RATHINAM

RATHINAM TECHNICAL CAMPUS (AUTONOMOUS)

NBA NATIONAL BOARD OF ACCREDITATION FOR CSE, IT & ECE DEPARTMENTS

MECHICON

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Mechanical Engineering

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Rathinam Technical Campus, Coimbatore

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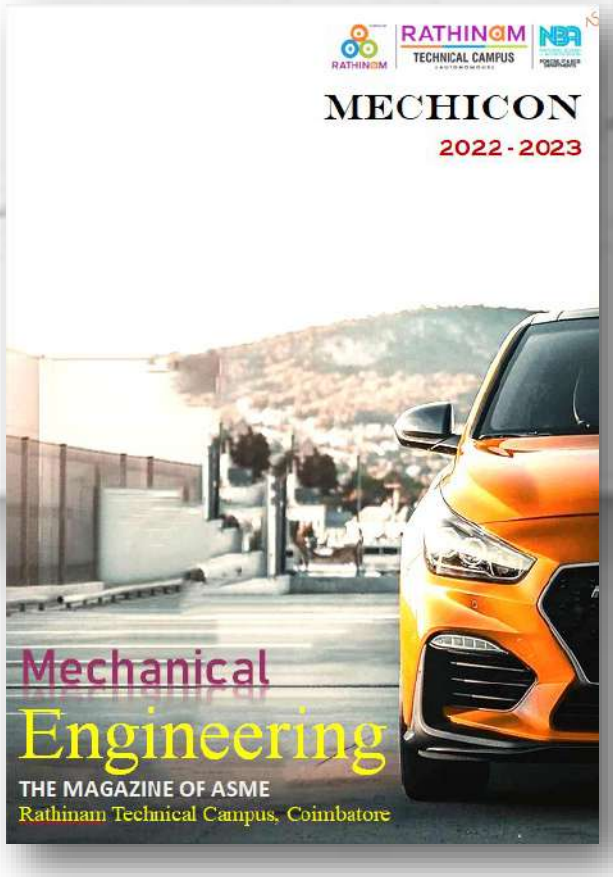

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Dr. Madan A. Sendhil

Chairman, Rathinam Group of Institutions

Welcome to Rathinam Technical Campus, where we empower students to become the leaders of tomorrow. We believe that education is not just about learning facts and figures, but about shaping individuals who can make a positive impact on the world. Our approach to education is unique, as we focus not only on academic excellence but also on fostering creativity, innovation, and a sense of social responsibility.

Our modernized facilities, experienced faculty, and innovative teaching methods enable students to gain the knowledge and skills they need to excel in their chosen fields. We encourage students to think beyond the classroom and participate in various co-curricular and extra-curricular activities that help them develop their personalities and discover their true potential.

At RTC, we are committed to providing our students with a holistic education that prepares them for the challenges and opportunities of the 21st century. We aim to create a community of lifelong learners who are dedicated to making a positive difference in the world. Join us and unlock your potential today!

Dr. Madan A. Sendhil

VISION OF THE INSTITUTE

To be a leading and path-breaking Institution in multi-disciplinary education, research, and industry-related development for meeting the challenges of a New India.

MISSION OF THE INSTITUTE

M1. Provide quality Engineering Education, Foster Research and Development, inculcate innovation in Engineering and Technology through state-of-the-art infrastructure.

M2. Nurture young men and women capable of assuming leadership roles in society for the betterment of the country.

M3. Collaborate with industry, government organizations, and society for curriculum alignment and focused, relevant outreach activities.

Dr. B. Nagaraj M.E., Ph.D., MIEEE, MSEEE, MIIOT, MIPSES, MIEEC.,

Principal, Rathinam Technical Campus

As we embark on a journey of higher education, we must remember that it is not just about textbooks and assignments, but also about excelling in every aspect of life. The world around us is in a constant state of transformation, and it is imperative that we equip ourselves with the necessary skills and knowledge to adapt and thrive in this rapidly changing landscape.

At our institution, we are committed to providing our students with a holistic education that not only hones their technical abilities but also instills in them the values and principles necessary to succeed as compassionate and ethical professionals. Our unique approach, rooted in the principles of Design Thinking, empowers our students to think critically, creatively, and empathetically, ensuring that they are not just proficient in their chosen fields but also equipped to make a positive impact on society.

We believe that education is not just a means to an end but a lifelong pursuit, and we encourage our students to keep their passion for learning alive by embracing the concept of "JUST LOVE YOURSELF". By prioritizing personal growth, celebrating life's moments, and nurturing our conscience, we can create a better future for ourselves and those around us. Let us come together and embrace this journey of self-discovery and transformation.

