Tech Chronicle 5

AVPTIans' Vision on Platter

E - Newsletter , January– July 2025

Scan me!

Directorate of Technical Education
Gandhinagar - Gujarat

Vision

- To provide globally competitive technical education;
- Remove geographical imbalances and inconsistencies;
- Develop student friendly resources with a special focus on girls' education and support to weaker sections;
- Develop programs relevant to industry and create a vibrant pool of technical professionals.

A.V.PAREKH TECHNICAL INSTITUTE

About the Institute

Amrutlal Virpal Parekh Technical Institute, popularly known as AVPTI, was established in 1948 by a generous donor of that era Sheth Amrutlal Virpal Parekh. The courses like Wireless Telegraphy got introduced for the first time in this campus in the whole country. The institute has District Innovative Centre and SSIP Regional Centre for the Saurashtra and Kutch Region. The Institute shares its expertise with the engineers coming up with innovative ideas and upscales all the resources to convert their dreams into reality. Institute assists not only technically and financially but also supports the patent filing process. With all these consistent efforts and contribution, the institute has become an apple in the eyes of the society.

--- • ----NBA Accredited Courses --- • ----

• -- Computer Engineering -- • -- Electrical Engineering -- •
• -- Bio-Medical Engineering -- • – • – Instrumentation & Control -- • –
• – Electronics & Communication Engineering -- • –
• -- Computer Aided Costume Design & Dress Making -- •

Diploma Engineering Intake: Programme wise

Programmes	Sanctioned Intake
Biomedical Engineering	60
Computer Aided Costume Design & Dress Making	30
Computer Engineering	180
Electrical Engineering	150
Electronics & Communication Engineering	60
Instrumentation & Control Engineering	60
Information & Communication Technology	60
Renewable Energy Engineering	30

NBA Accreditation Summary 2025

A.V. PAREKH TECHNICAL INSTITUTE

Name of the institution	Name of the Program (Branch)	Accreditation Status	Accreditation period	Remarks
A.V.PAREKH TECHNICAL INSTITUTE (Rajkot)	Computer Engineering	ACCREDITED	Academic Year 2021-22, 2022-23 and 2023-24, i.e., upto 30-06-2024; Further Accredited for Academic Year 2024-25, 2025-26 and 2026-27, i.e., upto 30/06/2027	Total 06 years (03 + 03) Accreditation
A.V.PAREKH TECHNICAL INSTITUTE (Rajkot)	Electronics & Communication Engineering	ACCREDITED	Accredited for Academic Year 2025-26, 2026-27 and 2027-28, i.e., upto 30/06/2028	
A.V.PAREKH TECHNICAL INSTITUTE (Rajkot)	Instrumentation & Control Engineering	ACCREDITED	Accredited for Academic Year 2025-26, 2026-27 and 2027-28, i.e., upto 30/06/2028	
A.V.PAREKH TECHNICAL INSTITUTE (Rajkot)	Electrical Engineering	ACCREDITED	Academic year 2022-23, 2023-24 and 2024-25. Further Accredited for 2025-26, 2026-27 and 2027-28, i.e., upto 30-06-2028	Total 06 years (03 + 03) Accreditation
A.V.PAREKH TECHNICAL INSTITUTE (Rajkot)	Computer Aided Costume Design and Dress Making	ACCREDITED	Academic year 2022-23, 2023-24 and 2024-25. Further Accredited for 2025-26, 2026-27 and 2027-28, i.e., upto 30-06-2028	Total 06 years (03 + 03) Accreditation
A.V.PAREKH TECHNICAL INSTITUTE (Rajkot)	Biomedical Engineering	ACCREDITED	Academic year 2022-23, 2023-24 and 2024-25. Further Accredited for 2025-26, 2026-27 and 2027-28, i.e., upto 30-06-2028	Total 06 years (03 + 03) Accreditation

Message from Principal's Desk

"Education is the passport to the future, for tomorrow belongs to those who prepare for it today." – Malcolm X. The purpose of education is to replace an empty mind with an open one. Tell me and I forget. Teach me and I remember. Involve me and I learn. Benjamin Franklin.

It involves monstrous joy to carry out pamphlet from one of the schooling pioneer organizations of Saurashtra Zone - AVPTI. In this bulletin prime exercises of the multitude of Branches of the Organization are featured.

The newsletter consolidates preparation of co-curricular and extra-curricular exercises, executed in the beyond a half year, similar to studios, workshops, master talks, modern visits, SSIP programs, workforce improvement programs, articles on latest things, etc to prepare the understudies as well as resources to get what it takes and skill according to the interest of the present situations.

TECH CHRONICLE 5

(JANUARY 2025 – JULY 2025)

A.V. PAREKH TECHNICAL INSTITUTE

About Team

Co-ordinators

- R. D. Panchal (Electrical Dept.)
- A. K. Panchasara (Computer Dept.)

Editors

- D. S. Pathak (Computer Dept.)
- C.K. Vyas (Electrical Dept.)

Members

- R.B.Jani (E.C. Dept.)
- A.B.Bhatt (Bio-Medical Dept.)
- N. M. Marsonia (C.A.C.D.D.M. Dept.)
- R.M.Pathak (I.C. Dept.)
- G.B.Harnesha (General Dept.)
- C.C.Shah (Electrical Dept.)

