the frequency generated by source and different wavelength in rectangular waveguide for TE1,0 mode		v	v		
6	Measure VSWR for given microwave loads		v	v		
7	Measurement of attenuation of a given fixed attenuator.		v	v		
8	Study of Power division in Directional coupler and its characteristics.		v	v		
9	Study circulator and its characteristics		v	v		
10	Study of Power division in Magic Tee and its characteristics.		v	v		
11	Calibration of given variable attenuator		v	v		
12	Introduction to RADAR .					v
13.	Measure VSWR and reflection coefficient for given length of transmission line.	v				

**Figure: 2.2.3. (4) Sample copy of laboratory experiments to be performed are mapped with CO**

L.	<b>Interpretation of Results (To be discussed and written during experiment by faculty and student)</b>					
..... .....						
M.	<b>Conclusion (To be written by student after performing experiment and to be verified by faculty)</b>					
..... .....						
N.	<b>Practical related Quiz.</b>					
1. List two port microwave components .....						
2. List types of waveguide TEE .....						
3. List more than two port (multi port)microwave components .....						
<b>O. References / Suggestions ( lab manual designer should give)</b>						
<a href="https://www.youtube.com/watch?v=jgBiWVLyFIA">https://www.youtube.com/watch?v=jgBiWVLyFIA</a> (faculty explains microwave components )						
<b>P. Assessment-Rubrics</b>						
<b>Rubrics</b>	Prepare The experimental setup. (5)	Operate the equipment setup or circuit.(5)	Follow safe practices measures. (5)	Record observations correctly. (5)	Interpret the result and conclude. (5)	<b>Total 25</b>
<b>Marks</b>						

Sign with Date

---

20 |

**Figure: 2.2.3. (5) Sample copy of laboratory experiments Rubrics**

- This is only a sample copy; rubrics for practical and copies for other subjects are available in the respective faculty's course file.

#### 2.2.4 Quality of Students Projects and Report Writing (35)

- The Electronics & Communication Department at Government Polytechnic, Gandhinagar, affiliated with Gujarat Technological University (GTU), offers project work to students in designated groups during the 5th and 6th semesters (Final Year), as per the university's curriculum structure.
- Under the GTU curriculum introduced in September 2012, final-year project work carried a total of 10 credits and was divided into two parts:
  - Project-1 (*Course Code: 3351107*) in the 5th semester – 4 credits, with Internal Evaluation: 60 marks and External Evaluation: 40 marks, Total: 100 marks.
  - Project-2 (*Course Code: 3361109*) in the 6th semester – 6 credits, with Internal Evaluation: 100 marks and External Evaluation: 200 marks, Total: 300 marks.

(*GTU Website Reference for Diploma Program – Project: Circular dated 13.08.2012, available at: [https://s3-ap-southeast-1.amazonaws.com/gtusitecirculars/circulars/12Aug/13082012\\_03.pdf](https://s3-ap-southeast-1.amazonaws.com/gtusitecirculars/circulars/12Aug/13082012_03.pdf)*)

- With the implementation of the Competency-focused Outcome-based Green Curriculum-2021 (COGC-2021), the curriculum was restructured to introduce mandatory summer internships alongside project work. The summer internships aim to provide practical, industry-focused exposure, guided by AICTE recommendations.
- As a result, the allocation of credits and structure for project courses was revised to accommodate these internships in the final year. With the GTU revised curriculum implemented from 2021, the final-year project credit distribution was reduced to a total of 2 credits, as follows:
  - E&C Project–1 (*Course Code: 4351107*) in the 5th semester – 1 credit, with Internal Evaluation: 50 marks and External Evaluation: 50 marks, Total: 100 marks.
  - E&C Project–2 (*Course Code: 4361103*) in the 6th semester – 1 credit, with Internal Evaluation: 25 marks and External Evaluation: 25 marks, Total: 50 marks.
- Also, Since 2021, GTU's revised diploma curriculum (COGC-2021), Competency-focused Outcome-based Green Curriculum-2021 , includes a 10-mark micro/mini project in the mid-semester internal evaluation. These micro/mini, application-oriented projects (14–16 hrs/semester) promote hands-on, competency-based learning, teamwork, documentation, and presentation skills.
- This change is aligned with NEP 2020, which emphasizes experiential and industry-linked education, integrating theory with practice.

## A. Projects identification and guide allocation Process

### Project Identification Process:

- Final year diploma projects (typically in Semesters 5 and 6) are based on real-life problems sourced suggestive from industry, research organizations, government bodies, or socio-technical issues.
- Shodh-Yatra:** Students undertake a "**Shodh-Yatra**" (problem-finding journey) after the 4th semester to identify project ideas from industry or relevant organizations. This scouting is typically completed before or just after the start of the 5th semester.
- Each student or group must submit their problem definition to their department project coordinator within the prescribed time limit specified by GTU and their allocated faculty guide.
- The department project coordinator and assigned guides evaluate the submitted problems, correcting and consolidating them as needed before submitting official documentation to GTU in the university-specified format.

### Guide Allocation:

- Each student or group is assigned a faculty guide responsible for reviewing, mentoring, and monitoring project progress throughout the academic year.
- The guide evaluates the problem definition and determines feasibility and relevance.
- An industry mentor may also be involved in guidance and evaluation, especially during final presentations and evaluations.
- The final allocation and confirmation process is managed by the concerned department HOD and communicated as per university guidelines.

### Key Points to be considered:

- Projects must align with a student's chosen electives or branch specialization.
- Regular evaluations and reviews by guides are mandatory, and involvement of industry mentors is encouraged for practical/vocational relevance.
- Strict timelines are set for project identification, title submission, and evaluation stages, usually within the first three weeks of the 5th semester.

## **Guidelines for Students**

### A. Team Formation

- Team Size: 3 to 4 students per group
- Each group must be assigned to a faculty mentor/ Guide
- Mentor will evaluate progress weekly and maintain a Project Progress Record

### B. Project Selection Guidelines

1. Must address a real-world problem or innovative application.
2. Ideas may originate from:
  - Industry visits
  - Faculty suggestions
  - Student research
  - Community needs (NGO/MSME/Smart City)
3. Projects should integrate both hardware and software components.
4. Projects with SSIP/startup potential are highly encouraged.

### **B. Types and relevance of the projects and their contribution towards attainment of POs and PSOs**

- Every EC diploma project in fifth and sixth semester should be clearly classified (application/product/research/review), selected after evaluating environment, safety, ethical, cost, and standards aspects, and mapped to relevant POs/PSOs.
- Most students opt for UDP (User Defined Projects), and industry mentors provide guidance mainly for selected project titles as per department project guide suggestions.
- Most projects are UDPs with optional industry mentor input for title selection and implementation guidance. This structured approach aligns with both GTU curriculum and Outcome based education requirements for quality assurance and outcome-based education.

### **Mapping with Program Outcomes (POs) & Program Specific Outcomes (PSOs)**

- Projects must demonstrate contributions to the solution of engineering problems, design and development, teamwork, communication, ethics, societal/environmental impact, life-long learning.
- Also, in line with the application of electronics/communication engineering concepts, tools, and processes for real-world problem solving and innovation.

### **Project List Year 2024-25 and its relevance domain**

Project Title	Type	Cost	Standards	Mapping to POs/PSOs	Guide Name
Accident Alert Location Tracking System	Application-based	Cost-effective design	GPS, ICT standards	PO1, PO7, PSO1	Ms. Devyani R. Varadiya
IoT Based Home Automation	Product-based	Affordable components	IoT, IS/IEC standards	PO2, PO10, PSO2	Ms. Devyani R. Varadiya
Landmine Detecting Robotic Vehicle	Application-based	Optimized for field	Safety, robotics norms	PO3, PO7, PO8, PSO1	Mr. Kalpesh M. Parmar

IoT Wireless Digital Weighing Scale	Product-based	Low-cost scale design	Weights & measures	PO2, PO10, PSO1	Mr. Kalpesh M. Parmar
RADAR System using Arduino & Ultrasonic Sensor	Research/ Product	Minimal hardware cost	Electronics standards	PO4, PO12, PSO3	Ms. Devyani R. Varadiya

**Project List Year 2023-24 and its relevance domain**

Project Title	Type	Cost	Standards	Mapping to POs/PSOs	Guide Name
IoT Based Attendance System using RFID	Application-based	Cost-effective deployment	RFID, IoT, data security standards	PO1, PO7, PO8, PSO1	Ms. Devyani R. Varadiya
Bluetooth Controlled RC Car using Arduino	Product-based	Low-cost hardware design	Arduino, Bluetooth communication standards	PO2, PO3, PO10, PSO2	Ms. Devyani R. Varadiya

**Project List Year 2022-23 and its relevance domain**

Project Title	Type	Cost	Standards	Mapping to POs/PSOs	Guide Name
IoT and Biometric Based Attendance System	Application-based	Economical RFID & IoT hardware	RFID protocols, IoT & ICT standards	PO1, PO7, PO8, PSO1	Ms. Lipi Chhaya
Long Range Transmitter & Receiver	Product-based	Cost-optimized RF design	Communication & transmission standards	PO2, PO10, PSO2	Mr. Kalpesh M. Parmar
Arduino Based Temperature Control Fan	Application-based	Low-cost component choice	Electrical appliance & control standards	PO1, PO2, PO7, PSO1	Mr. Pratik A. Parmar

**Project List Year 2021-22 and its relevance domain**

<b>Project Title</b>	<b>Type</b>	<b>Cost</b>	<b>Standards</b>	<b>Mapping to POs/PSOs</b>	<b>Guide Name</b>
Arduino Based Fire Extinguishing Robot	Application-based	Low-cost robotics	Safety equipment & robotics standards	PO1, PO2, PO7, PO8, PSO1	Mr. H. D. Shukla
Auto Sun Track Solar Panel	Product-based	Affordable tracking mechanism	Renewable energy & electrical standards	PO1, PO2, PO7, PSO1	Mr. M. B. Gandhi
Forest Fire Detection Using Wireless Sensor	Application-based	Low-power WSN design	Wireless communication & sensor standards	PO1, PO7, PO8, PSO1	Ms. Lipi Chhaya
IoT Based Home Automation	Product-based	Cost-effective smart modules	IoT, IS/IEC standards	PO2, PO10, PSO2	Mr. K. M. Parmar
Touch Sensitive Color Changing Plants (Arduino + RGB LEDs)	Application-based	Low-cost components	Electrical safety standards	PO2, PO3, PO7, PSO2	Mr. V. P. Jariwala
GSM Based Fire Alarm System	Application-based	Economical GSM integration	GSM communication & safety device standards	PO1, PO7, PO8, PO10, PSO1	Mrs. Z. B. Modi
Wireless Notice Board using Arduino & Bluetooth Module	Product-based	Affordable wireless display design	Bluetooth & electronics display standards	PO2, PO3, PO7, PO10, PSO2	Ms. D. R. Varadiya
Smart Home Automation System Project	Product-based	Low-cost smart home setup	IoT & electrical appliance standards	PO2, PO7, PO10, PSO2	Mr. V. P. Jariwala
Greenhouse Monitoring System using Arduino Nano R3	Application-based	Low-cost sensors	Agricultural & environmental monitoring standards	PO1, PO2, PO7, PSO1	Mrs. Z. B. Modi
Pulse Oximeter	Product-based	Affordable medical electronics	Biomedical & IEC safety standards	PO1, PO7, PO8, PO10, PSO1, PSO2	Ms. L. K. Chhaya

Portable Power Bank	Product-based	Cost-effective power storage	Battery charging & USB standards	PO2, PO7, PO10, PSO2	Ms. D. R. Varadiya
IoT Based Smart Village	Application-based	Low-cost IoT network	IoT, communication & environmental standards	PO1, PO2, PO7, PO8, PO10, PSO1	Mrs. Z. B. Modi
Smart Shopping Trolley with Smart Billing using RFID	Product-based	Low-cost RFID solution	RFID & POS transaction standards	PO2, PO7, PO8, PO10, PSO2	Ms. L. K. Chhaya
Android Based Wireless Notice Board and Printer	Product-based	Cost-efficient implementation	Android communication & IoT display standards	PO2, PO3, PO7, PO10, PSO2	Mr. K. M. Parmar

### C. Process for monitoring and evaluation

#### 1. Weekly Monitoring & Progress Reporting

- Each project group meets their assigned faculty guide once every week for structured progress monitoring.
- Guides record observations in a weekly progress report, covering work done, issues faced, corrective actions suggested, and alignment with POs/PSOs.

#### 2. Continuous Assessment by Faculty Guide

- Evaluation includes technical progress, design quality, adherence to safety, ethical practices, cost management, and compliance with relevant standards.
- Industry mentors (for selected UDP projects) provide suggestive inputs on title selection and technical improvements when required.

#### 3. Individual & Group Performance Tracking

- Contributions of each student are tracked through the progress reports, interim presentations, and mentor feedback.
- Rubrics aligned to NBA criteria assess problem-solving, innovation, teamwork, communication, and ethical/environmental considerations.

#### 4. Mid-Term & Final Review

- Mid-term review assesses ~50% project completion status; corrective measures are taken if required.
- Final review and evaluation (internal + external) involve prototype demonstration, viva-voce, and documentation quality check.

#### 5. Documentation & Feedback

- All weekly progress reports, rubric sheets, mentor comments, and evaluation summaries are maintained for NBA SAR evidence.
- Feedback is used for improving project execution processes in subsequent batches.

Legends: R = Remembrance; U = Understanding; A = Application and above levels (Revised Bloom's taxonomy)

**Fifth semester Evaluation Scheme Project - I Course Code: 3351107**

Unit No.	Unit Title	Contact Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
I	Shodhyatra	04	00	10	05	15
II	Problem Definition & Submission	08	05	10	05	20
III	Design Solution	20	10	10	10	30
IV	Hardware/software simulation and partial Implementation	16	00	10	10	20
V	Documentation & Presentation	08	00	05	10	15
	Total	56	15	45	40	100

**Sixth semester Evaluation Scheme Project - II Course Code: 3361109**

Unit No.	Unit Title	Contact Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
I	Create PCB/Write Program Codes	08	05	05	20	30
II	Component Mounting and soldering/rectification of syntax errors	12	05	05	20	30
III	Software Testing and Loading/ Hardware Test	20	05	10	25	30
IV	Final Implementation	20	00	05	25	30
V	Model design	12	00	05	25	30
VI	Documentation & final Presentation	12	00	00	30	50
	Total	84	15	35	50	200

**Project Presentation Rubrics (Course Code: 4361103)**

Activity	Technical Content of project (Innovative/ Project Complexity/ Quality of Build and Components /Recent trends /Expansion etc.)	Status of Hardware/ Coding	PPT content/ style	Communication skill (Verbal/Non verbal)	Question Answer/ Discussion
Weightage	0 to 4 Marks	0 to 4 Marks	0 to 4 Marks	0 to 4 Marks	0 to 4 Marks
Presentation-1 (20-Marks)					
Presentation-2 (20-Marks)					

#### Documentation / Project Report Rubrics: (Course Code: 4361103)

Activity	Report as per University format	Report Contents (Sequence. Bibliography, Resources etc.)	Presentation of Block diagram/ Circuit/ Flow Chart	Submission of weekly Progress Report	Overall Quality of Report
Weightage	0 to 2 Marks	0 to 2 Marks	0 to 2 Marks	0 to 2 Marks	0 to 2 Marks
Documentation (10-Marks)					

**Evaluation rubric for the 10-mark micro/mini project as internal evaluation in GTU's Competency-focused Outcome-based Green Curriculum-2021 (COGC-2021) (\* suggestive as per subject requirements mentioned in syllabus)**

Evaluation Parameter	Description	Marks Allocation (Out of 10)
Planning & Execution	Quality of plan, problem-solving approach	3
Teamwork & Contribution	Collaboration and documented individual effort.	2
Technical Skills	Implementation/coding/simulation competency	2
Report Quality & Presentation Skills	Clear, structured, and well-presented report/chart/ppt etc. & effective presentation	3

#### **D. Process to assess individual and team performance**

## **1. Individual Assessment**

- Each student's contribution is tracked through weekly progress reports and guide observations during meetings and presentations.
- Peer feedback and individual viva sessions evaluate understanding, skills, and communication.

## **2. Team Evaluation**

- Overall project progress, collaboration, and quality of outcomes are assessed by faculty guides and external examiners.
- Industry mentors provide input on team coordination and practical implementation for relevant projects.

## **3. Assessment Methods**

- Structured rubrics aligned with NBA criteria cover technical content, teamwork, innovation, ethics, and environmental aspects.
- Both ongoing monitoring and final evaluations are used to gauge performance.

## **4. Feedback and Improvement**

- Timely feedback is shared with students and teams to promote learning, accountability, and teamwork enhancement.
- This streamlined process ensures fair and effective evaluation of both individuals and teams while meeting NBA accreditation standards and supporting our department and university guidelines.

*The following competencies broadly needs to be developed in students :*

- 1) Co-creation & Interpersonal abilities
- 2) Analysis Test and Troubleshooting skills
- 3) Programming/ simulation/ debugging skills
- 4) PCB fabrication/ soldering skills/ modeling skill
- 5) Documentation & Presentation skill

## **E. Quality of completed projects/working prototypes**

- Completed projects and working prototypes are evaluated rigorously for functionality, innovation, and adherence to project objectives.
- Quality parameters include reliability, robustness, safety, ethical considerations, cost-effectiveness, and compliance with relevant standards.
- Projects are expected to demonstrate practical applicability and relevance to real-world problems, especially in line with UDP guidelines and industry input where applicable.
- Documentation quality—including design specifications, test results, and user manuals—is reviewed to ensure completeness and clarity.
- Final assessment involves faculty guides and external examiners who verify prototype working condition, effectiveness, and the student's understanding during demonstration and viva.
- The evaluation results are mapped with Program Outcomes (POs) and Program Specific Outcomes (PSOs) as evidence for NBA accreditation.

## **F. Papers published /Awards received by projects etc**

### **Student Startup and Innovation Policy (SSIP) Funding support**

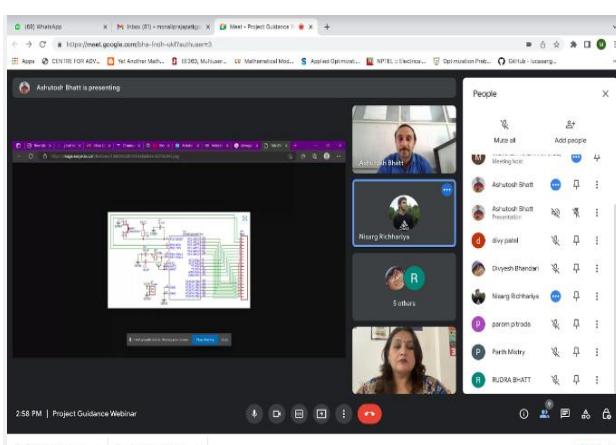
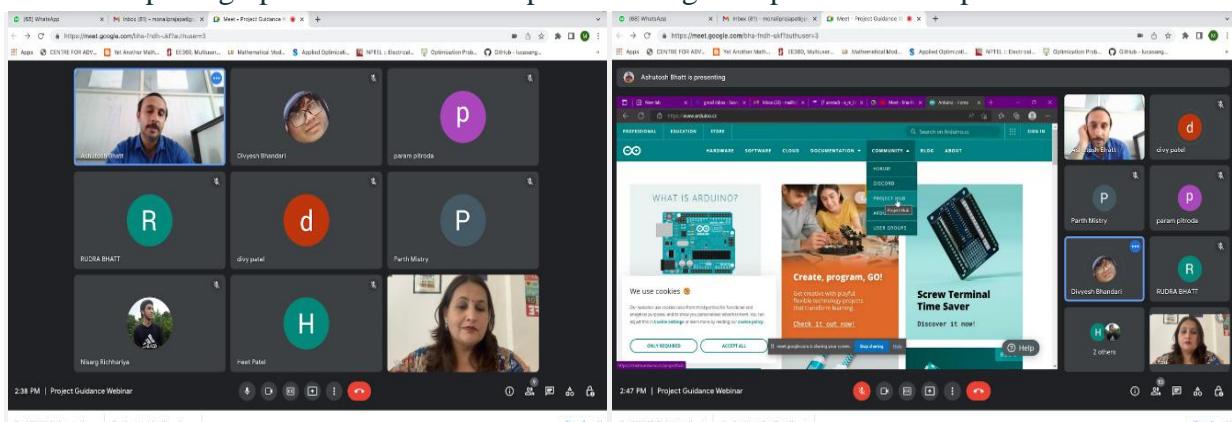
- During the academic year 2025, the Electronics & Communication Department had a notable final-year project titled “Mine Guard – Landmine Detecting Robotic Vehicle,” led by Mr. Prince Patel (Team Leader).
- This project received funding through the SSIP Cell at the institute level. Under this support, the team successfully developed a Proof of Concept (PoC), showcasing innovation, practical application, and potential societal impact.

### **Co-curricular and Professional Participation**

- Students from the Electronics & Communication Department attended “Heritage Meets Innovation: Youth Entrepreneurship for Sustainable Growth in India” – BRICS Youth Entrepreneurship Pre-Consultations Event hosted at the National Forensic Sciences University, Gandhinagar, Gujarat.
- The event provided exposure to innovation-driven entrepreneurship, sustainable growth strategies, and networking with national and international delegates. Students received participation certificates, reinforcing their competence in entrepreneurship, innovation, and societal contribution.

### **Project-Based Learning, Innovation, and Departmental Activities**

- A. Expert session for project selection
- B. Industrial visit & Industry mentor inputs provided by department training & placement cell.
- C. Discussion sessions with alumni students
- For project guidance for project problem definition selection, we had arranged online webinar by invited expert Mr. A M Bhatt (Faculty at EC department, GP Jamnagar) on 24th august 2022. The photographs and e-certificate provided to guest speaker after expert session.



#### **2.2.4 (1) Webinar on project identification and selection**

- For project guidance and technical discussion for project selection, we had arranged expert

lecture by invited Alumni of EC Department, GP Gandhinagar Mr. Parth Mistri (Student of GEC, Gandhinagar) on 28th August 2024. The photographs and e-certificate provided to guest speaker after expert session.



#### **2.2.4 (2) Project guidance and technical discussion**



## **2.2.4 (3) Expert Lecture on Project Selection Methodology**





#### 2.2.4 (4) Year 2024-25 Project Presentation



#### 2.2.4 (5) Year 2022-23 Project Presentation



#### **2.2.4 (6) Year 2021-22 Project Presentation Project Prototype/ Models**



**Landmine detecting robotic vehicle**



**IOT wireless digital weighing scale**



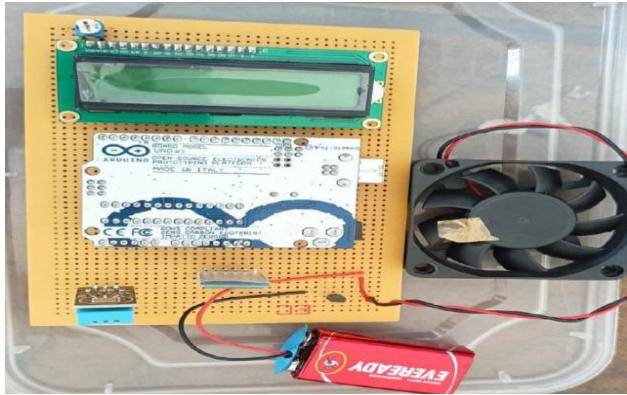
**Android Based Voice Controlled Notice Board**



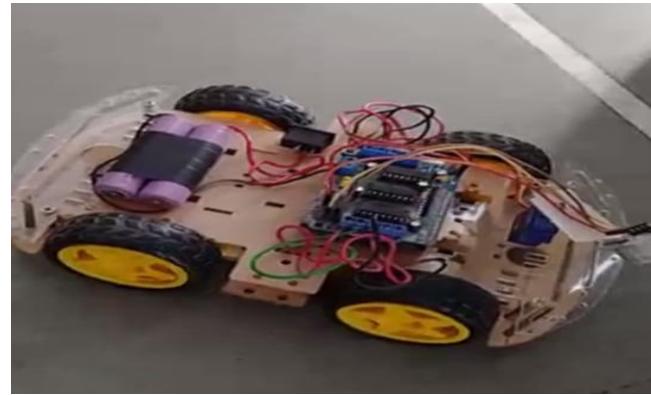
**IOT based home automation**



**IoT and biometric based attendance system**



Arduino based temperature control fan



Arduino Obstacle Avoiding Car



SSIP Event Start-Up Charcha



## Participation in BRICS Youth Council Entrepreneurship Pre-Consultation

## 2.2.5 Industry interaction and community service ( 30 )

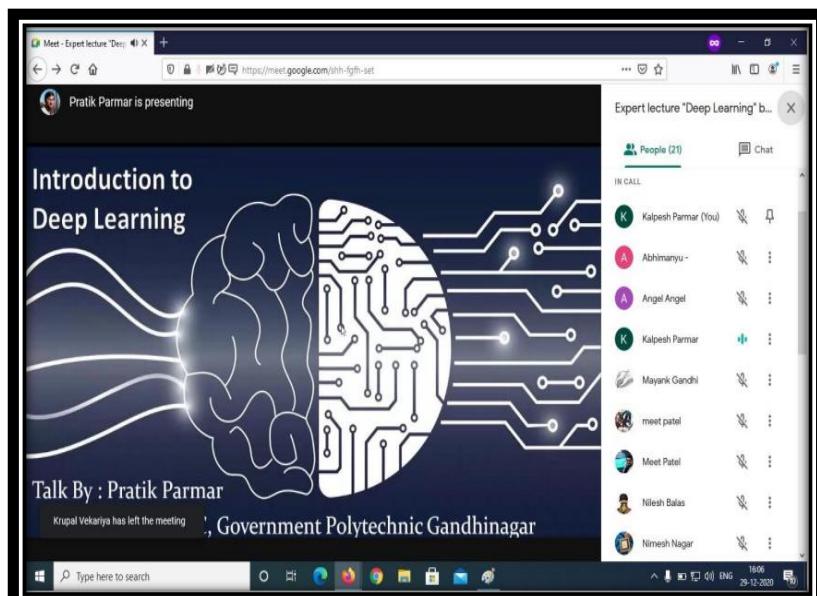
### A. Industry supported labs ( 02 )

- Right now we are not having any industry supported lab. We are planning to establish with industry support.

### B. Delivery of appropriate Course work by Industry experts ( 5 )

- It is always essential to establish and develop a healthy relationship with the Industrial resource persons to support the learning process. Various experts from different fields are invited to deliver expert lecture/ talk on technology development in today's era.
- Respective subject faculty finalizes the contents and delivery of expert lecture to impact the quality of students learning throughout the experience.
- Here, subject faculties identify the need and requirements of industrial support for students as per curriculum. The experts are contacted and invited via offline or online mode.
- Key note speakers and the participants' details are provided here.

Year 2020-21				
Sr. No.	Date	Topic	Expert	Participants
1	29/12/2020	Introduction to Deep Learning	Mr. Pratik Parmar, Lecturer EC, GP Gandhinagar	23
2	20/03/2021	21st Century Skills - Ways to develop them	Dr. Pooja Mehta, Asst. Pro., S.P.B.Patel Engineering College	60 (from all branches)
3	28/04/2021	Entrepreneurship, innovation and SSIP awareness	Mr. Ankit Didwania, Lecturer, IT Dept, GP Gandhinagar	38
4	21/05/2021	Low power design approach in VLSI	Mr. Harshal K. Prajapati, Lecturer EC, GP Rajkot	22
5	25/05/2021	Television systems	Mr. Hitesh Panchal, Lecturer EC, GP Ahmedabad	10
6	31/05/2021	Electronics Hardware Development: Challenges and Scope in India	Mr. Hardik Galodiya, Founder director, Amogh Technopreneurs LLP	15



2.2.5 (2) Introduction to Deep Learning

**Year 2021-22**

<b>Sr. No.</b>	<b>Date</b>	<b>Topic</b>	<b>Expert</b>	<b>Participants</b>
1	03/07/2021	Project Guidance	Mr. N.B.Shah	17
2	18/09/2021	LEO Based Satellite Network- Starlink Casestudy	Mr. Pramod Tripathi, Lecturer EC, GP Gandhinagar	17
3	18/12/2021	Career opportunities for engineers	Mr. K.M.Parmar, Lecturer EC, GP Gandhinagar	179 (from various branches)
4	22/01/2022	Quantitative Aptitude	Mr. K.M.Parmar, Lecturer EC, GP Gandhinagar	217 (from various branches)
5	04/05/2022	Smart soldering practice	Jayesh Sharma, Manish Verma, Kashyap Tiwari, LDCE, Ahmedabad GEC, Modasa	16



**2.2.5 (4) Toy making & joyful learning using Robotics**

**Year 2022-23**

<b>Sr. No.</b>	<b>Date</b>	<b>Topic</b>	<b>Expert</b>	<b>Participants</b>
1	19/05/2023	Mixed reality	Mr. Pratik Parmar	40
2	23/06/2023	HAM Radio	Mr. N. B. Nadoda	7
3	12/04/2023	Hands on practicals on VLSI	Mr. Mihir Dave	7



**HAM Radio Workshop**



**Hands on practical on VLSI**

### 2.2.5 (5) Workshop and Hands on sessions

#### Year 2023-24

Sr. No.	Date	Topic	Expert	Participants
1	26-Oct-23	National Cyber Security	“Cyber Chaitanya” Cyber awareness campaign 2.0	27
2	10-Mar-23	Career Opportunities for Engineers	Mr. Kalpesh Parmar	73

#### Year 2024-25

Sr. No.	Date	Topic	Expert	Participants
1	23-Oct-24	Job opportunity in solar sector	Mr. Darshan Dhola	36
2	08-Apr-25	Contributor Personality Development	Dr. K. H. Talati	48

### C. Industrial Visits/ tours for students (3)

- An essential aspect of the diploma engineering curriculum for Electronics and Communication (EC) students is the Industrial Visit or Tour. This critical event ensures that students gain firsthand experience by visiting companies, offering valuable insights into real-world corporate environments.
- The EC department prioritizes these visits to provide students with practical exposure, implementation of theoretical concepts and their practical applications. Industrial Visits serve as a tactical approach in technical education, allowing students to observe working methods, engage with professionals, and seek clarification on their queries.
- Beyond academics, these visits aim to develop students' insights, providing a practical understanding of their theoretical knowledge. The EC department recognizes the significance of these experiences in shaping well-rounded professionals who are prepared for the demands of the industry. Through these initiatives, students not only enhance their technical skills but also gain a holistic understanding of applying their academic learning in professional environment.

**Year 2021-22**

<b>Sr. No.</b>	<b>Date</b>	<b>Name of Industry</b>	<b>Semesters</b>	<b>No. of Participants</b>	<b>Name of Faculty</b>
1	24/09/2021	Dutt Electronics (Online Industrial Visit)	3 & 5	18	Mr. N.B.Shah
2	28/06/2022	Dutt Electronics (Offline Industrial Visit)	2	12	Mrs. Z.B.Modi
3	24/01/2022	Toy making & joyful learning using Robotics	5	11	Mr. N. Shah

**Year 2022-23**

<b>Sr. No.</b>	<b>Date</b>	<b>Name of Industry</b>	<b>Semesters</b>	<b>No. of Participants</b>	<b>Name of Faculty</b>
1	23/06/2023	SAC-ISRO	4	7	D.R.Varadiya



**2.2.5 (6) Various visits**

**Year 2023-24**

<b>Sr. No.</b>	<b>Date</b>	<b>Name of Industry</b>	<b>Semesters</b>	<b>No. of Participants</b>	<b>Name of Faculty</b>
1	08-Apr-24	Dutt Electronics, Gandhinagar	2, 4, 6 (EC/ICT)	68	Mr. K. M. Parmar, Mr. P. J. Dalvadi, Ms. D. R. Varadiya
2	08-Apr-24	Electro EMS Services, Gandhinagar	2, 4, 6 (EC/ICT)	34	Ms. D. R. Varadiya Mr. K. M. Parmar
3	01-May-24	BISAG-N, Gandhinagar	2, 4 EC&4ICT	46	Ms. D. R. Varadiya Mr. V. P. Jariwala
4	04-May-24	Workshop at Centre for Creative Learning, IIT Gandhinagar	2 & 4 (EC/ICT)	26	Ms. L. K. Chhaya, Ms. A. K. Konkani



**Dutt Electronics, Gandhinagar**



**Electro EMS Services, Gandhinagar**



**BISAG-N, Gandhinagar**

**Year 2024-25**

Sr. No.	Date	Name of Industry	Semesters	No. of Participants	Name of Faculty
1	09-Aug-24	Upaya Electronics LLP, Gandhinagar	5 <sup>th</sup> (EC/ICT)	28	Dr. M. R. Prajapati, Ms. D. R. Varadiya, Ms. A. K. Kokani
2	09-Dec-24	PDEU IIC	5 (EC/ICT)	27	Ms. L. K. Chhaya, Mr. K. M. Parmar
3	04-Apr-25	Vikram Sarabhai Space Exhibition (VSSE) - Space Application Center (ISRO), Ahmedabad	2, 4, 6 EC, 4ICT	63	Ms. D. R. Varadiya, Mr. V. P. Jariwala, Mr. P. B. Bhatt



**Upaya Electronics LLP, Gandhinagar**



**Vikram Sarabhai Space Exhibition (VSSE) – SAC(ISRO)**



**PDEU IIC**

#### **D. Industrial training/ internship (5)**

- With a view to expose students for thinking about professional career by observing, understanding working mechanism and having hand-on practice of ongoing work of industry and to obtain various types of skills, internship program has been made mandatory for the students during 3rd and 5th semester.
- This internship is to equip the students with practical knowledge and provide them exposure to real time industrial environments. Various options are provided to the students for the internship like in Government Agencies/ skill centers/ social sector/ Govt. initiated social schemes/ NGOs etc.
- The duration of internship for 3rd semester students is two weeks and for 5th semester students is six weeks.

<b>Year 2022-23</b>			
<b>Sr. No.</b>	<b>Semester</b>	<b>Number of enrolled Students</b>	<b>Students completed internship Participants</b>
1	3	19	14

<b>Year 2023-24</b>			
<b>Sr. No.</b>	<b>Semester</b>	<b>Number of enrolled Students</b>	<b>Students completed internship Participants</b>
1	3	10	8
2	5	7	6

<b>Year 2024-25</b>			
<b>Sr. No.</b>	<b>Semester</b>	<b>Number of enrolled Students</b>	<b>Students completed internship Participants</b>
1	3	18	14
2	5	9	9

<b>Year 2025-26</b>			
<b>Sr. No.</b>	<b>Semester</b>	<b>Number of enrolled Students</b>	<b>Students completed internship Participants</b>
1	5	14	13

## E. Post training/ internship Assessment (10)

- On completion of the internship, evaluation is conducted at the institute. Based on evaluation rubric, students are evaluated based on the knowledge acquired during the internship period.

### Rubrics for Internal Evaluation

Internal Evaluation – 25 Marks PA(I) (To be carried out by the mentor in consultation with Industry) Minimum Passing Marks: 13					
Parameter	Excellent	Good	Average	Not up the level of Satisfaction	Obtained Marks
Mark range	4-5	3-4	2-3	Below 2	
Knowledge acquisition in specific domain. <b>5 marks</b>					
Skill and attitude attainment in specific domain. <b>5 marks</b>					
Feedback and suggestions given are incorporated? <b>5 marks</b>					
Quality of the prepared report and poster. <b>5 marks</b>					
Quality of the presentation. <b>5 marks</b>					
<b>Total Marks Obtained Out of 25 PA(I)</b>					

GUJARAT TECHNOLOGICAL UNIVERSITY Final Student Mark Report Winter2023 GOVERNMENT POLYTECHNIC,GANDHINAGAR-623						
Print Date : 17-February-2024	11:30:55	Sem: 3				
Subject Code: 433001 (Summer Internship - I)	course: DI	Branch Code: 11				
Sr. No	Enrollment No	Student Name	Mid 0	RemMid 0	Internal 25	Viva 25
1	216230311008	GOSWAMI DIVY NARESH	-	-	18	20
2	226230311006	KORAT NETRAKUMAR MUKESHBHAI	-	-	20	24
3	226230311008	PATEL KHALIYAH HARDIK	-	-	21	23
4	226230311011	PRAJAPATI PRITESH GIRISHBHAI	-	-	18	20
5	226230311012	RAJPUT KRISHA VIJAYKUMAR	-	-	20	22
6	226230311013	RISHABH PRATHMESHBHAI BHATT	-	-	20	24
7	226230311014	SAMEER RAFIK MANSURI	-	-	ZR	AB
8	226230311016	SOLANKI KIRTAN SHANKARBHAI	-	-	18	20
9	236238311002	Patel Prince Bhupeshkumar	-	-	20	22
10	236238311005	THAKOR KISHANKUMAR BHARATSINH	-	-	ZR	AB

  
 Signature of Internal Examiner  
*K. M. Kumar*

  
 Signature of External Examiner/HOD

**Sample Evaluation sheet**

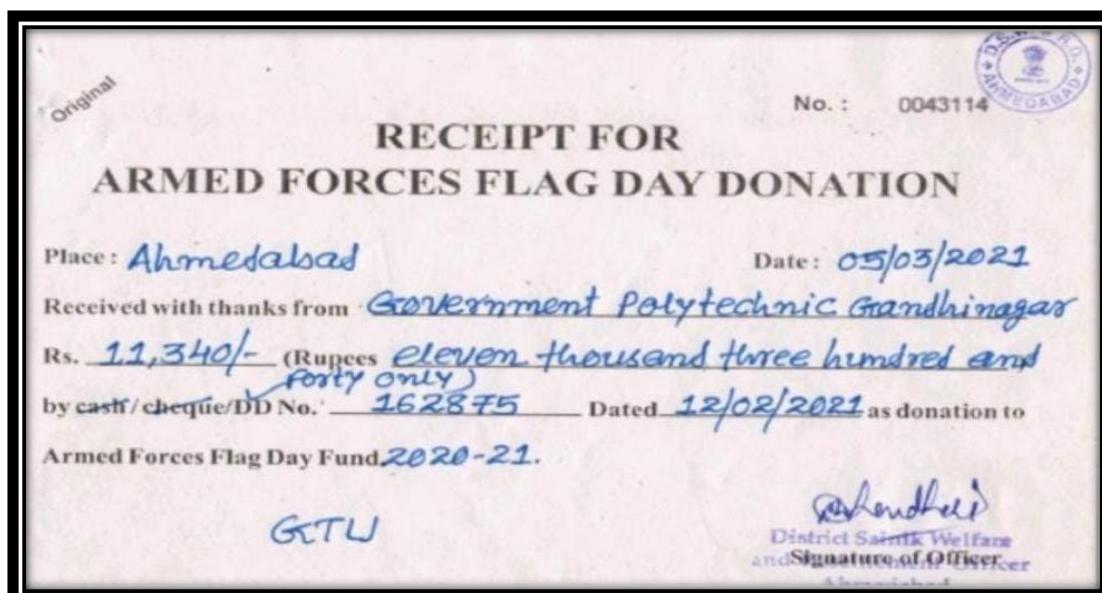
## F. Contribution to Community related Projects/ Activities (5)

- Engaging in community service provides students with the opportunity to become active members of their community and has a lasting, positive impact on society at large.
- Community service or volunteer is enables students to acquire life skills and knowledge, as well as provide a service to those who need it most.

Sr. No.	Date	Event	Participants
1	25/04/2022	Cloth collection and donation activity	10
2	16/02/2022	Awareness Program based on Panch Prakalp (Fit India, Corona vaccination, Cow based agriculture, Environmental cleanliness & water conservation)	District School students
3	1 <sup>st</sup> week of June, 2022	Sead Ball Activity	6
4	26/01/2023	Contribution for soldier fund on the event of Republic day.	All student and staff members
5	31/03/2023	“Use Cycle, Save Energy” Environment awareness event	23
6	25/08/2023	E-waste collection campaigning	03
7	01/08/2023	Himalayan Meditation rally	300 approx
8	01/09/2024	Celebration of “Rastriy Posan Maonth”, awareness of millets	School students
9	16/01/2025	ACPDC awareness program	District School students
10	Round the year	RTO (Learning license) duties by faculties	All learning license aspirants



300 seeds ball prepared by students of all departments in June 2022.



Contribution for soldier fund on the event of Republic day



NSS clothes donation



**“Use Cycle, Save Energy” Environment awareness event on 31/03/2023.**



**ACPDC awareness program**

## **2.2.6. Information Access Facilities and Student Centric Learning Initiatives (15)**

### **Introduction / Overview of available information access facilities**

- The 24X7 Internet facilities are available at the Institute for students.
- The students also have wired connectivity of internet in each lab.
- The Government of Gujarat has provided Tablets to the students at a cost of Rs. 1000. So that students could take lever age of today's technological trends and add some more knowledge into their technical database.
- Nodal center for Virtual lab, IIT Delhi.
- Our college provides access to the National Digital Library of India (NDLI), a comprehensive online repository developed by IIT Kharagpur under the Ministry of Education.
- The institute website serves as the official digital platform providing essential information about the college.
- The department website offers detailed information about the department's faculty, curriculum, lab facilities, events, and academic activities.
- The department provides students with 24x7 access to academic resources through a well-organized Google Drive repository.
- The department regularly organizes expert lectures, Industrial visits are to help students understand real-world applications and industry practices related to their field of study.
- The Government of Gujarat has provided Microsoft Teams accounts as well as Office 365 subscriptions (covid-19).
- Faculty members use Google Classroom to share lecture notes, assignments, quizzes, and important updates with students. It enables smooth communication, timely feedback, and enhances the overall teaching-learning process.
- Induction Program for first year students.

### **A. Availability of facilities & Effective Utilization; specify the facilities, materials and scope for self-learning, Webinars, NPTEL Podcast, MOOCs etc. (10)**

- The 24X7 Internet facilities are available at the Institute for students where students can login by getting OTP which will keep their internet live for 30 Minutes. So, students can access video material on their smart phones and their laptops.
- The students also have wired connectivity of internet in each lab. Sufficient LAN ports are available in all labs.
- A projector is setup along with screen in room 135. This is helpful in teaching learning process and project presentation for the students.
- The department has a movable projector available for setting up ICT-based learning in classrooms 116 and 122.



**Figure: 2.2.6.(1) Multimedia Classroom**

- The Government of Gujarat has provided Tablets to the students at a cost of Rs. 1000. So that students could take lever age of today's technological trends and add some more knowledge into their technical database.
- Under the Namo E-Tablet Scheme, Gujarat Government offers subsidized tablets (Acer/Lenovo) to first-year college and polytechnic students from financially weaker backgrounds (annual income  $\leq$  ₹1 lakh). Students pay a token fee of ₹1,000 for a device valued around ₹8–9 k, preloaded with educational content. Though ₹200 crore was budgeted to reach ~3 lakh students, no tablets have been distributed in the last three years.

GP Gandhinagar Tablet Yojana EC Department Tablet Distribution Phase 3						
Sr No	Tablet registration number	Tablet Model	Tablet Serial no	Roll Number	Name of The Student	Mobile No of the Student
✓ 1	180000316279	ACER	UT027S101184620845V4K10	166230311502	BAIRWA DHARMESH KAMALKUMAR	7801970869
✓ 2	180000316561	ACER	UT027S101184630343YK10	166230311007	BAMANIYA SHAILESHKUMAR	7201953519
✓ 3	180000316367	ACER	UT027S1011846303074YK10	166230311113	VADHER HARDIK MAHESHBHAI	9426257336
✓ 4	180000316405	ACER	UT027S1011846208974YK10	166230311107	SURKHADIA NISHIT YOGESHKUMAR	9904511212
✓ 5	180000316433	ACER	UT027S1011846160134YK10	166230311114	VADHER HARSH MAHESHBHAI	9051357386
✓ 6	180000316457	ACER	UT027S1011846303674YK10	166230311110	SUTHAR NIKUNIKUMAR R	6351611035
✓ 7	180000316505	ACER	UT027S1011846150564YK10	166230311014	BRAHMHBATT KEVAL PRAKASHBHAI	8218053263
8	180000316537				Vrajesh Desai	7473087230
✓ 9	180000316578	ACER	UT027S1011846206994YK10	166230311004	RADRI MOHAMMAD MUSTAFA BHAI	9924409467
✓ 10	180000316609	ACER	UT027S1011846203624YK10	166230311006	BALDOHA DHAVAL BATUKBHAI	9426373774
✓ 11	180000316632	ACER	UT027S1011846206554YK10	166230311512	PATEL SHLOK KRIT	7480803841
✓ 12	180000316653	ACER	UT027S101184620524YK10	166230311517	SHEIKH NAUMAN AHEMAO IMTIYAZBHAI	7487052511
✓ 13	180000316672	ACER	UT027S10118463031264YK10	166230311045	KHAN MOHAMMED RAZEEN KHAN MAFOOZ KHAN	8866067426
✓ 14	180000316690	ACER	UT027S101184620845YK10	166230311093	SHAIKH MOHAMMED KAIF MONAEEM	9913013276
✓ 15	180000316718	ACER	UT027S101184620849YK10	166230311019	CHAUHAN DEEP GIRISHBHAI	8160807949
✓ 16	180000316497	ACER	UT027S1011846303084YK10	166230311047	KOSHITI JAIMIN GOVINDBHAI	9327906455
✓ 17	1800003226775	ACER	UT027S1011846301304YK10	166230311097	PATEL RAJ NITINKUMAR	8347282100
✓ 18	180000316797	ACER	UT027S101184630365YK10	166230311514	SADHU BHAVYA D	8401600786

**Figure: 2.2.6. (2) Tablet distribute to students copy**

- The Government of Gujarat has facilitated digital education by providing Microsoft Teams

accounts and Office 365 subscriptions to faculty and students. This initiative supports seamless online teaching, learning.

- Faculty members can now conduct live classes, share study materials, and interact with students more efficiently during COVID time. And no teaching suffers during pandemic. It has enhanced the overall accessibility and effectiveness of digital education in the institute.
- All the teaching and learning data is available with faculty members through Microsoft Teams. This includes lecture recordings, study materials, assignments, and student attendance records. It helps ensure organized and efficient academic management.

GOVERNMENT POLYTECHNIC GANDHINAGAR MS TEAM ID CREATED FOR TEACHING LEARNING DURING COVID-19											
Department	Display name	Licenses	Object Id	Office	Password never expires	Phone number	Strong password required	Title	Usage location	User principal name	When created
ec	1EC-20ec001_Meghanathi_Nalmish Rameshgiri	Office 365 A1 for students	9a79e142-20ec001		FALSE	2020	TRUE	ST_Regular IN	20ec001.ec@gpan.gugov.edu.in	2020-10-24 07:36:42Z	
ec	1EC-20ec005_Patel_Jay	Office 365 A1 for students	3ef7a79d-20ec005		FALSE	2020	TRUE	ST_Regular IN	20ec005.ec@gpan.gugov.edu.in	2020-11-12 09:47:53Z	
ec	1EC-20ec012_Patel_Darshankumar Sureshbhai	Office 365 A1 for students	b81ab38e-20ec012		FALSE	2020	TRUE	ST_Regular IN	20ec012.ec@gpan.gugov.edu.in	2020-10-24 07:36:48Z	
ec	1EC-20ec017_Rathod_Vikramsinh Mahendrasinh	Office 365 A1 for students	e935e703-20ec017		FALSE	2020	TRUE	ST_Regular IN	20ec017.ec@gpan.gugov.edu.in	2020-10-24 07:36:50Z	
ec	1EC-20ec018_Parmar_Digvijaysinh Sursini	Office 365 A1 for students	4203b742-20ec018		FALSE	2020	TRUE	ST_Regular IN	20ec018.ec@gpan.gugov.edu.in	2020-10-24 07:36:51Z	
ec	1EC-20ec021_Prajapati_Prince Jitendrakumar	Office 365 A1 for students	10d64420-20ec021		FALSE	2020	TRUE	ST_Regular IN	20ec021.ec@gpan.gugov.edu.in	2020-11-12 09:47:51Z	
ec	1EC-20ec023_Soni_Yatharth	Office 365 A1 for students	747e68d2-20ec023		FALSE	2020	TRUE	ST_Regular IN	20ec023.ec@gpan.gugov.edu.in	2020-11-12 09:47:52Z	
2EC	2EC-206230311001_Suthar_Param Pravinbhai	Office 365 A1 for students	2b6d3847-20ec000		FALSE	2020	TRUE	ST_Regular IN	20ec001.ec@gpan.gugov.edu.in	2020-10-24 07:36:43Z	
2EC	2EC-206230311002_Chehani_Shivam Dipakumar	Office 365 A1 for students	962503e8-20ec002		FALSE	2020	TRUE	ST_Regular IN	20ec002.ec@gpan.gugov.edu.in	2020-11-12 09:47:52Z	
ec	2EC-206230311003_Patel_Divy Bajreshkumar	Office 365 A1 for students	34b51b4d-20ec003		FALSE	2020	TRUE	ST_Regular IN	20ec003.ec@gpan.gugov.edu.in	2020-10-24 07:36:45Z	
ec	2EC-206230311004_Patel_Ayush Anil Kumar	Office 365 A1 for students	d7076513-20ec008		FALSE	2020	TRUE	ST_Regular IN	20ec008.ec@gpan.gugov.edu.in	2020-10-24 07:36:46Z	
ec	2EC-206230311005_Bhatt_Rudra Sudhirbhai	Office 365 A1 for students	94565ea-20ec019		FALSE	2020	TRUE	ST_Regular IN	20ec019.ec@gpan.gugov.edu.in	2020-10-24 07:36:51Z	
2EC	2EC-206230311006_Patel_Heet Amritrbhai	Office 365 A1 for students	4e747ad8-20ec000		FALSE	2020	TRUE	ST_Regular IN	20ec004.ec@gpan.gugov.edu.in	2020-10-24 07:36:44Z	
ec	2EC-206230311007_Thakur_Rohitkumar Vipn	Office 365 A1 for students	972b8705-20ec020		FALSE	2020	TRUE	ST_Regular IN	20ec020.ec@gpan.gugov.edu.in	2020-11-12 09:47:50Z	
ec	2EC-206230311008_Soni_Jalmin Bhupendrabhai	Office 365 A1 for students	aedfc6ca-a-20ec014		FALSE	2020	TRUE	ST_Regular IN	20ec014.ec@gpan.gugov.edu.in	2020-10-24 07:36:49Z	
ec	2EC-206230311009_Thakar_Owji	Office 365 A1 for students	bb4d4b5f-20ec024		FALSE	2020	TRUE	ST_Regular IN	20ec024.ec@gpan.gugov.edu.in	2020-11-12 09:47:53Z	
ec	2EC-206230311010_Patel_Devkumar Vijaybhai	Office 365 A1 for students	6278ff97-20ec009		FALSE	2020	TRUE	ST_Regular IN	20ec009.ec@gpan.gugov.edu.in	2020-10-24 07:36:46Z	
ec	2EC-206230311011_Thakor_Surajkumar Mafaji	Office 365 A1 for students	2ba153b-20ec015		FALSE	2020	TRUE	ST_Regular IN	20ec015.ec@gpan.gugov.edu.in	2020-10-24 07:36:50Z	
ec	2EC-206230311012_Richharina_Nisarg Manishbhai	Office 365 A1 for students	f5db8e1a-20ec007		FALSE	2020	TRUE	ST_Regular IN	20ec007.ec@gpan.gugov.edu.in	2020-10-24 07:36:45Z	
ec	2EC-206230311013_Yashkumar_Rakeshkumar Saini	Office 365 A1 for students	1428e2d9-20ec013		FALSE	2020	TRUE	ST_Regular IN	20ec013.ec@gpan.gugov.edu.in	2020-10-24 07:36:48Z	
ec	2EC-206230311014_Mistry_Parth Prashankumar	Office 365 A1 for students	c1c91d5b-20ec016		FALSE	2020	TRUE	ST_Regular IN	20ec016.ec@gpan.gugov.edu.in	2020-10-24 07:36:50Z	
ec	2EC-206230311015_Patel_Omkumar Dilipbhai	Office 365 A1 for students	23f6eb43-20ec003		FALSE	2020	TRUE	ST_Regular IN	20ec003.ec@gpan.gugov.edu.in	2020-10-24 07:36:43Z	
ec	2EC-206230311016_Patel_Bimalkumar Sudhirbhai	Office 365 A1 for students	c8f48ac8-20ec010		FALSE	2020	TRUE	ST_Regular IN	20ec010.ec@gpan.gugov.edu.in	2020-10-24 07:36:47Z	
ec	2EC-206230311017_Patel_Bimalkumar Sudhirbhai	Office 365 A1 for students	3f1d1210-20ec011		FALSE	2020	TRUE	ST_Regular IN	20ec011.ec@gpan.gugov.edu.in	2020-10-24 07:36:47Z	
EC	3EC-176230311017_Pritesh_Suhagia	Office 365 A1 for students	78a0832a-2017		FALSE	2017	TRUE	ST_Iletal IN	176230311071.ec@gpan.gugov.edu.in	2020-06-29 09:16:51Z	
EC	3EC-196230311009_Vishvesh Bhavas	Office 365 A1 for students	9423b3b-2019		FALSE	2019	TRUE	ST_regular IN	196230311009.ec@gpan.gugov.edu.in	2020-06-29 09:16:52Z	
EC	3EC-196230311004_Smiti_Chaudhari	Office 365 A1 for students	75818eab-2019		FALSE	2019	TRUE	ST_regular IN	196230311004.ec@gpan.gugov.edu.in	2020-06-29 09:16:52Z	
EC	3EC-196230311005_Narbhoo_Chauhan	Office 365 A1 for students	e226907-2019		FALSE	2019	TRUE	ST_regular IN	196230311005.ec@gpan.gugov.edu.in	2020-06-29 09:16:52Z	
EC	3EC-196230311007_Shubham_Chaurasiya	Office 365 A1 for students	a6da6482-2019		FALSE	2019	TRUE	ST_regular IN	196230311007.ec@gpan.gugov.edu.in	2020-06-29 09:16:52Z	
EC	3EC-196230311008_Jaimin_Gajar	Office 365 A1 for students	62526604-2019		FALSE	2019	TRUE	ST_regular IN	196230311008.ec@gpan.gugov.edu.in	2020-06-29 09:16:54Z	
EC	3EC-196230311009_Karanjith_Koshti	Office 365 A1 for students	50967272-2019		FALSE	2019	TRUE	ST_regular IN	196230311009.ec@gpan.gugov.edu.in	2020-06-29 09:16:54Z	
EC	3EC-196230311010_Ajay_Makwana	Office 365 A1 for students	9d71f112-2019		FALSE	2019	TRUE	ST_regular IN	196230311010.ec@gpan.gugov.edu.in	2020-06-29 09:16:55Z	
EC	3EC-196230311012_Nimishit_Patel	Office 365 A1 for students	08be8054-2019		FALSE	2019	TRUE	ST_regular IN	196230311012.ec@gpan.gugov.edu.in	2020-06-29 09:16:55Z	
EC	3EC-196230311013_Juday_Panchal	Office 365 A1 for students	f6fbd73d-2019		FALSE	2019	TRUE	ST_regular IN	196230311013.ec@gpan.gugov.edu.in	2020-06-29 09:16:56Z	
EC	3EC-196230311015_Arthukumar Patel	Office 365 A1 for students	6f6e9377-2019		FALSE	2019	TRUE	ST_regular IN	196230311015.ec@gpan.gugov.edu.in	2020-06-29 09:16:58Z	
EC	3EC-196230311016_Kamal_Patel	Office 365 A1 for students	f315ea71-2019		FALSE	2019	TRUE	ST_regular IN	196230311016.ec@gpan.gugov.edu.in	2020-06-29 09:16:58Z	
EC	3EC-196230311017_Oviyanil_Patel	Office 365 A1 for students	dfbb6c6-2019		FALSE	2019	TRUE	ST_regular IN	196230311017.ec@gpan.gugov.edu.in	2020-06-29 09:16:59Z	
EC	3EC-196230311021_Prince_Patel	Office 365 A1 for students	6063e917-2019		FALSE	2019	TRUE	ST_regular IN	196230311021.ec@gpan.gugov.edu.in	2020-06-29 09:16:59Z	
EC	3EC-196230311022_Priyabhan_Vyas	Office 365 A1 for students	652c4e40-2019		FALSE	2019	TRUE	ST_regular IN	196230311022.ec@gpan.gugov.edu.in	2020-06-29 09:17:00Z	
EC	3EC-196230311024_Sahil_Rakholiya	Office 365 A1 for students	d541d2ae-2019		FALSE	2019	TRUE	ST_regular IN	196230311024.ec@gpan.gugov.edu.in	2020-06-29 09:17:00Z	
EC	3EC-196230311026_Krushnam_Shah	Office 365 A1 for students	a50b61de-2019		FALSE	2019	TRUE	ST_regular IN	196230311026.ec@gpan.gugov.edu.in	2020-06-29 09:17:00Z	
EC	3EC-196230311027_Sakshi_Shah	Office 365 A1 for students	d77b5c4-2019		FALSE	2019	TRUE	ST_regular IN	196230311027.ec@gpan.gugov.edu.in	2020-06-29 09:17:00Z	
EC	3EC-196230311028_Meet_Singore	Office 365 A1 for students	b20fd22-2019		FALSE	2019	TRUE	ST_regular IN	196230311028.ec@gpan.gugov.edu.in	2020-06-29 09:17:02Z	
EC	3EC-196230311029_Tereth_Patel	Office 365 A1 for students	90de6b7-2019		FALSE	2019	TRUE	ST_regular IN	196230311029.ec@gpan.gugov.edu.in	2020-06-29 09:17:03Z	
EC	3EC-196230311031_Ruturaj_Vaghela	Office 365 A1 for students	ddfae44-2019		FALSE	2019	TRUE	ST_regular IN	196230311031.ec@gpan.gugov.edu.in	2020-06-29 09:17:04Z	
EC	3EC-196230311032_Subhash_Vaghela	Office 365 A1 for students	beda315d-2019		FALSE	2019	TRUE	ST_regular IN	196230311032.ec@gpan.gugov.edu.in	2020-06-29 09:17:04Z	
EC	3EC-196230311050_Abhisek_Oza	Office 365 A1 for students	425c5747-2019		FALSE	2019	TRUE	ST_regular IN	196230311050.ec@gpan.gugov.edu.in	2020-06-29 09:17:04Z	
EC	3EC-196230311052_Darshan_Patel	Office 365 A1 for students	352c6e69-2019		FALSE	2019	TRUE	ST_regular IN	196230311052.ec@gpan.gugov.edu.in	2020-06-29 09:17:04Z	
EC	3EC-196230311054_Kamal_Patel	Office 365 A1 for students	2190548-2019		FALSE	2019	TRUE	ST_regular IN	196230311054.ec@gpan.gugov.edu.in	2020-06-29 09:17:06Z	
EC	3EC-196230311055_Mit Patel	Office 365 A1 for students	fe48c9e-2019		FALSE	2019	TRUE	ST_regular IN	196230311055.ec@gpan.gugov.edu.in	2020-06-29 09:17:06Z	
EC	3EC-196230311056_Aankit_Prajapati	Office 365 A1 for students	605f2bbf-2019		FALSE	2019	TRUE	ST_regular IN	196230311056.ec@gpan.gugov.edu.in	2020-06-29 09:17:07Z	
EC	3EC-196230311057_Aravind_Singore	Office 365 A1 for students	d252cd73-2019	176230303511	FALSE	2020	TRUE	ST_Regular IN	176230303511.bn@gpan.gugov.edu.in	2020-12-19 06:37:19Z	
ec	4BM-176230303511_Kamakshi Shah	Office 365 A1 for students	fe2fb0-2019	176230303530	FALSE	2020	TRUE	ST_Regular IN	176230303530.bn@gpan.gugov.edu.in	2020-12-19 06:37:17Z	
ec	4BM-176230303530_Raval_Gautam Rajeshbhai	Office 365 A1 for students	425c5747-2019	176230303530	FALSE	2020	TRUE	ST_Regular IN	176230303530.bn@gpan.gugov.edu.in	2020-12-19 06:37:20Z	
ec	4BM-176230303084_Patel_Riddhi k	Office 365 A1 for students	5a586441-2019	186230303084	FALSE	2020	TRUE	ST_Regular IN	186230303084.bn@gpan.gugov.edu.in	2020-12-19 06:37:20Z	
ec	4BM-186230303092_Patil_namrata_kishor	Office 365 A1 for students	730f6523-2019	186230303092	FALSE	2020	TRUE	ST_Regular IN	186230303092.bn@gpan.gugov.edu.in	2020-12-19 06:37:18Z	
ec	4BM-186230303110_Sharma_mihir	Office 365 A1 for students	2f86f152-2019	186230303110	FALSE	2020	TRUE	ST_Regular IN	186230303110.bn@gpan.gugov.edu.in	2020-12-19 06:37:19Z	
ec	4BM-186230303539_patel_krima R	Office 365 A1 for students	d074ca5f-2019	186230303539	FALSE	2020	TRUE	ST_Regular IN	186230303539.bn@gpan.gugov.edu.in	2020-12-19 06:37:18Z	
ec	4EC-186230311057_Mishra_Vishal	Office 365 A1 for students	a6ef61d4-2019	186230303100	FALSE	2020	TRUE	ST_Regular IN	186230311057.bn@gpan.gugov.edu.in	2020-12-11 06:04:49Z	
ec	4EC-186230311047_KOSHTI_JAYMIN_GOVIND	Office 365 A1 for students	3e2d13e28-2019	186230311047	FALSE	2020	TRUE	ST_Regular IN	186230311047.bn@gpan.gugov.edu.in	2020-12-11 06:04:06Z	
ec	4EC-186230311047_KOSHTI_NEHA DHARMENDRBHAI	Office 365 A1 for students	c28cf783-2019	186230000000	FALSE	2020	TRUE	ST_Regular IN	186230000000.bn@gpan.gugov.edu.in	2020-12-11 06:04:06Z	
ec	4EC-186230311087_PRAJAPATI_RIKEN	Office 365 A1 for students	f498e5ab-2019	186230311087	FALSE	2020	TRUE	ST_Regular IN	186230311087.bn@gpan.gugov.edu.in	2020-12-11 06:04:06Z	

**Figure: 2.2.6 (3) Sample of registration details of MS Team credential**

#### ❖ Nodal center for Virtual lab, IIT Delhi.

- Our institute has been recognized as a Virtual Lab Nodal Center by IIT Delhi, providing students with hands-on access to virtual experiments and simulations that enhance their practical learning experience.
- The Virtual Lab data is maintained centrally and is available with the designated coordinator. All relevant documents and access credentials are stored in the central file of the department.
- Faculty members or students requiring access may contact the coordinator. This ensures centralized management and easy retrieval of Virtual Lab resources.

 <b>Expression of Interest in setting up Virtual Labs<sup>®</sup></b> As per Govt of India Directive <b>Nodal Center (NC)</b>		NAME OF DEPARTMENT : ELECTRONICS & COMMUNICATION																						
<small>*Name of the Institute: GANDHINAGAR POLYTECHNIC GANDHINAGAR</small>		SEMESTER - 1																						
<small>*Address: SECTOR-28, CHIDAMBARA NAGAR Pin Code: 382026 Latitude: 23° 22' 33.51" Longitude: 72° 54' 23"</small>		Course Title: Fundamentals of Electronics (Course Code: 4311102) PRACTICAL NO. 1 TO 12  <a href="https://be-iitkgp.vlabs.ac.in&gt;List%20of%20experiments.html">https://be-iitkgp.vlabs.ac.in&gt;List%20of%20experiments.html</a>																						
<small>*Affiliated to: GANDHINAGAR TECHNOLOGICAL UNIVERSITY (AICTE) *Approved By (AICTE/UGC/University): (Attach the AICTE/UGC/University Affiliation Letter of the Institution with the EOI)</small>		SEMESTER - 2																						
<small>*Approval Number: 1-4365623442 *AISHE Code: C-237</small>		Course Title: Digital Electronics (Course Code: 4321102) PRACTICAL NO. 1 TO 12  <a href="https://de-iitr.vlabs.ac.in&gt;List%20of%20experiments.html">https://de-iitr.vlabs.ac.in&gt;List%20of%20experiments.html</a>																						
<table border="1"> <thead> <tr> <th>Branch of Engineering / Science</th> <th>No. of Students</th> <th>No. of Faculty Members</th> </tr> </thead> <tbody> <tr> <td>a. CSE / IT</td> <td>360</td> <td>27</td> </tr> <tr> <td>b. ECE / EE</td> <td>90</td> <td>25</td> </tr> <tr> <td>c. CE / ME</td> <td>60</td> <td>20</td> </tr> <tr> <td>d. Applied Sciences</td> <td>-</td> <td>-</td> </tr> <tr> <td>e. Any Other (10)</td> <td>60</td> <td>05</td> </tr> <tr> <td><b>TOTAL</b></td> <td><b>570</b></td> <td><b>77</b></td> </tr> </tbody> </table>		Branch of Engineering / Science	No. of Students	No. of Faculty Members	a. CSE / IT	360	27	b. ECE / EE	90	25	c. CE / ME	60	20	d. Applied Sciences	-	-	e. Any Other (10)	60	05	<b>TOTAL</b>	<b>570</b>	<b>77</b>	SEMESTER - 3	
Branch of Engineering / Science	No. of Students	No. of Faculty Members																						
a. CSE / IT	360	27																						
b. ECE / EE	90	25																						
c. CE / ME	60	20																						
d. Applied Sciences	-	-																						
e. Any Other (10)	60	05																						
<b>TOTAL</b>	<b>570</b>	<b>77</b>																						
<small>*Name of the Head of Institute / Principal: Mr. R. D. PA GHAMI Email: dec623owner@grc.edu.in Mobile: 9428039918</small>		Course Title: Programming In C (Course Code: 4331105) PRACTICAL NO 1 TO 9  <a href="https://ae-iitr.vlabs.ac.in&gt;List%20of%20experiments.html">https://ae-iitr.vlabs.ac.in&gt;List%20of%20experiments.html</a>																						
<small>*Proposed Institute Nodal Coordinator: DR. MONALI R. PRAJAPATI Email: monali.prajapati623@gmail.com Mobile: 7495052256 Department: Electronics &amp; Communication</small>		SEMESTER - 4																						
<small>It is certified that: a) The institute is recognized by the AICTE/UGC/University. b) The institute has the necessary and adequate infrastructure to host the Virtual Labs. c) Strict adherence to standard lab procedures and cyber security laws to be followed. d) Virtual Labs may withdraw/stop connectivity without giving any prior notice or reasons. e) This EOI for Virtual Labs usage is valid until 31<sup>st</sup> December 2025 and requires renewal by the coordinating institute for continued support.</small>		Course Title: Linear Integrated Circuit (Analog Electronics) (Course Code: 4341105)  <a href="https://vlabs.jitkgp.ac.in/rtes/index.html#">http://vlabs.jitkgp.ac.in/rtes/index.html#</a>																						
<small>Signature &amp; Stamp Head of Institute / Principal Principal Government Polytechnic Sector-28,Gandhinagar-382440 (Guj) Date: 16/02/2025</small>		PRACTICAL NO. 1 TO 7																						
<small>DR. M.R. Prajapati Principal, GP Gandhinagar</small>		SEMESTER - 5																						
		Course Title: Embedded System & Microcontroller Application (Course Code: 4351102)  <a href="http://vlabs.jitkgp.ac.in/">http://vlabs.jitkgp.ac.in/</a>																						
		PRACTICAL - AS PER SUBJECT FACULTY ASSIGNMENT																						
		SEMESTER - 6																						
		Course Title: VLSI (Course Code: 4361102)  <a href="https://vlsi-jitg.vlabs.ac.in/">https://vlsi-jitg.vlabs.ac.in/</a>																						
		PRACTICAL - AS PER SUBJECT FACULTY ASSIGNMENT																						
		<b>VIRTUAL LAB - NODAL COORDINATOR , GP GANDHINAGAR - DR. M R PRAJAPATI</b>																						

**Figure: 2.2.6. (4)Virtual labs offer practical learning in courses**

#### ❖ Institute Library – EC Department Collection:

- Apart from NDLI access, the institute library houses a dedicated collection of over 1,570 books related to Electronics and Communication Engineering.
- These include textbooks, reference books, manuals, and competitive exam materials covering key areas like analog & digital electronics, communication systems, microprocessors, VLSI, and embedded systems.
- The library supports students' academic, project, and research needs, and provides a quiet environment for self-study and knowledge enhancement.
- Students issue books from the institute library as per their academic requirements. Records of both book issuance and return are systematically maintained in the library.
- A sample copy of the record format is available for reference. This helps in ensuring proper tracking and management of library resources.

