



KUMARAGURU
COLLEGE OF TECHNOLOGY



Department of Mechanical Engineering

Newsletter

MExpress

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December 2020

**Advance X-mas & New Year
Wishes!**

Editors:

**Dr. C. Velmurugan
Dr. B. N. Sreeharan**

Associate Editors:

**Mr. Padrinarayan R
Mr. Praveen B
Ms. Rushethra P N**

WHEELS



Wheels are the one of the primitive ideas of ancient engineering and a fundamental part of our civilisation history. The place and invention of wheel are still unclear and undated. Wheels are something which has been the turning point at various points of humans innovating new inventions.

They were first primarily made of wood and later an array of iterations was made inspiring the original version of wheels. The speciality of wheels was that it had free flow of motion transference without any immense energy loss. They had boundless adaptability to any new inventions made in field of engineering. Since the mainstream use of wheel its basic functionality stands unchanged while there

are many variations done to the method of using it.



Mr. Padrinarayan R
19BME010 - 2nd year
Mechanical Engineering A

Primarily automobiles use wheels as their mode of transmission of mechanical energy to rotational energy. The mechanics of wheel are widely used in various calculations of automobiles like speed and distance calculation. The product of number of rotations and circumference of the wheel is the distance covered and the other parameters are also calculated on same way with other factors involved.

The evolution of wheels has traversed incredible heights where there is new innovations based out of wheel rolling out every now and then. Various additions and exclusions have made wheels to evolve to a very great extent. This includes the additions of tyres and rims to upsurge the serviceability of wheels in numerous diverse areas of usages. Excluding automobiles and transportation there are many innumerable places and areas where wheels are used. Wheels are used for agricultural activities, energy generation and much more. The rotational motion is something which makes the wheel this predominant, the next edition will comprise the history and information of rotational motion.

Departmental Activities

Programmes Organized

- Following competitions were organized by the department under Mechanical Engineering Association.

- Mech Master - 02-11-2020
- CADD Challenge – 20-11-2020
- Aptitude Test Series – 13-11-2020



Dr. V R Muruganantham, ASP and **Mr. M A Vinayagamoorthis**, AP (II) coordinated the event.



A Webinar on "Easy and Effective Strategy to Crack Competitive Exams with AIR" was organized by the Higher Education Cell of the department headed by Dr. N. Sangeetha in association with M/s. Master's Academy on 18/11/2020. Mr. Sathyamoorthy, & Mr. Viveganathan of Master Academy delivered the webinar address. **Dr. N. Sangeetha**, Senior Associate Professor coordinated the webinar.

- A Seminar on "Industrial Metrology" through online was organized by the department on 6-11-2020. Mr. M. Vijaysankar, Dimensional Quality Engineer, Gestamp Alabama, USA was the guest speaker in the seminar.
- An Alumni Guest Lecture on "From Engineers to Designers" was organized by 24-11-2020. Mr. Gulshan Ramesh Chand, Senior UX Designer, Payroll at Genefits, California, USA delivered the guest lecture.



Both the seminar and alumni guest lecture were coordinated by **Dr. C. Velmurugan**, Professor and HoD and **Dr. A. P. Arun**, AP (II).

Faculty as Resource Persons



Dr. S. Bhaskar, Associate Professor was the resource person and delivered a lecture on "Introduction to OBE" in AICTE – STTP on "Enhancing Research and Development through Project Based Learning to Achieve Outcome Based Education in Engineering" organized by Sri Krishna College Of Technology, , Coimbatore on 02-11-2020.

He also Handled a session on "The Role model approach - The ethical aura that positively influences" in the AICTE STTP on "Enhancement and reinforcement of moral ethics to the learned faculty members" conducted by MAMCET Trichy on 30-11-2020.



Dr. S. Balasubramanian, Associate Professor was the i-Innovation Ambassador/Mentor for the Natinal Level IIC Innovation Contest held on 18-11-2020 and on 22-11-2020.

Dr. B. N. Sreeharan, AP (II) delivered guest lectures in the Webinars on "Literature Study" on 08-11-2020 and 21-11-2020 for the KCT students conducted by Mechanical Engineering Association of KCT as a part of Tech Citation.



Papers Presentations



Mr. B. Jeeva, AP presented a paper in 5th National Conference on Advanced Materials and Radiation Physics (AMRP-2020) " organized by "Sant Longowal Institute of Engineering and Technology (Deemed University, Centrally Funded Technical Institute of Govt. of India), Punjab "on 09-11-2020 . The paper title is "Measurement of displacement in spatial correlation velocimetry by pixel shifting method".

Papers Submitted

Following faculty members submitted their papers for getting published in Scopus indexed journals.

- Mr. M. A. Vinayagamoorthis, AP (II)
- Dr. S. Balasubramanian, ASP
- Dr. P. S. Samuel Ratna Kumar, AP
- Dr. S. Bhaskar, ASP
- Dr. K. K. Arun, AP (III)
- Dr. K. M. Senthilkumar, ASP
- Dr. V. Muthukumaran. Professor



Papers Publications



Dr. C. Velmurugan, Professor & HoD: (1) Investigations on the effect of tungsten carbide particles on the hardness and wear properties of aluminium composite materials. (2) Development microstructural characteristics and properties of carbidic ductile cast iron in AIP Conference Proceedings.

Dr. S. Sivakumar, AP (III), (1) Investigation of charging and discharging behavior on lithium –ion battery cell using multi scale multi domain battery model in CFD. (2) Enhancement heat transfer characteristics study in the rectangular channel of nano fluids using CFD. (3) Design and mathematical modeling of electro magnetic motor in AIP Conference Proceedings.



