

I&C DEPT.

| ISSUE 12

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MINDSPARK

"Your Window into Instrumentation & Control."

INSTRUMENTATION & CONTROL DEPARTMENT

COMMUNICATION DEPARTMENT

GOVERNMENT ENGINEERING COLLEGE, GANDHINAGAR



DR. SWETA P. DAVE

**PRINCIPAL
GOVERNMENT ENGINEERING COLLEGE, GANDHINAGAR**

It is an honour to share my thoughts through this edition of the Instrumentation and Control Engineering Department newsletter—a reflection of the department's consistent growth, innovation, and commitment to excellence.

In today's rapidly evolving world, Instrumentation and Control Engineering plays a crucial role in driving automation, precision, and intelligent systems across industries. I am proud to say that our department continues to rise to this challenge with clarity of vision and a deep sense of purpose.

The dedication of our faculty, the enthusiasm of our students, and the support of our alumni and industry partners have created a learning environment that not only imparts knowledge but inspires transformation. From hands-on projects and research ventures to participation in national competitions and internships, our students are proving their capability, creativity, and confidence time and again.

What makes this department special is not just what it teaches, but how it empowers—encouraging students to think critically, act responsibly, and aim high. These qualities are the foundation of meaningful engineering, and I am confident that our graduates will lead with both skill and integrity.

I extend my sincere appreciation to everyone who contributes to the continued success of this department. Let us keep moving forward—with curiosity in our minds, courage in our actions, and a vision for a better future.





PROF. MANISH JANI

**COORDINATOR- IC DEPARTMENT
GOVERNMENT ENGINEERING COLLEGE, GANDHINAGAR**

It is a privilege to present this edition of the Instrumentation and Control Engineering Department newsletter—a testament to the hard work, progress, and shared vision of our academic community.

The field of Instrumentation and Control stands at the forefront of modern engineering—integrating sensing, automation, and intelligent control to power innovations across industries. At our department, we aim not just to teach this discipline but to live its principles through continuous learning, practical exploration, and a deep commitment to solving real-world challenges.

Over the past year, our students have demonstrated remarkable potential—engaging in innovative projects, securing internships, excelling in competitions, and exploring research in areas like IoT, industrial automation, and biomedical systems. These achievements are the result of focused guidance by our dedicated faculty and the department's strong culture of collaboration, curiosity, and resilience.

We believe in nurturing not just engineers, but ethical professionals and responsible innovators. Our curriculum is enriched with hands-on labs, industry interactions, and interdisciplinary thinking—ensuring our students are not only industry-ready but future-ready.

I extend heartfelt gratitude to my colleagues for their tireless efforts, to our students for their determination, and to our alumni and industry partners who continue to support and inspire us.

With best wishes for continued growth and excellence,

INSTRUMENTATION & CONTROL DEPARTMENT

COMMUNICATION DEPARTMENT





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INSTITUTE

VISION

To be a premier engineering institution, imparting quality education for innovative solutions relevant to society and environment.

MISSION

- To develop human potential to fullest extent so that intellectual and innovative engineers can emerge in a wide range of professions.
- To advance knowledge and educate students in engineering and other areas of scholarship that will best serve the nation and the world in future.
- To produce quality engineers, entrepreneurs and leaders to meet the present and future needs of society as well as environment.

INSTRUMENTATION & CONTROL DEPARTMENT

VISION

To impart quality education in Instrumentation and Control engineering through innovation to meet technological challenges of industries and society with environmental considerations.

MISSION

- To impart knowledge about present trends in the field of instrumentation and control engineering.
- To train competent instrumentation and control engineers who can design, operate, process instrumentation and and also manufacturing an automation system in industries .
- To encourage students to work on innovative research projects related to Instrumentation and Control engineering considering environmental aspect .



PEO -PROGRAM EDUCATIONAL OBJECTIVE STATEMENTS

PEO - 1 - To operate and maintain industrial instrumentation and control system.

PEO - 2 - To design industrial instrumentation and control system by innovative approach.

PEO - 3 - To inculcate professional and ethical attitude, effective communication skills, multidisciplinary approach and an ability to relate engineering issues in social and environmental context.

PEO - 4 - To acquire the ability for life-long learning needed for a successful Professional career.





