

Vol. 02 No. 12	For internal circulation only	01.07.2019 - 31.07.2019
Editors: Dr. C. Velmurugan, Mr. B. N. SreeharanAssociate Editors: Mr. P. Kapil, Mr. K. Arun,		Mr. P. Kapil, Mr. K. Arun,

Programmes Organized

• Department arranged a Guest Lecture on "HVAC". Mr. Vishnu Prakash from M/s. Vland best hub, Coimbatore delivered the guest lecture.



Guest Lecture was coordinated by Dr. S. Thirumurugaveerakumar, AP (III)/ME and Mr. P. Prashanth, AP/ME.







 Doctoral Committee Meetings for the Research scholars of Dr. C. Velmurugan HoD/ME and Dr. V. Muthukumaran, Prof./ME on 22.07.2019 and 20.07.2019 respectively.



 A seminar was arranged on "Technical Seminar on NDT Course by the department on 25.07.2019. Seminar was given by Mr. B. Lawrence from M/s. A Plus NDT Group, Coimbatore.





Mr. K. Manikandaprasath, AP/ME coordinated the seminar.

Scmsung Dual Camera

Seminar was coordinated by Mr. S. Rajesh, AP/ME.

• An introduction seminar to German Japanese language has been arranged by the department on 24.07.2019. Mrs. Kavitha Sasidaran, German Language Instructor conducted the seminar.



External Examinership



- Dr. N. Sangeetha, Sr. ASP/ME, acted as external experts for a synopsis doctoral committee meetings held on 17.07.2019 and 31.07.2019 at Karunya Institute of Technology and sciences, Coimbatore.
- Mr. Dr. V. R. Muruganantham, ASP/ME acted as external examiner for the Central Valuation at Government College of Technology, Coimbatore on 01.07.2019.

Paper Presentation

 Mr. V. Manivelmuralidaran, AP (II)/ME presented a paper on "Multi objective optimisation of cold crack susceptibility of HSLA 950 using Grey Relational Analysis" in the International Conference on "Materials and Manufacturing Methods 2019" organized by National Institute of Technology (NIT), Trichy on 05.07.2019.

Guest Lecture Delivered

 Dr. N. Sangeetha, Sr. ASP/ME delivered an invited talk on "Design of Vibration Fixture" in the TEQIP – III sponsored 2nd National Conference on "Recent Innovations in Welding and Surface Engineering (RIWASE-2019) held from 26 to 27th July 2019 organized by the Department of Mechanical Engineering, Government College of Engineering, Bargur – 635 104.





• She also chaired in one of the technical session on 27.07.2019 in the same conference.

CDAC Kick Off Meeting



 Mr. M. Rameshkumar, AP/ME attended kick off meeting at the Nodal Centre, CDAC - Kolkata on 17th and 18th July 2019 with respect to MeitY funded project titled "Development of Autonmous Multipurpose Robotic Platform for Agricultural Applications".



Equipments Purchased / Upgraded

- EdgeCAM Software available in the CAM Lab has been updated by availing AMC for Rs. 28,025/-.
- A new photocopier machine worth Rs. 63,425/was purchased and installed in the department office on 29.06.2019.

Proposals Submitted

 Dr. S. Balasubramanian, ASP/ME, Dr. S. Thirumuruga Veerakumar, AP (III)/ME, Dr. C. Velmurugan, HoD/ME" submitted a proposal on 12.07.2019 to National Research Development Corporation on the title "Training and production of smart Mosquito net and stand for employing youths in rural area" for Rs. Rs. 4,00,000/-.

Programmes Participated

 Dr. S. Balasubramanian, ASP/ME participated in the MHRD sponsored SPARC course on "Engineering Materials in Medicine" from 1st to 6th July 2019 at Kumaraguru College of Technology, Coimbatore. The course was cosponsored by Anna University Chennai, National University of Singapore, Singapore, Singapore and Eye Research Institute, Singapore.

Industry Institute Interaction



 Dr. S. Balasubramanian, ASP/ME along with the following students from Final year 'C' section Mechanical Engineering students visited M/s. Indmes Laser Industry on 22-07-2019 and had interacted with the concerned about internship and industrial project.

Mr. Sangeethapriyan. R, 16BME146 Mr. Muralikrishnan. R, 16BME211 Mr. Mohanraj. R, 16BME169

- Department renewed its institutional membership with CODISSIA, Coimbatore. Dr. S. Balasubramanian, ASP/ME coordinated the renewal process.
- Dr. S. Balasubramanian, ASP/ME arranged an industrial visit to M/s. Best Heat Treatment Services, Coimbatore for Post Graduate Diploma in Design Engineering students of M/s. Cameron in association with M/s. Sakthi Excellence Academy on 26.07.2019.