Dr. B. Nagaraj

MECHANICAL ENGINEERING

VISION OF THE DEPARTMENT

To emerge as a leading influence in Mechanical Engineering education, research, and advancements driven by industry, making a substantial contribution to the transformative growth of the Nation.

MISSION OF THE DEPARTMENT

M1 : Deliver top-tier Mechanical Engineering education, promote a culture of research and innovation, and leverage state-of-the-art infrastructure to stay at the forefront of Engineering and Technology.

M2 : Nurture future leaders in Mechanical Engineering, empowering them to take on pivotal roles in society and contribute significantly to the nation's advancement.

M3 : Foster dynamic collaborations with industry, government bodies, and society, ensuring curriculum alignment with evolving industry needs and engaging in targeted outreach activities to bridge the gap between academia and industry for mutual growth..

Editorial

Dr. M. Rajasankar M.E., PhD.,MISTE.,

Head of the Department, Mechanical Engineering

The department of Mechanical Engineering aims to provide a strong foundation in the fundamentals of Mechanical Engineering. The basic knowledge of analysis as well as the knowledge of the principles on which Mechanical Engineering is based taught through the theory and laboratory classes by a strong team of Well Qualified and Experienced Teaching Staff and the Technical Support Staff. The department also strives to instill the engineering temper and the spirit of enquiry in students. It encourages the students to understand and therefore apply the laws through the laboratory classes. The Department has well equipped laboratories such as Basic Workshop Lab, Machines Shop Lab, Computer Aided Machine Drawing Lab, Mechanical Measurements Lab, Material Testing Lab, Heat Transfer Lab, Energy Conversion Lab, Fluid Mechanics & Machines Lab, Heat & Mass Transfer Lab, Design Lab, Computer Aided Analysis Lab to perform the practical's to understand the concepts.

The department provides its students with a number of opportunities to develop their overall personality by participating in the various Curricular, Co-Curricular and Cultural activities held throughout the year .The students with the directions from faculty members of the department take very active part in organizing these activities.

Dr. M. Rajasankar

Program Educational Objectives (PEOs)

PEO NO.	PROGRAM EDUCATIONAL OBJECTIVES STATEMENTS
PEO 01	Graduates will have professional & technical career in mechanical and inter disciplinary domains providing innovative and sustainable solutions using modern tools.
PEO 02	Graduates will have effective communication, leadership, team building, problem solving, decision making and creative skills.
PEO 03	Graduates will practice ethical responsibilities towards their peers, employers, and society

Program Outcomes (POs)

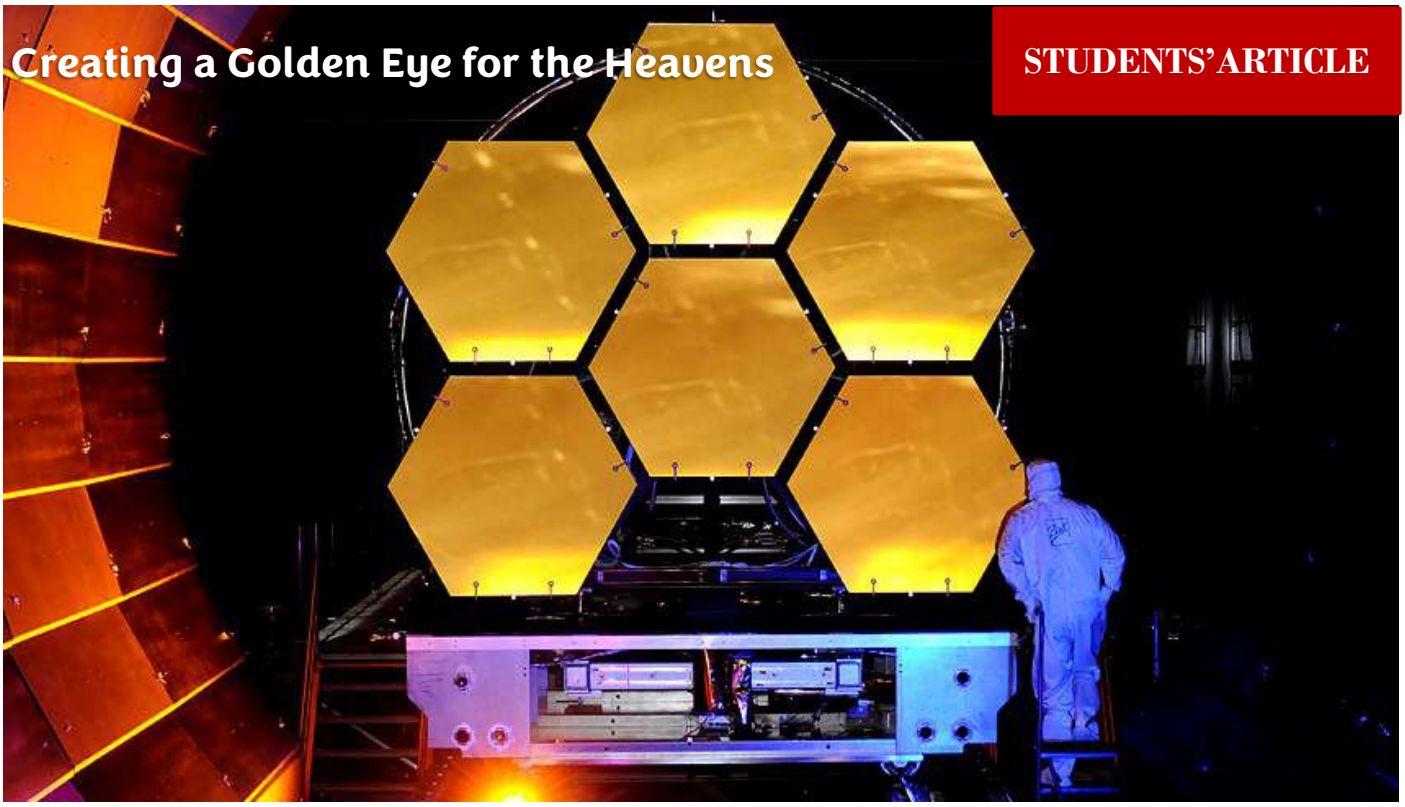
S.No	Description
PO1	**Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	**Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	**Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	**Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	**Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO6	**The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	**Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	**Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings**.**
PO10	**Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	**Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	**Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life -long learning in the broadest context of technological change.