About Students' Team

Computer Engineering	• Rajvi Makhecha • Bhavya Oza
Electrical Engineering	• Mitrajsinh Rana • Chavda Jimil
EC	• Buddhdev Prachi • Siroja Arjun
Bio Medical	• Pipariya Dishangi • Ghodadara Pratik
CACDDM	• Muliya Shreya • Parmar Vishwa
IC	• Gauswami Priteshgiri • Salet Bhautik

CONTENTS

- EDITORIAL AND ADVISORY BOARD
- DTE VISION
- INSTITUTE VISION-MISSION
- PRINCIPAL MESSAGE
- TRAINING AND PLACEMENT
- MAJOR EVENTS (INSTITUTE LEVEL)
- DEPARTMENT LEVEL CO-CURRICULAR ACTIVITY
- DEPARTMENT LEVEL EXTRA-CURRICULAR ACTIVITY
- FACULTIES PROFESSIONAL DEVELOPMENT
- STUDENTS' PARTICIPATION AND ACHIEVEMENTS
- ACADEMIC CORNER
- TECHNICAL / NON TECHNICAL ARTICLES BY FACULTIES AND STUDENTS
- ALUMNI CONNECT
- TEAM

Biomedical Engineering Department

Article by staff

From Classroom to Clinic: How Our Students Are Impacting Healthcare

Prof. B. C. Changela

Head of the Biomedical Engineering Department

In a world where healthcare challenges are growing more complex, the role of Biomedical engineers has never been more critical. At the intersection of engineering, medicine, and innovation, our students are stepping up—not just as learners, but as contributors to real-world healthcare solutions. From classrooms to clinics, their journey reflects the transformative power of education paired with purpose.

Bridging Theory and Practice

Biomedical engineering is not a field where knowledge can stay confined to textbooks. Our curriculum is designed to ensure that theory is consistently connected to hands-on experience. Through project- based learning, internships, and research opportunities, students are exposed to clinical environments early in their academic journey.

Projects, in particular, have served as launching pads for innovation. Students have designed low-cost prosthetics, smartphone-based diagnostic tools, and AI-powered health monitoring systems. Many of these projects, developed in collaboration with local hospitals or NGOs, have moved beyond prototypes to actual

implementation in clinical settings.

Innovation Rooted in Empathy

One of the core principles we instill in our students is that engineering for healthcare is ultimately engineering for people. This mindset has led to remarkable student-led initiatives focused on solving local health challenges. For instance, recent student teams have:

* Developed a portable ECG device tailored for use in rural clinics with limited access to specialists.

* Created assistive devices for patients with neuromuscular disorders, enhancing their independence and quality of life.
* Partnered with rehabilitation centers to optimize the design of wearable sensors for post-stroke monitoring.

These aren't hypothetical exercises—they're real interventions that demonstrate the empathy, creativity, and problem-solving skills of our future Biomedical engineers.

Collaboration across Disciplines and Borders

Healthcare doesn't exist in a vacuum, and neither does biomedical engineering. Our students actively participate in interdisciplinary collaborations—with departments of medicine and even business.

Such experiences help students appreciate the global dimensions of healthcare innovation—and prepare them for leadership roles in an increasingly interconnected world.

Real Impact in Clinical Settings

Perhaps most impressively, our students have already started leaving a footprint in clinics. Whether it's through internships at hospitals, research collaborations, or volunteer-based medical outreach, they are applying their knowledge directly where it matters most: at the point of care.

Faculty-guided clinical immersion programs allow students to shadow physicians, identify unmet clinical needs, and return to the lab with actionable insights. This continuous loop of observation, ideation, and iteration ensures that their innovations are not only technically sound, but also clinically relevant.

Shaping the Future of Healthcare

The contributions of our students prove that impact doesn't have to wait until graduation. By the time they earn their degrees, many have already co-authored research papers, started work to file patents, or participated in device trials.

At the Department of Biomedical Engineering, we take immense pride not just in the academic achievements of our students, but in their commitment to improving lives. They are innovators, collaborators, and change makers in the making.

From the classroom to the clinic, their journey is just beginning—but the impact is already being felt.

Computer Aided Costume Design &

Dress Making

Extra – Co curricular Activates

Event : Atal bhihari bajpai 100 Janm Jayanti celebration

Theme : Ex. Prime minister Atal bhihari Bajpai Jivan Kavan

Event Coordinator: I/C HOD Arti Rathod

The 100th birth anniversary of **Bharat Ratna Shri Atal Bihari Vajpayee**, former Prime Minister of India, was celebrated with great enthusiasm and respect on February 05, 2025, at CACDDM Department ,AVPTI ,RAJKOT. The event aimed to respect the legacy of one of India's most beloved leaders, known for his powerful oratory, poetic soul, and remarkable leadership.

The program began with a floral tribute to Atal Ji's portrait by Faculties & students. This was followed by a brief documentary showcasing his life, political journey, and his contribution to nation-building, including the Pokhran nuclear tests, Golden Quadrilateral project, and emphasis on good governance.

Students recited poems written by Vajpayee himself, reflecting his deep emotions and patriotic spirit. Speeches were delivered highlighting his contributions as a statesman, visionary leader, and poet.

The Head of the department in their address encouraged students to follow the values of honesty, patriotism, and humility that Atal Ji stood for. The event concluded with the singing of the national anthem and distribution of sweets.

Computer Aided Costume Design & Dress Making

Co- curricular Activates

Event : Industrial Visit
Theme : Patola Weaving Unit,
Event Coordinator: Dr. Sarangi H.Bhatt

The CACDDM Department had organised a visit to Patola Weaving Unit on 11th Fbruary 2025 for the students of Semester II.

The main objective behind the visit was to make the students aware about weaving technique and parts of hand loom.The weaving technique of Patola Saree is unique. Dyed threads are used both vertically and horizontally to create many beautiful Motif. The entire procedure requires the weaver to have a lot of vigilance, patience, and perfection in his hand skills as displacement of even a single thread can deform the pattern.

The weave is so detailed and well done that there are no loose threads anywhere. The time taken to Dubble Ikat weave a single saree is around 6 months to one year. On average, a craftsman can fabricate only about a inch of a saree per day.

They were guided by weaver who briefed the students about the various steps involved in the manufacturing of Patola saree.

It was a beneficial visit for the students as they interacted with the weavers and gained practical knowledge about Hand loom and Weaving technique.