PSO - PROGRAM SPECIFIC OUTCOMES

PSO 1 – Design and develop solutions for Process control and automation industries and able to pursue career in research, industry, higher studies and adapt to changing technology.

PSO 2 – Able to understand professional and ethical responsibility with effective communication skills and life-long learning.



FACULTY DETAIL



PROF M. R. JANI

Designation-Coordinator-IC Department

Qualification- M.E.(IC)

Experience - 30 years

PROF. A. D. RATHOD

Designation- Associate professor

Qualification- M.E. (IC)

Experience - 25 years



Dr. R.C. PATEL

Designation- Associate Professor

Qualification- Ph.D.

Experience - 24 years





PROF. M. B. HINGU

Designation- Assistant Professor
Qualification- M.Tech.
Experience - 28 years
01 years industry

PROF I.U. AJMERI

Designation- Assistant Professor
Qualification-M.E.(IC)
Experience-27 years



Dr. K. C. DAVE

Designation- Assistant Professor
Qualification- Ph.D.
Experience - 16 years

PROF K.K.ACHARYA

Designation- Assistant Professor
Qualification- M.E. (IC)
Experience - 16 Years,
02 years industry Experience





Dr. K. B. PATHAK

Designation- Assistant professor

Qualification-Ph.D.

Experience-21 years

PROF K.S. VASHISHTHA

Designation- Assistant professor

Qualification-M.E.(IC)

Experience-15 years



PROF. N.V. PATEL

Designation- Assistant professor

Qualification-M.E.(IC)

Experience-16 years

05 Years Industry

PROF. P. N. PATEL

Designation- Assistant professor

Qualification-M.E.(IC)

Experience-11 years



PROF. R. S. RANA

Designation- Assistant professor
Qualification-M.Tech(IC)
Experience-9 years

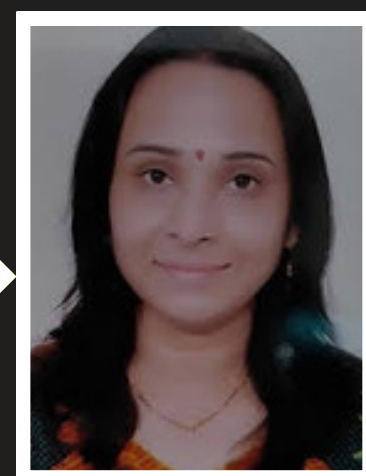


PROF R. L. ZADFIYA

Designation- Assistant professor
Qualification-M.Tech.(IC)
Experience-15 years

Dr. A. N. BOKADE

Designation- Assistant Professor
Qualification- Ph.D.
Experience - 20 years



PROF. J. J. SHAH

Designation- Assistant Professor
Qualification- M.E.
Experience - 9 years

DEPARTMENTAL ACTIVITIES

EXPERT TALK ON

"Fundamentals of Artificial Intelligence & Its Applications in Computer Vision"



The Department of Instrumentation and Control Engineering organized an expert talk on "Fundamentals of Artificial Intelligence & Its Applications in Computer Vision" on 7th April 2025. The session featured insightful presentations by esteemed speakers Dr. Ritesh Vyas, Dr. Santosh Satapathy, and Dr. Mohendra Roy from the School of Technology, Pandit Deendayal Energy University (PDEU).

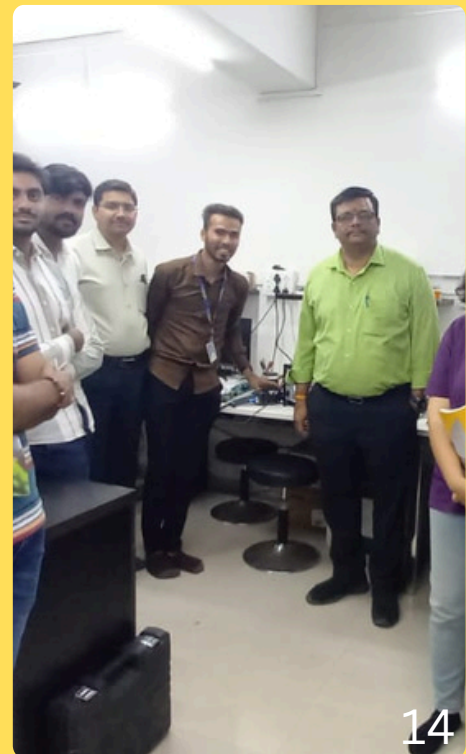
Their collective expertise and engaging delivery provided our students and faculty with a deep understanding of the foundational concepts of Artificial Intelligence and its transformative applications in the field of Computer Vision. The speakers elaborated on core topics such as image processing, object detection, and machine learning, while also discussing the latest trends and technologies shaping the future of AI.