Program Specific Outcome (PSOs)

PSO NO.	PROGRAM SPECIFIC OUTCOMES (PSOs)
PSO 01	Application of Mechanical Engineering concepts to solve Engineering problems using modern tools and techniques.
PSO 02	Identify and recommend alternative Engineering methods and materials for sustainable development.

Creating a Golden Eye for the Heavens

STUDENTS' ARTICLE



December 25, was anything from typical. Not for the thousands of NASA engineers and scientists who had been slaving away almost nonstop to be ready for the launch of the agency's highly anticipated and advanced new space telescope, the James Webb Space Telescope.

Engineers designed Webb's substantial size to ensure its ability to gather as much light from the universe as possible. A telescope's sensitivity, or the amount of detail it can see, directly relates to the mirror size; the larger the mirror, the more light it collects. By comparison, the Hubble Space Telescope's mirror measured 7.8 feet across, while Webb's primary collecting mirror is nearly three times that at 21.7 feet. Webb's primary mirror features even more light-collecting surface than Hubble's 50 square feet, totaling 270 square feet. To transport the massive mirror into space, and to ensure it would even fit within a rocket, required a modular approach. Webb's mirror is comprised of 18 hexagonal-shaped segments, each 4.3 feet in diameter and capable of folding and unfolding much like the wings of a dinner table.

Once gathered, light from the primary mirror is reflected onto Webb's smaller secondary mirror, which is less than 2.5 feet in diameter. The secondary mirror then reflects light into multiple cameras that send images and data down to Earth through an antenna at the bottom of the telescope.

MR. ABRAHAM GEORGE JAISON

IV MECHANICAL

Filling Up the Engine

The diesel engine, a cornerstone of modern industry, faces environmental challenges due to the unsustainable greenhouse gas impact of its traditional fuels. While diesel engines have significantly improved global transportation and energy access, their carbon emissions remain a concern. ClearFlame Engine Technologies, founded in 2016, has developed a solution to decouple diesel engines from petroleum-derived fuels. By modifying existing diesel engines, ClearFlame enables them to operate on a variety of cleaner-burning fuels, such as ethanol, methanol, and ammonia, without compromising performance or efficiency. This innovation addresses the environmental impact of diesel fuel and opens the door to a more sustainable future.

