

Yaantrika Newsletter

Department of Mechanical Engineering

Vision and Mission of the Institute

Vision

- To be one of the premier institutes of Engineering and Management Education in the country.

Mission

- To provide Engineering and Management Education that meets the needs of human resources in the country.
- To develop leadership qualities, team spirit and concern for environment in students.

Objectives

- To achieve educational goals as stated in the vision through mission statements which depicts the distinctive characteristics of the institution.
- To make teaching-learning process an enjoyable pursuit for the students and teachers.

Vision and Mission of the Department

Vision

- To be premier department for education in Mechanical Engineering in the state of Karnataka, moulding students into professional engineers.

Mission

- To provide teaching-learning process that prepares engineers to meet the needs of industry and higher learning.
- To provide environment for self-learning to meet the challenges of changing technology and inculcate team spirit and leadership qualities to succeed in professional career.
- To instil professional ethics and concern for environment for the benefit of society.

Program Educational Objectives (PEOs)

After 2/3 years of graduation, students will have the ability to:

- Apply principles of Mathematics, Science and Mechanical engineering to design mechanical systems and applications in industry.
- Apply knowledge of Mechanical Engineering to solve problems of social relevance with concern for environment.
- Work with professional ethics as individuals and as team members in multi disciplinary projects demonstrating creativity and leadership.
- Pursue higher education and research in advanced technology.



This issue of Yaantrika is dedicated to

Shri Malur Ramaswamy Srinivasan

*Shri Malur Ramasamy Srinivasan is an Indian nuclear scientist and Mechanical Engineer. His field of specialization was gas turbine technology. He played a key role in the development of India's nuclear power programme and the development of the PHWR. He has been awarded **Padma Shri** in 1984, **Padma Bhushan** in 1990 and **Padma Vibhushan** in 2015.*

What's inside.....

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Vidyayamruthamashnutha

B. N. M. Institute of Technology

An Autonomous Institution under VTU

Approved by AICTE, Accredited as grade A institution by NAAC

All eligible branches - CSE, ECE, EEE, ISE & Mech.Engg. are Accredited by NBA for academic years 2018-19 to 2021-22 & valid upto 30.06.2025

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Editor's Desk

Dear Readers,

Welcome to the December 2023 Issue of 'Yaantrika'

The team of Yaantrika, wishes to give our readers an intellectually stimulating newsletter. Our endeavour is to reflect the values and quality of our esteemed institution.

The present edition of the Newsletter focuses on the activities and achievements of the Department over the past six months along with some interesting articles from our students. We appreciate all those students who have contributed their articles for this issue. It is their attribute of willingness, to put in efforts, share knowledge, concerns and special insights that have made this issue possible. Knowledge is a treasure that appreciates when we share and depreciates when stagnant. So, never stop sharing knowledge and helping others.

Wishing the readers, a happy perusal of the newsletter "Yaantrika".

Editorial Team

'The Department of Mechanical Engineering has been accredited by the National Board of Accreditation (NBA) for the Academic Years 2018 - 19 to 2021 - 22 and valid upto 30.06.2025'

ABOUT MECHANICAL ENGINEERING DEPARTMENT

The Department of Mechanical Engineering was started in the year 2011 with an intake of sixty students. All the laboratories have been established with state-of-the-art equipment. The Department has a team of dedicated and well qualified faculty members, with a blend of rich industrial and academic experience. The faculty members with Master's and Doctorate degree, having specialization in Machine Design, Thermal and Manufacturing Engineering are an asset to the institution and to the students. The Department has an R&D Centre recognized by Visvesvaraya Technological University, Belagavi.

The Department has Toyota Centre of Excellence and 3D Printing Center of Excellence. Toyota COE is a state-of-the-art Centre of Excellence established in association with Toyota Kirloskar Motor, with the distinction of being the first in the country to have such a Centre of Excellence by Toyota company. It has cut sections of Innova and Fortuner Car Engine Systems, wherein the running of the engine can be actually seen. The Center of Excellence also has facilities for students to experience hands-on assembly and dismantling of all the engine parts. 3D Printing COE has been established to provide students with hands-on experience and training in the rapidly evolving field of additive manufacturing. Equipped with advanced 3D printers and scanners, the Centre enables students to explore the diverse applications of 3D printing technology and develop innovative solutions across various industries.