Dr. M. Balaji, ASP and **Dr. AP. Arun**, AP (II), Expending QFD for reducing material flow rejection rate in modular switch manufacturing supply chain in AIP Conference Proceedings.



Mr. B. Jeeva, AP, Surface roughness characterization of plasma textured polycrystalline silicon solar wafer with the laser speckle technique in AIP Conference Proceedings.

Dr. S. Thirumurugaveerakumar, ASP, (1) Optimization Model of Automobile Brake Cooling in Forced Convection Mode. (2) Design and optimization of muffler back pressure in AIP Conference Proceedings.



Dr. K. M. Senthilkumar, ASP, published a paper entitled "Fabrication of Al6063 alloy, silicon carbide and boron glass powder metal matrix composites in stir casting process and analysis the impact of process variables on mechanical properties" in Science Direct.

Dr. B. N. Sreeharan, AP (II) and **Mr. M. A. Vinayagamoorthi**, AP (II), Experimental comparison of friction stir welding effects on mechanical properties of Al 6351 and Al 6061 weldments in AIP Conference Proceedings.



Mr. K. Manikanda Prasath, AP published a paper entitled "Optimization of wear behaviour of AA6061 – SiC – B4C – Fly ash metal matrix composite using response surface methodology".



Mr. T. Karupusamy, AP (II), **Dr. V. R. Muruganantham**, ASP and **Mr. P. D. Devan**, AP published their paper entitled "Effect of weight percentage of reinforcements on impression creep behaviour of SiC reinforced aluminium 7075 composites" in the Solid State Technology Journal.



Papers Reviewed

Dr. C. Velmurugan, Professor & HoD reviewed the following Scopus indexed journals



1. Rice Husking Characteristics of Epoxidized Natural Rubber/PVC Nitrile Rubber Blends With ISAF N231 / SAF N234 Variety of Carbon Black.
2. Development of empirical relationships for prediction of mechanical and wear behaviour of copper matrix surface composite reinforced with AlN, TiB₂, and RHA by Friction Stir processing technique
3. Surface engineering of zinc sulphide film for augmenting the performance of polycrystalline silicon solar cells.

Book Chapters Published



Dr. V. Muthukumaran, Professor, authored a chapter which is accepted for publication as a chapter in the book "New Ideas Concerning Science and Technology" published by Book Publisher International, Hooghly, India.

Mr. R. S. Mohan Kumar, AP, authored a chapter "Design and fabrication of an efficient handling water weed removing machine" which is accepted for publication as a chapter in the book "Recent Developments in Engineering Research", published by Book Publisher International, Hooghly, India.



Ph. D. Completed



Mr. K. Krishnamoorthi, AP (II) has successfully completed the oral examination held on 03.11.2020 for the award of Doctoral degree under the Faculty of Mechanical Engineering. The Doctoral degree awarded by the Anna University Chennai is in compliance of UGC Regulations 2009.

Awards applied

Dr. C. Velmurugan, Professor & HoD and **Dr. V. Manivelmuralidaran**, AP (III) applied for FCRI Research and Academic Excellence Awards 2021 awarded by IEI BLC- FCRI.



Industry Linkages

Mr. P. D. Devan, AP, **Dr. S. Thirumurugaveerakumar**, ASP, **Mr. M. Thirumalaimuthukumaran**, AP (II) and **Dr. V. R. Muruganantham**, ASP established the industry linkage with L R Fabricators, Coimbatore between 30-10-2020 and 03-11-2020.





Dr. R. Manivel, Professor involved in PGDDE VI Batch Review II for Cameron – Schlumberger Product Design II Review along with Industry Expert on 30-10-2020 and 01-11-2020. He also forwarded student CV for job position in M/s. Bull Agro Implements, Coimbatore and student was selected for job.

Dr. K. M. Senthil Kumar, ASP forwarded student CV for job position in M/s. SS Engineering Works, Coimbatore.



Dr. S. Balasubramanian, ASP arranged student internship in M/s. Unitek Hydraulics, Coimbatore

Dr. V. Muthukumaran, Professor arranged for Student Project in M/s. SP Automation, Coimbatore.



Mr. R. S. Mohan Kumar, AP arranged for student projects in M/s. STR Industries.

Online Courses / Programmes



Dr. K. K. Arun, AP (III)

- Coursera Online course on Project Management & Other Tools for Career Development from 01.10.2020 to 10.11.2020
- Coursera Online course on Design of Experiments from 01.10.2020 to 18.11.2020
- Coursera Online course on Managing Talent from 01.10.2020 to 29.11.2020
- Coursera Online course on Project Planning and Machine Learning from 01.10.2020 to 21.11.2020
- Coursera Online course on Inspiring and Motivating Individuals from 01.10.2020 to 21.11.2020
- Coursera Online course on Statistical Molecular Thermodynamics from 01.10.2020 to 30.11.2020
- Coursera Online course on 3D Models for Virtual Reality from 01.10.2020 to 27.11.2020

- Coursera Online course on Foundations of Virtual Instruction from 01.10.2020 to 25.11.2020
- Coursera Online course on Wind Energy from 01.10.2020 to 30.11.2020
- Coursera Online course on Lean Software Development from 01.10.2020 to 21.11.2020
- Coursera Online course on Big Data Modeling and Management Systems from 01.10.2020 to 21.11.2020
- Coursera Online course on Factorial and Fractional Factorial Designs from 01.10.2020 to 18.11.2020
- Coursera Online course on Effective Problem. Solving and Decision Making from 01.10.2020 to 10.11.2020
- Coursera Online course on The Art of Negotiation from 01.10.2020 to 09.11.2020
- Coursera Online course on Random Models, Nested and Split plot Designs from 01.10.2020 to 15.11.2020
- Coursera Online course on Agile Software Development from 01.10.2020 to 19.11.2020
- Coursera Online course on High. Impact Business Writing from 01.10.2020 to 09.11.2020

Dr. K. M. Senthil Kumar, ASP



- FDP on Additive Manufacturing for Medical and Aerospace Applications from 16-11-2020 to 21-11-2020
- STTP on Recent Advances in Industrial Automation and Robotics from 23-11-2020 to 23-11-2020

Dr. K. Ulaganathan, AP (III)

- FDP on Finite Element Method from 23-11-2020 to 27-11-2020.



