

TAPI DIPLOMA ENGINEERING COLLEGE

Approved By AICTE New Delhi & Affiliated to GTU Ahmedabad
Accredited by N.B.A. (Mechanical & Computer)
(National Board of Accreditation, New Delhi)



VOLUME - IV [OCT 2025 - DEC 2025]

अभिरुचि

The word of expression...

A Quaterly News Letter

EXPLORE THIS EDITION

- | | |
|---|------------------------|
| 1 VISION-MISSION, GOVERNING BODY | 5 TRAINING & PLACEMENT |
| 2 FROM PRINCIPAL'S DESK | 6 ISTE STUDENT CHAPTER |
| 3 INDUSTRIAL VISITS | 7 FDP SESSION |
| 4 EXPERT'S LECTURES & BEYOND CURRICULAM | 8 ARTICLES |

VISION

To build sound engineers with an orra of human values who are determined for social betterment.

MISSION

To develop the Tapi Diploma Engineering College into a “Center of Excellence” In the field of Technical Education by:

- Providing the state of art Laboratories & institutional facilities.
 - Encouraging students to study beyond the curriculum.
 - Creating an Environment for all round integrated personality development of students
-

QUALITY POLICY

The knowledge-oriented system and excellent teaching faculty of the institute develop a learning environment for all and foster continuous improvement in the quality of academic work. Also, recognize and improve the skill of students through various curricular & co-curricular activities.

GOVERNING BODY

Dr. Vajubhai G. Mavani
President

Shri Rakeshbhai M. Jain
Vice President

Shri Dineshbhai R. Navadiya
Treasurer

Shri Hemantbhai J. Topiwala
Secretary

Shri Babubhai V. Kotadiya
Gen. Manager

Shri Jivrajbhai P. Surani
Trustee

Dr. Kanubhai G. Mavani
Trustee

FROM PRINCIPAL'S DESK



It gives the immense pleasure to extend my heartfelt congratulations and best wishes to **Information Technology Department** students on the publication of “**Abhivyakti**” Magazine.

I am confident this Magazine will showcase your talent and keep you updated in the field of Information Technology advancement.

I also give my best wishes to all the students on **77th Republic Day** of India. Also extend my wishes for “**Vasant Panchami**” this event will cherish your mind and soul. Wish you all the best for the coming sports activity “**Jung 2026**”.

Dr. Y. S. Choupare
PRINCIPAL

INDUSTRIAL VISITS



CHEMICAL

Visit arranged for 5th semester students at "BIO GAS based Power plant, Bhesan" to understand various subject Mass Transfer-II, Waste to Energy Conversion Technology, Fertilizer Technology.

6 October 2025

CIVIL

The Tacheometry Project Survey arranged for 3rd semester students at "SAPUTARA".

3 - 4 October 2025



CIVIL

Visit arranged for 5th semester students at "Gujarat Pollution Control Board, Regional Laboratory" to understand Laboratory Practice at GPCB and role of GPCB in field of environment under the subject of E. E. P. C (4350608)

7 October 2025

CIVIL

Visit arranged for 5th semester students at "Canal Network at Simada Naher Junction BRTS Station" to understand canal network and its component in subject of Water Resource Engineering (4350602) by Mrs. K. H. Kheni.

8 October 2025





CIVIL
 Visit arranged for 3rd semester students at “Mattest Engineering Service” to understand various Test on Bitumen under the subject of Basic Transportation Engineering (DI03006031) by Ms. K. K. Shah.
 9 October 2025

CIVIL
 Visit arranged for 3rd semester students at Tapi College Campus, Varachha Road to understand Erection of Steel Structure under subject of Mechanics of Steel Structure by Mrs. P. M. Jariwala & Mr. M. N. Haveliwala
 10 October 2025



Mr. P. R. Bhatt, Mr. N. D. Jariwala, and Mrs. K. V. Rupapara, faculty members of the Electrical Engineering Department, visited Vasu Automation & Electricals, Udhna, Surat, for an Industry-Institute Interaction on 22 December 2025.

ELECTRICAL



Information Technology Department arranged staff visit at Jemistry Info Solutions LLP, Surat. Faculty member observe CyberSecurity Operations gaining insights to modern cyber defense Techniques on 21 November 2025.