The Department has MoU's with Toyota Kirloskar Motors Pvt. Ltd., Mahatma Gandhi Institute for Renewable Energy and Development (MIREED), Fenfe Metallurgicals, Spectrum Tool Engineers Pvt. Ltd., Maltown Electric Pvt. Ltd. and Kareer Banana Consultants LLP for sustained activities in the area of automobile engineering, renewable energy, metallurgical engineering, manufacturing and electrical engineering and career guidance respectively. The Department has initiated a dedicated Industry-Institute-Interaction Cell (IIIC) to encourage budding entrepreneurs with expert guidance and to provide internship opportunities for students.

The Department also offers Lathe Operator' course (Automotive Sector) under Pradhan Mantri Kaushal Vikas Yojana (PMKVY) an initiative by Automotive Skill Development Council, Ministry of Skill Development and Entrepreneurship, Government of India.

Technical Articles

Thermal Chambers: Advancements and Applications

What is a Thermal Chamber ? The one used to replicate the temperatures and conditions of the outside world is called a thermal chamber. Climatic chambers and environmental chambers are other names for it. A thermal chamber is a type of thermal control device designed to simulate the types of conditions that a product may experience during its life. These cutting-edge devices can simulate a variety of hazards, use cases, and environmental factors to evaluate a product's longevity. By accelerating the aging process, temperature chambers aid in predicting a product's lifespan and performance under simulated usage scenarios. Businesses can test a product's performance in challenging conditions before releasing it by using temperature chambers. This feature helps to avoid releasing products that might not meet consumer expectations due to unforeseen unfavourable conditions.

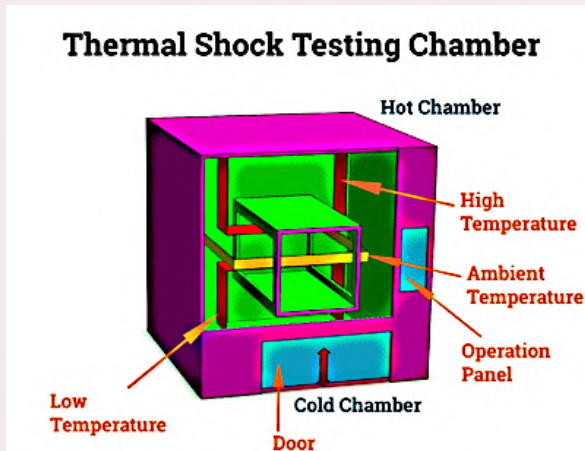


Figure: Components of a typical thermal chamber



Figure: Thermal shock testing equipment

Significant advancements have been made in the field of thermal chambers in recent years. Modern thermal chambers have improved in accuracy, energy economy, and temperature cycling speed. Significant developments include: **Accurate Temperature Control:** New technologies provide precise temperature control with variations as small as $\pm 0.1^{\circ}\text{C}$. **Faster Cycling:** Advanced thermal chambers improve testing efficiency by allowing for quick temperature changes in a matter of minutes. **Eco-Friendly Designs:** Better insulating materials and energy-efficient technologies are reducing the environmental impact of thermal chambers.

How does Thermal Chambers work ? In temperature chambers, sometimes referred to as environmental test chambers, forced air convection is used to conduct thermal experiments. In many ways, they work very much like an oven. Their main requirement is air flow, which is supplied by a fan and motor that rotate the air within the test chamber. In thermal testing, three primary methods are employed: shock, cycling, and burn-in. The goal of all these techniques is to assess a component's resistance to high temperatures. A refrigeration unit controls the temperature, while an electric heater heats the chamber. The following is a summary of how a thermal works.

A. Primitive Elements **Test Chamber:** The internal area used to hold test samples. It is made of materials that are resistant to intense heat and can keep the environment under control. **System for Controlling Temperature:** **Heating Elements:** Gas burners or electric heaters are commonly used to raise the chamber's temperature. **Cooling System:** Systems that lower the temperature inside the chamber, such as liquid nitrogen systems or refrigeration units. **System for controlling humidity (if applicable):** **Humidifiers:** To raise humidity, add moisture to the surrounding air. **Dehumidifiers:** Take moisture out of the air to lower humidity. These processes are controlled by humidity sensors and controllers. **The system of air circulation:** To ensure consistent temperature and humidity distribution throughout the chamber, fans or blowers are used to move air. **Controllers and Sensors:** **Temperature sensors:** Determine the chamber's internal temperature. **Sensors for humidity:** Determine the relative humidity. **Controllers:** To keep the desired conditions, adjust the humidity, heating, and cooling systems. **System of Data Acquisition:** Keeps track of test results and ambient parameters for reporting and analysis.