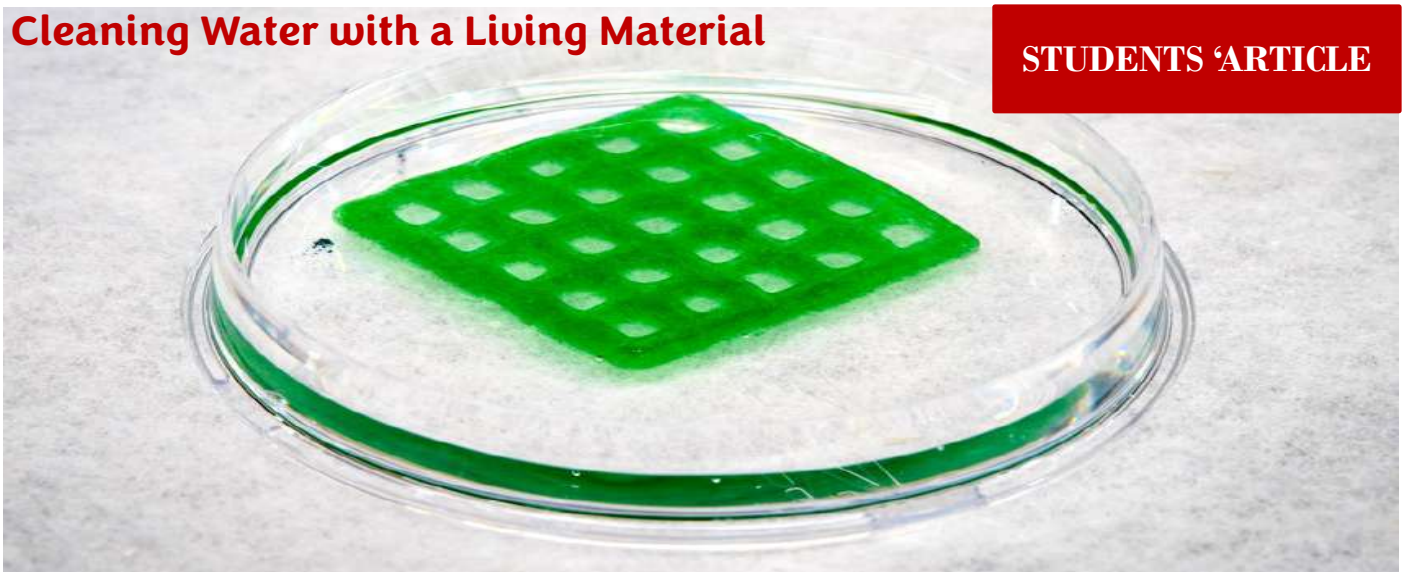
The key to ClearFlame's technology lies in adapting the diesel engine to be fuel-agnostic. This involves changes to the fuel system, surface treatments, and the addition of an engine control unit. By redirecting the hot compressed air produced by the engine's compressor and utilizing it to increase intake temperatures, ClearFlame achieves rapid auto-ignition for a wide range of alternative fuels. The resulting engine not only performs similarly to a traditional diesel engine but also significantly reduces emissions, particularly in terms of soot. This shift towards cleaner-burning fuels offers a practical and scalable solution for heavy-duty applications, such as trucks and heavy equipment. ClearFlame's approach fosters a "both/and" attitude, acknowledging the importance of various alternative fuels alongside electrification. The flexibility of their technology allows for retrofitting existing diesel vehicles and provides an adaptable solution to meet evolving fuel preferences.

The company has successfully retrofitted diesel trucks to run on alcohol fuel, demonstrating the feasibility and economic viability of their approach. As the focus on decarbonization intensifies, ClearFlame's fuel-agnostic engine offers a promising avenue to reduce the environmental impact of diesel engines without compromising their essential functions.

Mr. KARTHIK S
III Mechanical

Cleaning Water with a Living Material

STUDENTS 'ARTICLE



Parameters	Description
Objective of Research	Researchers at the University of California, San Diego, are developing an "engineered living material" for sustainable removal of organic pollutants from water.
Material Composition	The material is a seaweed-based polymer combined with genetically engineered bacteria. - Alginate, a seaweed-derived polymer, is hydrated to create a gel. -Cyanobacteria are mixed with the gel and loaded into a 3D printer.
Functionality	The engineered living material acts as a filter. - Genetically engineered bacteria produce enzymes that transform organic pollutants into harmless molecules. - The material dissipates after completing its decontamination
Synthetic Biology Integration	Combines a synthetic material (polymer/plastic) with engineered living systems. - Utilizes synthetic biology to program microorganisms embedded in the material.
Research Team Collaboration	A multidisciplinary team of engineers, biologists, and materials scientists at the UC San Diego Materials Research Science and Engineering Center collaborated on the project.
Material Production Process	Alginate gel mixed with cyanobacteria is 3D printed into a filter. - Researchers experimented with structures and found a grid-like structure most effective at keeping bacteria alive and enhancing decontamination efficiency.
Motivation for Water Decontamination	Water decontamination was chosen due to the expertise in nanoengineering and biology at UC San Diego. - Project considered "low-hanging fruit" with components that are safe and easy to work with. - Enzymatic biology pathways for decontamination are straightforward.
Research Leadership	Jon Pokorski, a professor of nanoengineering, is a co-leader of the project. - Collaboration involves outstanding biologists specializing in cyanobacteria.
Innovation in Waste Removal	Introduces a novel approach using engineered living materials. - Goes beyond the capabilities of traditional plastics. - Aims to sustainably remove pollutants from water.