INDUSTRIAL VISIT

Visves Automation Engineering Pvt. Ltd

As part of our academic curriculum, the IC department had planned an industrial visit at Visves Automation Engineering Pvt. Ltd., located in Ahmedabad, on 03/04/2025.. The main objective of this visit was to gain practical exposure to automation technology and understand its real-world applications beyond the classroom.

During the visit, the company representatives provided a detailed explanation of the components used in automation panels and their working principles. The students were introduced to a variety of automation technologies, including devices integrated with IoT applications. The integration of IoT makes the products more cost-efficient and reliable, offering smart solutions to modern automation needs.



WORKSHOP ON "Design Thinking"



The Department of Instrumentation and Control Engineering hosted a workshop on "Design Thinking" on 25th April 2025, conducted by Prof. Raj Hakani, Assistant Professor at GTU-SET, Ahmedabad.

This interactive session provided students with a hands-on understanding of the Design Thinking approach emphasizing empathy, creativity, and iterative learning.



Prof. Hakani guided the participants through various stages of the process, encouraging them to think beyond conventional solutions and develop user-centric ideas for addressing real-world industrial and societal challenges. The workshop inspired students to adopt a mindset of innovation and collaboration.

INDUSTRIAL VISIT

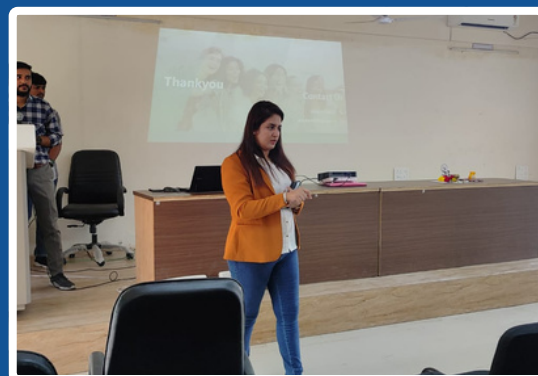
Eleics Design Pvt. Ltd.

Bridging the gap between academia and industry, the Department of Instrumentation and Control organized an insightful industrial visit to Eleics Design Pvt. Ltd., offering students a real-world glimpse into IoT applications and automation practices.



An Industrial Visit at Eleics Design Pvt. Ltd. was arranged by IC department for the students of semester 4th and 6th on 28th April, 2025. The industry expert showed various ongoing IoT related industrial projects and explained some of their working.

ALUMNI MEET 2025

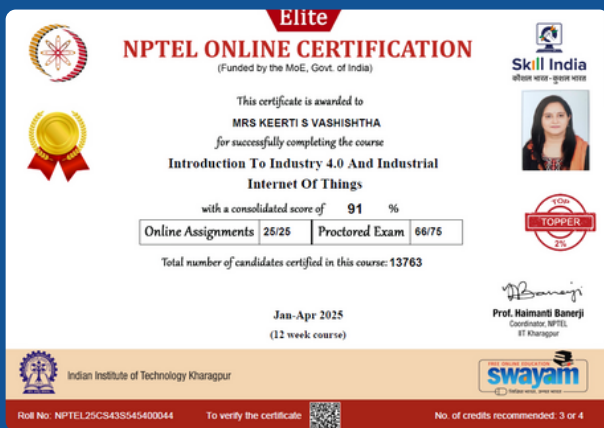


The department of Instrumentation and Control Engineering had organized an alumni meeting for all batches and alumni on 27th February 2025. The alumni meet was offline.