B. Principles of Operation **Temperature Control Heating Method:** **Electric heaters:** Use electrical resistance to generate heat. They are often placed strategically or incorporated into the chamber walls to warm the air. **Gas burners:** Because they burn gas to generate heat, these are perfect for high-temperature chambers. **The chilling procedure** **Refrigeration systems** use refrigerants, which extract heat from the chamber and release it outdoors. There may be cycles of vapor-compression or absorption refrigeration. **Liquid nitrogen** absorbs and evaporates heat to rapidly cool the chamber. **Control Mechanism:** Based on information from temperature sensors, temperature controllers adjust the

heating or cooling systems to maintain the setpoint temperature. PID Controllers: To accurately control temperature, these devices dynamically change the rates of heating and cooling.

C. Control of Humidity Humidification : Steam generators: These gadgets produce steam, which is then fed into the chamber to increase its relative humidity. Water Mist Systems: In order to raise the humidity levels, the chamber is sprayed with tiny water droplets. Dehumidification In order to produce condensation and release moisture from the chamber, condensation systems lower the air temperature. Desiccant Systems: Use absorbent materials to remove moisture from the air. Control Mechanism: To decide how much moisture to add to or take out of the system, humidity controllers use data from humidity sensors. Air circulation fans or blowers: Distribute air throughout the chamber to keep the temperature and humidity levels uniform. This prevents hot or cold spots from forming and maintains a constant temperature in the test area. Distribution: Proper air circulation ensures that test samples are equally exposed to the controlled environment, which is necessary for accurate and reliable test results.

D. Simulating the Environment: Users can set the necessary temperature, humidity, and test duration using the chamber's control interface. Some chambers can simulate other factors, such as height or vibration. Testing: While the chamber runs under the preprogrammed settings, test samples are left out in the open for the specified period of time. Monitoring: Continuous monitoring ensures that the chamber remains within the specified parameters during the test. Data acquisition systems record temperature, humidity, and other pertinent factors for analysis.

Applications

Aerospace Testing: Tests spacecraft components by simulating space conditions. Automotive Testing: Assesses how well a car performs in severe weather. Electronics Testing: Verifies that electronic devices are reliable when subjected to heat stress. Material Science: Examines how humidity and temperature affect materials.

Benefits: Quality Assurance: Confirms that goods fulfill requirements for dependability and performance. Research and Development: Offers information for product design and improvement. Regulatory Compliance: Guarantees that rules and industry standards are followed.

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Amruth Gowda
VII Semester

Motorsport Technology in Cars

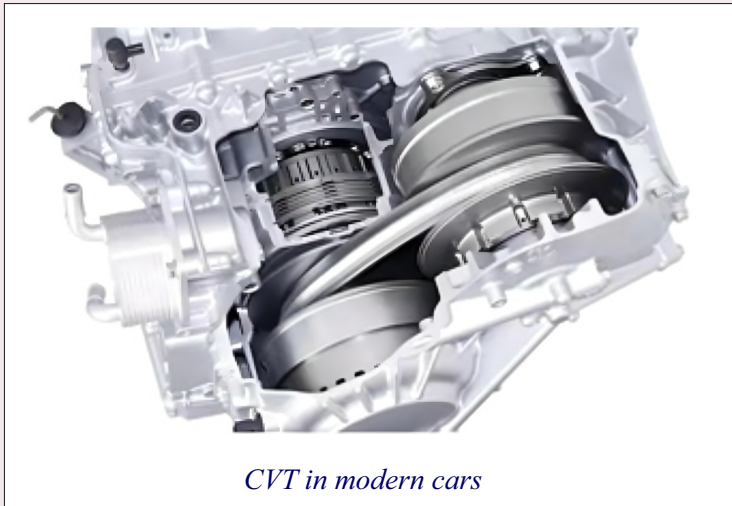


Figure: Carbon fiber floor in Formula-1

Companies have historically invested heavily in automobiles and advanced technology to break records, but as a result, we started to realize that not only our entertainment would profit from unrestricted R&D; in fact, almost every system in your car investigated these possibilities.