Computer Aided Costume Design & Dress Making

Co-curricular Activates

Event : **WORKSHOP TIE & DYE, CLAY ART & FABRIC PAINTING**

Event Coordinator: Dr. Nita B. Marsonia

As part of Co curricular activities CACDDM department, A.V. Parekh Technical Institute

Organised Workshop on 'Tie & Dye, clay art & Fabric Painting' on 13th February 2025 for II and IV semester students. 15 students have participated in the workshop. Expert from **Pidilite Company Mrs. Nimisha Khanna** conducted this workshop, She demonstrated various technics of Tie & Dye, Clay art & Fabric Painting. Students have created beautiful articles and got enriched by this workshop. Explained in detailed about the Fabric painting and made the workshop very interesting by her. Fabric Painting is represented by line drawings filled with bright colours and patterns. The postal painting has been introduced and used in the painting for workshop. The methods of using paints, brushes and other tools to apply pictures and designs to all kinds of fabric. Students thoroughly enjoyed the meaning of life and learned..

Electronics and Communication Department

Cocurricular Activity

A Workshop organized for final year EC students on Introduction to Machine Learning by Ms. Apurva Dhingra on 03-01-2025.Sudents learnt Machine Learning basic and advanced knowledge on the topic.

Electronics and Communication Department

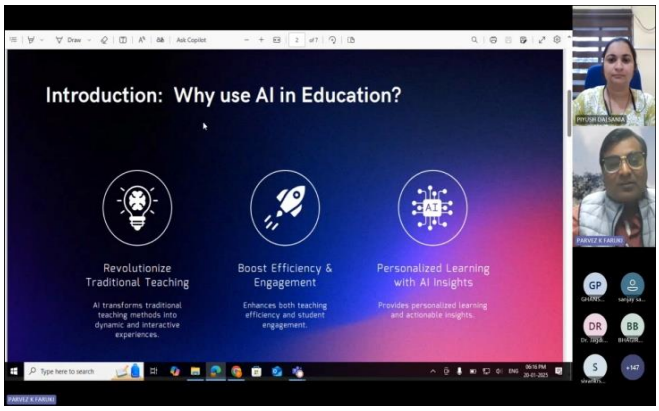
COLLABORATIVE LEARNING

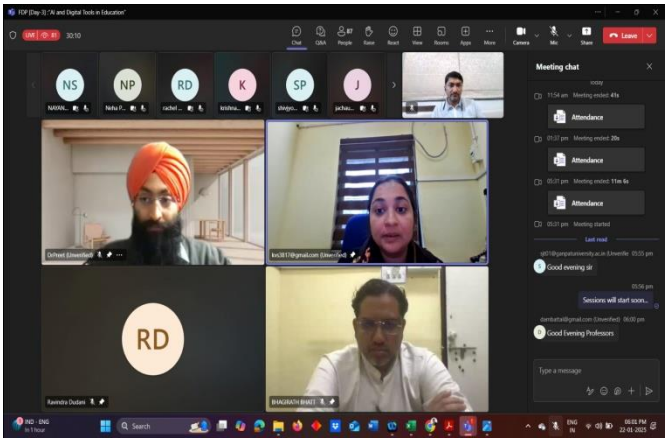
EC department AVPTI organized a student centric activity as a part of collaborative learning where students taught students. Many students took part in this activity and students learnt not only course topic but also overcome stage fear. This activity was performed on 06-01-2025.

Electronics and Communication Department

FDP

FDP organized by EC department from 20-1-25 to 25-1-25. Around 180 participants from across the India too part in the FDP. Total 13 speakers across various well known organizations delivered their expert lecture.





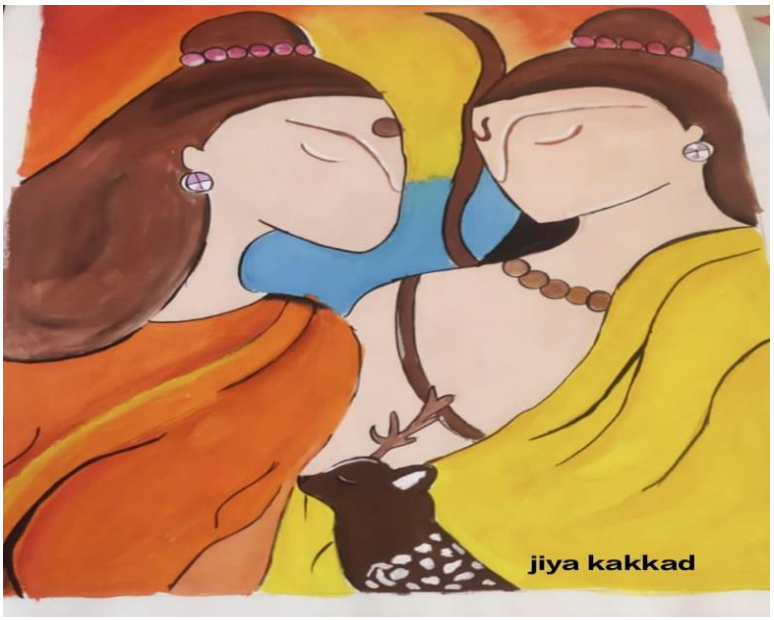
Electronics and Communication Department

Prize winner

Students of AVPTI won 2nd prize (Vigya Ratna beta) in the College category at State level science expo 2025 organized by Christ college Rajkot on 15-1-25. Competition had more than 80 entries from different colleges and schools all over Gujarat. The project is based on Attendance Management System and students worked very hard to make the project and their hard work me the success by such a recognition.

Electronics and Communication Department

Student Corner



Electrical Engineering Department

Traffic Awareness Program

On 17/01/2025, the Deputy Commissioner of Police (Traffic) IPS Pooja Yadav Madam and her team including DCP Sir, Khaped Sir (RTO Rajkot) and Saha Sir were invited to address students and faculties at Electrical Department AVPTI Rajkot. The primary focus of the speech was to raise awareness about road safety and responsible behavior while using public roads. The Deputy Commissioner of Police and her team emphasized the critical role students play in promoting safe driving habits.

The importance of adhering to traffic rules, such as wearing seat belts, using helmets, and following speed limits, was stressed. Real-life examples of accidents resulting from reckless driving and distracted behaviours were shared to underline the serious consequences of neglecting road safety. Program proved effective in instilling a sense of responsibility among young learners towards road safety.

