Volume 8 issue 1

November 2020

Gnanamani College of Technology

Accredited by NACC and NBA

NH-7, A.K.Samuthiram,
Pachal-PO, Namakkal-637 018.

NEWSLETTER

Gnan Enthira Times

DEPARTMENT OF MECHANICAL ENGINEERING

Inside this issue:

Student Activities

Programme Organized

Value Added Course Conducted

Students' Industrial Visit

Institute Vision

Emerging as a technical institution of high standard and excellence to produce quality Engineers, Researchers, Administrators and Entrepreneurs with ethical and moral values to contribute the sustainable development of the society.

Institute Mission

We facilitate our students

* To have in-depth domain knowledge with analytical and practical skills in cutting edge technologies by imparting quality technical education.
* To be industry ready and multi-skilled personalities to transfer technology to industries and rural areas by creating interests among students in Research and Development and Entrepreneurship.

Department Vision

To produce competent Mechanical Engineer capable of working in an interdisciplinary environment contributing to benefits of society through innovation, leadership and entrepreneurship.

Department Mission

- Imparting the highest quality education through state-of-the-art facilities to build students' professional practice and make them globally competitive Mechanical Engineers by enhancing their knowledge.
- Fostering professional and ethical values and training the students to build leadership and entrepreneurship qualities for their career development.
- Undertaking research and developmental activities to provide service for the sustainable development of the society.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

Graduates of Mechanical Engineering will

PEO 1: Apply their mechanical and allied knowledge to address technical and societal problems with creativity and ethical values.

PEO 2: Design and analyse mechanical systems with strong fundamentals and work in synchronisation with industries and research organisations as team members on multi-disciplinary projects

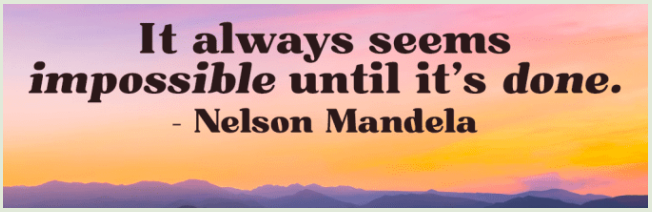
PEO 3: Seek out positions of leadership actively within their profession and their community through lifelong learning.

PROGRAM SPECIFIC OUTCOMES (PSOs)

Graduates of the program will be able to

PSO-1: Apply principles of basic sciences, machine design, manufacturing, thermal engineering and management to identify, formulate and solve real time problems and societal issues for the sustainable development.

PSO-2: Develop their abilities to qualify for Employment, Higher studies and Research in Mechanical Engineering.



PROGRAM OUTCOMES (POs)

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
2. **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.
3. **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.
4. **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.
5. **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.
6. **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.
7. **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.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **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.
11. **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.
12. **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.

STUDENT ACTIVITIES

- P.Arockiasamy, has successfully completed the Online **Quiz Programme** on "**Information Management**" on **02.06.2020**, hosted by Department of management Studies, Gnanamani College of Technology.
- A.K.Moganasundar and M.Manivel has actively participated in the **Webinar** on "**How to Identify the Right Journal and Self Indexed**" held on **03.06.2020** organized by the Department of Mechanical Engineering, Gnanamani College of Technology.
- S.Chandru has actively participated in the **Webinar** on "**Safety in Working Height**" on **09.06.2020** organized by The Department of Mechanical Engineering, Kalasalingam Academy of Research and Education.
- M.Manivel has actively participated in the **Webinar** on "**Opportunities of NDT in Industry**" held on **04.07.2020** organized by the Department of Mechanical Engineering, Gnanamani College of Technology.
- R.Maheshwaran, has actively participated in one day **Webinar** under the title "**IOT trends in Industry**" on **10.07.2020** organized by the Department of Mechanical Engineering, Gnanamani College of Technology.
- M.Johnraja, has actively participated in one day **Webinar** under the title "**Competitive Exams after B.E. (Mechanical Engineering)**" on **13.07.2020** organized by the Department of Mechanical Engineering, Gnanamani College of Technology.
- R.Maheshwaran, A.K.Moganasundar, M.Manivel and M.Johnraja, has actively participated in one day **Webinar** under the title "**Manufacturing**

process in sheet metals" on **17.07.2020** organized by the Department of Mechanical Engineering, Gnanamani College of Technology.