Modern Technology in motorsport : Performance and safety peaks have reached all-time highs as a result of modern technology breakthroughs in motorsport, which have fundamentally changed the racing paradigm. New technology has been incorporated into modern race cars to enhance many areas of their operation. Complex models for enhanced aerodynamics, for example, might have equally striking outcomes, enabling a vehicle to maintain stability and grip at higher speeds. Materials like carbon fiber composites, which are as strong and rigid as they need to be but only make up a small portion of the mass, will reduce the overall weight of the vehicle. Telemetry systems, which are platforms for gathering data in a variety of motorsports, including Formula-1, can give drivers crucial information in real time and be

Motorsport technology is known for being a breeding ground for intense innovation that unexpectedly permeates all part of our daily life. Racing-specific high-tech materials and electronics are frequently incorporated into consumer goods. Race cars are largely responsible for the advancements in safety features, fuel efficiency, and lightweight materials that we take for granted in modern automobiles. In this piece, we look at how the pursuit of efficiency and speed in motorsports leads to the development of new technology that improve our daily lives.



CVT in modern cars

just as helpful to engineers on trackside monitors. Similar to the shift toward more environmentally friendly motorsport practices, hybrid power units and cutting-edge engine technologies work together to balance great performance with better fuel economy.

Under the most severe circumstances, driver assistance systems like adaptive braking and electronic stability control offer further safety and security. Teams can build strategies and test scenarios using virtual reality and simulators when on-track running is not available. In addition to breaking down boundaries in motorsport, these technological improvements also lead to innovations for everyday technology and developments that can be applied to consumer cars.

Implementation of Motorsport Technology

Semi-automated gearbox: On the other hand, the semi-automatic gearbox, which debuted in 1984 alongside the Porsche-powered 962, was a significant advancement in automotive technology. Its two-plate dog-clutch technology allowed its shotgun five-speed transmission to smoothly upshift, making it the grandfather of Formula 1 paddle shifters. A sentimentalist might argue that it fully utilized both ends of the spectrum, bridging the gap between convenient automatic and raw manual. Flappy paddles are now a standard feature that purchasers are willing to pay more for, even though they didn't completely replace traditional gears as some had projected in the early 2000s. High-performance sports cars like Porsches and more commonplace ones like the Honda Jazz have both used these systems.

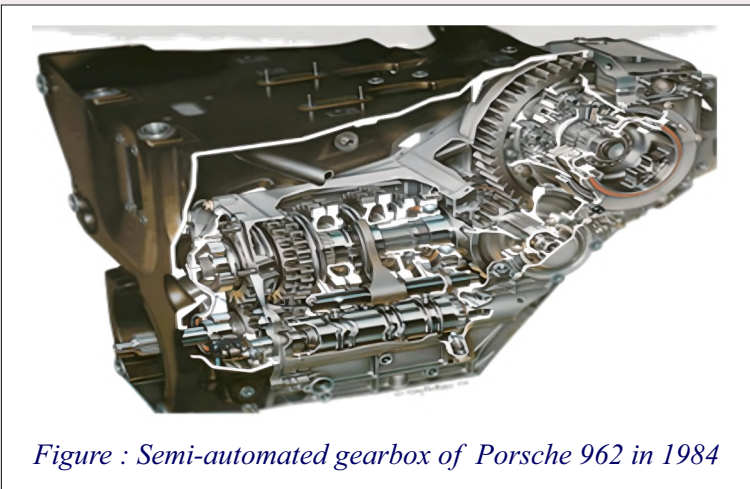


Figure : Semi-automated gearbox of Porsche 962 in 1984

By fusing cutting-edge technology with practical home conveniences, they appeal to the tuned-in driver, offering improved control and a more engaging drive. In the broader context of motorsport advancements influencing daily consumer cars, the semi-automatic gearbox is a microcosm that offers accessibility and delight to both casual drivers and performance-driven enthusiasts.



Figure: Manual transmission for a four-wheel-drive vehicle (Ford Ranger) viewed from the engine side

Disc Brakes: When disc brakes were introduced into automobile production in the 1980s, they represented a significant advancement in braking capability that had never been attained previously, first demonstrated by Porsche at the 24 Hours of Le Mans. This technology made it possible for cars to stop faster without running the risk of a steering lock, which was an important advancement for both performance and safety. Disc brakes were widely used in automobiles

and were hailed as one of the great innovations. The development of brake technology is far from finished today. Ceramic disc braking technology is becoming more and more common in contemporary road cars. Compared to conventional steel rotors, the advantages include low weight and great heat resistance. Better braking performance and longer lifespan are now provided by these ceramic discs, demonstrating that even high-end motorsport technologies are now found in everyday automobiles. Formula 1 has elevated this to a whole new level, using carbon fiber as an example. Nowadays, most Formula One vehicles use carbon



Figure: Disc Brakes



Figure: Mirror in a modern-day car



Figure: Rear view mirror used in Indianapolis 500 in 1911

fiber brake systems, which are lighter and perform better under the demanding racing circumstances. The evolution of brake technology demonstrates how advancements in motorsport continue to influence consumer automobile technology to improve overall performance and safety.