INFORMATION TECHNOLOGY



Mechanical
 A beyond curriculum session was arranged for 1st semester students for the subject Engineering Material Science (DI01000181) on “Testing of Non-Metallic Materials”. The session was conducted as an industrial visit to the Material Testing Cell at TDEC, Surat. Mr. Mohit Haveliwala, Deputy, In-charge of the Testing Cell, conducted the tour visit.
 30 December 2025

EXPERT LECTURE & BEYOND CURRICULAM



**EXPERT
LECTURE**

Expert Lecture on “Current Trends in DBMS” was conducted by Prof. Hemangee Mirani (SSASIT, Information Technology Department) for 3rd Semester students of Computer & IT Department as a part of beyond curriculum under subject of RDBMS & DBM arranged by Mrs. Dipika K. Patel & Mrs. Hina S. Jayani.

9 October 2025

Automobile

Beyond Curriculum Session was conducted by Mr. G. A. Rabadiya on a topic of “Application of AutoCAD in Automobile Engineering” in a subject of Computer Applications and Graphics (DI01000201) for 1st Semester students of Automobile Engineering Department.

17 December 2025



Automobile

Beyond Curriculum Session was conducted by Mr. G. A. Rabadiya on a topic of “Various Modern Materials in Automobile” in a subject of Engineering Material Science (DI01000181) for 1st Semester students of Automobile Engineering Department.

17 December 2025

Computer

A Beyond Curriculum Lecture was organized on the topic “CPU and GPU: The Power Duo of Modern Computing” for the 5th semester students of the Computer Engineering Department. The session was delivered by Mr. Nishant M. Raval.

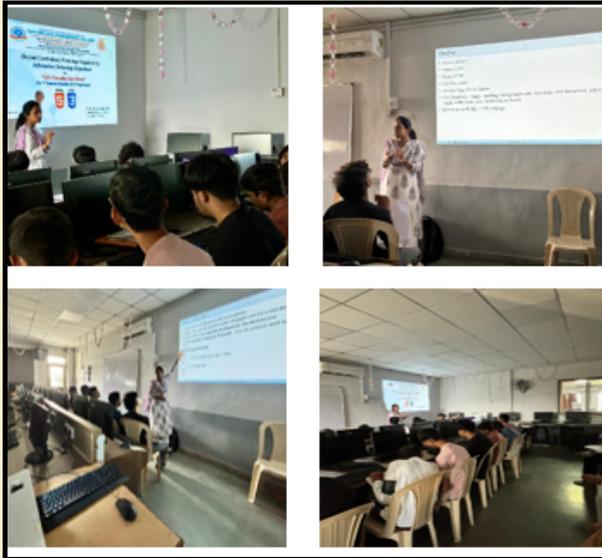
9 October 2025



Computer

Content beyond curriculum lecture was arranged on topic "NoSQL Database: MongoDB" for 3rd semester (CE_2431, 2423) students of Computer Engineering Department by Mrs. Payal K. Gosai.

13 & 17 November 2025



Information Technology

Beyond curriculum session on CSS (Cascading Style Sheets) was conducted by Miss. Nikita A. Patel for 1st Semester IT students (2512-IT) under the subject Web Development using PHP.

13 November 2025

Mechanical

Beyond curriculum session was conducted by Mr. D.C. Jayani (Lecturer, MED) for the 3rd semester students of Mechanical Engineering Department for the subject FMHM (DI03000171) on the topic "Tidal Energy and its application"

13 November 2025

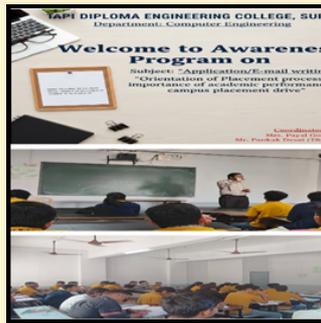


Mechanical

Beyond Curriculum Session was arranged for 3rd semester students for the subject Engineering Thermodynamics (DI03019011) on the topic "Different Thermodynamic Cycles". The session was conducted by Mr. V.J. Rana (Lecturer, MED).

14 November 2025

Training & Placement



Automobile

Chemical

Computer

Information technology

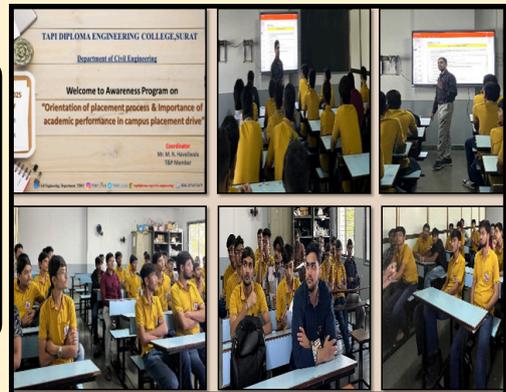
Mechanical

For the 1 semester students An Orientation of placement process & Importance of academic performance in campus placement drive session was conducted by Training & Placement Committe Members.