- M.Manivel, K.Kathiresan, R.Maheshwaran and M.Johnraja, has actively participated in one day **Webinar** under the title of " **Research opportunities in IC Engines**" on **18.07.2020** organized by the Department of Mechanical Engineering, Gnanamani College of Technology.
- M.Manivel, P.Dravidamani, R.Maheswaran, K.Kathiresan, M.Johnraja and A.K.Moganasundar, has actively participated in one day **Webinar** under the title "**Design Thinking**" on **20.07.2020** organized by the Department of Mechanical Engineering, Gnanamani College of Technology.
- R.Maheshwaran, A.K.Moganasundar and M.johnraja has actively participated in one day **Webinar** under the title "**Manufacture of high Tensile Fasteners**" on **07.08.2020** organized by the Department of Mechanical Engineering, Gnanamani College of Technology.
- M.Johanraja has successfully participated in the **Webinar** Program on "**Design Thinking to Digital Thinking**" organized by the Department of Mechanical Engineering, CMR Institute of Technology.
- A.K.Moganasundar has successfully completed a **short course** on "**Learn to Design your own Solar Home System**" on **14.08.2020** , the certificate has been awarded as a part of Energy literacy Drive of the Energy Swaraj Foundation in association with Gnanamani College of Technology.
- M.Manivel, R.Aravinth, J.Loganathan and A.K.Moganasundar, has actively participated in one day **Webinar**

under the title "**Mechanical Alloying of Nano Composities**" on **07.09.2020** organized by the Department of Mechanical Engineering, Gnanamani College of Technology.

- K.Kathiresan, M.keerthivasan, R.Aravinth, L.Velmurugan, M.Sivakumar, M.karthikeyan and M.Manivel has actively participated in one day **Webinar** under the title of "**Taguchi method for Optimization**" on **23.10.2020** organized by the Department of Mechanical Engineering, Gnanamani College of Technology.
- K.Kathiresan, S.Ajithkumar, D.Vivekananthan, R.Dinesh, A.K.Moganasundar, R.Aravinth, P.Yogaraj, M.Johnraja, R.Maheshwaran and Sreehari has actively participated in one day **Webinar** under the title of " **Latest trend in New Product Development**" on **05.11.2020** organized by the Department of Mechanical Engineering, Gnanamani College of Technology.
- M.Sanjay, M.Sivakumar, S.Jeevanatnham, R.Aravinth, A.K.Moganasundar, R.Maheshwaran, R.Kathiresan and M.Manivel, has actively participated in one day **Webinar** under the title of "**Advancement in IC Engines**" on **07.11.2020** organized by the Department of Mechanical Engineering, Gnanamani College of Technology.
- R.Aravinth, K.Kathiresan, m.Manivel, S.Gunasekaran, M.Sanjay and R.Maheshwaran has actively participated in one day **Webinar** under the title of "**Industrial Vibration Problems**" on **09.12.2020** organized by the Department of Mechanical Engineering, Gnanamani College of Technology.

PROGRAMME ORGANIZED

- Department of Mechanical Engineering conducted a Webinar on "How to Identify the Right Journal and Self Indexed?" on 03.06.2020.

- Department of Mechanical Engineering conducted a Webinar on "Competitive Examinations after BE (Mechanical Engineering)" on 13.07.2020.