GOVERNMENT POLYTECHNIC GANDHINAGAR(623) CENTRAL LIBRARY ACCESS KOHA DATA (SAMPLE)											
SR. NO	Date	Card number	Last name	First name	Transaction	Amo unt	Barcode	Title	Author	home branch	holding branch
1	2022-07-29 12:04:33	PGP22	Patel	Parul	Check in	-	324	CHEMICAL PROCESS INDUSTRIES		GPG	GPG
2	2022-10-11 12:18:56	PGP110	Jhala	Harishchandrasinh	Check out	-	6156	CRYPTOGRAPHY AND NETWORK SECURITY		GPG	GPG
3	2022-10-13 14:48:18	PGP145	Panchal	Shraddha	Check in	-	662	ELECTRICAL AND ELECTRONICS MEASUREMENT AND INSTRUMENTATION		GPG	GPG
4	2022-10-13 14:52:22	PGP145	Panchal	Shraddha	Check out	-	1977	Control System Component		GPG	GPG
5	2022-10-13 14:52:37	PGP145	Panchal	Shraddha	Check in	-	501	INDUSTRIAL INSTRUMENTATION AND CONTROL		GPG	GPG
6	2022-10-13 14:53:14	PGP126	Shah	Shailaja	Check out	-	501	INDUSTRIAL INSTRUMENTATION AND CONTROL		GPG	GPG
7	2022-11-14 13:59:05	216230311004	PANDYA	HARSH	Check out	-	980	POWER ELECTRONICS		GPG	GPG
8	2022-11-14 14:05:08	216230311004	PANDYA	HARSH	Check out	-	4317	Programming in Basic		GPG	GPG
9	2022-11-18 12:31:40	216230311018	PRAJAPATI	PARTH	Check out	-	661	ELECTRICAL AND ELECTRONICS MEASUREMENT AND INSTRUMENTATION		GPG	GPG
10	2022-12-01 11:47:11	PGP84	Chhaya	Lipi	Check out	-	185	Trouble shooting and maintenance of electronics equipment		GPG	GPG
11	2022-12-19 12:23:32	PGP128	Patankar	Jagdish	Check out	-	5626	PROGRAMMING IN C# - ED3		GPG	GPG
12	2022-12-19 12:24:59	PGP128	Patankar	Jagdish	Check out	-	5633	PROGRAMMING IN C# - ED3		GPG	GPG
13	2022-12-19 13:34:43	PGP128	Patankar	Jagdish	Check in	-	5626	PROGRAMMING IN C# - ED3		GPG	GPG
14	2022-12-19 13:35:00	PGP128	Patankar	Jagdish	Check in	-	5633	PROGRAMMING IN C# - ED3		GPG	GPG
15	2022-12-19 13:46:34	PGP128	Patankar	Jagdish	Check out	-	5540	PROGRAMMING IN ANSI C - [ED 4]		GPG	GPG
16	2022-12-19 13:46:47	PGP128	Patankar	Jagdish	Check out	-	5539	PROGRAMMING IN ANSI C - [ED 4]		GPG	GPG
17	2023-03-13 12:16:14	PGP94	RATHOD	GAURAVKUMAR	Check out	-	6953	ENGINEERING DRAWING		GPG	GPG
18	2023-03-21 11:52:44	PGP688	JOSHI	DARSHNA	Check out	-	855	ESSENTIAL OF ENVIRONMENT & SEISMIC ENGG		GPG	GPG
19	2023-03-21 16:26:16	PGP688	JOSHI	DARSHNA	Check in	-	855	ESSENTIAL OF ENVIRONMENT & SEISMIC ENGG		GPG	GPG
20	2023-04-10 12:13:04	PGP128	Patankar	Jagdish	Check in	-	5540	PROGRAMMING IN ANSI C - [ED 4]		GPG	GPG
21	2023-04-10 12:13:21	PGP128	Patankar	Jagdish	Check in	-	5539	PROGRAMMING IN ANSI C - [ED 4]		GPG	GPG
22	2023-04-13 12:37:33	PGP128	Patankar	Jagdish	Check out	-	4322	OOP with C++		GPG	GPG
23	2023-04-27 14:06:12	PGP145	Panchal	Shraddha	Check in	-	1977	Control System Component		GPG	GPG
24	2023-04-27 14:19:32	PGP145	Panchal	Shraddha	Check out	-	1744	Electronic Instrumentation		GPG	GPG
25	2023-04-28 15:47:45	PGP94	RATHOD	GAURAVKUMAR	Check in	-	6953	ENGINEERING DRAWING		GPG	GPG
26	2023-05-19 16:14:26	PGP19	MODI	SOHNI	Check out	-	7334	GCSR PAGAR NIYAMO 2002		GPG	GPG
27	2023-05-19 16:15:54	PGP19	MODI	SOHNI	Check out	-	7332	GCSR MUSAFARI BHATTCHA 2002		GPG	GPG
28	2023-05-19 16:17:43	PGP19	MODI	SOHNI	Check out	-	7333	GCSR PAGAR ADHARIT BHATTCHA 2002		GPG	GPG
29	2023-05-19 16:18:54	PGP19	MODI	SOHNI	Check out	-	7331	GCSR RAHENAK MAKANO MA VASVAT NIYAMO 2002		GPG	GPG
30	2023-08-04 14:04:34	PGP17	Rupala	Hirenkumar	Check out	-	2520	DIGITAL ELECTRONICS		GPG	GPG
31	2023-08-04 14:04:50	PGP17	Rupala	Hirenkumar	Check out	-	2801	Fundamentals of Digital Circuits		GPG	GPG
32	2023-08-04 14:05:07	PGP17	Rupala	Hirenkumar	Check out	-	3289	DIGITAL LOGIC AND COMPUTER DESIGN		GPG	GPG
33	2023-08-10 13:03:15	PGP94	RATHOD	GAURAVKUMAR	Check out	-	1216	Engineering Mathematics		GPG	GPG
34	2023-08-10 16:41:56	PGP148	Patel	Sandip	Check out	-	1178	Elements of Discrete Mathematics		GPG	GPG
35	2023-08-10 16:43:06	PGP148	Patel	Sandip	Check out	-	1169	Calculus and analytic Geometry		GPG	GPG
36	2023-08-10 16:45:49	PGP148	Patel	Sandip	Check out	-	6907	ADVANCE ENGINEERING MATHS		GPG	GPG
37	2023-08-17 14:52:54	PGP148	Patel	Sandip	Check in	-	1178	Elements of Discrete Mathematics		GPG	GPG
38	2023-08-17 14:53:12	PGP148	Patel	Sandip	Check in	-	6907	ADVANCE ENGINEERING MATHS		GPG	GPG

Page 1

**Figure: 2.2.6. (5) A sample copy of the Library book issue return record****❖ EC Department Library:**

- In addition to the central library, the Electronics and Communication (EC) Department maintains its own departmental library with a collection of 200+ specialized books. This includes subject-specific textbooks and reference materials tailored to the EC curriculum.
- The department library serves as a quick-access resource hub for students and faculty, promoting focused academic support and ease of learning within the department itself.
- "The first library, which was previously available only in offline mode, is now accessible through the digital library platform for easier and wider access."

**Figure: 2.2.6. (6) Inauguration of digital library of department on 1<sup>st</sup> of May 2025**

- The institute website serves as the official digital platform providing essential information about

the college, including academics, admissions, facilities, notices, and student services. It helps students stay updated with important announcements and access key resources.

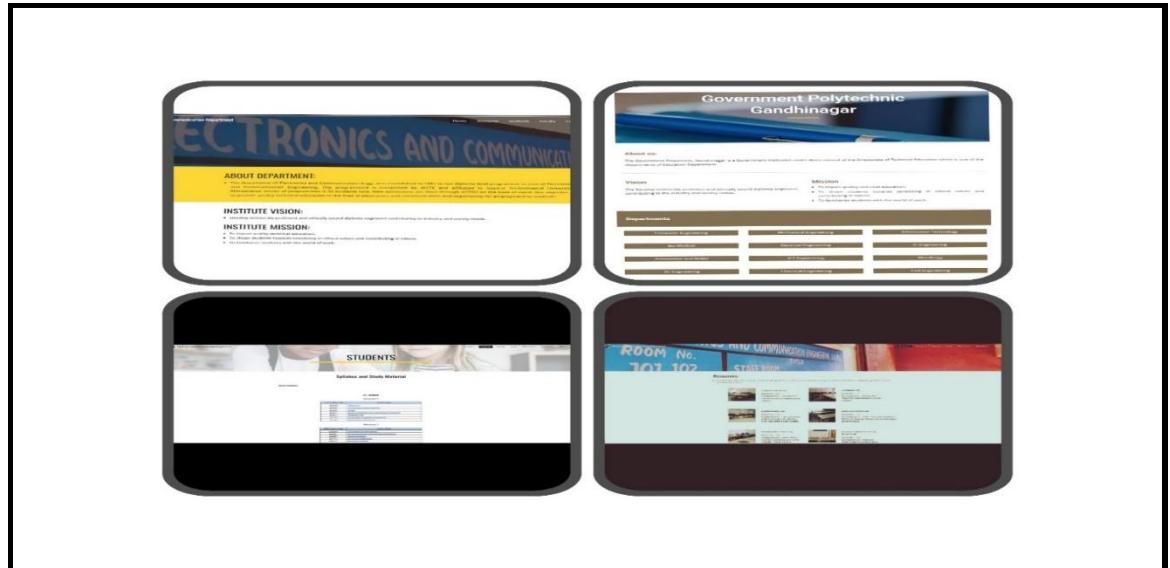
<https://sites.google.com/view/gpgandhinagar/home>

The screenshot shows the homepage of the Government Polytechnic Gandhinagar website. At the top, the institute's name is displayed in a large, bold, white font against a dark blue background featuring a pen and paper. Below this, there are sections for 'About us', 'Vision', 'Mission', and 'Departments'. The 'About us' section includes a brief description of the institution. The 'Vision' section states: 'The Develop technically proficient and ethically sound diploma engineers contributing to the industry and society needs.' The 'Mission' section lists three goals: 'To impart quality technical education.', 'To shape students towards sensitizing in ethical values and contributing in nature.', and 'To familiarize students with the world of work.' The 'Departments' section lists ten departments in a grid: Computer Engineering, Mechanical Engineering, Information Technology, Bio Medical, Electrical Engineering, IC Engineering, Automation and ROBO, ICT Engineering, Metallurgy, EC Engineering, Chemical Engineering, and Civil Engineering.

**Figure: 2.2.6. (7) Institute website**

- The department website offers detailed information about the department's faculty, curriculum, lab facilities, events, and academic activities. It supports students by providing learning materials, project guidance, and updates related to departmental achievements.

<https://sites.google.com/polytechnicgnr.gujarat.gov.in/electronics/home>



**Figure: 2.2.6. (8) Department website**

#### ❖ Google Drive-Based Learning Material Access

- The department provides students with 24x7 access to academic resources through a well-organized Google Drive repository. This includes lecture notes, lab manuals, previous year question papers, assignments, and reference materials, arranged semester and subject-wise.
- The facility supports self-learning and ensures students can conveniently access study materials anytime, enhancing the overall learning experience.
- Students can conveniently access the study materials stored in Google Drive by scanning the

- provided QR code, which directs them to the digital repository for quick and easy reference.
- Students can conveniently access the study materials stored in Google Drive by scanning the provided QR code, which directs them to the digital repository for quick and easy reference.



**Figure: 2.2.6. (9) Google Drive-Based Learning Material Access QR code is available on notice board**

- The department regularly organizes expert lectures by industry professionals and academic experts to enhance students' technical knowledge and exposure. Industrial visits are also arranged to help students understand real-world applications and industry practices related to their field of study.

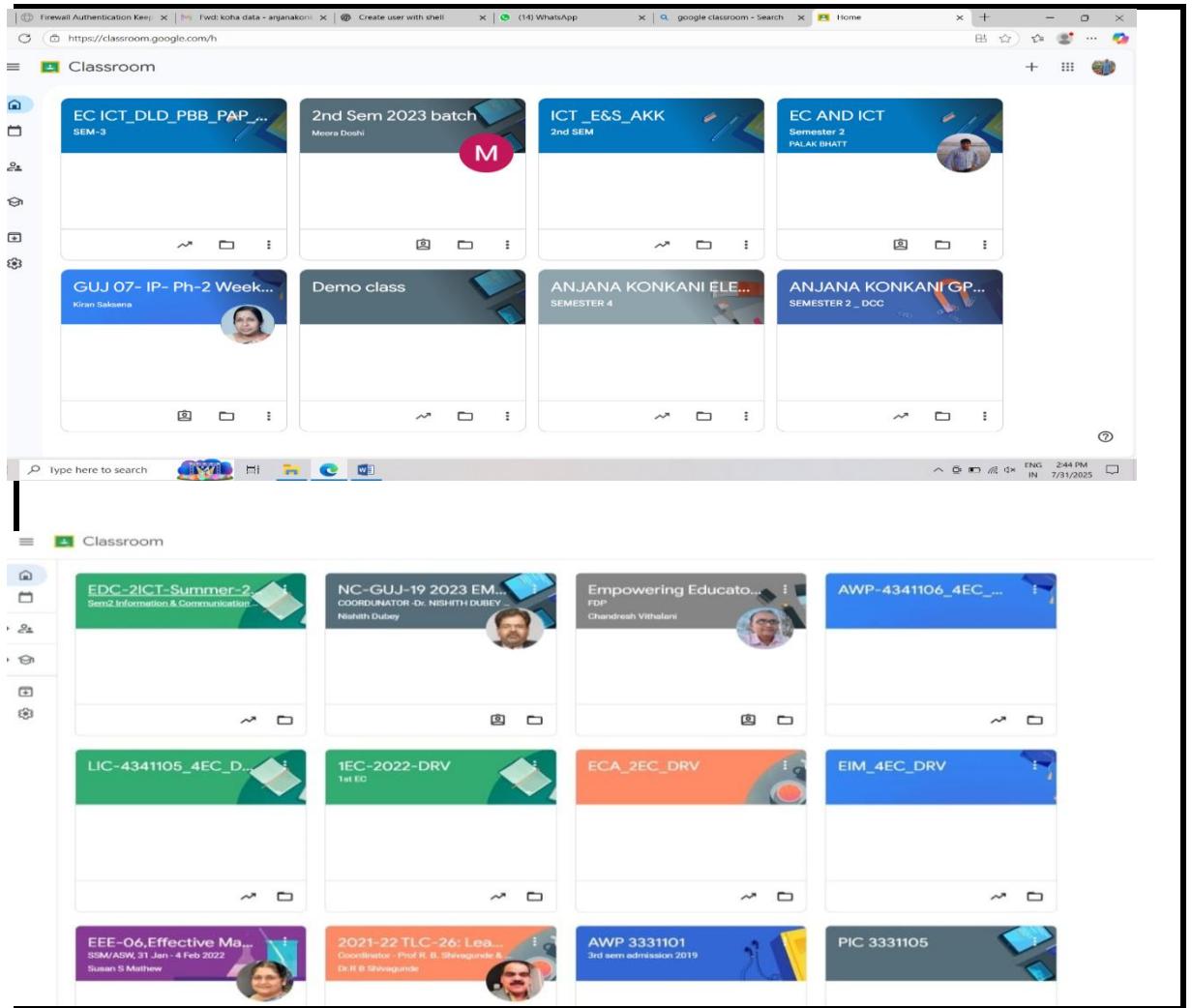
**GOVERNMENT POLYTECHNIC ,GANDHINAGAR**  
ELECTRONICS AND COMMUNICATION ENGG. DEPARTMENT

sr.no.	Event Type	Academic Year	Date	EVENT SUMMARY		Event Name
1	Webinar	2020-21	19-Oct-20	Care for wellbeing during corona crisis by Dr. Palak Ahir		
2	Webinar	2020-21	29-Dec-20	Introduction to Deep Learning by Mr. Pratik Parmar		
3	Webinar	2020-21	20-Mar-21	21st Century Skills - Ways to develop them by Dr. Pooja Mehta		
4	Webinar	2020-21	28-Apr-21	Entrepreneurship, innovation and SSIP awareness by Mr. Ankit Didwania		
5	Webinar	2020-21	21-May-21	Low power design approach in VLSI by Mr. Harshal K. Prajapati		
6	Webinar	2020-21	25-May-21	Television systems by Mr. Hitesh Panchal		
7	Webinar	2020-21	31-May-21	Electronics Hardware Development: Challenges and Scope in India by Mr. Hardik Galodia		
8	Expert Lecture	2021-22	18-Sep-21	Expert lecture on LEO Based Satellite Network- Starlink Case study by Mr. Pramod Tripathi, Lecturer IT, GP G' nagar		
9	Industrial Visit	2021-22	24-Sep-21	Industrial visit at Dutt Electronics		
10	Visit	2021-22	24-Jan-22	Toy making & joyful learning using Robotics		
11	Workshop	2021-22	05-Apr-22	Smart soldering practice by Jayesh Sharma, Manish Verma, Kashyap Tiwari (GEC, Modasa)		
12	Industrial Visit	2021-22	28-Jun-22	Industrial visit at Dutt Electronics		
13	Workshop	2022-23	14-Sep-22	Electronics Workshop on Mobile Repairing by Mr. Pavan Maurya (Owner - P. K. Electronics)		
14	Workshop	2022-23	04-Dec-23	Hands on practical on VLSI by Mr. Milir Dave (Sr. Lect. EC, GP, Ahmedabad)		
15	Expert Lecture	2022-23	19-05-23	Expert lecture on Mixed reality by Mr. Pratik Parmar (CREAR)		
16	Workshop	2022-23	23-Jun-23	HAM Radio Workshop		
17	Industrial Visit	2022-23	23-Jun-23	Exhibition - Space Application Center (ISRO), Ahmedabad		
18	Technical Event	2023-24	28-July-23 to 30-July-23	SEMICON INDIA-2023 Exhibition		
19	Expert Lecture	2023-24	26-Oct-23	Awareness Program on National Cyber Security ("Cyber Chaitanya" Cyber awareness campaign 2.0)		
20	Technical Event	2023-24	09-Dec-23	Startup Conclave-2023 Exhibition Visit @ Helpad Exhibition Centre, Gandhinagar		
21	Expert Lecture	2023-24	10-Mar-23	Expert lecture on Career Opportunities for Engineers by Mr. Kalpesh Parmar, Asst. TPO & Lecturer EC, Govt Polytechnic Gandhinagar		
22	Technical Event	2023-24	11-Jan-24	Vibrant Sumeet-2024 @ Mahatma Mandir, Gandhinagar visit report.		
23	Industrial Visit	2023-24	08-Apr-24	Dutt Electronics, Gandhinagar		
24	Industrial Visit	2023-24	08-Apr-24	Electro EMS Services, Gandhinagar		
25	Industrial Visit	2023-24	01-May-24	BISAG-N, Gandhinagar		
26	Visit	2023-24	04-May-24	Workshop at Centre for Creative Learning, IIT Gandhinagar		
27	Industrial Visit	2024-25	09-Aug-24	Upaya Electronics LLP, Gandhinagar		
28	Technical Event	2024-25	18-Sep-24	Re-Invest _4th Global Renewable Energy Investor Meet @ Mahatma Mandir Convention & Exhibition Centre, Gandhinagar, Gujarat		
29	Technical Event	2024-25	15-Oct-24	Iconic Tower-2, GIFT City Gandhinagar visit under Vikash Saptah Celebration		
30	Visit	2024-25	09-Dec-24	Visit at PDEU IIC		
31	ISTE Event	2024-25	23-Jan-25	Darwing Competition on topic "Online gaming Addiction"		
32	SSIP Event	2024-25	28-Jan-25	"Heritage Meets Innovation: Youth Entrepreneurship for Sustainable Growth in India"		
33	ISTE Event	2024-25	01-Feb-25	Industrial Expert Seminar on "Industrial Application of AR/VR" under ISTE student chapter.		
34	ISTE Event	2024-25	05-Feb-25	Industrial Expert Seminar on "The Bizarreness of Quantum Computing" under ISTE student chapter.		
35	Gujarat Vidhan Sabha Visit	2024-25	25-Mar-25	Gujarat Vidhan Sabha		
36	Industrial Visit	2024-25	04-Apr-25	Vikram Sarabhai Space Exhibition (VSSE) - Space Application Center (ISRO), Ahmedabad		
37	Expert Lecture	2024-25	08-Apr-25	Expert Lecture on "Contributor Personality Development" - Subject Code: D102000131		
38	Short course-3 Months	2024-25	28-Aug-24 Onwards	Short course (3 Months) on New age engineering and creativity skills for polytechnic students by IITGN-CCL		
39	Project Exhibition	2024-25	01-May-25	Project Exhibition of EC department		
40	Expert lecture	2024-25	07-Jul-25	Expert lecture on How to Create and Manage a LinkedIn Profile by Mr. Ankit Didwania, Lecturer, IT department, Government Polytechnic, Gandhinagar		

**Figure: 2.2.6 (10) Sample copy of events conducted**

**❖ List of E resources available**

- Students are informed regarding NPTEL/SWAYAM portal for different MOOC training in engineering. Now, GTU has introduced MOOC credit program in sem-4 and sem-5 in NEP based syllabus. An introductory lecture is organized to make students aware of NPTEL website,
  - Google classroom
  - Microsoft Team
- Faculty members use Google Classroom to share lecture notes, assignments, quizzes, and important updates with students. It enables smooth communication, timely feedback, and enhances the overall teaching-learning process.



**Figure: 2.2.6(11) Usage of Google classroom created for students**

- The Government of Gujarat has provided Microsoft Teams accounts and Office 365 subscriptions to all diploma institute faculties during the COVID-19 pandemic.
- This initiative aimed to support uninterrupted online teaching and learning. Faculties can now effectively conduct virtual classes, share study materials, and collaborate with students in real time. The use of Office 365 tools has enhanced productivity and streamlined academic communication.



**Figure: 2.2.6. (12) MS Team used by faculties of E.C. Department**

- Data related to lectures and lab sessions are maintained by the respective faculty members. This includes records of topics covered, attendance, and practical performance. Such documentation helps ensure proper academic monitoring and compliance.
- The department conducts a bridge course for lateral entry students (from Certificate to Diploma) to strengthen their fundamental knowledge and bridge curriculum gaps. The course covers essential topics in mathematics, basic sciences, and core engineering subjects, ensuring a smooth academic transition and better classroom engagement.
- GTU has introduced a MOOC credit program in Semester 4 and Semester 5 under the NEP-based syllabus, which will be implemented from the next academic year. This program allows students to earn academic credits through online courses offered by recognized platforms.
- It aims to promote flexible, self-paced, and industry-relevant learning. A sample copy of the MOOC credit course details is attached for reference.

[Gujarat Technological University](#) website of GTU

[Home](#)

DIPLOMA
▼

11 - ELECTRONICS AND COMMUNICATION ENGINEERING
▼

4
▼

2024-25
▼

Select Elective / Non-Elective
▼

Subject Code
▼

Enter Subject Name
▼

\*L=Lectures,T=Tutorial,P=Practical,E=TheoryExternal,M=TheoryInternal,I=Practical Internal,V=Practical External,On Job Training(OJT) is equivalent to Practical

Exp.	Subcode	Branch code	Eff from	SubjectName	Category	Sem /Year	Hours				Credit	Max Marks				
							L	T	P	TW/SL		Total	E	M	I	V
	ini25_cs02	11	Jan-25	Machine Learning Using Python Programming	PEC-02(MOOC)	4	4	0	0	NA	4	100	0	0	0	100
	noc25_cs11	11	Jan-25	Cloud Computing	PEC-01(MOOC)	4	4	0	0	NA	4	100	0	0	0	100
	noc25_ge11	11	Jan-25	Entrepreneurship Essentials	MOPEC-01(MOOC)	4	3	0	0	NA	3	100	0	0	0	100
	ntr24_ed42	11	Jul-24	Graphics and Animation Development	MOPEC-01(MOOC)	4	3	0	0	NA	3	100	0	0	0	100
	ntr24_ed51	11	Jul-24	Entrepreneurship Development	MOPEC-01(MOOC)	4	3	0	0	NA	3	100	0	0	0	100

◀
▶

©All rights reserved Gujarat Technological University

**Figure: 2.2.6. (13) Sample copy of the MOOC credit course details is attached for reference**

## **Student Centric Learning Initiatives & Effective Implementation (05)**

- Student Centric Learning focuses on empowering students to take an active role in education
- Student Centric Learning is a worldwide popular teaching methodology which provides a thorough understanding of the concepts and process through active learning and co-operative participation.
- The project and problem-based learning is one kind of student centric learning which gives spark to the students' lateral thinking and promotes real application of the experiments in their fields of engineering.
- We are using various methods to raise the interest of students in the courses and technical events. We adapt various learning methods in classroom, like
  - Presentations
  - Seminar/WORKSHOP
  - Industrial Visit
  - You tube
  - National Digital library
  - E-Books (AICTE E Kumbh portal)
  - Induction program
  - Skilling Program



**Figure: 2.2.6. (14) Students present their project presentation in class.**

- Students present project or topic-based PPTs to improve communication, subject understanding, peer learning, and confidence.



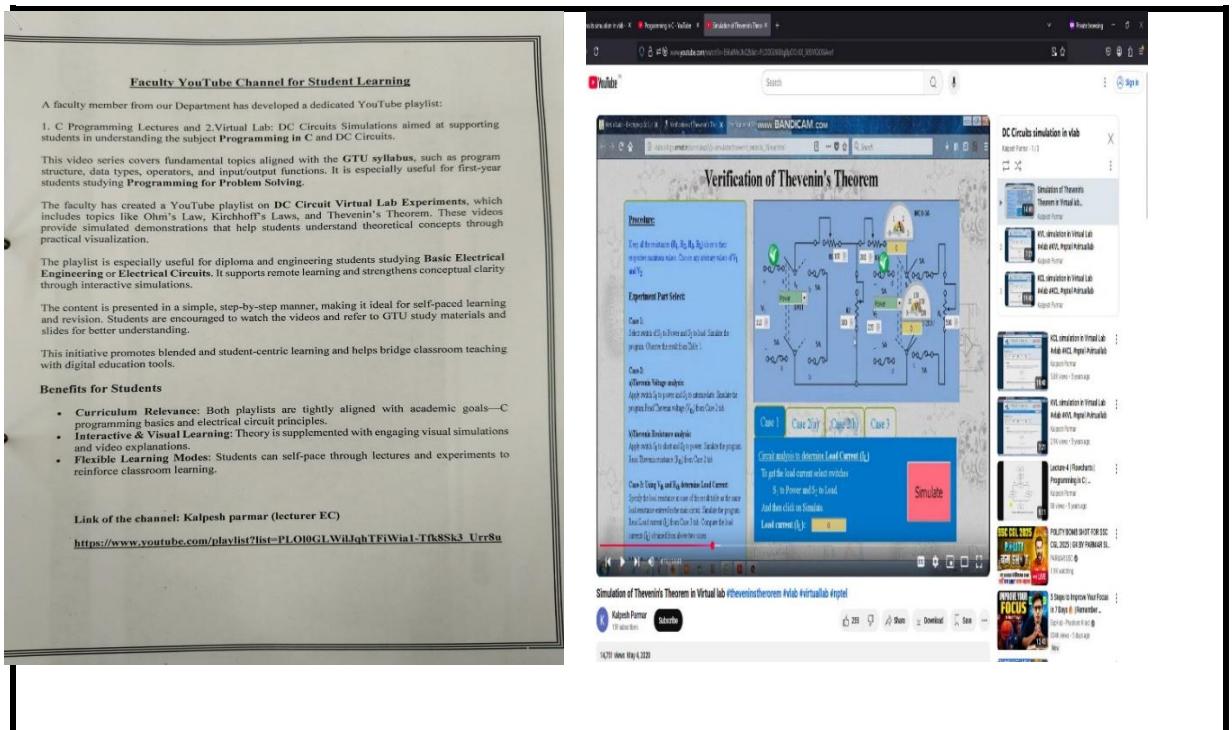
**Figure: 2.2.6. (15) Workshop organized by the department**

- Seminars and workshops by industry and academic experts enhance students' technical knowledge, soft skills, and link classroom learning with real-world applications.
- Industrial visits give students practical exposure to industry practices, technologies, and workflows, bridging classroom learning with real applications. Reports with details, participation, and observations are maintained for academic records.



**Figure: 2.2.6. (16) Sample photographs of industrial visit**

- Faculty share subject-related YouTube links to support self-learning and revision. A department faculty has created playlists on C Programming and DC Circuits, shared via Google Classroom and WhatsApp for easy access.



**Figure: 2.2.6 (17) Sample copy of you tube channel**

- Our college provides access to the National Digital Library of India (NDLI), offering books, journals, videos, and exam materials. Students use it to enhance knowledge, support research, and promote self-learning.

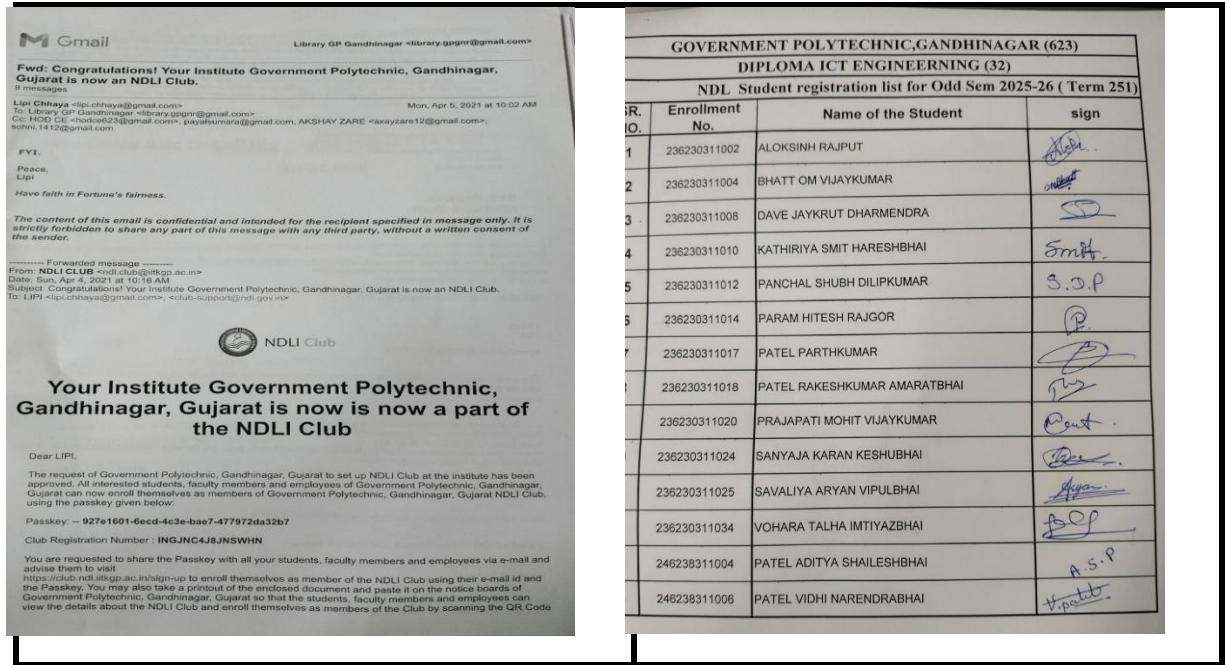


Figure: 2.2.6. (18) Copy of NDLI club and registered students sheet

- AICTE e-Kumbh promotes digital learning by offering online resources, webinars, and expert sessions to enhance technical knowledge and industry readiness. Students are encouraged to use the platform and actively benefit from its resources for academic growth.

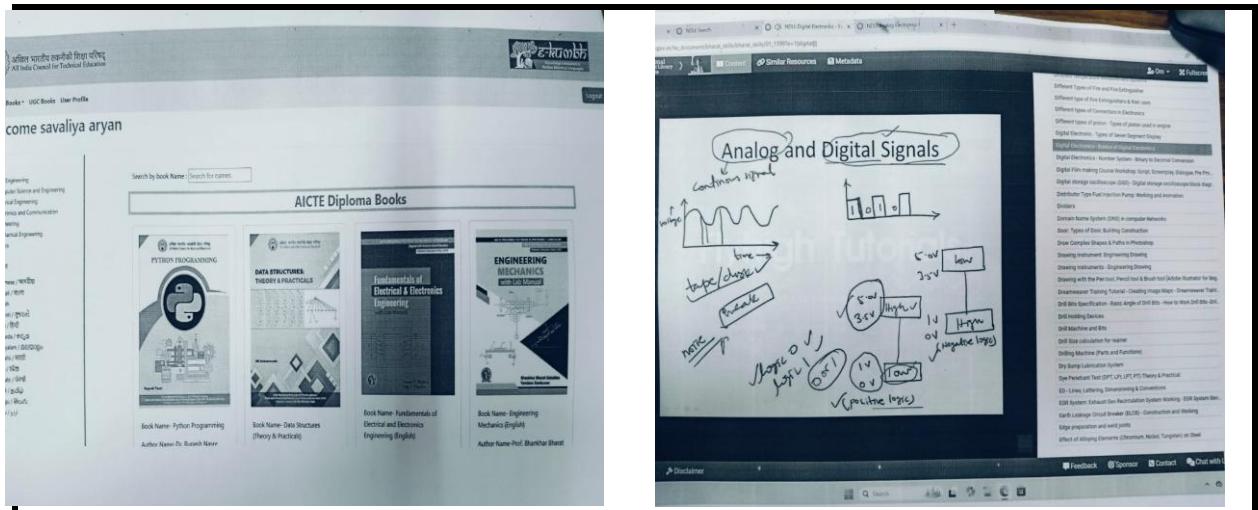


Figure: 2.2.6.(19) Students use e-resources on AICTE e-Kumbh platform by using their credentials

- As per GTU guidelines, the department conducts a two-week induction program for first-year students with sessions on values, communication, arts, technical awareness, and expert talks. It helps students adapt to college life, build confidence, and understand departmental activities. Records of the program are well maintained.

E.C.DEPARTMENT												
TIMETABLE 2022 (INDUCTION PROGRAM FOR FIRST YEAR)												
TERM: 1st sem EC & ICT (12/09/22 to 23/09/2022)												
Time	Monday 12/9/22	Tuesday 13/9/22	Wednesday 14/9/22	Thursday 15/9/22	Friday 16/9/22	Saturday 17/9/22	Monday 18/9/22	Tuesday 19/9/22	Wednesday 20/9/22	Thursday 21/9/22	Friday 22/9/22	Friday 23/9/22
10:30 to 12:30	INITIAL PHASE (ZBM)	Physical activity (HPS)	Physical activity (NBS)	Physical activity (HPS)	visit to local areas (ZBM)	proficiency module (1 week date: 17/9/2022) conducted by general department	Physical activity (NBS)	Physical activity (HPS)	Physical activity (NBS)	Physical activity (HPS)	Physical activity (HPS)	CLOSING PHASE (MRP)
12:30 to 1:30		creative art and culture (HPS)	creative art and culture (MRP)	creative art and culture (HPS)			creative art and culture (MRP)	creative art and culture (HPS)	creative art and culture (MRP)	creative art and culture (HPS)	creative art and culture (HPS)	
1:30 to 2:00												
2:00 to 3:00		Mentoring and Universal human values (RGD)	Mentoring and Universal human values (RGD)	Mentoring and Universal human values (RGD)			Mentoring and Universal human values (RGD)					
3:00 to 4:00		Physical activity (HPS)	literacy activity (LKC)	literacy activity (LKC)			literacy activity (LKC)	Physical activity (HPS)	literacy activity (LKC)	literacy activity (LKC)	literacy activity (LKC)	
4:00 TO 4:10												
4:10 to 5:10		literacy activity (LKC)	Physical activity (NBS)	Physical activity (HPS)			Co & Extra curricular activity (DRV)	Mentoring and Universal human values (RGD)				
5:10 to 6:10		expert lecture (DRV)	expert lecture (DRV)	creative art and culture (MRP)			expert lecture (DRV)	creative art and culture (HPS)	creative art and culture (MRP)	creative art and culture (HPS)	Physical activity (HPS)	

Figure: 2.2.6. (20) Sample Time table of induction program

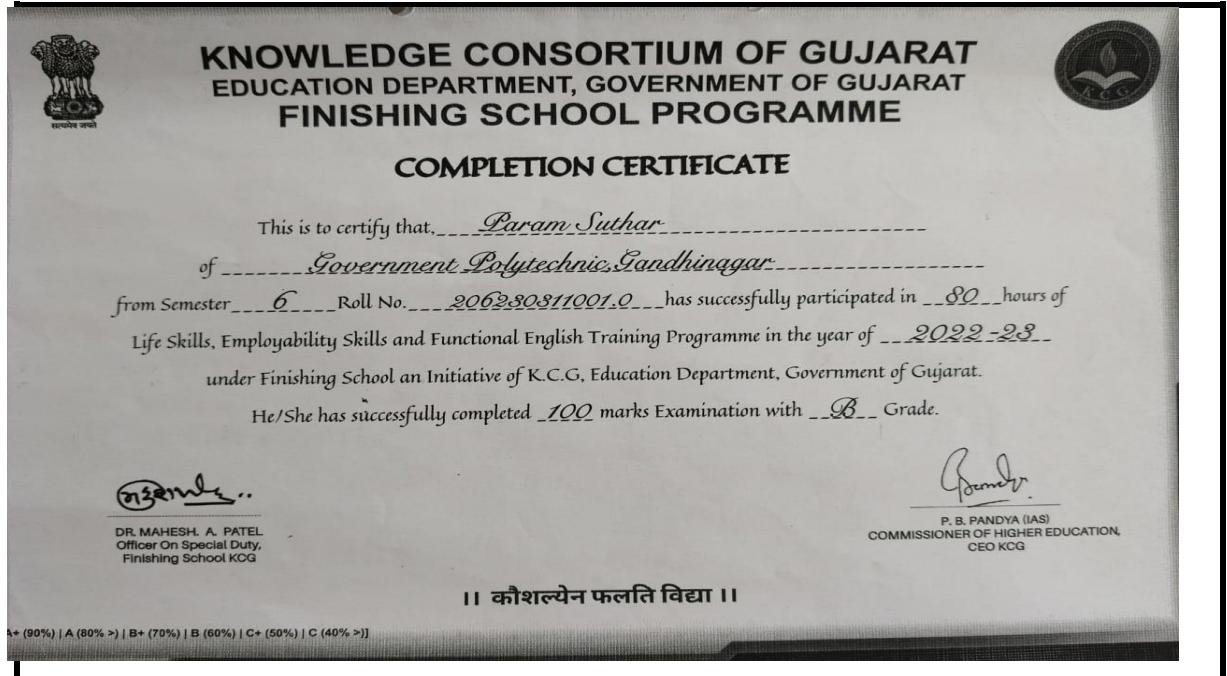
- This year, the Wadhwani Foundation Skilling Program was conducted to improve students' communication, job readiness, and entrepreneurship skills. Such value-added programs are held annually to support overall development and provide certificates on completion.



Figure: 2.2.6. (21) Sample certificate of student

- The KCG Education Department's Finishing School, launched in 2016-17, delivers 80 hours of skill-enhancement training—structured across four modules—that empower final-year college students with life skills, employability skills, and spoken English proficiency to boost their industry readiness.

- Upon successful completion of the Finishing School program offered by the KCG Education Department, students are awarded a certificate recognizing their improved life skills, employability skills, and communication proficiency.



**Figure: 2.2.6. (22) Sample certificate of student**

## **2.2.7. New Initiatives for embedding Professional Skills (15)**

### **A. Employability skill enhancement Initiatives and effective implementation (08) Employability Skill Enhancement Initiatives**

The Department of Electronics and Communication Engineering at Government Polytechnic, Gandhinagar strongly emphasizes the development of professional and employability skills among diploma students. To achieve this, structured initiatives are carried out through Placement Fairs, the Career Guidance & Counselling Cell (CGCC), and Industrial Visits & Expert Lectures.

#### **1. Placement Fairs (Job Fairs)**

The institute, in collaboration with the Education Department and the Knowledge Consortium of Gujarat (KCG), organized mega placement camps providing state-level opportunities for diploma students.

- 15–16 March 2023, GP Gandhinagar – 2 EC students participated
- 04–05 March 2024, GP Gandhinagar – 1 EC student participated
- 20 March 2025, GEC Gandhinagar – 2 EC students participated.

These initiatives have provided students with real interview exposure and direct interaction with industries, while companies appreciated the discipline and technical competence of students.

#### **2. Career Guidance & Counselling Cell (CGCC)**

The EC Department runs an active Career Guidance & Counselling Cell which organizes expert talks, workshops, and training sessions for career growth and employability.

- Workshops on Mobile Repairing, VLSI, Smart Soldering.
- Expert Lectures on Career Opportunities, Cyber Security, Mixed Reality.
- Soft Skills sessions on Aptitude, Communication, and Interview Preparation.

These initiatives improved communication skills, professional awareness, and prepared students for higher studies and entrepreneurship.

#### **3. Industrial Visits & Expert Lectures**

##### **Academic Year 2024-25**

Students visited Upeya Electronics LLP, Gandhinagar for IoT, AI/ML, and App Development, and the Vikram Sarabhai Space Exhibition (ISRO), Ahmedabad for Satellite Communication. Around 100 students benefited.

##### **Academic Year 2023-24**

Visits included Dutt Electronics (PCB designing & fabrication), Electro EMS Services (SMT & testing processes), BISAG-N (satellite communication), and PDEU Innovation Centre (entrepreneurship). Students also gained exposure through Semicon India 2023, Startup Conclave 2023, Vibrant Summit 2024, and an Innovation Workshop at IIT Gandhinagar, benefiting 200+ students.

##### **Academic Year 2022-23**

Industrial visit to SAC-ISRO for Antenna & Satellite communication. Workshops on Disaster Management, HAM Radio, and Mobile Repairing were also conducted.

##### **Academic Year 2021-22**

Visits to Dutt Electronics (PCB designing – online & offline). Expert lectures on Career Opportunities for Engineers, Aptitude Preparation, Robotics, Soft Skills, and Smart Soldering improved employability skills of students.

#### **Comprehensive Employability and Soft Skills Training Initiative**

- Wadhwani Foundation Skilling Program was offered to students to enhance their employability and soft skills. The program focused on communication, job readiness, and entrepreneurship.

- Such value-added programs are organized every year to support students' overall development. These initiatives help bridge the gap between academics and industry expectations. After completion of course they provide certificate.



## B. Personality development related Initiatives & effective implementation (07)

### Personality development related Initiatives

The Department of Electronics and Communication Engineering at Government Polytechnic, Gandhinagar emphasizes the holistic development of students by strengthening their personality, communication, and life skills. These initiatives aim to prepare diploma students to face challenges with confidence, adaptability, and professionalism. The activities are implemented through structured programs and collaborations as detailed below:

#### 1. Finishing School Programme

The institute, in collaboration with the Education Department and Knowledge Consortium of Gujarat (KCG), has successfully implemented the **Finishing School Programme** for final year students.

- Duration:** 80 hours
- Focus Areas:** Life skills, employability skills, functional English, and personality development.
- Outcome:** Students developed self-confidence, communication ability, and professional etiquette, which enabled them to perform better in interviews and workplace environments.

#### 2. Training & Placement (T&P) Cell Activities

The T&P Cell of the institute plays a vital role in the overall personality development of EC students.

- Sessions on “*How to Face Job Interviews*” are conducted every year for final-year students.
- Mock interviews, group discussions, and personality grooming workshops are arranged.
- Students are trained to handle stress, demonstrate leadership, and improve interpersonal skills.
- Outcome:** Students become more confident in presenting themselves, resulting in improved performance during placement drives.

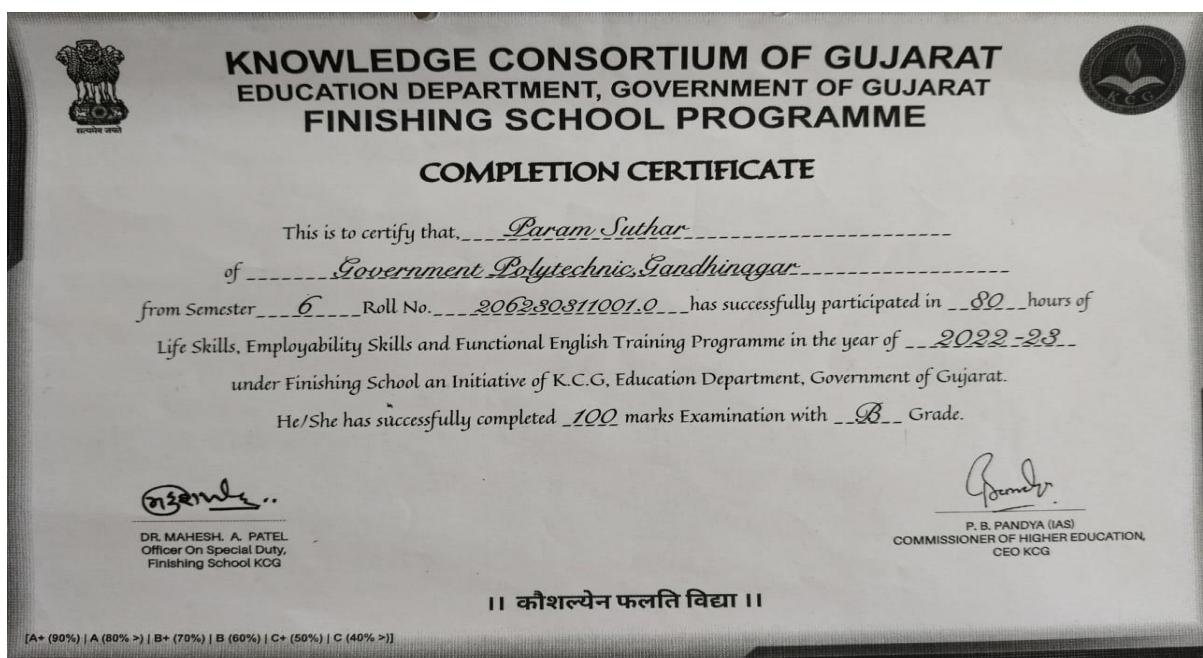
### 3. Value-Added Personality Development Programs

In addition to core technical training, the department encourages students to participate in programs aimed at soft skills, communication, and entrepreneurship mindset.

- **Wadhwani Foundation Skilling Program:** Focused on communication, job readiness, and entrepreneurship skills. Certificates are awarded upon completion.
- **Expert Lectures & Workshops:** Topics covered include soft skills for job interviews, career opportunities, teamwork, and leadership.
- **Outcome:** Students gain exposure to real-life professional situations, enhancing their adaptability and confidence.

### Outcomes of Personality Development Initiatives

- Improved communication skills and self-confidence among students.
- Enhanced ability to face interviews and interact with industry professionals.
- Positive attitude, leadership qualities, and teamwork capabilities.
- Better adaptability to changing industry demands and lifelong learning orientation.
- Stronger alignment of academic learning with professional personality requirements.



Sample certificate of student

## 2.2.8. Co-curricular & Extra-Curricular Activities (10)

### Co-curricular Activities

The Electronics & Communication Engineering Department at Government Polytechnic, Gandhinagar conducts a variety of co-curricular activities to enhance technical competence, industry exposure, and practical learning among students.

- The department organizes Project Exhibitions to showcase innovative ideas and practical solutions developed by students.
- Regular Expert Lectures and Seminars are conducted by industry experts and academicians to bridge the gap between academics and industry practices.
- Industrial Visits are arranged to reputed industries to provide students with real-time exposure to industrial processes and technologies.
- Various Workshops and Hands-on Training Programs on PCB Design, VLSI, HAM radio are conducted to strengthen applied knowledge.

Sr. No	Organized Events and Titles	Organized Period	No. of Participants	No. of Days	Resource Person / Organizer
1	Industrial Expert Seminar on “ <i>The Bizziness of Quantum Computing</i> ”	05/02/2025	50	1	Organized by G. P. Gandhinagar
2	Industrial Expert Seminar on “ <i>Industrial Application of AR/VR</i> ”	01/02/2025	60	1	Organized by G. P. Gandhinagar
3	Workshop on “ <i>Ethical Hacking &amp; Cyber Security</i> ”	18/03/2024	35	1	Demmisto Technologies

### Activities under ISTE Student Chapter (Co-curricular Activities)

Sr. No	Organized Events and Titles	Organized Period	No. of Participants	No. of Days	Resource Person / Organizer
1	Project Exhibition 1.0	01/05/2025	125	1	Organized by EC Department, G. P. Gandhinagar

### EC Department Activities (Co-curricular Activities)

## Extra-Curricular Activities

The Electronics & Communication Engineering Department at Government Polytechnic, Gandhinagar actively motivates students to participate in various extra-curricular activities for their holistic development.

- Students enthusiastically participated in the Annual Sports Week – Kheldili 2k23, Kheldili 2k24, and Kheldili 2k25, where they showcased their talent in different sports and games, fostering team spirit, leadership, and discipline.
- Under the banner of NSS (National Service Scheme), students took part in multiple social and cultural initiatives, including:
  - International Yoga Day celebrations promoting physical and mental well-being.
  - Tree Plantation Drive – "Vasudhavandan", contributing to environmental sustainability.
  - Independence Day Celebrations and Tiranga Yatra, inculcating patriotism and national pride.
  - Garba Event – "Kesariyo 2024", preserving and promoting cultural heritage.
  - Voter Awareness Oath and Road Safety Oath, spreading awareness towards responsible citizenship and safe practices.

These extra-curricular activities not only provide students with opportunities to showcase their skills but also help in nurturing values of discipline, social responsibility, and cultural belongingness.

Sr. No	Organized Events and Titles	Organized Period	No. of Participants	No. of Days	Resource Person / Organizer
1	Drawing Competition on topic " <i>Online Gaming Addiction</i> "	23/01/2025	30	1	Organized by EC Department, G. P. Gandhinagar
2	Elocution Competition on " <i>Is Artificial Intelligence Good or Bad?</i> "	25/02/2024	6	1	Organized by G. P. Gandhinagar
3	<i>Life Style for Environment</i> (નર્માદરણન અનુષ્ઠળ યોજન શૈલી) – Street Play Program	19/05/2023	150	1	Conducted by Government Polytechnic, Gandhinagar in association with Gujarat Pollution Control Board and Paryavaran Mitra Ahmedabad

**Activities under ISTE Student Chapter (Extra-Curricular Activities)**

### 3.1 Establish the correlation between the courses and the POs & PSOs (20)

The Program Outcomes (POs) are the skills and competencies which student should have after completion of the program. The Program Outcomes (POs) are specified by National Board of Accreditation (NBA) for all diploma courses all over the nation.

The Program Specific Outcomes (PSOs) are the statements that defines outcomes of a program which make students realize the fact that the knowledge and techniques learnt in this course has direct implication for his/her professional life. The Program Specific Outcomes (PSOs) have been proposed after taking consideration of various stake holders like students, alumni, society, industry persons and parents. Afterwards, PSOs were discussed and approved in meeting of faculty members of the Electronics and Communication Department IQAC Committee.

The POs and PSOs of Diploma Electronics and Communication Program are listed below.

#### (A) Program Outcomes (POs):

**PO1: Basic and Discipline specific knowledge:** Apply knowledge of basic mathematics, science and engineering fundamentals and engineering specialization to solve the engineering problems.

**PO2: Problem analysis:** Identify and analyze well-defined engineering problems using codified standard methods.

**PO3: Design/ development of solutions:** Design solutions for well-defined technical problems and assist with the design of systems components or processes to meet specified needs.

**PO4: Engineering Tools, Experimentation and Testing:** Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.

**PO5: Engineering practices for society, sustainability and environment:** Apply appropriate technology in context of society, sustainability, environment and ethical practices.

**PO6: Project Management:** Use engineering management principles individually, as a team member or a leader to manage projects and effectively communicate about well-defined engineering activities.

**PO7: Life-long learning:** Ability to analyze individual needs and engage in updating in the context of technological changes.

#### (B) Program Specific Outcomes (PSOs):

PSO1	Develop proficiency in Installation, maintenance and troubleshooting of electronics and communication systems.
PSO2	Create customized solution of real-life problems using hardware and software.

### 3.1.1 Course Outcomes (05)

Course outcomes for Diploma in Electronics and Communication is developed by the faculties of Diploma Electronics and Communication department of Government Polytechnic, Gandhinagar. In EC department we use to have a policy to make a specific faculty as a subject in-charge before the beginning of the semester, and that faculty have to make a COs for that subject and should be endorsed by IQAC committee as well. This activity has been taken every time if and when need.

Course Title, course code and course ID for each semester have been listed through Tables B.3.1.1. course ID format is : C111 [C-for course, 1-Year of course (1/2/3), 1-Semester of course (1/2/3/4/5/6), -1 - course number for respective semester (1/2/3/4/5/6)].

SEM	COURSE TITLE	COURSE CODE	COURSE ID
I	Basic Mathematics	3300001	C111
	English	3300002	C112
	Basic Physics	3300005	C113
	Electronic Components & Practice	3311101	C114
	Basic Of Electrical Engineering	3320901	C115
	Basic Of Computer & Information Technology	3300013	C116
II	Contributor Personality Development	3990001	C121
	Advanced Mathematics	3320002	C122
	Environment Conservation And Hazard Management	3300003	C123
	Electronic Circuits & Applications	3321101	C124
	Electronic Networks	3321102	C125
	Electronics Workshop	3321103	C126
III	Antenna & Wave Propagation	3331101	C231
	Analog Electronics	3331102	C232
	Principle Of Electronic Communication	3331103	C233
	Digital Logic Design	3331104	C234
	Programming In C	3331105	C235
IV	Microprocessor And Assembly Language Programming	3341101	C241
	Digital Communication	3341102	C242
	Optical Communication	3341103	C243
	Electronics Instruments And Measurement	3341104	C244
	Industrial Electronics	3341105	C245
	Circuit Design Tools	3341106	C246
V	Microcontroller	3351101	C351
	Mobile Communication	3351102	C352
	Microwave & Radar Engineering	3351103	C353
	Software Practices	3351104	C354
	Computer Networks	3351105	C355
	PROJECTI	3351107	C356
VI	Entrepreneurship And Industrial Management	3361101	C361
	Consumer Electronics	3361102	C362
	Maintenance Of Electronics Equipments	3361103	C363
	VLSI	3361104	C364
	Embedded System	3361105	C365
	Project II	3361109	C366

(Table B.3.1.1 All offered course for Electronics and Communication for the batch 2020-2023)

SEM	COURSE TITLE	COURSE CODE	COURSE ID
I	Mathematics	4300001	C111
	Communication Skills in English	4300002	C112
	Physics	4300005	C113
	Basics of Information and Communication Technology	4300010	C114
	Sports and Yoga	4300015	C115
	Fundamentals of Electrical Engineering	4311101	C116
	Fundamentals of Electronics	4311102	C117
II	Environment and Sustainability	4300003	C121
	Engineering Drawing and Computer Aided Design	4300012	C122
	Indian Constitution	4300016	C123
	Engineering Mathematics	4320002	C124
	Electronics Workshop	4321101	C125
	Digital Electronics	4321102	C126
	Electronic Circuits & Applications	4321103	C127
III	Summer Internship-I	4330001	C231
	Electronic Circuits & Networks	4331101	C232
	Electronic Measurements & Instruments	4331102	C233
	Industrial Electronics	4331103	C234
	Principle of Electronic Communication	4331104	C235
	Programming In C	4331105	C236
IV	Contributor Personality Development	4340002	C241
	Microprocessor & Microcontroller	4341101	C242
	Digital Communication	4341102	C243
	Fiber Optics Communication	4341103	C244
	Circuit Design Tools	4341104	C245
	Linear Integrated Circuit(Analog Electronics)	4341105	C246
	Antenna & Wave Propagation	4341106	C247
V	Entrepreneurship and Start-ups	4300021	C351
	Embedded System	4351102	C352
	Microwave and Radar Communication	4351103	C353
	Mobile & Wireless Communication	4351104	C354
	Software Practices	4351105	C355
	Summer Internship-II	4351106	C356
	Electronics and Communication Engineering Project-I	4351107	C357
	OOPS & Python Programming	4351108	C358
VI	Computer Networks & Data Communication	4361101	C361
	VLSI	4361102	C362
	Electronics & Communication Engineering Project-II	4361103	C363
	Android App Development	4361104	C364
	Renewable Energy & Emerging Trends in Electronics	4361106	C365

**(Table B.3.1.2 All offered course for Electronics and Communication for the batch 2021-2024 & 2022-2025)**

Course outcomes of one course from each semester of study have been listed through Tables B.3.1.3 to B.3.1.8 for the batch of 2020 to 2023

**Course Name:** Electronic Components & Practice, **Course Code:** 3311101, **Course ID:** C114, **Semester:** 1, **Academic Year:** 2020-21, **Batch:** 2020-2023

CO	After successful completion of the course, student will be able to
C114.1	Test various basic passive electronic components.
C114.2	Select relevant fuses, cables, connectors, switches and relays for electronic circuits.
C114.3	Build basic DC power supply.
C114.4	Test the functionality of transistor in various configurations.
C114.5	Interpret datasheet for various electronics components.

(Table B.3.1.3 Course outcomes of ECP)

**Course Name:** Electronic Networks, **Course Code:** 3321102, **Course ID:** C125, **Semester:** 2, **Academic Year:** 2020-21, **Batch:** 2020-2023

CO	After successful completion of the course, student will be able to
C125.1	Use various network theorems to analyze electronic networks.
C125.2	Calculate parameters of series/parallel resonant and coupled circuits.
C125.3	Build different types of Attenuator and Equalizer Circuits.
C125.4	Calculate design parameters of k-type and m-type passive filters.

(Table B.3.1.4 Course outcomes of EN)

**Course Name:** Analog Electronics, **Course Code:** 3331102, **Course ID:** C232, **Semester:** 3, **Academic Year:** 2021-22, **Batch:** 2020-2023

CO	After successful completion of the course, student will be able to
C232.1	Interpret the effect of negative feedback in amplifier.
C232.2	Test various types of oscillators.
C232.3	Measure the efficiency of various power amplifiers.
C232.4	Use JFET and MOSFET.
C232.5	Build electronic circuits using OPAMP and IC 555.

(Table B.3.1.5 Course outcomes of AE)

**Course Name:** Microprocessor And Assembly Language Programming **Course Code:** 3341101, **Course ID:** C241, **Semester:** 4, **Academic Year:** 2021-22, **Batch:** 2020-2023

CO	After successful completion of the course, student will be able to
C241.1	Describe the architecture of Intel 8085 microprocessor.
C241.2	Develop assembly language programs using Arithmetic and Logic instructions.
C241.3	Develop program by efficient use of the addressing modes and timing diagram.
C241.4	Develop assembly language program using stack and subroutine.
C241.5	Interface memory and I/O devices with 8085 microprocessors.

(Table B.3.1.6 Course outcomes of MALP)

**Course Name:** Microwave & Radar Engineering **Course Code:** 3351103, **Course ID:** C353,  
**Semester:** 5, **Academic Year:** 2022-23, **Batch:** 2020-2023

<b>CO</b>	<b>After successful completion of the course, student will be able to</b>
C353.1	Analyze microwave propagation through transmission line.
C353.2	Analyze performance of microwave components.
C353.3	Experiment with microwave test bench for parameter measurement.
C353.4	Use microwave semiconductor devices to realize amplifiers and oscillators.
C353.5	Distinguish various RADAR systems.

(Table B.3.1.7 Course outcomes of MWR)

**Course Name:** Very Large Scale Integration **Course Code:** 3361104, **Course ID:** C364,  
**Semester:** 6, **Academic Year:** 2022-23, **Batch:** 2020-2023

<b>CO</b>	<b>After successful completion of the course, student will be able to</b>
C364.1	Illustrate VLSI methodology and design style with MOS circuit.
C364.2	Analyze basic MOS inverter.
C364.3	Implement MOS logic circuits.
C364.4	Develop simple VHDL Programs for Combinational circuits.
C364.5	Develop simple VHDL Programs for Sequential circuits.

(Table B.3.1.8 Course outcomes of VLSI)

Course outcomes of one course from each semester of study have been listed through Tables B.3.1.9 to B.3.1.14 for the batch of 2021 to 2024 and onwards.

**Course Name:** Fundamental of Electronics, **Course Code:** 4311102, **Course ID:** C117,  
**Semester:** 1, **Academic Year:** 2021-22, **Batch:** 2021-2024

<b>CO</b>	<b>After successful completion of the course, student will be able to</b>
C117.1	Use basic active and passive electronic components
C117.2	Develop different types of rectifiers using PN junction diode.
C117.3	Use special purpose diodes for different applications
C117.4	Analyze various transistor configurations.
C117.5	Dispose electronic waste safely.

(Table B.3.1.9 Course outcomes of FOE)

**Course Name:** Digital Electronics, **Course Code:** 4321102, **Course ID:** C126,  
**Semester:** 2, **Academic Year:** 2021-22, **Batch:** 2021-2024

<b>CO</b>	<b>After successful completion of the course, student will be able to</b>
C126.1	Interpret various number systems and their conversions with binary arithmetic operations.
C126.2	Implement simplified Boolean equations using logic gates.
C126.3	Test different types of combinational logic circuits.
C126.4	Test different types of sequential logic circuits
C126.5	Classify various memories and logic families

(Table B.3.1.10 Course outcomes of DE)

**Course Name:** Electronic Measurements & Instruments, **Course Code:** 4331102, **Course ID:** C233,

**Semester:** 3, **Academic Year:** 2022-23, **Batch:** 2021-2024

CO	After successful completion of the course, student will be able to
C233.1	Measure values of various passive components with proper accuracy, precision and resolution
C233.2	Measure various electrical parameters using different electrical and electronic meters.
C233.3	Measure various signal parameters using advanced electronic instruments.
C233.4	Select appropriate transducer and sensor for measurement of physical quantity
C233.5	Use electronic instruments for specific testing, measurement and troubleshooting of electronic circuits

(Table B.3.1.11 Course outcomes of EMI)

**Course Name:** Microprocessor And Microcontroller **Course Code:** 4341101, **Course ID:** C242, **Semester:** 4, **Academic Year:** 2022-23, **Batch:** 2021-2024

CO	After successful completion of the course, student will be able to
C242.1	Identify basic features of microprocessor
C242.2	Explain architecture and working of microprocessor
C242.3	Illustrate microcontroller internal architecture
C242.4	Write and execute assembly language programs(software) for given application
C242.5	Interface microcontroller with hardware for given application

(Table B.3.1.12 Course outcomes of M&M)

**Course Name:** Embedded System **Course Code:** 4351102, **Course ID:** C352, **Semester:** 5, **Academic Year:** 2023-24, **Batch:** 2021-2024

CO	After successful completion of the course , student will be able to
C352.1	Select appropriate microcontroller for given embedded system
C352.2	Explain architecture and working of AVR microcontroller
C352.3	Write and execute embedded C program for given application
C352.4	interface AVR microcontroller with hardware for given embedded system
C352.5	Develop small embedded system using AVR microcontroller.

(Table B.3.1.13 Course outcomes of ES)

**Course Name:** Computer Networks and Data Communication **Course Code:** 4361101, **Course ID:** C361,

**Semester:** 6, **Academic Year:** 2023-24, **Batch:** 2021-2024

CO	After successful completion of the course , student will be able to
C361.1	Analyze the key concepts of data communication, the various physical network topologies and layered models.
C361.2	Select proper transmission media and devices based on network requirements
C361.3	Manage contemporary network infrastructures and configure fundamental network devices based on criteria and analyze communication protocols of hardware layer
C361.4	Use Internet protocols and standards.
C361.5	Understanding of network security, cryptography, IP security, web security, information security standards

(Table B.3.1.14 Course outcomes of CNDC)

### 3.1.2 CO-PO matrices of courses selected in 3.1.1 (5)

#### Course Articulation Matrix

Course Articulation Matrix (CAM) means, the degree of each CO of the course is in line with PO.

Course Articulation Matrix for Diploma in Electronics and Communication affiliated to GTU is developed by the faculties of Diploma Electronics and Communication department of Government Polytechnic, Gandhinagar. In EC department we use to have a policy to make a specific faculty as a subject in-charge before the beginning of the semester, and that faculty have to make a COs for that subject and should be endorsed by IQAC committee as well. This activity has been taken every time if and when need.

Moreover, the new syllabus which was introduced by the GTU from year 2021 for such subjects same way at department level we have assign a task by subject in-charge. Before starting of every semester, the task has been given to the concern faculty to develop CO of the course in line with PO with justification and also make a CO-PO-PSO mapping with proper justification.

The Course Articulation Matrix for one subject from each semester is presented through Tables B.3.1.15 – B.3.1.20. The last row of each below tables of course articulation matrix indicates mapping of course with POs /PSOs for the batch of 2020 to 2023.

