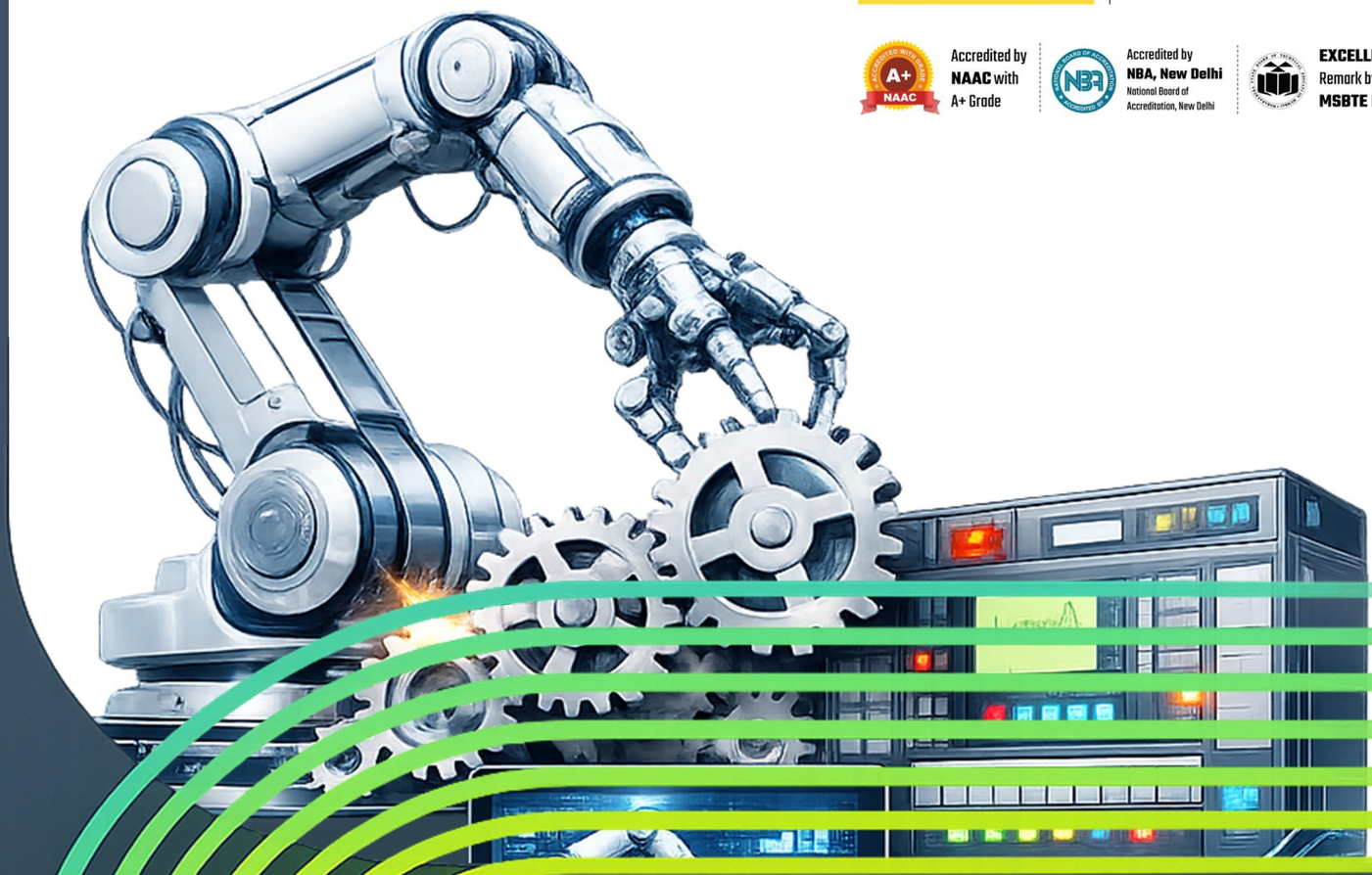
RAJARAMBAPU INSTITUTE OF TECHNOLOGY

DIPLOMA

Accredited by **NAAC** with A+ Grade

Accredited by **NBA, New Delhi** National Board of Accreditation, New Delhi

EXCELLENT Remark by **MSBTE Mumbai**



MECHATRONICLE

Annual Department Newsletter

DEPARTMENT OF MECHATRONICS DIPLOMA

Volume 1
Annual Edition

2025

Inaugural Edition

Department of

MECHATRONICS

Automation & Innovation

Department Achievement – **Excellent Grade by MSBTE**



The Department proudly received an “EXCELLENT” Grade from the Maharashtra State Board of Technical Education (MSBTE), Mumbai during its academic evaluation in 2024-25. This recognition reflects the department’s commitment to quality technical education, well-planned academic activities, modern laboratory facilities, and active participation of students and faculty in academic and co-curricular development.