Rear-view mirrors: Even though they are a standard element of modern cars, rearview mirrors have a fascinating history that dates back to the early 1900s. Ray Harroun started the action. During the inaugural Indianapolis 500 in 1911, Harroun installed a rearview mirror on the front of his vehicle. The fact that Harroun could race using a rearview mirror without a second driver to keep an eye on traffic accidents behind him gave his rivals a big edge. Because of this space-saving choice, Harroun was able to eliminate the requirement for an additional member of his racing crew. In addition, he had the first rearview mirror in a car, which tapered off after he won the Indianapolis 500. This is a method of utilizing an exceptional racing technology standard that led to the introduction of rearview mirrors in transport cars. Many people remember Harroun's Marmon Wasp as the invention of the rearview mirror and a racing trophy that is now on display at the Indianapolis Motor Speedway Museum. Beginning in the early 20th century, a straightforward technology with a significant benefit emerged, such as increasingly sophisticated mirrors with cameras or blind-spot detection. Harroun's rearview mirror's inception is evidence of practical ongoing advancements in automobile driving and a long-lasting influence on advances from 1911 racing features to the late 20th century.

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Chandan V Gopal
V Semester

Application of 3D Printing Technology in Construction Sector

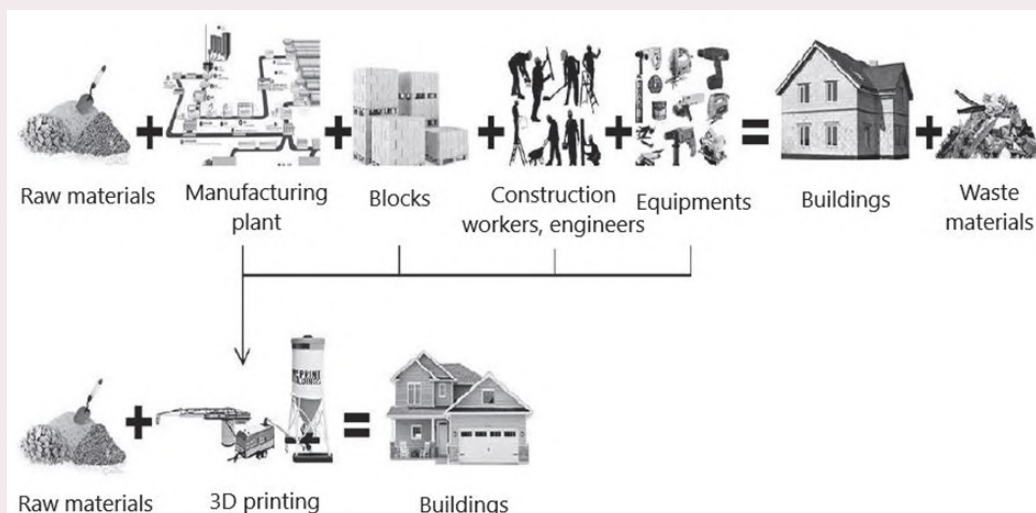


Figure : Comparison of 3D printing automated building production with the traditional method

Introduction: There is growing pressure on the building industry to lessen its environmental impact. Innovative solutions are required since traditional construction processes contribute significantly to waste and energy consumption. In order to overcome these obstacles, additive manufacturing, also known as 3D printing, has emerged as a viable technology. 3D printing opens us new options for cutting waste and improving sustainability in construction by building structures layer by layer from digital models.

Materials Used: Concrete: Specific 3D-printable concrete blends are made to be long-lasting and structurally sound. For instance, the "ICON Vulcan II" printer in Austin, Texas, constructs reasonably priced, environmentally friendly dwellings using a special concrete mix. Recycled Plastics: Building components are made from recycled plastic materials. The Netherlands' "MX3D" has demonstrated how waste materials may be recycled for construction by creating a 3D-printed bridge out of recovered stainless steel. Bio-Based Composites: For sustainability, materials from natural sources, such as agricultural waste, are being investigated. Bio-composites have been used to create a variety of building features and incorporate agricultural waste into the construction of Dubai's "The Sustainable City."