Dr. P. S. Samuel Ratna Kumar, AP



- Coursera Online course on Mechanics of Materials III from 01-11-2020 to 01-11-2020
- Coursera Online course on Generative Design for Additive Manufacturing from 01-11-2020 to 01-11-2020
- Conference on ICRADMM 2020 from 15-10-2020 to 16-10-2020

Dr. P. Sathyabalan, Professor

ATAL FDP on Tribology in Design and Manufacturing from 23.11.2020 to 27.11.2020



Dr. R. Manivel, Professor

Workshop on Universal Human Values from 03.11.2020 to 12.11.2020

Dr. S. Balasubramanian, ASP



- Coursera on Write Professional Emails in English from 01.10.2020 to 01.11.2020
- Webinar on NSE WEBINAR ON FUNDS RAISING PLATFORMS FOR MSME(SEIMA) from 10.11.2020 to 10.11.2020.

Dr. S. Thirumurugaveerakumar, ASP

- STTP on Outcome based education from 02.11.2020 to 07.11.2020



Mr. B. Jeeva, AP



- Workshop on Inculcating Universal Human Values in Technical Education from 03.11.2020 to 12.11.2020
- STTP on Intellectual Property and Rights for Engineers and Scientists from 09.11.2020 to 14.11.2020.

Mr. M. Thirumalaimuthukumar, AP (II)



- STTP on Finite Element Methods Using ANSYS (FEAAS'20) from 23.11.2020 to 28.11.2020
- Coursera Online course on Research Design_ Inquiry and Discovery from 30.09.2020 to 21.10.2020
- Coursera Online course on Engineering Design Process with Autodesk Fusion from 30.09.2020 to 22.10.2020
- Coursera Online course on Technical writing from 04.10.2020 to 11.08.2020
- Coursera Online course on Academic literacy from 04.10.2020 to 11.11.2020
- Coursera Online course on Career Success Project from 30.09.2020 to 11.12.2020
- Coursera Online course on Project Management Principles and Practices from 20.09.2020 to 25.10.2020
- Coursera Online course on Understanding Research Methods from 12.09.2020 to 10.10.2020
- FDP on Artificial Intelligence: Responsible AI for Social Empowerment (RAISE2020) from 05.10.2020 to 09.10.2020

Mr. M. A. Vinayamoorthi, AP (II)

Seminar on Real Time Challenges in Planning & Scheduling Civil Projects" from 28.11.2020 to 28.11.2020





Mr. P. Karthi, AP

- FDP on UHV Faculty Mentor Training from 03.11.2020 to 11.12.2020

Mr. S. Rajesh, AP

- STTP on Intellectual Property and Rights for Engineers and Scientists from 09.11.2020 to 14.11.2020.



Mr. S. Sivakumar, AP (II)

- Workshop on Universal Human Values from 03.11.2020 to 12.11.2020

Mr. T. Karuppusamy, AP (II)

- STTP on Outcome based education from 02.11.2020 to 07.11.2020



Dr. B. N. Sreeharan, AP (II)



- STTP on OBE for Technical Institutions . Phase II: OBE & Autonomy from 16.11.2020 to 21.11.2020
- Training on R . Programming from 16.11.2020 to 23.11.2020

Internships / Industrial Visit

- **Mr. ST. Harish Maran, Mr. R. Mythileshwaran, Mr. B. Aravind and Mr. S. Mathan** of third years went to internship at M/s. Unitek Hydraulics, Coimbatore from 16.11.2020 to 30.11.2020. This internship was arranged by **Dr. S. Balasubramanian, ASP**.
- **Mr. B. Praveen**, from third year taken up an internship at M/s. Indian Nippon Electrical Limited from 09.11.2020 to 10.11.2020.
- An industrial visit was arranged at M/s. INDO-CON Engineering, Coimbatore on 03.11.2020 by **Dr. S. Balasubramanian, ASP** for a student.

Scholarships

Mr. V. S. Jeeva of third year received a Scholarship amount of Rs. 10,000/- from Agaram Foundation.

Board of Studies Meeting

Board of Studies meeting for B. E. Mechanical and M. E. Industrial Engineering was conducted on 21.11.2020. Following dignitary members along with our and allied department's faculty members and student representatives were present and suggested suitable modifications in curriculum and syllabi for improving the quality of Engineers going to graduate from our department.



Dr. V. Selladurai

AU Nominee
Professor, Department of Mechanical Engineering,
Coimbatore Institute of Technology,
Civil Aerodrome Post, Coimbatore -641 014



Dr. S. Jayaraj

Academic Expert- Subject Expert
Professor, Department of Mechanical Engineering
National Institute of Technology, Calicut – 673 601.



Dr. T. Ramprabhu

Expert from Industry
Deputy Director, DRDO, Bangalore-560093.



Dr. S. Senthilvelan

Academic Expert- Subject Expert
Professor and Head,
Department of Mechanical Engineering,
Indian Institute of Technology Guwahati
Guwahati 781039 Assam, India



Mr. S. Dhatchinamoorthy

Alumni Nominee
Senior CFD Analyst, FORD Technology Services,
Chennai, India.