*Note:*

1. 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 “-”*

#### CO-PO-PSO Mapping (for the Batch 2020-2023)

**Course Name:** Electronic Components & Practice, **Course Code:** 3311101, **Course ID:** C114, **Semester:** 1, **Academic Year:** 2019-20, **Batch:** 2019-2022

Course CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
C114.1	3	2	1	3	-	-	2	1	1
C114.2	2	2	2	3	2	-	2	1	2
C114.3	3	2	3	3	2	2	2	2	2
C114.4	2	2	1	2	2	-	2	1	1
C114.5	2	1	2	3	-	-	1	1	1
Average	<b>2.40</b>	<b>1.80</b>	<b>1.80</b>	<b>2.80</b>	<b>2</b>	<b>2</b>	<b>1.80</b>	<b>1.20</b>	<b>1.40</b>

(Table B.3.1.15 Course outcomes of ECP)

**Course Name:** Electronic Networks, **Course Code:** 3321102, **Course ID:** C125, **Semester:** 2, **Academic Year:** 2019-20, **Batch:** 2019-2022

Course CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
C125.1	3	3	2	2	1	-	3	2	2
C125.2	3	3	2	2	1	-	2	2	3
C125.3	3	2	3	2	2	2	2	3	3
C125.4	3	3	3	2	2	-	2	3	3
Average	<b>3</b>	<b>2.75</b>	<b>2.5</b>	<b>2</b>	<b>1.5</b>	<b>2</b>	<b>2.25</b>	<b>2.5</b>	<b>2.75</b>

(Table B.3.1.16 Course outcomes of EN)

**Course Name:** Analog Electronics, **Course Code:** 3331102, **Course ID:** C232,  
**Semester:** 3, **Academic Year:** 2020-21, **Batch:** 2019-2022

Course CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
C232.1	3	2	-	3	-	-	2	2	2
C232.2	3	2	1	3	-	-	2	3	3
C232.3	3	2	2	3	2	-	2	2	3
C232.4	3	-	-	1	2	-	-	3	3
C232.5	3	3	2	3	3	2	3	3	3
Average	<b>3.00</b>	<b>2.25</b>	<b>1.67</b>	<b>2.60</b>	<b>2.33</b>	<b>2.00</b>	<b>2.25</b>	<b>2.60</b>	<b>2.80</b>

(Table B.3.1.17 Course outcomes of AE)

**Course Name:** Microprocessor And Assembly Language Programming **Course Code:** 3341101,  
**Course ID:** C241,  
**Semester:** 4, **Academic Year:** 2020-21, **Batch:** 2019-2022

Course CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
C241.1	3	-	-	-	-	-	-	1	-
C241.2	3	3	2	3	2	-	2	2	2
C241.3	3	3	2	3	2	-	2	2	2
C241.4	3	3	2	3	2	-	2	2	2
C241.5	3	2	2	2	3	2	3	3	3
Average	<b>3.00</b>	<b>2.75</b>	<b>2.00</b>	<b>2.75</b>	<b>2.25</b>	<b>2.00</b>	<b>2.25</b>	<b>2.00</b>	<b>2.25</b>

(Table B.3.1.18 Course outcomes of MALP)

**Course Name:** Microwave & Radar Engineering **Course Code:** 3351103, **Course ID:** C353,  
**Semester:** 5, **Academic Year:** 2021-22, **Batch:** 2019-2022

Course CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
C353 .1	3	2	2	2	2	-	2	2	2
C353 .2	2	2	2	2	2	-	2	2	2
C353 .3	2	2	2	3	2	2	2	3	3
C353 .4	3	1	3	2	-	2	2	2	3
C353 .5	1	1	2	1	-	-	1	1	1
Average	<b>2.20</b>	<b>1.60</b>	<b>2.20</b>	<b>2.00</b>	<b>2.00</b>	<b>2.00</b>	<b>1.80</b>	<b>2.00</b>	<b>2.20</b>

(Table B.3.1.19 Course outcomes of ENS)

**Course Name:** Very Large Scale Integration **Course Code:** 3361104, **Course ID:** C364,  
**Semester:** 6, **Academic Year:** 2021-22, **Batch:** 2019-2022

Course CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
C361.1	3	2	2	1	-	-	2	1	1
C361.2	3	3	2	3	-	-	2	2	2
C361.3	3	3	3	1	2	-	2	2	3
C361.4	3	2	3	2	2	-	2	2	3
C361.5	3	2	3	2	2	-	2	2	3
Average	<b>3.00</b>	<b>2.40</b>	<b>2.60</b>	<b>1.80</b>	<b>2.00</b>	-	<b>2.00</b>	<b>1.80</b>	<b>2.40</b>

(Table B.3.1.20 Course outcomes of VLSI)

The Course Articulation Matrix for one subject from each semester is presented through Tables B.3.1.21 – B.3.1.26. The last row of each below tables of course articulation matrix indicates mapping of course with POs /PSOs for the batch of 2021-2024 and onwards

#### **CO-PO-PSO Mapping (for the Batch 2021-2024 and onwards)**

**Course Name:** Fundamental of Electronics, **Course Code:** 4311102, **Course ID:** C117,  
**Semester:** 1, **Academic Year:** 2021-22, **Batch:** 2021-2024

Course CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
C117.1	3	2	1	3	-	2	1	1	1
C117.2	3	1	2	2	1	1	-	1	2
C117.3	3	1	2	2	1	1	1	3	2
C117.4	3	1	2	2	-	-	-	2	2
C117.5	3	1	1	2	3	1	1	3	3
Average	3.00	1.20	1.60	2.20	1.67	1.25	1.00	2.00	2.00

(Table B.3.1.21 Course outcomes of FOE)

**Course Name:** Digital Electronics, **Course Code:** 4321102, **Course ID:** C126,  
**Semester:** 2, **Academic Year:** 2021-22, **Batch:** 2021-2024

Course CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
C126.1	3	1	1	1	-	1	1	-	2
C126.2	3	3	2	2	-	2	1	2	3
C126.3	3	2	2	2	-	2	1	3	3
C126.4	3	2	2	2	-	2	1	3	3
C126.5	3	1	2	2	2	2	2	2	3
Average	3.00	1.80	1.80	1.80	2.00	1.80	1.20	2.50	2.80

(Table B.3.1.22 Course outcomes of DE)

**Course Name:** Electronic Measurements & Instruments, **Course Code:** 4331102, **Course ID:** C233,

**Semester:** 3, **Academic Year:** 2022-23, **Batch:** 2021-2024

Course CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
C233.1	3	2	2	2	-	-	1	3	3
C233.2	3	2	-	3	2	-	1	3	2
C233.3	3	-	-	3	-	-	1	3	2
C233.4	3	2	3	3	2	1	2	2	3
C233.5	3	2	-	3	-	-	1	3	2
Average	3.00	2.00	2.50	2.80	2.00	1.00	1.20	2.80	2.40

(Table B.3.1.23 Course outcomes of EMI)

**Course Name:** Microprocessor And Microcontroller **Course Code:** 4341101, **Course ID:** C242,  
**Semester:** 4, **Academic Year:** 2022-23, **Batch:** 2021-2024

Course CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
C242.1	3	2	2	2	1	2	2	2	3
C242.2	3	1	2	1	-	2	1	2	1
C242.3	3	2	2	3	-	2	3	2	2
C242.4	3	2	2	2	-	2	3	1	3
C242.5	3	3	3	3	1	3	3	2	3
Average	3.00	2.00	2.20	2.20	1.00	2.20	2.40	1.80	2.40

(Table B.3.1.24 Course outcomes of M&M)

**Course Name:** Embedded System **Course Code:** 4351102, **Course ID:** C352,  
**Semester:** 5, **Academic Year:** 2023-24, **Batch:** 2021-2024

Course CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
C352.1	3	2	1	1	2	2	2	2	3
C352.2	3	2	1	1	-	1	1	-	2
C352.3	3	2	2	2	-	2	3	-	3
C352.4	3	3	3	3	1	3	3	2	3
C352.5	3	3	3	3	2	3	3	2	3
Average	3.00	2.40	2.00	2.00	1.67	2.20	2.40	2.00	2.80

(Table B.3.1.25 Course outcomes of ES)

**Course Name:** Computer Networks and Data Communication **Course Code:** 4361101, **Course ID:** C361,  
**Semester:** 6, **Academic Year:** 2023-24, **Batch:** 2021-2024

Course CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
C361.1	3	2	2	1	2	2	2	1	3
C361.2	3	2	2	2	1	1	3	2	2
C361.3	3	2	2	2	1	2	3	1	3
C361.4	3	2	2	1	1	3	3	2	3
C361.5	3	3	1	2	2	3	3	2	3
Average	3.00	2.20	1.80	1.60	1.40	2.20	2.80	1.60	2.80

(Table B.3.1.26 Course outcomes of CNDC)

### 3.1.3. Program level Course PO/PSO matrix of all courses INCLUDING first year courses (10)

There are some competencies that students must possess to be an outstanding Diploma Electronics and Communication professional for development of the industry, academics and society. The competencies are reflected into Program Outcomes. The curriculums are designed so that the required professional abilities can be developed.

The basic science courses are developed to transmit engineering knowledge in respective domains. Such courses are strongly mapped to attain PO1. These courses also contribute slightly / moderately / substantially to impart ability for problem analysis and ability to design/develop solutions. Looking at the course contents and the extent it helps to attain respective POs, i.e. PO1, PO2, PO3, the courses are mapped substantially-3, moderately-2 and slightly-1.

The courses in higher semesters help them to investigate complex problems at working in industry (PO3) and make them aware towards societal and environmental problems (PO5), which in turn sensitize the students to find out environmentally sustainable solutions. The extents these courses help to attain respective POs, i.e. PO3, PO5, the courses are mapped slightly/moderately/substantially.

PSO1 statement shows that a Diploma Electronics and Communication professional works as a team member to solve well defined problems using programming skills. PSO2 statement shows that it helps society by utilizing basic network & software. All the courses offered by the department also contribute to achieve Program Specific Outcomes. Hence all the courses are also mapped accordingly (PSO1/PSO2). Moreover, many subjects help the students to work as a professional or as an entrepreneur by applying principles and management practices slightly / moderately / strongly and hence they are mapped accordingly.

After deliberation in the committee consisting of senior faculty members and respective course coordinators, the Program Articulation Matrix and Course Articulation Matrix are prepared.

### **Program Articulation Matrix**

The program articulation matrix indicates the extent each course helps to attain program outcomes.

Program level Course PO matrix of all courses is reported as Table B.3.1.27. for the batch of 2020-2023

<b>Sr. No.</b>	<b>Course Code</b>	<b>Code ID</b>	<b>Course Name</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PSO1</b>	<b>PSO2</b>
1	3300001	C111	Basic Mathematics	2.80	1.20	2.00	-	-	-	1.00	-	-
2	3300002	C112	English	1.00	-	2.00	-	-	1.00	1.00	-	-
3	3300005	C113	Basic Physics	3.00	1.00	1.00	2.00	1.00	-	-	-	-
4	3311101	C114	Electronic Components & Practice	2.40	1.80	1.80	2.80	2.00	2.00	1.80	1.20	1.40
5	3320901	C115	Basic Of Electrical Engineering	3.00	1.40	1.00	2.40	2.00	1.00	1.60	2.20	3.00
6	3300013	C116	Basic Of Computer & Information Technology	2.75	2.00	2.00	3.00	2.00	-	2.67	-	1.50
7	3990001	C121	Contributor Personality Development	1.00	-	2.00	-	-	1.00	2.67	-	-
8	3320002	C122	Advanced Mathematics (Group1)	2.80	1.20	2.00	-	-	-	1.00	-	-
9	3300003	C123	Environment Conservation & Hazard Management	3.00	-	3.00	-	2.33	-	2.00	-	-
10	3321101	C124	Electronic Circuits & Applications	3.00	2.50	1.80	2.50	2.00	2.00	2.00	2.20	2.60
11	3321102	C125	Electronic Networks	3.00	2.75	2.50	2.00	1.50	2.00	2.25	2.50	2.75
12	3321103	C126	Electronics Workshop	3.00	1.80	2.25	2.75	3.00	2.00	2.50	2.40	2.20
13	3331101	C231	Antenna & Wave Propagation	2.20	2.50	2.00	2.80	2.75	2.00	2.75	2.60	2.75
14	3331102	C232	Analog Electronics	3.00	2.25	1.67	2.60	2.33	2.00	2.25	2.60	2.80
15	3331103	C233	Principle Of Electronic Communication	2.80	1.75	1.50	2.50	2.00	2.00	2.50	2.40	2.20
16	3331104	C234	Digital Logic Design	3.00	2.75	1.60	2.75	1.75	1.00	2.00	2.75	2.80

Sr. No.	Course Code	Code ID	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
17	3331105	C235	Programming In C	2.60	2.25	2.00	2.40	1.60	2.00	2.20	2.00	3.00
18	3341101	C241	Microprocessor And Assembly Language Programming	3.00	2.75	2.00	2.75	2.25	2.00	2.25	2.00	2.25
19	3341102	C242	Digital Communication	3.00	2.00	1.50	2.67	2.00	2.00	2.50	2.40	2.25
20	3341103	C243	Optical Communication	3.00	2.20	2.25	2.25	2.00	1.50	2.25	2.80	2.60
21	3341104	C244	Electronics Instruments and Measurement	3.00	1.75	2.33	2.60	2.00	2.00	2.60	2.80	2.40
22	3341105	C245	Industrial Electronics	3.00	2.00	2.00	2.60	2.20	-	2.60	2.80	2.40
23	3341106	C246	Circuit Design Tools	3.00	2.20	3.00	2.60	2.40	2.50	1.80	2.80	3.00
24	3351101	C351	Microcontroller	2.60	2.00	2.40	2.67	1.80	2.50	2.75	2.40	2.40
25	3351102	C352	Mobile Communication	2.40	2.25	2.33	2.00	2.00	1.50	2.00	2.20	2.00
26	3351103	C353	Microwave & Radar Engineering	2.20	1.60	2.20	2.00	2.00	2.00	1.80	2.00	2.20
27	3351104	C354	Software Practices	2.80	2.00	3.00	3.00	1.75	2.00	2.25	2.60	3.00
28	3351105	C355	Computer Networks	1.80	1.75	1.50	2.25	1.50	-	1.80	2.20	1.67
29	3351107	C356	Project I	2.80	2.50	3.00	3.00	2.67	3.00	3.00	3.00	2.80
30	3361101	C361	Entrepreneurship And Industrial Management	3.00	2.00	1.00	1.00	2.00	2.00	3.00	2.20	2.00
31	3361102	C362	Consumer Electronics	3.00	1.60	2.40	2.20	2.00	-	2.60	2.80	2.40
32	3361103	C363	Maintenance Of Electronics Equipment	3.00	1.60	1.60	2.60	1.80	-	3.00	3.00	2.40
33	3361104	C364	VLSI	3.00	2.40	2.60	1.80	2.00	-	2.00	1.80	2.40
34	3361105	C365	Embedded System	3.00	2.00	2.20	2.50	2.00	2.20	2.80	2.80	2.40

Sr. No.	Course Code	Code ID	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
35	3361109	C366	Project II	3.00	2.25	2.40	2.75	2.75	2.20	3.00	2.60	3.00
			Average Attainment	2.71	2.00	2.05	2.46	2.04	1.90	2.24	2.43	2.43

(Table B.3.1.27 Program Articulation Matrix-Batch-2020-2023)

Program level Course PO matrix of all courses is reported as Table B.3.1.28 for the batch of 2021-2024 and onwards.

Sr. No.	Course Code	Code ID	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
1	4300001	C111.1	Mathematics	3.00	1.25	1.00	-	-	-	1.00	-	-
2	4300002	C112.1	Communication Skills in English	1.75	-	-	-	-	2.00	1.80	-	-
3	4300005	C113.1	Physics	3.00	1.00	1.00	2.00	1.00	-	1.00	-	-
4	4300010	C114.1	Basics of Information and Communication Technology	2.80	2.00	2.00	2.00	1.25	2.00	2.40	2.40	2.40
5	4300015	C115.1	Sports and Yoga	-	-	-	-	-	-	-	-	-
6	4311101	C116.1	Fundamentals of Electrical Engineering	3.00	2.00	-	1.00	3.00	1.00	2.00	1.75	1.50
7	4311102	C117.1	Fundamentals of Electronics	3.00	1.20	1.60	2.20	1.67	1.25	1.00	2.00	2.00
8	4300003	C121.1	Environment and Sustainability	2.00	1.80	1.60	1.00	1.80	1.25	1.40	2.00	2.00
9	4300012	C122.1	Engineering Drawing and Computer Aided Design	3.00	1.50	2.75	2.50	2.00	2.00	2.00	2.00	2.25
10	4300016	C123.1	Indian Constitution	-	-	-	-	-	-	-	-	-
11	4320002	C124.1	Engineering Mathematics	3.00	1.00	1.00	-	-	-	1.00	-	-
12	4321101	C125.1	Electronics Workshop	2.60	2.20	2.40	2.80	1.60	1.40	2.20	2.60	2.60
13	4321102	C126.1	Digital Electronics	3.00	1.80	1.80	1.80	2.00	1.80	1.20	2.50	2.80

Sr. No.	Course Code	Code ID	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
14	4321103	C127.1	Electronic Circuits & Applications	3.00	2.20	2.40	2.40	1.50	2.80	1.60	2.20	2.60
15	4330001	C231.1	Summer Internship-I	1.40	1.00	1.50	1.20	1.00	1.00	1.00	3.00	2.80
16	4331101	C232.1	Electronic Circuits & Networks	3.00	2.80	2.60	2.20	1.60	1.80	2.20	2.00	2.50
17	4331102	C233.1	Electronic Measurements & Instruments	3.00	2.00	2.50	2.80	2.00	1.00	1.20	2.80	2.40
18	4331103	C234.1	Industrial Electronics	3.00	1.83	1.83	2.17	1.75	2.33	1.33	2.83	2.50
19	4331104	C235.1	Principle of Electronic Communication	2.80	2.00	1.60	2.20	1.60	1.00	2.60	2.60	2.20
20	4331105	C236.1	Programming In C	2.60	2.25	2.00	2.40	1.60	1.60	2.20	2.00	3.00
21	4340002	C241.1	Contributor Personality Development	-	1.00	1.00	-	-	1.00	1.50	-	-
22	4341101	C242.1	Microprocessor & Microcontroller	3.00	2.00	2.20	2.20	1.00	2.20	2.40	1.80	2.40
23	4341102	C243.1	Digital Communication	3.00	1.40	1.40	2.40	1.60	1.80	2.60	2.40	2.25
24	4341103	C244.1	Fiber Optics Communication	3.00	1.80	1.60	2.40	1.67	1.50	2.20	3.00	2.20
25	4341104	C245.1	Circuit Design Tools	2.50	2.67	2.67	3.00	1.67	1.00	1.25	2.75	3.00
26	4341105	C246.1	Linear Integrated Circuit (Analog Electronics)	3.00	2.60	2.40	2.20	2.00	2.80	2.40	2.60	2.80
27	4341106	C247.1	Antenna & Wave Propagation	3.00	2.80	2.60	2.20	1.60	1.80	2.20	2.60	2.75
28	4300021	C351.1	Entrepreneurship and Start-ups	2.80	2.00	1.80	1.25	1.25	2.40	2.60	2.00	1.00
29	4351102	C352.1	Embedded System	3.00	2.40	2.00	2.00	1.67	2.20	2.40	2.00	2.80
30	4351103	C353.1	Microwave and Radar Communication	2.20	1.60	2.20	2.00	2.00	2.00	1.80	2.40	2.20
31	4351104	C354.1	Mobile & Wireless Communication	2.80	2.00	1.80	2.00	1.60	2.00	2.40	2.60	2.20

Sr. No.	Course Code	Code ID	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
32	4351105	C355.1	Software Practices	3.00	2.20	2.00	2.40	1.00	1.33	3.00	2.00	1.00
33	4351106	C356.1	Summer Internship-II	1.60	2.00	1.80	1.20	2.20	1.60	2.00	3.00	2.00
34	4351107	C357.1	Electronics and Communication Engineering Project-I	3.00	2.00	1.40	1.60	1.80	1.40	3.00	3.00	2.80
35	4351108	C358.1	OOPS & Python Programming	2.25	2.00	2.00	1.75	-	1.25	2.50	2.00	2.00
36	4361101	C361.1	Computer Networks & Data Communication	3.00	2.20	1.80	1.60	1.40	2.20	2.80	1.60	2.80
37	4361102	C362.1	VLSI	2.60	2.40	2.00	2.20	2.67	2.33	2.20	2.00	2.00
38	4361103	C363.1	Electronics & Communication Engineering Project-II	3.00	1.00	2.33	1.80	2.00	2.00	2.00	3.00	2.40
39	4361104	C364.1	Android App Development	2.20	2.40	3.00	2.40	1.60	1.40	1.00	2.00	2.40
40	4361106	C365.1	Renewable Energy & Emerging Trends in Electronics	2.33	2.00	2.00	2.00	2.00	2.00	2.67	3.00	2.33
			Average Attainment	2.71	1.90	1.93	2.04	1.70	1.73	1.95	2.38	2.33

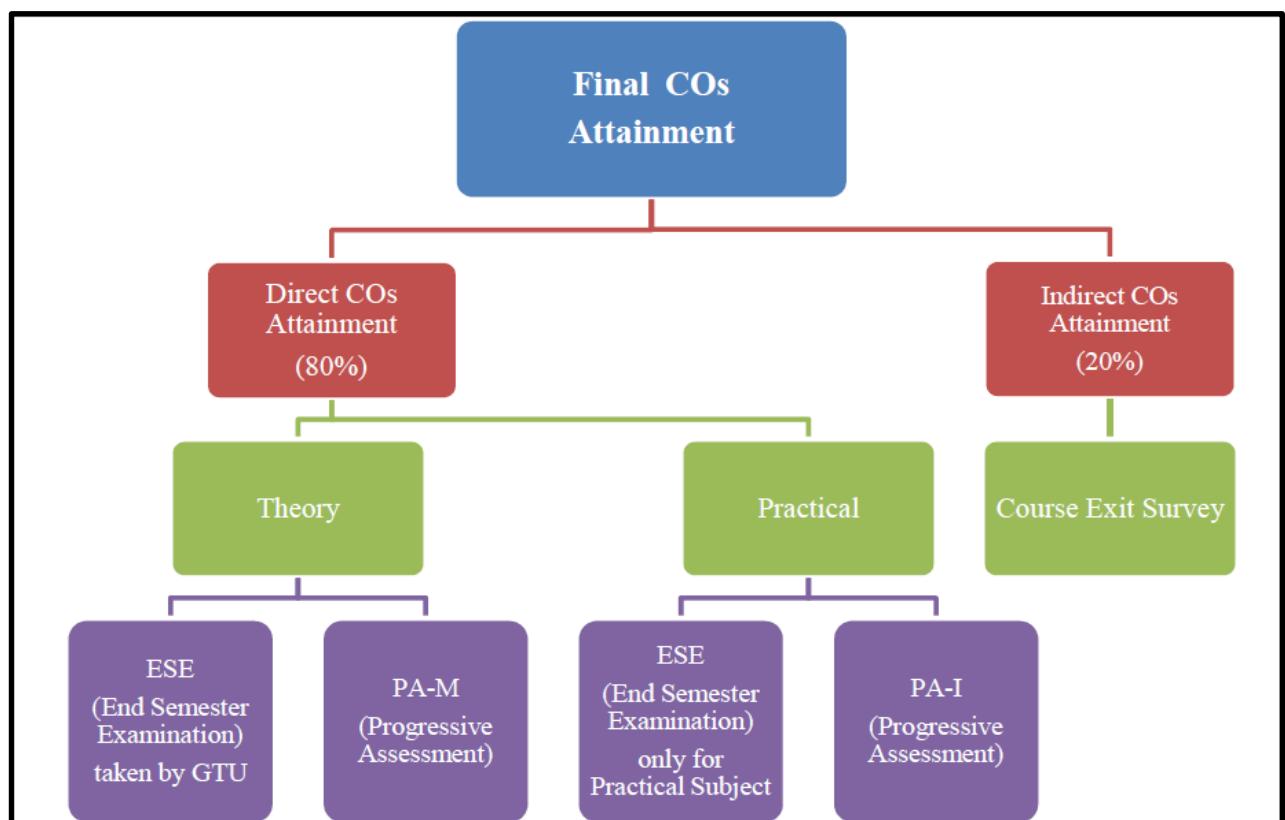
**(Table B.3.1.28 Program Articulation Matrix-Batch-2021-2024 and onwards)**

The program articulation matrix indicates the extent each course helps to attain program outcomes.

## 3.2 Attainment of Course Outcomes (40)

### 3.2.1 Describe the assessment processes used to gather the data upon which the evaluation of Course Outcome is based (10)

We are using two methods for calculating attainment of course outcomes of each subject, Direct and Indirect Method. For calculation of final attainment 80% of direct COs attainment and 20% of indirect COs attainment is considered. Our institute is affiliated to Gujarat Technological University. So, direct course outcomes attainment calculated based on the university scheme. There are four major (Maximum) components defined by the University for evaluating the performance of the students as shown in figure 3.2.1. Course exit survey form filled by student for indirect course outcomes attainment.



(Fig 3.2.1: Structure and weightage for CO attainment)

The various assessment components and processes used to gather the data for the evaluation of Course Outcomes by direct method are described as follows. The maximum marks and the weightage of each assessment component in the final grade are also summarized in the Table 3.2.1.1

Sr. No.	Component Name	Exam Conducted by	Marks	Remarks	Relevance of assessment process
1	End Semester Exam (ESE)	University	70	Results are declared by university in form of Grades	ESE is intended for making a comprehensive assessment of the ability of

					students to understand / apply / analyze / evaluate the various aspects of the respective course based on the entire syllabus.
2	End Semester Practical Exam  <b>ESE(V) – PR</b>	Department (Sem. 1 to 4)  University (Sem. 5 to 6)	20/40/25  20/40/50/200	Results are declared by university in form of Grades	The comprehensive assessment associated with the practical aspects of the course is carried out at the end of the semester through practical exam and viva voce.
3	Mid Semester Exam  <b>PA(M) + Micro Project</b>	Department	30	Results are declared by university in form of Grades. Marks are provided by the department to the university	The Class test/Mid Semester Exam are conducted to assess the ability of students to understand / apply / analyses / evaluate the various aspects of the respective course.  At the end of the semester as per curriculum students need to submit the micro project as per concern subject from which student get hands on practice of Application level.
4	Internal PA(I)	Department	25/30/50/60/100	Results are declared by university in form of Grades. Marks are provided by the department to the university	Assesses the ability of students to apply the theoretical aspects in practice as an individual task or as team work. It also helps to reinforce the concepts gained through class room learning.  The assessment is carried out at the end of each experiment conducted and is based on the inferences drawn, data collected, analyzed &

					presented and knowledge of equipment / modern tools used during performance.
--	--	--	--	--	--

(Table B.3.2.1.1 Assessment Component Weightage)

PA (M) Conducted by Institute.

PA (I) Conducted by Institute.

ESE (V) PR For 1 to 4 Semester Conducted by Institute and for 5 to 6 Semester conducted by university.

Various courses offered to the students of diploma Electronics and

Communication as per GTU curriculum has three different evaluation schemes.

CO attainment is based on the internal and external assessment as per GTU scheme of examination. Depending upon nature, of course, maximum marks for various courses may be 100,150,200.

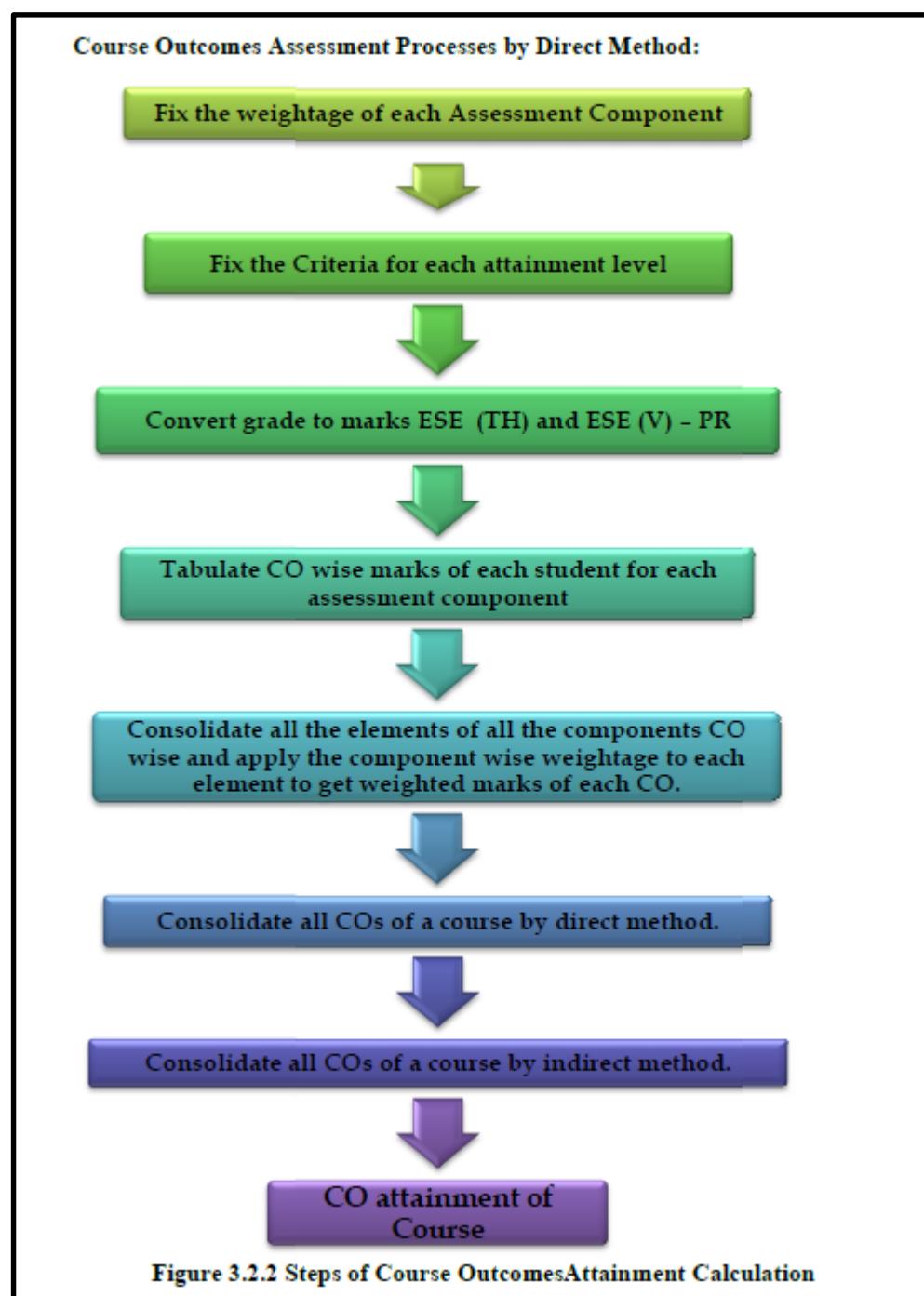


Figure 3.2.2 Steps of Course Outcomes Attainment Calculation

**Step 1: Fix the weightage of each Assessment Component Prescribed by GTU for the courses offered in the program as per teaching scheme.**

Our institute is affiliated to Gujarat Technological University. There are four major (Maximum) components defined by the University for evaluating the performance of the students. The number of components for the subject varies from 2 to 4. The component wise distribution of marks for various credit and scheme is as shown in Table 3.2.1.2. Based on the Component wise marks we fix the weightage to each component

Subjects having Credit 3/4/5/6/7		
Component wise Weightage		
Component	Marks	% Weight
<b>ESE</b>	70	46.67
<b>PA</b>	30	20
<b>ESE</b>	20	13.33
<b>PA</b>	30	20
<b>Total</b>	150	100

(a)

Subjects having Credit 7/8		
Component wise Weightage		
Component	Marks	% Weight
<b>ESE</b>	70	35
<b>PA</b>	30	15
<b>ESE</b>	40	20
<b>PA</b>	60	30
<b>Total</b>	200	100

(b)

Subjects having Credit 1/2/3/4/6		
Component wise Weightage (Practical Only)		
Component	Marks	% Weight
<b>PA (I)</b>	30/60/200	60/66.67
<b>ESE (V) – PR</b>	20/40/100	40/33.33
<b>Total</b>	50/100/300	100

(c)

Subjects having Credit 4/6		
Component wise Weightage (Theory only)		
Component	Marks	% Weight
<b>ESE</b>	70	70
<b>PA (M)</b>	30	30
<b>Total</b>	100	100

(d)

(Table 3.2.1.2 Subjects with (a) 4 components, (b) 4 components, (c) 2 components & (d) 2 components as assessment tool)

PA (M) Conducted by Institute.

PA (I) Conducted by Institute.

ESE (V) PR For 1 to 4 semester Conducted by Institute and for 5 to 6 semesters conducted by university.

ESE – Conducted by University

## **Step 2: Fix the Criteria for CO attainment Level.**

At the end of each course, the CO attainment is evaluated for all curriculum components. The attainment level is set by the Course Coordinator with the reference of previous results. The attainment is made by the institution or the program for analyzing the students' knowledge. For setting up the attainment level, our department has used the following method. Attainment level is taken as given below as considering student percentage fixed and varying the marks.

<b>CO Attainment Level</b>	<b>1<sup>st</sup> and 2<sup>nd</sup> Year</b>	<b>3<sup>rd</sup> Year</b>
3	50% of students score more than 60% marks	50% of students score more than 70% marks
2	50% of students score more than 50% marks	50% of students score more than 60% marks
1	50% of students score more than 40% marks	50% of students score more than 50% marks

**(Table 3.2.1.3 CO attainment levels)**

At the end of each course CO attainment is evaluated for all courses. For setting up the attainment level our department has used the following method.

<b>For First and Second-Year Courses</b>	<b>2020 Entry Batch</b>		<b>2021 Entry Batch</b>		<b>2022 Entry Batch</b>	
	<b>% of Marks</b>	<b>Level</b>	<b>% of Marks</b>	<b>Level</b>	<b>% of Marks</b>	<b>Level</b>
60	3	60	3	60	3	
50	2	50	2	50	2	
40	1	40	1	40	1	

**(Table 3.2.1.4 Target Level for First and Second-Year Courses)**

<b>For Last Year Courses</b>	<b>2020 Entry Batch</b>		<b>2021 Entry Batch</b>		<b>2022 Entry Batch</b>	
	<b>% of Marks</b>	<b>Level</b>	<b>% of Marks</b>	<b>Level</b>	<b>% of Marks</b>	<b>Level</b>
70	3	70	3	70	3	
60	2	60	2	60	2	
50	1	50	1	50	1	

**(Table 3.2.1.5 Target Level for Final Year Courses)**

### Step 3: Convert grade to marks ESE (TH) and ESE (V) – PR

For ESE (TH) and ESE (V) PR components the grades from the GTU result are converted to marks as per table given below.

Mark Range	Grade	Mid value of range
85 to 100	AA	92.5
75 to 84	AB	80
65 to 74	BB	70
55 to 64	BC	60
4554	CC	50
4044	CD	42
3539	DD	37
<35	FF	17

(Table 3.2.1.6 Grade to Marks Conversion)

### Step 4: Tabulate CO wise marks of each student for each assessment component.

Each assessment component comprises of various elements which are as follows:

- Theory End Semester exam (70 marks)
- Theory Mid Semester Exam (30 marks, Comprise of Class test and Mid Semester Exam)
- Practical End Semester Viva (20/25/40/50/60 marks)
- Practical Progressive Assessment (25/30/50/60/100 marks)

GOVERNMENT POLYTECHNIC GANDHINAGAR											NO OF STUDENTS: 6							
SUBJECT CODE & NAME: 4341102 - Digital Communication			PA_M					PA_I										
Sr. No	Enrollment No.	Name of Students	ESE_TH	PA_M				ESE_V	PA_I									
			70	30	25	0	TOTAL	25	C243.1	C243.2	C243.3	C243.4						
1	216230311007	THAKUR UTTAM KAVINDRA	65.1	7.0	7.0	3.0	5.0	2.0	0.0	24	15	5.0	5.0	2.0	4.0	2.0	0.0	18
2	216230311001	SHARMA KETAN UMESHBHAI	15.4	4.0	4.0	1.0	3.0	1.0	0.0	13	18	5.0	5.0	2.0	4.0	2.0	0.0	18
3	216230311002	KESHVALA KETAN UKABHAI	42	7.0	7.0	3.0	5.0	2.0	0.0	24	15	5.0	5.0	2.0	4.0	2.0	0.0	18
4	216230311003	PATEL DAKSHKUMAR HARESHBHAI	15.4	5.0	5.0	2.0	4.0	2.0	0.0	18	18	5.0	5.0	2.0	4.0	2.0	0.0	18
5	216230311004	PANDYA HARSH HIMANSHUBHAI	49	7.0	7.0	3.0	5.0	2.0	0.0	24	18	5.0	5.0	2.0	4.0	2.0	0.0	18
6	216230311005	Ansari Anas Mo Ilyas	25.9	4.0	4.0	1.0	3.0	1.0	0.0	13	13	4.0	4.0	1.0	3.0	1.0	0.0	13

(Figure 3.2.3: Sample Overall Marksheets for course Digital Communication)

For all relevant components for the subject CO wise marks of each student for each assessment component is tabulated. Sample for ESE TH component is shown in table 3.2.4.

GOVERNMENT POLYTECHNIC GANDHINAGAR								NO OF STUDENTS:	6	
SUBJECT CODE AND NAME :		4341102 - Digital Communication								
Sr. No	Enrollment No.	Name of Students	C243.1	C243.2	C243.3	C243.4	C243.5	0	OUT OF TOTAL(70)	OUT OF TOTAL (100)
			30.00	30.00	10.00	20.00	10.00	0.00		
1	216230311007	THAKUR UTTAM KAVINDRA	27.9	27.9	9.3	18.6	9.3	0	65.1	93
2	216230311001	SHARMA KETAN UMESHBHAI	6.6	6.6	2.2	4.4	2.2	0	15.4	22
3	216230311002	KESHVALA KETAN UKABHAI	18	18	6	12	6	0	42	60
4	216230311003	PATEL DAKSHKUMAR HARESHBHAI	6.6	6.6	2.2	4.4	2.2	0	15.4	22
5	216230311004	PANDYA HARSH HIMANSHBHAI	21	21	7	14	7	0	49	70
6	216230311005	Ansari Anas Mo Ilyas	11.1	11.1	3.7	7.4	3.7	0	25.9	37

(Figure 3.2.4: Sample Tabular form of CO wise marks for component ESE\_TH for Digital Communication)

**Step 5: Consolidate all the elements of all the components CO wise and apply the component wise weightage to each element to get weighted marks of each CO.**

Sample for CO1 is shown in Figure 3.2.5. Similarly, element wise consolidation for all COs of a course gives the attainment level of all the CO of a particular course.

ATTAINMENT EVALUATION : C243.1												
Term Date:		15-03-2023		TO	24-06-2023							
Programme:		Diploma in Electronics and Communication										
Semester:		4										
Academic Year :		Mar 2023 TO Jun 2023										
Course Code and Name :		4341102		Digital Communication								
Course Coordinator :												
Faculty Members Involved :												
No of Students in Class :		6										
C243.1 TARGET LEVEL			50	No of students		3						
Teaching scheme		ESE_TH	PA_M	ESE_V	PA_I							
Component weightage		46.67	20.00	16.67	16.67							
Attainment level		3	2	1	0							
Criteria		Marks >= 60%	50% > Marks > 60%	50% > Marks >= 40%	40% > Marks							
CO Attainment level		3.0	2.0	1.0	0.0	Total	6					
>= 2 (in % )		50.0										
		COMPONENT	ESE_TH	PA_M	ESE_V	PA_I	TOTAL	TOTAL WEIGHTAGE MARKS	% OF WEIGHTAGE MARKS OBTAIN	ATTAINMENT LEVEL		
		WEIGHTAGE	30.00	30.00	30	30.00	120.00	30.00				
Sr. No	Enrollment No.											
1	216230311007	28	23	20	20	91	24.29	80.97	3			
2	216230311001	7	13	20	20	60	12.35	41.17	1			
3	216230311002	18	23	20	20	81	19.67	65.57	3			
4	216230311003	7	17	20	20	64	13.15	43.83	1			
5	216230311004	21	23	20	20	84	21.07	70.23	3			
6	216230311005	11	13	16	16	56	13.11	43.70	1			

(Figure 3.2.5: Sample consolidation of element wise marks for CO1 For Digital Communication)

We have taken students records for a particular subject as a sample data. In above figure column 3 to 6 shown marks gained by each student in different assessment component.

Total weightage marks of each component and for each student calculated by equation,

$$\text{Total Weightage Marks} = \sum \text{Weightage of component} \times \text{Marks obtained in component}$$

$$\begin{aligned}\text{Max weightage marks of C243.1} &= (30 \times 0.4667) + (30 \times 0.20) + (30 \times 0.1667) + (30 \times 0.1667) \\ &= \mathbf{30}\end{aligned}$$

Marks obtained by student (Sr.No.-3) in C243.1

$$\begin{aligned}&= (18 \times 0.4667) + (23 \times 0.20) + (20 \times 0.1667) + (20 \times 0.1667) \\ &= \mathbf{19.67}\end{aligned}$$

Percentage weightage marks obtained by student in C243.1 =

$$\frac{\text{Marks obtained by a student in C242.1}}{\text{Max marks of C242.1}} * 100 = \frac{19.67}{30} = 65.57\%$$

Percentage weightage marks obtained by each student is calculated. Student wise CO attainment calculation criteria is given in table 3.2.5. As per that table student 216230311002 obtained 65.57% in C243.1, so attainment level in C243.1 is 3. Same as 216230311003 obtained 43.83% in C243.1, so attainment level in C243.1 is 1.

CO Attainment Level	Target Attainment Level	Percentage for First & Second Year	Percentage for Final Year
3	2	$\geq 60\%$	$\geq 70\%$
2		$\geq 50 \text{ and } \leq 60\%$	$\geq 60\% \text{ and } \leq 70\%$
1		$\geq 40\% \text{ and } \leq 50\%$	$\geq 50\% \text{ and } \leq 60\%$
0		$< 40\%$	$< 50\%$

(Table 3.2.1.7 Student wise CO calculation criteria)

#### Step 6: Consolidate all COs of a course by direct method.

For each student CO wise attainment calculated. After that we make one summary sheet of all CO Attainment as shown in figure 3.2.6. From that, average value of each CO is considered as direct CO attainment for final attainment calculation.

GOVERNMENT POLYTECHNIC GANDHINAGAR									
Term Date:	15-03-2023	TO	24-06-2023						
Programme :	<b>Diploma in Electronics and Communication</b>								
Semester :	4								
Academic Year :	Mar 2023 TO Jun 2023								
Course Code and Name :	4341102	Digital Communication							
Course Coordinator :	0.00								
Faculty Members Involved :	0.00								
No of Students in Class :	6.00								
AVERAGE ATTAINMENT	2	2	2	2	2	3 <b>2.166666667</b>			
Maximum weighted Marks -->	C243.1	C243.2	C243.3	C243.4	C243.5	TOTAL			
	30.00	30.00	10.00	20.00	10.00	0.00 100.00			
Sr. No	Roll No.	CO wise attainment level					Student wise		
1	216230311007	3	3	3	3	3	2.7		
2	216230311001	1	1	1	1	3	0.9		
3	216230311002	3	3	3	3	3	2.7		
4	216230311003	1	1	1	1	3	0.9		
5	216230311004	3	3	3	3	3	2.7		
6	216230311005	1	1	1	1	3	0.9		

(Figure 3.2.6: Sample summary sheet of all COs attainment for Digital Communication)

### Step 7: Consolidate all COs of a course by indirect method.

Course Exit Survey:

A course exit survey is conducted via hard copy for students who have completed the particular course. The Course outcome relevant questionnaires are asked in Course Exit Survey to evaluate the contribution of Course to attain POs and PSOs. Course exit survey also helps the Course Coordinator to take further corrective actions to improve. Sample of Digital Communication Course exit survey is shown in below figure:



**Government Polytechnic, Gandhinagar**  
**Electronics and Communication Department**



**Course Exit Survey**

Course: Digital Communication (4341102)

Date: \_\_\_ / \_\_\_ / \_\_\_

Enrollment Number: \_\_\_\_\_

1. Are you able to define digital communication and its characteristics?

5 - Excellent    4 - Very Good    3 - Good    2 - Average    1 - Poor

2. Are you able to explain the function of various bandpass modulation techniques?

5 - Excellent    4 - Very Good    3 - Good    2 - Average    1 - Poor

3. Are you able to discuss various coding techniques used in data transmission?

5 - Excellent    4 - Very Good    3 - Good    2 - Average    1 - Poor

4. Are you able to distinguish between various multiplexing and multiple access techniques?

5 - Excellent    4 - Very Good    3 - Good    2 - Average    1 - Poor

5. Are you able to illustrate digital communication-based applications?

5 - Excellent    4 - Very Good    3 - Good    2 - Average    1 - Poor

**(Figure: 3.2.7 Course Exit Survey)**

Based on Course Exit survey data received from student the co-relation has been established weightage between 1 to 3 as per need for calculating attainment of CO. So, we have established a co-relation for the values Excellent, Very Good, Good, Average and Poor with 3, 2.5, 2, 1.5 & 1 according. The received data from the student is compiled as shown in figure and average of COs used for final attainment calculation.

GOVERNMENT POLYTECHNIC GANDHINAGAR											
Term Date:	15-03-2023		TO	24-06-2023							
Programme :	Diploma in Electronics and Communication										
Semester :	4										
Academic Year :	Mar 2023 TO Jun 2023										
Course Code and Name :	4341102	Digital Communication									
Course Coordinator :											
Faculty Members Involved :											
No of Students in Class :	6.00										
CO ATTAINMENT			2.50	2.25	2.25	2.50					
Sr. No			C243.1	C243.2	C243.3	C243.4					
1	216230311007	THAKUR UTTAM KAVINDRA	3	2.5	1.5	2					
2	216230311001	SHARMA KETAN UMESHBHAI	2.5	2.5	3	1.5					
3	216230311002	KESHVALA KETAN UKABHAI	2	1.5	2	2.5					
4	216230311003	PATEL DAKSHKUMAR HARESHBHAI	2.5	1.5	2	3					
5	216230311004	PANDYA HARSH HIMANSHUBHAI	3	3	2.5	3					
6	216230311005	Ansari Anas Mo Ilyas	2	2.5	2.5	2.5					

**(Figure 3.2.8: Sample summary sheet of all Indirect COs attainment for Digital Communication)**

### **Step 8: Determine the overall attainment level of the course.**

80 % weightage is given to direct assessment and 20 % to indirect assessment for overall CO

Calculation.

For Example:

Direct Attainment Value of C243.1 = 2

Indirect Attainment Value of C243.1 = 2.50

Overall Attainment level of C243.1 =  $(2 \times 0.8) + (2.50 \times 0.2) = 2.10$

Final overall attainment level of each COs for Digital Communication is calculated as shown in table 3.2.1.4.

	C243.1	C243.2	C243.3	C243.4	C243.5
Direct COs Attainment	2	2	2	2	2
Indirect COs Attainment	2.50	2.25	2.25	2.50	2.25
Final COs Attainment (80% of Direct Attainment + 20% of Indirect Attainment)	2.10	2.05	2.05	2.10	2.05

**(Table 3.2.1.8: Overall Attainment Level Calculation for Digital Communication)**

### **3.2.2 Record the attainment of Course Outcomes of all courses with respect to set attainment levels (30)**

Sr. No.	Sem	Course Code	Course Name	CO1	CO2	CO3	CO4	CO5	Average CO
1	1	C111	Basic Mathematics	1.15	1.14	1.11	1.10	1.09	1.12
2		C112	English	2.27	2.28	2.33	-	-	2.29
3		C113	Basic Physics	2.66	2.51	2.65	2.49	2.62	2.59
4		C114	Electronic Components & Practice	2.72	2.71	2.73	2.70	2.70	2.71
5		C115	Basic Of Electrical Engineering	2.62	2.60	2.58	2.60	2.57	2.59
6		C116	Basic Of Computer & Information Technology	2.77	2.88	2.81	2.87	-	2.83

Sr. No.	Sem	Course Code	Course Name	CO1	CO2	CO3	CO4	CO5	Average CO
7	2	C121	Contributor Personality Development	1.61	1.66	1.62	-	-	1.63
8		C122	Advanced Mathematics (Group-1)	2.24	2.24	2.14	2.24	2.29	2.23
9		C123	Environment Conservation & Hazard Management	2.37	2.29	2.46	2.39	-	2.38
10		C124	Electronic Circuits & Applications	2.72	2.69	2.65	2.68	2.63	2.68
11		C125	Electronic Networks	2.73	2.68	2.65	2.69	-	2.69
12		C126	Electronics Workshop	2.60	2.61	2.62	2.60	2.56	2.60
13	3	C231	Antenna & Wave Propagation	1.53	1.46	1.53	1.49	1.48	1.50
14		C232	Analog Electronics	1.67	1.76	1.67	1.70	1.66	1.69
15		C233	Principle Of Electronic Communication	1.48	1.44	1.55	1.53	1.55	1.51
16		C234	Digital Logic Design	1.52	1.46	1.55	1.47	1.48	1.50
17		C235	Programming In C	1.74	1.67	1.69	1.69	1.66	1.69
18	4	C241	Microprocessor And Assembly Language Programming	2.02	1.91	1.98	2.02	1.98	1.98
19		C242	Digital Communication	2.05	2.15	2.12	2.10	2.09	2.10
20		C243	Optical Communication	1.90	1.89	1.86	1.95	1.90	1.90
21		C244	Electronics Instruments And Measurement	2.05	2.04	2.05	2.07	1.99	2.04
22		C245	Industrial Electronics	1.82	1.80	1.81	1.82	1.77	1.80
23		C246	Circuit Design Tools	2.64	2.59	2.64	2.60	2.63	2.62
24	5	C351	Microcontroller	2.71	2.68	2.76	2.78	2.66	2.72
25		C352	Mobile Communication	2.15	2.17	2.24	2.12	2.15	2.17
26		C353	Microwave & Radar	1.88	2.03	2.00	2.08	1.98	2.00

Sr. No.	Sem	Course Code	Course Name	CO1	CO2	CO3	CO4	CO5	Average CO
	6		Engineering						
27		C354	Software Practices	2.66	2.71	2.75	2.83	2.73	2.74
28		C355	Computer Networks	2.28	2.30	2.31	2.30	2.35	2.31
29		C356	Project-I	2.80	2.92	2.90	2.90	2.92	2.89
30		C361	Entrepreneurship And Industrial Management	1.82	1.79	1.67	1.82	1.80	1.78
31		C362	Consumer Electronics	2.50	2.33	2.52	2.50	2.42	2.45
32	6	C363	Maintenance Of Electronics Equipment	2.70	2.73	2.75	2.78	2.78	2.75
33		C364	VLSI	2.02	2.05	2.03	2.03	2.07	2.04
34		C365	Embedded System	2.60	2.59	2.59	2.60	2.55	2.59
35		C366	Project - II	2.48	2.42	2.38	2.40	2.48	2.43

(Table 3.2.2.1 Attainment of Course outcome of Batch 2020-2023)

Sr. No.	Sem	Course Code	Course Name	CO1	CO2	CO3	CO4	CO5	CO6	Average CO
1	1	C111	Mathematics	0.96	0.97	0.99	0.88	0.96	-	0.95
2		C112	Communication Skills in English	2.15	2.25	2.22	2.24	1.85	-	2.14
3		C113	Physics	1.65	1.59	1.64	1.43	1.41	-	1.55
4		C114	Basics of Information and Communication Technology	2.14	2.23	2.19	2.22	1.77	-	2.11
5		C115	Sports and Yoga	-	-	-	-	-	-	-
6		C116	Fundamentals of Electrical Engineering	1.42	1.40	1.36	1.38	-	-	1.39
7		C117	Fundamentals of Electronics	1.33	1.31	1.28	1.29	1.28	-	1.30
8	2	C121	Environment and	1.23	1.28	1.30	1.23	1.29	-	1.27

Sr. No.	Sem	Course Code	Course Name	CO1	CO2	CO3	CO4	CO5	CO6	Average CO
	9		Sustainability							
9		C122	Engineering Drawing and Computer Aided Design	2.29	2.30	2.30	2.29	-	-	2.29
10		C123	Indian Constitution	-	-	-	-	-	-	-
11		C124	Engineering Mathematics	0.77	0.73	0.70	0.72	0.67	-	0.72
12		C125	Electronics Workshop	2.46	2.47	2.51	2.46	2.45	-	2.47
13		C126	Digital Electronics	1.61	1.62	1.66	1.59	1.63	-	1.62
14		C127	Electronic Circuits & Applications	1.50	1.54	1.42	1.52	1.50	-	1.50
15	3	C231	Summer Internship-I	2.70	2.65	2.72	2.64	2.65	-	2.67
16		C232	Electronic Circuits & Networks	1.59	1.70	1.61	1.64	1.58	-	1.62
17		C233	Electronic Measurements & Instruments	1.40	1.36	1.48	1.45	1.47	-	1.43
18		C234	Industrial Electronics	1.61	1.56	1.65	1.60	1.61	2.87	1.82
19		C235	Principle of Electronic Communication	1.61	1.55	1.56	1.57	1.53	-	1.56
20		C236	Programming In C	1.69	1.66	1.69	1.69	1.69	-	1.68
21	4	C241	Contributor Personality Development	2.88	2.83	2.88	2.87	2.92	2.93	2.89
22		C242	Microprocessor & Microcontroller	2.61	2.71	2.75	2.71	2.68	-	2.69
23		C243	Digital Communication	2.10	2.05	2.05	2.10	2.05	-	2.07
24		C244	Fiber Optics Communication	2.19	2.20	2.20	2.24	2.14	-	2.19
25		C245	Circuit Design Tools	2.68	2.66	2.73	2.71	-	-	2.70
26		C246	Linear Integrated Circuit(Analog Electronics)	2.57	2.60	2.55	2.52	2.57	-	2.56

Sr. No.	Sem	Course Code	Course Name	CO1	CO2	CO3	CO4	CO5	CO6	Average CO
27	5	C247	Antenna & Wave Propagation	2.59	2.55	2.55	2.57	2.60	-	2.57
28		C351	Entrepreneurship and Start-ups	1.86	1.84	1.92	1.94	1.84	-	1.88
29		C352	Embedded System	2.18	2.22	2.28	2.16	2.18	-	2.20
30		C353	Microwave and Radar Communication	2.84	2.82	2.82	2.92	2.80	-	2.84
31		C354	Mobile & Wireless Communication	2.66	2.70	2.74	2.80	2.68	-	2.72
32		C355	Software Practices	2.80	2.80	2.82	2.82	2.90	-	2.83
33		C356	Summer Internship-II	2.88	2.80	2.76	2.92	2.80	-	2.83
34		C357	Electronics and Communication Engineering Project-I	2.84	2.84	2.84	2.82	2.90	-	2.85
35		C358	OOPS & Python Programming	1.34	1.46	1.44	1.48	-	-	1.43
36	6	C361	Computer Networks & Data Communication	2.58	2.50	2.42	2.56	2.52	-	2.52
37		C362	VLSI	2.46	2.26	2.44	2.42	2.36	-	2.39
38		C363	Electronics & Communication Engineering Project-II	2.86	2.84	2.92	2.94	2.92	-	2.90
39		C364	Android App Development	2.84	2.88	2.86	2.86	2.86	-	2.86
40		C365	Renewable Energy & Emerging Trends in Electronics	2.08	2.08	2.06	2.06	-	-	2.07

(Table 3.2.2.2 Attainment of Course outcome of Batch 2021-2024)

Sr. No.	Sem	Course Code	Course Name	CO1	CO2	CO3	CO4	CO5	CO6	Average CO
1	1	C111	Mathematics	1.37	1.34	1.44	1.37	1.33	-	1.37
2		C112	Communication Skills in	1.94	1.86	1.85	1.85	2.14	-	1.93

Sr. No.	Sem	Course Code	Course Name	CO1	CO2	CO3	CO4	CO5	CO6	Average CO
	3		English							
3		C113	Physics	1.21	1.21	1.15	1.21	1.20	-	1.19
4		C114	Basics of Information and Communication Technology	2.08	2.03	2.12	2.02	1.60	-	1.97
5		C115	Sports and Yoga	-	-	-	-	-	-	-
6		C116	Fundamentals of Electrical Engineering	1.73	1.81	1.77	1.74	-	-	1.77
7		C117	Fundamentals of Electronics	1.50	1.50	1.45	1.42	1.45	-	1.46
8		C121	Environment and Sustainability	1.22	1.22	1.22	1.25	1.25	-	1.23
9	2	C122	Engineering Drawing and Computer Aided Design	1.01	1.01	1.04	0.97	-	-	1.01
10		C123	Indian Constitution	-	-	-	-	-	-	-
11		C124	Engineering Mathematics	0.91	0.88	0.86	0.92	0.90	-	0.89
12		C125	Electronics Workshop	1.66	1.66	1.68	1.61	1.69	-	1.66
13		C126	Digital Electronics	1.19	1.16	1.17	1.22	1.14	-	1.17
14		C127	Electronic Circuits & Applications	1.28	1.26	1.22	1.26	1.23	-	1.25
15		C231	Summer Internship-I	2.29	2.28	2.33	2.34	2.30	-	2.31
16	3	C232	Electronic Circuits & Networks	1.87	1.90	1.89	1.91	1.88	-	1.89
17		C233	Electronic Measurements & Instruments	2.15	2.14	2.12	2.15	2.19	-	2.15
18		C234	Industrial Electronics	1.85	1.97	1.88	1.87	1.85	2.87	2.05
19		C235	Principle of Electronic Communication	1.90	2.09	2.13	2.05	1.95	-	2.02
20		C236	Programming In C	1.90	1.86	1.89	1.88	1.91	-	1.89
21		C241	Contributor Personality Development	2.87	2.89	2.87	2.81	2.86	2.84	2.86
22	4	C242	Microprocessor & Microcontroller	2.53	2.56	2.56	2.50	2.48	-	2.52
23		C243	Digital Communication	2.75	2.76	2.75	2.73	2.80	-	2.76
24		C244	Fiber Optics Communication	1.85	1.85	1.80	1.93	1.93	-	1.87

Sr. No.	Sem	Course Code	Course Name	CO1	CO2	CO3	CO4	CO5	CO6	Average CO
25	5	C245	Circuit Design Tools	2.86	2.83	2.89	2.83	-	-	2.85
26		C246	Linear Integrated Circuit(Analog Electronics)	2.29	2.20	2.29	2.30	2.27	-	2.27
27		C247	Antenna & Wave Propagation	2.60	2.55	2.58	2.57	2.64	-	2.59
28		C351	Entrepreneurship and Start-ups	1.90	1.92	1.93	1.99	1.90	-	1.93
29		C352	Embedded System	2.73	2.75	2.76	2.79	2.72	-	2.75
30		C353	Microwave and Radar Communication	2.68	2.65	2.68	2.60	2.71	-	2.67
31		C354	Mobile & Wireless Communication	2.33	2.22	2.29	2.23	2.30	-	2.27
32		C355	Software Practices	2.73	2.77	2.77	2.73	2.72	-	2.75
33	6	C356	Summer Internship-II	2.94	2.83	2.91	2.86	2.86	-	2.88
34		C357	Electronics and Communication Engineering Project-I	2.77	2.89	2.87	2.84	2.89	-	2.85
35		C358	OOPS & Python Programming	1.46	1.45	1.24	1.24	-	-	1.35
36		C361	Computer Networks & Data Communication	2.54	2.53	2.51	2.50	2.47	-	2.51
37		C362	VLSI	2.57	2.60	2.63	2.67	2.61	-	2.61
38		C363	Electronics & Communication Engineering Project-II	2.84	2.83	2.84	2.86	2.84	-	2.84
39		C364	Android App Development	2.76	2.90	2.83	2.83	2.83	-	2.83
40		C365	Renewable Energy & Emerging Trends in Electronics	2.89	2.93	2.79	2.81	-	-	2.85

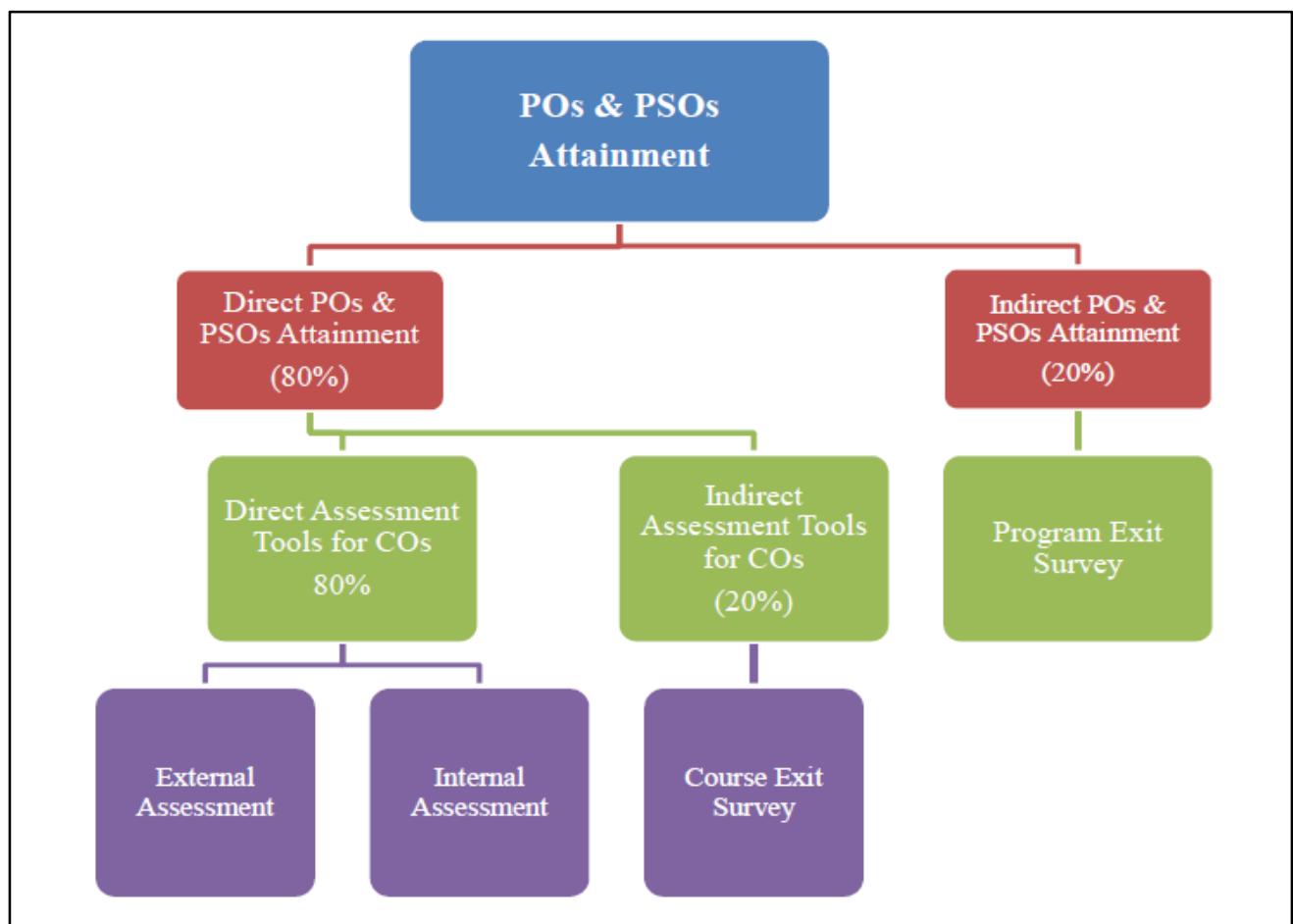
(Table 3.2.2.3 Attainment of Course outcome of Batch 2022-2025)

### 3.3 Attainment of Program Outcomes & Program Specific Outcomes (40)

Program Outcomes (POs) represent the knowledge, skills and attitudes the students should have at the end of a three year diploma program in India.

Program Specific Outcomes are statements that describe what the graduates of a specific engineering program should be able to do.

#### 3.3.1. Describe assessment tools and processes used for assessing the attainment of each POs and PSOs as mentioned in Annexure 1 (10)



(Fig. 3.3.1.1 Structure for POs & PSOs Attainment)

The assessment tools and processes used for measuring the attainment of each of the Program Outcomes and Program Specific Outcomes consist of direct and indirect attainment. For direct attainment process of POs consists of two tools i.e. direct assessment tool and indirect assessment tool for COs. The direct assessment tool consists of Internal and External assessment of the student as mentioned in above figure. The indirect assessment of COs is carried out by course exit survey.

##### Direct POs & PSOs Attainment:

Each COs of a particular course is mapped with the POs and PSOs with attainment level 1, 2, and 3. The value of particular COs attainment and COs POs PSOs mapping is used to derive the attainment of particular POs and PSOs using the below equation.

$$POs \& PSOs Direct Attainment = \frac{COs - POs - PSOs Mapping Value \times COs Attainment}{3}$$

Likewise, attainment of all POs and PSOs with respect to all COs are derived and tabulated in COs-POs-PSOs attainment matrix.

The last row of COs-POs-PSOs attainment matrix indicates weighted average of all COs attainment for particular POs and PSOs, which in turns, represents POs and PSOs attainment for a particular course. A sample COs-POs-PSOs attainment matrix is given below. It represents the contribution of the respective course in direct attainment of POs and PSOs.

#### GOVERNMENT POLYTECHNIC GANDHINAGAR

Term Date:	15-03-2023	TO	24-06-2023
Programme :	Diploma in Electronics and Communication		
Semester :	4		
Academic Year :	Mar 2023 TO Jun 2023		
Course Code and Name :	4341102 Digital Communication		
Course Coordinator :			
Faculty Members Involved :			
No of Students in Class :	6.00		

CO	AVERAGE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
C243.1	2.10	3	2	1	3	2	2	2	2	2
		2.1	1.4	0.7	2.1	1.4	1.4	1.4	1.4	1.4
C243.2	2.05	3	1	2	2	1	1	3	2	-
		2.1	0.7	1.4	1.4	0.7	0.7	2.1	1.4	-
C243.3	2.05	3	2	2	2	1	2	2	2	3
		2.1	1.4	1.4	1.4	0.7	1.4	1.4	1.4	2.1
C243.4	2.10	3	1	1	2	2	2	3	3	2
		2.1	0.7	0.7	1.4	1.4	1.4	2.1	2.1	1.4
C243.5	2.05	3.0	1.0	1.0	3.0	2.0	2.0	3.0	3.0	2.0
		2.1	0.7	0.7	2.1	1.4	1.4	2.1	2.1	1.4
	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
<b>Attainment</b>	<b>2.07</b>	<b>0.97</b>	<b>0.96</b>	<b>1.66</b>	<b>1.11</b>	<b>1.24</b>	<b>1.79</b>	<b>1.66</b>	<b>1.55</b>	

**(Figure 3.3.1.2: Sample Cos-POs/PSOs Direct Attainment of Course Digital Communication)**  
 Course attainment value for each POs and PSOs is then tabulated for all the courses of the program to measure the direct attainment value for POs and PSOs. Average of all course POs & PSOs is considered as direct attainment of POs & PSOs which further used for overall POs & PSOs attainment calculation.

#### Indirect POs & PSOs Attainment:

Indirect assessment includes program exit survey. These are based on a questionnaire which directly resembles with POs and PSOs. It is taken from passed out students from each batch through hard copy. The format of program exit survey is shown in Figure 3.3.1.3.



**Government Polytechnic, Gandhinagar**  
**Electronics and Communication Department**  
**Program Exit Survey**



Enrollment Number: \_\_\_\_\_

Date: \_\_\_ / \_\_\_ / \_\_\_

- 1) PO1-Are you able to apply knowledge of basic mathematics, science and engineering fundamentals and engineering specialization to solve the engineering problems?  
1.Excellent      2.Very Good      3.Good      4.Average      5.Poor
- 2) PO2 - Are you able to identify and analyse well-defined engineering problems using codified standard methods?  
1.Excellent      2.Very Good      3.Good      4.Average      5.Poor
- 3) PO3 - Are you able to design solutions for well-defined technical problems and assist with the design of systems components or processes to meet specified needs?  
1.Excellent      2.Very Good      3.Good      4.Average      5.Poor
- 4) PO4 - Are you able to apply modern engineering tools and appropriate technique to conduct standard tests and measurements?  
1.Excellent      2.Very Good      3.Good      4.Average      5.Poor
- 5) PO5 - Are you able to apply appropriate technology in context of society, sustainability, environment and ethical practices?  
1.Excellent      2.Very Good      3.Good      4.Average      5.Poor
- 6) PO6 - Are you able to use engineering management principles individually, as a team member or a leader to manage projects and effectively communicate about well-defined engineering activities?  
1.Excellent      2.Very Good      3.Good      4.Average      5.Poor
- 7) PO7 - Are you able to analyze individual needs and engage in updating in the context of technological changes (i.e. Life Long Learning)?  
1.Excellent      2.Very Good      3.Good      4.Average      5.Poor
- 8) PSO1 - Are you able to develop proficiency in Installation, maintenance and troubleshooting of electronics and communication systems.?  
1.Excellent      2.Very Good      3.Good      4.Average      5.Poor
- 9) PSO2 - Are you able to customized solution of real life problems using hardware and software.?  
1.Excellent      2.Very Good      3.Good      4.Average      5.Poor

**(Figure 3.3.1.3: Sample of Program Exit Survey Form)**

The responses are analyzed and transformed into Weightage of 1 to 3 as per need for calculating attainment of POs & PSOs. So, we have established a co-relation for the values Excellent, Very Good, Good, Average and Poor with 3, 2.5, 2, 1.5 & 1 accordingly. From the response we make summary sheet which are shown in figure 3.3.1.4. Average of each POs & PSOs is taken for overall attainment of POs & PSOs calculation.