Achieving an “EXCELLENT grade in the very first year” of evaluation is a remarkable milestone and a matter of great pride for the department. It demonstrates the collective efforts of faculty members, students, and institutional leadership in maintaining high academic standards and continuous improvement in teaching–learning practices. This accomplishment motivates the department to continue striving for academic excellence, innovation, and industry-relevant education in the coming years.

Message from the **Head of Department**



Pravin A. Desai
Head,
Dept of **Mechatronics**

It gives me immense pleasure to share the progress and achievements of our department through this newsletter. Our department has always been committed to providing quality technical education and creating an environment that encourages innovation, creativity, and academic excellence.

I am proud to mention that our department has been awarded an “EXCELLENT” Grade by the Maharashtra State Board of Technical Education (MSBTE), Mumbai, which is a significant achievement, especially in the very first year of evaluation. This recognition reflects the collective efforts, dedication, and hard work of our faculty members, students, and institutional leadership.

The department is equipped with state-of-the-art laboratories that support practical learning and help students develop strong technical skills. Our team of experienced and well-qualified faculty members continuously strives to provide effective teaching, mentorship, and guidance to students, ensuring their overall academic and professional growth.

With a strong vision for quality education, we are committed to becoming one of the best departments in our segment by promoting innovation, industry-oriented learning, and continuous improvement in the teaching–learning process.

I congratulate the faculty and students for their dedication and encourage everyone to continue working together towards achieving greater milestones in the future.

Vision and Mission of **Institute**

Vision

- Vision of the Institute To be a recognized polytechnic institute committed to excellence in academics, knowledge creation and delivery to develop socially responsible professionals.

Mission

- To impart technical knowledge and skills along with ethical and social values.
- To strengthen association with industry and alumni to make students technically and socially responsible citizens.
- To promote students for higher studies in reputed institutes.
- To ensure employability, encourage entrepreneurship and promote lifelong learning.

Vision and Mission of **Mechatronics Dept**

Vision

- To serve as a pioneering transdisciplinary department dedicated to transforming students into technocrats to cater the needs of Industry and Society.

Mission

- To develop employable technocrats with transdisciplinary skills and ethical and social values.
- To strengthen the relationship with stakeholders for mutual benefits like training, internship, and expert sessions for students.
- To encourage students to pursue higher studies in recognized institutes.
- To inculcate entrepreneurial attitude and values with lifelong learning.

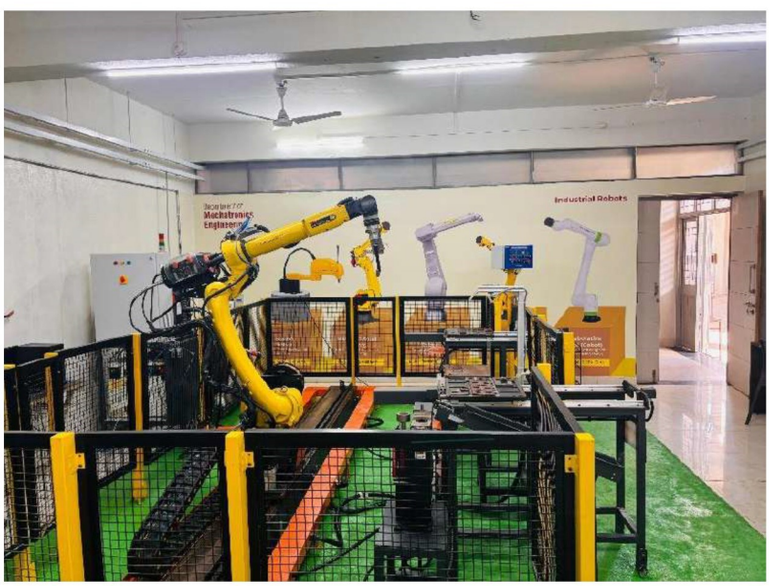
Department **Strengths**

- Project-based and hands-on learning approach to strengthen practical skills
- Experienced and dedicated faculty team guiding students in academics and innovation
- Encouragement for students to participate in technical competitions, workshops, and seminars
- Emphasis on industry-relevant skills and modern technological trends

