



AYDTI NEWSLETTER

“TRUSTED TO DELIVER EXCELLENCE”

MECHANICAL ENGINEERING DEPARTMENT



About Institute:

A. Y. Dadabhai Technical Institute (AYDTI) is a premier polytechnic institute located in Kosamba, Surat District, offering top-notch technical education to students aspiring to excel in engineering and technology. Established under the management of The Suratee Sunni Vohra Muslim Education Society (Reg No: F-14), AYDTI is dedicated to fostering innovation, skill development, and academic excellence.

● About Trust

The Suratee Sunni Vohra Muslim Education Society was established in 1947 by the elders of Vohra community who are visionary, well-wishers and think tankers. During the independence of India, the first priority was education which only can uplift the community.

From 1947, the society has made continuous progress, initially starting with providing monetary help to the poor and needy students in the form of education scholarship, now days the society is trying it's best for the various activities and charities under various heads.

With the great vision of our elders, initiative by JANAB AAZAMBHAI DADABHAI and huge donation in the form of Land at Kosamba (7 Vingha) by DR. G. I. MOTALA and his family the dream became true in the form of A.Y. Dadabhai Technical Institute, Kosamba.

● Institute Vision

To impart globally competitive education to all its students, enabling them to fulfill effectively the technological and socio-economic needs of society in a sustainable manner.

● Institute Mission

- Develop technical human resources by imparting state-of-the-art skill-based training programs tailored to regional and global needs.
- Nurture innovation and entrepreneurship among faculty and students, creating opportunities for meaningful and long-term interaction with academia and industries.
- Ensure effective and transparent governance in all aspects of the institute's functioning to benefit its stakeholders.

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Department Vision

To groom self-esteem and creative human potential by enhancing their technical skills to make them market-ready in the field of mechanical engineering.

Department Mission

- To educate and mentor students to excel as professionals by imparting them core knowledge of mechanical engineering.
- Nurture students with innovation and entrepreneurship skills to develop divergent thinking respond productively to the needs of the industries and society.
- Constantly strive to good governance in technical and soft skill, along with ethics and humanities.

● Why choose Diploma Mechanical Engg. at AYDTI?

A. Y. Dadabhai Technical Institute (AYDTI) offers a Diploma in Mechanical Engineering that stands out for several reasons, making it a strong choice for students aspiring to a career in this field. Here's why you might consider it:

- 1. Strong Academic Foundation and Accreditation**
- 2. Emphasis on Practical, Hands-on Learning**
- 3. Focus on Career Readiness and Placements**
- 4. Holistic Development and Support**
- 5. Institute's Overall Vision and Mission**

In summary, choosing Diploma Mechanical Engineering at A. Y. Dadabhai Technical Institute could be a beneficial decision due to its strong academic foundation, practical learning approach, focus on industry readiness, and a supportive environment for holistic student development.



: Messages :

Mr. M. M. Dalchawal
Director
A. Y. Dadabhai
Technical Institute

It's truly inspiring to see the continued success and vibrancy of the Diploma Mechanical Engineering Department's newsletter. As we unveil another issue, I'm reminded of the incredible talent and dedication that thrives within our institute.

This newsletter continues to be a fantastic platform for sharing the innovative projects, academic achievements, and professional growth of our students and faculty. It's more than just a publication; it's a testament to our collective pursuit of excellence and our commitment to contributing meaningfully to the field of mechanical engineering.

My sincere appreciation goes to everyone involved in making this publication a continued reality. Keep up the excellent work, and I look forward to the stories and insights this new issue brings.

Best regards,



Dr. D V Patel
Principal
A. Y. Dadabhai
Technical Institute

I am delighted to welcome you to another exciting issue of the Diploma Mechanical Engineering Department's newsletter. It's wonderful to see this initiative not only sustain but also grow in its ability to capture the dynamic spirit of our department.

Each edition serves as a powerful reminder of the hard work, creativity, and intellectual curiosity that defines our students and the unwavering guidance provided by our faculty. The stories within these pages showcase the practical application of knowledge and the innovative solutions being developed right here at A. Y. Dadabhai Technical Institute.