## Government Polytechnic, Gandhinagar

### Program Exit Survey Batch-2021-24

Enrollment Number	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
216230311007	3	3	3	3	3	3	3	3	3
216230311005	3	3	2.5	2.5	2	2.5	2	2	2.5
216230311002	2.5	3	2	3	2.5	2	3	3	3
216230311003	2	3	3	3	3	2.5	3	3	2
216230311004	2.5	3	3	3	3	3	3	2.5	3

**(Figure 3.3.1.4: Sample Summary Sheet of Indirect POs & PSOs Attainment for Batch 2021-24)**

#### Overall attainment of POs and PSOs:

The overall attainment for each POs and PSOs is derived as per weightage of direct and indirect assessment. To measure the attainment of POs and PSOs, direct assessment has 80% weightage and indirect assessment has 20% weightage. Following illustrative table gives an insight of evaluating the weightage of direct and indirect attainment in measuring overall attainment of POs and PSOs.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
Direct Attainment of POs/PSOs	1.86	1.35	1.40	1.47	1.23	1.27	1.41	1.75	1.70
Indirect Attainment of POs/PSOs	2.60	3.00	2.70	2.90	2.70	2.60	2.80	2.70	2.70
Final Attainment of POs/PSOs (80% Direct + 20% Indirect)	2.01	1.68	1.66	1.76	1.52	1.54	1.69	1.94	1.90

**(Table 3.3.1.1: Sample Overall attainment of POs and PSOs For Batch 2021-2024)**

#### 3.3.2 Provide results of evaluation of each PO & PSO (30)

COURSE CODE	Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
4300001	C111	1.37	0.57	0.46	-	-	-	0.46	-	-
4300002	C112	1.13	-	-	-	-	1.30	1.16	-	-

COURSE CODE	Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
4300005	C113	1.19	0.40	0.40	0.80	0.39	-	0.40	-	-
4300010	C114	1.84	1.32	1.31	1.35	0.83	1.31	1.56	1.56	1.56
4300015	C115	-	-	-	-	-	-	-	-	-
4311101	C116	1.77	1.18	-	0.59	1.74	0.59	1.18	1.03	0.88
4311102	C117	1.46	0.59	0.78	1.08	0.81	0.62	0.49	0.97	0.97
4300003	C121	0.82	0.74	0.66	0.41	0.74	0.51	0.57	0.82	0.82
4300012	C122	1.01	0.51	0.92	0.84	0.68	0.67	0.67	0.67	0.75
4300016	C123	-	-	-	-	-	-	-	-	-
4320002	C124	0.89	0.30	0.30	-	-	-	0.30	-	-
4321101	C125	1.44	1.22	1.33	1.55	0.88	0.78	1.22	1.44	1.44
4321102	C126	1.17	0.71	0.70	0.70	0.76	0.70	0.47	0.98	1.10
4321103	C127	1.25	0.92	1.00	1.01	0.62	1.17	0.67	0.92	1.09
4330001	C231	1.08	0.77	1.16	0.92	0.77	0.77	0.77	2.31	2.15
4331101	C232	1.89	1.76	1.64	1.39	1.01	1.13	1.39	1.26	1.58
4331102	C233	2.15	1.44	1.80	2.01	1.43	0.72	0.86	2.01	1.72
4331103	C234	2.05	1.20	1.20	1.42	1.27	1.58	0.90	1.94	1.68
4331104	C235	1.89	1.35	1.08	1.49	1.09	0.70	1.77	1.77	1.50

COURSE CODE	Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
4331105	C236	1.63	1.42	1.26	1.51	1.01	1.01	1.39	1.26	1.90
4340002	C241	-	0.96	0.96	-	-	0.95	1.43	-	-
4341101	C242	2.52	1.68	1.85	1.85	0.84	1.85	2.02	1.52	2.01
4341102	C243	2.76	1.28	1.29	2.21	1.47	1.65	2.39	2.21	2.07
4341103	C244	1.87	1.12	0.99	1.49	1.03	0.93	1.38	1.87	1.37
4341104	C245	2.38	2.54	2.54	2.85	1.57	0.95	1.19	2.61	2.85
4341105	C246	2.27	1.97	1.82	1.67	1.51	2.12	1.82	1.97	2.12
4341106	C247	2.59	2.42	2.25	1.90	1.38	1.56	1.90	2.24	2.37
4300021	C351	1.80	1.29	1.16	0.81	0.81	1.54	1.67	1.30	0.65
4351102	C352	2.75	2.20	1.83	1.83	1.52	2.02	2.20	1.83	2.56
4351103	C353	1.95	1.42	1.95	1.77	1.78	1.76	1.60	2.13	1.96
4351104	C354	2.13	1.51	1.36	1.52	1.21	1.52	1.82	1.97	1.67
4351105	C355	2.75	2.01	1.82	2.19	0.91	1.22	2.75	1.83	0.92
4351106	C356	1.54	1.92	1.73	1.15	2.11	1.54	1.92	2.88	1.92
4351107	C357	2.85	1.90	1.33	1.52	1.71	1.33	2.85	2.85	2.67
4351108	C358	1.02	0.92	0.88	0.78	-	0.57	1.12	0.83	0.90
4361101	C361	2.51	1.84	1.51	1.34	1.17	1.84	2.34	1.34	2.34

COURSE CODE	Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
4361102	C362	2.27	2.09	1.75	1.92	2.34	2.05	1.92	1.74	1.74
4361103	C363	2.84	0.95	2.21	1.70	1.89	1.90	1.90	2.84	2.28
4361104	C364	2.08	2.26	2.83	2.26	1.51	1.32	0.94	1.91	2.26
4361106	C365	2.23	1.95	1.87	1.90	1.90	1.90	2.52	2.81	2.23
Direct Attainment of POs/PSOs		<b>1.87</b>	<b>1.37</b>	<b>1.39</b>	<b>1.46</b>	<b>1.23</b>	<b>1.26</b>	<b>1.42</b>	<b>1.75</b>	<b>1.70</b>
Indirect Attainment of POs/PSOs		<b>2.64</b>	<b>2.86</b>	<b>2.71</b>	<b>2.79</b>	<b>2.50</b>	<b>2.57</b>	<b>2.79</b>	<b>2.64</b>	<b>2.79</b>
Final Attainment of POs/PSOs (80% Direct + 20% Indirect)		<b>2.02</b>	<b>1.67</b>	<b>1.65</b>	<b>1.73</b>	<b>1.49</b>	<b>1.52</b>	<b>1.69</b>	<b>1.93</b>	<b>1.92</b>

(Table 3.3.1.2 POs and PSOs attainment for the Entry Year Batch 2022-25)

COURSE CODE	Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
4300001	C111	0.95	0.40	0.32	-	-	-	0.33	-	-
4300002	C112	1.24	-	-	-	-	1.41	1.28	-	-
4300005	C113	1.55	0.53	0.52	1.03	0.50	-	0.52	-	-
4300010	C114	1.96	1.40	1.41	1.43	0.87	1.41	1.67	1.67	1.67

<b>COURSE CODE</b>	<b>Code</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PSO1</b>	<b>PSO2</b>
4300015	C115	-	-	-	-	-	-	-	-	-
4311101	C116	1.39	0.94	-	0.46	1.38	0.46	0.93	0.81	0.69
4311102	C117	1.30	0.52	0.69	0.95	0.71	0.54	0.43	0.86	0.86
4300003	C121	0.84	0.76	0.68	0.43	0.76	0.53	0.59	0.84	0.84
4300012	C122	2.29	1.15	2.10	1.91	1.53	1.53	1.53	1.53	1.72
4300016	C123	-	-	-	-	-	-	-	-	-
4320002	C124	0.72	0.24	0.24	-	-	-	0.25	-	-
4321101	C125	2.14	1.81	1.98	2.31	1.31	1.15	1.81	2.14	2.14
4321102	C126	1.62	0.97	0.97	0.97	1.09	0.97	0.65	1.35	1.51
4321103	C127	1.50	1.10	1.20	1.20	0.75	1.40	0.80	1.10	1.30
4330001	C231	1.25	0.89	1.34	1.07	0.89	0.89	0.89	2.67	2.50
4331101	C232	1.62	1.52	1.40	1.19	0.86	0.97	1.20	1.09	1.36
4331102	C233	1.43	0.95	1.19	1.34	0.94	0.48	0.57	1.33	1.14
4331103	C234	1.82	1.05	1.05	1.23	1.15	1.39	0.78	1.73	1.48
4331104	C235	1.46	1.04	0.84	1.15	0.83	0.52	1.35	1.35	1.14
4331105	C236	1.46	1.27	1.13	1.35	0.90	0.90	1.24	1.12	1.69
4340002	C241	-	0.95	0.95	-	-	0.98	1.44	-	-

<b>COURSE CODE</b>	<b>Code</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PSO1</b>	<b>PSO2</b>
4341101	C242	2.69	1.79	1.97	1.98	0.88	1.97	2.16	1.62	2.15
4341102	C243	2.07	0.97	0.96	1.66	1.11	1.24	1.79	1.66	1.55
4341103	C244	2.19	1.31	1.17	1.75	1.22	1.09	1.60	2.19	1.61
4341104	C245	2.25	2.40	2.39	2.70	1.50	0.90	1.13	2.47	2.70
4341105	C246	2.56	2.22	2.05	1.88	1.71	2.39	2.05	2.22	2.39
4341106	C247	2.57	2.40	2.23	1.89	1.37	1.54	1.89	2.23	2.36
4300021	C351	1.75	1.25	1.13	0.79	0.79	1.50	1.63	1.26	0.63
4351102	C352	2.20	1.76	1.47	1.47	1.21	1.61	1.76	1.45	2.06
4351103	C353	2.09	1.51	2.09	1.89	1.88	1.91	1.71	2.28	2.08
4351104	C354	2.53	1.82	1.63	1.81	1.45	1.81	2.17	2.35	1.99
4351105	C355	2.83	2.08	1.89	2.27	0.95	1.26	2.83	1.89	0.94
4351106	C356	1.51	1.89	1.70	1.13	2.07	1.51	1.88	2.83	1.89
4351107	C357	2.85	1.89	1.33	1.52	1.71	1.33	2.85	2.85	2.66
4351108	C358	1.07	0.96	0.96	0.84	-	0.60	1.20	0.96	0.95
4361101	C361	2.52	1.85	1.51	1.33	1.18	1.85	2.34	1.34	2.35
4361102	C362	2.08	1.90	1.60	1.75	2.14	1.87	1.75	1.59	1.59
4361103	C363	2.85	0.95	2.23	1.73	1.92	1.96	1.94	2.90	2.32

COURSE CODE	Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
4361104	C364	2.10	2.29	2.86	2.29	1.53	1.33	0.95	1.91	2.29
4361106	C365	1.61	1.39	1.37	1.38	1.38	1.38	1.84	2.06	1.61
Direct Attainment of POs/PSOs		<b>1.86</b>	<b>1.35</b>	<b>1.40</b>	<b>1.47</b>	<b>1.23</b>	<b>1.27</b>	<b>1.41</b>	<b>1.75</b>	<b>1.70</b>
Indirect Attainment of POs/PSOs		<b>2.60</b>	<b>3.00</b>	<b>2.70</b>	<b>2.90</b>	<b>2.70</b>	<b>2.60</b>	<b>2.80</b>	<b>2.70</b>	<b>2.70</b>
Final Attainment of POs/PSOs (80% Direct + 20% Indirect)		<b>2.01</b>	<b>1.68</b>	<b>1.66</b>	<b>1.76</b>	<b>1.52</b>	<b>1.54</b>	<b>1.69</b>	<b>1.94</b>	<b>1.90</b>

**(Table 3.3.1.3 POs and PSOs attainment for the Entry Year Batch 2021-24)**

COURSE CODE	Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
3300001	C111	1.04	0.45	0.74	-	-	-	0.37	-	-
3300002	C112	0.76	-	1.55	-	-	0.77	0.76	-	-
3300005	C113	2.59	0.86	0.88	1.72	0.86	-	-	-	-
3311101	C114	2.17	1.63	1.63	2.53	1.81	1.82	1.63	1.09	1.27
3320901	C115	2.59	1.21	0.86	2.08	1.71	0.87	1.38	1.90	2.59
3300013	C116	2.60	1.90	1.91	2.85	1.90	-	2.53	-	1.42
3990001	C121	0.54	-	1.08	-	-	0.55	1.45	-	-
3320002	C122	2.08	0.89	1.49	-	-	-	0.74	-	-

COURSE CODE	Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
3300003	C123	2.35	-	2.46	-	1.86	-	1.58	-	-
3321101	C124	2.68	2.24	1.60	2.23	1.78	1.75	1.77	1.96	2.32
3321102	C125	2.69	2.46	2.23	1.79	1.34	1.76	2.02	2.23	2.46
3321103	C126	2.60	1.56	1.95	2.37	2.59	1.72	2.15	2.08	1.91
3331101	C231	1.10	1.24	1.00	1.40	1.37	0.99	1.37	1.30	1.37
3331102	C232	1.69	1.26	0.93	1.47	1.30	1.10	1.26	1.47	1.58
3331103	C233	1.41	0.87	0.74	1.26	1.01	1.03	1.26	1.21	1.11
3331104	C234	1.50	1.37	0.79	1.37	0.87	0.49	1.00	1.37	1.39
3331105	C235	1.46	1.27	1.12	1.35	0.90	1.10	1.24	1.13	1.36
3341101	C241	1.98	1.81	1.32	1.81	1.48	1.32	1.48	1.32	1.48
3341102	C242	2.10	1.40	1.04	1.86	1.39	1.39	1.75	1.68	1.57
3341103	C243	1.90	1.40	1.42	1.43	1.27	0.96	1.43	1.77	1.65
3341104	C244	2.04	1.20	1.60	1.77	1.35	1.33	1.77	1.90	1.63
3341105	C245	1.80	1.21	1.20	1.56	1.32	-	1.56	1.68	1.44
3341106	C246	2.62	1.92	2.62	2.27	2.10	2.18	1.58	2.45	2.62
3351101	C351	2.36	1.82	2.18	2.43	1.63	2.26	2.50	2.18	2.18
3351102	C352	1.74	1.64	1.70	1.45	1.46	1.08	1.44	1.59	1.45
3351103	C353	1.46	1.06	1.47	1.33	1.31	1.36	1.20	1.33	1.47
3351104	C354	2.55	1.84	2.76	2.74	1.60	1.82	2.03	2.37	2.74
3351105	C355	1.38	1.34	1.16	1.74	1.15	-	1.39	1.69	1.28
3351107	C356	2.69	2.43	2.90	2.90	2.55	2.89	2.89	2.88	2.69
3361101	C361	1.78	1.19	0.59	0.59	1.21	1.16	1.78	1.30	1.19

COURSE CODE	Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
3361102	C362	2.45	1.31	1.96	1.78	1.64	-	2.12	2.29	1.96
3361103	C363	2.75	1.47	1.47	2.38	1.65	-	2.75	2.75	2.20
3361104	C364	2.04	1.63	1.77	1.23	1.36	-	1.36	1.23	1.63
3361105	C365	2.59	1.72	1.89	2.15	1.72	1.89	2.41	2.41	2.07
3361109	C366	2.43	1.45	1.95	2.22	2.22	1.78	2.43	2.10	2.43
Direct Attainment of POs/PSOs		<b>2.01</b>	<b>1.47</b>	<b>1.54</b>	<b>1.87</b>	<b>1.54</b>	<b>1.42</b>	<b>1.66</b>	<b>1.81</b>	<b>1.81</b>
Indirect Attainment of POs/PSOs		<b>1.92</b>	<b>2.58</b>	<b>2.33</b>	<b>2.08</b>	<b>2.33</b>	<b>2.17</b>	<b>2.25</b>	<b>2.67</b>	<b>2.48</b>
Final Attainment of POs/PSOs (80% Direct + 20% Indirect)		<b>2.00</b>	<b>1.69</b>	<b>1.70</b>	<b>1.91</b>	<b>1.70</b>	<b>1.57</b>	<b>1.78</b>	<b>1.98</b>	<b>1.94</b>

(Table 3.3.1.4 POs and PSOs attainment for the Entry Year Batch 2020-23)

**Intake Information: ENROLLED DATA SHEET**  
**TABLE 4.1**

Item	CAY 2024-25	CAYm1 2023-24	CAYm2 2022-23	CAYm3 2021-22	CAYm4 2020-21	CAYm5 2019-20
Sanctioned intake strength of the program (N)	30	30	30	30	30	180
Total number of students admitted through state-level counselling (N1)	21	24	14	19	17	31
Number of students admitted through Institute level quota (N2)	00	00	00	00	00	00
Number of students admitted through lateral entry (N3)	00	05	03	03	01	01
Total number of students admitted in the Program (N1 + N2 + N3)	21	29	17	22	18	32

CAY – Current Academic Year

CAYm1 - Current Academic Year minus1= Current Assessment Year

CAYm2 - Current Academic Year minus2=Current Assessment Year minus 1

CAYm3 - Current Academic Year minus3=Current Assessment Year minus 2

CAYm4 - Current Academic Year minus4=Current Assessment Year minus 3

CAYm5 - Current Academic Year minus5=Current Assessment Year minus 4

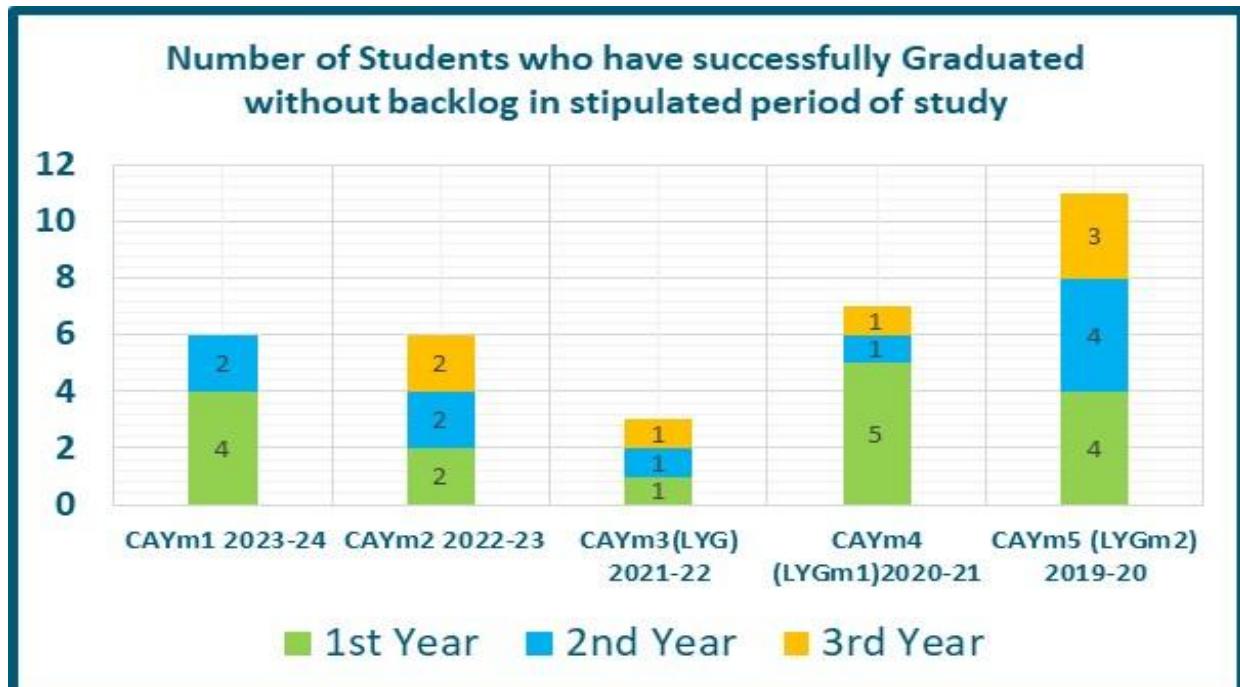
**TABLE 4.2**

<b>Year of entry</b>	<b>N1 + N2 + N3 (As defined above)</b>	<b>Number of students who have successfully graduated without backlogs in any semester/year of study</b>		
		I Year	II Year	III Year
CAY 2024-25	21			
CAYm1 2023-24	29	04	02	
CAYm2 2022-23	17	02	02	02
CAYm3(LYG) 2021-22	22	01	01	01
CAYm4 (LYGm1)2020-21	18	05	01	01
CAYm5 (LYGm2) 2019-20	32	04	04	03

LYG – Last Year Graduate

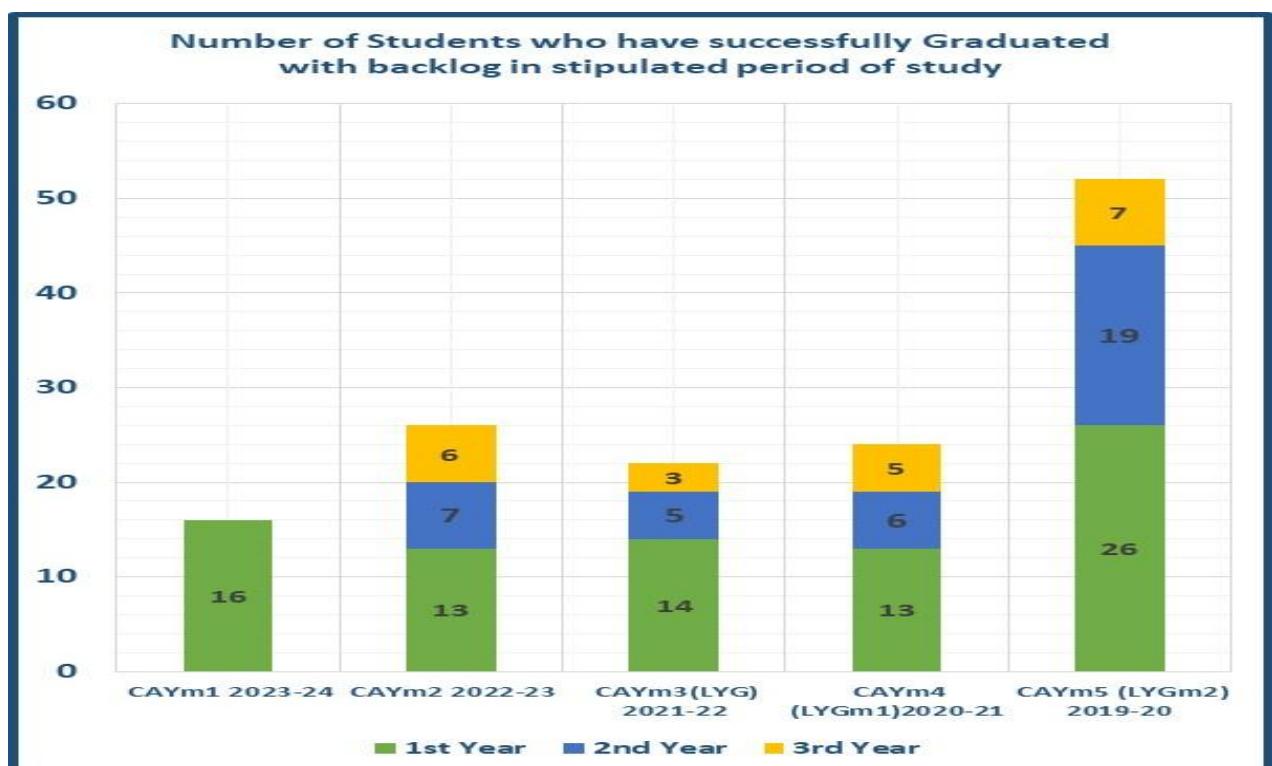
LYGm1 – Last Year Graduate minus 1

LYGm2 – Last Year Graduate minus 2



**TABLE 4.3**

<b>Year of entry</b>	<b>N1 + N2 + N3 (As defined above)</b>	<b>Number of students who have successfully graduated in stipulated period of study</b>		
		<b>I Year</b>	<b>II Year</b>	<b>III Year</b>
CAY 2024-25	21			
CAYm1 2023-24	29	16		
CAYm2 2022-23	17	13	07	06
CAYm3(LYG) 2021-22	22	14	05	03
CAYm4 (LYGm1)2020-21	18	13	06	05
CAYm5 (LYGm2) 2019-20	32	26	19	07



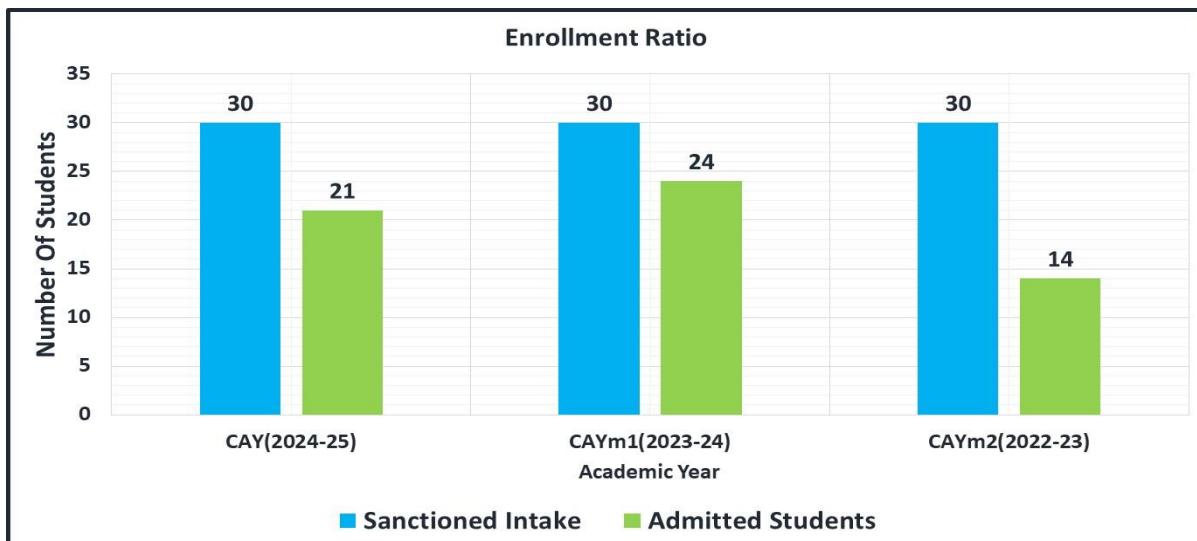
## 4.1 Enrolment Ratio (20)

Enrolment Ratio=  $(N1+N2) / N$

Item (Students enrolled at the First Year Level on average basis during the previous three academic years including the current academic year)	Marks
> = 90% Students	20
> = 80% Students	18
> = 70% Students	16
> = 60% Students	12
> = 50% Students	08
< 50% Students	0

Sr. No	Year	N	N1 + N2	Enrolment Ratio= $(N1 + N2) / N$
1	2024-25	30	21	70.00%
2	2023-24	30	24	80.00%
3	2022-23	30	14	46.67%
<b>Average</b>				65.56%

Average =  $[(ER1+ER2+ER3)/3]*100 = 65.56\% \text{ (For 2024-25, 2023-24, 2022-23)}$



## 4.2 Success Rate in the stipulated period of the program (60)

### 4.2.1 Success rate without backlogs in any year of study (40)

*SI= (Number of students who have passed from the program without backlog)/ (Number of students admitted in the first year of that batch plus actually admitted in 2nd year via lateral entry)*

Item	Last Year Graduate, (LYG)  CAYm3 (2021-2022)	Last Year Graduate, (LYGm1)  CAYm4 (2020-2021)	Last Year Graduate, (LYGm2)  CAYm5 (2019-2020)
Total number of students (admitted through state level counselling + admitted through Institute on level quota+ actually admitted through lateral entry) ( $N_1 + N_2 + N_3$ )	22	18	32
Number of students who have passed without backlogs in the stipulated period(Y)	01	01	03
Success index (SI)=Y/X	0.05	0.06	0.09
Average SI	0.06		

*Average SI = Mean of success index (SI) for past three batches*

*Success rate without backlogs in any year of study =  $40 \times$  Average SI =  $40 \times 0.06 = 2.67$*

#### 4.2.2 Success rate with backlog in stipulated period of study (20)

*SI= (Number of students who have passed from the program in the stipulated period of course duration)/ (Number of students admitted in the first year of that batch plus actually admitted in 2nd year via lateral entry)*

	Last Year Graduate, (LYG)  CAYm3 (2021-2022)	Last Year Graduate, (LYGm1)  CAYm4 (2020-2021)	Last Year Graduate, (LYGm2)  CAYm5 (2019-2020)
Total number of students (admitted through state level counselling + admitted through Institute on level quota+ actually admitted through lateral entry) ( $N_1 + N_2 + N_3$ )	22	18	32
Number of students who have passed without backlogs in the stipulated period(Y)	03	05	07
Success index (SI)=Y/X	0.14	0.27	0.22
Average SI		0.21	

*Average SI = mean of success index (SI) for past three batches*

$$\text{Success rate} = 20 \times \text{Average SI} = 20 \times 0.21 = 4.2$$

### 4.3 Academic Performance in First Year (25)

$API = ((\text{Mean of 1st Year Grade Point Average of all successful Students on a 10-point scale}) \text{ or } (\text{Mean of the percentage of marks of all successful students in First Year} / 10)) \times (\text{Successful students}/\text{number of students appeared in the examination}).$

Successful students are those who are permitted to proceed to the second year.

Academic Performance	CAYm1 2023-24	CAYm2 2022-23	CAYm3 2021-22 LYG
Mean of CGPA or Mean Percentage of all successful students (X)	4.61	3.16	3.09
Total no. of successful students (Y)	16	13	14
Total no. of students appeared in the examination (Z)	24	14	19
API = X * (Y/Z)	3.07	2.93	2.28
Average API = (AP1 + AP2 + AP3)/3		2.76	

$$\text{Academic Performance Level} = 2.5 * \text{Average API} = 2.5 * 2.76 = 6.90$$

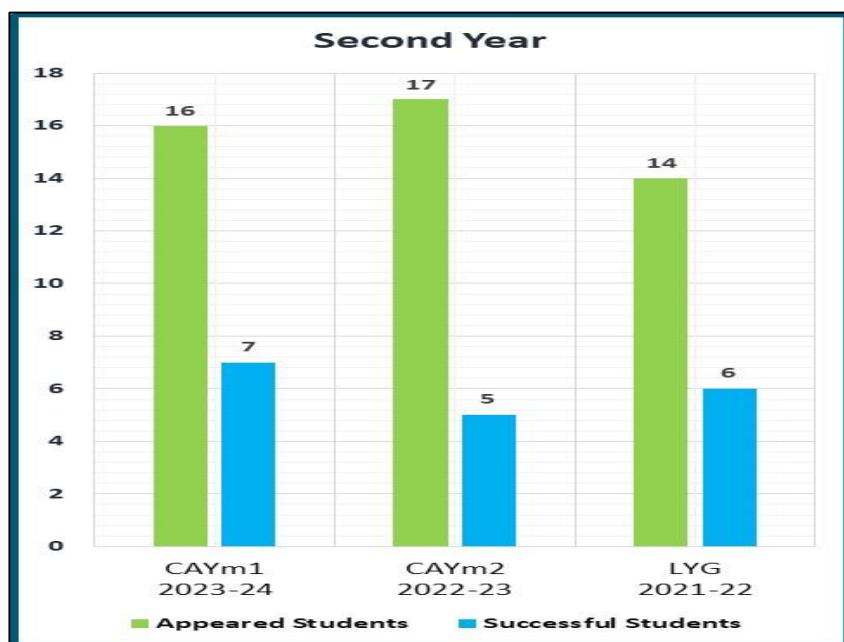


#### 4.4 Academic Performance in Second Year (20)

*API = ((Mean of 2<sup>nd</sup> 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 Second Year/ 10)) x (successful students/number of students appeared in the examination)*  
*Successful students are those who are permitted to proceed to the final year*

Academic Performance	CAYm2 2022-23	CAYm3 2021-22 LYG	CAYm4 2020-24 LYGm1
Mean of CGPA or Mean Percentage of all successful students (X)	6.35	6.31	5.10
Total no. of successful students (Y)	07	05	06
Total no. of students appeared in the examination (Z)	16	17	14
API = X * (Y/Z)	2.78	1.85	2.19
Average API = (AP1 + AP2 + AP3)/3		2.27	

$$\text{Academic Performance Level} = 2.0 * \text{Average API} = 2 * 2.27 = 4.55$$



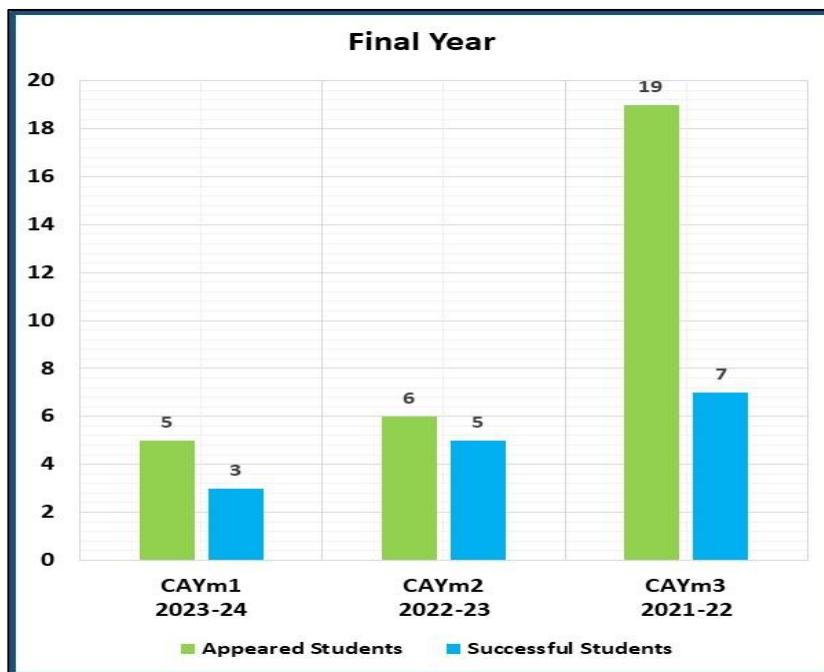
## 4.5 Academic Performance in Final Year (15)

*API = (Mean of Final 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 Final Year/10) x (successful students/number of students appeared in the examination)*

*Successful students are those who passed in all the final year courses*

Academic Performance	CAYm3 2021-22 LYG	CAYm4 2020-21 LYGm1	CAYm5 2019-20 LYGm2
Mean of CGPA or Mean Percentage of all successful students (X)	8.22	7.60	7.89
Total no. of successful students (Y)	03	05	07
Total no. of students appeared in the examination (Z)	05	06	19
API = X * (Y/Z)	4.93	6.33	2.91
Average API = (AP1 + AP2 + AP3)/3		4.72	

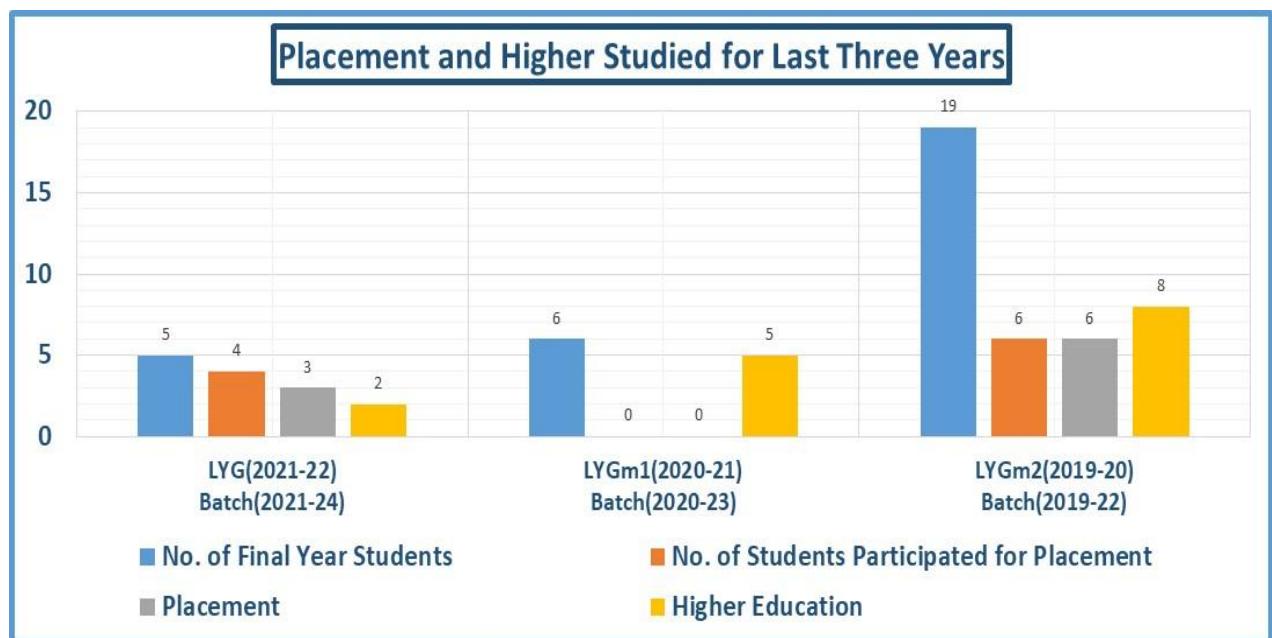
$$\text{Academic Performance Level} = 1.5 * \text{Average API} = 1.5 * 4.72 = 7.08$$



## 4.6 Placement, Higher Studies, and Entrepreneurship (40)

Item	Last Year Graduate, (LYG) (2021-22)	Last Year Graduate, minus-1 (LYGm1) (2020-2021)	Last Year Graduate, minus-2 (LYGm2) (2019-20)
Total No. of Final Year Students (N)	05	06	19
No. of students placed in companies or Government Sector (X)	03	00	06
No. of students admitted to higher studies (Y)	02	05	08
No. of students turned entrepreneur in the respective field of engineering/technology	00	00	00
Placement Index (P) : $(1.25X + Y + Z)/N$	1.15	0.83	0.82
Average placement= $(P1 + P2 + P3)/3$	0.93		

$$\text{Assessment Points} = 40 * \text{Average placement} = 40 * 0.93 = 37.33$$



**4.6 a. Provide the placement data in the below mentioned format with the name of the program and the assessment year (separately for CAYm1, CAYm2 and CAYm3)**

<b>Electronics &amp; communication engineering department</b> <b>CAYm1(2023-24)</b> <b>Placement detail of caym1 (2023 passed out batch)</b>				
<b>Sr. No.</b>	<b>Student name</b>	<b>Enrolment no.</b>	<b>Name of employer</b>	<b>Appointment no.</b>
1	Patel Dakshkumar Hareshbhai	216230311003	Testen Electronics	Salary Slip
2	Ansari Anas Mo Ilyas	216230311005	Vyom Computer And Service	Salary Slip
3	Thakur Uttam Kavindra	216230311007	Ceat Tyres	11011445

**Table 4.6.1 Placement Detail of CAYm1**

<b>Electronics &amp; Communication Engineering Department</b> <b>CAYm2(2022-23)</b>				
<b>Sr. No.</b>	<b>Student Name</b>	<b>Enrolment No.</b>	<b>Name of Employer</b>	<b>Appointment No.</b>
NIL				

**Table 4.6.2 Placement Detail of CAYm2**

<b>Electronics &amp; communication engineering department</b> <b>Caym3(2021-22)</b>				
<b>Sr. No.</b>	<b>Student name</b>	<b>Enrolment no.</b>	<b>Name of employer</b>	<b>Appointment no.</b>
1	Chaurasiya Shubham Ashok	196230311007	Zydus Lifesciences Ltd	141428
2	Karan Koshti	196230311009	Teamlease Skills University	Tr10425775
3	Panchal Uday Mehulkumar	196230311013	Einfochips Pvt Ltd	Ehmppl/OI/Ei/016/22-23
4	Patel Milankumar Bharatkumar	196230311019	Alpine Bird Services, Ahmedabad	Salary Slip
5	Rakholiya Shahil Jaysukhbhai	196230311024	Microlink Solutions Pvt Ltd	6369
6	Prajapati Ankitkumar Madevbhai	196230311506	Life Insurance Corporation Of India	Lic0186483e

**Table 4.6.3 Placement Detail of CAYm3**

## 4.7 Professional Activities (20)

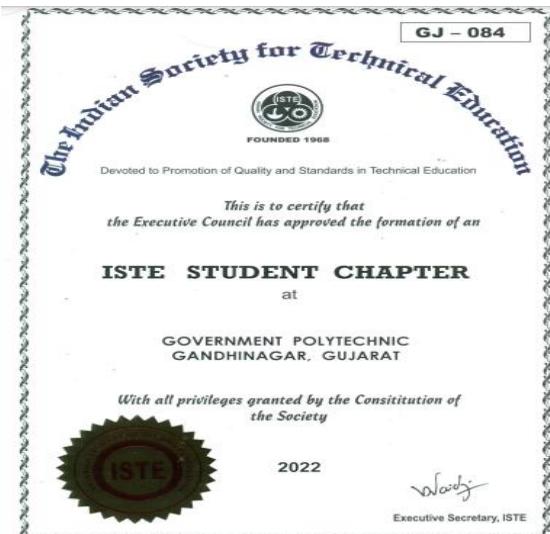
### 4.7.1 Professional societies / student chapters and organizing technical events (10)

#### A. Availability of Professional Societies/Chapters & Relevant activities (05)

##### **ISTE (Student chapter):**

The Indian Society for Technical Education (ISTE) is the leading National Professional non-profit making Society for the Technical Education System in our country with the motto of Career Development of Teachers and Personality Development of Students and overall development of our Technical Education System.

Professional Societies/Chapters	Year
<b>ISTE Chapter</b>	<b>Since 2022</b>



**Activities under ISTE student chapter:**

<b>Sr. No</b>	<b>Organized Events and Titles</b>	<b>Organized Period</b>	<b>No. Of Participants</b>	<b>No. of Days</b>	<b>Resource Person</b>
1	Project Exhibition 1.0	01/05/2025	125	1	Organized by EC Department, G. P. Gandhinagar
2	Industrial Expert Seminar on "The Bizzarness of Quantum Computing" under ISTE student chapter.	05/02/2025	50	1	Organized by G. P. Gandhinagar
3	Industrial Expert Seminar on "Industrial Application of AR/VR" under ISTE student chapter.	01/02/2025	60	1	Organized by G.P.Gandhinagar
4	Darwing Competition on topic "Online gaming Addiction"	23/01/2025	30	1	Organized by G. P. Gandhinagar
5	Elocution Competition (Is Artificial Intelligence good or bad?)	25/02/2024	6	1	Organized by G. P. Gandhinagar
6	Life style for Environment (પર્યાવરણને અનુકૂળ જીવન શૈલી)	19/05/2023	150	1	Street Play Program conducted by Government Polytechnic Gandhinagar in association with Gujarat Pollution control board and Paryavaran Mitra Ahmedabad organisation
7	workshop on Ethical Hacking & Cyber Security	18/03/2024	35	1	Demmisto Technologies

**Outcome:** Improved confidence, interpersonal skills, and holistic development of students.

## B. Number, quality of engineering events (05)

- Various activities like Expert Lectures, Seminars, Guest Lectures and Career Guidance Programs are conducted to enhance various technical and professional skills among the students.
- Through these, we motivate our young, energetic, enthusiastic students to use their creative minds and their boundless imagination in the best possible way.
- With the help of this, students exhibit their talents which help in their career development and to elevate themselves onto excellent positions in the society.

**Academic Year 2024-25**

Sr. No	Title Of Event	Date	Type Of Event	No. of Student Participants	Name of Expert/Place
1	Re-Invest_4th Global Renewable Energy Investor Meet	18/09/2024	Technical Event	20	Ministry of New and Renewable Energy (MNRE), Government of India
2	Vikash Saptah Celebration	15/10/2024	Technical Event	50	Iconic Tower-2, GIFT City Gandhinagar
3	Contributor Personality Development	08/04/2025	Expert Lecture	45	Mr. K. H. Talati



**Re-Invest\_4th Global Renewable Energy Investor Meet**



**Vikash Saptah Celebration**



**Expert Lecture on  
"Contributor Personality Development"**  
(Subject Code: D01200131)

Organized by: Electronics & Communication Department,  
Government Polytechnic, Gandhinagar

**Beneficiary:**  
2nd Semester EC & ICT Students

**Date & Time:**  
08/04/2025, 11:00 AM to 12:30 PM

**Venue:**  
Room No. 124 EC Department, GP Gandhinagar

**Speaker:**  
**Mr. K. H. Talati (Sr. Lecturer in English)**  
Government Polytechnic, Gandhinagar

**About the Session:**  
This expert lecture aims to shape and nurture contributor personalities among students by developing traits such as ownership, responsibility, and purpose-driven growth—ideal for success in personal, academic, and professional life.

Organizer Committee: Team CPD EC & ICT (DRV, AKK, LKC, VPJ)  
Coordinator Name: Ms. Devyani R. Varadiya (Lecturer in EC), GPG

## Contributor Personality Development

Industrial Visit (Academic Year 2024-25)

Sr	Date	Area/Subject Of Industrial Visit	Name Of Industry/Organization	Name Of Contact Person Of Industry	Sem	Number Of Students Benefited	Names Of Faculties Who Visited Industry
1	09/08/2024	Iot, AI/ML, App Development	Upeya Electronics LLP, Gandhinagar	Pratik Parmar	5	50	Dr. Monali R. Prajapati, Ms. Devyani R. Varadiya, Ms. Anjana K. Kokani
2	25/03/2025	Indian Constitution	Gujarat Vidhan Sabha	Government Of Gujarat	2,4,6	60	Mr. N. B. Shah
3	04/04/2025	Satellite Communication	Vikram Sarabhai Space Exhibition (VSSE) - Space Application Center (ISRO)	Nilesh M. Desai	2,4,6	50	Ms. Devyani R. Varadiya, Mr. Vishal P. Jariwala, Mr. Palak B. Bhatt



**Upeya Electronics LLP, Gandhinagar**



**Gujarat Vidhan Sabha**

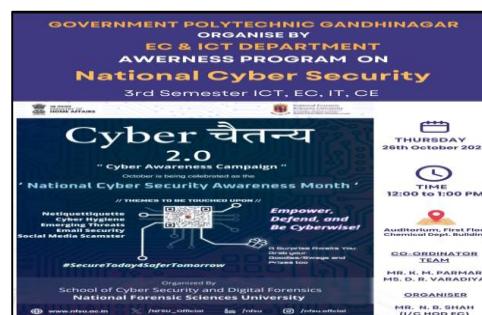


**Vikram Sarabhai Space Exhibition (VSSE) - Space Application Center (ISRO)**

<b>Sr. No</b>	<b>Title Of Event</b>	<b>Date</b>	<b>Type Of Event</b>	<b>No. Of Student Participants</b>	<b>Name Of Expert/Place</b>
1	Semicon India-2023 Exhibition	28-07-2023 To 30-07-2023	Technical Event	171	Mahatma Mandir, Gandhinagar
2	Awareness Program On National Cyber Security (“Cyber Chaitany” Cyber Awareness Campaign 2.0)	26-10-2023	Expert Lecture	185	National Forensic Sciences University
3	Startup Conclave-2023 Exhibition Visit @ HeliPad Exhibition Centre, Gandhinagar	09-12-2023	Technical Event	25	HeliPad Exhibition Centre, Gandhinagar
4	Vibrant Sumeet-2024 @ Mahatma Mandir, Gandhinagar Visit Report	11-01-2024 To 12-01-2024	Technical Event	60	Mahatma Mandir, Gandhinagar
5	Innovation And Creativity	04-05-2024	Workshop	42	IIT Gandhinagar



### SEMICON INDIA-2023 Exhibition (Technical Event)



### Awareness Program on National Cyber Security (Expert Lecture)



**Startup Conclave-2023(Technical Event)**



**Vibrant Sumeet-2024 (Technical Event)**

**Industrial Visit (Academic Year 2023-24)**

Sr	Date	Area/Subject Of Industrial Visit	Name Of Industry/O rganization	Name Of Contact Person Of Industry	Sem	No. Of Stude nts Benef ited	Names Of Faculties Who Visited Industry
1	08-04-2024	PCB Designing And Fabrication, Manufacturing Processes And Testing.	Dutt Electronics, Gandhinagar	Dutt Electronics, Gandhinagar	2,4,6	63	Ms. Devyani R. Varadiya Mr. Kalpesh M. Parmar Dr. Pravin J. Dalvadi
2	08-04-2024	Electronic Manufacturing Services, Smt (Surface Mount Technology), And Testing Processes.	Electro Ems Services, Gandhinagar	Electro Ems Services, Gandhinagar	2,4,6	72	Ms. Devyani R. Varadiya Mr. Kalpesh M. Parmar
3	01-05-2024	Satellite Communication	Bisag-N, Gandhinagar	Bisag-N, Gandhinagar	2,4	52	Ms. Devyani R. Varadiya Mr. Vishal P. Jariwala
4	09-12-2024	Entrepreneurship	PDEU Innovation And Incubation Centre	PDEU, Gandhianagr	5	14	Ms. Lipi Chhaya, Mr. K.M. Parmar



**Dutt Electronics, Gandhinagar**



**Electro EMS Services, Gandhinagar**



**BISAG-N, Gandhinagar**

## Academic Year 2022-23

Sr. No	Title Of Event	Date	Type Of Event	No. Of Student Participants	Name Of Expert
1	Mixed Reality	19-05-23	Expert Lecture	40	Mr. Pratik Parmar
2	HAM Radio	23-06-23	Expert Lecture	7	Mr. N.B.Nadoda
3	Hands On Practicals On VLSI	12-04-23	Expert Lecture	7	Mr. Mihir Dave
4	Disaster Management & HAM Radio	16-12-22	Workshop	26	Mr. N.B.Nadoda
5	Electronics Workshop On Mobile Repairing	14-09-22	Workshop	7	Mr. Pavan Maurya



**Mixed reality (Expert lecture)**



**HAM Radio**



**Hands on practical's on VLSI**



**Disaster Management & HAM Radio**



**Electronics Workshop on Mobile Repairing**

### Industrial Visit (Academic Year 2022-23)

Sr	Date	Area/Subject Of Industrial Visit	Name Of Industry/ Organization	Name Of Contact Person Of Industry	Sem	Number Of Students Benefited	Names Of Faculties Who Visited Industry
1	23-06-2023	Antenna & Satellite	SAC-ISRO	Exhibition	4	7	D.R.Varadiya



**SAC-ISRO Visit Program**

#### **4.7.2 Publications of technical magazines, newsletters, etc. (05)**

##### **A. Quality & Relevance of the contents and Print Material (03)**

- Electronics and communication department releases newsletter for each semester. It is published on notice board of E.C. department.
- The Department shall list the publications mentioned earlier along with the names of the editors, publishers, etc.
- Electronics & Communication department publishes yearly twice newsletter that broadly includes Vision and Mission of Department and Institute , PSOs , Photographs related to Departmental Curricular activities and Institute Co-Curricular activities, Technical blogs and Placement of students.

## B. Participation of Students from the program (2)

- The head of Department is the chief editor and designated faculty and student coordinator yearly provide volunteer contribution for proof reading and selection of contents that has key thrust on upcoming technologies and development in the field of electronics and communication and research.
- Electronics & Communication department publishes yearly twice newsletter that broadly includes Vision and Mission of Department and Institute , PSOs , Photographs related to Departmental Curricular activities and Institute Co-Curricular activities, Technical blogs and Placement of students.

<b>Year</b>	<b>Publication Name</b>	<b>Chief Editor/Faculty coordinator</b>	<b>Sem</b>	<b>Name of the Students(Assistant Editor)</b>
2024-25 (ODD- term) Vol-1	Electronika Darpan (इलेक्ट्रॉनिका दर्पण)	Dr. Monali Prajapati (Chief Editor)	1	Soni Hetvi Bhaveshkumar
		Mr. Harshal Sutariya (Faculty Coordinator)	3	Bhatt Om Vijaykumar
		Dr. Monali Prajapati (Chief Editor)	5	Rishabh Prathmeshbhai Bhatt
			2	Rathod Yash Premalkumar
			4	Aloksinh Rajput
		Mr. Harshal Sutariya (Faculty Coordinator)	6	Korat Netra Mukeshbhai

**List of Publication of Newsletters in CAY (2024-2025)**

<b>Year</b>	<b>Publication Name</b>	<b>Chief Editor/Faculty coordinator</b>	<b>Sem</b>	<b>Name of the Students(Assistant Editor)</b>
2023-24 (ODD- term) Vol-1	ElectroSphere	Dr. Monali Prajapati (Chief Editor)	1	Bhatt Om Vijaykumar
		Mr. Harshal Sutariya (Faculty Coordinator)	3	Rishabh Prathmeshbhai Bhatt
		Dr. Monali Prajapati (Chief Editor)	5	Pandya Harsh Himanshubhai
			2	Vohra Talha Imtiyazbhai
			4	Korat Netra Mukeshbhai
		Mr. Harshal Sutariya (Faculty Coordinator)	6	Thakur Uttam Kavindra

**List of Publication of Newsletters in CAYm1 (2023-2024)**

<b>Year</b>	<b>Publication Name</b>	<b>Chief Editor/Faculty coordinator</b>	<b>Sem</b>	<b>Name of the Students(Assistant Editor)</b>
2022-23 (ODD- term) Vol-1	ElectroNirman (ઇલેક્ટ્રોનિર્માણ)	Dr. Monali Prajapati (Chief Editor)  Mr. Harshal Sutariya (Faculty Coordinator)	1	Korat Netra Mukeshbhai
			3	Pandya Harsh Himanshubhai
			5	Bhatt Rudra Sudhirbhai
		Dr. Monali Prajapati (Chief Editor)  Mr. Harshal Sutariya (Faculty Coordinator)	2	Patel Khwahish Hardik
			4	Keshvala Ketan Ukabhai
			6	Mistry Parth Prashantkumar

### **List of Publication of Newsletters in CAYm2 (2022-2023)**

#### **4.7.3 Participation in inter/institute/state/national events by students of the program of study (05)**

Electronics & Communication department have encouraged and motivated students to participate in technical events with strong support of department faculties and head of department.

<b>Sr No.</b>	<b>Enrolment No.</b>	<b>Name of Student</b>	<b>Name of Event</b>	<b>Place</b>	<b>Year</b>	<b>Outcome</b>
1	186230311010	Bhandari Divyesh Manoharbhai	G3Q1.0	Government of Gujarat	2022	Winner

Winner List															
<input style="width: 100px; height: 20px; margin-right: 10px;" type="button" value="Search: "/> <input style="width: 100px; height: 20px;" type="button" value="Winner List"/>															
Show: <input style="width: 20px; height: 20px; margin-right: 10px;" type="button" value="10"/> entries <input style="width: 20px; height: 20px; margin-right: 10px;" type="button" value="entries"/>															
<b>ID</b>	<b>Rank</b>	<b>Taluka</b>	<b>Student Name</b>	<b>Mobile No..</b>	<b>User Name</b>	<b>Password</b>	<b>Student Marks</b>	<b>Total Time</b>	<b>Account Number</b>	<b>ISFC</b>	<b>Amount (In Rs.)</b>	<b>Week</b>	<b>Approve</b>	<b>Action</b>	<b>Payment Status</b>
34	1	Ward No.10	Divyesh Manohar Bhandari	9205115104	GJ00161251	4526609	4.04	00:05:43.61:05:20	40120100003631	BARBOLAKHAR	3100	Week 1	<input type="button" value="Approved"/>	<input type="button" value="View"/>	Paid
1	4	Ward No.4 Sabarmati	Patil Arpit Mukeshbhai	8320551526	GJB2686693	88734018	5.37	00:13:04.98:16:40	78190100002580	BARBOCHANDK	2100	Week 2	<input type="button" value="Approved"/>	<input type="button" value="View"/>	Paid
10	1	Ward No.2	Patel Meet Bharathbhai	9033916871	GJH2367331	22744438	14.68	00:20:00.00:00:00	08410100028842	BARBOMARPAT	3100	Week 2	<input type="button" value="Approved"/>	<input type="button" value="View"/>	
12	4	Ward No.2	Pithiya shyam maheshbhai	9106167246	GJL2394853	50473508	12.02	00:07:48.17:09:15	40830100017093	BARBOMANMEH	2100	Week 2	<input type="button" value="Approved"/>	<input type="button" value="View"/>	Paid
20	3	Ward No.4	Rana Pruthvi Dipakumar	6351029371	GJU2647336	56630620	13.35	00:19:20.78:34:79	448010100072627	UTIB0000448	2100	Week 2	<input type="button" value="Approved"/>	<input type="button" value="View"/>	Paid
21	4	Ward No.4	Darji Smit	7567363376	GJR2613972	90380619	12.02	00:09:15.31:11:001	00000040006486686	SBIN000319	2100	Week 2	<input type="button" value="Approved"/>	<input type="button" value="View"/>	Paid
23	6	Ward No.4	Patel Bhavy Rajnikant	8866277284	GJZ2632365	35362291	10.69	00:07:26.55:75:62	43460100005033	BARBOCHAGAN	1500	Week 2	<input type="button" value="Approved"/>	<input type="button" value="View"/>	Paid
24	7	Ward No.4	Parmar Manthan Dipakbhai	7041604360	GJR2647449	64457016	10.69	00:14:49.49:01:41	6150003878	IDIB0000J032	1500	Week 2	<input type="button" value="Approved"/>	<input type="button" value="View"/>	Paid
28	9	Ward No.4	Pai Gaurav Vasudev	9510285733	GJV2615118	35512242	10.69	00:19:12.01:57:39	132014010000406	HDFCOCTVCBL	1500	Week 2	<input type="button" value="Approved"/>	<input type="button" value="View"/>	Paid
31	1	Ward No.5	Aditya Babarya	9265017792	GJK2654548	39811019	14.68	00:13:49.66:07:73	1612493211	KKIBK002795	3100	Week 2	<input type="button" value="Approved"/>	<input type="button" value="View"/>	Paid

**Faculty Information for Current Academic Year (Year:-2024-25)**

Sr.No	Name of faculty member	University Degree	Area of Specialization	Distribution of Teaching Load (%)			Academic Research Research Paper Publications	Faculty Receiving M.Tech/Ph.D. during the Assessment Year	Current Designation	Initial Date of Joining	Association Type	At present working with Institution (Y/N)	In Case No, Date of leaving
				a	b	c							
1	Shri R.D. Raghani	ME	Micropocessors System and Applications	33	0	67			HOD	14/9/2022	Regular	Y	
2	Smt. K.R. Shah	BE	Electronics & Communication Engineering	0	0	0			Sr.Lecturer	15/06/2018	Regular	Y	VRS 31-03-2025
3	Shri N.B. Shah	M.E.	Electronics& Communication System	37	0	63			Sr.Lecturer	20/2/2015	Regular	Y	
4	Shri K.P.Patel	M.E	Electronics& Communication	0	0	0			Sr.Lecturer	1/7/2015	Regular	Y	At CTE
5	Dr. M. R. Prajapati	ME and PhD	Electronics & Communication Engineering	10	0	90			Sr.Lecturer	26/10/2021	Regular	Y	
6	Shri R.G. Patankar	M.Tech	Electronics & Communication Engineering	0	0	0			Sr.Lecturer	6/10/2012	Regular	Y	At CTE
7	Smt. M. D. Doshi	M.E	Communication Systems Engineering	0	0	0			Lecturer	5/12/2019	Regular	Y	Deputation at GPA from 13/7/2023
8	Shri P.B. Bhatt	ME.	Communication Systems Engineering	30	0	70			Lecturer	1/11/2022	Regular	Y	
9	Shri H.D. Shukla	M.E	Communication Systems Engineering	73	0	27			Lecturer	30/06/2015	Regular	Y	
10	Shri R.C. Patel	M.E	Electronics & Communication Systems	41	0	59			Lecturer	16/06/2016	Regular	Y	
11	Shri M. B. Gandhi	M.E	Communication Systems Engineering	55	0	45			Lecturer	30/06/2015	Regular	Y	
12	Smt. Z.B. Modi	M.E	Communication Engineering	0	0	0			Lecturer	30/06/2015	Regular	Y	Deputation at VGEC Chandkheda from 17/09/2024
13	Shri V.P. Jariwala	M.E	Communication Systems Engineering	50	0	50			Lecturer	30/06/2015	Regular	Y	
14	Shri H. P. Sutariya	M.E	Communication Systems Engineering	55	0	45			Lecturer	28/10/2016	Regular	Y	

15	Shri P.A. Parmar	BE and M.Tech	M.Tech (Mechtronics), BE (EC)	25	0	75			Lecturer	22/11/2016	Regular	Y	
16	Ms. L. K. Chhaya	B.E.	Electronics & Communication Engineering	49	0	51			Lecturer	28/10/2016	Regular	Y	
17	Shri K.M. Parmar	B.Tech	Electronics & Communication Engineering	15	0	85			Lecturer	24/11/2016	Regular	Y	
18	Dr. P.J. Dalwadi	ME and Ph.D	Electronics & Communication Engineering	63	0	38			Lecturer	5/11/2016	Regular	Y	
19	Shri B.D.Prajapati	M.E.	Electronics & Communication Engineering	6	0	94			Lecturer	3/11/2016	Regular	Y	
20	Ms. A.K.Konkani	B.E.	Electronics & Communication Engineering	27	0	73			Lecturer	29/10/2016	Regular	Y	
21	Ms. Devyani R. Varadiya	B.E.	Electronics & Communication Engineering	40	0	60			Lecturer	13/11/2020	Regular	Y	
22	Shri S. R. Patel	M.Sc	Mathematics	0	5	0			Lecturer	29/01/2022	Regular	Y	
23	Dr. R. S. Upadhyay	MSc and Ph.D.	Mathematics	0	18	0			Lecturer	06/09/2018	Regular	Y	
24	Shri. K.H.Talati	M.A	English	0	21	0			Lecturer	31/07/2020	Regular	Y	
25	Dr. S. J. Patel	MA and Ph.D	English	0	7	0			Lecturer	04/09/2019	Regular	Y	
26	Dr. D. R. Sharma	M.Sc and Ph.D	Chemistry	0	3	0			Lecturer	26/06/2015	Regular	Y	
27	Smt. S. N. Patel	M.Sc	Chemistry	0	3	0			Lecturer	06/10/2012	Contractual	Y	

**Faculty Information for Current Academic Year minus 1 (Year:-2023-24)**

Sr.No	Name of faculty member	University Degree	Area of Specialization	Distribution of Teaching Load (%)			Academic Research		Current Designation	Initial Date of Joining	Association Type	At present working with Institution (Y/N)	In Case No, Date of leaving
				a	b	c	Research Paper Publications	Faculty Receiving M.Tech/Ph.D. during the Assessment Year					
1	Shri R.D. Raghani	ME	Microprocessors System and Applications	33	0	67			HOD	14/9/2022	Regular	Y	
2	Smt. K.R.Shah	BE	Electronics & Communication Engineering	0	0	0			Sr.Lecturer	15/06/2018	Regular	Y	At ACPDC
3	Shri N.B. Shah	M.E.	Electronics& Communication System	39	0	61			Sr.Lecturer	20/2/2015	Regular	Y	
4	Shri K.P.Patel	M.E	Electronics& Communication	43	0	57			Sr.Lecturer	1/7/2015	Regular	Y	At CTE
5	Dr. M.R.Prajapati	ME and PhD	Electronics & Communication Engineering	13	0	87		2024	Sr.Lecturer	26/10/2021	Regular	Y	
6	Shri R.G. Patankar	M.Tech	Electronics & Communication Engineering	0	0	0			Sr.Lecturer	6/10/2012	Regular	Y	At CTE
7	Smt. M.D.Doshi	M.E	Communication Systems Engineering	0	0	0			Lecturer	5/12/2019	Regular	Y	Deputation at GPA from 13/7/2023
8	Shri P.B. Bhatt	ME.	Communication Systems Engineering	36	0	64			Lecturer	1/11/2022	Regular	Y	
9	Shri H.D. Shukla	M.E	Communication Systems Engineering	58	0	42			Lecturer	30/06/2015	Regular	Y	
10	Shri R.C. Patel	M.E	Electronics & Communication Systems	53	0	47			Lecturer	16/06/2016	Regular	Y	
11	Shri M.B. Gandhi	M.E	Communication Systems Engineering	38	0	62			Lecturer	30/06/2015	Regular	Y	
12	Smt. Z.B. Modi	M.E	Communication Engineering	0	0	0			Lecturer	30/06/2015	Regular	Y	On long leave
13	Shri V.P. Jariwala	M.E	Communication Systems Engineering	67	0	33			Lecturer	30/06/2015	Regular	Y	
14	Shri H. P. Sutariya	M.E	Communication Systems Engineering	38	0	62		2023	Lecturer	28/10/2016	Regular	Y	
15	Shri P.A. Parmar	BE and M.Tech	M.Tech (Mechtronics), BE (EC)	15	0	85			Lecturer	22/11/2016	Regular	Y	
16	Ms. L. K. Chhaya	B.E.	Electronics & Communication Engineering	42	0	58			Lecturer	28/10/2016	Regular	Y	
17	Shri K.M. Parmar	B.Tech	Electronics & Communication Engineering	35	0	65			Lecturer	24/11/2016	Regular	Y	

18	Dr. P.J. Dalwadi	ME and Ph.D	Electronics & Communication Engineering	35	0	65		<b>2024</b>	Lecturer	5/11/2016	Regular	Y	
19	Shri B.D.Prajapati	M.E.	Electronics & Communication Engineering	0	0	100			Lecturer	3/11/2016	Regular	Y	
20	Ms. A.K.Konkani	B.E.	Electronics & Communication Engineering	34	0	66			Lecturer	29/10/2016	Regular	Y	
21	Ms. Devyani R. Varadiya	B.E.	Electronics & Communication Engineering	26	0	74			Lecturer	13/11/2020	Regular	Y	
22	Shri S. R. Patel	M.Sc	Mathematics	0	11	0			Lecturer	29/01/2022	Regular	Y	
23	Dr. R. S. Upadhyay	MSc and Ph.D.	Mathematics	0	15	0			Lecturer	06/09/2018	Regular	Y	
24	Shri. K. H. Talati	M.A	English	0	3	0			Lecturer	31/07/2020	Regular	Y	
25	Dr. S. J. Patel	MA and Ph.D	English	0	12	0			Lecturer	04/09/2019	Regular	Y	
26	Shri. S. M. Modi	M.Sc.	Physics	0	13	0			Lecturer	01/11/2022	Regular	Y	

**Faculty Information for Current Academic Year minus 2 (Year:-2022-23)**

Sr.No	Name of faculty member	University Degree	Area of Specialization	Distribution of Teaching Load (%)			Academic Research		Current Designation	Initial Date of Joining	Association Type	At present working with Institution (Y/N)	In Case No, Date of leaving
				a	b	c	Research Paper Publications	Faculty Receiving M.Tech/Ph.D. during the Assessment Year					
1	Shri R.D. Raghani	ME	Microprocessors System and Applications	0	0	0			HOD	14-9-2022	Regular	Y	Transferred from AVPTI
2	Smt. K.R.Shah	BE	Electronics & Communication Engineering	0	0	0			Sr.Lecturer	15/06/2018	Regular	Y	At ACPDC
3	Shri N.B. Shah	M.E.	Electronics& Communication System	75	0	25			Sr.Lecturer	20/2/2015	Regular	Y	
4	Shri K.P.Patel	M.E	Electronics& Communication	33	0	67			Sr.Lecturer	1/7/2015	Regular	Y	
5	Ms. M.R.Prajapati	ME and PhD	Electronics & Communication Engineering	32	0	68	1		Sr.Lecturer	26/10/2021	Regular	Y	
6	Shri R.G. Patankar	M.Tech	Electronics & Communication Engineering	0	0	0			Sr.Lecturer	6/10/2012	Regular	Y	
7	Smt. M.D.Doshi	M.E	Communication Systems Engineering	0	0	0			Lecturer	5/12/2019	Regular	Y	
8	Shri P.B. Bhatt	ME.	Communication Systems Engineering	0	0	0			Lecturer	1-11-2022	Regular	Y	Transferred from AVPTI
9	Shri H.D. Shukla	M.E	Communication Systems Engineering	71	0	29			Lecturer	30/06/2015	Regular	Y	
10	Shri R.C. Patel	M.E	Electronics & Communication Systems	17	0	83			Lecturer	16/06/2016	Regular	Y	
11	Shri M.B. Gandhi	M.E	Communication Systems Engineering	57	0	43			Lecturer	30/06/2015	Regular	Y	
12	Smt. Z.B. Modi	M.E	Communication Engineering	42	0	58			Lecturer	30/06/2015	Regular	Y	
13	Shri V.P. Jariwala	M.E	Communication Systems Engineering	26	0	74			Lecturer	30/06/2015	Regular	Y	
14	Shri H. P. Sutariya	M.E	Communication Systems Engineering	0	0	100			Lecturer	28/10/2016	Regular	Y	
15	Shri P.A. Parmar	BE and M.Tech	M.Tech (Mechtronics), BE (EC)	0	0	100			Lecturer	22/11/2016	Regular	Y	
16	Ms. L. K. Chhaya	B.E.	Electronics & Communication Engineering	44	0	56			Lecturer	28/10/2016	Regular	Y	
17	Shri K.M. Parmar	B.Tech	Electronics & Communication Engineering	47	0	53			Lecturer	24/11/2016	Regular	Y	
18	Mr. P.J. Dalwadi	ME and Ph.D	Electronics & Communication Engineering	0	0	100	1		Lecturer	5/11/2016	Regular	Y	

19	Shri B.D.Prajapati	M.E.	Electronics & Communication Engineering	0	0	100			Lecturer	3/11/2016	Regular	Y	
20	Ms. A. K. Konkani	B.E.	Electronics & Communication Engineering	0	0	100			Lecturer	29/10/2016	Regular	Y	
21	Ms. Devyani R. Varadiya	B.E.	Electronics & Communication Engineering	43	0	57			Lecturer	13/11/2020	Regular	Y	
22	Smt. K.D. Mankad	M.Sc	Mathematics	0	6	0			Lecturer	04/12/2019	Regular	Y	
23	Smt. K.B.Dabhi	M.Sc	Mathematics	0	5	0			Lecturer	11/12/2015	Regular	Y	
24	Dr. R. S. Upadhyay	M.Sc. and Ph.D.	Mathematics	0	10	0			Lecturer	06/09/2018	Regular	Y	
25	Shri. K. H. Talati	M.A	English	0	7	0			Lecturer	31/07/2020	Regular	Y	
26	Dr. S. J. Patel	MA and Ph.D	English	0	6	0			Lecturer	04/09/2019	Regular	Y	

## **5.1 Student Faculty Ratio (SFR)(25)**

S:F ratio = N/F; F = No. of faculty = (a + b) for every assessment year

- a: Faculty of the specific program/ department considering fractional load
- b: Faculty serving this program from other Program / department considering fractional load
- c: Faculty of this program serving other program/ department considering fractional load

### **Note: Fractional load calculation**

- 1. Faculty taking physics course is having 50% of allocated load of first year civil engineering students, 25% load of first year mechanical engineering and 25% load of electrical engineering then the fractional load contribution will be 0.50 for civil engineering, 0.25 each for mechanical and electrical engineering.**
- 2. Similarly fractional load to be calculated for inter department/program work load distribution.**

### **Regular Faculty means:**

- Minimum 75% should be Regular/ full time faculty and the remaining shall be Contractual Faculty as per AICTE norms and standards.
- The contractual faculty (doing away with the terminology of visiting/adjunct faculty, whatsoever) who have taught for 2 consecutive semesters in the corresponding academic year on full time basis shall be considered for the purpose of calculation in the Student Faculty Ratio.