MR. RAJARAM G, III MECHANICAL

STUDENTS' ARTICLE

Building the Future of Engineering: The Role of Mechanical Engineers in Emerging Technology

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. Experts in this field use their knowledge of mechanical systems to design and build machines, engines and other tools.[1]

According to the United States Bureau of Labor Statistics (BLS), the demand for mechanical engineers will increase by 10% between 2022 and 2032. This article examines how mechanical engineers contribute to developing robotics, smart manufacturing and other emerging technologies.

The Role of Mechanical Engineers in Emerging Technologies

Mechanical engineering experts have broad skill sets, enabling them to drive progress in many sectors. They analyze 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 are crucial in designing and maintaining robotic systems, integrating hardware, sensors, and actuators.

One application involves creating robots with light-detecting sensors to perform specific tasks, such as adjusting position in response to sunlight.

The demand for robotics has surged, particularly during the COVID-19 pandemic. Hotels and hospitals have employed sanitation robots for room disinfection. One notable model uses an electrostatically charged nozzle to effectively clean surfaces by spraying charged chemicals. With a six-axis arm, it reaches areas considered unreachable by other robots, disinfecting high-touch surfaces. Additionally, the growing need for contact-free delivery has led care facilities and delivery services to utilize robots for transporting items to patients, medical professionals, and the public.

Artificial Intelligence and Machine Learning

STUDENTS' ARTICLE

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.

AI and machine learning (ML)—that is, training computers to learn from data to make predictions or decisions without being specifically programmed—have become deeply entwined with mechanical engineering. For example:

- Using data from sensors, machines and other sources, predictive maintenance of mechanical equipment uses machine learning algorithms to detect and predict potential failures in mechanical systems before they occur
- AI and ML are crucial in the operation of autonomous vehicles (self-driving cars), helping them to navigate the environment while detecting obstacles, recognizing traffic signals, anticipating possible hazards and reducing fuel use by taking the most efficient routes

In this age of big data, the racing world can look to AI, ML and mechanical engineering to analyze data from past races in order to improve vehicle designs and automate production of new model.

Sustainable Energy

It seems nearly impossible to overstate the importance of mechanical engineers in the development of sustainable energy. Consider their tremendous contributions in these areas:[8]
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

Geothermal Energy

Geothermal energy systems use the Earth's natural heat for electricity generation and heating. Mechanical engineers design and optimize geothermal heat pumps, power plants and other heat extraction technologies. They improve the efficiency of heat exchangers, drilling techniques and fluid circulation systems, which helps ensure optimal energy transfer and system performance.

Hydroelectric Power

Mechanical engineers design efficient hydroelectric power turbines and generators that convert the kinetic energy of flowing water into electricity. They work to make the turbines efficient and reliable and to minimize their environmental impacts.

MR. BHARATH KUMAR.A.N,
IV MECHANICAL

Smart Manufacturing and Industry 4.0

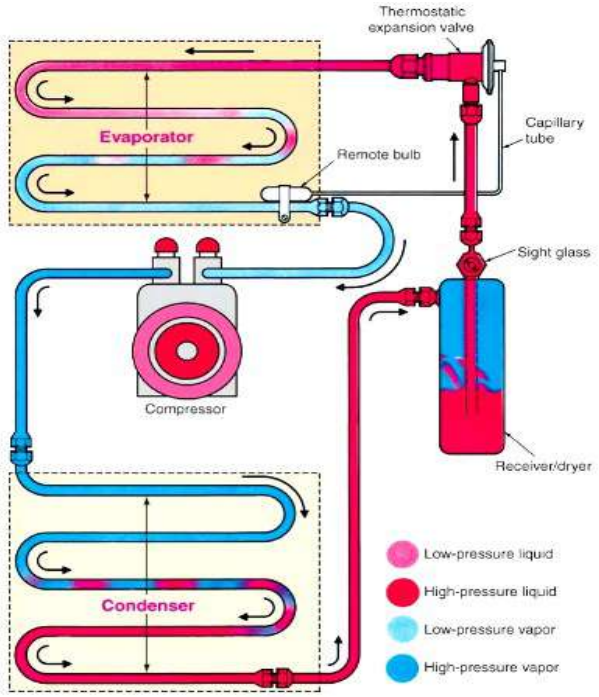
Engineers can combine mechanical components and innovations such as AI to implement smart manufacturing systems. Known as Industry 4.0, this combination automates manufacturing tasks to optimize operations and boost productivity.[10]

Mechanical engineers also streamline manufacturing processes by integrating tools that help plants customize products and detect errors in machinery and software. These tools include:[11]

- **Data analytics:** The use of statistical methods and software to collect and analyze 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

Automobile Air Conditioning

- The air-conditioning system in a car works by manipulating refrigerant between a liquid and a gaseous state. As the refrigerant changes states, it absorbs heat and humidity from the vehicle and allows the system to give off cool, dry air.
- To change the refrigerant between a liquid and a gaseous state, the air-conditioning system works to control pressure and temperature.