FACULTY ACHIEVEMENTS



Prof. Niyat V. Patel, IC Dept., has completed NPTEL MooC course on “Introduction To Industry 4.0 And Industrial Internet Of Things” during January to April 2025 and secured 91% score. (Elite)



Prof. K. S. Vashishtha, IC Dept., has completed NPTEL MooC course on “Introduction To Industry 4.0 And Industrial Internet Of Things” during January to April 2025 and secured 91% score. (Elite)

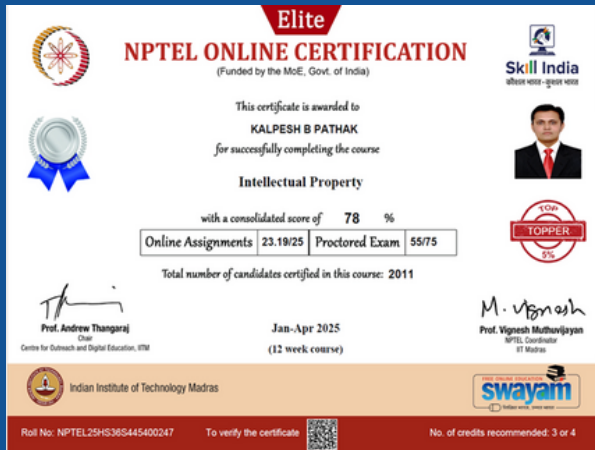


Dr. Aarti N. Bokade, IC Dept., has been recognized as an NPTEL DISCIPLINE STARS (Jan-Apr 2025)

Dr. Kalpesh B. Pathak has delivered an expert lecture on “Frequency Domain Analysis” on 05/04/2025 in the Biomedical Department.



PARTICIPATION IN STTP/SEMINAR/WORKSHOP



Dr. Kalpesh B. Pathak completed NPTEL ONLINE 12 week course (Jan-Apr 2025) on Intellectual Property.



Dr. Kalpesh B. Pathak has attended online webinar on "Life Skills" dated 04/02/2025, under the initiative TEERTH organized by Knowledge Consortium of Gujarat, Education Department, Government of Gujarat.

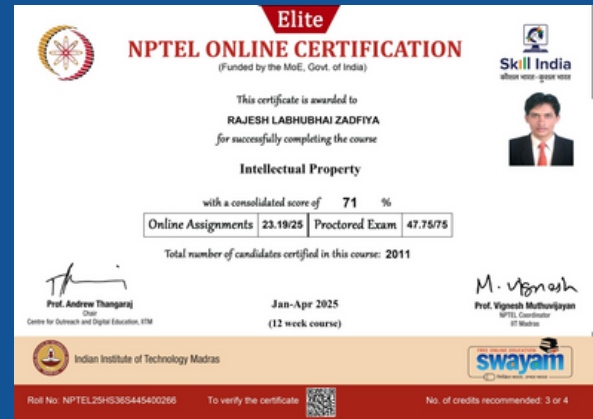


Dr. Kalpesh B. Pathak has attended online webinar on "Science of Happiness" dated 19/02/2025, under the initiative TEERTH organized by Knowledge Consortium of Gujarat, Education Department, Government of Gujarat.



Dr. Kalpesh B. Pathak has attended online webinar on "Today's Exams: The Role of Students, Teachers, Parents and Society" dated 21/03/2025, under the initiative TEERTH organized by Knowledge Consortium of Gujarat, Education Department, Government of Gujarat

Prof. R. L. Zadfiya completed NPTEL ONLINE 12 week course (Jan-Apr 2025) on Intellectual Property.



Dr. Aarti N. Bokade completed NPTEL ONLINE 12 week course (Jan-Apr 2025) on Intellectual Property.



Dr. Aarti N. Bokade completed NPTEL ONLINE 12 week course (Jan-Apr 2025) on Introduction To Industry 4.0 And Industrial Internet Of Things



Prof. Jheel Shah has completed NPTEL ONLINE 12 week course (Jan-Apr 2025) on Intellectual Property.





Prof. Jheel Shah has completed NPTEL MooC course on "Introduction To Industry 4.0 And Industrial Internet Of Things" during January to April 2025