Electrical Engineering Department

Cyber Security Awareness Program

On 29/01/2025, the Cyber Security and Wireless Police Department team were invited to address the students and faculties at Electrical Department AVPTI Rajkot. The primary focus of the speech was to raise awareness about Cyber Security and Cyber Frauds and safeguarding against the same. Key highlights were potential impact on individuals and organizations. Outlining prevalent threats like phishing, malware, ransomware, and social engineering, along with real-world examples to illustrate their consequences. Providing practical tips for staying safe online, such as creating strong passwords, enabling two-factor authentication, and being cautious with personal information.Encouraging students to report any suspicious activities or security incidents and explaining the importance of timely reporting.

Electrical Engineering Department

Remembering Shahids on Shahid Divas 2025

Shahid Divas is observed on 23rd March every year to honor the sacrifices of great freedom fighters and martyrs of our nation who gave their lives for India's independence and security. To mark this occasion, Electrical department AVPTI organized awareness program on 24th March 2025, remembering the brave souls who laid down their lives for the country.

Electrical Engineering Department

Industrial Visit to Arohi Embedded Systems

Industrial Visit at Arohi Embedded system for second and Final year Diploma Electrical Engineering students on 19/04/2025

Aarohi Embedded Systems Pvt. Ltd. is India's leading ISO 9001:2015 Certified embedded product design, development, and services company. Founded by Alumni of IIT Bombay in 2003. Aarohi Embedded System Pvt. Ltd has come up with a technically advanced range of industrial products. Product range encompasses Digital Panel Meter's, Pump and Motor Testing Equipment, Motor and Pump Testing Panel, Electromagnetic flowmeter (also known as flowmeter)

Electrical Engineering Department

Industrial visit to Top Elevators

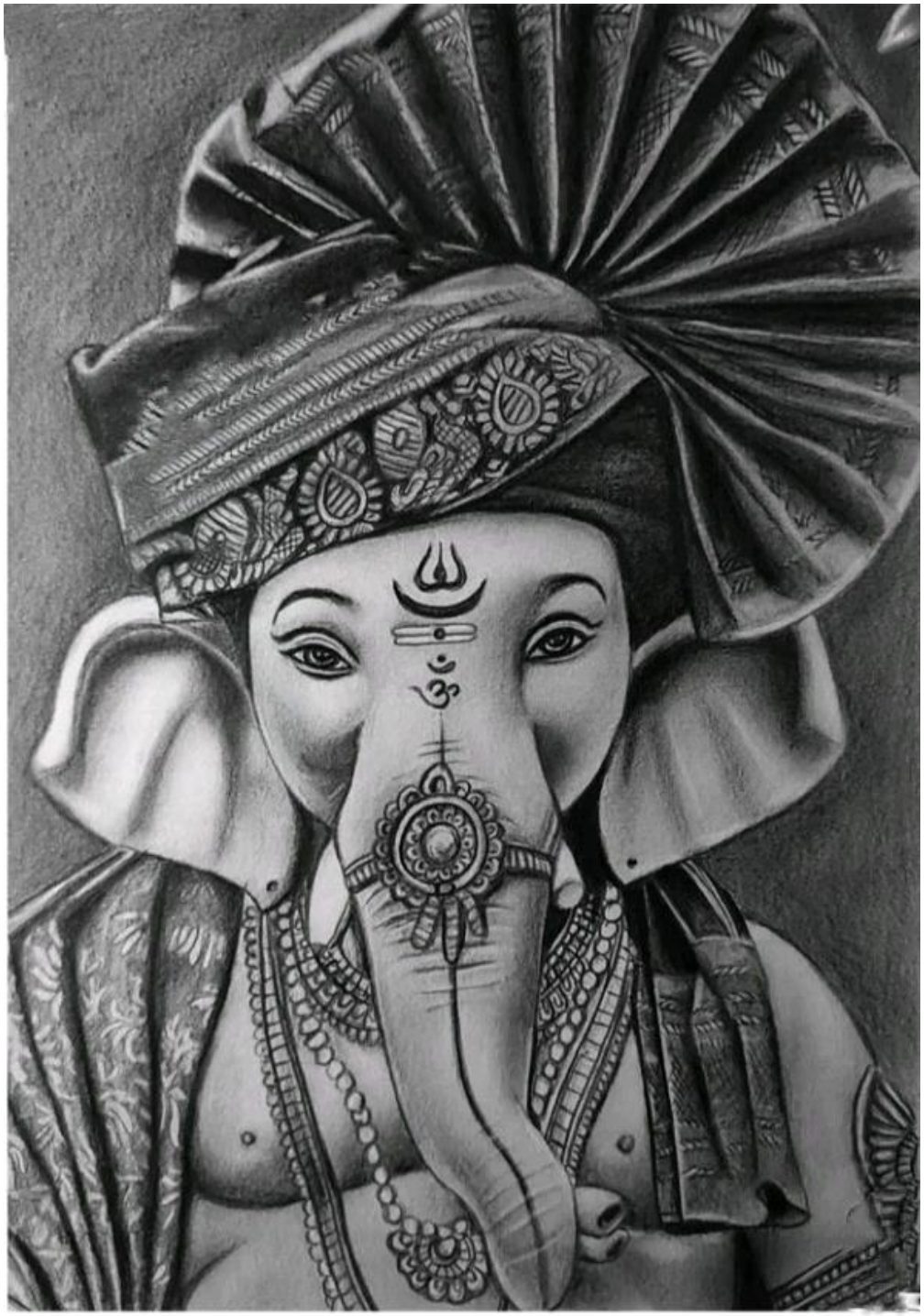
Industrial visit to Top Elevator Pvt Ltd. was arranged for pre final and final year students on 19th April 2025. Top India Elevator Pvt. Ltd. Leading manufacture and Services Provider of Elevator a constant, reliable name in the Industry since year 2000. We offer a comprehensive line of elevator for Office Premises, Residential complex, Hotels, Hospital, Shopping malls. Students got exposure to the internal working of lifts — traction systems, hydraulic mechanisms, motors, control panels, etc. Insight into how lifts are designed, assembled, and tested. they also aware about safety features and international standards followed in elevator manufacturing.