State-of-the-Art **Laboratories**



The department is equipped with modern and well-established laboratories that provide students with strong practical exposure and hands-on learning opportunities. These laboratories are designed to support the teaching–learning process and help students understand engineering concepts through experimentation and practical application. The labs are equipped with advanced instruments, automation training setups, and specialized experimental facilities that enable students to perform experiments, develop projects, and strengthen their technical skills. Through these state-of-the-art laboratory facilities, the department promotes a learning-by-doing approach, helping students build analytical thinking, problem-solving abilities, and industry-relevant technical competencies.



Industrial Robotics Lab



Industrial Automation Lab

Students' Sports **Achievements**

Students of the Mechatronics department achieved notable success in sports. Vinay S. Patil won the Zonal Kabaddi Tournament and secured Runner-up at the Interzonal level, Atharv K. Gaikwad won the Zonal Cricket Tournament and participated in the Interzonal competition, while Darshan A. Patil won the 85 kg Weightlifting category and represented the institute at the Interzonal Tournament. Additionally, more than 20 students participated in the RIT Annual Sports Tournament, actively competing in various team and individual games.



Athrav K. Gaikwad – Cricket Tournament



Darshan A. Patil – Weight lifting



Vinay S. Patil – Kabaddi Tournament

Fresher's **Party** 2025



The department organized a Fresher's Party in October 2025 to warmly welcome the newly admitted students. The event included fun activities and interactions that helped freshers connect with new friends and faculty, creating a friendly and supportive environment.

Anti-Drug **Awareness Rally**





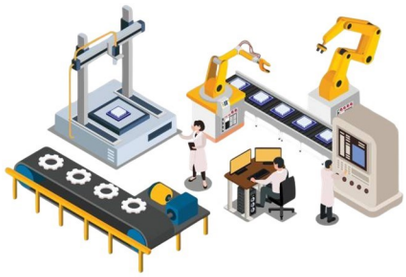
On 25 March 2026, Our students participated in an Anti-Drug Awareness Rally in Islampur to spread awareness about the harmful effects of drug abuse. The rally encouraged society, especially youth, to adopt a healthy and drug-free lifestyle.

Faculty **Achievements**

- Prof. R. S. Sargar was invited as an expert speaker on Outcome Based Education (OBE) and NBA SAR Preparation at three polytechnic and pharmacy institutes.
- Prof. P. A. Desai was invited as an expert lecturer on Automobile Engine Cooling and Maintenance Systems at Ashokrao Mane Polytechnic, Wathar.
- Prof. P. A. Desai and Prof. R. S. Sargar were appointed as subject experts for curriculum development for the 5th and 6th Semester K-Scheme under the MSBTE Mumbai
- Prof. P. N. Fakir has registered for Ph.D. program in Mechanical Engineering at Shivaji University, marking an important step towards academic research and professional development.

Articles & **Insights**

Automation: Transforming Modern Manufacturing





Rajendra S. Sargar
Lecturer,
Dept of **Mechatronics**

Industrial automation has become one of the most important developments in modern manufacturing. It refers to the use of technologies such as sensors, control systems, robotics, and computers to operate machines and processes with minimal human intervention. Automation has transformed traditional manufacturing by improving productivity, accuracy, safety, and efficiency.

Earlier manufacturing systems relied heavily on manual operations where workers performed repetitive tasks like assembling parts, operating machines, and inspecting products. These processes were time-consuming and often prone to human error. With industrial automation, many of these tasks are now performed automatically by machines and intelligent control systems, increasing production speed and improving product quality. One of the key technologies used in industrial automation is the Programmable Logic Controller (PLC). PLCs control machines and industrial processes by receiving signals from sensors, processing them according to programmed logic, and sending commands to actuators such as motors and valves. This allows industries to automate complex operations efficiently.