Techniques: Extrusion-Based Printing: The most popular method involves extruding materials through a nozzle to create layers; this was used in the "House Zero" project by "New Story" and "ICON" to build a 3D-printed home in Austin, Texas; Binder Jetting: In this technique, a binder is sprayed onto layers of powdered material to create solid structures; the research team at ETH Zurich used binder jetting to create complex architectural elements for their projects; Powder Bed Fusion: Layers of powdered material are fused using heat or lasers; "D-Shape" has printed large-scale architectural components, such as sculptures and building facades.

A 3D printed house built by IIT-madras startup in April 2021 is shown in the picture. The house has a built up area of 600 Sq. Ft, has a bedroom, a hall and a kitchen. The entire house was designed using software and printed using concrete 3D printing technology.

Pros : Decreased Material Waste: By only depositing material where it is needed, 3D printing reduces waste. The French "Yhnova Project" demonstrated how 3D printing can significantly reduce waste in the construction of homes. Sustainable Materials: Using recycled and bio-based materials reduces the need for conventional, resource-intensive building materials. "The Sustainable City" in Dubai is a prime example of incorporating bio-composites into construction. Enhanced Efficiency: Precise fabrication and faster construction times result in a lower overall environmental impact. "ICON's" 3D-printed homes in Austin were finished in a fraction of the time required for traditional construction. Design Flexibility: Enables complex and innovative architectural designs. "MX3D's" 3D-printed bridge in Amsterdam is an example of the potential for intricate, custom designs.

Impact on the Global Economy : There are various financial ramifications to using 3D printing in the building industry. Cost Savings: Lower project costs might result from less material waste and quicker completion. However, these savings can be short-term offset by initial training and technology investments. The goal of projects like ICON's inexpensive homes is to demonstrate long-term financial advantages. Employment Creation: The use of 3D printing technology opens up new career paths in equipment maintenance, design, and material creation. The expansion of businesses such as MX3D underscores the possibility of new

positions and skills. Market Disruption: As 3D printing spreads, it may cause supply chains and conventional building techniques to change. Large-scale projects by the D-Shape company provide as illustrations of how conventional methods would need to change. Sustainable Growth: 3D printing supports the global movement towards greener building by encouraging sustainable practices. Dubai's Sustainable City project highlights the possibility of sustainable growth while also being in line with international environmental standards.

Conclusion: In the building sector, 3D printing is a revolutionary development that provides answers to persistent problems with sustainability and waste. 3D printing opens the door for a more ecologically conscious industry by lowering material waste, utilizing sustainable resources, and improving building efficiency. Although there are still obstacles

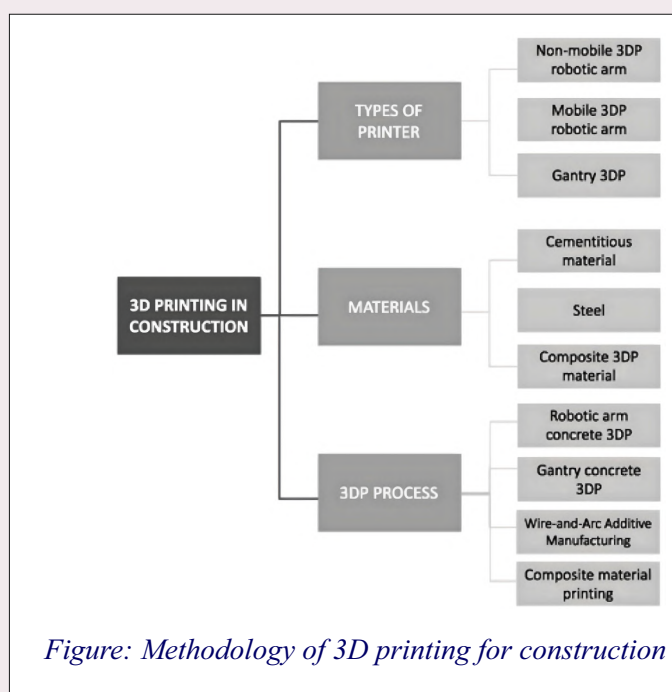




Figure: ICON VULCAN 2 – Used for 3D printing houses using concrete extrusion

to overcome, such as material restrictions and legal restrictions, there is no denying that the technology has the ability to completely transform construction methods. With its potential to improve both the economy and the environment, 3D printing is playing a more and bigger role in shaping a sustainable future for the building industry.