N=No. of students = Sanctioned Intake + Actually admitted lateral entry students

**Marks to be given proportionally from a maximum of 25 to a minimum of 10 for average SFR between 25:1 to 30:1, and zero for average SFR higher than 30:1. Marks distribution is given as below:**

**< = 25 - 25 Marks**

**< = 26 - 22 Marks**

**< = 27 - 20 Marks**

**< = 28 - 15 Marks**

**< = 29 - 12 Marks**

**< = 30 - 10 Marks**

**> 30 - 0 Marks**

<b>Year</b>	<b>N (Number of Student)</b>	<b>F (Number of Faculty)</b>	<b>SFR=N/F</b>
2024-25 (CAY)	103	6.64	15.51
2023-24 (CAYm1)	99	6.60	15.00
2022-23 (CAYm2)	95	5.70	16.66
Average SFR for all assessment years			15.72

Average SFR : 15.72

Assesement SFR : 25

### **5.1.1. Information about the regular and contractual faculty:**

<b>Year</b>	<b>Total number of regular faculty in the department</b>	<b>Total number of contractual faculty in the department</b>
2024-25 (CAY)	21	0
2023-24 (CAYm1)	21	0
2022-23 (CAYm2)	19	0

## **5.2. Faculty Qualification (25)**

### **5.2.1 Faculty Qualification Index (20)**

FQ = 2.0\* (10x +7y)/F where x is no. of faculty with M.Tech. (in case of humanities and science M.Phil./Ph.D.) and y is no. of faculty with B.Tech. (In case of humanities and science MA/M.sc),

F is no. of faculty required to comply 1:25 Faculty Student Ratio.

<b>Faculty Qualification Index</b>				
<b>Years</b>	<b>X</b>	<b>Y</b>	<b>F</b>	<b>FQ=2.0*(10X+7Y)/F</b>
2024-25	15	7	5	79.6
2023-24	14	6	4	91
2022-23	10	6	4	71
Average Assessment				80.53

### **5.2.2 Availability of Faculty/principal of that discipline with PhD. Qualification (5)**

Yes

Following faculties are having PhD qualification

Sr No	Name of Faculty	Qualification	Year of achievement of PhD
1	Dr. M. R. Prajapati	M.E + PhD (EC)	2023
2	Dr. P. J. Dalvadi	M.E + PhD (EC)	2024

### 5.3. Faculty Retention (20)

Faculty Retention considering CAYm2 (2022-23) as base year

Faculties Required as per 5.2.1 for CAYm2 : 4 faculty + 1 HOD = 5

No. of regular faculty members in CAYm2 (2022-23) = 19

No. of regular faculty members in CAYm1 (2023-24) = 19

No. of regular faculty members in CAY (2024-25) = 19

Sr.N o	Name of faculty member	Initial Date of Joining	Is faculty retained in 2023-24 ?	Is faculty retained in 2024-25 ?
1	Smt. K. R. Shah	15/06/2018	YES	YES
2	Shri N. B. Shah	20/02/2015	YES	YES
3	Shri K. P. Patel	01/07/2015	YES	YES
4	Mr. M. R. Prajapati	26/10/2021	YES	YES
5	Shri R. G. Patankar	06/10/2012	YES	YES
6	Smt. M. D. Doshi	05/12/2019	YES	YES
7	Shri H. D. Shukla	30/06/2015	YES	YES
8	Shri R. C. Patel	16/06/2016	YES	YES
9	Shri M. B. Gandhi	30/06/2015	YES	YES
10	Smt. Z. B. Modi	30/06/2015	YES	YES
11	Shri V.P. Jariwala	30/06/2015	YES	YES
12	Shri H. P. Sutariya	28/10/2016	YES	YES
13	Shri P.A. Parmar	22/11/2016	YES	YES
14	Ms. L. K. Chhaya	28/10/2016	YES	YES
15	Shri K.M. Parmar	24/11/2016	YES	YES
16	Mr. P. J. Dalvadi	05/11/2016	YES	YES
17	Shri B. D. Prajapati	03/11/2016	YES	YES
18	Miss A. K. Konkani	29/10/2016	YES	YES
19	Ku. Devyani R. Varadiya	13/11/2020	YES	YES
Total Faculties as per CAYm2 : 19		Faculties Retained	19	19
		Faculties Retained (%)	100%	100%

#### 5.4. Faculty as participants in Faculty development/training activities conducted by other organizations (30)

- A Faculty scores maximum five points for participation
- Participant in 1 to 2 days Faculty/faculty development program: 1 Points
- Participant in 3 to 5 days Faculty/faculty development program: 2 Points
- Participant >5 days Faculty/faculty development program: 5 points

Name of the Faculty	Max. 5 per Faculty		
	2021-22 (CAYm3)	2022-23 (CAYm2)	2023-24 (CAYm1)
A. K. Konkani	0	0	2
B. D. Prajapati	2	5	5
P. B. Bhatt	0	0	5
Dr. N. R. Singh	0	0	0
Dr. R. S. Upadhyay	0	0	0
Dr. M. R. Prajapati	2	2	0
Dr. P. J. Dalvadi	5	5	5
Dr. S. J. Patel	0	2	5
M. B. Gandhi	2	5	5
V. P. Jariwala	2	5	5
K. B. Dabhi	0	0	5
K. P. Patel	0	0	0
K. H. Talati	0	2	0
K. R. Shah	0	0	0
L. K. Chhaya	0	0	0
K. D. Mankad	0	0	0
M. D. Doshi	0	0	0
Z. B. Modi	0	0	0
N. G. Patoliya	0	0	0
K. M. Parmar	2	5	5
R. G. Patankar	0	2	2
R. C. Patel	2	2	5
P. A. Parmar	4	5	2
R. D. Raghani	0	0	0
A. K. Rathod	0	0	0
S. R. Patel	0	0	0
N. B. Shah	0	0	0
S. M. Modi	0	0	5
H. D. Shukla	2	5	5
R. G. Solanki	2	0	5
H. P. Sutariya	2	5	0
D. R. Varadiya	4	5	5
<b>Sum</b>	<b>31</b>	<b>55</b>	<b>71</b>
<b>RF= Number of Faculty required to comply with 25:1 Student-Faculty ratio as per 5.1</b>	<b>9.68</b>	<b>3.80</b>	<b>3.96</b>
<b>Assessment = <math>6 \times \text{Sum}/0.5\text{RF}</math> (Marks limited to 30)</b>	<b>30</b>	<b>30</b>	<b>30</b>
<b>Average assessment over three years (Marks limited to 30) = 30</b>			

[Table 5.4: Faculty Participation in FDPs]

#### 5.4. a. Organized/ Conducted FDPs and STTP by this department at State / National Level (12)

**NILL**

## 5.5 Product development, Consultancy, Manufacturing contracts, testing contracts (8)

Sr No	Name of Faculty	Duration	Nature of Work
1	Dr. P. J. Dalvadi	Aug-2021 to May-2025	Sector officer for Legislative Assembly 36-Gandhinagar (North)
2	Mr. K. M. Parmar	07/10/2022 to 08/10/2022	Jury for Azadi Ka Amrut Mahotsav Hackathon 2022
3	Mr. R.C. Patel		
4	Ku. D. R. Varadiya		
5	Ku. M. R. Prajapati		
6	Mr. N. B. Shah		
7	Smt. K. R. Shah		
8	Ku. D. R. Varadiya	02-05-2022	RTO Work Order for learning license
9	Mr. R. C. Patel		
10	Mr. K. M. Parmar		
11	Ku. M. R. Prajapati	04/11/2023	Jury for New India Vibrant Hackathon 2023
12	Mr. P. B. Bhatt		
13	Mr. V. P. Jariwala		
14	Smt. M. R. Doshi		
15	Ku. D. R. Varadiya		
16	Ku. A. K. Konkani	15/10/2023	Representative of commission-GPSC Exam of Dy So & Dy Mamlatdar
17	Mr. H. P. Sutariya		
18	Ku. D. R. Varadiya		
19	Mr. B. D. Prajapati		
20	Dr. P. J. Dalvadi		
21	Mr. B. D. Prajapati	07/12/2023	Team Member Startup Conclave - 2023(Vibrant Gujarat)
22	Dr. P. J. Dalvadi		
23	Mr. B. D. Prajapati	07/01/2024	Representative of commission-GPSC, Class 1 & 2 Exam.
24	Dr. P. J. Dalvadi		
25	Ku. D. R. Varadiya		
26	Mr. R G. Patankar	07/05/2024	Presiding Officer-Lokshabha General Election
27	Mr. K. P. Patel		
28	Mr. V. P. Jariwala		
29	Mr. H. D. Shukla		
30	Mr. M. B. Gandhi		
31	Mr. P. A. Parmar		
32	Mr. K. M. Parmar		
33	Mr. B. D. Prajapati	07/05/2024	Dispatching officer - Lokshabha General Election
34	Dr. P. J. Dalvadi		
35	Dr. P. J. Dalvadi	18/01/2024	Zonal/Asst. Zonal officer -36 Gandhinagar Assembly Constituency-2024
36	Mr. B. D. Prajapati		
37	Dr. P. J. Dalvadi	04/06/2024	Counting officer- Lokshabha General Election
38	Mr. B. D. Prajapati		
39	Mr. B. D. Prajapati	22/12/2024	Representative of commission-GPSC, State Tax Inspector, Class-3
40	Dr. P. J. Dalvadi		
41	Mr. H. P. Sutariya		
42	Mr. N. B. Shah	Feb-2025 to April-2025	Hackathon 2025 Nodal Officer for Gandhinagar Municipal Corporation

## **5.6 Faculty Performance Appraisal and Development System (FPADS) (30)**

- A. A well-defined FPADS instituted for all the assessment years :

Being a government institution, the faculty appraisal system is well defined, objective and transparent. Faculties are required to fill their appraisal report every year in the month of April in SATHI (System of Application of Technology for Human Resource Improvement) portal (till March-2023). From 2023 onwards, Faculties are required to fill their appraisal report every year in the month of April in Karmyogi portal (<https://karmyogi.gujarat.gov.in/>).

**This appraisal report has the following points written by the faculty:**

1. Training program attended in a year.
2. Additional charge of any other post for 3 months or more.
3. Brief descriptions of the duties in 100 words.
4. Annual work plan and its achievement include tasks to be performed, deliverables and actual achievement.
5. A report of any extraordinary contribution resulting in significant benefit to society.
6. Specify factors that hindered the performance.
7. Indicate three specific areas in which training is required to upgrade skill.
8. Declare immovable property

**This appraisal report has the following points written by the senior reporting officer on a scale of 1 to 10:**

1. Accomplishment of the work plan
2. Comment on the claim of the extraordinary work
3. Significant failure in respect of the work
4. Report of any disciplinary action
5. Quality of work output
6. Analytical ability
7. Attitude of work
8. Sense of responsibility
9. Interpersonal relation and emotional stability
10. Communication skill
11. Morale courage
12. Leadership quality
13. Knowledge of laws, rules, procedures and IT skills
14. Decision making ability
15. Taking initiative for any work
16. Coordination ability
17. Ability to motivate and team spirit
18. Integrity

The assessment made by the reporting officer with respect to the work output and various attributes are reviewed by the reviewing authority. Overall assessment is in the form of marks out of 100. After carefully reviewing, it is shown to the faculty to let him/her know his/her performance. The reports are then sent to the Commissionerate of Technical Education for further process. Sample attached in the annexure for references. Following table shows various sections included in the performance appraisal report.

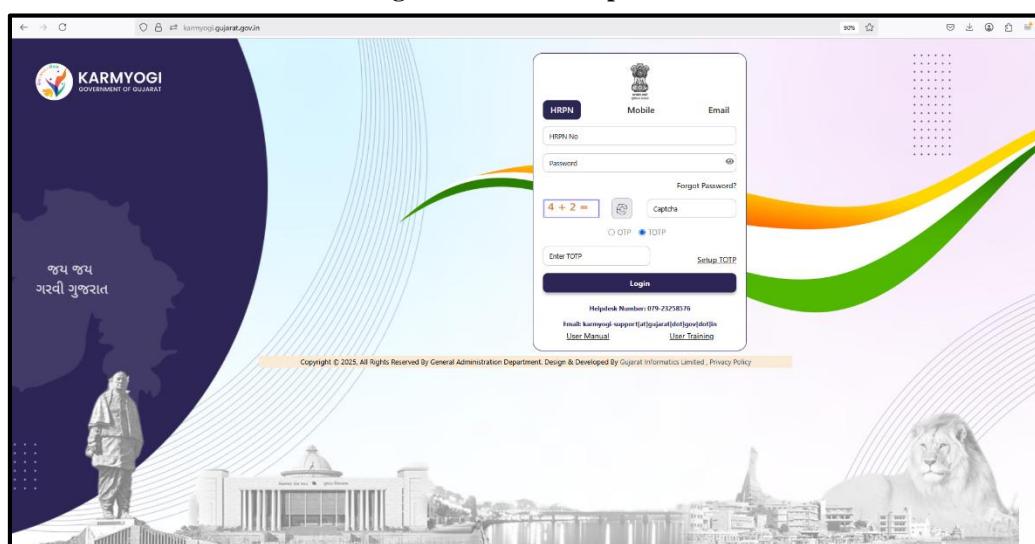
## Performance Appraisal Report Format

Sr. No	Name of Section	Section to be filled by
1	Section I – Basic information	Establishment section
2	Section II – Self Appraisal	Faculty himself/herself
3	Section III - Appraisal	Head of Department
4	Section IV - Review	Head of Institution

[Table 5.6.1: Performance Appraisal Report Format]



[Figure 5.6.1: SATHI portal]



[Figure 5.6.2: Karmyogi portal]

### B. Its implementation and effectiveness (15)

The entire appraisal system is transparent and time bound. During the first ever joining if the faculty of technical branch is equipped with a Master degree and faculty for general stream is equipped with an MPhil or Ph.D. he/she directly placed in the 6000 (level 10) grade pay. If a faculty brings to the table a Ph.D. degree at the time of joining, he will be given 7000 (level 11) after successfully completing 4 years. For faculty a periodic change in their pay grade and all the

appraisal reports are to be reviewed and all the reports with a score of 60 or more out of 100 are considered to be eligible for the AGP promotion from 5400 to 6000 (level 9A to 10), 6000 to 7000 (level 10 to 11), 7000 to 8000 (level 11 to 12) and 8000 to 9000 (level 12 to 13A1) respectively. For AGP promotion of 9000 to 10000 additional PhD qualification is required (applicable for only 6<sup>th</sup> Pay commission).

Eligibility criteria for various AGP movements for 6<sup>th</sup> CPC are as follows:

Degree	AGP Scale Movement	Eligibility Criteria
Bachelor of Engineering (B.E.)	5400	At the time of appointment
	6000	After acquiring ME or 6 years
	7000	After completing 3 years
	8000	After completing 5 years
	9000	After completing 3 years
Master of Engineering/Master of Technology (M.E./M.Tech)	6000	At the time of appointment
	7000	After completing 5 years
	8000	After completing 5 years
	9000	After completing 3 years

[Table 5.6.2: Eligibility for academic grade pay (AGP) scale movement as per 6th pay]

The faculty members are given Career Advancement (AGP) as per AICTE under career advancement scheme (CAS) on the basis of PBAS points obtained during the assessment period. The eligible faculty member aspiring for career advancement (Under CAS) needs to submit his/her application, which is scrutinized by the CAS Committee in the institute. The application is forwarded to the Commissionerate office for further processing.

**The following faculty members are given career advancement as per sixth pay under CAS.**

Sr. No	Name of Faculty	AGP Movement	Date
1	Smt. K. R. Shah	7000 to 8000	11/06/2006
2	Smt. K. R. Shah	8000 to 9000	01/07/2009
3	Shri. N. B. Shah	7000 to 8000	16/02/2006
4	Shri. N. B. Shah	8000 to 9000	01/07/2009
5	Shri. K. P. Patel	5400 to 7000	16/01/2007
6	Shri. K. P. Patel	7000 to 8000	01/07/2012
7	Shri. K. P. Patel	8000 to 9000	01/07/2015
8	Dr. M. R. Prajapati	5400 to 6000	14/10/2011
9	Dr. M. R. Prajapati	6000 to 7000	14/10/2014
10	Shri. R. G. Patankar	5400 to 7000	16/01/2008
11	Shri. R. G. Patankar	7000 to 8000	01/07/2013
12	Shri. P. B. Bhatt	5400 to 6000	20/08/2014
13	Smt. M. D. Doshi	5400 to 6000	06/10/2017
14	Shri. H. D. Shukla	5400 to 6000	19/04/2017
15	Shri. V. P. Jariwala	5400 to 6000	25/04/2017
16	Shri. M. B. Gandhi	5400 to 6000	08/05/2017
17	Shri. R. C. Patel	6000 to 7000	13/06/2016
18	Smt. Z. B. Modi	6000 to 7000	23/04/2016

[Table 5.6.3: Academic grade pay (AGP) as per sixth pay under Career advancement scheme (CAS)]

Gujarat Government implemented 7<sup>th</sup> pay scale for diploma institutions w.e.f 20/3/2020. Presently all faculty members are getting seventh pay scale. Gujarat government declared Career Advancement Scheme (CAS) implementation as per AICTE 7<sup>th</sup> pay recommendations on 01/03/2024.

**The following faculty members are given career advancement as per seventh pay under CAS by CTE office.**

Sr. No	Name of Faculty	AGP Movement	Date
1	Ku. A. K. Konkani	9A to 10	31/10/2021
2	Ku. D. R. Varadiya	9A to 10	12/07/2022
3	Ku. L. K. Chhaya	9A to 10	28/10/2021
4	Shri. K. M. Parmar	9A to 10	24/11/2021
5	Shri. H. P. Sutariya	9A to 10	28/10/2021
6	Shri. B. D. Prajapati	10 to 11	03/11/2021
7	Dr. P. J. Dalvadi	10 to 11	09/11/2021

#### C. Details of qualification up-gradation of faculty (10)

**Yes**

Faculties are sent for higher education by head office on seniority basis. Following faculties were permitted by the head office for pursuing higher study and the said faculties successfully up-graded their qualifications.

Sr No	Name of Faculty	Name of Programme for Higher Study	Duration
1	Dr. M. R. Prajapati	M.E	2010-2012
2	Dr. M. R. Prajapati	PhD	2017-2023
3	R. G. Patankar	M.E	2009-2011
4	P. B. Bhatt	M.E	2010-2014
5	M. D. Doshi	M.E	2016-2018
6	M. B. Gandhi	M.E	2016-2018
7	H. D. Shukla	M.E	2016-2018
8	V. P. Jariwala	M.E	2016-2018
9	H. P. Sutariya	PhD (Pursuing)	2024- Continue
10	Dr. P. J. Dalvadi	PhD	2019-2024
11	Shri. P. B. Bhatt	PhD (Pursuing)	2019- Continue
12	Smt. M. D. Doshi	PhD (Pursuing)	2021- Continue
13	Shri. M. B. Gandhi	PhD (Pursuing)	2022- Continue
14	Shri. H. D. Shukla	PhD (Pursuing)	2022- Continue
15	Shri. V. P. Jariwala	PhD (Pursuing)	2022- Continue
16	Shri. P. A. Parmar	PhD (Pursuing)	2022- Continue
17	Shri. B. D. Prajapati	PhD (Pursuing)	2022- Continue
18	Shri. K. M. Parmar	M.Tech (Pursuing)	2025- Continue

## 6.1 Availability of adequate, well-equipped classrooms to meet the curriculum requirements (10)

### Adequacy of Number of Classroom in department

<b>Course duration:</b>	<b>03 Year</b>
<b>Number of Available Classrooms</b>	<b>05</b>
<b>Adequacy</b>	<b>Yes, Adequate</b>

The Electronics and communication engineering department of Government Polytechnic Gandhinagar has well equipped adequate number of class rooms (05) are available for conducting the lectures and tutorials with CCTV to meet curriculum requirements.

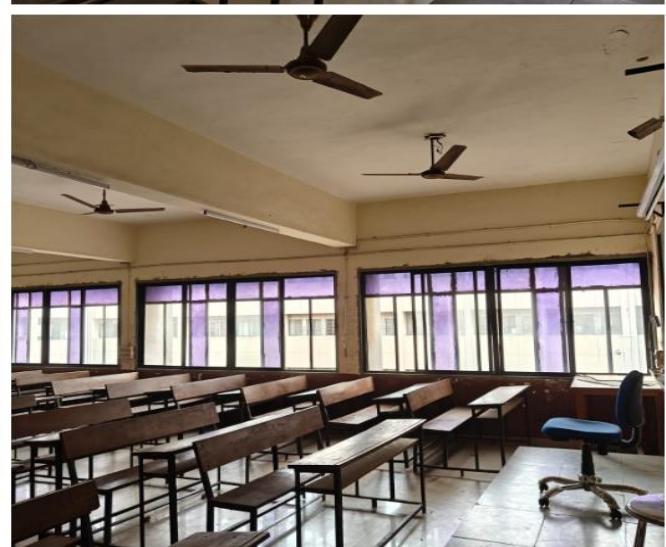
Sr. No.	Building Name and Room No.	Seating Capacity	Area (m <sup>2</sup> )	FACILITIES						
				Projector	Chalk Board/ White Board	Benches	Internet	Laptop (when Required)	Fan	Light
1	Main Building First Floor (116)	90	71.41	Portable projector	√	√	√	√	√	√
2	Main Building First Floor (122)	60	46.58	Portable projector	√	√	√	√	√	√
3	Main Building First Floor (124)	90	70.66	Portable projector	√	√	√	√	√	√
4	Main Building First Floor (134)	60	47.33	Portable projector	√	√	√	√	√	√
5	Main Building First Floor (135)	90	64.88	Fixed Projector with Screen	√	√	√	√	√	√

**Table: 6.1 List of Classroom /Tutorial room with amenities**

**Adequate Classroom Infrastructure Checklist**

**Class room: 116**

Sl. No.	Parameter	Criteria / Norms	Available (Yes/No)	Quantity / Details	Remarks / Evidence Attached
1	Size & Seating Capacity	Minimum 33 sq.m per class, 30 seats	Yes	71.1 Sq.m	Area sheet of Institute
2	Ventilation & Lighting	Adequate lighting and airflow, fans/windows functional	Yes	6 Glass slider window, 2 Ventilation	Photographs
3	ICT Infrastructure	Projector / Internet / Audio system	Yes	Projector, Namo-wifi,	Photographs
4	Furniture	Comfortable Benches/chairs, whiteboard, clean layout	Yes	30 Benches, 1 Chair, 1 Table, 1 Whiteboard, 1 Blackboard	Photographs
5	Cleanliness	Regularly cleaned and maintained	Yes	Regularly cleaning of each classroom	MGSA register
6	Safety Measures	Fire extinguisher, emergency exits, CCTV, first aid	Yes	MCBs, Fire extinguisher near entrance	Photographs
7	Network Connectivity	LAN / Wi-Fi present and functional	Yes	Namo-wifi, Institute wifi (GP-MAIN)	Photographs
8	Evidence of Academic Use	Photos, lecture sessions	Yes	As per timetable and Muster	Timetable file
9	Utilization Time table	Timetable aligns with course delivery	Yes	Student muster	Photographs
10	Display of Academic Information	Timetables, course outcomes, notices displayed	Yes	Notice board available near entrance	Photographs
11	Academic Ambience	Posters, charts, inspirational content	Yes	Posters, charts, inspirational content	Photographs
12	Feedback from Students/Faculty	Collected and acted upon	Yes	Feedback file	Feedback file



**Photographs \_116**

# Adequate Classroom Infrastructure Checklist

## Class room: 122

<b>Sl. No.</b>	<b>Parameter</b>	<b>Criteria / Norms</b>	<b>Available (Yes/No)</b>	<b>Quantity / Details</b>	<b>Remarks / Evidence Attached</b>
1	Size & Seating Capacity	Minimum 33 sq.m per class, 30 seats	Yes	46.58 Sq.m	Area sheet of Institute
2	Ventilation & Lighting	Adequate lighting and airflow, fans/windows functional	Yes	4 Glass slider window, 2 Ventilation	Photographs
3	ICT Infrastructure	Projector / Internet / Audio system	Yes	Motorized Projector screen, Namo-wifi,	Photographs
4	Furniture	Comfortable Benches/chairs, whiteboard, clean layout	Yes	20 Benches, 1 Chair, 1 Table, 1 Whiteboard, 1 Blackboard	Photographs
5	Cleanliness	Regularly cleaned and maintained	Yes	Regularly cleaning of each classroom	MGSA register
6	Safety Measures	Fire extinguisher, emergency exits, CCTV, first aid	Yes	MCBs, Fire extinguisher near entrance	Photographs
7	Network Connectivity	LAN / Wi-Fi present and functional	Yes	Namo-wifi, Institute wifi (GP-MAIN)	Photographs
8	Evidence of Academic Use	Photos, lecture sessions	Yes	As per timetable and Muster	Timetable file
9	Utilization Timetable	Timetable aligns with course delivery	Yes	Student muster	Photographs
10	Display of Academic Information	Timetables, course outcomes, notices displayed	Yes	Notice board available near entrance	Photographs
11	Academic Ambience	Posters, charts, inspirational content	Yes	Posters, charts, inspirational content	Photographs
12	Feedback from Students/Faculty	Collected and acted upon	Yes	Feedback file	Feedback file



**Photographs\_122**

# Adequate Classroom Infrastructure Checklist

## Class room: 124

<b>Sl. No.</b>	<b>Parameter</b>	<b>Criteria / Norms</b>	<b>Available (Yes/No)</b>	<b>Quantity / Details</b>	<b>Remarks / Evidence Attached</b>
1	Size & Seating Capacity	Minimum 33 sq.m per class, 30 seats	Yes	70.66 Sq.m	Area sheet of Institute
2	Ventilation & Lighting	Adequate lighting and airflow, fans/windows functional	Yes	10 Glass slider window, 2 Ventilation	Photographs
3	ICT Infrastructure	Projector / Internet / Audio system	Yes	Projector, Namo-wifi, Audio system	Photographs
4	Furniture	Comfortable Benches/chairs, whiteboard, clean layout	Yes	30 Benches, 1 Chair, 1 Table, 1 Whiteboard, 1 Blackboard	Photographs
5	Cleanliness	Regularly cleaned and maintained	Yes	Regularly cleaning of each classroom	MGSA register
6	Safety Measures	Fire extinguisher, emergency exits, CCTV, first aid	Yes	MCBs, Fire extinguisher near entrance	Photographs
7	Network Connectivity	LAN / Wi-Fi present and functional	Yes	Namo-wifi, Institute wifi (GP-MAIN)	Photographs
8	Evidence of Academic Use	Photos, lecture sessions	Yes	As per timetable and Muster	Timetable file
9	Utilization Timetable	Timetable aligns with course delivery	Yes	Student muster	Photographs
10	Display of Academic Information	Timetables, course outcomes, notices displayed	Yes	Notice board available near entrance	Photographs
11	Academic Ambience	Posters, charts, inspirational content	Yes	Posters, charts, inspirational content	Photographs
12	Feedback from Students/Faculty	Collected and acted upon	Yes	Feedback file	Feedback file



**Photographs\_124**

# Adequate Classroom Infrastructure Checklist

## Class room: 134

<b>Sl. No.</b>	<b>Parameter</b>	<b>Criteria / Norms</b>	<b>Available (Yes/No)</b>	<b>Quantity / Details</b>	<b>Remarks / Evidence Attached</b>
1	Size & Seating Capacity	Minimum 33 sq.m per class, 30 seats	Yes	47.33 Sq.m	Area sheet of Institute
2	Ventilation & Lighting	Adequate lighting and airflow, fans/windows functional	Yes	4 Glass slider window, 2 Ventilation	Photographs
3	ICT Infrastructure	Projector / Internet / Audio system	Yes	Namo-wifi,	Photographs
4	Furniture	Comfortable Benches/chairs, whiteboard, clean layout	Yes	20 Benches, 1 Chair, 1 Table, 1 Blackboard	Photographs
5	Cleanliness	Regularly cleaned and maintained	Yes	Regularly cleaning of each classroom	MGSA register
6	Safety Measures	Fire extinguisher, emergency exits, CCTV, first aid	Yes	MCBs, Fire extinguisher near entrance	Photographs
7	Network Connectivity	LAN / Wi-Fi present and functional	Yes	Namo-wifi, Institute wifi (GP-MAIN)	Photographs
8	Evidence of Academic Use	Photos, lecture sessions	Yes	As per timetable and Muster	Timetable file
9	Utilization Timetable	Timetable aligns with course delivery	Yes	Student muster	Photographs
10	Display of Academic Information	Timetables, course outcomes, notices displayed	Yes	Notice board available near entrance	Photographs
11	Academic Ambience	Posters, charts, inspirational content	Yes	Posters, charts, inspirational content	Photographs
12	Feedback from Students/Faculty	Collected and acted upon	Yes	Feedback file	Feedback file



**Photographs\_134**

# Adequate Classroom Infrastructure Checklist

## Class room: 135

<b>Sl. No.</b>	<b>Parameter</b>	<b>Criteria / Norms</b>	<b>Available (Yes/No)</b>	<b>Quantity / Details</b>	<b>Remarks / Evidence Attached</b>
1	Size & Seating Capacity	Minimum 33 sq.m per class, 30 seats	Yes	64.88 Sq.m	Area sheet of Institute
2	Ventilation & Lighting	Adequate lighting and airflow, fans/windows functional	Yes	6 Glass slider window, 2 Ventilation	Photographs
3	ICT Infrastructure	Projector / Internet / Audio system	Yes	Projector, Motorized screen Namo-wifi, Camera	Photographs
4	Furniture	Comfortable Benches/chairs, whiteboard, clean layout	Yes	30 Benches, 1 Chair, 1 Table, 1 Whiteboard, 1 Blackboard	Photographs
5	Cleanliness	Regularly cleaned and maintained	Yes	Regularly cleaning of each classroom	MGSA register
6	Safety Measures	Fire extinguisher, emergency exits, CCTV, first aid	Yes	MCBs, Fire extinguisher near entrance	Photographs
7	Network Connectivity	LAN / Wi-Fi present and functional	Yes	Namo-wifi, Institute wifi (GP-MAIN)	Photographs
8	Evidence of Academic Use	Photos, lecture sessions	Yes	As per timetable and Muster	Timetable file
9	Utilization Timetable	Timetable aligns with course delivery	Yes	Student muster	Photographs
10	Display of Academic Information	Timetables, course outcomes, notices displayed	Yes	Notice board available near entrance	Photographs
11	Academic Ambience	Posters, charts, inspirational content	Yes	Posters, charts, inspirational content	Photographs
12	Feedback from Students/Faculty	Collected and acted upon	Yes	Feedback file	Feedback file



**Photographs\_135**



**Common Facilities Available at Department**

## **6.2. Availability of adequate and well-equipped workshops, Laboratories and Technical manpower to meet the curriculum requirements (40)**

### **A. Adequacy (10)**

- The Electronics and communication engineering department of Government Polytechnic Gandhinagar having sufficient number of workshops and laboratories for conducting various laboratory sessions
- All Laboratories are furnished with efficient equipments for students to engage in hands on activities with equipments and participate in experiential learning during the practical sessions as well as during flexible times as per their own interest.
- Equipments and Consumables are stored in their designated location with appropriate tagging for the easy accessibility.
- Our laboratories consist of a comprehensive array of instruments and facilities, providing ample resources to support experimentation endeavors.
- All laboratories are provided with adequate display boards/Charts for necessary information to students and sufficient furniture facilities.
- The laboratories slots are provided as per curriculum requirement.

AICTE Guideline for Number of laboratory per year	2 Laboratory per year
Duration of course (Electronics and Communication Department)	3 year
Required number of laboratory per year	6
Number of Department laboratory :	6
Adequate (Yes/No)	Yes, Adequate

## List of Adequate Laboratory with course incorporated

Sr. No.	Name of Laboratory	Building Name and Room No.	Subject wise utilization	Semester
1	Computer and Communication Lab	Main Building First Floor Room No: 115	Principles of Electronic Communication	3
			Digital Communication	4
			VLSI	6
			Computer Network & Data Communication	6
			Fundamentals of Information and Communication Technology	1
			Mobile & Wireless Communication	5
2	Digital and Computer Lab	Main Building First Floor Room No: 117	Basic of Computer & information Technology	1
			Fundamentals of Information and Communication Technology	1
			Digital Logic Design	3
			Circuit Design Tools	4
			Renewable Energy & Emerging Trends in Electronics	6
			Software Practice	5
3	Microprocessor and Microcontroller Lab	Main Building First Floor Room No: 120	Embedded System	5
			Programming In C	3
			Microprocessor & Microcontroller	4
			OOPS & Python Programming	5
			Android App Development	6
4	Electronics Lab	Main Building First Floor Room No: 121	Electronics Circuit and Application (ECA)	2
			Fundamental of Electrical Engineering	1
			Fundamental of Electronics	1
			Linear Integrated Circuit(Analog Electronics)	4
			Electronics Circuit Network & Measurement	3
5	Industrial Electronics and optics Lab	Main Building First Floor Room No: 125	Consumer Electronics	4
			Applied Electronics	4
			Optical Communication	4
			Project-I	5
			Project-II	6
6	Antenna and microwave Lab	Main Building First Floor Room No: 126	Antenna And Wave Propagation	4
			Microwave & Radar Engineering	5
			PCB Designing & Electronics workshop	2

**Table: 6.2.1 List of Laboratories****Facility Available at Laboratory**

Name of Laboratory	Location	Room area available (meter square)	Amenities
Computer and Communication Lab	Main Building First Floor Room No: 115	47.33	Computer, Internet port Wi-Fi, Lab Table, Stool, Faculty Table, Faculty Chair, cupboard, display chart.
Digital and Computer Lab	Main Building First Floor Room No: 117	47.33	Computer, Internet port Wi-Fi, Lab Table, Stool, Faculty Table, Faculty Chair, Cupboard, Display chart.
Microprocessor and Microcontroller Lab	Main Building First Floor Room No: 120	47.33	Computer, Internet port Wi-Fi, Lab Table, Stool, Faculty Table, Faculty Chair, cupboard, Display chart.
Electronics Lab	Main Building First Floor Room No: 121	64.88	Department library, Internet port Wi-Fi, Lab Table, Stool, Faculty Table, Faculty Chair, cupboard,
Industrial Electronics and optics Lab	Main Building First Floor Room No: 125	64.88	Project Room, Internet port, Wi-Fi, Lab-Table, Stool, Faculty Table, Faculty Chair, Cupboard, Display chart.
Antenna and microwave Lab	Main Building First Floor Room No: 126	64.88	Wi-Fi, Lab Table, Stool, Faculty Table, Faculty Chair, Cupboard.

**Table: 6.2.2 Facility Available at Laboratory**

## **6.2. Availability of adequate and well-equipped workshops, Laboratories and Technical manpower to meet the curriculum requirements (40)**

### **(B) Quality of Laboratories/Workshop (20)**

#### **NBA Laboratory Quality Checklist**

##### **Basic Laboratory Details**

Laboratory Name :

Course/Subject Mapped : Will be provided by HOD

Lab coordinator :

Subject coordinator :

No. of Students per Batch : 20 students per batch (1<sup>st</sup> and 2<sup>nd</sup> year),  
15 students per batch (3<sup>rd</sup> year)

Sr.	Parameter	Yes/No	Remarks / Evidence Available
1	Equipment available as per curriculum	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	Working condition of equipment	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	Availability of lab manual	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4	Lab timetable and student allocation	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5	Technician available per lab	<input type="checkbox"/> Yes <input type="checkbox"/> No	
6	Safety equipment present (fire extinguisher, first aid)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
7	Maintenance and servicing record (AMC)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
8	Internet and ICT-enabled tools (e.g. virtual labs, simulations)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
9	Use of lab for project work and research	<input type="checkbox"/> Yes <input type="checkbox"/> No	
10	Lab outcomes mapped to COs/POs	<input type="checkbox"/> Yes <input type="checkbox"/> No	
11	Availability of SOPs or operation guidelines	<input type="checkbox"/> Yes <input type="checkbox"/> No	
12	Compliance with health & safety norms	<input type="checkbox"/> Yes <input type="checkbox"/> No	
13	Register up-to-date	<input type="checkbox"/> Yes <input type="checkbox"/> No	
14	Laboratory is clean and organized	<input type="checkbox"/> Yes <input type="checkbox"/> No	
15	Display boards (safety, experiments list, outcomes)	<input type="checkbox"/> Yes <input type="checkbox"/> No	

- Electronics and communication engineering department has number of different laboratories with well equipped and sufficient Equipment's / Trainer Kits, which fulfill the curriculum requirement.
- Computer laboratory having LAN facility.
- Laboratories are open for students to carry out their Project work & another work.
- Purchase of required new equipment/computer is proposed on regular basis.
- Practical work is done by the students under the guidance of concerned faculty member and the students have to maintain record keeping and readings regularly.
- Cleanliness and tidiness is maintained regularly.
- Safety measures like first aid boxes and fire extinguishers are available and maintained periodically.

Sr. No.	Name of Lab	Building Name and Room No	List of Equipments	Subject wise Utilization
1	Computer and Communication Lab	Main Building First Floor  Room No: 115	<ul style="list-style-type: none"> <li>• Amplitude Modulation Demodulation</li> <li>• Frequency modulation and demodulation</li> <li>• Pulse width modulation and demodulation (PWM)</li> <li>• Pulse position modulation and demodulation (PPM)</li> <li>• Pulse Amplitude modulation and demodulation (PAM)</li> <li>• CRO, DSO, Function generator</li> </ul>	<ul style="list-style-type: none"> <li>• Principles of Electronic Communication</li> </ul>
			<ul style="list-style-type: none"> <li>• ASK modulation &amp; demodulation</li> <li>• FSK modulation &amp; demodulation</li> <li>• PSK modulation &amp; demodulation</li> </ul>	<ul style="list-style-type: none"> <li>• Digital Communication</li> </ul>
			<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Open Source software</li> </ul>	<ul style="list-style-type: none"> <li>• Computer Networks,</li> <li>• Fundamentals of Information and Communication Technology</li> </ul>
2	Digital and Computer Lab	Main Building First Floor	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Open Source software</li> </ul>	<ul style="list-style-type: none"> <li>• Basic of Computer &amp; information Technology</li> <li>• Circuit Design Tools,</li> <li>• Software Lab Practice</li> </ul>

		Room No: 117	<ul style="list-style-type: none"> <li>• Half Adder and Full Adder</li> <li>• All Logic Gate</li> <li>• MUX and DEMUX trainer kit</li> <li>• Digital Board to verify various flip flops</li> <li>• 4 Bit Binary Adder &amp; Subtractor Trainer</li> </ul>	<ul style="list-style-type: none"> <li>• Digital Logic Design</li> </ul>
3	Microprocessor and Microcontroller Lab	Main Building First Floor  Room No: 120	<ul style="list-style-type: none"> <li>• Computer system</li> <li>• Open Source software</li> </ul>	<ul style="list-style-type: none"> <li>• OOPS &amp; Python Programming</li> <li>• Programming In C</li> <li>• Android App Development</li> </ul>
			<ul style="list-style-type: none"> <li>• Microcontroller trainer Kit</li> <li>• Arduino Kit</li> <li>• Interface kit</li> <li>• Programmer kit</li> </ul>	<ul style="list-style-type: none"> <li>• Microprocessor &amp; Microcontroller</li> <li>• Embedded System</li> </ul>
4	Electronics Lab	Main Building First Floor  Room No: 121	<ul style="list-style-type: none"> <li>• Multimeter,</li> <li>• CRO, DSO</li> <li>• Function Generator</li> <li>• Discrete trainer kit</li> <li>• Breadboard kit</li> <li>• Transistor kit</li> <li>• Diode kit</li> <li>• Decade Resistor kit</li> <li>• Decade capacitor box</li> <li>• Display Board of Cables</li> <li>• Display Board of Electronics Component and Switch Display Board</li> <li>• KVL and KCL kit</li> <li>• Thermistor characteristics Apparatus</li> </ul>	<ul style="list-style-type: none"> <li>• Electronic Components &amp; Practice</li> <li>• Electronics Circuit and Application (ECA)</li> <li>• Fundamental of Electrical Engineering</li> </ul>
			<ul style="list-style-type: none"> <li>• UJT Relaxation oscillator</li> <li>• Operational Amplifier kit (OP-AMP)</li> <li>• IC Trainer kit</li> <li>• 555 timer kit</li> <li>MOSFET Characteristics Kits</li> </ul>	<ul style="list-style-type: none"> <li>• Analog Electronics,</li> <li>• Linear Integrated Circuit(Analog Electronics)</li> </ul>
			<ul style="list-style-type: none"> <li>• Digital multimeter,</li> <li>• Maxwell's Bridge,</li> <li>• LVDT trainer kit,</li> </ul>	<ul style="list-style-type: none"> <li>• Electronics Instruments And Measurement</li> <li>• Electronics Circuit Network &amp; Measurement</li> </ul>

5	Industrial Electronics and optics Lab	Main Building First Floor  Room No: 125	<ul style="list-style-type: none"> <li>• UJT as relaxation oscillator</li> <li>• SCR, Diac, and Traiac characteristics</li> <li>• SCR and AC phase control</li> </ul>	<ul style="list-style-type: none"> <li>• Industrial Electronics</li> <li>• Applied Electronics</li> </ul>
			<ul style="list-style-type: none"> <li>• Fiber communication trainer</li> </ul>	<ul style="list-style-type: none"> <li>• Optical Communication</li> </ul>
			<ul style="list-style-type: none"> <li>• Computer System</li> <li>• CRO</li> <li>• Function Generator</li> </ul>	<ul style="list-style-type: none"> <li>• Project I</li> <li>• Project II</li> </ul>
6	Antenna and microwave Lab	Main Building First Floor  Room No: 126	<ul style="list-style-type: none"> <li>• Antenna trainer kit</li> </ul>	<ul style="list-style-type: none"> <li>• Antenna and Wave Propagation</li> </ul>
			<ul style="list-style-type: none"> <li>• Microwave bench</li> </ul>	<ul style="list-style-type: none"> <li>• Microwave &amp; Radar Engineering</li> </ul>
			<ul style="list-style-type: none"> <li>• Component display board &amp; different types of diodes</li> <li>• Digital multimeter</li> <li>• CRO</li> <li>• Breadboard trainer kit</li> <li>• Soldering Iron</li> <li>• Function Generator</li> <li>• DC Power Supply</li> <li>• Soldering Iron</li> <li>• PBC</li> <li>• DC Power Supply</li> <li>• Etching Machine</li> </ul>	<ul style="list-style-type: none"> <li>• PCB Designing &amp; Electronics workshop</li> </ul>

**Table: 6.2.3. Laboratory Equipments details with Subject wise Utilization**

### C. Technical Manpower support –Eligible and Adequate (10)

Mentioned is the list of major equipment available in the department. Apart from these, many other equipment costing less than 30,000/- are also available in the department.

Sr. No.	Name of the Laboratory	No. of students per set-up (Batch Size)	Name of the Important equipment (costing more than Rs.30000)	Weekly utilization status (all the courses for which the lab is utilized)	Technical Manpower support		
					Name of the technical staff	Designation	Qualification
1	Computer and Communication Lab (Room: 115)	20 Students (1 <sup>st</sup> , 2 <sup>nd</sup> year), 15 Students (3 <sup>rd</sup> year)	Digital Storage Oscilloscope, Computer System	As per Time table.	Mr. Pradip R Vaniya	Lab Assistant	Diploma in Civil Engineering
2	Digital and Computer Lab (Room: 117)	20 Students (1 <sup>st</sup> , 2 <sup>nd</sup> year), 15 Students (3 <sup>rd</sup> year)	Computer System	As per Time table.	Mr. Pradip R Vaniya	Lab Assistant	Diploma in Civil Engineering
3	Microprocessor and Microcontroller Lab (Room: 120)	20 Students (1 <sup>st</sup> , 2 <sup>nd</sup> year), 15 Students (3 <sup>rd</sup> year)	Computer System	As per Time table.	Mr. Pradip R Vaniya	Lab Assistant	Diploma in Civil Engineering
4	Antenna and microwave Lab(Room: 126)	20 Students (1 <sup>st</sup> , 2 <sup>nd</sup> year), 15 Students (3 <sup>rd</sup> year)	Antenna Trainer kit Microwave bench	As per Time table.	Mr. Pradip R Vaniya	Lab Assistant	Diploma in Civil Engineering

Table: 6.2.4. Laboratory Equipment details and Technical Manpower Support



**Lab photos**



**Lab photos**

### **6.3. Additional facilities created for improving the quality of learning experience in laboratories (20)**

- A. Facilities (10)
- B. Effective Utilization (05)
- C. Relevance to POs/PSOs (05)

#### **A. Facilities (10)**

The Electronics and Communication Engineering Department offers the following additional facilities to enhance the teaching-learning experience in laboratories and to foster creative skills:

- Regular procurement of equipment as per the university circulars to keep laboratories updated.
- A department library, created and managed by students, providing additional learning resources and promoting a culture of self-directed learning.
- NaMO Wi-Fi with a speed of 100 Mbps installed in the computer lab to facilitate high-speed internet access for students.
- LAN ports established in all laboratories.
- A projector with a screen installed in Room 135, supporting effective teaching-learning processes and enabling students to deliver project presentations efficiently.

<b>Government Polytechnic, Gandhinagar</b> <b>Electronics &amp; Communication Engineering Department</b>			
<b>Year Wise purchase Equipment and Furniture</b>			
<b>Sr. No.</b>	<b>Year</b>	<b>Equipment</b>	<b>Furniture</b>
<b>1</b>	<b>2019-20</b>	<b>80800</b>	<b>0</b>
<b>2</b>	<b>2020-21</b>	<b>6624.94</b>	<b>0</b>
<b>3</b>	<b>2021-22</b>	<b>74578</b>	<b>0</b>
<b>4</b>	<b>2022-23</b>	<b>32109</b>	<b>40340.8</b>
<b>5</b>	<b>2023-24</b>	<b>82026</b>	<b>21000</b>
<b>6</b>	<b>2024-25</b>	<b>1257338</b>	<b>99014</b>

### Year-wise List of Equipment Purchases

**2022-23**

<b>SR</b>	<b>Item No</b>	<b>Page No</b>	<b>Description</b>	<b>GEM order</b>	<b>Date of Purchase</b>	<b>Quantity</b>	<b>Total Amount</b>	<b>Entry in Register</b>
1	90	90	Display Board of Different Types of Connectors	GEMC-511687746367118	10/1/2023	1	6766	E
2	91	91	Display Board of Different Types of Relay	GEMC-511687737675254	10/1/2023	1	7605	E
3	92	92	Display Board on Semiconductor Devices	GEMC-511687795906976	10/1/2023	1	6142	E
4	93	93	Display Board of Electronics Component and Switch Display Board	GEMC-511687799954386	27/12/2022	1	4294	E
5	94	94	Display Board of Cables	GEMC-511687713249884	10/1/2023	1	4485	E
6	95	95	Bread Board Trainer with power supply	GEMC-511687790296848	27/12/2022	1	2817	E
<b>Total</b>						<b>32109</b>		

**2023-24**

<b>SR</b>	<b>Item No</b>	<b>Page No</b>	<b>Description</b>	<b>Model</b>	<b>Date of Purchase</b>	<b>Quantity</b>	<b>Total Amount</b>	<b>Entry in Register</b>
1	96	96	Digital Multiplexer Kit	GEMC-511687709260328	19-01-2024	2	7998	E
2	97	97	Mosfet Characteristics Apparatus	GEMC-511687728534320	19-01-2024	1	7000	E

3	98	98	4 Bit Binary Adder & Subtractor Trainer	GEMC-511687757184028	19-01-2024	2	6400	E
4	99	99	Verification Of Truth Table Of Logic Gates	GEMC-511687786998075	19-01-2024	2	6700	E
5	100	100	Half & Full Adder Trainer	GEMC-511687753954252	19-01-2024	2	6400	E
6	101	101	KVL And KCL Trainer Kit	GEMC-511687708389199	19-01-2024	1	4400	E
349	384	33	HP Desktop Computer system	HP PC i5 12th generation	3/12/2023	1	43128	D
						<b>Total</b>	<b>82026</b>	

2024-25								
SR	Item No	Page No	Description	Model	Date of Purchase	Quantity	Total Amount	Entry in Register
1	102	102	Thermistor characteristics Apparatus	GEMC-511687703250032	5/10/2024	1	5300	E
2	103	103	C-LITE Projector Screen 120 Inches (C-LITE) Model   C-LITE Motorised 120	GEMC-511687715560504	7/10/2024	2	19598	E
343	385	34	ACER DESKTOP VERITON M200-P500	T-401/2024-25	12/12/2024	20	1232440	D
							<b>Total</b>	<b>1257338</b>

### Year-wise List of Furniture Purchases

<b>2022-23</b>								
<b>S R</b>	<b>Item No</b>	<b>Page No</b>	<b>Description</b>	<b>GEM order</b>	<b>Date of Purchase</b>	<b>Quant ity</b>	<b>Total Amount</b>	<b>Entry in Register</b>
1	45	92	Faculty Chair Class 2	GEMC 511687755670347	9/3/2023	2	7340.8	F
2	43	80	Steel cupboard (Major)	GEMC 511687747218356	28/2/2023	3	33000	F
Total							40340.8	
<b>2023-24</b>								
<b>S R</b>	<b>Item No</b>	<b>Page No</b>	<b>Description</b>	<b>GEM order</b>	<b>Date of Purchase</b>	<b>Quantity</b>	<b>Total Amoun t</b>	<b>Entry in Register</b>
1	57	37	Steel cupboard (Major)	GEMC 5116877261645430	45086	2	21000	F
Total							21000	
<b>2024-25</b>								
<b>S R</b>	<b>Item No</b>	<b>Page No</b>	<b>Description</b>	<b>GEM order</b>	<b>Date of Purchase</b>	<b>Quantity</b>	<b>Total Amoun t</b>	<b>Entry in Register</b>
1	18	50	Computer Chair	GEMC- 511687755837610	04-03-2025	20	35300	F
2	15	43	Lab Table	GEMC- 511687777160660	04-03-2025	2	12600	F
3	2	4	Executive Chair Class-II	GEMC- 511687709345861	08-01-2025	1	4509	F

4	13	37	Steel Stool	GEMC- 511687774502952	08-01-2025	15	20505	F
5	1	1	Steel Cup Board	GEMC- 511687714589496	4/2/2025	3	26100	F
					Total	99014		

## B. Effective Utilization (05)

For efficient and effective utilization of available resources following measures have been taken.

- Equipment Utilization Register format is mentioned in below table.
- Internet Utilization during working hours

<b>Government Polytechnic , Gandhinagar Lab Utilization Register - Lab Department: ELECTRONICS &amp; COMMUNICATION ENGINEERING Term:</b>								
Sr.	Date	Time	Subject	Semester	Batch	Name of Equipment	Faculty Name	Sign

**Table: 6.3.1 Laboratory Equipment Utilization Format**

## C. Relevance to POs/PSOs (05)

The details of effective utilization of facilities created for improving the quality of learning and teaching for student with relevance to Pos/ PSOs are given in table below.

### 1. Year-wise List of Equipment Purchases

#### Additional facilities created (2022-23)

Sr. No.	Facility Name	Details	Reason(s) for creating facility	Utilization	Areas in which students' are expected to have enhanced learning	Relevance to POs/P SOs
1	Display Board of Different Types of Connectors	<ul style="list-style-type: none"> <li>• Board displaying RF connectors, audio/video connectors, network connectors</li> <li>• Labeled for easy identification</li> </ul>	To help students visually identify and understand various connectors practically as per GTU EC syllabus.	Fundamental of Electronics	Identification of connector  Practical applications	PO1, PO2, PSO1
2	Display Board of Different Types of Relay	<ul style="list-style-type: none"> <li>• Includes electromagnetic, solid-state, reed relays</li> <li>• Shows pin configuration and application notes</li> </ul>	For demonstrating different relay types to students as per Electronics curriculum.	Fundamental of Electronics	Understanding relay operation  Applications in circuits	PO1, PO2, PO3, PSO1
3	Display Board on Semiconductor Devices	<ul style="list-style-type: none"> <li>• Displays diode, LED, Zener diode, BJT, FET, SCR with symbol, specifications, and package type</li> </ul>	To enable students to visually identify and correlate theoretical learning with practical semiconductor devices as per GTU EC syllabus.	Fundamental of Electronics	Semiconductor device identification  understanding characteristics	PO1, PO2, PSO1, PSO2

4	Display Board of Electronics Component and Switch Display Board	<ul style="list-style-type: none"> <li>Contains resistors, capacitors, inductors, push-button switches, toggle switches, rotary switches with value ranges and physical samples</li> </ul>	To enhance student familiarity with electronic components and switches practically, supporting Basic Electronics practical learning.	Fundamental of Electronics	Component recognition Practical usage in circuits	PO1, PO2, PSO1
5	Display Board of Cables	<ul style="list-style-type: none"> <li>Various cables Twisted Pair Cable (UTP/STP), Coaxial Cable, Optical Fiber Cable (Single-mode / Multi-mode), Ribbon Cable, Power Cable (Single-core / Multi-core), USB Cable (Type A/B/C, Micro USB), HDMI Cable, Audio Cable (3.5mm Aux, RCA), Serial Cable (RS232, DB9), LAN Patch Cord (RJ45)</li> </ul>	To facilitate hands-on circuit implementation as part of IDC, Basic Electronics, and Analog Electronics practical experiments as per GTU curriculum.	Fundamental of Electronics	Practical circuit building Debugging skills	PO1, PO2, PO3, PSO1, PSO2
6	Bread Board Trainer with power supply	<ul style="list-style-type: none"> <li>Breadboard with regulated DC supply (<math>\pm 12V</math>, 5V)</li> <li>Patch cords provided</li> <li>Built-in power indicator and fuse protection</li> </ul>	To help students visually identify and understand various connectors practically as per GTU EC syllabus.	Fundamental of Electronics	Identification of connectors Practical applications	PO1, PO2, PSO1

Table 6.3.2 Additional facilities (2022-23)

## Additional facilities created (2023-24)

Sr. No .	Facility Name	Details	Reason(s) for creating facility	Utilization	Areas in which students' are expected to have enhanced learning	Relevance to POs/ PSOs
1	Digital Multiplexer Kit	<ul style="list-style-type: none"> <li>• Trainer kit with 4:1 and 8:1 multiplexers</li> <li>• Switch inputs and LED outputs</li> <li>• Operates on 5V DC</li> </ul>	To perform experiments on multiplexers and understand digital data selection circuits as per GTU digital electronics syllabus.	Digital Electronics	Digital circuit design Practical multiplexing	PO1, PO2, PSO1
2	Mosfet Characteristics Apparatus	<ul style="list-style-type: none"> <li>• Apparatus to study V-I characteristics of MOSFET</li> <li>• Includes variable DC supply, digital voltmeter and ammeter</li> </ul>	To study MOSFET characteristics practically, supporting Analog Electronics experiments in the curriculum.	Analog Electronics, Electronic s Circuit and Application (ECA)	Understanding MOSFET behavior V-I characteristics plotting	PO1, PO2, PSO1, PSO2
3	4 Bit Binary Adder & Subtractor Trainer	<ul style="list-style-type: none"> <li>• Trainer kit for 4-bit addition and subtraction</li> <li>• Switch input and LED output</li> <li>• Based on IC logic</li> </ul>	To enable practical understanding of binary addition and subtraction using digital circuits as per GTU syllabus.	Digital Electronics	Binary arithmetic operations Digital IC applications	PO1, PO2, PSO1
4	Verification Of Truth Table Of Logic Gates	<ul style="list-style-type: none"> <li>• Digital trainer for verifying truth tables of AND, OR, NOT, NAND, NOR, XOR, XNOR gates</li> </ul>	To help students verify and understand logic gate operations practically, enhancing digital fundamentals.	Digital Electronics	Logic gate operation Truth table verification	PO1, PO2, PSO1
5	Half & Full Adder Trainer	<ul style="list-style-type: none"> <li>• Trainer kit for half adder and full adder circuits</li> <li>• Input switches, output LEDs</li> <li>• Includes circuit diagram for learning</li> </ul>	To demonstrate half and full adder working, supporting digital electronics lab learning under GTU curriculum.	Digital Electronics	Combinational logic circuits Digital addition concepts	PO1, PO2, PSO1
6	KVL And KCL Trainer Kit	<ul style="list-style-type: none"> <li>• Trainer board to verify Kirchhoff's Voltage Law and Kirchhoff's Current Law</li> <li>• Includes variable voltage source and measurement points</li> </ul>	To practically verify KVL and KCL in electrical circuits, aligned with Basic Electrical Engineering experiments.	Fundamental of Electrical Engineering, Electronic s Circuit and Application (ECA), Fundamental of	Electrical circuit analysis Practical law verification	PO1, PO2, PO3, PSO1

				Electronics		
7	HP Desktop Computer System	<ul style="list-style-type: none"> <li>• HP Desktop with Intel i5 processor, 8GB RAM, 512GB SSD</li> <li>• Windows and EDA tools installed</li> <li>• LAN and internet connectivity</li> </ul>	To provide students access to simulation tools, coding practice, and report generation in labs and project work.	Computer Lab, Project Lab	Software tool usage  Simulation and documentation skills	PO1, PO2, PO4, PO5, PSO2

**Table 6.3.3 Additional facilities (2023-24)**

### Additional facilities created (2024-25)

Sr. No .	Facility Name	Details	Reason(s) for creating facility	Utilization	Areas in which students' are expected to have enhanced learning	Relevance to POs/ PSOs
1	Thermistor characteristics Apparatus	<ul style="list-style-type: none"> <li>Apparatus to study temperature vs resistance characteristics of thermistors</li> <li>Includes variable heat source, thermometer, and measurement setup</li> </ul>	To study the characteristics of thermistors practically, aiding in the understanding of temperature sensors and their application in electronics as per GTU syllabus.	Electronics Circuit Network & Measurement	<p>Understanding thermistors as temperature sensors</p> <p>Plotting and analyzing characteristics</p>	PO1, PO2, PO4 PSO1, PSO2
2	C-LITE Projector Screen 120 Inches (C-LITE) Model   C-LITE Motorised 120	<ul style="list-style-type: none"> <li>120-inch motorised projector screen</li> <li>Remote control operation</li> <li>Matte white surface for clear visibility</li> <li>Wall/ceiling mountable</li> </ul>	To facilitate effective teaching and demonstration of practicals, simulations, and presentations in classrooms and labs, enhancing visualization and engagement.	Classroom, Seminar Hall, and Lab demonstrations	<p>Visual learning through clear demonstrations</p> <p>Enhanced engagement during practical and theory sessions</p>	PO2, PO4, PSO2
3	Acer Desktop Veriton M200-P500	<ul style="list-style-type: none"> <li>HP Desktop with Intel i5 processor, 8GB RAM, 512GB SSD</li> <li>Windows and EDA tools installed</li> <li>LAN and internet connectivity</li> </ul>	To provide students access to simulation tools, coding practice, and report generation in labs and project work.	Computer Lab, Project Lab	<p>Software tool usage</p> <p>Simulation and documentation skills</p>	PO1, PO2, PO4, PO5, PSO2

**Table 6.3.4 Additional facilities (2024-25)**

## 2. Department Library

Sr. No	Facility Name	Details	Reason(s) for creating facility	Utilization	Area in which students are expected to have enhanced learning	Relevance to Pos/PSOs
1	Department Library	Student-managed, with donated books	Encourage resource-sharing, self-management, and learning	Throughout the academic year	Academic, personal, and professional growth	PO6, PO7, PSO1

### Digital Library Inauguration Department of Electronics and Communication Government Polytechnic, Gandhinagar

The Department of Electronics and Communication proudly inaugurated its new **Digital Library** on **1<sup>st</sup> May 2025** in **Room No. 121**. The inauguration ceremony was graced by **Principal Shree Mr. R. D. Raghani**, **Head of Department Mr. N. B. Shah**, and all faculty members of the department.

This innovative digital library software was developed by the talented **4<sup>th</sup> semester students** of the department under the expert guidance of **Dr. Pravin Dalvadi**, **Mr. Kalpesh Parmar**, and **Mr. Pratik Parmar**. The platform enables students to **search for books**, **issue books**, and **track due timings**. An automated **email notification system** is also integrated to alert students when the book return deadline is exceeded.

The project reflects the department's commitment to fostering student innovation and enhancing academic resources. A notable highlight of the initiative is the generous **donation of over 75 books** by **Mr. Palak Bhatt**, **Mr. Vishal Jariwala**, and **Mr. Kalpesh Parmar**.

This milestone marks a significant step toward digitization and improved access to learning materials for all students of the department.



**Glimpses of Digital Library Inauguration, Department of Electronics and Communication  
Government Polytechnic, Gandhinagar, 1<sup>st</sup> May 2025**

All subject learning materials are uploaded to the department's Google Drive by the respective subject teachers. Students can easily access these materials by scanning the provided QR code using the NaMO Wi-Fi with a speed of 100 Mbps.

The department's Google Drive includes:

- Subject syllabus
- Lab manuals
- Assignments
- Learning materials
- GTU question papers



This facility ensures that students have easy and organized access to all essential learning resources anytime.

Sr. No	Facility Name	Details	Reason(s) for creating facility	Utilization	Area in which students are expected to have enhanced learning	Relevance to Pos/PSOs
3	NaMO Wi-Fi	100 MBPS	With the help of internet connectivity students and staff members gets advantages of digital learning resources and free online learning resources. It is also required for general data filling and for any college or university related online activity or process.	Throughout the academic year	Digital learning, e-resources, research	<b>PO1, PO4, PO6, PO7, PSO2</b>
4	LAN facility with sufficient Speed	Sufficient LAN ports are available with 100 Mbps	To enable seamless access to digital resources and fosters efficient collaboration, enhancing the learning experience and preparing students for technological advancements.	In laboratory sessions and beyond the working hours.	Curricular, Co-curricular and Extra-curricular domains.	<b>PO1, PO4, PO7, PSO2</b>
5	Multimedia Classroom	The facility of Overhead Projectors and screens were added in classroom-135.	To enables clear visualization of complex concepts, aiding in practical demonstrations and technical presentations.	In all classroom sessions and extra sessions.	Curricular, Co-curricular and Extra-Curricular domains.	<b>PO1, PO3, PO6, PSO1</b>

## **6.4. Laboratories: Maintenance and overall ambiance (10)**

### **Maintenance of Laboratory:**

- Regular check-up and maintenance of equipment in laboratories are carried out before the commencement of the semester or as and when required. As per the requirement, minor repairs are carried out by the laboratory Assistant/faculty and major repairs are outsourced by the Institute.
- Computers maintenance is carried out before the commencement of the semester or as and when required. Minor repairs are carried out by the laboratory Assistant/faculty and major repairs are outsourced (on the call basis) by the Institute.
- Department having internet of NamoWi-Fi is maintained for students and faculty usage.
- Model /projects are stored properly in the Laboratory.
- Laboratories Utilization register is maintained for all laboratories.
- The Major maintenance of Electrical and Civil work of the laboratories are being carried out by R&B department.

### **Overall Ambiance:**

- Department has sufficient laboratories which are used as per time-table to meet the curriculum requirements.
- All the laboratories are equipped with sufficient equipment to conduct the experiments.
- Each Lab is equipped with white/chalk board, Internet and other teaching learning aids.
- All the laboratories have available soft copy of lab manual.
- All the laboratories are equipped with sufficient furniture like table, stool and chair.
- Lightening system is very effective, along with natural light in every laboratory.
- Sufficient number of windows is available for ventilation and natural light.
- Do's and don'ts and safety measures rules are displayed in each laboratory.
- First-Aid kit for medical emergency is available.
- Fire extinguisher is provided for fire emergency.
- Students are freely allowed to use laboratories/Computer center for their final year project work.

## 6.5. Availability of computing facility in the department (10)

No. of computer terminals	Students Computer ratio	Details of legal software	Details of networking	Details of Printers/Scanners etc.
08 Terminals (PCs) in Room no.: 115	3 students per PC	<ul style="list-style-type: none"> <li>• Windows professional factory loaded</li> <li>• Microsoft Office</li> <li>• Open-Source Software</li> <li>• Open-Source simulator</li> </ul>	<ul style="list-style-type: none"> <li>• NaMo Wi-Fi (100 mbps)</li> <li>• Total 50 High Speed LAN ports are available in department</li> </ul>	<ul style="list-style-type: none"> <li>• 3 Printer</li> <li>• 1 Multifunction Printer</li> <li>• 2 Projector</li> </ul>
08 Terminals (PCs) in Room no.: 117				
10 Terminals (PCs) in Room no.: 120				

Table 6.5.1 Computer facilities

- 6.5.1 Inventory Records**

The department has **three dedicated computer laboratories** to facilitate effective teaching-learning and hands-on practice for students. The **Computer and Communication Lab (Room No: 115)**, **Digital and Computer Lab (Room No: 117)**, and **Microprocessor and Microcontroller Lab (Room No: 120)** are located on the first floor of the main building. All these laboratories are equipped with computers and required software as per curriculum needs, detailed in Annexure 1. These computer laboratories support various subject-related practical, project development, and simulation-based learning, ensuring that students gain essential skills aligned with program outcomes and industry requirements.