Electrical Engineering Department

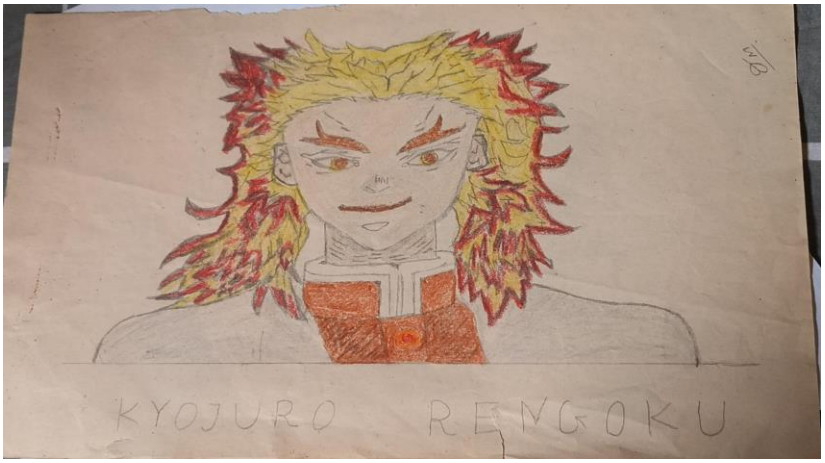
Industrial Visit to Falcon Pumps

Industrial visit for pre final and final year students was arranged on 17/04/2025 at Falcon Pumps pvt. Ltd. At:- Vavdi Rajkot. During visit students got exposure to the manufacturing unit complete assembly pipeline as given which helps students to understand the complete motor manufacturing process.

- Raw Materials stackingarea
- Stamping Area
- Rotor Designing and BalancingArea & StatorAssemblingArea
- Cathode Electro Deposit Chamber and Cleaning Bay
- Winding and Cabling Area
- No Load and On Load Test Facility for QualityControl
- Certification and Packaging, Stackand Dispatch Area



Manver Het Samirbhai



Bagthariya Om

Biomedical Engineering Department

Visit to B.T.Savani Kidney Hospital, Rajkot

With Event Name: Visit to B. T. Savani Kidney Hospital, Rajkot

Event Date & Venue: 21/02/2025., B.T. Savani Kidney Hospital, Rajkot

Description of the Event:

A hospital visit for biomedical engineering students is a valuable opportunity to gain practical insights into the real-world application of medical technology. Hence a visit was arranged at B.T.Savani Kidney Hospital, Rajkot on 21/02/2025. During the visit, students explore various hospital departments such as radiology, intensive care units (ICU), operation theaters, and biomedical workshops. They observe and analyze medical devices, including ventilators, imaging systems (MRI, CT scan, X-ray), patient monitoring systems, and surgical instruments. Students interact with hospital biomedical engineers, gaining knowledge about the maintenance, calibration, and troubleshooting of medical equipment. They also learn about hospital safety protocols, regulatory compliance, and the integration of healthcare technology in patient care. The visit enhances their understanding of medical device management, innovation, and design, preparing them for their future roles in the healthcare industry. Students along with two faculties Mr.D.C.Shreegod and Mr. K.H.Parmar (Lecturer in Biomedical department) were visited the Hospital.

Major outcome of event:

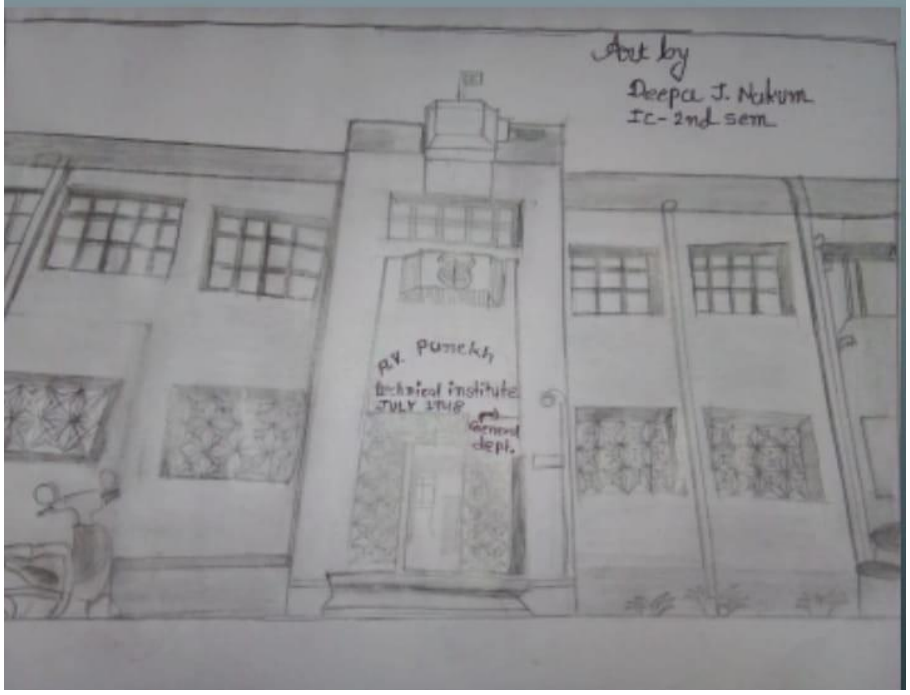
A hospital visit provides biomedical engineering students with invaluable real-world experience, bridging the gap between theoretical learning and practical application. It enhances their technical knowledge, problem-solving abilities, and understanding of healthcare technology, preparing them for a successful career in the medical device industry.