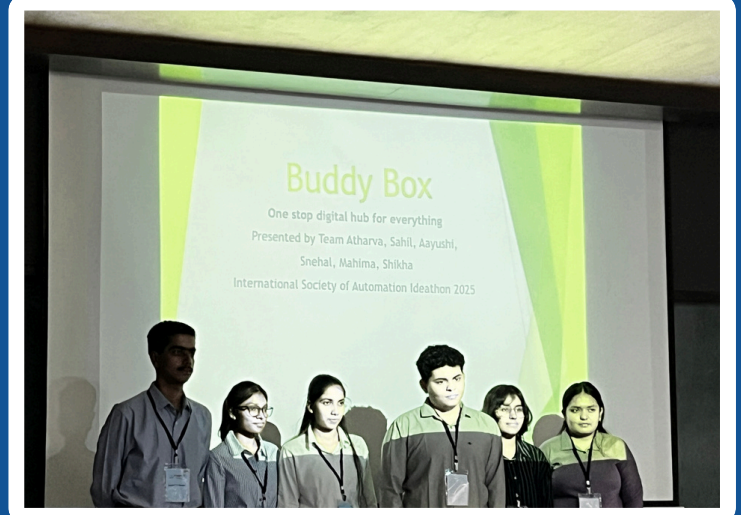
Prof. K. S. Vashishtha has completed NPTEL ONLINE 12 week course (Jan-Apr 2025) on Intellectual Property.



Dr. Kalpesh B. Pathak has attended online webinar on "Practical Techniques for Enhancing Psychological Well-Being" dated 26/06/2025, under the initiative TEERTH organized by Knowledge Consortium of Gujarat, Education Department, Government of Gujarat.



STUDENT ACHIEVEMENTS



Students of IC-semester 4 had participated in “AGAEM-All Gujarat Automation Engineers’ Meet” at Nirma University on 5th April, 2025.



Ayushi Gajjar, Snehal Jethwa, Shikha Gamit, Atharv Gulve, Sahil Ambwani and Chaudhary Mahima. They have won 1st prize in ideathon.

PLACEMENT DETAILS

The Department of Instrumentation and Control Engineering remains committed to nurturing professional excellence and enhancing career readiness among its students. This year's impressive placement results underscore the commitment of our students, as well as the consistent efforts of both the Institute and the department, in equipping them to meet the ever-changing needs of the industry. A significant highlight of the placement season was the Placement Fair held on Thursday, March 20th, 2025, at Government Engineering College, Gandhinagar, organized by the Education Department's Placement Cell. The event witnessed enthusiastic participation from 500 students across 22 educational institutions in the Ahmedabad-Gandhinagar zone. With the presence of numerous branch-specific industries (Precision Mass Pvt. Ltd. , Masibus Automation and Instrumentation Pvt Ltd ,Apara Analyticals, Eurotech Power Controls, Themis Automation Pvt. Ltd. etc.), the fair provided additional opportunities to our students to connect with leading companies and secure placements. This initiative marked a strong step forward in strengthening our academia-industry collaboration.

The department remains committed to strengthening industry-academia collaboration and preparing students to meet the dynamic needs of the global workforce.



COMPANIES PARTICIPATED IN PLACEMENT DRIVES FOR THE BATCH OF 2025

This year's recruitment season witnessed enthusiastic participation from a wide range of esteemed organizations representing sectors such as core engineering, automation, manufacturing, healthcare, and consulting. These companies recognized the technical competence, adaptability, and professional readiness of our students, resulting in numerous placement offers and internship opportunities. The department is proud to share that the highest package offered this year was ₹6.5 LPA, with the average package standing at ₹4.5 LPA, reflecting the strong industry demand for our students' skill sets. The department extends our sincere gratitude to the following companies for their valuable partnership and for supporting the career aspirations of our students:

- Axis Solutions Pvt. Ltd.
- DMC Limited
- Adani Group
- Shree Nidhi Automation Pvt. Ltd.
- Powency Circuits Private Limited
- Soul Electric Ltd.
- Innotech Automation Pvt. Ltd.
- Deepak Group of Companies
- Worley India Pvt. Ltd.
- Larsen & Toubro (L&T)
- Tacklers Engineering Pvt. Ltd.
- VisCon Automation Pvt. Ltd.
- Connsure Solution Private limited
- Circuit Systems India Pvt. Ltd.
- Precision Mass Products Pvt. Ltd.
- Technip Energies
- Allengers Medical Systems Ltd.
- Nexus Automech Private Ltd.
- Nirma Ltd.
- Vardhman Acrylics Ltd.
- SRF Ltd.
- LANXESS India Pvt. Ltd.
- Megitech Automation
- Electrolab (India) Pvt. Ltd.
- Encore Natural Polymers Pvt. Ltd.

Their participation played a crucial role in creating meaningful opportunities for our students and further strengthening the industry-academia interface. We look forward to continuing and expanding these valuable collaborations in the years to come.