Sr. NO.	Name of Laboratory	No. of Computer	Location	Specification
1	Computer and Communication Lab	08	Main Building First Floor Room No: 115	As per annexure 1
2	Digital and Computer Lab	08	Main Building First Floor Room No: 117	As per annexure 1
3	Microprocessor and Microcontroller Lab	10	Main Building First Floor Room No: 120	As per annexure 1

Table 6.5.2 Details of Computer Laboratories

Sr. No.	Computer company	Specification
1	Acer Desktop Veriton	<ul style="list-style-type: none"> <li>• Processor: AMD Ryzen 7 5000 series or higher</li> <li>• Graphics Type: Integrated</li> <li>• Keyboard Connectivity: Wired</li> <li>• Mouse Connectivity: Wired</li> <li>• Total internal storage capacity: 1 TB NVME</li> <li>• Operating System (Factory Pre-Loaded): Windows 11 Professional</li> <li>• RAM Size (GB): 16 with 1 DIMM slot free.</li> <li>• LED Backlit Monitor Size (INCHES): 23.8*</li> <li>• Cabinet Type: Tower</li> <li>• Inbuilt Wireless &amp; Bluetooth Connectivity: Yes</li> <li>• Number of Ethernet Ports: 1 ( 10/100/1000 on board Integrated Gigabit Port)</li> <li>• On Site OEM Warranty (Year): 5</li> </ul>
2	HP Desktop Computer system	<ul style="list-style-type: none"> <li>• 12<sup>th</sup> Generation Intel Core i5 processor</li> <li>• Windows 11 Home</li> <li>• Graphics Type: Integrated</li> <li>• Keyboard Connectivity: Wired</li> <li>• Mouse Connectivity: Wired</li> <li>• 8 GB DDR4 RAM</li> <li>• 512 GB SSD Hard Drive</li> <li>• Intel UHD Graphics 730</li> <li>• 1 VGA, 1 HDMI-out 1.4b</li> <li>• Cabinet Type: Tower</li> <li>• Inbuilt Wireless &amp; Bluetooth Connectivity: Yes</li> </ul>
3	Acer Desktop Computer system	<ul style="list-style-type: none"> <li>• <b>Processor (CPU)</b> Intel Core i3-3240 (3rd Gen) Base Frequency: 3.4 GHz 3 MB Intel Smart Cache</li> <li>• Windows 10</li> <li>• <b>Motherboard</b> Compatible with LGA 1155 socket (H61/H67/B75 chipset, typically)</li> <li>• 4 GB DDR4 RAM</li> <li>• Graphics Type: Integrated</li> <li>• Keyboard Connectivity: Wired</li> <li>• Mouse Connectivity: Wired</li> <li>• USB 2.0, USB 3.0 (depends on motherboard), VGA, HDMI/DVI (optional), Ethernet LAN, Audio In/Out</li> </ul>

4	Lenovo ThinkCenter M710e	<ul style="list-style-type: none"> <li>• <b>Processor (CPU):</b> Intel Core i3-7100 (7th Gen)</li> <li>• Base Frequency: 3.9 GHz 3 MB Intel Smart Cache</li> <li>• Windows 10 Pro</li> <li>• Motherboard Compatible with Intel B250 chipset</li> <li>• 8 GB DDR4 RAM</li> <li>• Graphics Type: Integrated (Intel HD Graphics 630)</li> <li>• Keyboard Connectivity: Wired</li> <li>• Mouse Connectivity: Wired</li> <li>• USB 2.0, USB 3.1</li> <li>• VGA, Display Port, Ethernet LAN, Audio In/Out</li> </ul>
---	--------------------------	--

**Table 6.5.3 Specification of Computer**

1. B Details of Printer, Scanner and Projector

Sr. No.	Item	Quantity
1	Printer	4
2	Projector	2

Sr. No.	Particular	Specification
1	Canon MF3010 Scanner/ Printer (Room no 119)	<ul style="list-style-type: none"> <li>• <b>Type:</b> Monochrome laser <b>Print/Scan/Copy</b></li> <li>• <b>Print speed:</b> 18–19 ppm (A4), first print ~7.8 s</li> <li>• <b>Print quality:</b> 600×400 dpi (up to 1200×600 dpi refined)</li> <li>• <b>Scan:</b> flatbed CIS, up to 600×600 dpi optical, 9600 dpi enhanced</li> <li>• Paper input/output: 150-sheet tray / 100-sheet output</li> <li>• <b>Memory:</b> 64 MB, connectivity via USB-2.0</li> </ul>
2	Canon MF244 dw Scanner/ Printer (Room no 117)	<ul style="list-style-type: none"> <li>• <b>Type:</b> Mono-laser all-in-one (print, copy, scan) with duplex and ADF</li> <li>• <b>Print speed:</b> Up to 27 ppm (A4), duplex at ~15 ipm.</li> <li>• <b>Print quality:</b> 600×600 dpi native, up to 1200×1200 dpi with refinement</li> <li>• <b>Copying:</b> supports 2-on-1, 4-on-1, ID-card copy</li> <li>• <b>Scanning:</b> CIS flatbed + 35-sheet ADF, optical 600×600 dpi, enhanced up to 9600×9600 dpi \</li> <li>• <b>Paper handling:</b> 250-sheet tray + 1-sheet multipurpose + 100-sheet output; duplex supports</li> </ul>

		<p>A4, Letter, Legal etc.</p> <ul style="list-style-type: none"> <li><b>Connectivity:</b> USB 2.0, Ethernet, Wi-Fi 802.11b/g/n, Wi-Fi Direct,</li> <li><b>Memory:</b> 512 MB RAM</li> </ul>
3	Samsung laser ML 1640Laser Printer (Room no. 101)	<ul style="list-style-type: none"> <li><b>Type:</b> Compact monochrome laser printer for A4/Letter pages</li> <li><b>Print Speed:</b> Up to 16 ppm (A4) / 17 ppm (Letter), first page in &lt;10 s</li> <li><b>Resolution:</b> Up to <math>1,200 \times 600</math> dpi</li> <li><b>Memory &amp; Processor:</b> 150 MHz CPU with 8 MB RAM</li> <li><b>Interface:</b> USB 2.0 connectivity</li> <li><b>Paper Handling:</b> 150-sheet input tray, 100-sheet output; supports up to A4/Legal</li> <li><b>Duty Cycle:</b> Up to 5,000 pages/month.</li> </ul>
4	HP LaserJet P1606dn Printer (Room no 125)	<ul style="list-style-type: none"> <li><b>Monochrome laser:</b> ~26 ppm, <math>600 \times 600</math> dpi (up to 1200 dpi achievable)</li> <li><b>Features:</b> automatic duplex, network-ready, USB 2.0 and Ethernet</li> <li><b>Print Speed:</b> Up to 26 ppm</li> <li><b>Resolution:</b> <math>600 \times 600</math> dpi (FastRes 1200)</li> <li><b>Memory:</b> 32 MB</li> <li>Compact design, optional 128 MB slot</li> <li><b>Connectivity:</b> USB 2.0, Ethernet</li> </ul>
5	Hitachi CP-X4015WN Projector (portable )	<ul style="list-style-type: none"> <li><b>Display:</b> 3LCD, native XGA <math>1024 \times 768</math> (4:3), supports up to <math>1600 \times 1200</math> compressed</li> <li><b>Connectivity:</b> VGA, HDMI, RJ-45 network, USB presentations</li> <li><b>Audio:</b> Dual 8 W stereo speakers (16 W total)</li> <li>Ideal for mid-sized classroom display</li> </ul>
6	infocus projector (Room 135)	<ul style="list-style-type: none"> <li><b>Display &amp; Optics:</b> Texas Instruments DLP, 0.55" DMD – XGA <math>1024 \times 768</math> native resolution (4:3)</li> <li><b>Brightness:</b> 3,800 ANSI lumens (Eco mode: 3,040 lm)</li> <li><b>Contrast:</b> Dynamic 30,000 : 1</li> <li><b>Lamp:</b> 203 W UHP; lamp life up to 8,000 h (Normal), 10,000 h (Eco), 15,000 h (Dynamic)</li> <li><b>Connectivity:</b> VGA, HDMI, RJ-45 network, USB presentations</li> <li><b>Audio:</b> 3.5 mm in/out; integrated 10 W mono speaker</li> </ul>

## 6.5.2 Computer Lab

Seating Capacity of Computer laboratory : 20

Arrangement of Computers, Power supply and Networking:



**Photograph of Computer Lab**

### **6.5.3 Computer to Student ratio**

#### **A. List of courses conducting practical work in Computer Lab**

Sr. No.	Term	Semester	Course
1	Odd	1	Fundamentals of Information and Communication Technology
2	Odd	1	Basic of Computer & information Technology
3	Odd	3	Programming In C
4	Odd	5	OOPS & Python Programming
5	Odd	5	Software Practice
6	Odd	5	Project I
7	Even	4	Circuit Design Tools
8	Even	4	Antenna And Wave Propagation
9	Even	4	Microprocessor & Microcontroller
10	Even	6	Android App Development
11	Even	6	Project II
12	Even	6	Computer Network & Data Communication
13	Even	6	VLSI
14	Even	6	Renewable Energy & Emerging Trends in Electronics

#### **B. Computer to student ratio**

Batch size of Student per Lab session	20 students per batch (1 <sup>st</sup> and 2 <sup>nd</sup> year), 15 students per batch (3 <sup>rd</sup> year)			
Number of Computer in Lab		Room	115	117
Computer to Student Ratio		PC	08	10
1:3				

#### **C. Operating System Information**

Operating System	Windows 11 professional		
License status	Factory Pre-loaded		

## 6.5.4 ICT Tools and Software

Sr. No.	ICT Tools / Software	Usage Details
1	Simulation of Wire Antennas using 4NEC2	<p><b>Subject:</b> Antenna &amp; Wave Propagation (4341106), <b>Sem 4:</b></p> <p><b>Purpose:</b> Free NEC-based antenna simulation for wire antenna design, visualization of patterns, gain, impedance before physical build, supporting hands-on learning in AWP.</p> <p><b>Link:</b> <a href="https://www.qsl.net/4nec2/Tutorial_4NEC2_english.pdf">https://www.qsl.net/4nec2/Tutorial_4NEC2_english.pdf</a></p>
2	Multisim Live	<p><b>Subject:</b> Circuit Design Tools (4341104), <b>Sem 4;</b><b>Purpose:</b> Online circuit design and simulation to draw, test, and analyze circuits without physical components, enhancing practical understanding.</p> <p><b>Link:</b> <a href="https://www.multisim.com/">https://www.multisim.com/</a></p>
3	EDSIM Simulator (Simtel)	<p><b>Subject:</b> Microcontroller, <b>Sem 4;</b></p> <p><b>Purpose:</b> Microcontroller instruction-level simulation and virtual testing.</p>
4	Simtel 13	<p><b>Subject:</b> Wireless Communication (4351105), <b>Sem 5;</b></p> <p><b>Purpose:</b> Simulation and analysis for wireless communication experiments.</p>
5	Scratch	<p><b>Subject:</b> Fundamentals of ICT (1313201), <b>Sem 1;</b></p> <p><b>Purpose:</b> Scratch is a simple, block-based coding platform that helps beginners—especially kids—learn programming by creating games, stories, and animations. It's fun, visual, and teaches creative problem-solving without needing to write real codeplatform;</p> <p><b>Link:</b> <a href="https://scratch.mit.edu">https://scratch.mit.edu</a></p>
6	Electric Circuit Studio (Android Application)	<p><b>Subject:</b> Analog Electronics (4341105), <b>Sem 4;</b></p> <p><b>Purpose:</b> For simulating and analyzing analog electronic circuits on mobile devices, supporting practice outside the lab.</p>
7	MIT App Inventor	<p><b>Subject:</b> Android App Development (4361104), <b>Sem 6;</b></p> <p><b>Purpose:</b> Block-based environment to develop Android applications;</p> <p><b>Link:</b> <a href="https://ai2.appinventor.mit.edu">https://ai2.appinventor.mit.edu</a></p>
8	C Compiler	<p><b>Subject:</b> Programming in C (4331105), <b>Sem 4;</b></p> <p><b>Purpose:</b> Writing, compiling, and testing C programs practically.</p>
9	CISCO Packet Tracer	<p><b>Subject:</b> Computer Networks and Data Communication (4361101), <b>Sem 6;</b></p> <p><b>Purpose:</b> Network designing, configuring, and simulation for practical learning.</p>
10	Scilab Cloud	<p><b>Subject:</b> Digital Communication (4341102), <b>Sem 4;</b></p> <p><b>Purpose:</b> Audio and video signal processing experiments online;</p> <p><b>Link:</b> <a href="https://cloud.scilab.in/">https://cloud.scilab.in/</a></p>

11	Arduino IDE	<b>Subject:</b> Digital Communication (4341102), <b>Sem 4;</b> <b>Purpose:</b> For followings. 1. Introduction to Arduino IDE as open-source tool. 2. Implement different I/O functions of Arduino board. 3. Implement LED blinking code on Arduino board. 3. Implement code to interface switch and LED
12	Scilab software	<b>Subject:</b> Software Practices (4351105) Sem 5; <b>Purpose:</b> Lab experiments are based on Scilab.
13	Quartus II (Version 8.1) Free version	<b>Subject:</b> VLSI (4361105) Sem 6; <b>Purpose:</b> Lab experiments are based on simulation software.

## 6.6. Language lab (10)

- ❖ Language Lab is available in the institute.
- ❖ Utilization register for the lab is maintained.
- ❖ Location: Main Building, Room no. 46 (area is 31.75 sq. m.)
- ❖ No. of PCs: 15
- ❖ Projector: 01
- ❖ Stools: 30

Sr. No.	Name of Laboratory	Number of students per setup (Batch Size)	Name of the important equipment(costing more than Rs.30,000)	Weekly utilization status (all the courses for which the lab is utilized)	Technical Manpower support
1	Language laboratory	25	Computer System costing Rs. 40119/- 5 Computers from EC department on general dead stock and 5 from IC department. 5 computer is added	Laboratory Register is maintained.	NIL

**Table 6.6.1 List of Equipment of Language Lab List of Activities in English Tutorials (Language Laboratory)**

SR NO	NAME OF TOPIC	No. of Computers	Head phones	Projector
1	Introducing Oneself	10	10	1
2	Talking about Family	10	10	1
3	Discussing Weather	10	10	1
4	Seeking Permission	10	10	1
5	Talking about Hobbies	10	10	1
6	Seeking Information at Railway Station/ Airport	10	10	1
7	Taking Appointments	10	10	1
8	Conversation with the Cashier- College/ Bank	10	10	1
9	Holiday Plans	10	10	1
10	Shopping at a Mall	10	10	1
11	Telephonic Conversations	10	10	1
12	Seeking Admission	10	10	1
13	Wishing Birthday to a Friend	10	10	1
14	Talking about your Favorite Sports	10	10	1

**Table 6.6.2 List of Activities in Language Lab**

Sr.No.	Link of Journals, Magazines, websites and Research Papers
1.	<a href="http://www.bbc.co.uk/learningenglish/">http://www.bbc.co.uk/learningenglish/</a>
2.	<a href="http://www.free-english-study.com/">http://www.free-english-study.com/</a>
3.	<a href="http://www.english-online.org.uk/course.htm">http://www.english-online.org.uk/course.htm</a>
4.	<a href="http://www.talkenglish.com/">http://www.talkenglish.com/</a>
5.	<a href="http://www.learnenglish.de/">http://www.learnenglish.de/</a>

**Table 6.6.3 List of Web Links in Language Lab**

## 7.1 Actions taken based on the results of evaluation of each of the POs & PSOs

### A. Documentary evidence of POs and PSOs attainment levels (10)

Year	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
2021	2.01	1.68	1.66	1.76	1.52	1.54	1.69	1.94	1.90
2022	2.03	1.67	1.66	1.73	1.49	1.52	1.70	1.93	1.92
2023	1.99	1.69	1.70	1.91	1.70	1.56	1.78	1.98	1.94
2024	2.01	1.68	1.66	1.76	1.52	1.54	1.69	1.94	1.90
2025	2.03	1.67	1.66	1.73	1.49	1.52	1.70	1.93	1.92

### B. Gaps, shortfalls, and plan of action for continuous improvement for CAYm1 (5)

#### POs & PSOs Attainment Levels and Actions for improvement – CAYm1 (5)

PO/ PSO	2023 Attain ment	2024 Attainm ent	Gap (2024 - 2023)	Observation / Shortfall	Plan of Action for Continuous Improvement
PO1	1.99	2.01	+0.02	Slight improvement, maintaining strong foundational knowledge.	Enhance teaching with updated study material and interactive sessions incorporating applied examples.
PO2	1.69	1.68	-0.01	Minor decline in analytical and problem-solving skills.	Increase problem-solving workshops and introduce more real-world case studies.
PO3	1.70	1.66	-0.04	Small decrease in creative design and solution development capabilities.	Organize regular industry visits and hands-on design challenge sessions.
PO4	1.91	1.76	-0.15	Noticeable drop in practical experimentation and use of engineering tools.	Invest in new lab equipment and expand virtual and physical practical sessions.

PO5	1.70	1.52	-0.18	Significant decline in engagement with societal and sustainability practices.	Promote student participation in renewable energy events and visits to governance and policy institutions to deepen their understanding of sustainability-focused engineering practices
PO6	1.56	1.54	-0.02	Slight reduction in project management and teamwork skills.	Facilitate visits to innovation and incubation centers and conduct personality development sessions to strengthen students' project management, leadership, and teamwork skills.
PO7	1.78	1.69	-0.09	Moderate decrease in motivation for lifelong learning and skill enhancement.	Facilitate access to online courses, skill development programs, and ISTE students related events.
PSO1	1.98	1.94	-0.04	Slight decrease in students' ability to develop tailored hardware solutions.	Focus to involve foundation-level STEM programs, to enhance student interest and understanding in core concepts from the first year.
PSO2	1.94	1.90	-0.04	Slight decline in software problem-solving and innovation exposure.	Organize project exhibitions to encourage development of customized hardware-software solutions for real-world problems.

## C. Plan of action to bridge the gap and its Implementation () POs & PSOs Attainment Levels and Actions for improvement – CAYm1

<b>POs</b>	<b>Target Level</b>	<b>Attainment Level</b>	<b>Observations</b>
<b>PO1: Basic and Discipline specific knowledge:</b> Apply knowledge of basic mathematics, science and engineering fundamentals and engineering specialization to solve the engineering problems.			
<b>PO 1</b>	1.99	2.01	<b>Target Achieved.</b>
<b>Action Taken:</b> Hosted a seminar on quantum computing to expand students' foundational and discipline-specific knowledge in emerging domains.			
<b>PO2: Problem analysis:</b> Identify and analyze well-defined engineering problems using codified standard methods.			
<b>PO 2</b>	1.69	1.68	<b>Target Not Achieved.</b> Minor decline in analytical and problem-solving skills.
<b>Action Taken:</b> Integrated problem-solving activities with practical industry examples throughout theory, lab, and tutorial sessions to enhance students' analytical skills. Arranged student participation in an entrepreneurship program "Heritage Meets Innovation: Youth Entrepreneurship program" also for sensitisation and awareness of real world problems.			
<b>PO3: Design/ development of solutions:</b> Design solutions for well-defined technical problems and assist with the design of systems components or processes to meet specified needs.			
<b>PO 3</b>	1.70	1.66	<b>Target Not Achieved.</b> Small decrease in creative design and solution development capabilities.
<b>Action Taken :</b> Organized an industrial visit to Upeya Electronics Ltd to give students hands-on exposure to electronic product design and solution development processes. Enhanced the curriculum by integrating practical workshops, assignments, and mini-projects, including mandatory internships as per GTU's revised syllabus, to strengthen design and development skills in line with current academic requirements.			
<b>PO4: Engineering Tools, Experimentation and Testing:</b> Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.			
<b>PO 4</b>	1.91	1.76	<b>Target Not Achieved.</b> Noticeable drop in practical experimentation and use of engineering tools.
<b>Action Taken:</b> Upgraded and expanded laboratory equipment to enhance hands-on practical learning and improve students' experimentation skills. Conducted expert talks, industry visits, hands-on workshops, and a GIFT City tour to enhance engineering tools awareness.			

**PO5: Engineering practices for society, sustainability and environment:** Apply appropriate technology in context of society, sustainability, environment and ethical practices.

<b>PO 5</b>	1.70	1.52	<b>Target Not Achieved.</b> Significant decline in engagement with societal and sustainability practices.
-------------	------	------	---

**Action Taken:** Facilitated student participation in renewable energy and sustainability events to enhance awareness of environmental and societal responsibilities. Arranged participation in a global renewable energy meet “Re-Invest 4th Global Renewable Energy Investor Meet” of sustainability in engineering practices.

**PO6: Project Management:** Use engineering management principles individually, as a team member or a leader to manage projects and effectively communicate about well-defined engineering activities.

<b>PO 6</b>	1.56	1.54	<b>Target Not Achieved.</b> Slight reduction in project management and teamwork skills.
-------------	------	------	---

**Action Taken:** Facilitated an exposure visit to PDEU’s Innovation and Incubation Center to strengthen students’ project planning, execution, and management capabilities. Organized a personality development session ‘Contributor Personality Development’ to improve teamwork, leadership, and project execution skills.

**PO7:Life-long learning:** Ability to analyze individual needs and engage in updating in the context of technological changes.

<b>PO 7</b>	<b>1.78</b>	<b>1.69</b>	<b>Target Not Achieved.</b> Moderate decrease in motivation for lifelong learning and skill enhancement.
-------------	-------------	-------------	--

**Action Taken:** Encouraged students’ participation in ISTE events and provided access to online learning platforms, skill development programs, to inspire lifelong learning and personal growth.

PSOs	Target Level	Attainment Level	Observations
<b>PSO 1 : Develop proficiency in Installation, maintenance and troubleshooting of electronics and communication systems.</b>			
<b>PSO1</b>	1.98	1.94	<b>Target Not Achieved.</b> Slight decrease in students’ ability to develop testing and troubleshooting skills.
<b>Action Taken :</b> Offered a short course on creativity and new-age engineering skills for first-year students in association with the Centre for Creative Learning, IIT Gandhinagar, to enhance practical experimentation abilities and achieve improvement			
<b>PSO 2 : Create customized solution of real life problems using hardware and software.</b>			
<b>PSO2</b>	1.94	1.90	<b>Target Not Achieved.</b> Slight decline in software problem-solving and innovation exposure.
<b>Action Taken :</b> Conducted a departmental techfest to give students practical experience in developing customized hardware-software solutions.			

## 7.2. Improvement in Success Index of Students without the backlog

**Table 4.2.1 Success rate without backlogs in any year of study**

Item	(LYG) 2021-2022	(LYGm1) 2020-2021	(LYGm2) 2019-2020
Total number of students (admitted through state level counselling + admitted through Institute on level quota+ actually admitted through lateral entry) ( $N_1 + N_2 + N_3$ )	22	18	32
Number of students who have passed without backlogs in the stipulated period(Y)	01	01	03
Success index (SI)=Y/X	0.05	0.06	0.09
Average API = $(AP_1 + AP_2 + AP_3)/3$		0.06	

*Success rate without backlogs in any year of study =  $40 \times \text{Average SI} = 40 \times 0.06 = 2.67$*

### 7.3. Improvement in Placement and Higher Studies

**Placement index (from criteria 4.6)**

Item	Last Year Graduate, (LYG) (2021-22)	Last Year Graduate, minus-1 (LYGm1) (2020-2021)	Last Year Graduate, minus-2 (LYGm2) (2019-20)
Total No. of Final Year Students (N)	05	06	19
No. of students placed in companies or Government Sector (X)	03	00	06
No. of students admitted to higher studies (Y)	02	05	08
No. of students turned entrepreneur in the respective field of	00	00	00
Placement Index (P) : $(1.25X + Y + Z)/N$	1.15	0.83	0.82
Average placement= $(P1 + P2 + P3)/3$		0.93	

$$\text{Assessment Points} = 40 * \text{Average placement} = 40 * 0.93 = 37.33$$

### 7.4. Improvement in Academic Performance in Final Year

**Academic Performance Index (from criteria 4.5)**

Academic Performance	CAYm3 2021-22 LYG	CAYm4 2020-21 LYGm1	CAYm5 2019-20 LYGm2
Mean of CGPA or Mean Percentage of all successful students (X)	8.22	7.60	7.89
Total no. of successful students (Y)	03	05	07
Total no. of students appeared in the examination (Z)	05	06	19
API = X * (Y/Z)	4.93	6.33	2.91
Average API = $(AP1 + AP2 + AP3)/3$		4.72	

$$\text{Academic Performance Level} = 1.5 * \text{Average API} = 1.5 * 4.72 = 7.08$$

## 7.5 Internal Academic Audits for Continuous Improvement

### A. Audit Criteria

- *Departmental IQAC*: Monitors academic activities like lesson plans, attendance, practicals, assignments, and documentation following curriculum and faculty manuals.
- *Institute IQAC*: Reviews consolidated departmental audits to assess teaching quality, assessments, resource use, and policy adherence, ensuring systematic record maintenance.
- *DTE Inspection*: Annual audit focusing on academics and infrastructure, verifying faculty performance, outcomes, compliance with regulations, and placements.
- *GTU Inspection*: Every three year conducted once and includes checks of academic files, attendance, labs, assignments, assessments, industrial visits, and curriculum adherence.

### B. Frequency

- Departmental IQAC: Continuous semester-based monitoring.
- Institute IQAC: Annual consolidation and corrective review.
- DTE Inspection: Once per academic year.
- GTU Inspection: Every 3 years for affiliated polytechnics.

### C. Methodology

- *Departmental IQAC*: Semester reviews of academic records, teaching schedules, attendance, and assessments, using feedback to recommend improvements.
- *Institute IQAC*: Aggregates reports to evaluate compliance and teaching effectiveness, directing quality initiatives and remedial actions.
- *DTE Inspection*: External yearly on-site audit reviewing documentation, faculty, infrastructure, and policies, reported via COGENT portal.
- *GTU Inspection*: Expert committee physically verifies semester-wise academic activities, identifies gaps, and ensures corrective follow-up.

### D. Effectiveness

- Departmental IQAC ensures timely detection of academic gaps and prompt corrective actions.
- Institute IQAC drives institution-wide quality improvements through consolidated oversight.
- DTE Inspection provides impartial annual validation supporting development efforts.
- GTU Inspection confirms adherence to academic standards and guides necessary improvements semester-wise.

## 7.6 New Facility created in the program

The facilities provided, including NaMo Wi-Fi, high-speed LAN, multimedia classrooms, departmental library, innovation club, and placement and counseling cell, can be broadly categorized as follows:

### 1. Infrastructure and Technical Support:

High-speed internet connectivity (NaMo Wi-Fi, LAN) and multimedia classrooms that support effective teaching and learning processes.

### 2. Learning Resources:

Departmental library facilities offering academic materials and reference sources essential for student learning. “Virtual Lab Integration and Beyond-Campus Learning Facility” is active integration to promote self-learning and extended learning opportunities for students.

### 3. Student Support and Development:

Initiatives such as the CAREER GUIDANCE & COUNSELLING CELL (CGCC), Departmental Innovation Cell, and New Age Engineering & Creativity Skills for Polytechnic Students (First Year EC/ICT) - a Skill Development and Innovative Learning Programs that promote student engagement, innovation, career guidance, and overall well-being.

## 1. Infrastructure and Technical Support

Sr. No	Facility Name	Details	Reason(s) for creating facility	Area in which students are expected to have enhanced learning	Relevance to Pos/PSOs
1	NaMO Wi-Fi	100 MBPS	With the help of internet connectivity students and staff members gets advantages of digital learning resources and free online learning resources. It is also required for general data filling and for any college or university related online activity or process.	Digital learning, e-resources, research	<b>PO1, PO4, PO6, PO7, PSO2</b>
2	LAN facility with sufficient Speed	Sufficient LAN ports are available with 100 Mbps	To enable seamless access to digital resources and fosters efficient collaboration, enhancing the learning experience and preparing students for technological advancements.	Curricular, Co-curricular and Extra-curricular domains.	<b>PO1, PO4, PO7, PSO2</b>
3	Multimedia Classroom	The facility of Overhead Projectors and screens were added in all classrooms	To enables clear visualization of complex concepts, aiding in practical demonstrations and technical presentations.	Curricular, Co-curricular and Extra-curricular domains.	<b>PO1, PO3, PO6, PSO1</b>

Electronics & Communication Engineering Department		
Year Wise purchase Equipment and Furniture		
Sr	Year	Equipment ( in Rs.)
1	2021-22	74578
2	2022-23	32109
3	2023-24	82026
4	2024-25	1257338

Sr. No	Facility Name	Details	Reason(s) for creating facility	Utilization	Area in which students are expected to have enhanced learning	Relevance to Pos/PSOs
1	Department Library	Managed By Students with donated books by faculty and peers	Encourage resource-sharing, self-management, and learning	Throughout the academic year	Academic, personal, and professional growth	<b>PO6, PO7, PSO1</b>

Academic Year	TITLE	Category	PO/PSO mapping
2021-22	Departmental Innovation Cell	Student Support and Development	PO3, PO5, PO7
2022-23	Career Guidance and Counselling Cell	Student Support and Development	PO5, PO6, PO7 ,PSO2
2023-24	Virtual Lab Integration and Beyond-Campus Learning Facility	Learning Resources	PO1, PO4, PO7, PSO1
2024-25	New Age Engineering & Creativity Skills for Polytechnic Students ( First Year EC/ICT)	Student Support and Development	PO1, PO2, PO3, PO7, PSO1, PSO2

<b>8</b>	<b>Student Support Systems</b>	<b>50</b>
----------	--------------------------------	-----------

## 8.1 Mentoring system to help at individual level (10)

### ➤ Mentoring system

An effective students mentoring systems has been implemented at Government Polytechnic, Gandhinagar to develop technically proficient and ethically sound diploma engineers. Students are mentored in different areas by faculties at various stages during their study in order to extend support for day to day student's matter in different areas such as:

- To guide students for making appropriate career choices
- To guide them in solving their academic issues thereby enhancing their performance as a student.
- To motivate them to do online courses to expand their Knowledge.
- To guide and support them if they share any personal problems and difficulties
- To arrange Parent Teacher Meeting (PTM) as and when required.
- To encourage the students to participate in academic, co-curricular, extra-curricular and other professional activities for their overall growth.

### ➤ Types of mentoring system:

Descriptions of mentoring system:		
Sr. No.	Type of mentoring system	Functions
1	<b>Orientation/Induction program for first year students</b>	<ul style="list-style-type: none"> <li>• Familiarize new admitted students/parents with various sections, facilities, department of the institute, institute website, section heads, head of the department (HoD), faculty members and make them aware with the procedure of each section.</li> <li>• Acquaint students with Gujarat Technological University (GTU) teaching scheme, syllabus, Examination scheme, GTU website, and GTU norms.</li> <li>• Make them familiar with the other Students and Institute, a specific 2 weeks Induction Programme is arranged for first year students, which includes basic lectures on Mathematics, English and General activities like sports, puzzles games, tree Plantation, visit etc.</li> </ul>
2	<b>Academic guidance</b>	<ul style="list-style-type: none"> <li>• Share information of academic calendar, academic schedules, study material, and e-learning resources.</li> </ul>

		<ul style="list-style-type: none"> <li>Identify students with less attendance and they are counselled by the mentor/HODs to improve their attendance.</li> <li>In some cases parents are informed by written letter, SMS and /or telephonically for their ward attendance.</li> <li>For academically slow learners, subject teacher provides additional reading materials, model question papers, assignment etc. in order to pace them with other students.</li> </ul>
3	<b>Laboratory specific</b>	<ul style="list-style-type: none"> <li>Students are motivated to complete their practical work and submission within time.</li> <li>Students are advised to utilize the lab to carry out mini project work.</li> </ul>
4	<b>Professional guidance/ Career advancement</b>	<ul style="list-style-type: none"> <li>Students are encouraged to participate in competitive activities, expert lectures, seminars, online platform courses and industrial visit for up scaling their knowledge and skill.</li> <li>Guidance is given to the students for higher studies.</li> </ul>
5	<b>Overall growth / development</b>	<ul style="list-style-type: none"> <li>Students are encouraged to organize and participate in co-curricular/extracurricular activities under guidance of faculty members, which help them to develop leadership qualities, decision making abilities, team spirit for overall growth.</li> </ul>

**[Table 8.1.1 Types of mentoring system]**

➤ **Number of faculty mentors: One mentor per division**

Each mentor maintains details like parents/guardian's name, addresses, contact numbers, etc.

➤ **Number of students per mentor: As per strength of division**

➤ **Frequency of meeting:** Once in a semester, also based on student's need

➤ **Efficacy of our mentoring system:**

- Majority of students aim for higher studies as their career option and get admissions in BE/B. Tech. courses.
- Many students are selected in Placement and are contributing their best to the society as an engineer.
- Slow learners have improved their results after mentoring.

## 8.2 Feedback analysis and reward /corrective measures taken, if any (10)

### 8.2.1 Feedback collected for all courses: YES

#### 8.2.2 Feedback collection process

##### Direct feedback

- Feedback collection process is well defined in the institute.
- All the students are encouraged to give feedback.
- Direct feedback from students is collected once in semester either in a hard copy or online at department level.
- Format of student feedback form is shown below as per Annexure 8.2.1

##### Indirect feedback

- Ground discipline committee, HoDs and principal frequently visit campus and directly interact with the students regarding the academic activities.
- Officers appointed by Commissionerate of Technical Education (CTE) and Gujarat Technological University (GTU) collect various feedback from students and faculties during their inspection.
- CTE office is observing academic activities through CCTV camera regularly.

#### 8.2.3 Feedback analysis process

- The feedback collected from students is analyzed based on specific predefined criteria.
- The evaluation for each criteria is computed based on categorical values of Best, Good, Average and Poor as 4,3,2 and 1 respectively.
- The mapping of numerical percentage values with categorical values has been predefined for following criteria.
  - Interaction with Students in the class
  - Course Content
  - Practical Examples / Ability
  - Regularity
  - Overall

# STUDENT FEEDBACK FORM

Government Polytechnic, Gandhinagar

Opp. Tata Telecom, Nr. "KH-6" Sector-26, GIDC, Gandhinagar-382024 Phone: (079) 23287433

| E-mail: gp-gnagar-dte@gujarat.gov.in Website: www.gph.cteguj.in |

www.polytechnicgnr.gujarat.gov.in

Engineering Department

Name of Faculty: \_\_\_\_\_

Date: \_\_\_\_\_

Course Code with Name: \_\_\_\_\_

Semester & Division: \_\_\_\_\_

Enrollment No.: \_\_\_\_\_

Please answer the following questions. You do not have to write your name or enrollment number, but it will help if you indicate your current status.

Select any one option: A. Best = 4 | B. Good = 3 | C. Average = 2 | D. Poor = 1

Sr. No.	Question	A. Best	B. Good	C. Average	D. Poor
1	Knowledge of the subject/course	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Delivery/explanation of the subject/course	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Command over language	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Board work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Punctuality in conducting/coming to lectures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Encouragement to ask questions/discuss related topics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Answer/response to queries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Revision of prerequisite contents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	Giving real-life/field examples	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	Extending learning support (class notes/PPTs/materials)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How would you rate the overall effectiveness of the lecturer/teacher?

Excellent  Very Good  Good  Fair  Poor

Your Opinion / Suggestions:

---



---



---



---

**[Annexure 8.2.1 Format of student feedback form]**

#### **8.2.4 Basis of reward/ corrective measures**

- Performance of each faculty is assessed and corrective measures are summarized (if any).
- Feedback is shared with faculty members and constructive and inspiring suggestions are given by HOD if necessary.
- Faculty members are regularly deputed to attend FDP/STTP for to improve teaching skill.
- To improve the result of few courses following actions were taken
  - Conduction of Google classroom
  - Extra classes
  - Class test
  - industrial visit
  - expert lecture
- Reward: Reflected in Performance Appraisal Reports (PAR)of individual faculty in form of marks

### 8.3. Feedback on facilities (5)

- Feedback on various facilities is also collected as part of direct student feedback process, and also from GTU inspection team, CTE inspection team
- Based on the feedback, competent authority takes the appropriate steps to resolve the issues for the respective facility.
- Format of student feedback on facilities form is shown in Annexure 8.3.1
- Student grievance system:** Student can send any complaint regarding facility of institute through Head of the Department. The same is communicated to the respective committee/department from grievance committee through proper channel and grievances, if any, are resolved.

Feedback	Corrective Action
Request for some civil work	<ul style="list-style-type: none"> <li>The issue was put forth to R &amp; B department and resolved.</li> <li>New Flooring, wall paints, and sign board work have been completed in the main building.</li> </ul>
Electrical supply issue and Tube light not working /fan not working	<ul style="list-style-type: none"> <li>New electrical panel has been installed and supply issue is resolved.</li> <li>The issue is taken time to time with R &amp; B electrical section</li> </ul>
Wi-Fi facility must be provided	<ul style="list-style-type: none"> <li>Most of the campus is covered under Wi-Fi facility</li> </ul>
Department specific- Drinking Water Facility	<ul style="list-style-type: none"> <li>RO Drinking Water Facility has been provided.</li> </ul>
Cleanliness of college Poor Sanitation facility	<ul style="list-style-type: none"> <li>Institute MGSA coordinator /departmental MGSA coordinator /contract Supervisor continuously monitor the cleanliness activities</li> <li>Annual cleanliness contract is given.</li> <li>Received grant for renovation work and Sanitation issues are resolved by R&amp;B</li> <li>Routine water supply and sanitization issue is solved by water and drainage committee of the institute</li> </ul>
Canteen	<ul style="list-style-type: none"> <li>Agency is appointed for canteen by tender procedure as per Govt. norms</li> </ul>

[Table 8.3.1 Corrective action taken based on feedback on facilities]

**STUDENT FEEDBACK OF INSTITUTE****Please rate the following points**

Sr. No.	Feedback Points	Poor	Good	Very Good	Excellent
1.1	Board	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Bench	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Fan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	Cleanliness (Classroom)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Overall Laboratory Facility – Equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Seminar Room / Auditorium	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Wi-Fi (Internet) Facility in Campus (NAMO Wi-Fi)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.1	Availability of Books (Library)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	Reading Space in Library	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	Library Staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Toilet Block (Cleanliness)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.1	Website (Information/Updates)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	Notice Board	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Fee (College + GTU) Collection Process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	Girl's Common Room (Availability/Usage)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	Canteen Facility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	Drinking Water (Availability)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.1	Industrial Visit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2	Seminar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	Sports Facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	Cultural Activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	Student Counseling / Mentoring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	Transportation from College (To & Fro)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17	Security Arrangement in Campus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18	Co-operation / Support from Student Section Staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19	Hostel Facility (Overall) ( <i>to be filled only if you have stayed at institute hostel</i> )	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I am studying in following Department: \_\_\_\_\_

Semester \_\_\_\_\_

Name of Student (optional) \_\_\_\_\_

Enrollment Number (optional) \_\_\_\_\_

Your e-mail address for future communication. \_\_\_\_\_

Your year of Admission. \_\_\_\_\_

**Suggestions for Improvement (if any):**


---



---



---

**[Annexure 8.3.1 Format of student feedback on facilities form]**

## 8.4. Career Guidance, Training, Placement (20)

### A. Availability

- Government Polytechnic Gandhinagar (GPG) has risen as one of the preferred institute for the acquisition of talented students for campus placements.
- The Placement Cell in the institute has been operational, with the dual objectives:
  - I. To Guide them for pre placement activities as CV making /facing interviews etc
  - II. To arrange campus placement drives with the industries for providing best opportunities to students.
- The institute achieves the objective through,

#### 1. Training and Placement Coordinator of Institute (TPO)

The cell is headed by a Senior Faculty, nominated by the Principal and supported by the departmental coordinators. As this is a student-supported activity, students are involved from all the departments as a placement coordinators and volunteers.

#### 2. Infrastructure

- a) **Auditorium:** Institute has an auditorium having capacity of 100 students which is used for placement activity like pre-placement talk and post placement activities.
- b) **Interview Cabins:** During placement, separate provision /facility for interview panel is provided to conduct interviews.
- c) **General Discussion/Meeting Room:** It is having seating capacity of 20 students with the projector facility.

### B. Management

#### 1. Placement Team

- GPG has effective Training & Placement Cell dedicated for strengthening the interaction between Institute and industry.
- The goal of Training & Placement Cell is to provide employment opportunities to students in leading organizations.
- The cell takes up various efforts/activities required to enhance the personality/skill of students enabling their better placements
- The cell identifies the interested students in doing job.
- The companies from all sectors are invited by Training & Placement Department at GPG. On the interview day all requirements of the said company are fulfilled for smooth functioning of the interview process.
- Later, the selected students are informed through mail & follow up with industry is taken up if required
- List of placement team members is as per the table 8.4.1

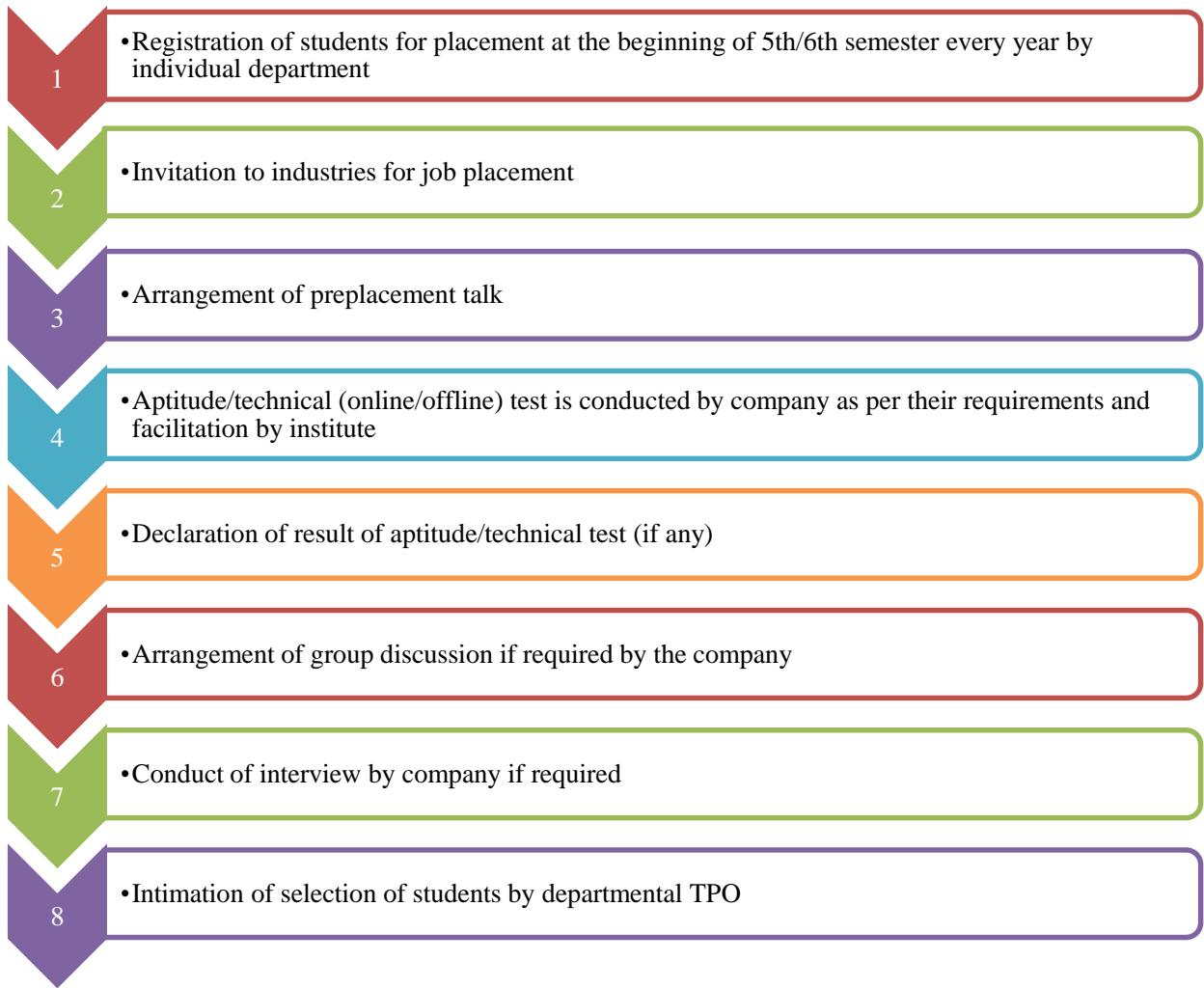
<b>Sr. No.</b>	<b>Name of Faculty</b>	<b>Department</b>	<b>Role</b>
1.	Shri N.B. Shah	EC	TPO
2.	Shri. K.M. Parmar	EC	Assistant TPO and Departmental TPO
3.	Smt. B.L. Guleria	CH	Assistant TPO and Departmental TPO
4.	Shri M.J. Dehlvi	IC	Dept. TPO
5.	Shri. H.V. Rupala	BM	Dept. TPO
6.	Shri. H.A. Jhala	IT	Dept. TPO
7.	Shri. G.B.Jadeja	CE	Dept. TPO
8.	Shri. J.P.Patel	EE	Dept. TPO
9.	Ku. B.H.Dave	Civil	Dept. TPO
10.	Shri. C.M.Prajapati	Mechanical	Dept. TPO

**[Table 8.4.1 Placement Team Details]**

## **2. Outlook of placement activity (approach)**

- Placement cell is very keen to increase the placement opportunities every year and for the same, efforts are made by inviting more industries.
- The registration of students for placement is done at the beginning of the 6th semester every year.
- The form for registration is as per the Annexure 8.4.1.
- Each department is having final year students' Social media group for sharing information regarding placement.
- Placement cell invites industries by sending invitation emails or letters to companies or by communicating over telephone at the beginning of final semester.
- Some industries are organizing campus placement regularly.
- Based on the industry criteria, the data of eligible student is send to the specific industries.
- The date and venue of the placement is decided mutually through email/phone communication.
- The company will be invited for the placement, either on-campus or off-campus.
- Students are intimated through Social media group/email/classroom declaration for the placement date and venue

**Flow of activities during Training & Placement Process:**



## Placement registration form:

Govt Polytechnic Gandhinagar

## Placement registration form 2021-22

Date:

1. Branch:
2. Enrollment Number:
3. Name: \_\_\_\_\_ (Surname) \_\_\_\_\_ (Name) \_\_\_\_\_ (Middle name)
4. Date of Birth: (DD-MM-YYYY)
5. Gender (M/F):
6. Permanent Address:
  
  
  
  
  
  
7. City: \_\_\_\_\_ Pincode: \_\_\_\_\_
8. Mobile: \_\_\_\_\_ Whatsapp No: \_\_\_\_\_
9. Email: \_\_\_\_\_
- 10 State caste (GEN/SC/ST/SEBC)
- 11 Physically Handicapped? (Y/N)
- 12 SSC/HSC/ITI Detail:

Sr No	Board Name (GSEB/ICSE/CBSE /NIOS)	Passing month and year	Percentage /CPI	Remark (if any)
SSC				
HSC				
ITI				

## 13 Diploma Details:

Sr No	Sem-1	Sem-2	Sem-3	Sem-4	Sem-5
SPI					
Backlog					

14 Do you want to take part in campus placement? (Y/N)

15 Reasons for not taking part in campus placement( Plz tick):

(Degree course/own business/others)

Sign of Student

Sign of Dept TPO

Sign of HOD

[Annexure 8.4.1 Placement registration form]

### **3. Advisory for students appearing in placement**

- a. Student should regularly check the notice board in their respective department for any information regarding the T & P.
- b. Students should be in regular contact with their T & P representative.
- c. Students should regularly check email accounts, whatsapp group and SMS for any update regarding T & P.
- d. Students should be well groomed with formal dress
- e. Students should carry following documents
  - o Latest resume
  - o All original certificates and one attested copy of each of them
  - o Two passport size photographs
  - o Envelopes and stationary
- f. Students should report 30 minutes before the start of placement activity
- g. Students should maintain discipline during campus placement
- h. Student already selected in a particular grade will not be allowed to attend the campus placement for the company of same or lower grade. However, a student selected in lower grade company will be allowed to attend the campus placement for the company of higher grade.

### **4. Major recruiting partners**

Institute is now become center of attraction for many recruiters. Following are major recruiters for institute:

1. Reliance Industries Ltd
2. Nayara Energy
3. Arcelor Mittal and Nippon Steel
4. Aditya Birla Grasim
5. Tata chemicals
6. L&T Infotech
7. Torrent Power
8. True Meditech Solutions
9. Essar steel
10. Balaji projects Ltd
11. Philips Carbon Black
12. WayToWeb Pvt. Ltd.
13. Moba Mobile Automation Pvt ltd
14. Masibus
15. Kribhco
16. Linde
17. L&T Hydrocarbon
18. L&T Technology services
19. SRF Ltd. , Dahej
20. Microlab Instruments. Ahmedabad
21. Multispan, Ahmedabad
22. Secure Meters, Sanand

23. Thermax Ltd.
24. Rubamin Ltd
25. TDSG Lithium Iron Battery
26. GSPC LNG
27. Ultratech Cement ltd, Aditya Birla Group
28. Masibus Automation & Instrumentation

## **5. Placement fair**

Education department, Gujarat government has started organizing placement fair since 2019. Six placement fairs have been successfully organized at various locations of Gujarat. Our students had participated in these fair at Gujarat Technological University, Ahmedabad campus. Govt. has allotted work to faculties to identify job vacancies. Faculties of Government Polytechnic, Gandhinagar approached various industries and got the vacancies for placement fair. Moreover, the placement fair 2022,2023& 2024 were hosted by Government Polytechnic, Gandhinagar.

<b>Year</b>	<b>Date</b>	<b>Vacancies sought by GPG from Industries</b>	<b>students participated</b>	<b>students present</b>	<b>students shortlisted</b>	<b>students selected</b>	<b>Number of faculty coordinator from GP Gandhinagar</b>
2019	4/2/2019 & 5/2/2019	229 (13 companies confirmed to remain present)	234 Registered	182 Registered + 41 On the spot registered	62	36	19
2020	13/2/2020 & 14/2/2020	84	225 Registered	62	NA	19	11
2021	18/3/2021	28	90 Registered (from CE and IT branch)	34 (from CE and IT branch)	NA	Placement fair was postponed after 18/3/2021 due to corona	6
2022	15/3/2022 & 16/3/2022	13	166	71	0	0	Hosted by Govt Polytechnic Gandhinagar
2023	15/3/2023 & 16/3/2023	2	190	82	45	45	Hosted by Govt Polytechnic Gandhinagar
2024	4/3/2024 & 5/3/2024	4	207	76	28	21	Hosted by Govt Polytechnic Gandhinagar
2025	20/3/2025	0	246	73	25	0	Hosted By Government Engineering College, Gandhinagar

**[Table 8.4.2 GTU Placement fair details]**

## Career guidance & counseling

### 1. Pre-placement activities

The placement cell contacts the various industries via email for organizing campus interviews at our college. As per requirement of technical skills of industry our placement team works. Moreover, seminar /workshops are arranged for student capacity enhancement. Furthermore, placement cell regularly organizes seminars for Interview skills. Placement cell and individual departments also organizes counseling seminars for the higher studies regularly.

Sr no	Topic	Event conducted by	Date
2018-19			
1	Career guidance in chemical engineering	Mr. Sunil Kathvadiya, Sr. Officer at IOCL, Vaodara hosted by Chemical Dept	9/4/2019
2	How to face interview	Shri. Axay Zare, Lecturer IC, GP Gandhinagar	9/1/2019
3	Institutional training Programme	Petroleum Conservation Research Association, (organised by NBShah, TPO)	3/4/2019
2019-20			
1	Preparing for job interview	Shri Ishan Bhavsar, Lecturer English, GP Gandhinagar	10/1/2020
2	How to face interview	Shri. Axay Zare, Lecturer IC, GP Gandhinagar	10/1/2019
3	How to face an interview	Dr. D.H.Ahir, HOD EC, GP Gandhinagar	12/2/2020
4	Prototype to Product	Parth Sejal (AP, GTU)	29/5/2020
2020-21			
1	Entrepreneurship as a career choice	Dr. K. Poornima, Associate Prof., Dept of Management studies, Coordinator of ED cell, Global Academy of Tech., Bengaluru.	29/09/2020
2	21 <sup>st</sup> Century Skills – Ways to develop them	Dr. Pooja Mehta, Asst.Prof., S.P.B.Patel Engineering College	20/03/2021
3	How to face Job interview	Shri. Axay Zare, Lecturer IC, GP Gandhinagar	17/10/2020
2021-22			
1	Career Opportunities for Engineers	Mr. Kalpesh Parmar (Lect EC & ATPO) GP, Gandhinagar	18/12/2021
2	Developing Soft Skills for Job Interview	Dr. Dhara Rathod (A.P. English), Institute of	27/1/2022

		Advance Research, Gandhinagar.	
3	Lecture 1- Quantitative Aptitude Lecture Series	Mr. Kalpesh Parmar (Lect EC & ATPO) GP, Gandhinagar	22/1/2022
2022-23			
1	Youth Development Future Prospects (Career Counseling)	Rao Consultants and Mr. N.B.Shah (TPO)	28/02/2023
2023-24			
1	Career Opportunities for Engineers, Room No-135, main building	Mr. Kalpesh Parmar (Lect EC & ATPO) GP, Gandhinagar	03/10/2023
2	Pre Placement Talk (Electrical/IC/Chemical)- Final year students	Ms. Heema Pandya, HR, Aditya Birla Grasim, Veraval Plant	19/12/2023

**[Table 8.4.3 Career counseling programs by placement cell]**

## **2. Finishing school (Soft skill component)**

Finishing school is an initiative by education department to enhance the employability of final year students. A student, from any branch can enroll in this program. It focuses on sharpening students' soft skills so that he/she become industry ready in future. As a part of this program, 80-100 hours module is been divided into two components, each of 40-50 hours. Its major focus is on English Language Skill and Personality Development.

### **➤ Objectives**

The concept of finishing school is aimed to achieve the following target.

- To groom the students by imparting module based training covering various aspects like group discussion, interview facing skills, public speaking etc.
- To prepare the students to face the interview/presentation.
- To polish the students so that they can be easily adapted in industry/office environment.

Sr. no.	Year	Grant Allotment	Grant Utilization	% grant Utilization
1	2017-18	2,25,000	Nil	-
2	2018-19	2,17,391	1,60,491	73.8
3	2019-20	2,17,391	89,945	41.4
4	2020-21	2,12,765	61,565	34
5	2021-22	2,12,765	1,47,129	69
6	2022-23	2,55,500	2,55,500	100
7	2023-24	5,11,000	2,56,798	50
8	2024-25	5,11,000	1,65,749	32
	TOTAL	13,40,812	7,14,630	63.64

**[Table 8.4.4 Finishing School Grant Allotment/utilization details]**

<b>Sr. No.</b>	<b>Year of FS Training</b>	<b>Duration</b>	<b>Name of Expert</b>	<b>No. of student participants</b>
1	2024-25	80hrs	H K Finishing School trainers	47
2	2022-23	80hrs	Mr. Saiyed Mohammad Faizan Mr. Mohit Jindal Dr. Aditya Yagnik	40
3	2021-22	80 hrs	Col. Arun Chopra Ms. Nisha Mehta Dr. Krishna Kanabar Ms. Priti Mishra	49
4	2020-21	80 Hr	Ms. Megha Antani Ms. Mayeling Biponiwala Ms. Vibha Tank Ms. Urmil Yagnik	48
5	2019-20	80 Hr	Ms. Vibha Tank and Miss. Urmil Yagnik	25
6	2018-19	100 Hr	Mr. Ershad Ali Syde, Ms. Dilshad M. Quraishi, Ms. Aanchal Rajesh Jha	37
7	2017-18	50 Hr	Mrs. Supreeti Negi	35

**[Table 8.4.5 List of training conducted as finishing school]**

Finishing school webinar “Ups kill During Lockdown” was organized during May-June 2020. It was launched on 1<sup>st</sup> May 2020 by our honorable principal secretary Anju Sharma madam. The aim of this webinar is ‘Life skills, employability skills and functional English- just with a click of a button’. Our 121 students grabbed the opportunity to learn from the best trainers of their specialized area.

### **3. Finishing school (Technical)**

- To strengthen domain specific knowledge apart from curriculum, finishing school technical has been started for final year students supported by Gujarat Knowledge Society (GKS), this enhance their technical skill which will fulfill the gap between curriculum and industry.
- Branch specific one week modules are designed by exert committee nominated by GKS and recommended to all polytechnics.

<b>Sr. No.</b>	<b>Name of the department</b>	<b>Name of Module</b>	<b>Duration</b>	<b>Name of Expert</b>	<b>No. of student participants</b>
1	Chemical	Effluent treatment plant and operation	18/1/2020 to 15/2/2020	Shri. V.B. Chauhan Shri. C.J. Panchal	25
2	Chemical	Campus to chemical plant	16/1/2020 to 5/3/2020	Ku. S.S. Patel Shri. J.D. Rupapara	25
3	Chemical	Campus to chemical plant	30/5/2019 to 4/6/2019	Shri. J.D. Rupapara Shri. J.D. Raut Shri. J.P. Malaviya Shri. N.I. Gadhwani	17
4	Computer	Network Administration	22/05/2019 to 28/05/2019	Ku. K. B. Prajapati Shri. A. S. Vaishnav	13
5	IT	Digital Marketing & Search Engine Optimization	27/06/2019 to 08/07/2019	Ms. L. J. Gadhwani	6

**[Table 8.4.6 List of training conducted under Finishing School Technical]**

#### **4. Rashtriya Uchchatar Shiksha Abhiyan (RUSA)**

The key objectives of RUSA is

- To improve the access, equity and quality in higher education through planned development of higher education at the state level.
- Govt Polytechnic, Gandhinagar receives grant under RUSA for component 9 (equity initiative) from central government.

##### **○ Major initiatives of RUSA:**

###### **1. Equity opportunity cell**

We established Equity Opportunity Cell (EOC) for the development of SC, ST and OBC students including gender equality.

###### **2. Remedial classes**

Workshops are organized to train students thoroughly for taking English Proficiency exams under SCOPE.

###### **3. Gender sensitization campaign**

Under Gender Sensitization Campaign, the college organized "*Women Empowerment Week*" for the awareness, safety, encouragement and empowerment of women.

###### **4. Innovative scheme (mentoring of girl child)**

Psychometric Test for girls was conducted by a famous city based Psychiatrist who is well known for his research publications.

###### **5. Gender counseling**

Workshop on Business Related Communication Skills was conducted for SC/ST and OBC girls.

Sr. No	Event Date	Topic	Expert Name	No. Of student
1	04/12/2018	Self Defense Programme	Mr. Suraj Tripathi	40
2	31/01/2019	Nutrition For Health Workshop	Ms. Sejal Patel	50
3	02/07/2019	Seminar on "Guidance for girls for enhancing soft skills"	Dr. Meera Vasani	43
4	02/08/2019	Seminar on "Guidance for girls on business skill development"	Dr. Meera Vasani	43
5	8/7/2019 to 12/7/2019	Workshop on "basic civil defense training"	Mrs. Anjana Nimavat	62
6	29/08/2019	Latest Trends and application in IT industry using Artificial Intelligence	Mr. Ranjendra Gaikwad Mr. Archit somani, Mr. Ujjawal Mehta	50
7	08/09/2019	Workshop on "Awareness of girls"	Dr. Neeta K Shekhat	57

		health issues and hygiene"		
8	19/02/2020	Psychology Seminar for Student	Dr. Nureen Chaudhary with her Team	300
9	24/05/2021	Menstrual Health and Hygiene Management	Dr. Singh and Her Team	40
10	20/04/2023	ACT for Pre conception and pre natal diagnostic techniques	Mr. Sudhir Desai	70

**[Table 8.4.7 Events conducted under RUSA]**

## **5. MOOC courses for faculties and students**

- Trainings approved by CTE: Commissionerate of Technical Education (CTE), Gujarat has designed ‘Faculty Development Web-Portal’ to cater trainings to faculties. Faculties can apply to various trainings on ‘Faculty Development Web-Portal’ depending on their training needs. CTE office approves such application based on faculties’ training need analysis. Faculties can attend faculty development programs or MOOCs after such approvals by CTE.
- Government Polytechnic Gandhinagar signed MOUs with online learning platforms Coursera and Edx as a part of continuing education in Corona pandemic. Faculties and students got opportunity to get free user licenses from Coursera/Edx provided by AICTE as per these MOUs. Faculties and students were encouraged to take courses from reputed international institutes/universities to develop their skills. Followings are the outcomes of this effort.
- **Coursera/Edx MOOC courses summary:**

Sr No	Online Platform	Number of unique courses taken by faculties and students	Number of certificates earned by faculties and students
1	Edx	65 courses	567 certificates
2	Coursera	51 courses	216 certificates

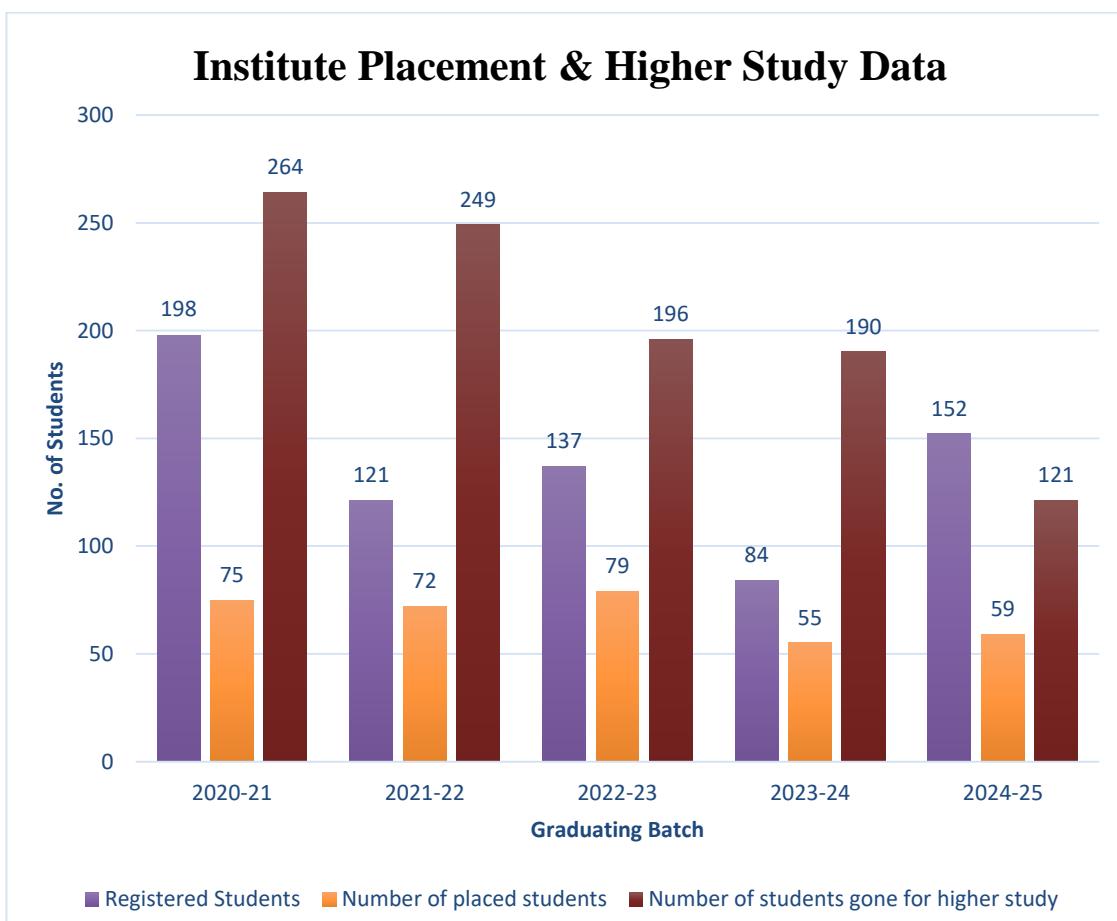
**[Table 8.4.8 Coursera/Edx MOOC courses summary]**

### C. Effectiveness (5)

#### ➤ Placement data of institute:

Graduating batch	Total Students passed out	Registered Students	Number of placed students	On Campus Selection	Off Campus Selection	Number of students seek admission in higher studies
2020-21	491	198	75	38	37	264
2021-22	446	121	72	32	40	249
2022-23	462	137	79	43	46	196
2023-24	325	84	55	31	24	190
2024-25	441	152	59	43	16	121

[Table 8.4.9 Placement data of institute]

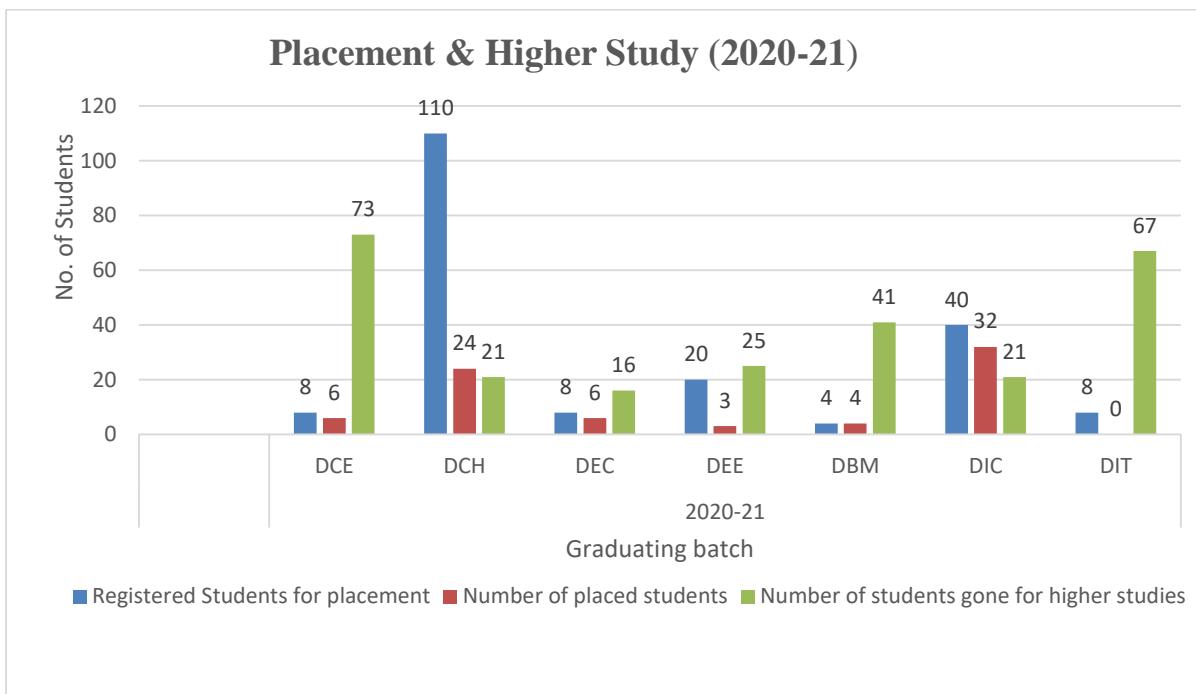


## ➤ Program wise Placement data:

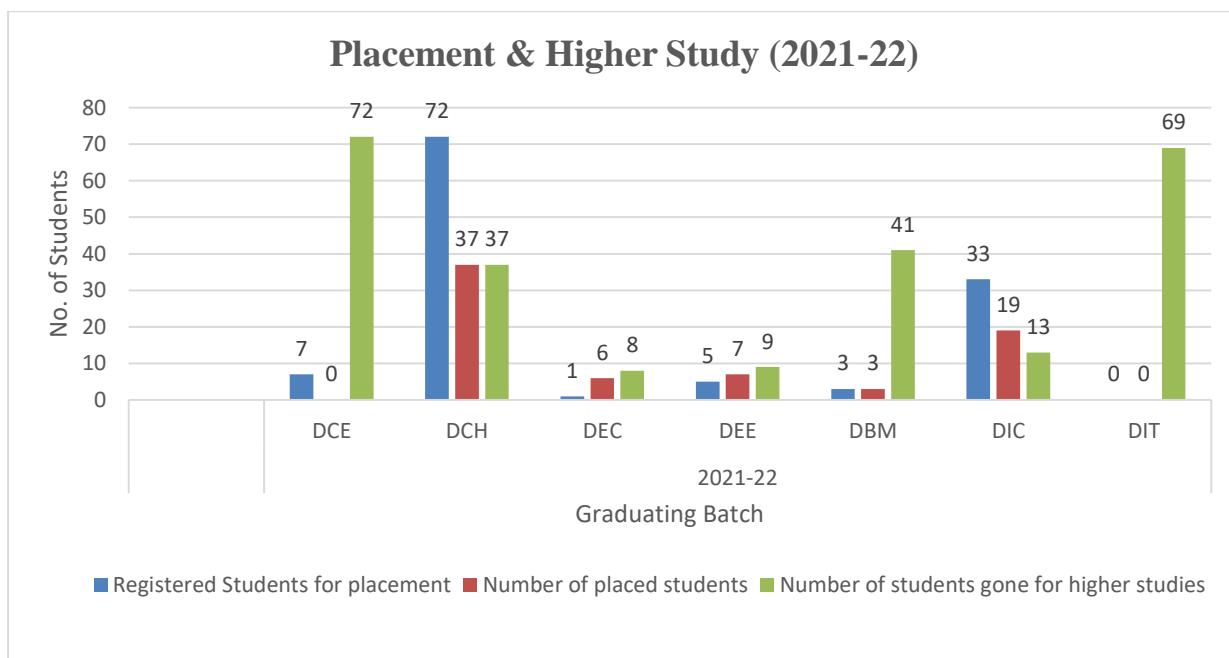
Graduating batch	Branch	Students passed out	Registered Students for placement	Number of placed students	On Campus Selection	Off Campus Selection	Number of students gone for higher studies	Highest Package	Avg. Annual Package (LPA)
								(LPA)	
2020-21	DCE	100	8	6	2	4	73	1.44	1.41
	DCH	141	110	24	24	0	21	3	1.4
	DEC	18	8	6	3	3	16	1.8	1.32
	DEE	34	20	3	0	3	25	2.46	1.95
	DBM	52	4	4	2	2	41	1.56	1.2
	DIC	61	40	32	7	25	21	3	1.96
	DIT	85	8	0	0	0	67	NA	NA
2021-22	DCE	101	7	0	0	0	72	NA	NA
	DCH	105	72	37	27	10	37	3.5	2.47
	DEC	7	1	6	0	6	8	1.8	1.47
	DEE	19	5	7	0	7	9	2.34	2.04
	DBM	59	3	3	1	2	41	1.8	1.2
	DIC	51	33	19	4	15	13	4	2.6
	DIT	104	0	0	0	0	69	NA	NA
2022-23	DCE	145	13	4	2	2	60	1.8	1.62
	DCH	114	81	54	35	19	24	4	2.72
	DEC	5	0	0	0	0	5	NA	NA
	DEE	26	15	1	1	0	13	3	3
	DBM	24	4	4	1	3	19	3	1.44
	DIC	23	17	16	4	12	5	3.5	2.3
	DIT	125	7	0	0	0	70	NA	NA
2023-24	DCE	97	5	2	2	0	76	1.2	1.2
	DCH	79	50	31	25	6	21	4	2.81
	DEC	3	4	3	0	3	2	1.8	1.44
	DEE	20	11	5	0	5	6	3.14	2.66
	DBM	14	2	3	1	2	10	3	2.1
	DIC	15	12	11	3	8	4	3.6	2.67
	DIT	97	0	0	0	0	71	NA	NA
2024-25	DCE	103	5	1	0	1	19	0.88	0.88
	DCH	92	55	33	33	0	16	4.5	3.75
	DEC	5	4	0	0	0	4	NA	NA