સંચાલક
સૌરાષ્ટ્ર કિડની રિસર્ચ ઈન્સ્ટિટ્યુટ - રાજકોટ

Instrumentation & Control Engineering Department

Student Corner

Art by_ Deepa_J_nakum




Made by:
Hitanshi Parmar
IC Department
2nd Sem
Date: 1/3/25

Computer Engineering Department

DATE & TIME: 05/05/2025 11:00 to 01:00

EVENT TYPE: Curricular Activity

EVENT TITLE: Guidance Session on DDCET Preparation

EVENT VENUE: Seminar Hall, Computer Engineering Department

The department faculties will provide valuable suggestions and guidance regarding competitive exams, particularly focusing on the DDCET (Diploma to Degree CET).

In addition, 6th semester students will be sharing their personal experiences with the DDCET exam. They will discuss important aspects such as:

- How to effectively prepare for the DDCET exam.
- Recommended study materials and resources.
- Common mistakes to avoid during the exam.

EVENT OUTCOMES 1.Students gain clarity about the structure, syllabus, and expectations of the DDCET exam.

2.Students learn effective study methods, recommended materials, and time management techniques.

3.By hearing from seniors, students become aware of mistakes to avoid during preparation and in the exam hall.

4.First-hand experiences from peers can ease anxiety and motivate students to begin focused preparation early.

Instrumentation & Control Engineering Department

Expert Lecture on “Basics of Spectroscopy”

The Department of Instrumentation & Control Engineering, A. V. Parekh Technical Institute, Rajkot, organized an expert lecture on 5th April 2025 through online mode. The session was specially arranged for 4th-semester students to enhance their knowledge of spectroscopy, a powerful analytical technique used in research, pharmaceuticals, and industries.

The lecture was delivered by Mr. Bhavin Mulsashiya, an alumnus of IC,AVPTI and currently Sr. Technical Executive at Apara Analyticals. With his vast industrial experience, he introduced students to UV-Visible, IR, and NMR spectroscopy, explaining the working principles, instrumentation, and calibration methods of spectrometers.

Students also gained insights into real-life applications, particularly in pharma and chemical industries, where spectroscopy is used for quality control and material identification. Practical tips on data interpretation, spectra analysis, and understanding peaks were also shared.

The session was interactive and engaging, with students clarifying doubts on topics like absorption vs. emission and sample preparation techniques. Mr. Mulsashiya also encouraged students by highlighting career opportunities in analytical instrumentation, laboratories, and R&D sectors.

The lecture concluded with a vote of thanks and a token of appreciation by the Head of Department. Students found the session highly informative and inspiring, as it helped them link theoretical learning with industrial practices.

Instrumentation & Control Engineering Department

Expert Lecture: "Power of Air – Exploring Pneumatics & Compressors

The Department of Instrumentation & Control Engineering, in collaboration with the ISTE Student Chapter, organized an expert lecture on *"Power of Air – Exploring Pneumatics & Compressors"* on 1st February 2025. The lecture was delivered by Mr. Nitish Ponda from Krishna Enterprise, a renowned name in industrial automation.

Around 40 students from Semester 4 and 6 attended the session, which focused on the fundamentals, working principles, and industrial applications of pneumatics and compressors. Mr. Ponda also highlighted the latest advancements in compressor technology through live demonstrations and case studies.

The event encouraged interactive learning, with students actively participating in discussions and Q&A. The session not only enhanced their technical knowledge but also gave valuable insights into real-world applications and career opportunities.

The department expresses gratitude to the expert speaker, ISTE Student Chapter, faculty, and students for making the program successful.

Instrumentation & Control Engineering Department

Industrial Visit to ADANI Group Facilities under UDAN Project

The Department of Instrumentation & Control Engineering, A. V. Parekh Technical Institute, Rajkot, organized a two-day industrial visit to the ADANI Group, Mundra (25th–26th April, 2025) under the UDAN Project. The objective was to provide students of the 4th and 6th semesters with practical exposure to advanced technologies, large-scale operations, and sustainability practices.

The visit began with Mundra Port (West & South Ports), India's largest commercial port, where students observed modern cargo handling systems, marine logistics, and import-export operations. This offered them insights into how technology drives global trade.

At ADANI Power (Thermal Power Plant), students explored the boiler-turbine-generator cycle, emission control systems, and SCADA-based monitoring. The plant's 4620 MW supercritical unit demonstrated how coal-based energy is produced with focus on efficiency and environmental safety.

The next stop was ADANI Solar, a state-of-the-art facility for solar cell and module production. Students witnessed wafer processing, module assembly, and testing procedures, gaining knowledge about India's renewable energy roadmap and the global shift towards clean energy.

The visit concluded at ADANI Wilmar, manufacturer of the Fortune brand. Here, students observed refining processes, bottling, automated packaging, and hygiene practices in FMCG manufacturing.

Overall, the visit successfully bridged theoretical learning with industrial practices, enhanced students' understanding of energy, logistics, and manufacturing systems, and motivated them to explore innovative solutions for the future.

ADANI POWER

ADANI SOLAR

ADANI PORT (South & West Port)

ADANI WILMAR

Instrumentation & Control Engineering Department

Mock Placement Test for Final Year Students

The Department of Instrumentation & Control Engineering, A. V. Parekh Technical Institute, Rajkot, organized a Mock Placement Test for final-year students on 23rd January 2025 at the Multimedia Lab. The session, conducted under the guidance of Placement Coordinator Mr. Mahesh Khokhar, aimed to simulate real company recruitment processes. Around 30 students participated in the test, which included sections on technical knowledge, aptitude, and interview skills. The initiative helped students assess their strengths and areas of improvement while boosting their problem-solving and communication skills. Students received constructive feedback that will aid in their preparation for upcoming campus placements. The activity proved to be highly beneficial in enhancing placement readiness and instilling confidence among participants. The department appreciates the efforts of faculty members and coordinators for making this program a success.