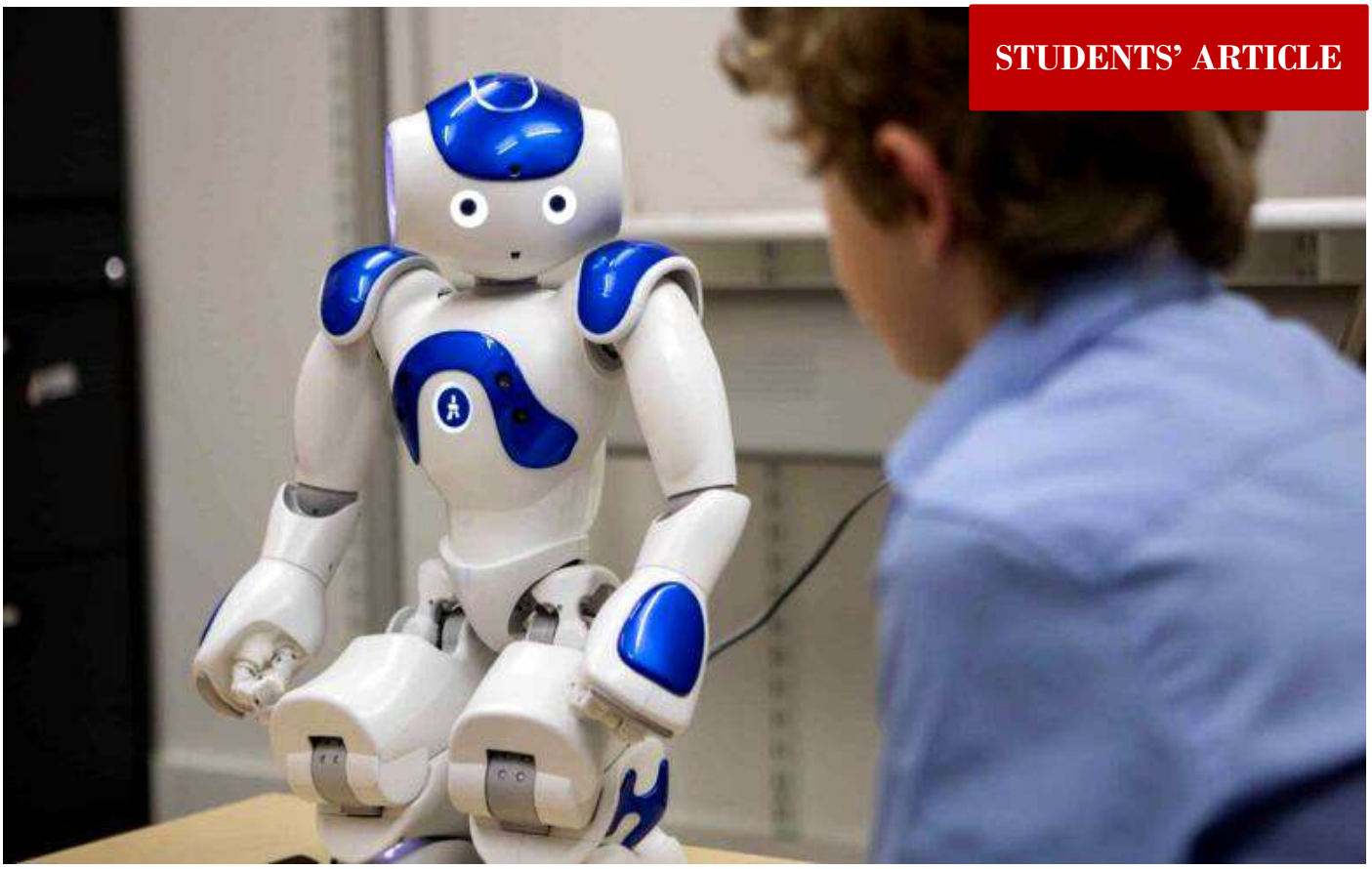


AC System Refrigerants

In the past, automotive air condition systems used R-12 as the refrigerant. R-12 (aka Freon) is a very effective CFC-based (chlorofluorocarbon) refrigerant that is not flammable and not poisonous to humans. During the late 1980s, scientists discovered that widespread usage of R-12 was damaging the earth's ozone layer.