SUMMARY OF 12-WEEK PAID INTERNSHIPS - BATCH 2025

As part of the placement drive for the Batch of 2025, several students from the Department of Instrumentation and Control Engineering secured paid internships with leading companies. These internships, spanning 12 weeks, provided valuable industry exposure and hands-on experience in real-world environments.

A total of 9 students were selected for internships across reputed companies such as Innotech Automation Pvt. Ltd., Axis Solutions Pvt. Ltd., MASIBUS Pvt. Ltd., and Soul Electric Pvt. Ltd. Stipends ranged from ₹7,000 to ₹15,000 per month, highlighting the value these organizations place on emerging talent.

Highlights:

- Highest internship stipend: ₹15,000/month (Soul Electric Pvt. Ltd.)
- Average stipend: ₹10,000/month
- Duration: 12 weeks
- Companies involved: SNI Pvt. Ltd., Innotech Automation Pvt. Ltd., Axis Solutions Pvt. Ltd., MASIBUS Pvt. Ltd., Soul Electric Pvt. Ltd.

These internships not only reinforce the technical capabilities of our students but also strengthen our ties with industry, ensuring our graduates are well-prepared for future challenges.

CONGRATULATIONS TO OUR RECENTLY PLACED STUDENTS



Tech Blogs

#1

cybersecurity in control systems

As we all know the revolution of technology, we made is growing day by day we all will be familiar with the SCADA, DCS like systems used in automation industry for reducing human efforts and risks.

With growth of technology, we are being much vulnerable to cyber threats too but when someone say cybersecurity all think they have protected devices malware firewalls and all, here the concern is about the machines like Oil refinery, Water purifying system from oceans or the many other foods and beverages industry which totally rely on automation control panel system like SCADA, DCS, PLC. This system can also be breached by the viruses and can cause the system failure or ransom scam.

What we don't realise is there is a need for a proper OT system (Operational Technology) to develop firewalls, which can detect and block anomaly or unauthorised connections with or without password. Since this system works 24/7 approximately due to that downtime hustle increases.

Some industries in India have very well-developed security system for their control panels but on an average the number still goes to 1 in 5 for that engineers need to be prepared for not only the control system training but to develop security for that system and avoid many threats like spoofing or data tampering or unauthorised access to system and make it less vulnerable.

Tech Blogs #2

Digital twins

What does digital twins mean?

It is just a virtual replica of a physical system. It uses real time data from sensor and simulates, predict and helps optimize the system behaviour.

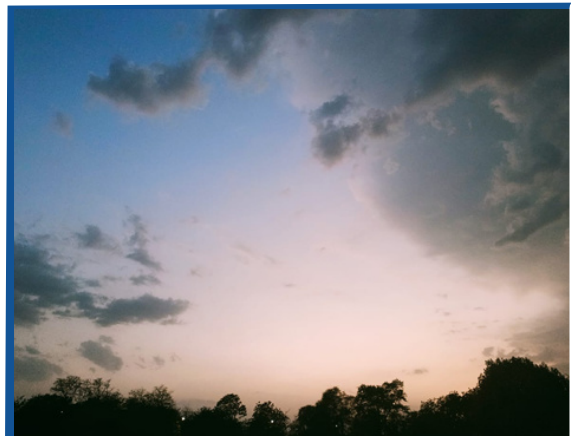
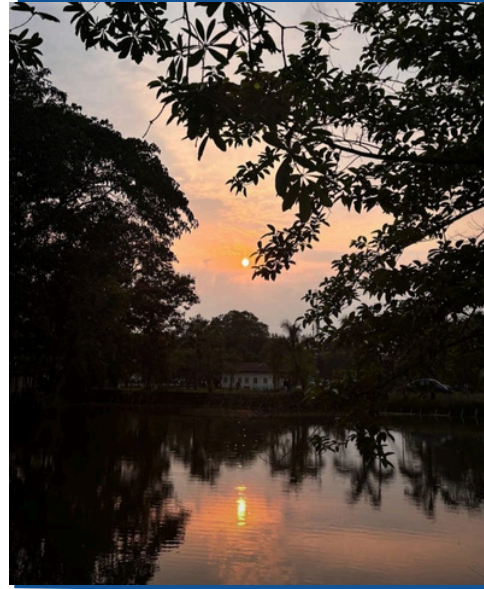
In simple words it's just the clone of physical system in computer which acquire the data in real time and process it through the code which act as the real system and helps to analyse the output time, quantity, improvement, and predict failure at particular point.