Figure: The concrete mould printed



A 3D printed house at IIT-Madras, Chennai, Tamil Nadu, India (Source: TVASTA)

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Faculty Achievements

Mr. Harish A, was awarded Ph.D. by Visveswaraya Technological University, Belagavi, Karnataka, India, on August 01, 2023.

Dr. B S Anil Kumar, Dr. Harish A, Mr. Vishnu P and Smt. Shwethashree B, have completed Faculty Development Program on 'Cocoon- Nurturing the hidden potential to unleash it' organized at BNMIT, from 7th to 11th August 2023.

Dr. D Shivalingappa has completed an NPTEL Course on 'Design Thinking –A Primer', in August 2023.

Dr. D Shivalingappa, presented a research paper titled 'Synthesis and Characterization of Lanthanum Zirconate Particles', in International Conference of Advanced Materials and Fluid Mechanics, organized at BNMIT on 23rd and 24th of November 2023.

Mr. Mahendra Kumar C, presented a research paper titled 'Design and Development of a Digital Fuel indicator for Two Wheelers', in International Conference of Advanced Materials and Fluid Mechanics, organized at BNMIT on 23rd and 24th of November 2023.

Dr. D Shivalingappa, has completed Faculty Development Program on ' Augmented Reality and Virtual Reality and its Applications', from 6th to 10th November 2023, organized by BNMIT.

Students Achievements

Litheesh Gowda, a student of 5th semester has won a Gold , four Silver and one Bronze medals at Dasara Games-CM Cup 2023 held at Mysuru during October 2023. He participated in VTU State Meet 2023-24, held at BAC, Bengaluru on 9th August 2023 and won six Gold , five Silver and two Bronze medals. He has won a Silver medal at VTU State Meet 2023-24 held at Dr. TTIT, KGF, Kolar Dist. on 9th and 10th July 2023.

Hrishikesh Kulkarni and Nikilesh Sai K J, students of 8th semester have co-authored a research paper titled 'Studies on Tribological Characterization of Cast Iron and Al 7075/Al₂O₃ Composite Brake Disc', in Research Reviews: Journal of Mechanics and Machines, HBRP Publications, volume 5, August 2023.

Eshwar R S, Md. Faizan Khan and Yashas V Parashar, students of 8th semester have co-authored a research paper titled 'Design and Development of Solar Air Cooler with Cooling Cabinet', in International Journal of Innovative Research in Science Engineering and Technology, volume 12, issue 10, October 2023.

Departmental activities

Seminar on Continuous Learning for Corporate Career

A talk was organized on 22-11-2023 by Department of Mechanical Engineering in association with ISTE student chapter. Dr. N S Mahesh, Associate Vice President, Astutix Larning Pvt. Ltd., Bengaluru, addressed students of Mechanical Engineering and explained the importance of continuous learning for corporate career. The seminar was followed by distribution of mementos for students of 7th semester, who had secured First Class with Distinction(FCD) in their 6th semester.

INTERESTING FACTS !!



ANTIKYTHERA MECHANISM

ANCIENT ORIGINS

“Mechanical engineering dates back to ancient civilizations. The Antikythera mechanism, a Greek analog computer from around 100 BCE, is considered one of the earliest examples of mechanical engineering.”

Seminar on Building Information Modelling



Honouring of resource person Mr. Abdul Majeed (second from left), during the seminar

A one-day seminar on "Building Information Modelling" was held on July 13, 2023. The Lead Engineer/Professional Trainer of deltaT MEP Technical Academy, Mr. Abdul Majeed, addressed the 4th Semester students. The seminar's major goal is to increase student understanding of the career opportunities available to Mechanical Engineering graduates working in the HVAC sector. Students were given an explanation of HVAC (Heating, Ventilation, and Air Conditioning) fundamentals, including their importance, operation, and use of heat transmission. HVAC in buildings and on construction sites, different BIM softwares were explained, including "Navisworks," "Autodesk," "Revit," and "Dynamo". The students were given a fresh perspective on job options in HVAC.