Manufacturers transitioned to R-134a in the mid-1990s. R-134a is an HFC-based (hydrofluorocarbon) refrigerant that does not have the ozone destroying properties of R-12/Freon. The newest refrigerant is R-1234yf, which produces fewer greenhouse gases. Europe requires the use of R-1234yf, and it will likely be the new standard in the United States in the near future.

MR. ARAVINDARAJ C, III MECHANICAL



Education in mechanical engineering will change as automation and robotics

The field of mechanical engineering became more established as a means of creating, managing, and maintaining equipment throughout the first two industrial revolutions. In general, its core field of knowledge expanded to encompass manufacturing, materials, mechanics, thermodynamics, fluid mechanics, and machine design. It is both the forerunner and the recipient of other engineering forms. They will keep enriching it by coming up with, designing, constructing, and operating increasingly advanced gear with increased complexity, flexibility, connectedness, and automation.

In comparison to prior industrial revolutions, the fourth industrial revolution is currently significantly increasing the multidisciplinary nature of this corpus of knowledge. These revolution's core technologies include AI and ML, IoT, Robots and Cobots, Big Data, 5G, Augmented and Virtual Reality, and 3D and 4D printing, among others.

Globally and in India, the demand for automation and robotics positions is rising. Indian manufacturers in industrial equipment, machinery, and cars are encouraged to tap into the global demand for robotics. This shift creates substantial opportunities in developing automation tools. Engineers, crucial for Industry 4.0, need diverse competencies beyond technical skills, seen in certain Indian engineering institutes adapting to the changing landscape by incorporating diverse fusions into their courses.

MR. VAISSHAK.A

IV MECHANICAL

STUDENTS' ARTICLE

Importance of Nanotechnology in Mechanical Engineering

Key Points	Description
Enhancing Material Properties	- Nanotechnology enhances material properties at the nanoscale, offering high strength and durability. - B. Tech Mechanical Engineering program at Bennett University focuses on integrating nanotechnology for robust materials.
Design and Development of Miniaturised Devices	- Nanotechnology enables the creation of compact, high-performance miniaturized devices. - B. Tech in Mechanical Engineering covers nanotechnology applications in MEMS and NEMS with diverse real-world applications.
Improving Energy Efficiency	- Nanotechnology contributes to enhancing energy efficiency by developing lightweight, high-strength nanocomposites. - B. Tech Mechanical Engineering explores sustainable and energy-efficient systems using nanotechnology.
Enhancing Surface Properties	- Nanotechnology allows modification of surface properties, crucial for mechanical systems' performance. - Nanocoatings are extensively used to reduce friction and wear, improving durability and efficiency.
Development of Self-Healing Materials	- Recent studies in nanotechnology lead to the development of self-healing materials. - B. Tech Mechanical Engineering program discusses the integration of nanotechnology for creating materials that can self-repair.
Multidisciplinary Approach in Nanotechnology Integration	- Successful integration of nanotechnology in mechanical engineering requires collaboration among engineers, physicists, chemists, and materials scientists. - B. Tech program emphasizes a multidisciplinary approach for effective nanotechnology integration.

Historic Petrol and Diesel Fuel Prices of 20 Years in India.

Month Year	Petrol / Litre	Diesel / Litre	Fuel Price Difference / Litre
April-03	Rs 33.49	Rs 22.12	Rs 11.37
June-04	Rs 35.71	Rs 22.74	Rs 12.97
April-05	Rs 37.99	Rs 28.22	Rs 9.77
Apr-06	Rs 43.5	Rs 30.45	Rs 13.05
Apr-07	Rs 43	Rs 30.25	Rs 12.75
Apr-08	Rs 45.5	Rs 31.76	Rs 13.74
Apr-09	Rs 44.7	Rs 30.86	Rs 13.84
Apr-10	Rs 48	Rs 38.1	Rs 9.9
Apr-11	Rs 58.5	Rs 37.75	Rs 20.75
Apr-12	Rs 65.6	Rs 40.91	Rs 24.69
Apr-13	Rs 66.09	Rs 48.63	Rs 17.46
Apr-14	Rs 72.26	Rs 55.48	Rs 16.78
Apr-15	Rs 60.49	Rs 49.71	Rs 10.78
Apr-16	Rs 59.68	Rs 48.33	Rs 11.35
Jul-16	Rs 62.51	Rs 54.28	Rs 8.23
July-17	Rs 63.09	Rs 53.33	Rs 9.76
July-18	Rs 75.55	Rs 67.38	Rs 8.17
July-19	Rs 72.96	Rs 66.69	Rs 6.27
June-20	Rs 79.76	Rs 79.88	Diesel Fuel for First Time Exceed price of Petrol
July-21	Rs 99.86	Rs 89.36	Rs 10.5 / Litre
April-22	Rs 105.41	Rs 96.67	Rs 8.74 / Litre
May-22	Rs 96.72	Rs 89.62	Rs 7.1 / Litre
Jan-23	Rs 96.72	Rs 89.62	Rs 7.1 / Litre