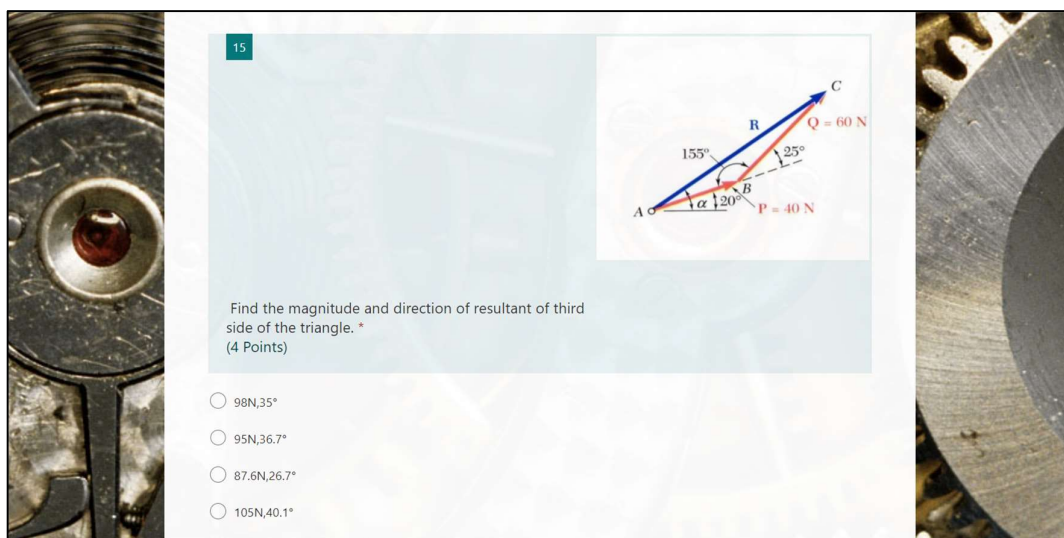
Dr. C. Velmurugan, Professor and HoD, headed the meeting and Dr. B. Senthil Kumar, ASP and Dr. M. Balaji, ASP coordinated the meeting where Mr. R. S. Mohankumar, AP was the moderator.

STUDENT ACTIVITIES

MECH MASTER

Mastering skills isn't easy, but once done it's a cakewalk for doing anything related to the skill. So, one such event for mastering the mechanical domain skillset was Mech_Master. This event was conducted on 2nd November 2020 from 4.00 PM Onwards.

Mech Master has always been the showcase event of Mechanical Engineering department. MEA aims in preparing the technical aspirants of the department to face GATE, IES and more. For that an event called "Mech Master" was introduced by the association.



15

Find the magnitude and direction of resultant of third side of the triangle. *

(4 Points)

☐ 98N,35°

☐ 95N,36.7°

☐ 87.6N,26.7°

☐ 105N,40.1°

This event was conducted in two different phases. In Phase-1 the technical aspirants were tested their technical standard in Engineering Thermodynamics and from the phase-1 were selected for phase - 2. Participants securing higher score are selected for Phase 2. The Final round the selected candidates were tested on the Engineering Mechanics.

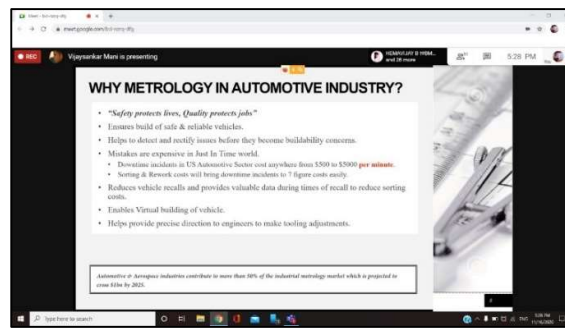
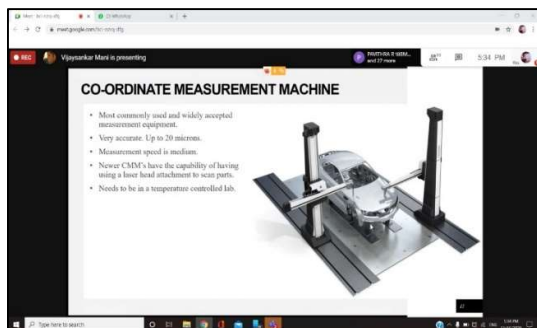
This event helped students to test their ability in Engineering Thermodynamics and Engineering Mechanics. This event was Conducted Successfully under the guidance of Dr. V. R. Muruganatham by Mr. Srivathsan V – 18BME088, Joint Treasurer – MEA and volunteered by Mr. Manav R Samant – 19BME006 and Mr. Aswin Baalaje R – 19BME069.

Mr. Arvindhan – 17BME056 won the 1st place and Mr. Tharun J – 19BME068 won the 2nd Place.

ALUMNI GUEST TALK – INDUSTRIAL METROLOGY

ME community is an initiative taken by Mechanical Engineering Association for all departments in our college. It creates opportunities to reach their career goals and ensures that they are following in the correct path. Then, through alumni connect we will be connecting the students of present and the past. In this, alumni will be sharing the path they have followed towards their success. ME community will be providing all the information a student wants to achieve his / her career goals.

MEA organised a Alumni Guest Lecture on INDUSTRIAL METROLOGY, on 16th November, 2020. This session was handled by a Mechanical Engineering alumni Mr. Vijay Sankar is a Dimensional Quality Engineer at Gestamp Alabama. He is a 2014 Passed out and is skilled in industrial metrology that is concerned with the application of measurement to manufacturing and other processes and their use in society, ensuring the suitability of measurement instruments, their calibration and quality control.