Civil

An Awareness Program was organized on "Orientation of placement process & Importance of Academic performance in campus placement drive" by Mr. M. N. Haveliwala for 1st semester students to aware about placement process and importance of academic performance.

12 December 2025



Electrical And Mechanical

A campus placement drive of OMEEL Coils Pvt. Ltd, Kim was conducted for the sixth-semester students of the Mechanical and Electrical Engineering department.

16 December 2025

Mechanical

A campus placement drive of "Global CAD Technology, Hazira" was held for the final-year students of the Mechanical Engineering. The personal interview was conducted, followed by a pre-placement talk.

27 December 2025





A pool campus placement drive was organized by AM/NS India Academy, Hazira, for final-year students of Mechanical, Electrical, Civil, and Computer Engineering. The drive included students from our college as well as nearby institutes. Following a written screening test, qualified candidates appeared for Technical and HR interviews. A total of 105 students have participated in the process on 19 & 20 December 2025.

Achievements

We proudly congratulate our students on their selection in various reputed organizations



Warm wishes and congratulations from the Management, Principal, Head of Department, Faculties, and the Training & Placement Team.

ISTE Student Chapter



The Thalassemia test for students admitted in the year 2025 was conducted on 10 December 2025 by the Indian Red Cross Society, Ahmedabad, in association with the ISTE Students' Chapter.



An awareness program for 1st semester students was organized by the ISTE Students Chapter (ISTE committee member) explained about various ISTE sections, its working, types of membership, benefits of student membership, etc. and encouraged students to become ISTE members.

ATAL SPONSORED FACULTY DEVELOPMENT PROGRAMME WAS ARRANGED BY INFORMATION TECHNOLOGY DEPARTMENT

“Shaping a Secure Digital Society: Emerging Trends in Information Security and Privacy”

Duration: 24 to 29 NOVEMBER 2025

તાપી ડિપ્લોમા એન્જિનિયરિંગ કોલેજ ખાતે સાઈબર સિક્યોરિટી સેમિનાર યોજાયો



ધબકાર પ્રતિનિધિ, સુરત, તા. ૦૬ તાપી ડિપ્લોમા એન્જિનિયરિંગ કોલેજ, સુરતના ઈન્ફર્મેશન ટેકનોલોજી વિભાગ દ્વારા AICTE-ATL, નવી દિલ્હી મંજૂર અને પ્રાયોજિત ‘Shaping a Secure Digital Society: Emerging Trends in Information Security and Privacy’ વિષયક ફેકલ્ટી ડેવલપમેન્ટ પ્રોગ્રામ (FDP) તા. ૨૪થી ૨૯ નવેમ્બર દરમિયાન સફળતાપૂર્વક આયોજિત કરવામાં આવ્યો હતો.

આ કાર્યક્રમમાં સાઈબર સિક્યોરિટી પડકારો, ડેટા પ્રાઈવસી

ફેમવર્ક્સ અને આધુનિક ડિજિટલ સિક્યોરિટી પ્રેક્ટિસ વિશે મહત્વપૂર્ણ માહિતીઓ આપવામાં આવી. નિષ્ણાત વક્તાઓએ માર્ગદર્શક વ્યાખ્યાનો અને હેન્ડસ-ઓન સેશન દ્વારા ભાગ લેનારોને પ્રાયોગિક તથા આધુનિક જ્ઞાનથી સમૃદ્ધ બનાવ્યા. વિવિધ કોલેજોના વિવિધ વિભાગોના ફેકલ્ટી સભ્યોએ ઉત્સાહપૂર્વક ભાગ લઈ કાર્યક્રમની પ્રસ્તુતતા પ્રશંસનીય ગણાવી. કોલેજે AICTE-ATL, રિસોર્સ પર્સન અને આયોજકોનો કાર્યક્રમને સફળ બનાવવા બદલ હાર્દિક આભાર માન્યો હતો.



FACULTY DEVELOPMENT PROGRAM ARRANGED BY COMPUTER DEPARTMENT

“ARTIFICIAL INTELLIGENCE”



Two Days Faculty Development Program on “Artificial Intelligence” was conducted by Distinguished speakers for the growth and upgradation of faculty members. The program was organized by the Computer Department of Tapi Diploma Engineering College on 14 and 15 November 2025

ARTICLE

Digital Twins: Bridging the Physical and Digital Worlds

As Information Technology continues to evolve, Digital Twins are emerging as a powerful concept that is transforming how real-world systems are designed, monitored, and improved. A Digital Twin is a **virtual replica of a physical object**, system, or process that continuously synchronizes with its real-world counterpart using live data.