Congratulations to the entire team for consistently delivering such a high-quality and engaging publication. I encourage everyone to delve into this new issue and be inspired by the achievements of your peers and mentors.

Warm regards,



Prof. K H Patel
Head of Department
Mechanical Engineering
Department

It gives me immense pleasure to present the latest issue of our Diploma Mechanical Engineering Department newsletter! Building on the success of our previous editions, this issue continues to highlight the diverse talents and significant accomplishments of our students and faculty.

This newsletter has quickly become an invaluable tool for celebrating our milestones, sharing departmental news, and keeping everyone informed about the latest trends and innovations in mechanical engineering. It's a true reflection of the vibrant and collaborative environment we've cultivated.

I want to extend my heartfelt thanks to the editorial team, contributors, and everyone who has supported this endeavor. Your enthusiasm and dedication are what make this newsletter a consistent success. I hope you enjoy reading this issue as much as we enjoyed putting it together.

Best regards,



: Co-Curricular Activities :



1 Day Workshop on Energy Conservation (04-02-2025)



Setback to Comeback (24-04-2025)

: Expert Lectures :



"Fabrication of Pressure Vessels and its Applications"
by Mr. Mohsinkhan A. Pathan.
(15-02-2025)



"Sustainability and ESG Matrix"
by Mr. Dipak Patel
(25-01-2025)

: Industrial Visits :

Students are to bridge the gap between theoretical knowledge and practical application by providing exposure to the real-world working environment. These visits allow students to observe industry operations, understand company procedures, and gain awareness of new technologies & ultimately enhancing their knowledge.



Dormer Tools India Pvt. Ltd.
Ankleshwar-393002
(17-01-2025)



Shree Khedut Sahakari Khand
Udhog Mandli Ltd. Pandvai
(20-01-2025)



Breaks India Limited
G.I.D.C., Jagadia, Di-Bharuch-392110
(15-04-2025)



System Engitech Pvt. Ltd.
G.I.D.C., Panoli, Ankleshwar-394116
(09-04-2025)

“PRAKALP”

The Project Competition

A project competition for students is to foster creativity, innovation, and practical skills by allowing them to showcase their project work. These competitions serve as a platform for students to demonstrate their technical knowledge, problem-solving abilities, and presentation skills. **“PRAKALP” – The projection competition** organised on **26 April 2025**.



: Campus Arranged :

| CAMPUS ARRANGED:- 2024-2025 | | | | | | |
|------------------------------------|---|----------------|--|--------------------------|----------------------|---------|
| SR. NO. | NAME OF INDUSTRY | DATE OF CAMPUS | VENUE | NO. OF APPEARED STUDENTS | NO. STUDENT SELECTED | CAMPUS |
| 1 | SAINT GOBAIN GLASS INDIA LTD. G.I.D.C JHAGADIA | 21/01/2025 | A.Y.DADABHAI TECHNICAL INSTITUTE, KOSAMBA | 11 | 2 | OFFLINE |
| 2 | ANSA DECO GLASS PVT. LTD. KOSAMBA | 06-01-2025 | A.Y.DADABHAI TECHNICAL INSTITUTE, KOSAMBA | 10 | 2 | OFFLINE |
| 3 | AM/NS INDIA, HAZIRA, SURAT | 16/01/2025 | DR. S.& S.S. GHANDHY ENGINEERING COLLEGE AND TECHNOLOGY,SURAT | 14 | 7 | OFFLINE |
| 4 | L & T DEFENCE, HAZIRA,SURAT | 17/02/2025 | L & T DEFENCE, HAZIRA,SURAT | 15 | 6 | OFFLINE |
| 5 | FIRST FRONT SOLAR ENERGY, SURAT | 18/02/2025 | A.Y.DADABHAI TECHNICAL INSTITUTE, KOSAMBA | 7 | 0 | OFFLINE |
| 6 | KATARIA AUTOMOBILES PVT. LTD. KIM | 21/04/2025 | KATARIA AUTOMOBILES PVT. LTD. KOSAMBA | 2 | 2 | OFFLINE |
| 7 | NAVITAS SOLAR PVT. LTD. SISODRA | 23/04/2025 | A.Y.DADABHAI TECHNICAL INSTITUTE, KOSAMBA | 1 | 0 | OFFLINE |