	DEE	29	11	5	5	0	0	3.24	2.58
	DBM	9	3	2	0	2	4	1.62	1.4
	<b>DIC</b>	<b>20</b>	<b>19</b>	<b>16</b>	<b>5</b>	<b>11</b>	<b>1</b>	<b>5.88</b>	<b>2.8</b>
	DIT	115	0	0	0	0	71	NA	NA
	DAR	2	0	0	0	0	NA	NA	NA
	DCIVIL	11	18	0	0	0	4	NA	NA
	DICT	32	14	0	0	0	NA	NA	NA
	DME	23	23	2	0	2	2	3.2	2.25
	DMET	0	0	0	0	0	NA	NA	NA

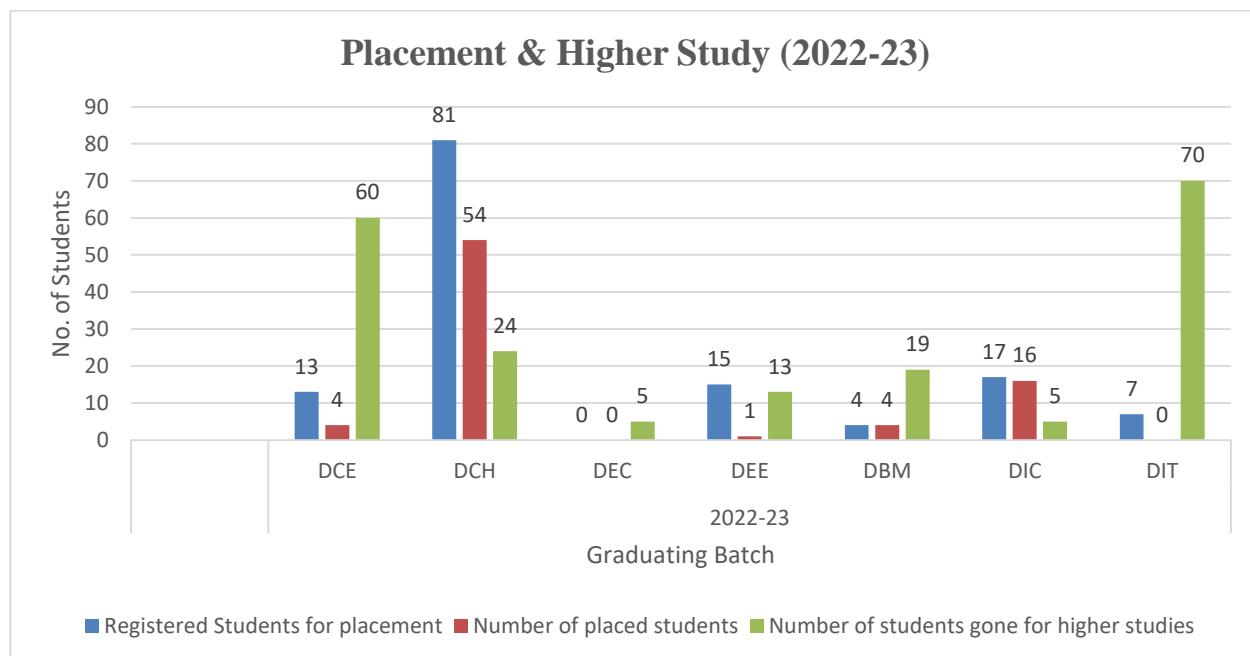
**[Table 8.4.10 Program wise Placement data]**



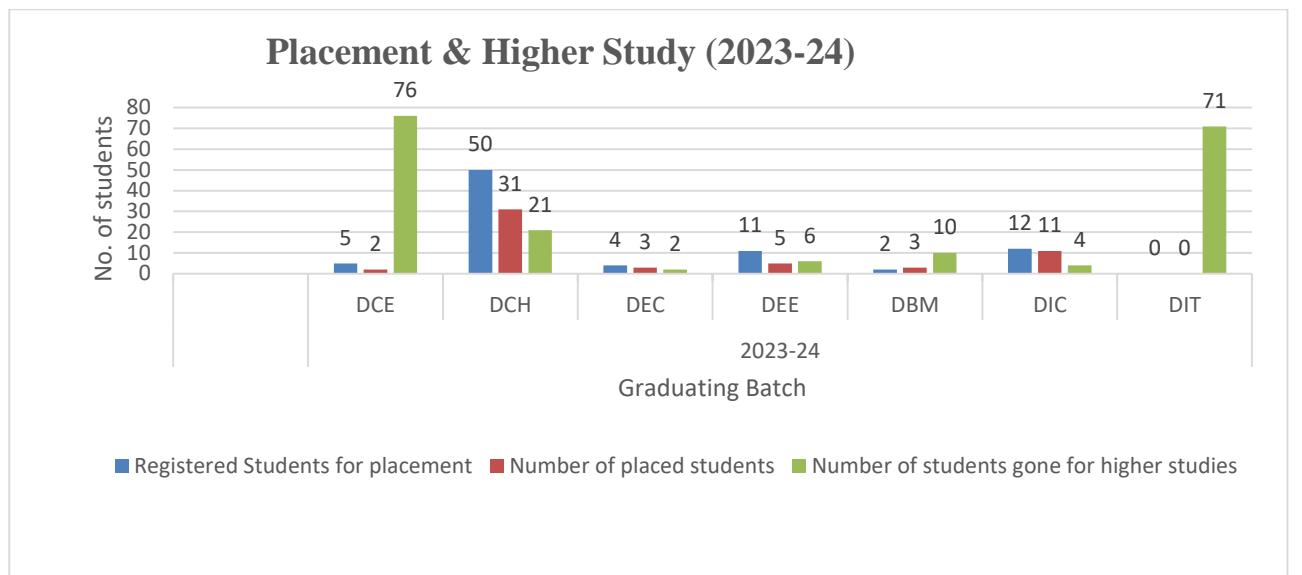
**[Chart - 1 2020-21 Program wise Placement data]**



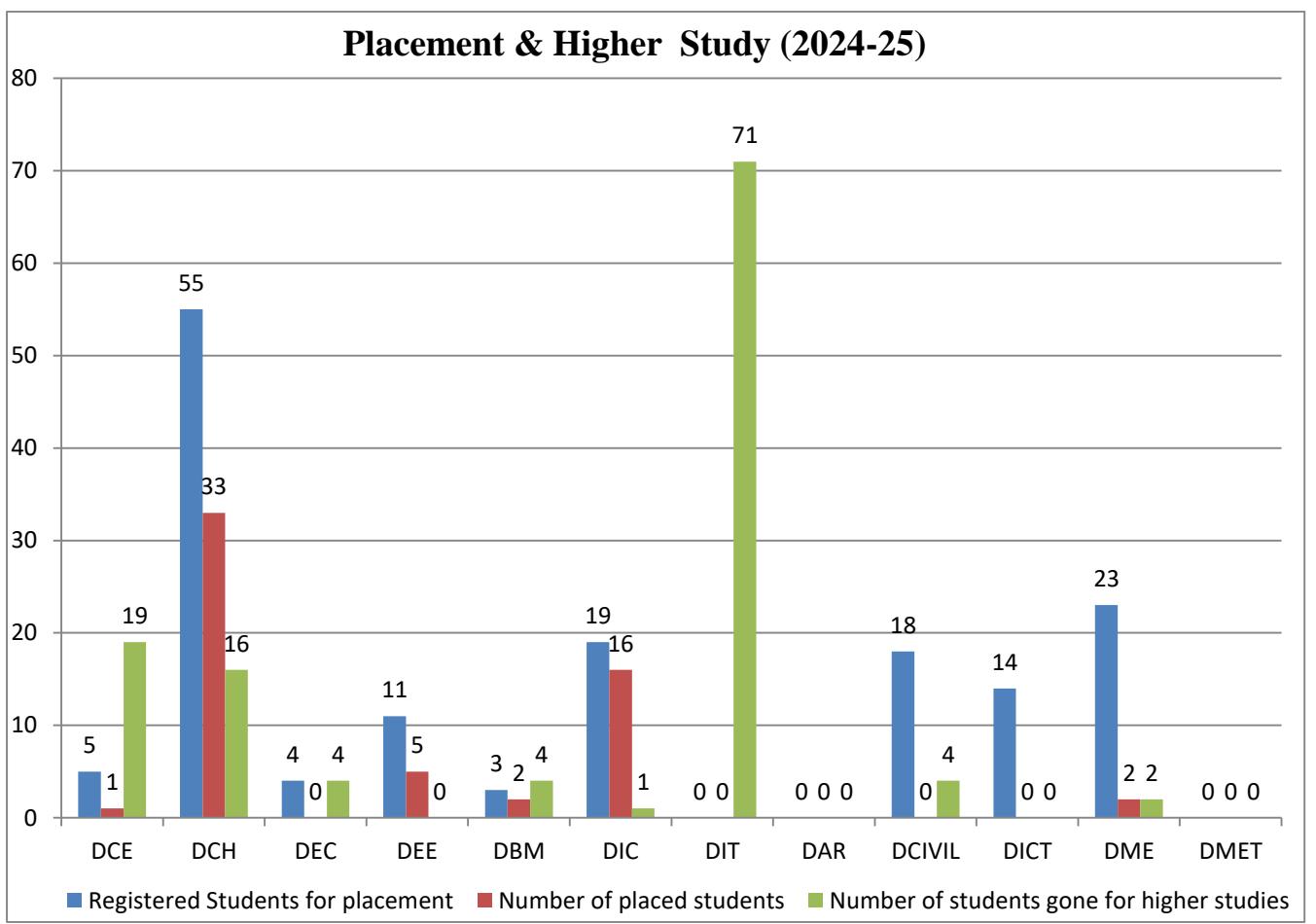
**[Chart - 2 2021-22 Program wise Placement data]**



**[Chart - 3 2022-23 Program wise Placement data]**



**[Chart - 4 2023-24 Program wise Placement data]**



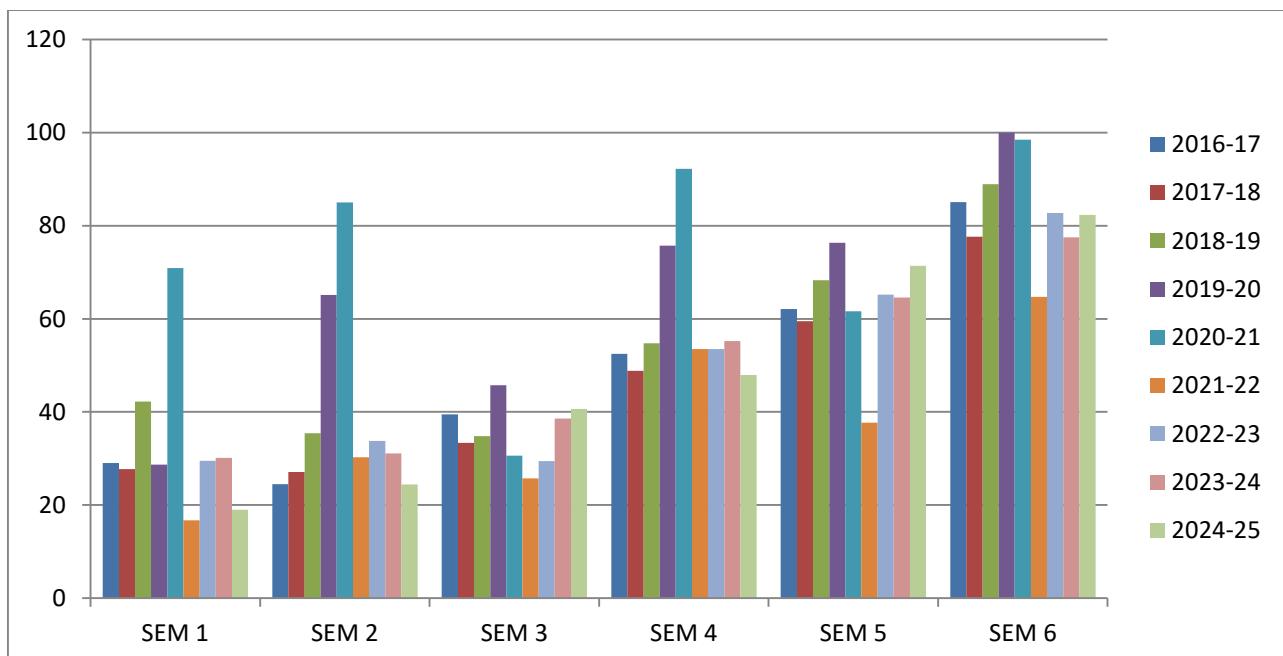
**[Chart - 5 2024-25 Program wise Placement data]**

➤ **Institute-Result analysis:**

Result Analysis - With continuous guidance and motivation students' progress is gradually inclined towards success. The Result as shown below:

<b>Year</b>	<b>SEM 1</b>	<b>SEM 2</b>	<b>SEM 3</b>	<b>SEM 4</b>	<b>SEM 5</b>	<b>SEM 6</b>
<b>2016-17</b>	29.04	24.5	39.49	52.5	62.09	85.05
<b>2017-18</b>	27.69	27.11	33.38	48.83	59.52	77.63
<b>2018-19</b>	42.25	35.39	34.78	54.72	68.3	88.93
<b>2019-20</b>	28.67	65.11	45.73	75.73	76.35	100
<b>2020-21</b>	70.94	85.03	30.6	92.25	61.64	98.51
<b>2021-22</b>	16.71	30.27	25.76	53.51	37.68	64.71
<b>2022-23</b>	29.53	33.77	29.43	53.54	65.23	82.75
<b>2023-24</b>	30.13	31.07	38.57	55.22	64.58	77.49
<b>2024-25</b>	19.02	24.41	40.65	47.96	71.36	82.34

[Table 8.4.11 Institute-Result analysis]



[Chart - 6 Yearly semester wise result analysis]

## 8.5. Entrepreneurship Cell/Technology Business Incubator (5)

### A. Availability

Senior faculty conducts various events to help interested students to know the importance of being an entrepreneur, provides latest information about center and state government funding schemes to become an entrepreneur. It fosters creativity and awareness of self-employment among students. Faculties of the institute attend programs on entrepreneurship at various organizations. Informative programs are arranged under Student Startup and Innovation Policy (SSIP) cell during the academic term. Faculties have served as Jury in heckathon events.

### B. Management

- **Objective:**

To motivate a student for entrepreneurial career so that they helps in nation building by creating job opportunities for self and others.

- **Approach:**

- Interested students are guided by class teacher/mentors.
- Expert talks on entrepreneurship are organized periodically.

### ❖ List of Faculty Development Program(FDP) attended by faculties:

Sr no	Name of faculties	Name of training	FDP organized by	Duration of FDP
1	Ms. P.H. Shukla	Entrepreneurship Development	EDII, Ahmedabad	29/7/2019 to 2/8/2019
2	Ms. M.H. Dave	Student Innovation And Start-Up Ecosystem Development at Academia	EDII, Ahmedabad	18/11/2019 to 22/11/2019
3	Shri. H.S. Modi	Faculty Development Programme	EDII, Ahmedabad	18/11/2019 to 22/11/2019
4	Ms. Z.B. Modi	Faculty Development Programme for Entreprenuership	EDII, Ahmedabad	16/9/2019 to 27/9/2019
5	Smt S.A. Dhawan	Faculty Development Programme for Entreprenuership	EDII, Ahmedabad	16/9/2019 to 27/9/2019
6	Shri. A.K. Bula	Faculty Development Programme in Entreprenuership	ICECD BOPAL, Ahmedabad	30/10/2017 to 11/11/2017
7	Shri. R.D. Sathwara	Faculty Development Programme in Entreprenuership	ICECD BOPAL, Ahmedabad	19/2/2018 to 3/3/2018
8	Shri. N.J. Dehlvi	Faculty Development Programme in Entreprenuership	ICECD BOPAL, Ahmedabad	30/10/2017 to 11/11/2017

[Table 8.5.1 List of FDP attended by faculties]

➤ **Expert talks conducted on Entrepreneurship:**

<b>Sr no</b>	<b>Topic</b>	<b>Conducted by</b>	<b>Date</b>
1	Career Advancement	District Employment Exchange office, Gandhinagar	9/2/2018
2	Awareness of employment portal for job	District Employment Exchange office, Gandhinagar	14/2/2018
3	Entrepreneurship development	District Employment Exchange office, Gandhinagar	20/2/2018
4	Awareness programme on entrepreneurship	Government Polytechnic Gandhinagar	13/04/2018
5	Counseling of Outreach & Project Funding	Government Polytechnic Gandhinagar	26/7/2018
6	Mentoring Session of SSIP	Government Polytechnic Gandhinagar	06/02/2021
7	Entrepreneurship Awareness Program	Mr. Sandip Patel & Mr. Sidhdharth Bhatt (CED) at Government Polytechnic Gandhinagar	18 <sup>th</sup> and 19 <sup>th</sup> July 2025

**[Table 8.5.2 Expert talks conducted on Entrepreneurship]**

➤ **Students Start-up and Innovation Policy (SSIP)**

- **Vision**

Empowering the young population of the State to unlock their creative potential through Start-up and Innovation so as to enable them to contribute for sustainable development and inclusive growth towards the realization of Aatmanirbhar Gujarat.

- **Mission:**

- M1. To identify student innovators and provide supporting nurturing environment to stimulate the entrepreneurial attitude of the student startups.
- M2. To promote Student Start up & Entrepreneurship ecosystem among young minds and to inspire them to design technology based products and services leading to job creation.

- SSIP 2.0 MoU ( Rs. 20,00,000/-) with GKS Gujarat has been successfully completed on 14th September 2022 and on 20th January 2023 (First installment: Rs. 5,00,000/-) payment has been received by GKS.

**Students Start-up and Innovation Policy (SSIP) events:**

Sr No	Year	Program	Name of event	No of teams/students participated	Teams selected
1	2017-18	BM	Open house project fair (GEC Gandhinagar)	3	2
		CE		5	0
		EC		3	1
		IT		3	0
2	2017-18	CE	Smart Gujarat For New India Hackathon	1	0
		IT		1	0
3	2018-19	BM	Gujarat Industrial Hackathon 2018	2	2
		CE		2	1
		CH		3	2
		EC		2	0
		IC		1	0
		IT		2	1
4	2019-20	BM	Student open innovation Challenge	1	1
5	2019-20	IT	IndiaSkills Gujarat 2020	1	1
6	2021-22	CH	A webinar on "Student startup and innovation policy"	40	-
7	2021-22	IC	A Webinar on ' SSIP Scheme'	20	-
8	2021-22	All dept	A Webinar on "INNOVATIVE IDEAS ARE WORTH MILLIONS, ONLY IF THEY ARE PATENT PROTECTED ,Learn WHY, WHAT and HOW of Patents"	190	-
9	2021-22	All dept	A Webinar on "Know about SSIP and its success stories"	180	-
10	2021-22	All dept	SSIP 2.0 Address by Principal Secretary, Education	200	-
11	2021-22	All dept	An expert session on innovation in Plasma Research domain	80	-
12	2022-23	All dept	Student Startup Research and Innovation Festival Program - A suggested minute to minute program-90 Minutes ( Start Up Charcha)	100	-
13	2022-23	All dept	Student Start-up, Research & Innovation Festival	30	-

14	2022-23	All dept	Regional Round of Azadi ka Amrit Mahotsav Hackathon 2022	4	2
15	2022-23	All dept	HOW TO EFFECTIVELY PITCH YOUR IDEA?	30	-
16	2022-23	All dept	HACKATHON Grand finale	2	1
17	2023-24	All dept	start up conclave visit	375	-
18	2023-24	All dept	vibrant gujarat new india hackathon	140	-
19	2023-24	All dept	Vibrant Gujarat Global Summit 2024	50	-
20	2023-24	All dept	Mission Life Awareness Program	121	-
21	2023-24	All dept	SSIP 2.0 Workshop For Diploma Computer and IT Department (Second-Year Students)	7	-
22	2023-24	All dept	SSIP OUTREACH AND SENSETISATION	140	-
23	2023-24	All dept	SSIP Event participation	261	-
24	2024-25	All dept	Robotics Training (GRC)	261	-
25	2024-25	All dept	NEP Innovation Lecture	45	-
26	2024-25	All dept	Incubation Centre Visit @ PDEU	155	-
27	2024-25	All dept	Vikasgatha SSIP event : Talk Show on " Role & Contribution of Successful Start Ups in the Development of Nation	262	-
28	2024-25	All dept	SSIP 2.0 Sensitization Program Report	55	-
29	2024-25	CE	SSIP - Induction Programme Awareness Session	85	-
30	2024-25	EC & ICT	"Heritage Meets Innovation: Youth Entrepreneurship for Sustainable Growth in India"	20	-

**[Table 8.5.3 Students Start-up and Innovation Policy (SSIP) events]**

## C. Effectiveness

- Institute has developed successful entrepreneurs working in society as below:

### List of successful Entrepreneurs from Institute:

Sr No.	Name	Branch	Company/ Start-up Name	Designation	Remarks
1.	Mr. Pratik Parmar	EC	CREAR Electronics pvt. ltd., Gandhinagar.	Founder and CEO	Founder and CEO of Atomo Innovation Pvt Ltd, a deep-tech startup focused on building India's first low-power edge computing hardware platform
2.	Manish Bavishi	EC	Telecom and Management Consultants - Ahmedabad	Director-Technology and Innovations	www.tandmconsultants.com, PAN INDIA and overseas as per the project feasibility , manish@tandmconsultants.com, 9825009897
3.	Dhruv Acharya	EC	Kirtan Technologies Ahmedabad	Owner	dhruv@kirtantechologies.com
4.	Hardik Shah	EC	Lionasys Technologies Private Limited, B464, Money Plant High Street, Jagatpur, Gota, Ahmedabad	Cofounder & CTO	lionasys.com (IoT, AI, Web, Mobile, Custom Software Development), info@lionasys.com, 9722831707
5.	Sunil Chavda	EC	Electro EMS Services , Gujarat	Owner	The company specializes in electronic manufacturing services with capabilities including through-hole assembly, SMT (Surface Mount Technology) pick and place assembly, and other electronics manufacturing services.
6.	Jayantilal Patel	EC	Dutt electronics ,E 102, GIDC Rd, Sector 26, Gandhinagar, Gujarat 382028	Owner	Specializes in IoT, Embedded Systems, Remote Monitoring, Oil & Gas solutions, and related hardware product development.

7.	Hardik Galodiya	EC	AMOGH TECHNOPRENEUR ES LLP, Third Floor, Swagat Rainforest 2 Commercial Complex, SWAGAT RAINFOREST-2, B- 304, above KTM Showroom, Kudasan, Gandhinagar, Gujarat 382419	Owner	End to end system level technical design support and solutions to the Electronics Industries,
8.	Mr. Maulik Mandani	EC	Techmark8 ltd. and Engicube Ltd.	Founder and CEO	Founded in 2018, Manufacturer of products like Laptop Charging Trolleys, Water ATMs, Kiosk systems, and more, focusing on technology-driven innovative solutions.
9.	Mr. Chirag Raval	EC	Finix Technologies Pvt Ltd. GIDC, Gandhinagar.	Founder and CEO	Ahmedabad based
10.	Mr. Kapta Kartik	IC	Hikar Technomation pvt ltd.	Founder and Managing director	Expertise in predictive maintenance and Industrial 4.0 based IoT Smart factory solutions. Serves in India (Ahmedabad and Vadodra) as well as abroad (Abu Dhabi, UAE).
11.	Mr. Uttam Karkar	IC	Hikar Technomation pvt ltd	Co-Founder and Director	Expertise in predictive maintenance and Industrial 4.0 based IoT Smart factory solutions. Serves in India (Ahmedabad and Vadodra) as well as abroad (Abu Dhabi, UAE).
12.	Mr. Kamnath Trivedi	IC	Vasudhaiva Kutumbakam Pratishtaan	Owner	Taking advantage of his family knowledge in Ayurveda, Started making ayurvedic products at home and now a successful businessman providing many ayurvedic products to the people and helping society

					with his own manufactured products
13.	Patel Darshkumar Suryakantbhai	IC	V.M.S Seeds and Fertilizers	Owner	-
14.	Patel Manav Bharatbhai	IC	Shree Umiya Sales, Vadilal Icecream distributor	Partner 50%	-
15.	Patel Krutangnakumar Alpeshbhai	IC	Madhav Traders-Stringing Machines	Owner	-
16.	Chauhan Deepraj Miteshsinh	IC	EnviChem Solution - Waste water treatment chemicals	Owner	-
17.	Bhatasana Dhyey Shaileshbhai	IC	Sunsparkle Energy-Dealer of parts of Solar panels	Owner	-
18.	Mr. Gaurav G Patel	BM	Shri Varahi Medical and Surgical, Sector-27, Gandhinagar.	Proprietor	-
19.	Mr. Soni Tarangkumar Pragneshbhai	BM	Sony Infotech	Owner	-
20.	Mr. Kirtan Chudasama	BM	Pramukh Meditech, Ahmedabad	Managing Director	-
21.	Mr. Ramchandanee Chirag Maheshkumar	IT	VAM5 Technologies, GIDC-Gandhinagar	Co-founder	Web-site : <a href="http://www.vamfive.com">www.vamfive.com</a> , E-mail: <a href="mailto:info@vamfive.com">info@vamfive.com</a>
22.	Mr. Sahil Dharmendrabhai Nayak	IT	Business management system	Owner	Privately developing and distributing software (Fully Automatic GST Invoice and many other Features ex. Inventory Management, Report File & Customer Details Management)
23.	Mr.Parag Prajapati	CE	PR WEBSOLUTION	Owner	Business Website: <a href="https://prwebsolution.com/">https://prwebsolution.com/</a>
24.	Mr. Harsh Bhatt	CE	Solar Singularity Private Limited	Founder & CEO	DIN 09014972 <a href="https://www.linkedin.com/in/harsh-bhatt-69238b193/?trk=public_profile_browsemap_profile-result-card_result-card_full-">https://www.linkedin.com/in/harsh-bhatt-69238b193/?trk=public_profile_browsemap_profile-result-card_result-card_full-</a>

					<u>click&amp;originalSubdomain=in</u>
25.	Keswani Kamal Rajesh	CE	K.square Professional Service	Hardware Engineer and CEO	<a href="https://www.linkedin.com/in/kamal-keswani-94211a19b/?originalSubdomain=in">https://www.linkedin.com/in/kamal-keswani-94211a19b/?originalSubdomain=in</a>

**[Table 8.5.4 List of successful Entrepreneurs from Institute]**

**9.1. Organization, Governance and Transparency (25)****9.1.1. State the Vision and Mission of the Institute (5)**

- A. Availability of the Vision & Mission statements of the Institute (02)
- B. Appropriateness/Relevance of the Statements (03)

**Vision:**

To develop technically proficient and ethically sound diploma engineers contributing to the industry and society needs.

**Mission:**

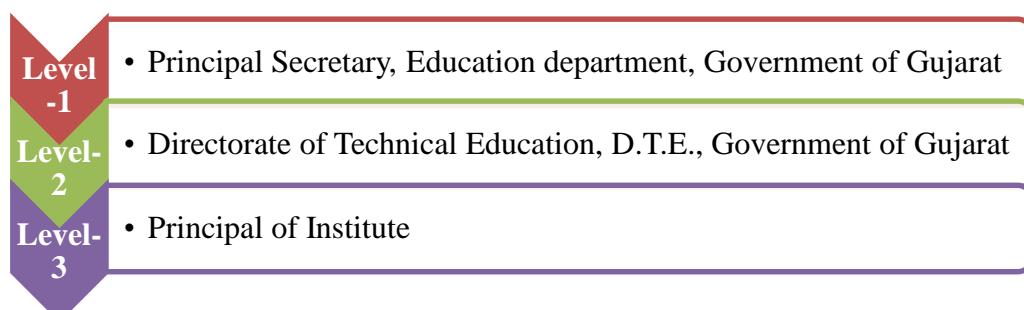
- M1: To impart quality technical education
- M2: To shape students towards sensitizing in ethical values and contributing in nature
- M3: To familiarize students with world of work.

**9.1.2 Governing body, administrative setup, functions of various bodies, Service rules, procedures, recruitment and promotional policies (5)**

- A. List the Governing Body Composition; their memberships, functions, and responsibilities (02)
- B. Minutes of the meetings and action-taken reports (01)
- C. The published service rules, policies and procedures with year of publication (01)
- D. Extent of awareness among the employees/students (01)

**9.1.2. (A) Governing body**

Government Polytechnic, Gandhinagar is a Government Institution under direct control of the Commissionerate of Technical Education which is one of the departments of Education Department. Detailed structure of Governing Body is as shown in FIG. 9.1



[Figure 9.1 Governing Body]

❖ **Details of governing body (state level)**

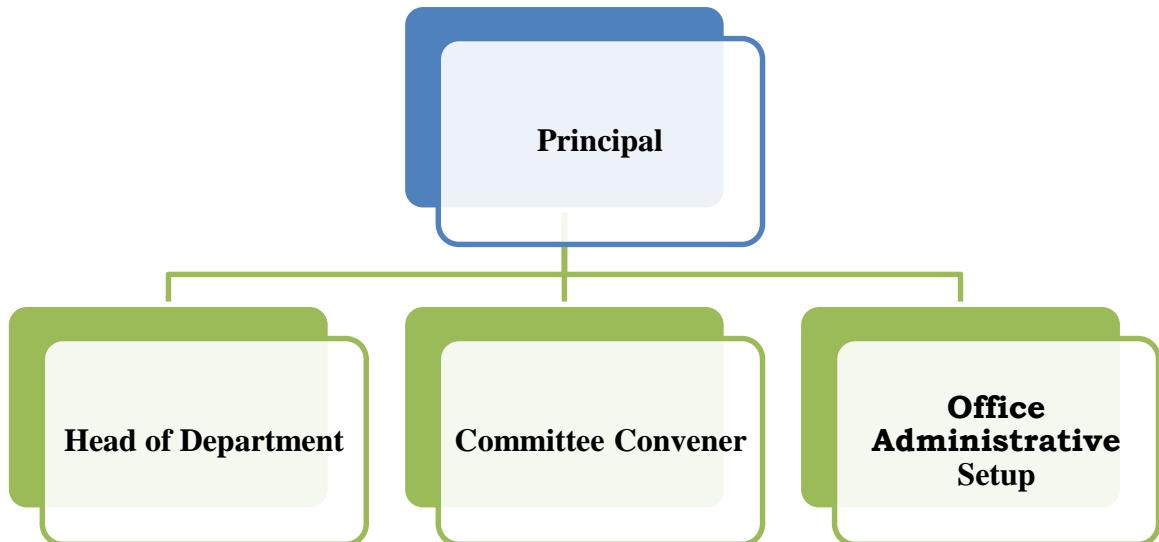
<b>Sr. No.</b>	<b>Name of the body</b>	<b>Member</b>	<b>Brief functions and responsibilities</b>
1	Governing Body state level	1. Principal secretary	<ul style="list-style-type: none"> <li>➤ Highest authority at state level</li> <li>➤ To formulate state policy of education system (for both, higher education and technical education)</li> </ul>
		2. Commissionerate of Technical education (CTE)	<ul style="list-style-type: none"> <li>➤ To drive and effective implementation of technical educational policy and to ensure the quality of education</li> <li>➤ Provisioning of the budget</li> </ul>
		3. Principal	<ul style="list-style-type: none"> <li>➤ To run and manage institute</li> <li>➤ To assure quality education to students</li> </ul>

[Table 9.1.1 Details of Governing Body (state level)]

### **9.1.2. (B) Institute administrative set-up**

- Administrative setup**

Detailed structure of Administrative set-up of the college is as shown in Fig 9.2



[Figure 9.2 Institute Administrative setup]

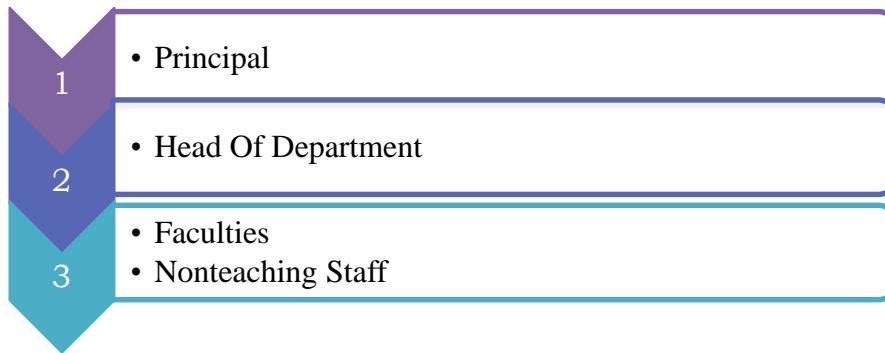
### 9.1.2. (C) Institute academics administration

- **Figure 9.3** shows the structure of Academics Administration.
- **Table 9.1.2** show brief functions and responsibilities of Academics Administration.
- **Table 9.1.3** shows Name of Head of the department for various programs.

#### ❖ Functions and responsibilities of academics administration

Sr. No.	Name of the body	Member	Brief of functions and responsibilities
1	Academic administrative body	Principal	<ul style="list-style-type: none"> <li>➤ To drive and effective implementation of technical educational policy and to ensure the quality of education.</li> <li>➤ To lead direct the HODs and various committees/councils for continuous development of the institute.</li> <li>➤ To coordinate various departments to ensure optimum utilization of the Institute level resources.</li> <li>➤ To provide academic related data as per the needs of CTE and University.</li> <li>➤ To monitor AICTE compliance, University affiliation, NBA requirements.</li> <li>➤ To facilitate Admission help centre for Admission committee for Professional Diploma courses (ACPDC).</li> </ul>
		Head of the department	<ul style="list-style-type: none"> <li>➤ To ensure department academic planning and the effective implementation.</li> <li>➤ To prepare proposal for departmental facility development.</li> <li>➤ To promote academic excellence in the department.</li> <li>➤ To manage and co-ordinate department level administration.</li> <li>➤ To liaison department with institute.</li> <li>➤ To motivate staff and students for co-curricular and extracurricular activities.</li> <li>➤ To plan and execute introductory induction program.</li> <li>➤ To motivate ICT usage in departmental academic activities.</li> </ul>
		Teaching staff	<ul style="list-style-type: none"> <li>➤ To play multiple roles in the institute.</li> <li>➤ To deliver academic load</li> <li>➤ To motivate and guide students for self-learning from co-curricular and extracurricular activities.</li> <li>➤ To contribute in departmental and institute development</li> </ul>
		Non-Teaching staff	<ul style="list-style-type: none"> <li>➤ To Maintain various registers, records and equipment</li> <li>➤ To support faculty during laboratory work</li> </ul>

[Table 9.1.2 Brief functions and responsibilities of academics administration]



**[Figure 9.3 structure of Academics Administration]**

❖ **Head of the departments:**

Sr. No.	Name	Head of Department
1.	Mr. R. D. Raghani	(I/C) Principal
2.	Mr. A. D. Patel	Electrical Engineering
3.	Mr. J. T. Patankar	Instrumentation & Control Engineering/ Automation and Robotics
4.	Mr. M. J. Desai	Computer Engineering
5.	Mr. N. B. Shah	Electronics & Communication Engineering/ Information Communication Technology
6.	Mr. V. J. Thekadi	Civil Engineering
7.	Mr. P. A. Vaghela	Mechanical Engineering
8.	Mr. J. R. Vadher	Chemical Engineering
9.	Ms. K. D. Mankad	Humanity and Science
10.	Ms. M. H. Dave	Biomedical Engineering
11.	Ms. H. R. Patel	Information Technology

**[Table 9.1.3 Name of head of the department]**

**❖ Sample format of work distribution for Electronics and Communication Engineering department**

Date: 19-Aug-2023

**Departmental Work Distribution Order (Updated)**

The undersigned is pleased to assign following duties to the Faculty Members/Staff for smooth functioning of departmental administrative/academic/co-curricular activities.

Sr	Work Assigned	Details	Name of Faculty
1	<b>Coordinator of EC Coordinator of ICT</b>	Overall coordination of work of EC Dept Overall coordination of work of ICT Dept	Dr. M.R.Prajapati/Shri H.D.Shukla Shri R.G.Patankar/ Shri P.B.Bhatt
2	<b>Time table</b>	All types of Time Table, alternate load arrangement & over load related work	Smt. Z.B. Modi, Shri P.A.Parmar
3	<b>TEIM, Inspection of GTU and CTE</b>	TEIM and all kinds of inspection related work	Shri R.G.Patankar /Smt. Z.B. Modi (HDS/VPJ/PJD if RGP & ZBM absent)
4	<b>Dept. GTU Coordinator &amp; Team</b>	Mid-sem Exam Planning & Execution ,Inviting Manuscripts from teachers, All type Mark sheet collection & Record keeping, Verification of entries on GTU staff portal, Monitoring Gunning, Liaison with SS, Managing Assessment, Correspondence regarding student issues with GTU	Shri V.P.Jarivala, (Dept.GTU Coordinator) Ms. D.R.Varadiya ( Co-coordinator)
5	<b>NBA</b>	Maintaining records as per NBA Requirement, Overcoming shortfalls, Preparing Proposal, Attending Meetings and Record Keeping. (**Criteria wise work as per other order issued)	Shri R.G.Patankar - Coordinator Shri P.B.Bhatt - Coordinator Ms. L.K.Chhaya – Co-coordinator
6	<b>Class Mentor/ Teachers</b>	Maintain student's attendance & all records, sign Bus concession pass, scholarship forms, I-card ,Prepare Student attendance sheet, SMS, Write letters to students at mid of term for low attendance, parents meeting, student's Provisional & final detain list in consultation with coordinator	First Year EC – Ms. D.R.Varadiya First Year ICT – Ms. L.K.Chhaya Second Year EC – Shri V.P.Jarivala Second Year ICT –Shri K.M.Parmar Final Year EC – Smt. Z.B.Modi/Shri H.D.Shukla Final Year ICT –Shri P.B.Bhatt
7	<b>Lab In-charge</b>	Assuring Lab Cleanliness, Arranging and maintaining Relevant Equipment/Kits in concern Lab and Keeping List on cupboard for ready reference. Identifying faulty equipment and making procedures to repair. Assuring Equipment in locknkey with numbering and entries in registers. Maintain Equipment wise Utilization register.	Lab 121 – Shri V.P.Jarivala & Ms. AKKonkani Lab 125 - Ms. D.R.Varadiya Lab 126 - Smt. Z.B.Modi Lab 117 – Ms. L.K.Chhaya/Shri HPSutariya Lab 120 - Shri K.M. Parmar Lab 115 - Dr. P.J.Dalvadi, B.D.Prajapati
8	<b>Computer Maintenance</b>	Keeping all computers of all labs in working condition by regular Maintenance & Repairing care. Prepare computerized data of all computers with remark.	Shri H.D.Shukla, Shri K.M.Parmar, Shri H.P.Sutariya
9	<b>New Items, Dept Purchase &amp; store</b>	Prepare Vikaslaxi proposal and carry out all activities related to Local purchase as well as Procedures for Maintenance of working and write off of Non-working equipment . Prepare computerized data of all equipments with remark.	Shri R.G.Patankar , Shri P.J.Dalwadi
10	<b>MGSN &amp; Dept. Cleanliness</b>	Maintaining good ambiance of dept. , Liaison with PWD, Cleanliness of Urinals, Lobby ,classrooms etc.	Shri R.C.Patel, Ms. D.R.Varadiya
11	<b>Departmental Email</b>	Email checking, forwarding and acknowledgement, Inform HOD if any urgent activity is to be taken on hand	Shri R.G.Patankar /Ms. L.K.Chhaya (Shri in absence of all)
12	<b>Project Coordinator</b>	Project follow up, Report Preparation, seminars etc. Prepare Project guided, Project – PO Mapping & Project Evaluation sheet (for NBA) (EC and ICT)	Dr. M.R.Prajapati

13	<b>Staff Muster</b>	Prepare Staff Muster ,Maintain CL/Leave records of staff , Prepare all staff details as required by GTU/CTE, Staff detention proposal	Ms. A.K.Konkani
14	<b>AICTE/GTU affiliation</b>	Collect , Prepare and provide data of staff and Dept.	Ms. A.K.Konkani, Shri H.P. Sutariya
15	<b>Training Placement</b>	Job Placement, Pass out student & D2D record, staff training, Internship, MoU	Shri K.M.Parmar
16	<b>Industrial visit &amp; Exp. Lect.</b>	Industrial Visit , Expert lecture, workshop arrangement	Dr. M.R.Prajapati
17	<b>Dept. Filing, notice board</b>	Keep Dept. letters in corresponding file , Notice Board	Shri R.C.Patel, Ms. D.R.Varadiya
18	<b>Maintenance work</b>	Maintenance – electrical and civil work: class rooms, Labs , equipments, staff cabin , corridor	Shri K.P.Patel, Ms. A.K.Konkani
19	<b>Lab wise classification safety of Kits /Equipments</b>	Monitoring activities about verification of equipments/computers and record keeping of its status(Working/Non-working/Obsoleted) Do procedure/activities related to repair/write off	Shri R.G.Patankar, SHri M B Gandhi, Dr. P.J.Dalwadi, Shri B.D.Prajapati
20	<b>SSIP &amp; NSS</b>	Students start up related activities, NSS related work	Ms. D.R.Varadiya, Shri P.A.Parmar
21	<b>RUSA</b>	RUSA activities	Ms. L.K.Chhaya
22	<b>Maintaining Registers &amp; writes off</b>	Entry of new items purchase and maintaining all registers & writes off.	Shri R.G.Patankar, Dr. P.J.Dalwadi, Shri B.D.Prajapati, Shri V.P.Jarivala Shri K.M.Parmar
23	<b>MIS, Result Analysis&amp; CTE/GTU Data keeping</b>	Maintaining & Coordinating urgent data requirement from CTE/GTU/Principal office Prepare and submit Year wise result Analysis and file copy of same in R.A. file	Shri H.D.Shukla
24	<b>BISAG Program</b>	Downloading program list , Inform to students and make necessary arrangement	Smt. Z.B.Modi, Ms. A.K.Konkani
25	<b>Student Issues &amp; Grievances</b>	Student issues and Counseling	Shri K.P.Patel, Class Mentors
26	<b>New Admission/ Enrollment</b>	Students Enrollment , Counseling & New student's orientation., Cancellation of admission , Fees records & Blocking	Shri V.P.Jarivala, R.C.Patel, Ms. L.K.Chhaya, Ms. A.K.Konkani, Ms. D.R.Varadiya
27	<b>Finishing School/Yoga</b>	Enrollment of students for finishing school/other courses	Shri B.D.Prajapati, Shri H P Sutariya
28	<b>Stationary &amp; Hall Tickets</b>	Keeping stationary stock & records & Distribution of Hall Tickets for All semesters	Ms. A.K.Konkni
29	<b>Women Development</b>	Department level coordination for girl students.	Ms. L.K.Chhaya
30	<b>Sathi portal</b>	Coordination of PAR documentation (HRMS)	Ms. L.K.Chhaya
31	<b>360 deg feedback</b>	Department level coordination for 360 feedback	Shri K.M.Parmar
32	<b>Cogent Portal</b>	To coordinate cogent portal activity as per given instruction.	Ms. L.K.Chhaya
33	<b>Students Feedback</b>	All kinds of feedback as per NBA and Inspection	Ms. D.R.Varadiya, Ms. A.K.Konkani
34	<b>Vacation Detention</b>	Vacation detention proposal	Shri M.B.Gandhi, Ms. A.K.Konkani
35	<b>IT and Media</b>	Website, you tube channel, Media, news letter,	Ms. Z.B.Modi, Shri H.P.Sutariya, Shri P.A.Parmar

1. Other than above mentioned work, faculties will have to complete the work given time being.
2. Assigned work must be completed in time, and same must have to report to head.
3. Documents must be prepared and filed in respective file as per assigned work.

Head of Deptt.  
Electronic & Communication Engg  
Govt. Polytechnic  
Gandhinagar-382 044.

for, *ABShah*  
(E.C. Deptt.)

**[Figure: 9.4 EC department work distribution order]**

## ❖ Sample format of work distribution for IC Engineering department



Government of Gujarat

## અરકારી પોલીટેકનિક ગાંધીનગર

રાજ એલેક્ટોરિકાની રાસો, ગુજરાત, કૃ.રી., શોકરણ-૩૬, ગાંધીનગર.

## GOVERNMENT POLYTECHNIC GANDHINAGAR

Opp. Tata Telecom, Sector-26, GIDC, Gandhinagar-382 044.

Phone : (079) 3239830, 3225956 Fax : (079) 3238331

e-mail : info@polytechnicgnr.org website : www.polytechnicgnr.org

કોડ : રાફોર્મ/

No.: GPG/

ક.સપોર્ટ/આઈ.સી./2023/

1349

દાખલા :

Date : 01/07/2023

Tl.: 21/09/2023

ખાતાકીય આદેશ:

આથી નીચે દર્શાવેલ ઇન્સ્ટ્રુમેન્ટેશન એન્ડ કંટ્રોલ વિભાગનાં વ્યાખ્યાતાઓ ને જણાવવામાં આવે છે કે, તેઓને નીચે દર્શાવેલ મુજબની કામગીરી સામેલ અદેશ મુજબ સૌપવામાં આવે છે. આઈ.સી. વિભાગની કાર્ય વહેયણી તા.: 01-જુલાઈ-૨૦૨૩ થી નવા અદેશ ના થાય તાં સુધી માન્ય રહેશે.

Instrumentation &amp; Control Egg. Department- Work Distribution (2022)

Sr. No	Allotted work	Faculty Coordinator	Activities to be perform				
1	Time Table, Subject coordinator distribution, Overload calculation	Shree M J Dehlvi Shree R B Gadhiya	<ul style="list-style-type: none"> <li>Master Time-table along with patrak A, B and load calculation</li> <li>Class time-table, lab time-table.</li> <li>Prepare list of course coordinator.</li> </ul>				
2	Alumni Liasoning	Ku. S N Shah Shree N H Jamalia	<ul style="list-style-type: none"> <li>Record keeping of all alumni</li> <li>Arrangement of Alumni meeting</li> <li>Provide all Alumni related documents as per NBA requirements</li> <li>Program Exit survey</li> </ul>				
3	Class coordinator (IC) First Year (SEM_1_2)	Ku. S C Panchal	<ul style="list-style-type: none"> <li>Reporting of new admitted students</li> <li>Enrollment form for 1st year students</li> <li>All GTU exam forms and related activity</li> <li>Fees receipt collection (Institute and GTU)</li> <li>Prepare student muster – class and batch wise distribution (provide soft copy)</li> <li>Student related activity</li> </ul>				
4	Class coordinator (AR) First Year (SEM_1_2)	Shree J B Maheta	<ul style="list-style-type: none"> <li>Enrollment form for C2D students</li> <li>All GTU exam forms and related activity</li> <li>Fees receipt collection (Institute and GTU)</li> <li>Prepare student muster – class and batch wise distribution (provide soft copy)</li> <li>Student related activity</li> </ul>				
5	Class coordinator (IC & AR) Second Year (SEM_3_4)	Ku. B P Gandhi	<ul style="list-style-type: none"> <li>Enrollment form for C2D students</li> <li>All GTU exam forms and related activity</li> <li>Fees receipt collection (Institute and GTU)</li> <li>Prepare student muster – class and batch wise distribution (provide soft copy)</li> <li>Student related activity</li> </ul>				
6	Class coordinator (IC) Third Year (SEM_5_6)	Shree R B Gadhiya	<ul style="list-style-type: none"> <li>Maintain particular lab log book for lab utilization, at lab location, so faculties can fill their lab log entry at the time of lab session.</li> <li>Maintain equipment utilization register, at lab location, so faculties can fill usage of equipment details at the time of lab session.</li> </ul>				
7	Lab in-charge	Transducer & Telemetry Lab (133) Electronics Lab (131) Process instrumentation Lab (110) Analytical & Biomedical Instrumentation Lab (130)	<table border="1"> <tr> <td>Ku. S D Patel</td> <td>Ku. S C Panchal</td> </tr> <tr> <td>Shree J V Jariwala</td> <td>Shree R B Gadhiya</td> </tr> </table>	Ku. S D Patel	Ku. S C Panchal	Shree J V Jariwala	Shree R B Gadhiya
Ku. S D Patel	Ku. S C Panchal						
Shree J V Jariwala	Shree R B Gadhiya						

		<table border="1"> <tr> <td>Automation &amp; Control Lab (107)</td><td>Shree P S Thaker Shree R D Sathvara</td></tr> <tr> <td>Computer lab (111)</td><td>Shree J B Maheta</td></tr> </table>	Automation & Control Lab (107)	Shree P S Thaker Shree R D Sathvara	Computer lab (111)	Shree J B Maheta	
Automation & Control Lab (107)	Shree P S Thaker Shree R D Sathvara						
Computer lab (111)	Shree J B Maheta						
8	Departmental Store	D L Jethva (Lab Assistant)	<ul style="list-style-type: none"> <li>Maintain dead-stock, expandable and furniture registers</li> <li>Write-off procedure</li> <li>List of equipment's and internal audit</li> <li>Maintain all files regarding the above tasks</li> </ul>				
9	Vikas-lakshi, New item purchase	Ku. S D Patel Shree P S Thaker	<ul style="list-style-type: none"> <li>Prepare Vikas-lakshi proposal</li> <li>Procurement of equipment's &amp; prepare specifications of equipment's as per lab requirement</li> </ul>				
10	AICTE Affiliation and related work	Shree R D Sathvara	<ul style="list-style-type: none"> <li>All work related to AICTE affiliation process</li> <li>Record keeping in required format</li> </ul>				
11	GTU Affiliation	Shree R D Sathvara	<ul style="list-style-type: none"> <li>All work related to GTU affiliation process</li> <li>Record keeping in required format</li> </ul>				
12	Departmental Placement and MAY coordinator	Shree M J Dehlvi	<ul style="list-style-type: none"> <li>Management of all placement events.</li> <li>To collect placement data of students</li> <li>Maintain placement files in required format</li> <li>Record keeping of all correspondence with industries and students</li> <li>MAY related activity</li> </ul>				
13	Departmental coordinator of Industrial Visit, Expert lecture, and Industrial training, Faculty training and TNA	Ku. B P Gandhi	<ul style="list-style-type: none"> <li>To organize industrial visits, workshops, technical events, expert lectures</li> <li>To issue NOC for industrial training</li> <li>Maintain files in required format</li> <li>Maintain faculty training and TNA related data</li> </ul>				
14	Finishing school coordinator	Shree J V Jariwala	<ul style="list-style-type: none"> <li>Coordination of all activities related to finishing school</li> <li>Maintain file/documentation of all activities in required format</li> </ul>				
15	RUSA coordinator	Ku. S C Panchal	<ul style="list-style-type: none"> <li>Coordination of all activities related to RUSA</li> <li>Maintain file/documentation of all activities in required format</li> </ul>				
16	Departmental Mid sem Exam coordinator	Ku. S D Patel	<ul style="list-style-type: none"> <li>Prepare exam schedule and junior supervisor list of Mid-sem, Re-Mid exam</li> <li>Provide blank Answer sheets to supervisor for Midsem and Re-Mid exam</li> <li>Students exam related issues</li> <li>Display GTU circulars, GTU academic calendar</li> <li>All correspondence related to GTU</li> <li>Maintain exam related files</li> </ul>				

3A

	Departmental GTU external exam/viva coordinator	Shree M J Dehlvi	<ul style="list-style-type: none"> <li>• Prepare the list of internal examiner as per subject coordinator list and instructions from HOD</li> <li>• Provide assistance to internal and external examiner for student allocation for external viva exam</li> <li>• Collect all documents (Mark sheet sealed cover, Remuneration related) from internal examiner</li> </ul>
17	Departmental Electrical/Civil/Internet/ CCTV maintenance	Shree A L Pandya	<ul style="list-style-type: none"> <li>• All correspondence and follow up for civil, electrical, CCTV and Internet maintenance</li> <li>• Maintain files in required format</li> </ul>
18	MGSA coordinator	Ku. B P Gandhi	<ul style="list-style-type: none"> <li>• All correspondence and coordination of MGSA activity</li> <li>• Maintain files in required format</li> </ul>
19	IQAC committee	Shree A K Bula, Shree R D Sathvara, Ku. S D Patel, Shree N H Jamalia	<ul style="list-style-type: none"> <li>• All correspondence and coordination of IQAC related activity</li> <li>• Maintain files in required format</li> </ul>
20	Departmental inspection coordinators	Shree A K Bula, Shree J B Maheta, Shree R B Gadhiya, Ku. S C Panchal	<ul style="list-style-type: none"> <li>• All coordination of Inspection related activity</li> <li>• Maintain files in required format</li> </ul>
21	Departmental WID coordinator	Ku. S N Shah	<ul style="list-style-type: none"> <li>• All coordination of WID related activity</li> <li>• Maintain files in required format</li> </ul>
22	Departmental website development and News-letter coordinators	Shree J B Maheta, Shree R B Gadhiya,	<ul style="list-style-type: none"> <li>• To update departmental information on college website</li> <li>• Coordination of departmental News-letter</li> </ul>
23	Departmental NSS coordinator	Shree J B Maheta	<ul style="list-style-type: none"> <li>• All correspondence and coordination of NSS related activity</li> <li>• Maintain files in required format</li> </ul>
24	Departmental MOM (Minutes of Meeting)	Ku. S C Panchal	<ul style="list-style-type: none"> <li>• All coordination of MOM related activity</li> <li>• Maintain files in required format</li> </ul>
25	Staff leave record	Shree A K Bula	<ul style="list-style-type: none"> <li>• Maintain record of all type of leaves of staff</li> </ul>
26	Departmental SSIP coordinator	Shree R B Gadhiya	<ul style="list-style-type: none"> <li>• Coordination of all SSIP events and related activities</li> <li>• Record keeping of all SSIP related work in required format</li> </ul>
27	Department NBA coordinator	Shree M J Dehlvi	<ul style="list-style-type: none"> <li>• Coordination of all NBA related activities</li> <li>• Record keeping of all NBA related work in required format</li> </ul>
28	NBA criteria-1 coordinator	Ku. S N Shah	<ul style="list-style-type: none"> <li>• Coordination of all NBA criteria-1 related activities</li> <li>• Record keeping of all NBA criteria-1 related work in required format</li> </ul>
29	NBA criteria-2 coordinator	Shree N H Jamalia, Shree P S Thaker, Shree M S Gohil	<ul style="list-style-type: none"> <li>• Coordination of all NBA criteria-2 related activities</li> <li>• Record keeping of all NBA criteria-2 related work in required format</li> </ul>
30	NBA criteria-3 coordinator	Ku. S D Patel, Ku. B P Gandhi	<ul style="list-style-type: none"> <li>• Coordination of all NBA criteria-3 related activities</li> <li>• Record keeping of all NBA criteria-3 related work in required format</li> </ul>
31	NBA criteria-4 coordinator	Ku. S C Panchal	<ul style="list-style-type: none"> <li>• Coordination of all NBA criteria-4 related activities</li> <li>• Record keeping of all NBA criteria-4 related</li> </ul>



			work in required format
32	NBA criteria-5 coordinator	Shree J V Jariwala	<ul style="list-style-type: none"> <li>• Coordination of all NBA criteria-5 related activities</li> <li>• Record keeping of all NBA criteria-5 related work in required format</li> </ul>
33	NBA criteria-6 coordinator	Shree J B Maheta, Shree R B Gadhiya	<ul style="list-style-type: none"> <li>• Coordination of all NBA criteria-6 related activities</li> <li>• Record keeping of all NBA criteria-6 related work in required format</li> </ul>
34	NBA criteria-7 coordinator	Shree R D Sathvara, Shree J V Jariwala	<ul style="list-style-type: none"> <li>• Coordination of all NBA criteria-7 related activities</li> <li>• Record keeping of all NBA criteria-7 related work in required format</li> </ul>
35	NBA criteria-8 & 9 coordinator	Shree J V Jariwala	<ul style="list-style-type: none"> <li>• Coordination of all NBA criteria-7 related activities</li> <li>• Record keeping of all NBA criteria-7 related work in required format</li> </ul>
36	PAR/SATHI/HRMS, Income tax	Shree R D Sathvara	<ul style="list-style-type: none"> <li>• All correspondence and coordination of PAR/SATHI/HRMS and Income tax related activity</li> <li>• Maintain files in required format</li> </ul>
37	Faculty detention list	Shree P S Thaker	<ul style="list-style-type: none"> <li>• All correspondence and coordination of Faculty detention list related activity</li> <li>• Maintain files in required format</li> </ul>
38	Departmental work distribution preparation/Updation	Shree A K Bula Shree J B Maheta, Shree R B Gadhiya	<ul style="list-style-type: none"> <li>• Prepare departmental work distribution document/order.</li> <li>• Updation of the document/order time to time as per HOD instruction.</li> </ul>



દ્રો. પટેલ  
(અધ્યક્ષ. સી. વિભાગ)

નોંધ:

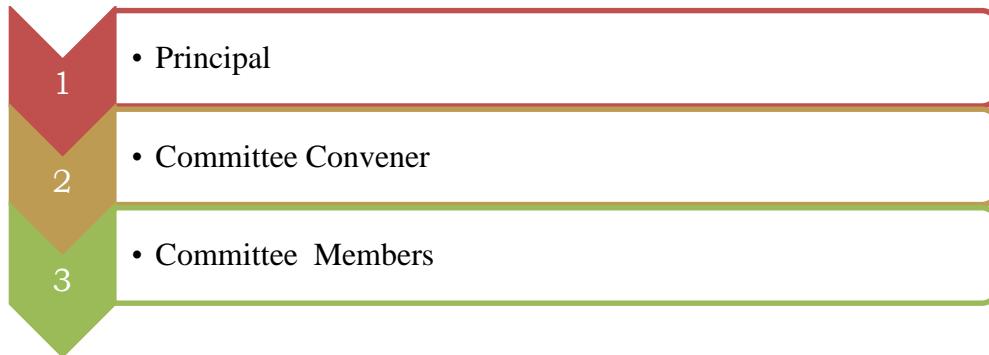
- (1) ઉપરોક્ત આઈ.સી. વિભાગની કાર્ય વહેચણી તા.: ૦૧-જુલાઈ-૨૦૨૩ થી નવા અદિશ ના થાય ત્યાં સુધી માન્ય રહેશે.
- (2) ફેક સ્ટાફ-મેમબર એ ઉપરોક્ત આઈ.સી. વિભાગની કાર્ય વહેચણી મુજબ તેમને સોપાએલ કાર્ય જવાબદારીપૂર્વક કરવાનું રહેશે.

**[Figure: 9.5 IC department work distribution order]**

### **9.1.2 D- Function and responsibilities of the various body/committees**

**Figure 9.5** shows the structure of various body/committees.

**Table 9.1.4** shows brief functions and responsibilities of various body/committees.



[Figure 9.6 structure of various body/committees]

❖ **Functions and responsibilities of various body/committees:**

Sr. No	Committee	Brief Functions and responsibilities of committee
1.	Civil work / electrical Maintenance	<ul style="list-style-type: none"> <li>➢ Liaison with R &amp; B for various development and maintenance activities.</li> <li>➢ Follow up of the sanctioned budgeted works.</li> <li>➢ Reporting the progress of work regularly to head office.</li> <li>➢ Land Records maintenance related activities.</li> <li>➢ Routine maintenance and monitoring of Electrical supply.</li> <li>➢ Regular payment of electric power consumption charges.</li> </ul>
2.	Training and Placement	<ul style="list-style-type: none"> <li>➢ To enhance activity of placement for students.</li> <li>➢ To provide a platform to students to interact and associate with industries.</li> <li>➢ To organize Finishing school program (technical &amp; soft skills).</li> <li>➢ To maintain training records of faculties, faculty Develop Program (FDP).</li> </ul>
3.	Information & Communication	<ul style="list-style-type: none"> <li>➢ Maintain the CCTV.</li> <li>➢ To maintain and update the institute Website.</li> <li>➢ To look after various AMC for ICT tools.</li> <li>➢ To maintain Institute networking.</li> </ul>
4.	Women Development	<ul style="list-style-type: none"> <li>➢ To organize the expert program for female students and staff to cope up with changing scenario.</li> <li>➢ Grievances related to women are addressed by the Internal Complaints committee.</li> </ul>
5.	Gymkhana	<ul style="list-style-type: none"> <li>➢ Extra-curricular activities are coordinated under gymkhana and records are maintained.</li> </ul>

6.	MGSA	<ul style="list-style-type: none"> <li>➤ Monitoring of housekeeping activities such as cleanliness of institute premises.</li> <li>➤ To sensitize students and staff for encouragement towards cleanliness in their surroundings.</li> <li>➤ To coordinate various activities under Mahatma Gandhi Swatchhta Abhiyan.</li> </ul>
7.	Hostel committee	<ul style="list-style-type: none"> <li>➤ Manage Hostel admission, Maintenance and administration.</li> <li>➤ To visit and mentor hostel students as and when required.</li> </ul>
8.	NSS	<ul style="list-style-type: none"> <li>➤ To provide diversified opportunities to students to develop their personality through community services.</li> <li>➤ To conduct program like tree plantation, technology transfer programs, Traffic Rules and Safety Awareness and other programs for self learning.</li> <li>➤ To maintain record of student participation in various activities.</li> </ul>

**[Table 9.1.4 Functions and responsibilities of various body/ committees]**

❖ **Institute website committee :**

<b>Sr. No</b>	<b>Name of faculty</b>	<b>Department</b>	<b>Designation</b>
1.	Mr. S. V. Patel	CE	Convener
2.	Mr. V. N. Chauhan	CE	Convener
3.	Mr. P. K. Tripathi	IT	Member
4.	Ms. M. H. Dave	BM	Member
5.	Mr. H. C. Chavda	EE	Member
6.	Mr. P. A. Parmar	EC	Member
7.	Mr. R. B. Gadhya	IC	Member

**[Table 9.1.5 Institute website committee]**

❖ **CCTV committee :**

<b>Sr. No</b>	<b>Name of faculty</b>	<b>Department</b>	<b>Designation</b>
1.	Mr. M. J. Desai	CE	Convener
2.	Mr. E. P. Panchal	IT	Co-Convener
3.	Mr. C. R. Katara	IT	Member

**[Table 9.1.6 CCTV committee]**

❖ **WDC Committee :**

<b>Sr. No</b>	<b>Name of faculty/NGO</b>	<b>Department</b>	<b>Designation</b>
1.	Ms. S. S. Patel	CH	Convener
2.	Ms. D. R. Sharma	GEN	Member
3.	Ms. D. B. Joshi	Civil	Member
4.	Ms. S. N. Shah	IC	Member
5.	Mrs. N. U. Sheth	BM	Member
6.	Ms. S. R. Prasad	EE	Member
7.	Ms. L. J. Gadhvi	IT	Member
8.	Ms. L. K. Chhaya	EC	Member
9.	Ms. S. G. Kumbhani	CE	Member
10.	Ms. B. L. Guleriya	CH	Member
11.	Ms. R. G. Solanki	Mech	Member
12.	Mr. N. K. Singh	Asst. Prof. – CE	Member (Male from Govt. Engg. College Gandhinagar)
13.	Ms. A. J. Sarvaiya		NGO Representative

[Table 9.1.7 WDC Committee]

❖ WDC activities :

SR No.	Name of Programme	Date	Name of Expert	No. Beneficiaries
1	Art Workshop	20/1/2017	WDC Faculties	77
2	Tie and dye program	2/2/2017	Aakar acedamy	81
3	Mehndi competition	3/2/2017	WDC Faculties	48
4	PDPU & Nirma university visit	15/3/2017	WDC Faculties	40
5	Yoga celebration	21/6/2017	WDC Faculties	38
6	Seminar on women's legal rights	01/09/2017	Mr.Sudhir Desai(PLV)	79
7	Seminar on dikari mari ladkvayi	12/10/2017	Mrs.Varsha Bhatt	78
8	Girls counselling	26/02/2018	WID faculties	79
9	Girls counselling	27/02/2018	WID faculties	78
10	Women Day celebration at mahatma mandir	08/03/2018	Organized by Government	-
11	Silk thread jewelry making workshop	10/04/2018	MRS.B.P.Gandi	25
12	Women safety and awareness	20/4/2018	Mr.P.C.Valera sir(PSI)	82
13	Mahila Sasktikaran and self defense	01/08/2018	Mr.P.C.Valera sir(PSI)	78
14	Nutrition and wellness	05/03/2019	Dr.Gaurangini Bhatt	74
15	Abhayam Helpline	16/03/2019	Zala Vilas	25
16	Mahila sasktikaran and Self defence	03/05/2019	Mr.Suraj	74
17	Fast knitting/embroidery	21/6/2019	Mr.S.G.Barot	22
18	Information regarding women empowerment	08/07/2019	Mr.P.C.Valera sir(PSI)	78
19	Food and Nutrition	20/12/2019	Smt.Veena Vora	15
20	Food and Nutrition	05/03/2020	Smt.Veena Vora	54
21	Mahila sasktikaran (online)	17/9/2020	Mr.P.C.Valera sir(PSI)	104
22	Nutrition awerness (online)	23/9/2020	Smt.Veena Vora	74
23	Mahila salamat (online)(for 1st Year students)	20/03/2021	Mr.P.C.Valera sir(PSI)	18
24	General Health, Hygiene, teenage Gynec Problem(Online)	23/04/2021	Dr.Khushali Shukla	42
25	Fluid Art Painting(Online)	27/8/2021	Mrs.Kavita Pursvani	26
26	Aap ni suraksha aap na hath ma	21/1/2022	Mr.P.C.Valera sir(PSI)	31

27	Jatiya Satamani	3/2/2022	PI Ankitaben Shah	198
28	Self defence(Karate Techniques)	10/3/2022	Mr Gaurang Rana	31
29	Psychological Problem and Counselling	9/9/2022	Dr Kinjal Chauhan MD Psychiatric	155
30	Laws & Security	23/2/2023	PI Chaudhry Madam Senior Counsellor-Jitakshi Bhatt	106
31	Self defense (Karate Techniques)	20/4/2023	Mr Gaurang Rana, Ms. Aneri Patel	92
32	Corporate make up and Hair Styling	12/9/2023	Mrs. Poonam singh, Umang Beauty Care.	136
33	Awareness of "Cervical Cancer"	20/03/2024	Dr. Jaldharaben Patel	141
34	Spirituality By Brahmakumaris	01/05/2024	Brahmakumari Krupa didi	179
35	Taekwondo Program	07/08/2024	Mr. Jatin Dave and team	160
36	Women safety for empowerment	26/09/2024	Mr. P. C Valera	96
37	Employability with Empathy for girls	16/01/2025 to 23/01/2025	MS. Anjali Singh	40(6th sem)

**[Table 9.1.8 WDC activities]**

❖ **Gymkhana committee :**

Sr. No	Name of faculty	DEPARTMENT	Designation
1.	Mr. G. P. Rathod	ME	Coordinator
2.	Mr. S. I. Anand	EE	Co- Coordinator
3.	Mr. A. N. Mehta	IT	Co- Coordinator
4.	Mr. N. K. Suthar	CH	Member
5.	Mr. N. R. Singh	S&H	Member
6.	Mr. P. B. Bhatt	EC	Member
7.	Ms. S. C. Panchal	IC	Member
8.	Mr. G. B. Jadeja	CE	Member
9.	Mr. K. H. Raj	MET	Member

**[Table 9.1.9 Gymkhana committee]**

**❖ Gymkhana activities :**

Sr No.	Events	Event Date
<b>Year: 2018-19</b>		
1.	Gujarati folk dance celebration	6/10/2018
2.	Sports week(2018-19)	12/02/19 to 16/02/19
<b>Year: 2019-20</b>		
3.	Gujarati folk dance celebration	5/10/2019
4.	Sports week(2019-20)	18/01/20 to 24/01/20
<b>Year: 2021-22</b>		
5.	(On the occasion of foundation day of GTU) Quiz cum survey (Online) -for imparting awareness of corona virus pandemic among the students. Participants: 90	16/05/2021
6.	Shri ZaverchandMeghani's Songs Singing Competition - Institute Level PLATFORM: GOOGLE MEET Participants registered : 17 Actual Present: 10 Winners : 3 (participated in University level)	02/09/2021 Time: 11:00 AM
7.	Expert Lecture TOPIC: " Ultimate Goal of Life " Place : Chemical Dept. Hall, Government Polytechnic, Sec-26, G'nagar. Speaker : Savyasachi Das Presenters: ઇસ્કોન (ISKCON) ભોપાલ Attendees:- 45 staff and 10 representatives of presenter.	16-10-2021, Saturday (Ekaadashi) Time : 1:00 pm to 3:00 pm
8.	Pledge for Organ Donation as a Social Initiative/Community Outreach Program અંગારણજીગુતપ્રતિફાલકાર્યક્રમ Number of beneficiaries :62	17/9/2021
9.	GTU Spirit 2022 Intercollege Cricket Tournament Institute's Team played at SVIT, Vasad.	02/03/2022
10.	KhelMahakumbh Institute's Football Team Registered (16 students) Institute's Volleyball Team registered(10 students)	March 2022
<b>Year: 2022-23</b>		
11.	Student's Achievement : Enrollment number : 216230307013 Full name : Pradyum Prakash Sanyasi Department : Computer department	28/08/2022