“In simple terms, a Digital Twin acts as a dynamic digital mirror of a real-world system.” Unlike traditional simulations, Digital Twins are dynamic and real-time. Sensors embedded in physical systems collect data such as temperature, pressure, speed, and usage patterns. This data flows into the digital model, enabling accurate monitoring, analysis, and optimization without direct physical intervention.

What makes Digital Twins powerful is not visualization, but intelligence.

Initially developed for aerospace and advanced manufacturing, Digital Twins are now transforming multiple sectors. In **manufacturing**, they help predict equipment failures, reduce downtime, and enhance productivity. In **healthcare**, Digital Twins can simulate organs or patient conditions, enabling personalized treatment and better diagnosis. In smart cities, they are used to manage traffic flow, energy distribution, and urban infrastructure efficiently.

From machines to cities, Digital Twins turn data into decisions.

One of the most valuable features of Digital Twins is predictive capability. Instead of responding after a failure occurs, systems can anticipate problems before they happen. Organizations can test changes in the digital environment first, minimizing risk and cost in the physical world.

The future of IT lies in prediction, not reaction.

From an IT perspective, Digital Twins integrate multiple advanced technologies into a single intelligent system. They rely on **IoT for data collection, cloud computing for storage and scalability, artificial intelligence for analysis, big data analytics for insights, and cybersecurity for trust and protection.** This integration makes Digital Twins a multidisciplinary technology and an excellent learning platform for IT students.

For students, learning about Digital Twins builds future-ready skills. It encourages system-level thinking rather than isolated coding. Knowledge of data analytics, AI models, cloud platforms, and secure system design becomes directly applicable in real-world projects and industry roles.

However, Digital Twins also present challenges. High implementation costs, data privacy concerns, and system complexity must be addressed carefully. Ethical data usage and strong cybersecurity frameworks are essential to ensure reliability and public trust.

In conclusion, Digital Twins represent the next phase of digital transformation, where the physical and digital worlds operate together seamlessly. As educators, our role is to expose students to such emerging technologies and prepare them to use them responsibly.

Digital Twins are not just about technology – they are about smarter decisions, efficient systems, and a connected future.

Mrs. B. B. Acharya
I/C Head of IT Department

Your AI Career Coach: Crack Jobs & Interviews Like a Pro



Stop applying harder. Start applying smarter.
 Sending the same resume to 50 companies?
 Waiting for calls that never come? That strategy is outdated.
Welcome to 2025, where AI is your secret career weapon.

Beating the "Robot" Recruiter (ATS)

Before a human ever sees your resume, it must pass the Applicant Tracking System (ATS). These systems filter out resumes that lack specific keywords. If you aren't tailoring your resume for every single application, you are likely being rejected by a machine. **Real-Time Example:** The Bullet Point Upgrade

The "Average" Bullet Point:

"Responsible for managing social media accounts and posting content."
 (Why it fails: It describes duties, not impact. It's generic.)

The "AI-Polished" Bullet Point:

"Orchestrated daily social media content across Instagram and LinkedIn, driving a 40% increase in engagement and generating 150+ organic leads in Q3." (Why it wins: It uses action verbs, includes specific platforms, and quantifies results.)

The "Resume Tailoring" Prompt

Copy and paste this into ChatGPT or Gemini with your data.

Prompt: "Act as an expert Resume Writer and ATS Specialist.

I am pasting the **Job Description (JD)** for the role I am applying to below, followed by my Current Resume.'

Your Task:

1. Identify the top 5 hard skills and keywords present in the JD that are missing from my resume.
2. Rewrite 3 bullet points from my 'Professional Experience' section to naturally include these keywords.
3. Ensure the tone is action-oriented and quantifies achievements where possible."

The "Instant" Cover Letter

Writing a cover letter from scratch for every application is exhausting. AI can draft a highly personalized letter in seconds that connects your specific background to the company's specific goals.

The "Value-Add" Cover Letter Prompt

Prompt: "Write a concise, professional cover letter for the [Job Title] position at [Company Name].

Context:

My Resume: [Paste Resume Text Here]

Company Mission: [Paste a sentence from their 'About Us' page, e.g., 'They value sustainability and innovation.']