Instrumentation & Control Engineering Department

ONOS Awareness Program

The Department of Instrumentation & Control Engineering, A. V. Parekh Technical Institute, Rajkot, organized an Awareness Program on ONOS (One Nation One Subscription) on 24th January 2025 at the Multimedia Lab. The session was conducted by Ms. R. M. Pathak, Library Coordinator, who explained the features of ONOS and the Integrated Knowledge Access System. Head of Department, Mr. R. J. Dhruv, also addressed the students, highlighting the importance of this initiative and encouraging them to utilize it effectively. The program aimed to familiarize students and faculty with the benefits of ONOS in providing affordable access to journals, e-books, and research resources. Participants gained valuable insights into how this initiative promotes equitable knowledge sharing, research growth, and academic excellence. The event inspired students to make the best use of ONOS for learning and research, aligning with India's vision of a knowledge-driven society

Instrumentation & Control Engineering Department

Road Safety Quiz on MyGov Quiz Portal

The Department of Instrumentation & Control Engineering, A. V. Parekh Technical Institute, Rajkot, organized a Road Safety Quiz on 23rd January 2025 in collaboration with the MyGov Quiz Portal. A total of 25 students participated in the quiz held at the Multimedia Lab. The activity aimed to spread awareness about traffic rules, safe driving practices, and road safety measures. The quiz included questions on traffic regulations, road signs, emergency responses, and the impact of reckless driving. Students actively participated and gained valuable insights into safe road practices and responsible behavior. All participants received digital certificates from the MyGov portal. The initiative not only enhanced students' knowledge but also encouraged them to actively engage in government-led awareness campaigns. The program proved effective in instilling a sense of responsibility among young learners towards road safety.

CERTIFICATE

OF PARTICIPATION

This certifies that

Dinesh Parmar

Has participated in the **Road Safety Quiz** organized during the National Road Safety Month 2025.

We acknowledge your efforts. Keep participating!

Ram Raj Meena,
Deputy Secretary, Ministry of Road Transport and Highways

Computer Engineering Department

Article by Student

Bringing Starlink to India: Revolutionizing Internet Connectivity in Rural Areas

DHARM LAKUM...

What is Star link?

Starlink is an satellite internet constellation operated by American aerospace company SpaceX, providing coverage to over 60 countries. It also aims for global mobile phone service after 2023. SpaceX started launching Starlink satellites in 2019. As of August 2023, Starlink consists of over 5,000 mass-produced small satellites in low Earth orbit (LEO), which communicate with designated ground transceivers. In total, nearly 12,000 satellites are planned to be deployed, with a possible later extension to 42,000. SpaceX announced reaching more than 1 million subscribers in December 2022 and 1.5 million subscribers in May 2023.

Understanding Starlink: A Game-Changer in Internet Connectivity

Starlink is the world's first satellite constellation that utilizes low-Earth orbit to deliver broadband internet services capable of supporting streaming, online gaming, video calls, and more. Unlike traditional satellite internet services that rely on a single geostationary satellite located far away from Earth, Starlink's network consists of thousands of satellites orbiting much closer to the planet at a distance of about 550 km. This proximity significantly reduces latency, enabling real-time interaction and making it more suitable for activities that require instant communication.

How Does Starlink Work?

The Starlink network operates by utilizing a network of small satellites deployed in low-Earth orbit. These satellites are equipped with advanced technology to provide high-speed and low-latency internet services to users worldwide. Unlike traditional satellite internet services that suffer from high latency due to the long

distance between the satellite and the user, Starlink's closer proximity to Earth reduces latency to around 25 milliseconds.Starlink's satellites are designed with compact, flat panel antennas that allow for dense launches using SpaceX's Falcon 9 rocket. These satellites also possess autonomous maneuvering capabilities to avoid collisions with space debris and other spacecraft. Additionally, they incorporate custom-built navigation sensors that enable precise placement of broadband connectivity across the globe.

To further enhance its capabilities, Starlink is testing optical space lasers on its satellites, enabling data transmission without relying solely on local ground stations. Each satellite is equipped with four powerful phased array antennas and two parabolic antennas, increasing data transmission capacity.

Benefits of Starlink in India's Rural Areas

One of the significant advantages of introducing Starlink in India is its potential to bridge the digital divide and provide internet connectivity to remote and rural villages. In many parts of the country, access to the internet is either limited or expensive and slow. Starlink's high-speed and low-latency internet services can be a game-changer in these areas, opening up new opportunities for education, healthcare, e-commerce, and communication.