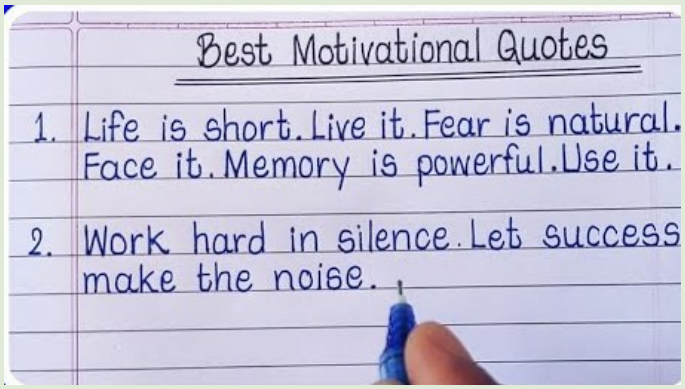
- Department of Mechanical Engineering conducted a Webinar on "Role of Software in Research Article Preparations" on 27.07.2020.

VALUE ADDED COURSES CONDUCTED

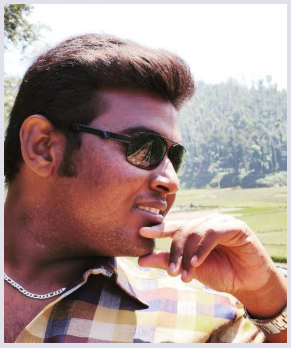
- Department of Mechanical Engineering conducted an Add-On Programme on Advanced Structural Analysis using ANSYS Work Bench from 05.07.2019 to 07.10.2019 through our Industry Supported Lab Training programme.
- Department of Mechanical Engineering conducted an Add-On programme on CAM processes with automation tools to suit different applications by make use of EDGECAM from 03.09.2019 to 13.11.2019 through our Industry Supported Lab Training programme.

STUDENTS' INDUSTRIAL VISIT

Students of III year, Department of Mechanical Engineering went for a industrial visit to ANNA ALUMINIUM CO PVT.LTD, Cochin on 25.12.2020. From this industrial visit students are easily understand the following major process 1. Cup drawing 2. Punch cutting 3. Pressing 4.Spinning 5.Shaping 6.Polishing 7.Chiseling.



Editorial Board

Chief Patron	**Dr.T.Arangannal** Chairman, Gnananamani Educational Institutions	
Patron	**Dr.T.K.Kannan** Principal, Gnanamani College of Technology	
Chief Editor	**Dr.N.Balakrishnan** Prof / Head/Mech, Gnanamani College of Technology	
Editor	**Mr.S.Saravanan** Associate Profesor / Mech, Gnanamani College of Technology	
Student Editors	**Mr.E.Kuralarasan** IV-Mech **Mr.S.Sathish Kumar** IV-Mech **Mr.A.K.Mohanasundar** III-Mech	  

Vehicles and battery types

Chemical batteries

- Primary batteries
- Secondary batteries
- Fuel cells

Physical batteries

- Nuclear batteries
- Solar cells
- Thermoelectric module

Lithium-based

Li-ion polymer

Mostly used in EVs

Alkali based

Nickel / Hydrogen Ni-MH

Commonly used in Japanese hybrid vehicles

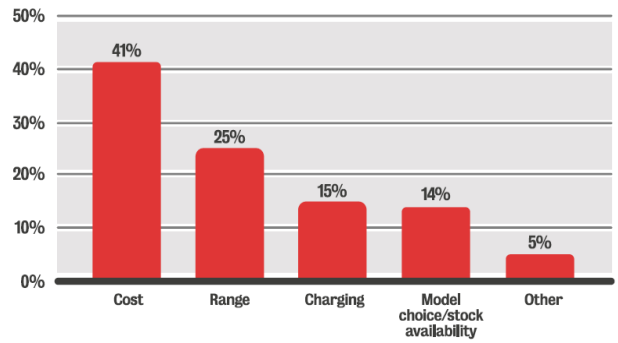
Acid based

Lead acid batteries

Used to power engine ignition

EVs source power from lithium-ion polymer batteries that are high density, light weight and satisfy excellent charge/discharge efficiency.

Concerns about EV ownership?



What Car? Survey data