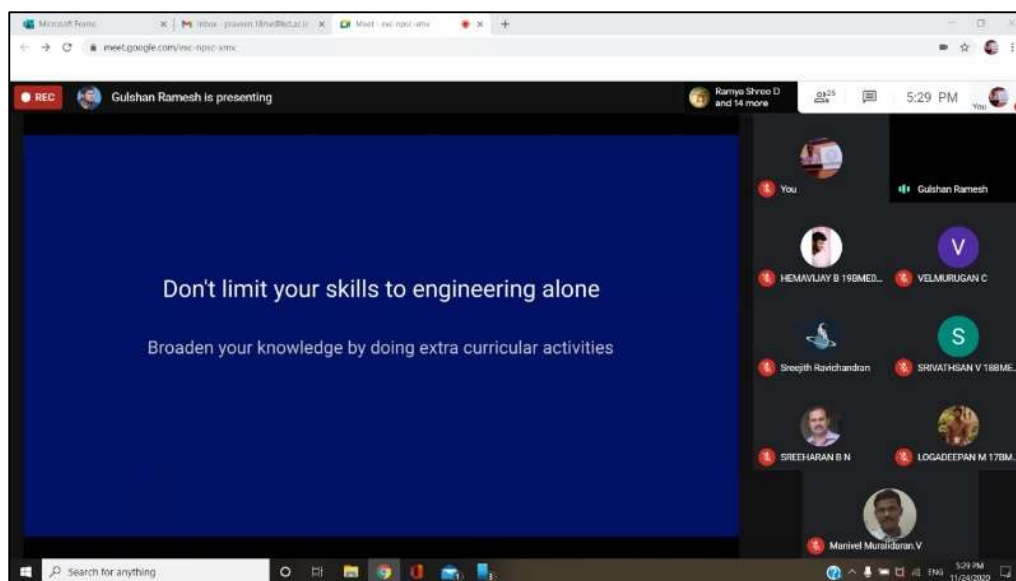


He gave an Intro to Metrology in industrial environment and their effect on Precision, Accuracy and Errors and Errors in Measurements. The types of devices that the industry uses to measure and control measures. Types of standards was discussed. He gave an insight about all measuring devices. This session proved useful for the attendees since it dealt with a mechanical engineering core paper ENGINEERING METROLOGY.

This Session was arranged by Dr. A P Arun and Dr. C Velmurugan. Ms. Pavithra – 18BME106 and Mr. Kishore Krisna – 19BME013 coordinated the event.

ALUMNI GUEST TALK – ENGINEER TO DESIGNER

Another Alumni Guest Lecture on **Engineer to Designer** was organised on 24th November, 2020 and Mr. Gulshan Ramesh Chand is a UX designer and strategist with over 10 years of experience in user experience design and research. He is a 2008, passed out Mechanical alumni and currently a Senior UX Designer, Payroll at Zenefits San Jose, California, United States. He has coordinated with cross functional teams such as product, design, quality, and offshore teams to implement multi-functional prototypes to emulate end-to-end experiences.

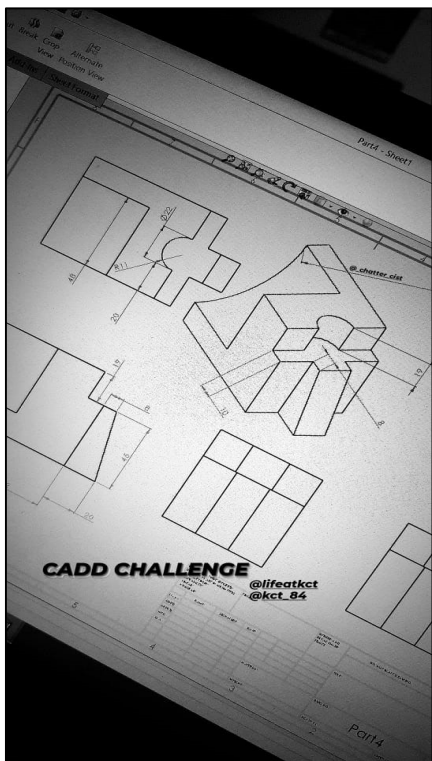


He shared his experience in becoming a design expertise from a engineer. He also made a clear picture that mechanical engineers can survive in any sort of industry. He emphasized the use of learning Programming languages and gaining computer knowledge whenever needed.

This Session was arranged by Dr. A P Arun and Dr. C Velmurugan. Ms. Pavithra – 18BME106 and Mr. Kishore Krisna – 19BME013 coordinated the event.

CADD CHALLENGE

Design is so simple, that is why it is so complicated. This event was primarily held to test the participant's knowledge in CADD. This event enables the students to get ready to assess diverse areas in Engineering Graphics such as isometric, orthographic, etc. to Explore and develop their drawing skills and knowledge which are helpful in placements, they target!!!



This event was conducted on 20th November, 2020. Topics were shared to students of KCT through posters earlier. This event consisted of 2 rounds. First round had multiple choice questions on engineering graphics and second round had the participants draw the required diagram. Second round participants were selected by the event organizer by choosing high scoring students in the first round.

This Event was conducted with a set of Rules and Regulations. In 1st round, 25 Questions will be asked, and the Participants must complete them in 45 Minutes. 1 mark will be allotted for each correct answer and there are no negative marks. This round started by 4:00 PM ended smoothly by 4:50PM. In 2nd round, 2 questions will be asked, and participants must complete them in 1 hour. This round started by 5:30PM ended smoothly by 6:30PM.