Seminar on Awareness in Core Engineering Domain

A one-day seminar on "Awareness in Core Engineering Domain" was held on August 3, 2023. The CEO/President of ASSET Academy, Mr. Anand Thayalaguru, addressed the 4th Semester students. The aim of seminar was to create awareness about career opportunities in core Mechanical domain. The students were given an opportunity to register for various training programs offered by ASSET Academy, a non-governmental organization that focuses on preparing core engineering students for the industry.



Honouring of resource person Mr. Anand Thayalaguru (second from left), during the seminar

International Conference on "Advanced Materials and Fluid Mechanics" [ICAMFM-2023]

The International Conference on "Advanced Materials and Fluid Mechanics" (ICAMFM-2023) was organized by the departments of Mechanical Engineering, Physics, Chemistry and Mathematics on 23rd and 24th November 2023 in hybrid mode. This conference was dedicated to Dr. A P J Abdul Kalam to commemorate his contributions to the field of Material Science. The conference featured a comprehensive technical program which included keynote addresses by renowned persons from materials and engineering fields followed by paper presentations by research scholars and students from India and abroad.



Release of Conference proceedings by dignitaries during ICAMFM-2023



Faculty of Department of Mechanical Engineering, Physics, Chemistry and Mathematics with participants of ICAMFM-2023

Industrial Visit



Mr. Bapaugowda C M with employees of Fractal Works and students of 3rd semester during industrial visit to Fractal Works

The students of III Semester visited M/s Fracktal Works, Bengaluru on October 18, 2023. The company is a premier player in the field of design, mould making, injection moulded plastic part production, sub-assemblies, mechanical parts production and complete product development. During the visit, the students were exposed to the design and manufacturing of different products like plastic injection moulded parts, precision machined components, sub-assemblies and aluminium die casting. Students were able to witness the manufacturing process of die mouldings, castings and manpower engagement. Learners were also exposed to the quality standards implemented in the industry to promote cutting-edge technology at very competitive pricing.

Workshop on Creative Thinking

A one-day workshop on creative thinking was held on December 02, 2023. Students of V semester participated in this event. Mr. Mahadev Prasad, an adjunct faculty member of department of Mechanical Engineering, BNMIT, was the resource person. The workshop promoted teamwork and collaboration among students, fostering a collaborative spirit to achieve a common goal. Students were made to do brief exercises to spark their curiosity and keep them engaged during the workshop. The resource person spoke about ideation, creative thinking, design thinking and psychological implications of critical thinking.



Dr. B S Anil Kumar, Mr. Mahadev Swamy (first line center), Mr. Bapugowda C M and students of 5th semester during Creative Thinking Workshop

Alumni Talk



Honouring of resource person Mr. Shravan Ananth(second from left), after Alumni talk

informative talk. Also, the speaker conveyed the importance of self-employment; Need and Importance of programming knowledge in the current scenario for Mechanical Engineers. The speaker pinpointed mainly on the role of a mechanical engineer and the responsibilities in reaching out the customers with an ever- changing demands about any product or software. Along with his domain knowledge in the IT field, the speaker also enriched the importance of higher studies in specific specialization.

The alumni talk conducted for the Sixth semester students of Mechanical Engineering was focused on the job opportunities for Mechanical Engineers in the IT field. With an increasing demand for the software developer and coding profiles in Mechanical Engineering domain, the graduates of mechanical domain are finding it interesting. As a result of extended coding and programming in all the fields, Mechanical Engineers are finding it difficult to find right employment with their traditional domain knowledge. Hence, Mr. Shravan Ananth, working as a systems Engineer at Tata Consultancy Services Bengaluru, addressed our pre- final year students and educated them with his



Litheesh Gowda, student of 5th semester with Sri Bharath Kumar, PT Master, BNMIT during VTU State Meet 2023-24, held at BAC , Bengaluru on 9th August 2023



Litheesh Gowda, student of 5th semester, receiving Silver medal during VTU State Meet 2023-24 held at Dr. TTIT, KGF, Kolar Dist. in July 2023

EDITORIAL TEAM

Faculty

Smt. Shwethashree B.,
Assistant Professor
Dept. of Mechanical Engineering

Dr. Payal Mukerjee.,
Assistant Professor
Dept. of Humanities

Students

Vishruth	III Semester
Pranav	V Semester
Manoj R Kashyap	VII semester
Nikhil S	VII Semester

For any queries and suggestions, please mail to: shwethashree.b@bnmit.in/hodme@bnmit.in