Industrial robots are also widely used in tasks such as welding, painting, assembly, material handling, and packaging. These robots perform repetitive tasks with high precision and consistency, reducing errors and improving product quality. In industries like automobile manufacturing, robotic systems have become an essential part of production lines. Automation also improves workplace safety. Many industrial environments involve high temperatures, heavy machinery, or hazardous chemicals. Automated systems can perform these risky tasks, reducing accidents and allowing workers to focus on monitoring and maintaining the systems.

Modern manufacturing is now moving toward smart factories, where automation is integrated with digital technologies and real-time monitoring systems. This concept, known as Industry 4.0, allows machines to communicate and make decisions based on data, improving production planning and efficiency.

In conclusion, industrial automation is transforming manufacturing by making production faster, safer, and more efficient. As industries adopt advanced automation technologies, the demand for skilled professionals in automation and mechatronics will continue to grow.

Articles & **Insights**

Automation in Modern Industry





Samruddhi R. Khabale
Student (FY), Dept of **Mechatronics**

Automation is becoming very important in modern industries. It means using machines, robots, and computers to perform tasks that were earlier done by humans. Automation helps industries to increase production, improve quality, and reduce human effort.

Many factories today use automated machines and robotic systems to assemble products, check quality, and handle materials. These systems work faster and more accurately than manual work. As a result, industries can produce more products in less time.

Automation also improves safety because dangerous or repetitive tasks can be handled by machines instead of workers. Engineers and technicians play an important role in designing, maintaining, and improving these automated systems.

In the future, automation will continue to grow with technologies like artificial intelligence and smart manufacturing. Learning about automation will help students prepare for modern industrial careers.

Role of Automation in Smart Manufacturing





Vishwajit V. Jadhav
Student (FY), Dept of **Mechatronics**

Automation plays a key role in today's smart manufacturing industries. It involves the use of sensors, controllers, robots, and computer systems to operate machines automatically. Automation helps industries perform work more efficiently and with better accuracy.

In many industries such as automobile, electronics, and packaging, automated machines are used for assembling parts, welding, painting, and inspection. These machines can work continuously and reduce human errors in production.

Automation also helps in saving time and improving productivity. Workers can focus on monitoring and controlling machines rather than doing repetitive tasks. This makes the manufacturing process more reliable and efficient.

For students studying engineering and technology, understanding automation is very important. It opens many career opportunities in fields such as robotics, industrial automation, and smart manufacturing.

Diploma in **Mechatronics**

Start here → Step into tomorrow's engineering

Mechatronics Engineering is an interdisciplinary field that combines mechanical engineering, electronics, control systems, and automation. The diploma program focuses on developing practical skills and technical knowledge required to work with modern automated systems used in manufacturing and smart industries.
The program prepares students to understand, design, operate, and maintain automated machines and industrial systems used in modern production environments.

What You Learn in **Mechatronics**

- Basics of Mechanical and Electronics Engineering
- Industrial Automation and Control Systems
- Programmable Logic Controllers (PLC) and Robotics
- Pneumatics and Hydraulics Systems
- Sensors, Actuators, and Instrumentation
- CAD/CAM and Manufacturing Processes
- Industrial Maintenance and Troubleshooting
- Hands-on training through modern laboratories and projects

Career **Opportunities**

Diploma in Mechatronics **The Future of Engineering**

- •Fusion of Mechanical, Electronics, and Computer Systems
- •Learn Automation, Robotics, and Smart Manufacturing
- •Foundation for B.Tech / BE in Mechanical, Mechatronics, Robotics, AI, or Automation
- •Pathway to higher studies: UG, PG, and Research in interdisciplinary fields

Your Career in **Industry Starts Here**

- •Jobs in Automobile, Aerospace, Robotics, Automation, Manufacturing
- •Roles: Design Engineer, Maintenance Engineer, Automation Specialist
- •Work with Cutting-edge Industry 4.0 technologies
- •High demand in both India & Abroad

Innovation to Enterprise **Be Your Own Boss**

- •Start ventures in Robotics, Automation, IoT, Drones, CNC services
- •Opportunities in Startups, MSMEs, and Tech Consulting
- •Develop Products & Solutions for Smart Industry
- •Supported by Government schemes & incubation centers

Editorial **Board**

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Prof. P. A. Desai – Head of Department

Faculty Coordinator
Prof. P. N. Fakir, Lecturer, Mechatronics Dept

Student Editor
Harsh P. Malekar & Anushka J. Dange

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