Instructions:

Don't be generic. Connect my experience in [Your Top Skill, e.g., Project Management] directly to their mission. Keep it under 250 words. Adopt a confident but humble tone."

The "Mock Interview" Prompt

Use this 30 minutes before your actual interview to warm up.

Prompt: "I have a job interview for a [Job Title] role at a [Industry, e.g., Fintech] company. You are a strict Hiring Manager.

Your Task:

1. Ask me one behavioral interview question at a time.
2. Wait for my answer.
3. After I answer, rate my response on a scale of 1-10.
4. Give me specific feedback on how to make my answer more concise and impactful using the STAR method.

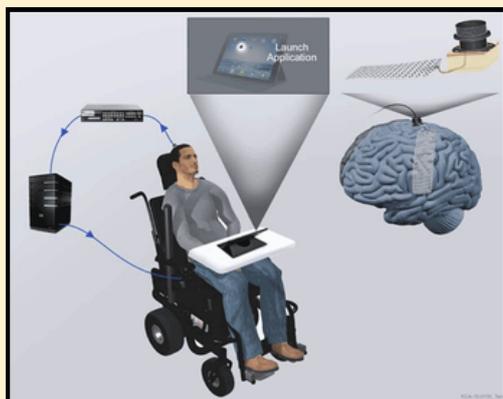
Let's start with the first question."

Small effort. Big difference. **The future belongs to AI-powered job seekers. So don't just hunt for jobs...**

👉 **Let AI help you win them.**

Ms. Richa. A. Panchal
 (IT Department)

Brain-Computer Interfaces: A New Frontier in Human-Technology Integration



In recent years, rapid advancements in neuroscience and computing have led to the emergence of Brain-Computer Interfaces (BCIs), a technology that enables direct communication between the human brain and machines. Unlike conventional interaction methods that rely on physical movement or speech, BCIs allow individuals to control digital systems using neural activity alone. This breakthrough marks a significant step toward redefining the relationship between humans and technology.

At the core of BCI technology lies the ability to capture and interpret electrical signals generated by the brain. These signals are collected through sensors placed either on the scalp or within neural tissue and are processed using advanced algorithms and artificial intelligence techniques. The decoded signals are then translated into commands that allow users to operate computers, robotic devices, or assistive technologies. Over time, machine learning enables these systems to adapt to individual neural patterns, improving accuracy and responsiveness.

The most profound impact of Brain-Computer Interfaces has been observed in the medical field. BCIs have provided new avenues of communication and mobility for individuals suffering from paralysis or neurological disorders. Patients who were previously unable to speak or move have been able to convey thoughts, control prosthetic limbs, and interact with their environment. These developments have not only improved quality of life but have also expanded possibilities in neurorehabilitation and assistive healthcare.

Beyond medicine, BCIs are gradually influencing other sectors such as virtual reality, education, and advanced computing. Thought-controlled interfaces could enable more immersive digital experiences and support adaptive learning environments by monitoring cognitive states. In high-risk or complex operational settings, BCIs may allow faster and more intuitive system control, reducing reliance on manual inputs.

Despite their promise, Brain-Computer Interfaces raise important ethical and societal concerns. Neural data is deeply personal, and its collection and use introduce serious questions about privacy, consent, and security. The possibility of unauthorized access to brain signals or misuse of cognitive data underscores the need for strong regulatory frameworks and ethical guidelines. Additionally, unequal access to such advanced technology may widen existing social and economic disparities.

Looking ahead, continued research in neuroscience, artificial intelligence, and materials science is expected to make BCIs more accurate, less invasive, and more widely accessible. As these technologies mature, they may support cognitive enhancement, advanced human-machine collaboration, and entirely new forms of communication. However, the responsible development of BCIs will depend on balancing innovation with ethical responsibility.

In conclusion, Brain-Computer Interfaces represent a transformative step in the evolution of human-technology interaction. While challenges related to ethics, security, and accessibility remain, the potential of BCIs to enhance human capabilities and improve lives is undeniable. With thoughtful regulation and responsible innovation, BCIs could play a crucial role in shaping a future where technology seamlessly integrates with human intelligence.

NEWS LETTER COMMITTEE

**Dr. Y. S. Choupare
(Principal)**

STAFF MEMBER

**Mrs. Binita B. Acharya
(I/C Head of IT Department)**

**Ms. Richa A. Panchal
(Lecturer, IT Department)**

Students

**Kurapati Varshita Upendar
Vasoya Param Hareshbhai**



**Tapi Diploma Engineering College
Managed by: Shree Tapi Brahmacharyashram Sabha,
Surat**