: Result Analysis :

| Summary (Result Analysis) | | | | |
|----------------------------------|----------|------------------|-------------------------|-----------------------|
| EXAM | SEMESTER | RESULT DATE | NO OF STUDENTS APPEARED | NO OF STUDENTS PASSED |
| Winter-2024 | 5th | 27 January 2025 | 29 | 17 |
| | 3rd | 20 February 2025 | 51 | 11 |
| | 1st | 21 March 2025 | 38 | 15 |

“RANBHUMI”*The Sports Event*

A.Y. Dadabhai Technical Institute, Kosamba has organized the **“RANBHUMI-2025”** sports event managed by the students which includes 4 Outdoor Games and 5 indoor games with 331 boys and 64 girls cumulative numbers of participants from **23rd January 2025 to 31st January 2025.**



Article: The Role of Mechanical Engineers in Emerging Technologies

The phrase 'Emerging Technologies' refers to cutting-edge advancements in the early stages of development. Emerging technologies such as artificial intelligence and sustainable energy are reshaping how we live, work and interact with the planet. In this rapidly changing landscape, mechanical engineering plays a crucial role in developing and integrating these exciting innovations into our daily lives.

Mechanical engineering experts have broad skill sets, enabling them to drive progress in many sectors. They analyse complex problems and use engineering principles and tools such as computer-aided design to develop creative solutions: longer-lasting batteries, innovative medical devices and power-producing machines, among many others. They also test emerging technologies and optimize the performance of new tools and mechanisms.

Robotics and Automation:

Mechanical engineers play a pivotal role in the design process and maintenance of robotic systems. They integrate hardware with actuators, sensors and other critical components. One such pursuit involves building robots with sensors that detect light and activate specific behaviours, like adjusting position to avoid sunlight.

Artificial Intelligence and Machine Learning:

In a 2023 article for the Plant Engineering website, product engineer Shreedhar Murthy Hebbur Subbaraju wrote, "In mechanical engineering, the use of artificial intelligence (AI) to automate routine tasks, optimize and streamline processes and improve quality control and testing precision is on the rise ... When used correctly, AI can free engineers from menial work, allowing them to focus on alternative design and other more complex and interesting tasks. The use of AI also opens the door for engineering innovations, such as the development of smart and autonomous systems."

Sustainable Energy:

Solar Energy

Photovoltaic (PV) systems convert sunlight into electricity. Engineers are involved in the design and integration of solar panels, intent on improving their energy conversion efficiency, durability and cost-effectiveness. Further, they:

- Develop advanced tracking systems that maximize the panels' exposure to sunlight.
- Optimize heat dissipation mechanisms to prevent overheating.
- Explore innovative materials for improved solar cell performance.
- Contribute to the development of solar thermal systems that harness solar energy for heating and cooling applications.

Smart Manufacturing and Industry 4.0:

Engineers can combine mechanical components and innovations such as AI to implement smart manufacturing systems. Known as Industry 4.0, this combination automates manufacturing tasks to optimize operations and boost productivity.

Mechanical engineers also streamline manufacturing processes by integrating tools that help plants customize products and detect errors in machinery and software.

These tools include:

- **Data analytics:** The use of statistical methods and software to collect and analyse information, such as customer feedback and machine output, to make informed decisions.
- **The Internet of Things:** Physical objects such as actuators and control systems are linked in the cloud to help with predictive maintenance, error detection and other processes.
- **Sensors:** Smart devices that collect environmental data, such as humidity and temperature, from machines to help staff monitor their performance.

Mr. K.H. Patel
H.O.D. Mech. Dept.

A Y DADABHAI TECHNICAL INSTITUTE, KOSAMBA

“Trusted to Deliver Excellence”

MANAGED BY: THE SURATEE SUNNI VOHRA MUSLIM EDUCATION SOCIETY, SURAT

ADMISSION
OPEN

2025-26

“YOUR PASSION
YOUR PATH”

Diploma
Engineering

📞 9099063201

Kosamba-Mahuvej Road, Behind Old Mariyam Bai
Hospital, Kosamba- 394 120, Dist- Surat, Gujarat.