Prize voucher worth 1.5K was given to the participants. A total of 28 participants registered and 19 students took part in first round. Out of 19 students, 10 students are selected for second round. This event gathered participants from various departments. Mr. Praveen B – 18BME092 won the 1st place and Mr. Sreejith – 18BME082 won the 2nd Place.

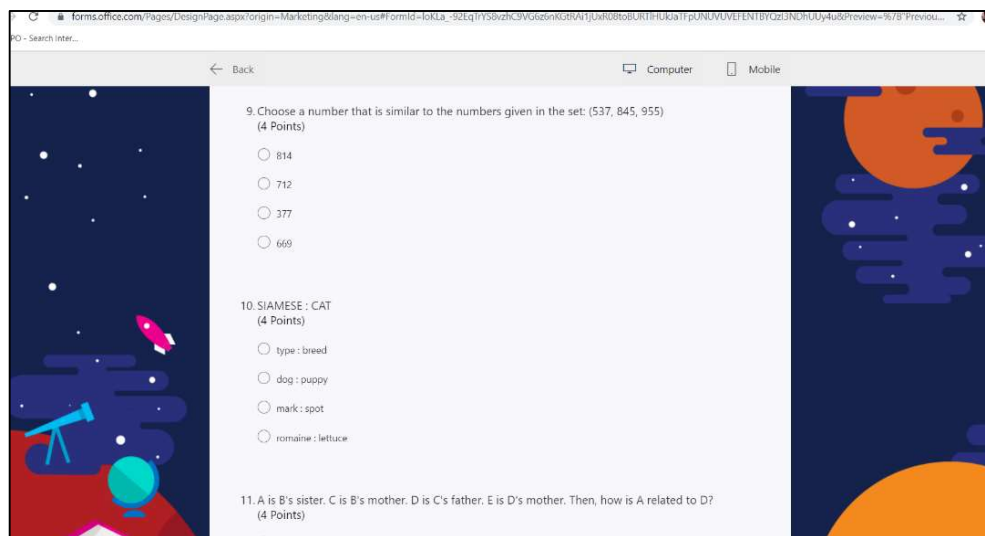
This event was organized under the guidance of Dr.V.R.Muruganantham by Mr. Ashwinth - 19BME026 and Mr. Sudharshan - 19BME099.

APTITUDE STAND A CHANCE

Aptitudes stand a Chance is an event organized by MEA for the sake of clearing the preliminary round during Placements. The Pre-Final years are the most targeted in this event. This event made the students to get started with aptitudes regularly, solve brain teasers and puzzles, that helped improve their logical skills.

They started to practice different kinds of problems again and again to master them. In this event they were ready to assess diverse areas such as problem solving, logic, technical and linguistic capacity also Explore and develop their aptitude solving skills to score better in every competitive exam or placements, they target.

This event was conducted on 13th November 2020. Syllabus has been framed and questions are selected for the test only on Qualitative Reasoning. Topics includes Blood Relation, Analogy, Seating Arrangements, Sequences.



The screenshot shows a web browser window displaying a form titled "forms.office.com/Pages/DesignPage.aspx?origin=Marketing&lang=en-us#formid=1&MLA_92LqTfY5b2hC3V5Gzntc39A1JUM86bURTFUKa17pJUNLVVETENTP2G2N2Uy4u8Preview-%7B%7D". The interface includes a "Back" button, "Computer" and "Mobile" device selection options, and a search bar. The test content is displayed on a dark blue background with a space-themed illustration of a rocket and planets. The questions are as follows:

9. Choose a number that is similar to the numbers given in the set: (537, 845, 955)
(4 Points)
☐ 814
☐ 712
☐ 377
☐ 669

10. SIAMESE : CAT
(4 Points)
☐ type : breed
☐ dog : puppy
☐ mark : spot
☐ remain : lettuce

11. A is B's sister. C is B's mother. D is C's father. E is D's mother. Then, how is A related to D?
(4 Points)

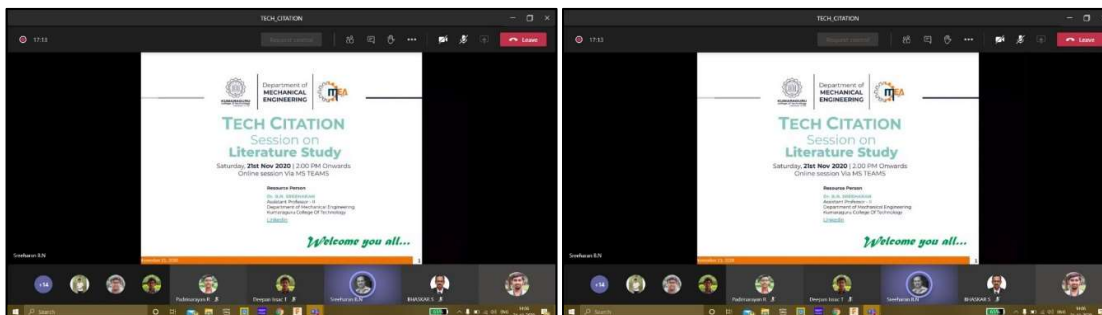
This test comprises of 30 questions for which 4 marks are awarded for each correct answer and for each wrong answers the score is reduced by 1.

This event was conducted successfully under the guidance of Dr. V R Muruganantham, Faculty Coordinator, MEA coordinated by Mr. Praveen B - 18BME092 and the volunteers were Ms. Nandhini V - 18BME068, Mr. Deepan Issac T - 18BME050, Ms. Pavithra R - 18BME106, Mr. Joshua Peter A - 18BME084.