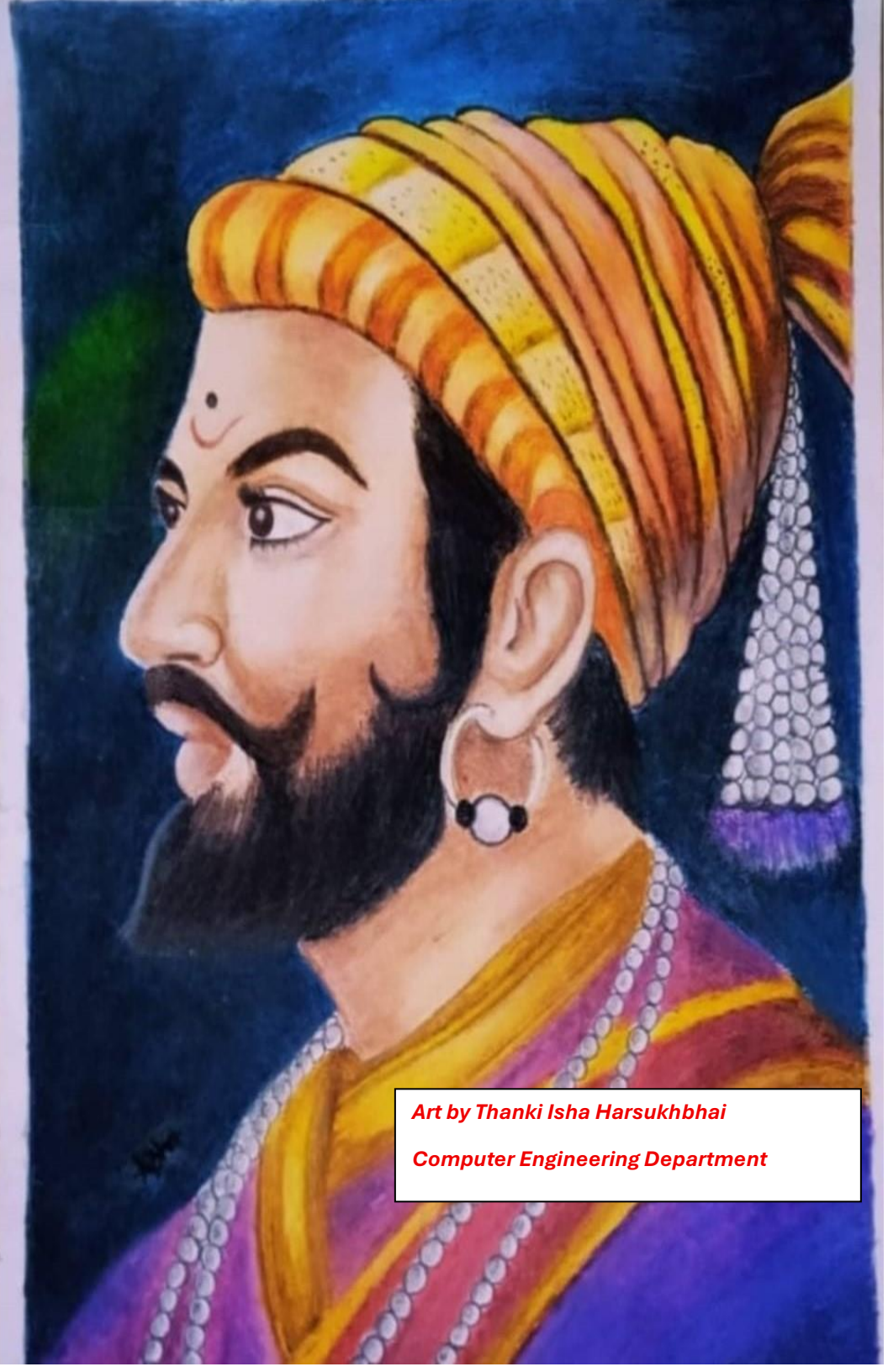
With India's vast population and diverse geography, traditional terrestrial infrastructure often struggles to reach remote locations. Starlink's satellite internet services can overcome these limitations and ensure that even the most isolated villages have access to reliable and fast internet connectivity. This can empower individuals and communities, enabling them to participate in the digital economy, access educational resources, and connect with the world.

The Potential Impact on India's Internet Market

The satellite broadband service market in India is projected to reach a value of $1.9 billion by 2030, exhibiting a compound annual growth rate of 36 percent, according to a report published by Deloitte India. Currently, India accounts for only 3 percent of the global satellite internet market, valued at $3 billion in 2022. The introduction of Starlink in India has the potential to significantly expand this market and drive innovation in the internet service provider industry.

.Collaboration with Indian Telecom Giants

To successfully bring Starlink to India, collaboration with Indian telecom giants is crucial. Companies like Reliance Jio, which is already a leading telecom provider in the country, can play a significant role in expanding Starlink's reach and integrating satellite internet services into their existing infrastructure. Collaboration with local partners can also help navigate regulatory requirements and ensure a seamless rollout of the service.


Art by Thanki Isha Harsukhbhai
Computer Engineering Department

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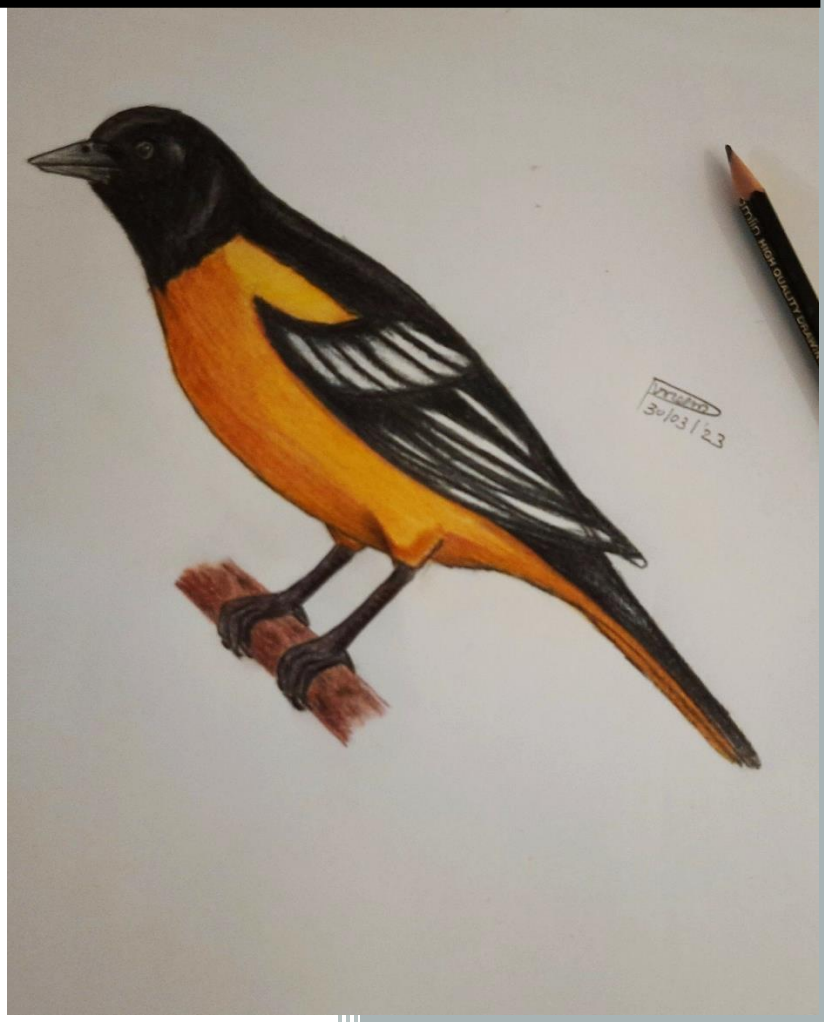

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