 Dr. S. Balasubramanian, ASP/ME along with IV and II Mech Students attended Institution of Engineers meet at PSG Tech on 22.07.2019.

Internships

The details of students had undergone Internship Training during this vacation is given below.

- M/s. Brankes India Private Limited, Chennai 24.06.2019 – 02.07.2019
 - 1. Mr. P. Balaji, 16BME116
 - 2. Mr. S. Rakesh, 16BME128
- M/s. Steel Authority of India Limited, Salem Steel Plant, Salem, 01.07.2019 06.07.2019
 - 1. Mr. R. Rahul Krishnan, 16BME242
- M/s. KSB Limited, Coimbatore 24.06.2019 06.07.2019
 - 1. Mr. B. Muralidharan, 16BME132
 - 2. Mr. K. Yeswanth Sinka, 16BME229
 - 3. Mr. K. Arun, 16BME166
 - 4. Mr. K. Sankar, 16BME141
 - 5. Mr. S. R. Vijay Balaji, 16BME158
- M/s. L & T Vales, Coimbatore 01.06.2019 29.06.2019
 - 1. Mr. B. Pranav, 16BME035

Summer School



Mr. R. Balaji, 16BME062 attended "Summer School – 2019" at Toulouse Business School, France during his summer vacation.



Battery-Electric Vehicle Basics

John O'Dell

https://thegreencarguy.com/battery-electricvehicle-basics/

Most people call them EVs or electric cars – cars and crossover SUVs powered by strong electric motors. They get their juice from big packs of on-board batteries that are rechargeable. The proper name is battery-electric vehicle, or BEV. That's an acronym that properly describes the full power and fuel system.

All operate by directing power to the driven wheels through a single-speed transmission. They can have more than one motor, as do top-of-the-line Tesla Model S and Model X BEVs. Those have two motors, one driving the front wheels, the other driving the rear wheels. The energy to keep the motor or motors turning is stored on the BEV in a rechargeable battery pack. It usually is based on a lithium-ion chemistry and in a battery-electric vehicle is much larger than the batteries in conventional hybrids or plug-in hybrids – the "other" member of the plug-in vehicle (PEV) family.

The pluses of a BEV include a relatively simple powertrain, which has few moving parts, is relatively maintenance-free, provides tons of torque – the force that gets a vehicle moving – for quick acceleration, and has no tailpipe emissions. A battery-electric vehicle also can be charged at a large and still-growing number of public charging stations or while parked at home.

On the downside, BEVs differ from other electrified vehicles in that that they are entirely dependent on their batteries. They need to be recharged regularly and usually for several hours, or more. Because the batteries are expensive and heavy, there are limits on how big a battery pack can efficiently and economically be loaded into a BEV. That limits the vehicles' range.

- Compiled by Mr. B. N. Sreeharan, AP (II)/ME





Department of Mechanical Engineering

INSTITUTE VISION

The vision of the college is to become a technical university of International Standards through continuous improvement.

INSTITUTE MISSION

Kumaraguru College of Technology (KCT) is committed to providing quality Education and Training in Engineering and Technology to prepare students for life and work equipping them to contribute to the technological, economic and social development of India. The College pursues excellence in providing training to develop a sense of professional responsibility, social and cultural awareness and set students on the path to leadership.

DEPARTMENT VISION

To emerge as a center, that imparts quality higher education through the programme in the field of Mechanical Engineering and to meet the changing needs of the society.

DEPARTMENT MISSION

The department involves in sustained curricular and co-curricular activities with competent faculty through teaching and research that generates technically capable Mechanical Engineering professionals to serve the society with delight and gratification.

PROGRAMME 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.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOS)

- **PEO 1** : Graduates will take up career in manufacturing and design related disciplines.
- **PEO 2** : Graduates will be involved in the execution of Mechanical Engineering projects.
- **PEO 3** : Graduates will take up educational programme in mastering Mechanical sciences and management studies.

PROGRAMME SPECIFIC OUTCOMES (PSOS)

- 1. Apply the fundamentals of science and mathematics to solve complex problems in the field of design and thermal sciences.
- 2. Apply the concepts of production planning and industrial engineering techniques in the field of manufacturing engineering.