The best part of this technology is the AI algorithm, when the data comes from real time PLC, sensors, transmitters and when data is sent through the SCADA/DCS then here comes the digital model instead of a physical system as when this data is sent into the coded system which acts like the real system developed AI algorithm automatically detects the failure and improve the system to optimize its performance the engineer only need to control the parameter according to the requirement which reduces human effort.

This system is widely used in chemical plants to detect temperature, flow, pressure of volatile chemicals which flows inside reactors and pipelines.

Pakshil Patel
5th sem

CREATIVE WALL



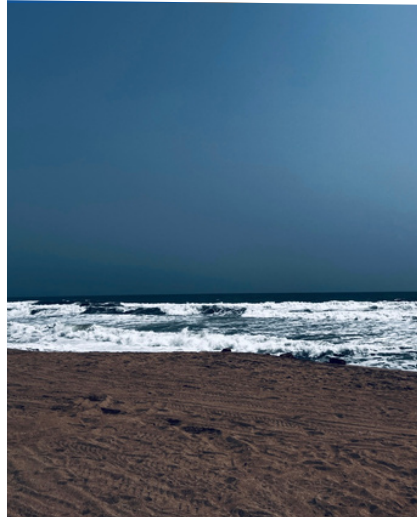
Pratistha Raj
5th sem

CREATIVE WALL

Jagmandir ,Udaipur



Veraval beach



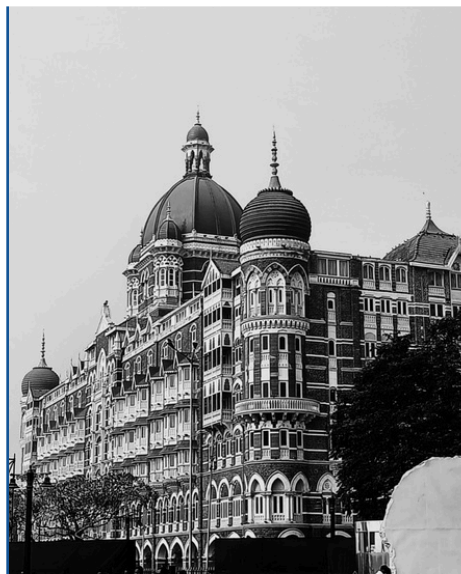
Vintage car collection
by Fateh Vilas



Surat fort

Shikha Gamit
5th sem

CREATIVE WALL



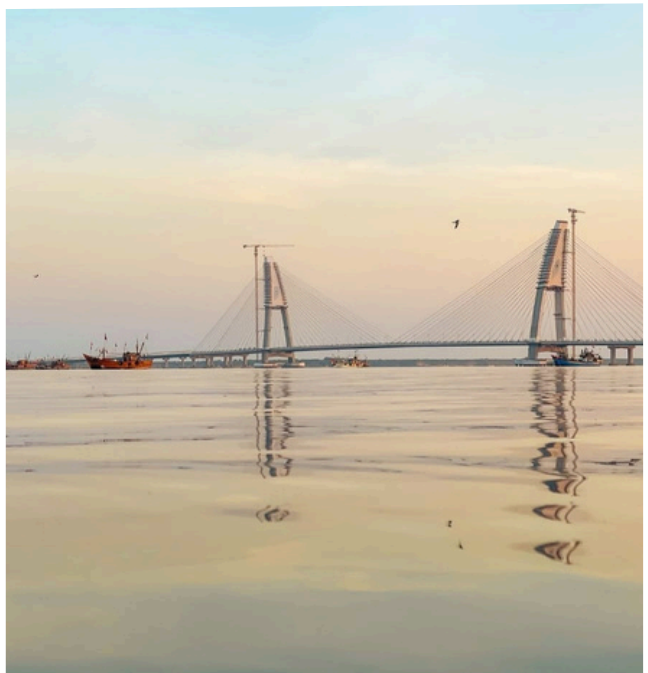
Purvi Pendharkar
5th sem

CREATIVE WALL

Okha port



Okha beach



Sudarshan setu beyt Dwarka

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