TECH CITATION

Expression of ideas make a person explore. One such initiative for students in which they are encouraged to write research and review papers. The ideal takeaways from the sessions were that the students were able to analyse the need of the hour and write appropriate research or review papers on journals which would help them increase their profile weightage and also engaging them in a proper path for a bright future.

TECH CITATION: An initiative to showcase and enhance technical writing skills such as analysing, reviewing, technical writing. A lot of people may think up good ideas, but what they think usually ends up confined to themselves alone and they never get a real world evaluation of their innovative ideas which could lead them to a path of success and fame. Providing an opportunity for student researchers to disseminate their latest research results in various fields of engineering, we provide this Platform. This event will be an excellent platform to showcase your original ideas and comprehensive technical research and exchange views on the future research directions in various fields of science and engineering.



These sessions were conducted on 08th November, 2020 and on 21st November 2020 by Dr. B N Sreeharan. This has been an awareness program for all the Mechanical Engineering Students.

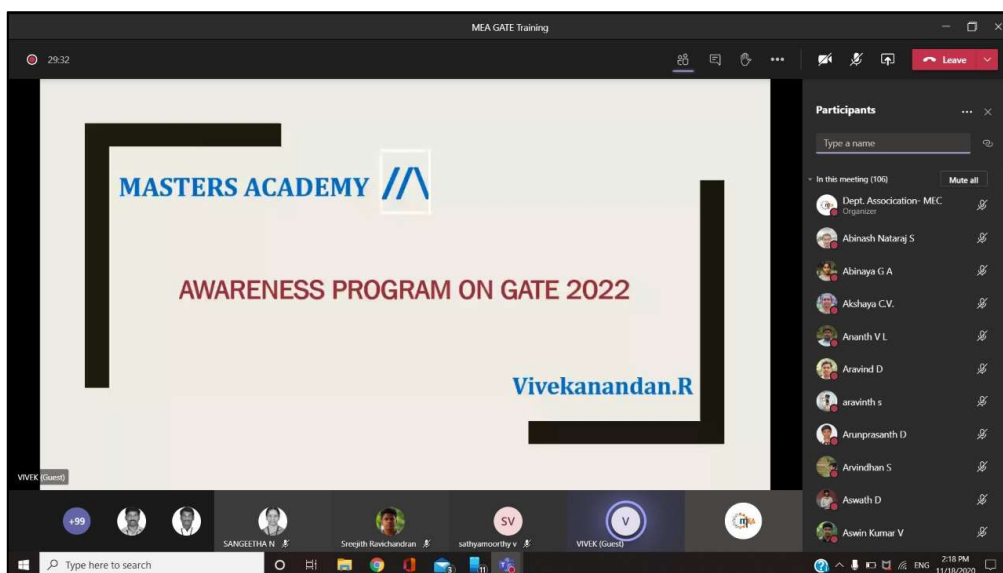
These sessions were all about "Literature Study". Second Session was organised as take away session from the previous session. During the second session students clarified their queries. All Queries regarding review papers, downloading review papers were discussed. He also elaborated about finding a review paper using Keywords, DOI Numbers. Demo on Mendeley software was illustrated and Mendeley software has been shared to the participants.

This has been an awareness program for all the Mechanical Engineering Students.

GATE SESSION

The Guest Lecture on “GATE Awareness Programme” by Masters Academy, Coimbatore was held on 18th November, 2020. The purpose of this session is to make the students get aware about the strategy to crack competitive exams with AIR.

The students from second and third year have participated in this interactive session. The session started by Mr. V Sathyamoorthy, a GATE educator from Unacademy, addressed the students for preparing gate exam. He highlighted the ways of preparation and the references for various subjects.



Then followed by Mr. R Vivekananthan, a GATE educator from Unacademy, gave tips to the student for the preparation of Strength of materials. They also gave ideas for solving Mathematics & Aptitude, General ability. He shared his own experience and different ways for preparation. He discussed about the various possibilities for cracking gate exam and the credits of this exam. He also explained about the facilities and packages available in Masters Academy for the students. Queries were discussed about the section.

This session was organized by Mr. Manav R Samant – 19BME006, under the guidance of Mr. Sreejith R – 18BME082, Higher studies and competitive exam coordinator. Dr. N Sangeetha helped in organizing this session. The Unacademy provided 30 days free coaching for the students of KCT.

Students Articles

Restoration of Vintage Cars in India



Mr. Nitheeshwar R K
19BME069 - 2nd year
Mechanical Engineering B

There are most people in India who are deemed as authentic auto connoisseurs owing to the types of vehicle they own or have in collection. Several old cars in India belong to the luxury auto giants of the bygone era as well as the present world. These cars not only depict the splendiddness of the periodic time but also showcase the high standards of the owners. These cars are parked in the collection houses of famous celebrities, famous personalities, and other niches of the society. It is astonishing to believe that a considerable number of old cars in India have survived almost a decade. In such conditions, proper maintenance of these vintage cars becomes necessary as these models are not only a beauty to look at but are also a priceless piece of automotive engineering. Restoration of vintage cars demands excessive research and efforts of the owner. These vehicles require constant care and mechanical check-ups to ensure their durability. There are many vintage car restoration tips, that can be utilised by prospective buyers to ensure that their vehicles function properly throughout the entire life.