	Won silver medal & bronze medal Event Name: 12th Gujarat State Shotokan Karate Championship-2022, Under AzadiKaAmrit Mahotsav-2022 Organized By : Nska, Nihon Shotokan Karate Association Place: YugpurushVivekanand Sports Complex, Vvnagar, Anand.	
12.	G3Q(Gujarat Gyan Guru Quiz) Students Registered: 632 Staff Registered: 93 Students Played/Attended: 394 Total Winners: 20 Price Money and Certificates provided to the winners	10/7/22 to 17/9/2022
13.	Garba Event (Kesariyo 2022) All faculties and Students present in the institute had Participated Approximately 300 beneficiaries	26/9/2022
14.	Seminar Topic: Personal Protection and Safety Awareness At Auditorium hall, CH Department. By: Shri Jatin Dave , Director , Gandhinagar Taekwondo Association And Shri MilapTataria, Secretary, Gandhinagar Taekwondo Association. Attendees: 150 approximately	27/9/2022
15.	Sports Week 2023 (Kheldili2K23) Cricket, KhoKho, Kabaddi, Volleyball. Carrom, Chess, Badminton, Race, Long jump, Javelin Throw, Discus Throw, Shotput. 750 participants registered	18/1/2023 to 25/1/2023
<b>Year: 2023-24</b>		
16.	Sports Week 2024 (Kheldili2K24) Cricket, KhoKho, Kabaddi, Volleyball. Carrom, Chess, Badminton, Race, Long jump. Around 700 participants registered	19/02/2024 to 23/02/2024
17	Primary Rock Climbing Training at GTU – 02 Students participated in State level Training at Mount Abu organized by GTU. (Particant's Names- HimanshuVasava and RupaliTivari )	Sept., 2023
18	GTU Spirit 2023 InterZone Volley Ball Tournament –Boys at SVIT Vasad. 12 students participated	10/04/2024
19	GTU Spirit 2023 InterZoneKabaddiTournament –Boys at Lalubhai Trivedi Institute, Rajkot.	06/04/2024

	13 students participated	
20	GTU Spirit 2023 InterCollege Cricket Tournament – Boys at G.P.E.R.I , Mehsana. 16 students participated	06/04/2024
<b>Year: 2024-25</b>		
21	Awareness Program organized by GTU for Paris Olympics-2024	August-2024
22	Sports Week 2025 (Kheldili2K25) Cricket, KhoKho, Kabaddi, Volleyball, Carrom, Chess, Badminton, Race, Long jump. Around 700 participants registered	03/03/2025 to 07/03/2025

[Table 9.1.10 Gymkhana activities]

❖ MGSA committee:

Sr. No	Name of faculty	Department	Designation
1.	Ms. K. D. Mankad	GEN	Coordinator
2.	Ms. B. P. Gandhi	IC	Co-Coordinator
3.	Ms. M. H. Vadhera	CH	Member
4.	Ms. D. R. Varadiya	EC	Member
5.	Mr. R. B. Chauhan	BM	Member
6.	Ms. S. N. Patel	GEN	Member
7.	Mr. A. N. Mehta	IT	Member
8.	Ms. S. R. Prasad	EE	Member
9.	Ms. N. B. Shukla	CE	Member
10.	Mr. V. A. Bhagora	MECH	Member
11.	Ms. B. H. Dave	CIVIL	Member
12.	Mr. K. H. Raj	MET	Member
13.	Mr. M. R. Acharya	CH	Member
14.	Mr. H. C. Chavda	EE	Member
15.	Mr. P. R. Vaniya	CIVIL	Member
16.	Mr. Suraj Parmar	Esta	Member

[Table 9.1.11 MGSA committee]

❖ MGSA activities:

YEAR 2017-18			
Sr.No	TOPIC/ACTIVITY	DATE	EXPERT / Member
1	Essay competition	8/9/2017	Mr. A. K. Bula Mr. N. B. Shah

2	Drawing competition	11/9/2017	Ms. L. J. Ghadvi, Ms. M. H. Vadrea
3	Debate competition	11/9/2017	Mr. K. H. Talati, Ms. N. V. Chauhan
<b>YEAR 2018-19</b>			
1	Swachchhata Pakhavadiyu	17/9/2018 to 28/9/2018	MGSA Committee members
2	Prabhat Feri	2/10/2018	MGSA Committee members
3	Sarvadham Prathana	2/10/2018	MGSA Committee members
4	Gandhivichar Vachan	2/10/2018	Mr. A. K. Bula -Lecturer IC
5	Expert lecture on Plastic Pollution	2/10/2018	Mr. N. I. Gadhvi - Lecturer Chemical
6	Gandhi Bhajan	2/10/2018	MGSA Committee members
7	Visit to sabarmati ashram Ahmedabad	2/10/2018	MGSA Committee members
8	Essay Competition	4/10/2018	MGSA Committee members
9	Elocution Competition	4/10/2018	MGSA Committee members
10	Poster Presentation	4/10/2018	MGSA Committee members
11	Visit to Mahatma Gandhi Dandi Kutir	6/12/2018	MGSA Committee members
12	Safay abhiyan at college campus	20-4-2019	MGSA Committee members
<b>YEAR 2019-20</b>			
1	Expert lecture on "Gandhiji na Vicharo"	7/9/2020	Mr. I. A. Bhavsar
2	Prayer and Bhajan	23/09/19	MGSA Committee members
3	Shramdaan	25/09/19	MGSA Committee members
4	Elocution Competition	26/09/19	MGSA Committee members
5	Essay Competition	27/09/19	MGSA Committee members
6	Film Screening	30/09/19	MGSA Committee members
7	Drawing Competition	30/09/19	Mrs. M. V. Prajapati & Mr. S. R. Jain
8	Quiz Competition	1/10/2019	MGSA Committee members
9	Fit india plaging run	2/10/2019	MGSA Committee members
10	Swachchhata pledge taking ceremony	16/01/20	MGSA Committee members
11	Plantation of sapling	17/01/20	MGSA Committee members
12	Presentation on waste recycling	18/01/20	MGSA Committee members
13	Poster making competition on Swachchhata	20/01/20	MGSA Committee members
14	Cleanliness drive in college campus	21/01/20	MGSA Committee members
15	Slogan writing competition on water conservation	22/01/20	Mr. N. I. Gadhvi
16	Talk-show on Swachchhata	23/01/20	MGSA Committee members
17	Poster making competition on forest conservation	24/01/20	MGSA Committee members
18	Cleanliness drive in hostel campus	25/01/20	MGSA Committee members
19	Best out of waste competition	27/01/20	Mr. J. V. Jariwala
20	Awareness Speech by student on water conservation	28/01/20	MGSA Committee members

21	Awareness program on “swachchhata” and “say no to single use plastic” at kolavada village by students and faculty of institute	29/01/20	MGSA Committee members
22	Tree plantation	24/07/2019	MGSA Committee members
<b>YEAR 2021-2022</b>			
23	Swachchhata pledge taking ceremony	01/09/2021	MGSA Committee members
24	Cleanliness awareness day	02/09/2021	MGSA Committee members
25	Webinar on “no use of single plastic”	03/09/2021	Mr. N. I. Gadhvi
26	Cleanliness drive in college campus	04/09/2021	MGSA Committee members
27	Poster making competition on “Spreading Awareness Regarding Importance of Cleanliness”	06/09/2021	Ms. Poonam Lakhani
28	Slogan writing competition on “water and forest conservation	13/09/2021	Ms. Binal Gandhi
29	Webinar on “Swachha Bharat”	14/09/2021	Mr. T. R. Parmar
30	Webinar on “Swachhata hi seva”	15/09/2021	Mr. I. B. Bhavasar
<b>YEAR 2023-2024</b>			
31	Shramdan Campaign, Ek Tareekh, Ek Ghanta (tribute to Mahatma Gandhi)	01/10/2023	MGSA Committee members and all the Institute Faculty
32	“Swachhata hi seva” (Campus Clean and Discard the waste)	23/10/2023 to 4/11/2023	MGSA Committee members and all the Institute Faculty
<b>YEAR 2023-2024</b>			
33	“Swachhata hi seva” (Campus Clean and Discard the waste)	17/9/2004 to 31/10/2024	MGSA Committee members and all the Institute Faculty

[Table 9.1.12 MGSA Activities]

**❖ Hostel core committee :**

Sr. No	Name of faculty	Department	Designation
1.	Mr. A. D. Patel	EE	Convener
2.	Mrs. M. V. Prajapati	CE	Member (GIRL'S WARDEN)
3.	Mr. H. C. Chavda	EE	Co- Convener (BOY'S WARDEN)
4.	Ms. D. B. Joshi	GEN (CIVIL)	Member
5.	Mr. J. B. Maheta	IC	Member
6.	Mr. A. S. Patel	IT	Member
7.	Mr. K. H. Talati	GEN (ENG)	Member
8.	Mr. M. R. Acharya	CH	Member
9.	Mr. P. D. Dave	BM	Member
10.	Ms. L. K. Chhaya	EC	Member

[Table 9.1.13 Hostel core committee]

**❖ NSS committee :**

<b>Sr. No</b>	<b>Name of faculty</b>	<b>Department</b>	<b>Designation</b>
1.	Mr. N. I. Gadhavi	CH	Convener
2.	Mr. S. R. Modi	GEN (PHY)	Co- Convener
3.	Mr. C. R. Katara	IT	Member
4.	Ms. S. D. Patel	IC	Member
5.	Mr. A. S. Vaishnav	CE	Member
6.	Ms. S. R. Prasad	EE	Member
7.	Mr. V. B. Chauhan	CH	Member
8.	Mr. V. A. Bhagora	ME	Member
9.	Ms. D. R. Varadiya	EC	Member
10.	Ms. B. H. Dave	CIVIL	Member
11.	Ms. A. S. Kadiwala	MET	Member

**[Table 9.1.14 NSS committee]**

❖ **NSS activities :**

<b>SR. NO</b>	<b>Event Date</b>	<b>Venue</b>	<b>Topic</b>	<b>Guest/Resource Person/Faculty Member</b>
1.	09-Jan-2017	Central Vista Garden, Gandhinagar	Air Show by Indian Air Force	Mr. H. V. Rupala, Mr. M. M. Chaudhri, Mr. R. H. Khuman. Mr. A. L. Pandya
2.	11-Jan-2017 (after noon)	Central Vista Garden, Gandhinagar	Vibrant Gujarat Summit-2017 Ground Exhibition Visit	NSS coordinator
3.	05-Dec-2016	Town Hall Sector-17 Gandhinagar	Seminar on Digital Banking and cashless Payment	Shri Bhupendrasinh Chudasama , Bank Person from SBI
4.	23-Jan-2017	MahnagarPalika ,Gandhinagar	Smart city-Vision Workshop	Mayor Shri Pravinbhai Patel, Senior citizens and youth of Gandhinagar.
5.	25-Jan-2017	Respective Department	Rashtriya Mat Data Divas	---
6.	27-Feb-2017	Campus	Sainik Welfare Fund Collection	Mr. A. D. Patel (HOD EE) and two faculty member
7.	29-Sep-2016 to 2-Oct-2016	Pansar Village	Public Awareness week for cleanliness	Shri Hiren Rupala and students
8.	28-Mar-2017	Grounf Floor ,New Academic Building	VyasanMuktiAbhiyan	Mr. Ashish Soni
9.	03-Jun-2018	Campus (Academic Bulding Room No- 103)	Traffic Rules and Safety Awareness	Mr H. M. Chaudhari(A.R.T.O)
10.	07-Nov-2018	Campus	Tree Plantation	NSS Students and others interested students with faculties participated.
11.	09-Dec-2018	Campus (Academic Bulding Room No- 103)	How to Tackle Medical Emergency	Dr Kartik Patel ( Leo Club of Gandhinagar)
12.	12-Jun-2018	DandiKutir Mahatma Mandir Gandhinagar	Visit To DandiKutir	NSS Students and others interested students with faculties participated.
13.	16-Jan-2019	Campus (Main Bulding Room No- 135)	Voters Awareness Forum	Guest : Mr A. K. Bula & Mr A. R. Zare. NSS Students and others interested students with faculties participated.
14.	06-Sep-2018 to 12-Sep-2018	New Academic Bulding Room number 103	Thalassemia Awareness Seminar	Guest : Mr Harshil Vyas & Team from Prathama Blood Center
15.	31-Oct-2018	Campus	National Unity Day Celebration	All students

16.	26-Nov-2018	Campus (BISAG Room)	Constitution Day Celebration	Lecturer: Mr. A. K. Bula & Mr. Rajendra Khuman NSS Students and others interested students with faculties participated.
17.	15-Aug-2018	Campus	Independence Day 2018 Celebration	Principal and faculties of GP Gandhinagar
18.	26-Jan-2019	Campus	Republic Day Celebration	Principal and faculties of GP Gandhinagar
19.	26-Feb-2019	Campus (Acedemic Building Room No 003)	Thallasemia Testing campaign	2nd semester students.
20.	20-Mar-2019	Campus (Acedemic Building Room No 104)	Celebration of World Sparrow Day	Ms Anjana Nimavat from Vanshree Trust Vanshree trust have given 100 sparrow nest free of cost to students and staff
21.	16-Apr-2019	Mahatma Mandir, Gandhinagar	Run for Voter Awareness	This event is organised by District Administration of Gandhinagar for voter awareness. Our institute had actively participated in this event.
22.	21-Jun-2019	Central Vista Park, Gandhinagar	Yoga Day Celebration	This event is organized by District Administration of Gandhinagar to celebrate world yoga day. Our institute had actively participated in this event.
23.	26-Aug-2019	Campus (Academic Bulding Room No- 103)	VyasanMukti& Ethical Values	This event is organized under NSS to make addiction free society, and to nurture students about ethical values.
24.	26-Nov-2019	Govt. Polytechnic Gandhinagar	Constitution Day Celebration	This event is organized under NSS to spread awareness about constitution among students.
25.	29-Aug-2019	Govt. Polytechnic Gandhinagar	FIT ( Fitt India Movement) Screening of PMO Live screening	This event is organized under NSS to spread awareness about Health Promotion.
26.	01-Sep-2020	Govt. Polytechnic Gandhinagar	Karuna Abhiyan	This event is organized under NSS to spread awareness about Birds Injuries and how to rescue birds as action plan prepared by Forest Department Gandhinagar

27.	30-Sep-2019 & 01-Apr-2019	Govt. Polytechnic Gandhinagar	Kuposhan& Naturopathy Seminar	This event is organized under NSS to spread knowledge about to stop kuposhan and also health benefit from Naturopathy.
28.	23-Jan-2020	Govt. Polytechnic Gandhinagar	Celebration of Subhash Chandra Bose jayanti	Drawing competition, Elocution Competition and Documentary screening is arranged to understand the life of Netaji Subhash Chandra Bose.
29.	26-Jan-2020	Govt. Polytechnic Gandhinagar	Celebration of Republic Day	Flag Hoisting is done in premises of Government Polytechnic Gandhinagar.
30.	30-Jan-2020	Govt. Polytechnic Gandhinagar & Village Kolavada	Martyr's Day / Gandhi Nirvan Din	On this day all faculties with students pay Homage to Martyr's and also some faculties with students visited village Kolavada for cleanliness activity.
31.	20-Feb-2020	Govt. Polytechnic Gandhinagar	International Mother Tongue Day-21st February	-
32.	20-Jun-2020	Home	International Yoga Day- 21st Jun 2020	On this day all faculties with students did yoga with theme Do Yoga Beat Corona and uploaded their photos
33.	15-Aug 2020	Online	Webinar : "Atma Nirbhar Bharat"	Students participated in webinar to understand and promote Atma Nirbhar Bharat
34.	15-Aug 2020	College Campus	Independence Day 2020 Celebration	Celebration of independence day
35.	15-08-2020 to 02-10-2020	From Home	FIT India Campaign	Students participated in promotion of FIT India Campaign by posting their running, jogging or exercising video on social media.
36.	19/10/2020	Online	Webinar : "Care For Wellbeing During Corona Crisis" by Dr PalakAhir	On this day all faculties with students participated in webinar and understood how can we take care of health in Corona Crisis
37.	21/10/20	Online	Poster competition - Spreading Awareness To Take Precaution in COVID - 19	Students participated in poster competition in spreading awareness to take precaution in COVID 19.

38.	6/11/2020	Online	Google Quize - Spreading Awareness To Take Precaution in COVID - 19	Students participated in Google Quize in spreading awareness to take precaution in COVID 19.
39.	13/01/2021	On the Festival of Uttarayan for Bird Rescue	Karuna Abhiyan	This event is organised under NSS & Prakruti Yuva Seva Trust to spread awareness about Birds Injuries and how to rescue birds as action plan prepared by Forest Department Gandhinagar. Helpline numbers are shared on website of college to rescue the birds in need.
40.	6/11/2020	Institute	Soldier Fund Contribution	In the time of corona students were not in institute, but all staff members of Institute collected amount of Rs. 11340/-for soldier fund.
41.	26/01/2021	Institute	Republic Day 2021 Celebration	Republic day celebrated.
42.	12/3/2021	Institute	Azadi ka Amruit Mahotsav	Presentation is given by Faculties of EC, GEN and IT department on "Dandi Yatra" to make audience aware about historic battle for truth.
43.	21/06/2021	Online, Home	International Yoga Day	On this day all faculties with students did yoga with theme "Do Yoga & Bust Immunity"
44.	17-7-21 to 23-07-21	Institute	Tree Plantation Drive	In this week every departments have actively participated in plantation of various tree "Garmalo", "Gulmahor", "Kodiyu" and "Limado"
45.	15-Aug 2021	College Campus	Independence Day 2021 Celebration	Celebration of independence day
46.	03-04-2021 & 02-07-2021	Institute	COVID vaccination Drive Dose 1 & Dose 2	Vaccination drive had been arranged by NSS in coordination of Biomedical Department to make maximum staff members vaccinated.

47.	4/9/2021	Gurukul, GH 5 Circle to Circuit House Gandhinagar	Fit India Freedom Run 2.0	FIT INDIA FREEDOM RUN 2.0 organised by Nehru Yuva Kendra Sangathan, Staff and Students have participate with them to spread awareness among citizen to adopt healthy life by making themselves fit everyday.
48.	31/10/2021	All Department, Institute	National Unity Day Celebration	All Staff and Students have taken pledge for National Unity
49.	29-01-2022	All Department, Institute	Soldier Fund Contribution	In the time of corona students were not in institute, but all staff members of Institute collected amount of Rs. 11001/-for soldier fund.
50.	30/01/2022	All Department, Institute	Martyr's Day / Gandhi Nirvan Din	Students and staff members remember freedom fighters and pay homage to them who laid down their lives for India. The day marks the death anniversary of Mahatma Gandhi, students became aware of Mahatma Gandhi's prominent role in the freedom struggle through non-violent and peaceful methods.
51.	16/11/2021	All Department, Institute	Legal Literacy Awareness	All Staff and around 50 Students have Participated
52.	24-02-2022	Kolavada Village	Awareness on Cow based Organic Farming	The key objective of discussion points are based on topic is Cow based organic farming. We went and discussed the need of Cow based organic farming in village to increase the income of farmers by increase in agricultural production by increasing agricultural productivity by giving the knowledge of scientific methods of agriculture to the farmers and they will implement various agriculture schemes.

53.	24-02-2022	Kolavada Village	Covid 19 Preventive Measure and Vaccination awareness	We spread awareness on Covid 19 preventive measure and to increase vaccination to prevent Covid 19 among villagers and students studying in primary school of kolavada village.
54.	21-03-22	Sec 6, Slum Area, Nr Police Station	Clothing Donation Drive	We had collected old cloth from staff of our institute and donated those to needy people in slum area.
55.	21-06-22	Campus	International Yoga Day	On this day all faculties with students did yoga with theme "Yoga for Humanity"
56.	12-08-2022	Campus	Tricolor Display Event	All the staff together displayed Tiranga in hand and celebrated the "Har Ghar Tiranga" Campaign..
57.	15-08-2022	College Campus	Independence Day 2021 Celebration	Celebration of independence day
58.	15-08-2022	College Campus to K6 Circle	Tiranga Yatra	We had spreaded awareness on Har Ghar Tiranga campaign by organising Tiranga Yatra from college to K6 circle
59.	01/06/2022 to 14/06/2022	College Campus	Sead Ball Activity	As per the guidelines from GTU to prepare Seed Ball to celebrate World Environment Day in unique way, we prepared 300 Seed Ball. All prepared Seed Balls are buried in unused land near Dholeswar Temple near Sabarmati River.
60.	29-01-2023	College Campus	Soldier Fund Contribution	We had contributed Rs 19300/- for soldier fund from our Institute.
61.	17-07-22 to 23-07-2022	College Campus	Tree Plantation Drive	In this week every departments have actively participated in plantation of various tree "Garmalo", "Gulmahor", "Kodiyu" and "Limado"

62.	21-06-2022	College Campus	International Yoga Day	We at G P Gandhinagar have celebrated International Yoga Day with the theme of “Yoga for Humanity” as directed by central and state government. We practiced yoga in college campus with faculties and students to spread awareness about importance of Yoga.
63.	17/7/2022 to 23/7/2022	College Campus	Tree Plantation Drive	We had collected old cloth from staff of our institute and donated those to needy people in slum area.
64.	12-8-2022	College Campus	Tricolor Display Event	We had celebrated independence day with all staff members and students.
65.	15/8/2022	College Campus	Celebration of Independence Day	We had spreaded awareness on HarGharTiranga campaign by organising Tiranga Yatra from college to K6 circle
66.	15/8/2022	College Campus	Tiranga Yatra	Government polytechnic Gandhinagar has celebrated 74th republic day of our nation. All facilities and students were gathered around for flag hosting. NSS volunteers made parade and students performed wonderful culture dance.
67.	26/1/2023	College Campus	74th Republic day celebration	We had contributed Rs 19300/- for soldier fund from our Institute
68.	29/1/2023	College Campus	Soldier Fund Contribution	30 January each year mark the death anniversary of the father of nation, Mahatma Gandhi. The day is also celebrated as Martyrs’ Day to commemorate freedom fighters who sacrificed their lives to get us freedom. All faculty and students gathered and maintain two minute silence on 30/1/2023

69.	30/1/2023	College Campus	Martyr's day	In this busy working life, it is very hard to maintain balance between work and home for specially working women. For that a special yoga session was arranged for working women. Some basic yoga position called 'Desk yoga' were performed those can be done at work station easily.
70.	02-03-23	College Campus	Women empowerment – Yoga for working women	The Shradhanjali was arranged to remember and give tributet to our breave soldiers.
71.	14/2/2023	College Campus	Pulvamaattachkshradhanj ali	Climate, science, and Indian culture
72.	16/2/2023	College Campus	Science city visit	Science behineindian culture
73.	28/2/2023	College Campus	Science city visit	Shri ShriRavishanarMaharaj visit - Drug free compain
74.	15/3/2023	College Campus	Science city visit	The main goal of this event Run for climate is the awareness about Environment and Climate. The institute has arranged the run for climate at our institute and the faculties and many students have participated enthusiastically and with best effort for awareness up to the more and more people. Students and staff members shared their little effort for the awareness regarding the importance of Climate and environment

75.	29/03/2023	College Campus	Run for Climate	The institute has celebrated the event of “Use Cycle, Save Energy” regarding the awareness about saving energy and Climate. 60 Students and 18 Sataffmembers have participated enthusiastically and with best effort for this awareness up to the more and more people.
76.	31/03/2023	College Campus	Use Cycle, Save Energy	We had collected old cloth from staff of our institute and donated those to needy people in slum area.
77.	05-06-2023	College Campus	World Environment Day	For the awareness about mindful and deliberate utilization, instead of mindless and destructive consumption in our routine life style to safeguard our environment from the impact of the climate change. Workshop regarding the importance of an environment day as well as sustainable practice and Mission LiFE with promoting life actions, make the college campus plastic free, avoiding food wastage in hostel and canteen rooms of college etc. Many Students and faculties have participated enthusiastically with their best efforts for this event of awareness.

78.	17/06/2023	College Campus	Suryanamaskar	9th International Yoga Day is going to be celebrated in our Institute. For centuries, people from all civilizations have offered prayers to the sun – the ultimate source of life and energy. One such practice is the yogic sequence of Surya Namaskar. Regular practice of Surya Namaskar also gives strength and vitality to the body
79.	21/06/2023	College Campus	Yoga day	As we know that Yoga has various physical and mental benefits. This is an old practice which originated in India. Yoga practice includes many physical exercises such as breathing, postures, and mental exercises such as Meditation or Dhyanyog. This day is celebrated to raise awareness about the benefits of yoga.
80.	11-8-2023	College Campus	Tree plantation 'Vasudhavandan'	As we all know that Global warming and Pollution are being a big issue for whole the world, and to protect the world from this one of the important actions is to plant more and more trees. As a part of this activity Tree plantation has celebrated in the campus and baby plant of the trees like Kodiyu, Limado, Gulmahor etc. have planted.

81.	10-8-2023	College Campus	Meri Mati MeraDesh	The Government of India has initiated the Meri Mati MeraDesh campaign as the concluding event of the AzadikaAmritMahotsav, commemorating 75 years of Indian Independence. The Government Polytechnic, Gandhinagar also celebrated it to show respect and homage to the land of India where courageous martyrs, freedom fighters, and valiant women played pivotal roles during the struggle for India freedom.
82.	23/8/2023	College Campus	LIVE stream Chandrayaan-3 landing on the Moon	Government Polytechnic, Gandhinagar had organised LIVE stream Chandrayaan-3 landing on the Moon at SarswatiSadhana Hall Moon to became witness this momentous occasion and share information with all the faculty, students, staff, and others so that they may witnessing this momentous occasion.
83.	24/8/2023	College Campus	Cloth and Toys donatoin to needy	On the base of understanding that no matter how much you can afford to give, as a one-off donation, through regular giving, or by fundraising for charity, our donation matters. Every donation received adds up and helps charities get to work and make a positive difference.

84.	15/8/2023	College Campus	Celebration of Independence Day – 2023	India's journey to freedom was marked by the sacrifices of courageous freedom fighters who strived to liberate the country from British oppression. This day holds immense importance for all citizens, igniting a sense of patriotism and national pride. Government Polytechnic, Gandhinagar had also celebrated the Independence Day.
85.	31/8/2023	College Campus	Spiritual lecture session by 'Bramha-Kumari' Panth	The Government Polytechnic, Gandhinagar organised Spiritual lecture session by the Brahma Kumaris. They teaches a type of meditation that emphasizes identity as souls rather than bodies. Adherents believe that all souls are good by nature and that God is the source of all goodness.
86.	25-01-24	College Campus	Celebration of National Voters Day	As per the instruction through SoP of Universities , Government Polytechnic, Gandhinagar has celebrated a National Voter's Day by arranging a Live session in the auditorium of the institute, for new voter students to take the advantage of online beneficiary guidance and interaction of Hon'ble Prime Minister shri Narendra Modiji. Whole the session were successfully celebrated in the peaceful environment with the support of all presented faculties and students.

87.	26-01-24	College Campus	Celebration of Republic Day 2024	Government polytechnic Gandhinagar has celebrated 75th Republic day of our nation in the memory of India's struggle for independence and the establishment of a self-governing nation. Faculties and students were gathered around for flag hosting. Students have participated in different activities like speeches and cultural dance.
88.	15-02-24	College Campus	Eye check up Camp	Government polytechnic Gandhinagar has organized Eye check up camp to prioritize visual health and also contribute to fostering a culture of wellness within our academic community. Many students and faculties have enthusiastically participated to make the event successful.
89.	15-02-24	College Campus	Blood Donation Camp	Government polytechnic Gandhinagar has organised blood donation camp to motivate people to donate blood and social works. Many students and faculties have enthusiastically participated to make the camp successful and helpful for needy people in future.
90.	10-06-2024	College Campus	Drug awareness oath	NSS TEAM, GPG
91.	15-08-2024	College Campus	Independence Day 2024 Celebration	MGSA TEAM
92.	13-09-2024	College Campus	Nasha Mukt Bharat Abhiyan	NSS TEAM, GPG
93.	20-09-2024	College Campus	Tree Plantation	NSS TEAM, GPG
94.	1-10-2024	College Campus	Garba Event (Kesariyo-2024)	Gymkhana committee
95.	10-10-2024	College Campus	Elocution competition	NSS TEAM, GPG

96.	16-10-2024	College Campus	Vikas Sapathe Celebration	NSS TEAM, GPG
97.	21-10-2024	College Campus	Debate competition "Are Exam the best way to measure student ability???"	Chemical Engg. Dept.
98.	30-10-2024	College Campus	Ekta divas sapathe	Chemical Engg. Dept.
99.	26-1-2025	College Campus	voter awareness oath and road safety oath	NSS TEAM, GPG
100.	27-1-2025	College Campus	Poetry competition commemorating the 100th birth anniversary of shri Atal Bihari Vajpayee	NSS TEAM, GPG
101.	27-1-2025	College Campus	Road safety Rally	NSS TEAM, GPG
102.	27-1-2025	College Campus	Road safety Quiz	NSS TEAM, GPG
103.	8-2-2025	College Campus	Millet mahotsav visit	NSS TEAM, GPG
104.	8-2-2025	College Campus	BIMSTER youth summit 2025	GTU NSS and NSS team, GPG
105.	28-2-2025	College Campus	National science day celebration	NSS TEAM, GPG
106.	07-03-2025	College Campus	Sanskriti Vaktrutva spardha Elocution competition	NSS TEAM, GPG
107.	03-05-2025	College Campus	DHYAAN	Sh. N B Shah sir and NSS TEAM, GPG
108.	01/07/2025 - 06/07/2025	College Campus	International cooperative ACADEMIC YEAR 2025	NSS TEAM, GPG
109.	20-09-2024	College Campus	Tree Plantation	NSS TEAM, GPG
110.	04/07/2025- 05-07-2025	College Campus	Tree Plantation	NSS TEAM, GPG
111.	28-7-2025	College Campus	Celebrating 150th birth anniversary of Sardar Vallabh Bhai Patel	NSS TEAM, GPG

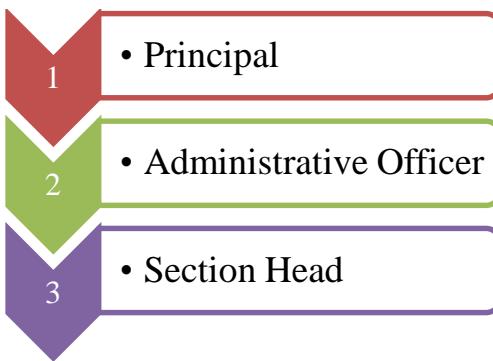
[Table 9.1.15 NSS activities]

**Frequency of the meeting:** Meetings are called as and when required & Minutes of meeting records are maintained.

### 9.1.2(E) Functions and responsibilities of the office administration

Figure 9.6 shows the structure of office administration.

Table 9.1.16 shows brief functions and responsibilities of office administration.



**[Figure 9.7 structure of office administration]**

❖ **Functions and responsibilities of office administration:**

<b>Sr. No.</b>	<b>Name of Committee</b>	<b>Brief functions and Responsibilities</b>
1	Establishment	<ul style="list-style-type: none"> <li>➤ To maintain human resource planning/administration including faculty/staff service matters.</li> <li>➤ To maintain Institute legal matters, RTI, Annual performance redressal, IFMS (Integrated Financial Management System) Institute portal etc.</li> </ul>
2	Account Section	<ul style="list-style-type: none"> <li>➤ To maintain account records for budget, planning, grant, expenditure, student's fees of Institute.</li> <li>➤ Process various bills.</li> </ul>
3	Student Section	<ul style="list-style-type: none"> <li>➤ Manage student section related activities/services like scholarship matters , Bonafide / Character Certificate , Bus/Train Pass Authorization, Institute Transfer, Admission cancellation, promote MYSY activities, Distribution of Student Grade card and Provisional Certificates to students and other student related activities.</li> </ul>
4	Store & Purchase	<ul style="list-style-type: none"> <li>➤ To Prepare and propose new item requirements based on the Department demands and submit to CTE office.</li> <li>➤ To plan and purchase from non-government funds.</li> <li>➤ To manage write-off procedure, maintenance equipment based on the department request.</li> <li>➤ To process Post purchase procedure.</li> </ul>

**[Table 9.1.16 Brief functions and Responsibilities of office administration]**

❖ **Student section committee:**

<b>Sr.No</b>	<b>Name of faculty</b>	<b>DEPARTMENT</b>	<b>Designation</b>
1.	Mr. H.C. Chavda	EE	Convener
2.	Mr. N. K. Suthar	CH	Co- Convener
3.	Mr. T. R. Parmar	IT	Member
4.	Ms. S. N. Patel	GEN	Member
5.	Ms. D. P. Shevagekar	BM	Member
6.	Ms. K. A. Maheta	CE	Member

7.	Ms. H. D. Gandhi	MET	Member
----	------------------	-----	--------

**[Table 9.1.17 Student Section Committee]**

**❖ Store and purchase section committee:**

Sr. No	Name Of Faculty	Department	Designation
1.	Mr. J. R. Vadher	CH	Convener
2.	Mr. R. D. Parmar	EE	Co- Convener
3.	Mr. K. H. Raj	MET	Co- Convener
4.	Mr. H.C. Chavda	EE	Member
5.	Mr. N. D. Sosa	IT	Member
6.	Mr. P. J. Dalwadi	EC	Member
7.	Ms. B. P. Gandhi	IC	Member
8.	Ms. P. G. Lakhani	BM	Member
9.	Mr. C. J. Panchal	CH	Member
10.	Mr. R. S. Upadhyay	GENERAL (MATHS)	Member
11.	Mr. S. V. Patel	CE	Member

**[Table 9.1.18 Store and Purchase Section Committee]**

**Frequency of the meeting:** Meetings are called as and when required & Minutes of meeting records are maintained.

### **9.1.2. (F) Service rules, procedures, recruitment and promotional policies**

**1. Service Rules:**

Service rules are framed by the General Administrative Department, Government of Gujarat. These rules are published in GCSR for creating awareness up to the maximum extent. Following links are provided on the institute website.

<https://financedepartment.gujarat.gov.in/rules.html>

GCSR 2002 (Gujarat Civil Service Rules)

**2. Recruitment and Promotion Rule:**

Recruitment rules are framed by the Education Department, the Commissionerate of Technical Education and Gujarat Administrative Department for teaching faculties and supporting staff as per AICTE/UGC norms.

**3. Recruitment Procedure:**

- For teaching faculties, the recruitment procedure is carried out by Gujarat Public Service Commission (GPSC) and the list of selected candidates is recommended to the Education Department, Government of Gujarat for further procedure.
- For supporting staff (Non-teaching), recruitment procedure is carried out by Gujarat Gaun-Seva-Pasandgi-Mandal (GGSPM) and CTE.
- The list of selected candidates is recommended to the Education Department, Government of Gujarat. Promotions are done as per Government of Gujarat norms often vetting by GPSC.

**4. Stages of recruitment procedure:**

- As per norms of AICTE, required teaching post in various categories is calculated by each institute.

- Shortage of staff in all the categories is intimated to the Education Department, Government of Gujarat (GoG) through Commissionerate of Technical Education (CTE), Gujarat.
- The education department, GoG communicates to Gujarat Public Service Commission (GPSC) to initiate necessary recruitment for various teaching positions by giving advertisement in leading newspapers.
- GPSC normally takes a written test followed by personal interview as per standard procedures.
- The merit list of selected candidates is sent to the Education Department, GoG, and CTE, Gujarat. Education department, Gujarat issues recruitment orders for posting the recommended candidates to various Government colleges of Gujarat.

### **5. Promotional policies:**

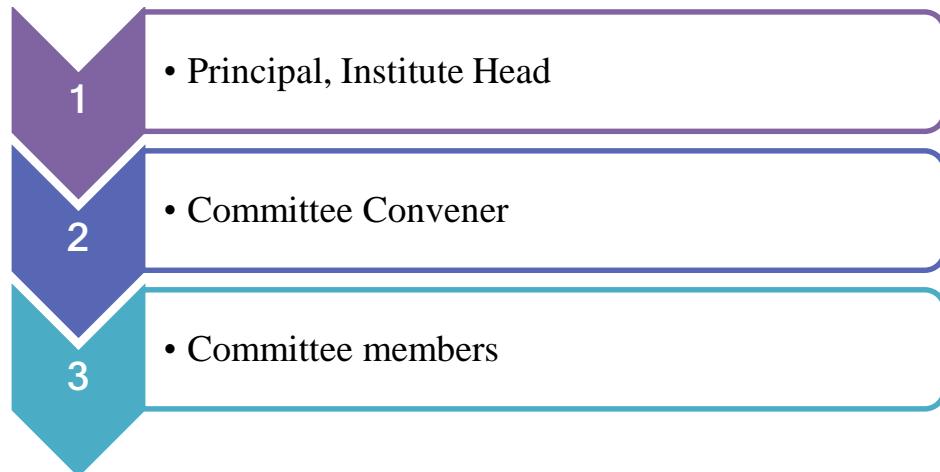
Promotional policies are framed and implemented by the education department for class 1 & 2 as per AICTE/Govt. norms and for class 3 & 4, policies are framed and implemented by CTE as per Govt. norms after the profiles of eligible candidates are vetted by GPSC.

#### **9.1.3 Decentralization in working and grievance redressal mechanism (5)**

A. List the names of the faculty members who have been delegated powers for taking administrative decisions (02)

B. Specify the mechanism and composition of grievance redressal cell including Anti Ragging Committee & Sexual Harassment Committee (03)

- A teacher is mandated to play multiple roles in an institution. To provide detailed guidelines for various activities of a teacher, a Technical Education Institute Manual (TIEM) (<https://dte.gujarat.gov.in/technical-education-institution-manual-teim-govt-polytechnics>) has been prepared by the Commissionerate of Technical Education, Government of Gujarat. It is available on Commissionerate of Technical Education.
- Website: <https://dte.gujarat.gov.in/> (<https://dte.gujarat.gov.in/>)
- This institute runs 12 quality education programs along with humanities and science. The details of key person are listed below.
- As per the guidelines of the TEIM, various committees have been formed for the smooth working of the institute.
- A 3-tier administrative system is designed so that decision making is decentralized and multiple initiatives and development happens contemporarily on campus as shown in Figure 9.7.



**[Figure 9.7 Committee Structure]**

### **9.1.3.1 Grievance redressal system in Institute**

Grievance Redress committee has been formed to address various student related issues.

❖ **Grievance cell committee:**

Sr. No	Name of faculty	Department	Designation
1.	Mr. R. D. Raghani	EC	Convener
2.	Mr. A. D. Patel	EE	Co- Convener
3.	Mr. J. T. Patankar	IC	Co- Convener
4.	Mr. M. J. Desai	CE	Member
5.	Mr. N. B. Shah	EC	Member
6.	Mr. V. J. Thekadi	Civil	Member
7.	Mr. P. A. Vaghela	Mech	Member
8.	Mr. J. R. Vadher	CH	Member
9.	Ms. K. D. Mankad	GEN	Member
10.	Ms. M. H. Dave	BM	Member
11.	Ms. H. R. Patel	IT	Member

**[Table 9.1.19 Grievance Cell Committee]**

❖ **SC/ST cell:**

Sr. No	Name of faculty	Department	Designation
1.	Mr. P. A. Vaghela	Mech	Convener
2.	Mr. S. I. Anand	EE	Member
3.	Mr. K. H. Talati	General	Member
4.	Mr. V. H. Punasanwala	IT	Member
5.	Mr. R. G. Patankar	EC	Member
6.	Ms. M. M. Chaudhary	CE	Member
7.	Ms. A. K. komkani	EC	Member
8.	Ms. Y. S. Vasava	CE	Member

**[Table 9.1.20 SC/ST cell]**

### **9.1.3.2 Responsibilities of the cell**

- Addressing the grievance of the students and staff.
- Implementation of the corrective steps to be taken to address the grievances and other

related matters.

- To deal with issues raised in anti-ragging committee, examination committee (Related to malpractice issues), Internal Complain Committee against sexual harassment, WDC etc.

### 9.1.3.3 Grievance redressal mechanism

- The students can submit the written application to committee.
- On receipt of specific complains/ grievance from a student, the redressal cell meets, analyze the matter and corrective measures are taken wherever necessary.
- All-important institutional information is displayed on college website.
- In case of urgent issue, one can meet concerned officer at any time.

### 9.1.3.4 Internal complaint committee

- The college has formed an Internal Complaints Committee (Sexual harassment of women at work place prevention prohibition and redressal act 2013). The composition is as given below:
- ICC is constructed and working for the prevention, prohibition and Redressal of sexual harassment of women/ any kind of grievances at work place as per the guidelines given by the Supreme Court and statutory mandate prohibiting gender discrimination and gazette of India, MHRD (AICTE) dated 10/06/2016.
- Women faculties and girls students may report to ICC members at any time ICC information is displayed at the prominent places.

Sr. No.	Name	Department	Designation
1.	Ms. K. D. Makad	GEN	Convener
2.	MS. M. R. Prajapati	EC	Member
3.	Mr. N. B. Shah	EC	Member
4.	Mrs. N. U. Sheth	BM	Member
5.	Ms. S. N. Shah	IC	Member
6.	Ms. D. B. Joshi	Civil	Member
7.	Ms. D. M. Makwana	IC	Member
8.	Ms. C. B. Desai	CH	Member
9.	Ms. B. H. Dave	Civil	Member
10.	Ms. S. K. Modi	Lab-Asst.	Member
11.	Mrs. A. J. Sarvaiya	Ngo Representative	Member
12.	Ku. Mittalba Rathod	Student -CE	Member
13.	Ms. Krishna Pandya	Student -BM	Member

[Table 9.1.21 ICC Committee]

### 9.1.3.5 Anti-Ragging Committee

Anti-ragging committee functions as per AICTE norms. Anti-ragging instructions are displayed at prominent places.

- To ensure that there is no ragging in the campus or hostel.
- Implementation of Govt/University directives against the menace of ragging.
- Anti Ragging Committee carryout surprise checking.

<b>Sr. No.</b>	<b>NAME</b>	<b>Department</b>	<b>DESIGNATION</b>
1.	Mr. R. D. Raghani	I/C Principal, EC	Convener
2.	Mr. A. D. Patel	HOD EE	Co- Convener
3.	Mr. J. T. Patankar	HOD IC	Co- Convener
4.	Mr. M. J. Desai	HOD CE	Member
5.	Mr. N. B. Shah	(I/C) HOD-EC	Member
6.	Mr. V. J. Thekadi	(I/C) HOD-Civil	Member
7.	Mr. P. A. Vaghela	(I/C) HOD-Mech	Member
8.	Mr. J. R. Vadher	(I/C) HOD-CH	Member
9.	Ms. K. D. Mankad	(I/C) HOD-GEN	Member
10.	Ms. M. H. Dave	(I/C) HOD-BM	Member
11.	Ms. H. R. Patel	(I/C) HOD-IT	Member
12.	Ms. M. V. Prajaapti	Lect - CE	Member
13.	Mr. K. H. Talati	Lect - GEN	Member
14.	Mr. H. C. Chavda	Lect - EE	Member
15.	Mr. M. R. Acharya	Lect. - CH	Member
16.	Mr. V. H. Punasanwala	Lect. - IT	Member
17.	Mr. P. D. Dave	Lect. - BM	Member
18.	Mr. Darshil Jonval	Stud. - EE	Member
19.	Mamlatdar Shree	Collector Office, Gandhinagar	Member
20.	Police Inspector	Sector 21 Police Station	Member
21.	Mr. Samir V. Rami	Writer, Media Student, Gandhinagar	Member
22.	Mrs. Asha Sarvaiya	Ngo Representative	Member
23.	Mrs. Sejal Dhudhaniya	Parent	Member

**[Table 9.1.22 Anti-Ragging Committee]**

#### **9.1.4 Delegation of financial powers (5)**

- A. Demonstrate the utilization of financial powers for each of the assessment years (05) Institution should explicitly mention financial powers delegated to the Principal, Heads of Departments and relevant in-charges.

Delegation of financial power as per the State Government Rules explained as below:

- Controlling officer – The Principal
- Drawing and Disbursing Officer (DDO)
- All HODs are empowered to put the demand as per the requirement for the purchase of laboratory/utility equipment/books/furniture/consumables /maintenance as follows:
  - If it is above Rs.20000/-, purchase is made at the office of the CTE.
  - If it is up to 20000/-, purchase is made at the Institute level by concerned department through store officer
  - Consumables as per the requirement are purchase by the HOD with due approval of Head of the Institute.

### **9.1.5 Transparency and availability of correct/unambiguous information in public domain (5)**

- A. Information on the policies, rules, processes is to be made available on web site (2)  
B. Dissemination of the information about student, faculty and staff (3) (Information on the policies, rules, processes is to be made available on web site. Provision of information in accordance with the Right to Information Act, 2005)

- Institute newsletter is available at institute website (<https://sites.google.com/view/gpgandhinagar/home>).
- The information related to service matter available on CTE website ([www.dtegujarat.gov.in](http://www.dtegujarat.gov.in)).
- The information related to admission in professional courses in Gujarat State is available on ACPDC website (<http://acpdc.co.in/>). Link is also provided on Institute website.
- All the necessary Institute information regarding the students, staff and other co-curricular activities are available on the Institute website (<https://sites.google.com/view/gpgandhinagar/home>)
- The syllabus result and other relevant information for students and staff are available on the GTU website ([www.gtu.ac.in](http://www.gtu.ac.in)).
- The vendor related information and the online bidding process are done through GEM portal for the procurement purpose.
- As a government institute, the institute follows government rules, admission rule, and RTI act is applicable to this institute.
- Mandatory disclosure under RTI is displayed on the Institute website.

## 9.2 Budget allocation, utilization, and public accounting at Institute level (10)

Summary of current financial year's budget and actual expenditure incurred (for the institution exclusively) in the three previous financial years

**Table 9.2.1 Total Income at Institute level: for CFYm1, CFYm2 & CFYm3**

CFY: 2024-25 (Rs)							
Total Income:			296114048	Actual Expenditure:		291761943	Total No. of Students:
Fee	Govt./ Other	Grants	Others (PLA, DST, RUSA, GUJCOST, FS, AICTE, GTU, etc.)	Recurring including Salaries	Non-Recurring	Others (PLA, DST, RUSA, GUJCOST, FS, AICTE, GTU, etc.)	Expenditure per student
1549750	0	295509794	604254	268914348	22847595	217755	129212.55
CFY-1: 2023-24 (Rs)							
Total Income:			262795521	Actual Expenditure:		259079949.5	Total No. of Students:
Fee	Govt./ Other	Grants	Others (PLA, DST, RUSA, GUJCOST, FS, AICTE, GTU, etc.)	Recurring including Salaries	Non-Recurring	Others (PLA, DST, RUSA, GUJCOST, FS, AICTE, GTU, etc.)	Expenditure per student
2120550	0	262284521	511000	253059972	6019977.5	256798	117283.82
CFY-2: 2022-23 (Rs)							
Total Income:			216810874	Actual Expenditure:		213488046	Total No. of Students:
Fee	Govt ./ Other	Grants	Others (PLA, DST, RUSA, GUJCOST, FS, AICTE, GTU, etc.)	Recurring including Salaries	Non-Recurring	Others (PLA, DST, RUSA, GUJCOST, FS, AICTE, GTU, etc.)	Expenditure per student
1890300	0	216402924	407950	211689382	1601699	150649	98563.27
CFY-3: 2021-22 (Rs)							
Total Income:			205582421	Actual Expenditure:		203589855	Total No. of Students:
Fee	Govt ./ Other	Grants	Others (PLA, DST, RUSA, GUJCOST, FS, AICTE, GTU, etc.)	Recurring including Salaries	Non-Recurring	Others (PLA, DST, RUSA, GUJCOST, FS, AICTE, GTU, etc.)	Expenditure per student
1954050	0	205269656	312765	202268035	1321820	283685	89924.85

[Table 9.2.1 - Total Income at Institute level]

Note:

1. Non recurring expenditure will include; not limited to; the following:  
Civil/Construction costs  
Equipment (laboratory/workshops/others)  
Capital items
2. Recurring expenditure will include; not limited to; the following:  
Maintenance cost  
Consumable materials  
Salaries & Honorarium  
Expenses on Seminar/Training Programs/Faculty development programs  
Annual Events expenses  
Travel expenses  
Advertisement & Printing expenses  
Annual Registration cost/Taxes  
Travel expenses  
Advertisement & Printing expenses  
Annual Registration cost/Taxes  
Water expenses  
Power expenses  
Security expenses

### 9.2.1 Adequacy of budget allocation (4)

Items	Budgeted in	Actual Expenses in						
	FY 2024-25	FY 2024-25	FY 2023-24	FY 2023-24	FY 2022-23	FY 2022-23	FY 2021-22	FY 2021-22
Infrastructure Built-Up	0	0	499000	499000	0	0	0	0
Library	24300	24300	49210	49210	12624	12624	0	0
Laboratory equipment	19670656	18648586	2560672	2557408.5	639000	638140	222901	222901
Furniture	2799605	2623921	616000	616000	608117	608117	0	0
Laboratory consumables	0	0	0	0	147419	147419	157478	157478
Maintenance and spares	449863	449863	393140	393140	0	0	359128	359128
Training and Travel	110000	69550	110000	82472	50000	44750	60000	53190
Teaching and non-teaching staff salary	258280000	257955712	243352000	242421172	204817000	203648777	192948000	192946000
Miscellaneous expenses*	813620	813620	1565949	1565949	0	0	245438	245438
(Light, Rent, Public, Advert)	11252000	10418429	5918000	5715668	4404499	4403652	6234434	6233808
Security, Housekeeping	560000	540207	5100000	4923132	3637000	3636953	3088227	3088227
Others (RUSA, FS)	604254	217755	511000	256798	407950	150649	312765	283685
Total	294564298	291761943	260674971	259079949.5	214920574	213488046	203628371	203589855
Non-Recurring	24472298	22847595	6304971	6019977.5	1865110	1601699	1357710	1321820
Recurring	270092000	268914348	254370000	253059972	212858499	211689382	202270661	202268035

[Table 9.2.2 - Budget allocation at institute (recurring and non-recurring)]

### 9.2.2 Utilization of allocated funds (4)

Financial Year (FY)	Utilization ( Rs )		
	Total Income	Total Expense	% Utilization
FY 2024-25	296114048	291761943	98.53
FY 2023-24	262795521	259079950	98.59
FY 2022-23	216810874	213488046	98.47
FY 2021-22	205582421	203589855	99.03

[Table 9.2.3 Utilization of allocated funds]

### 9.2.3 Availability of the audited statements on the institute's website (2)

(The institution needs to make audited statements available on its website)

- The audited statement is available on the Institute website.

### **9.3 Department specific budget allocation, utilization (5)**

#### **Instrumentation and Control Engineering Department specific budget allocation, utilization:**

<b>CFY:2024-25</b>				
Total Budget: 40076134		Actual Expenditure : 40076134		Total No. of Student:135
Non-recurring	Recurring	Non-recurring	Recurring	Expenditure per student
1615969	38460165	1615969	38460165	296860.25
<b>CFYm1:2023-24</b>				
Total Budget: 37272233		Actual Expenditure : 37272233		Total No. of Student: 114
Non-recurring	Recurring	Non-recurring	Recurring	Expenditure per student
122130	37150103	122130	37150103	326949.41
<b>CFYm2:2022-23</b>				
Total Budget: 30749813		Actual Expenditure : 30749813		Total No. of Student: 60
Non-recurring	Recurring	Non-recurring	Recurring	Expenditure per student
80328	30669485	80328	30669485	512496.88
<b>CFYm3:2021-22</b>				
Total Budget: 25956470		Actual Expenditure : 25956470		Total No. of Student: 99
Non-recurring	Recurring	Non-recurring	Recurring	Expenditure per student
4720	25951750	4720	25951750	262186.56

**[Table 9.3.1 Instrumentation and Control Engineering Department specific budget allocation, utilization]**

**Electronics and Communication Engineering Department specific budget allocation, utilization:**

<b>CFY:2024-25</b>				
Total Budget: 47034657		Actual Expenditure : 47034657		Total No. of Student: 197
Recurring	Non-recurring	Recurring	Expenditure per student	Expenditure per student
45667605	1367052	45667605	1367052	238754.60
<b>CFYm1:2023-24</b>				
Total Budget: 41453494		Actual Expenditure : 41453494		Total No. of Student: 163
Non-recurring	Recurring	Non-recurring	Recurring	Expenditure per student
119541	41333953	119541	41333953	254315.9141
<b>CFYm2:2022-23</b>				
Total Budget: 33379245		Actual Expenditure : 33379245		Total No. of Student: 102
Non-recurring	Recurring	Non-recurring	Recurring	Expenditure per student
80099	33299146	80099	33299146	327247.50
<b>CFYm3: 2021-22</b>				
Total Budget : 24185632		Actual Expenditure : 24185632		Total No. of Student: 51
Non-recurring	Recurring	Non-recurring	Recurring	Expenditure per student
39950	24145682	39950	24145682	474228.07

**[Table 9.3.2 Electronics and Communication Engineering Department specific budget allocation, utilization]**

### **9.3.1 Adequacy of budget allocation (2)**

(In this section, the institution needs to justify that the budget allocated over the assessment years was adequate)

Prior to each financial year, Electrical engineering department prepares budget requirement for new purchases and maintenance of Lab Equipments.

Salary and other budget requirement are prepared at institute level.

#### **Instrumentation and Control Engineering Department Specific Budget Allocation at Institute:**

Items	Budgeted in	Actual Expenses in						
	FY 2024-25	FY 2024-25	FY 2023-24	FY 2023-24	FY 2022-23	FY 2022-23	FY 2021-22	FY 2021-22
Laboratory equipment	1345480	1345480	85220	85220	67928	67928	0	0
Furniture	253189	253189	21000	21000	0	0	0	0
Laboratory consumables	0	0	2910	2910	1600	1600	720	720
Training and Travel	17300	17300	13000	13000	10800	10800	4000	4000
Teaching and non-teaching staff salary	38460165	38460165	37150103	37150103	30669485	30669485	25951750	25951750
Total	40076134	40076134	37272233	37272233	30749813	30749813	25956470	25956470
Recurring	38460165	38460165	37150103	37150103	30669485	30669485	25951750	25951750
Non-Recurring	1615969	1615969	122130	122130	80328	80328	4720	4720

**[Table 9.3.3 Instrumentation and Control Engineering Department Specific Budget Allocation at Institute]**

**Electronics and Communication Engineering Department Specific Budget Allocation at Institute :**

Items	Budgeted in	Actual Expenses in						
	FY 2024-25	FY 2024-25	FY 2023-24	FY 2023-24	FY 2022-23	FY 2022-23	FY 2021-22	FY 2021-22
Laboratory equipment	1257338	1257338	82026	82026	32109	32109	31450	31450
Furniture	95514	95514	21000	21000	40340	40340	0	0
Laboratory consumables	0	0	3415	3415	0	0	0	0
Training and Travel	14200	14200	13100	13100	7650	7650	8500	8500
Teaching and non-teaching staff salary	45667605	45667605	41333953	41333953	33299146	33299146	24145682	24145682
Total	47034657	47034657	41453494	41453494	33379245	33379245	24185632	24185632
Recurring	45667605	45667605	41333953	41333953	33299146	33299146	24145682	24145682
Non-Recurring	1367052	1367052	119541	119541	80099	80099	39950	39950

**[Table 9.3.4 Electronics and Communication Engineering Department Specific Budget Allocation at Institute]**

### 9.3.2 Utilization OF allocated funds (3)

(In this section, the institution needs to state how the budget was utilized during the last three assessment years)

❖ **Instrumentation and Control Engineering Dept Utilization of allocated funds:**

Financial Year (FY)	Utilization ( Rs )		
	Total Income	Total Expense	% Utilization
FY 2024-25	40074134	40074134	100
FY 2023-24	37272233	37272233	100
FY 2022-23	30749813	30749813	100
FY 2021-22	25956470	25956470	100

[Table 9.3.5 Instrumentation and Control Engineering Department Utilization of allocated funds]

❖ **Electronics and Communication Engineering Dept Utilization of allocated funds:**

Financial Year (FY)	Utilization ( Rs )		
	Total Income	Total Expense	% Utilization
FY 2024-25	47034657	47034657	100
FY 2023-24	41453494	41453494	100
FY 2022-23	33379245	33379245	100
FY 2021-22	24185632	24185632	100

[Table 9.3.6 Electronics and Communication Engineering Department Utilization of allocated funds]

## 9.4 Library and Internet (20)

### 9.4.1. Quality of learning resources. (Hard/ Soft) (10)

#### A. Availability of relevant learning resources including e -resources and digital library (7)

- The library acts as a key resource and learning center of the Institute. Library maintains records of books, Journals and Newsletters. The library issues the books to the students.
- The books are arranged in dedicated cupboards and labelled relevantly. The books related to technical courses are available in the library of all available programs.
- Books related to soft skills also available in the library. As a part of digitalized library, the Institute is having access of various E-books, MOOCs, BISAG and NPTEL lectures courses.
- Details of the library and its services are mentioned in Table 9.4.1 various types of Learning resources are available in the library.
- Library contains technical as well as soft skill related books. New titles added every year are specified in Table 9.4.2

E-Journal details are mentioned in table 9.4.3

#### Details of the library and its services:

Library Service	Yes, Through BSNL, WLAN
The total area of the library (in m <sup>2</sup> )	692 m <sup>2</sup>
Total seating capacity	60
Number of Books Issued Per day (average)	2
Number of visitors per day	20
Number of library staff	Total 4 Library Officers-3, Supporting staff-1
Computerization for search	Yes
Issue/return records maintained	Yes
Library Additional Services	Internet, e-Journals, e-Book

[Table 9.4.1 Details of the library and its services]

**❖ Amount titles added year wise:**

<b>Year</b>	<b>Number of New Titles Added</b>	<b>Number of New Editions Added</b>	<b>Amount utilized (Rs) (Rs. in Lakh)</b>
2016-2017	0	0	0
2017-2018	26	Titles-26, Quantity of books-31 -2012 ONWARDS	0.12386
2018-2019	15	Quantity of books -39-TITLEs-15-2013 ONWARDS	0.17438
2019-2020	0	0	0
2020-2021	0	0	0
2021-2022	0	0	0
2022-2023	6	Titles-6, Quantity of books-21	0.12624
2023-2024	67	Titles-67, Quantity of books-82	0.49210
2024-2025	1	Titles-1, Quantity of books-90	0.24300

**[Table 9.4.2 Amount Titles added year wise]**

**❖ List of e-Journals:**

<b>Program</b>	<b>NAME OF JOURNAL</b>	<b>Publisher Name</b>
Computer Engineering	Computer Hardware - An Overview	International Journal Of Science And Research (IJSR)
Computer Engineering	The Study Of Network Security With Its Penetrating Attacks And Possible Security Mechanisms	International Journal Of Computer Science And Mobile Computing
Computer Engineering	Operating System	International Journal Of Computer Science And Information Technology Research
Computer Engineering	A Comparative Study Between The Capabilities Of MYSQL Vs. MONGODB As A Back-End For An Online Platform	(IJACSA) International Journal Of Advanced Computer Science And Applications
Computer Engineering	Computer Organization: Architecture	Advanced Computer System Engineering Laboratory Electrical And Computer Engineering Department
Computer Engineering	Android Based Mobile Application Development And Its Security	International Journal Of Computer Trends And Technolog
Computer Engineering	Php Framework For Database Management Based On MVC Pattern	International Journal Of Computer Science & Information Technology (IJCST)
Computer Engineering	A Software Architecture For Java Programming Learning Assistant System	International Journal Of Computer & Software Engineering
Computer Engineering	Microsoft Visual Basic.Net	International Journal Of Advance Research In Science And Engineering

Computer Engineering	A Review Paper On 8085 Microprocessor	Deepak Kumar, Divanshu Kaushik Department Of Computer Information Technology Dronacharya College Of Engineering, Gurgaon, India
Computer Engineering	Research On Html5 In Web Development	Ch Rajesh, 2 K S V Krishna Srikanth 1 Department Of It, Anits, Visakhapatnam
Computer Engineering	Extreme Programming For Web-Based Applications	Software Engineering Ajay Chinthapalli Axc61320@Ucmo.Edu University Of Central Missouri Warrensburg, Mo 64093, Usa
Computer Engineering	Semiconductor Devices Market Opportunities	Ken Research Ankur Gupta, Head Marketing & Communications
Computer Engineering	International Journal Of Digital Electronics	Journalspub 2016. All Rights Reserved
Computer Engineering	Overview Of The Database Management System	International Journal Of Advanced Research In Computer Science
Computer Engineering	A Comparison And Selection On Basic Type Of Searching Algorithm In Data Structure	International Journal Of Computer Science And Mobile Computing
Computer Engineering	Database Management System	International Journal Of Engineering Science And Computing,
Computer Engineering	Advanced Java Programming	International Advanced Research Journal In Science, Engineering And Technology
Computer Engineering	Digital Electronics	International Journal Of Digital Electronics
Electronics & Communication	International Journal Of Interactive Mobile Technologies	International Association Of Online Engineering
General	The Criterion	<a href="http://Www.The-Criterion.Com/">Http://Www.The-Criterion.Com/</a>
General	Research Journal Of English Language And Literature (RJELAL)	<a href="http://Www.Rjelal.Com/">Http://Www.Rjelal.Com/</a>
General	International Journal Of English Language, Literature And Translation Studies (IJELR)	<a href="http://Www.Ijelr.In/">Http://Www.Ijelr.In/</a>
General	The Literary Herald	<a href="https://Www.Tlhjournal.Com/">Https://Www.Tlhjournal.Com/</a>
General	Journal For Research Scholars And Professionals Of English Language Teaching	<a href="http://Jrspelt.Com/">Http://Jrspelt.Com/</a>
Information Technology	The New Java Magazine	Oracle

**[Table 9.4.3 List of e-Journals]**

## **B. Accessibility to students**

Details of accessibility to Learning Resources center to students is mentioned in 9.4.4

**[Table 9.4.4 Accessibility to students for self-learning activities]**

Digital Library Service	Yes, (Students and Staff are registered at NDL)
Availability of Internet with computing facilities	Yes
The library resources for diploma students	Textbooks, General Reference Material, and Newspapers are available for reference.
User Orientation	During orientation program of 1st year, students visit Library and are Oriented to utilize effective resources. Department co-ordinates are also guiding the students for efficient use of resources.
Library slot for students	Library slots are included in timetable
Book Banks	Library provides Book Bank Facility to SC, ST and SEBC students under RUSA

### **9.4.2 Internet (10)**

- A. Available bandwidth (4)
- B. Wi-Fi availability (2)
- C. Internet access in labs, classrooms, library and offices of all Departments (2)
- D. Security Arrangements (2)

Name Of The Internet Provider	BSNL,NAMO, GSWAN
Available Band Width	300Mbps, 10Mbps (BSNL), 10Mbps(GSWAN), 100Mbps NAMO
Number Of Nodes	500 Nodes
Wi-Fi Availability	Yes, 30 Access Point And 14 Namo Wifi Access Points
Internet Access In Labs, Classrooms, Library And Offices Of All Departments	Yes
Security Arrangements	Yes, Access To Internet Is Controlled Through User Authentication Using Firewall Device Fortinet- Fortigate

**[Table 9.4.5 Internet facilities]**

## 9.5 Institutional contribution to the community development/ Go-green (05)

Various programs like Seminar on Depression & Suicide Prevention, Tree Plantation Drive, Voter's Day, Traffic Rules & Road Safety Awareness, "shram dan", Thalassemia Awareness Seminar, World Yoga day celebration , Vyasan Mukti Abhiyan , Green audit etc. are organized to contribute to community and society.

➤ **RTO learning license centre at the Institute:**

For extra facilitation against the applicant rush at RTO. Facility for Learning License is available at institute. The online test of applicant is conducted and after successfully clearing the test, the applicant is issued a learner's license by RTO.

➤ **Mukhya Mantri Apprenticeship Yojana:**

Institute works for improvement of employment under MAY scheme.

➤ **Minority Welfare Work:**

Work related to Minority welfare as a Member of Minority welfare committee set up by Collectorate office, Gandhinagar.

➤ **In the field of women upliftment:**

Serve as a Member of Government Women Hostel (ST) Admission committee.

➤ **Employment generation:**

Serve for PMEGP (Prime Minister Employment Generation Program) as a member.

➤ **Covid vaccination drive:**

Vaccination Drive for both doses was arranged for the staff members of Government Polytechnic, Gandhinagar and Government Engineering College, Gandhinagar with the help of District Health Office, Gandhinagar.

## **9.6 Alumni performance and connect (10)**

Alumni awareness programs and alumni meet is arranged in each department.

### **Objectives of the Alumni Association**

- To encourage, foster and promote close relation between institute and its Alumni and among the Alumni themselves.
- To guide and assist Alumni who have recently completed the courses of study to obtain employment and to engage in productive pursuits useful to the society.

#### **❖ Alumni committee:**

Sr. No	Name of Department Coordinator	Name of Department	Designation
1.	Mr. A. L. Pandya	IC	Convener
2.	Mr. P. D. Dave	BM	Co- Convener
3.	Mr. N. H. Jamliya	IC	Member
4.	Ms. K. P. Patel	CE	Member
5.	Mr. T. R. Parmar	IT	Member
6.	Ms. S. R. Prasad	EE	Member
7.	Ms. D. R. Varadia	EC	Member
8.	Mr. G. P. Rathod	MECH	Member
9.	Ms. B. H. Dave	CIVIL	Member
10.	Ms. P. K. Patel	CH	Member

**[Table 9.6.1 Alumni committee]**

#### **❖ Alumni meetings :**

Sr. No.	Event	Department	Date	Beneficiaries
1.	Alumni association awareness program	CE	17/12/2019	36
2.	Alumni association awareness program	CH	19/12/2019	37
3.	Alumni association awareness program	IC	19/12/2019	34
4.	Alumni association awareness program	EE	7/1/2020	29
5.	Alumni association awareness program	BM	19/12/2019	21
6.	Alumni association awareness program	IT	17/12/2019	11
7.	Alumni association awareness program	EC	17/12/2019	20
8.	Alumni meet	CE	25/02/2020	43
9.	Alumni meet	CH	16/7/2019	7
10.	Alumni meet	IC	16/7/2019	5
11.	Alumni meet	IC	25/2/2020	15 INDUSTRIES-1
12.	Alumni meet	EE	7/1/2020	16
13.	Alumni meet	BM	16/7/2019	5
14.	Alumni meet	IT	16/7/2019	4

15.	Alumni meet	EC	16/7/2019	15 INDUSTRIES-2 PARENTS-4
16.	Alumni meet	EC	17/7/2019	15 INDUSTRIES-2
17.	Alumni meet	ALL	16/7/2019	44
18.	Alumni meet	EC	5/2/2022	16
19.	Alumni meet	ALL	18/03/2023	87
20.	Alumni meet	EC	18/03/2023	30
21.	Alumni meet	IC	1/04/2024	5
22.	Alumni meet	IC	04/05/2025	22

**[9.6.2 Table for Alumni meetings]**

## **Part C Declaration by Institute**

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 information provided in this Self- Assessment Report is factually correct. I understand and agree that an appropriate disciplinary action against the Institute will be initiated by the NBA in case any false statement/information is observed during pre-visit, visit, post visit and subsequent to grant of accreditation.

**Date:**

**Name:**

**Place: Gandhinagar**

**Signature:**

**Designation of the Head of Institute with Seal**

## **ANNEXURE I**

### **(A) PROGRAM OUTCOMES**

- 1. Basic & Discipline specific knowledge:** An apply knowledge of basic mathematics, science and engineering fundamentals and engineering specialization to solve the engineering problems.
- 2. Problem Analysis:** Identify and analyze well defined engineering problems using codified standard methods.
- 3. Design/ Development of Solution:** Design solutions for well-defined technical problems and assist with the design of systems, components or processes to meet specified needs.
- 4. Engineering Tools, Experimentation and Testing:** Apply modern engineering tools and relevant technique to conduct standard tests and measurements.
- 5. Engineering practices for Society, Environment and sustainability:** Apply relevant technology in context of Society, sustainability, environment and ethical practices.
- 6. Project Management:** Use engineering management principles individually, as a team member or a leader to manage projects and effectively communicate about well-defined engineering activities.
- 7. Life-long learning:** Ability to analyze individual needs and engage in updating in the context of context of technological changes.

### **(B) PROGRAM SPECIFIC OUTCOMES**

1. Develop proficiency in Installation, maintenance and troubleshooting of electronics and communication systems.
2. Create customized solution of real-life problems using hardware and software.