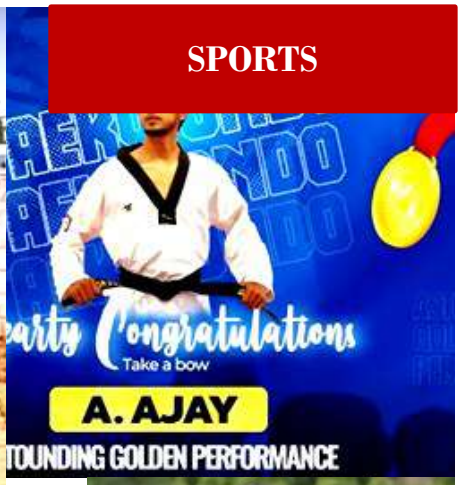
MR. SANTHOSH B
II MECHANICAL

CULTURAL

*Mr. **Gladwin Johndurai,** a third-year mechanical engineering student at Rathinam Technical Campus in Coimbatore, is a dynamic individual with a profound passion for music. Beyond his academic pursuits, Gladwin is deeply engaged in the world of rhythm and melody, expressing his enthusiasm through the clap box and guitar. His musical talents extend beyond personal enjoyment, as he actively participates in various performances and activities in schools and colleges.*

Known for his vibrant and engaging performances, Gladwin captivates audiences with his skillful renditions on the clap box and guitar. His dedication to music goes beyond the stage, as he strives to create a harmonious blend of entertainment and artistic expression. Gladwin's involvement in both academic and extracurricular spheres reflects a holistic approach to his college experience.

As a fourth-year mechanical engineering student, Gladwin balances his technical education with a commitment to fostering a vibrant and creative community. Whether orchestrating musical performances or contributing to the academic environment, Gladwin Johndurai exemplifies the spirit of a well-rounded and passionate individual, leaving an indelible mark on the Rathinam Technical Campus community in Coimbatore.



I am A. Ajay, a second-year Mechanical Engineering student at Rathinam Technical Campus in Coimbatore. My enthusiasm lies in the world of taekwondo, a martial art renowned for its intricate leg techniques and precision hand movements, particularly in delivering impactful stomach punches. Over the years, I've garnered achievements across various levels, earning recognition in district, state, national, divisional, and even international competitions. In my school days, I actively participated in five national-level events, laying the foundation for my journey in taekwondo.

During my college tenure, I proudly clinched a gold medal in the fiercely competitive west zone taekwondo inter-state competition, showcasing my dedication and skill. Presently holding a prestigious DAN position, I've successfully completed Koryo in taekwondo, a testament to my commitment to mastering this art. The journey has not only shaped me physically but has also instilled discipline and perseverance, attributes that extend beyond the arena of taekwondo, influencing my academic pursuits and personal growth."

SPORTS

"I am ***Jeff Corwin J,*** *currently studying in my second year of Mechanical Engineering at Rathinam Technical Campus in Coimbatore. Since the 6th grade, I have been actively involved in powerlifting and weightlifting. Over the past eight years, I have dedicated myself to weightlifting, overcoming challenges such as knee injuries, shoulder problems, back pain, and various other issues. Despite these obstacles, I persevered, never giving up on my passion and consistently practicing.*

I have achieved a significant milestone by successfully lifting up to 210 kg in deadlifts. Throughout my journey, I have participated in 15 state-level events, emerging victorious in each one. Additionally, I have competed in two national-level competitions, earning prizes, and secured two medals in the South India National championship. Currently, I am fervently preparing for international-level events, setting my sights beyond the 210 kg mark."

*I am **Ramkumar V,** currently in my third year of Mechanical Engineering at Rathinam Technical Campus, Coimbatore. I have been part of the NCC for the last three years and hold the position of Cadet Under Officer (CUO), where I am responsible for overseeing cadets. I successfully went through the selection camp at Thal Sainik Camp (TSC).*

Throughout my time at Rathinam College, I have actively participated in various events, including blood donation drives and SDG camps. I also had the privilege of participating in the world's first aid Guinness program. In my capacity as a member of the NCC, I had the honor of welcoming the Group Commander (GC) from the NCC Headquarters in Singanallur, Coimbatore.

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