- The most common issue faced by vintage car owners in India is the vehicle's body getting corroded. Once rusted, the exterior of a car cannot bear further savages of time and wears off quickly. To make sure that these classic cars do not catch rust, they should be serviced timely and mid products should be used in their cleaning.
- Restoration of vintage cars is a strenuous task as the mechanical parts and body structure of these vehicles is conventional. Therefore, an expert or a highly skilled mechanic should be consulted before initiating any repairing work in the classic cars. Among the most significant classic car restoration tips is to always choose authentic and reliable parts of the vehicle. These old cars become fragile after certain period and might be affected if their worn-out parts are repaired locally.
- During the restoration of vintage cars, owners might also face a problem of unavailability of body and engine parts of these vehicles. As these cars are rare and exclusive, their parts are also not easily available in the global market. Therefore, the buyers must take a note of the necessary replacements of classic cars and try ordering them in advance to avoid any last-minute rush.
- Preparing a monthly repairing schedule is also one of the important classic car restoration tips. Rather than attempting to rectify all the problems at once, the restoration work should be divided into small tasks depending upon the time required and budget needed for each process.

The old cars in India are mainly from the lot of auto giants, such as Jaguar, Rolls-Royce, Mercedes-Benz, Ford, Fiat, Austin, MG Motor, Morgan, and Chevrolet. While most of these auto brands are still present in the global automotive arena, others have stopped production of their vehicles. Therefore, it becomes necessary for vintage vehicle owners and buyers to carefully select the models to make sure that the cars do not undergo steep depreciation in a quick time. Choosing and buying a vehicle that runs is also an important decision rather than opting for a car, which is immovable and can only be used as a showpiece.



KUMARAGURU college of technology

COIMBATORE – 641 049

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 centre, 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.

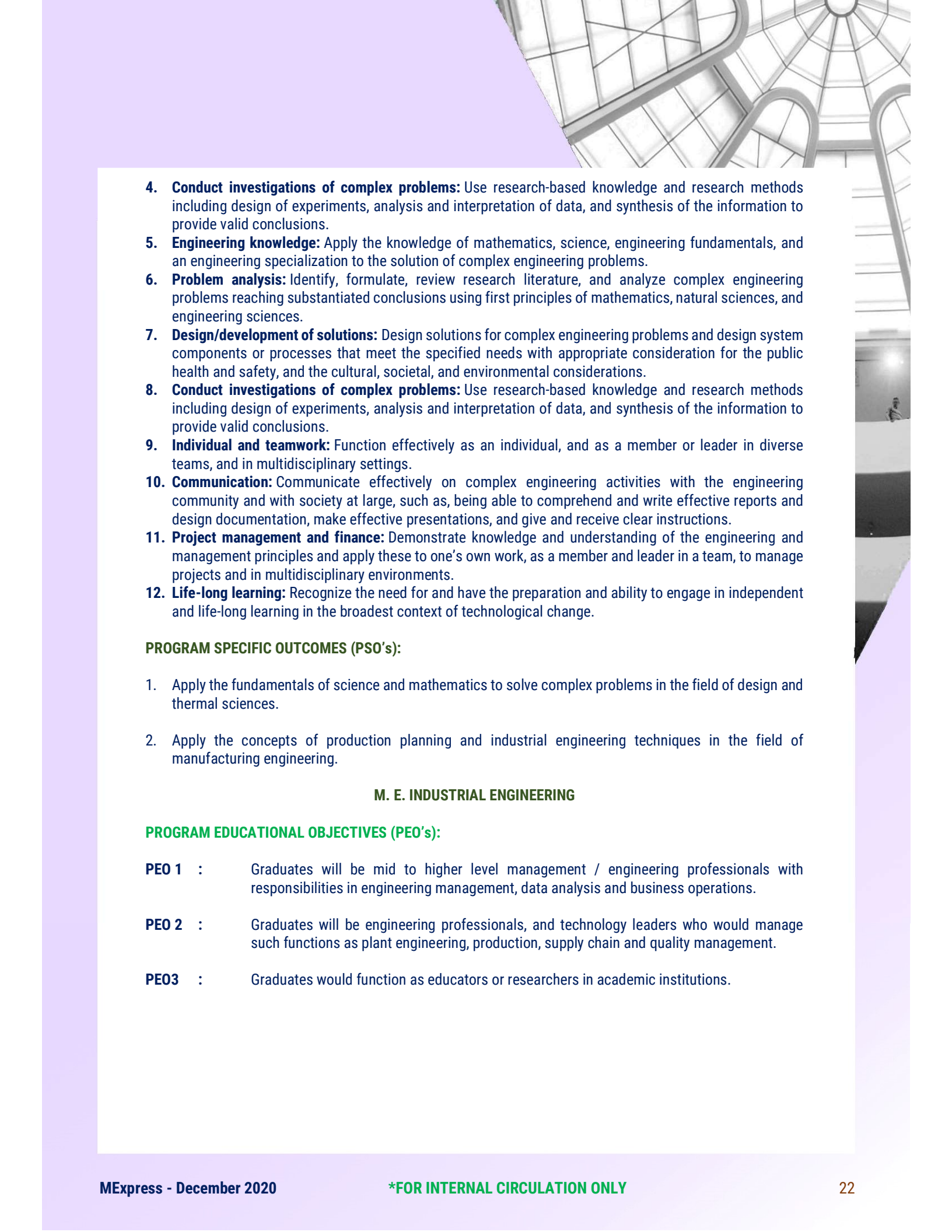
B. E. MECHANICAL ENGINEERING

PROGRAM EDUCATIONAL OUTCOMES (PEO's):

- 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.

PROGRAM OUTCOMES (PO's):

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.

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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. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
 6. **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.
 7. **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.
 8. **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.
 9. **Individual and teamwork:** 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.

PROGRAM SPECIFIC OUTCOMES (PSO's):

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.

M. E. INDUSTRIAL ENGINEERING

PROGRAM EDUCATIONAL OBJECTIVES (PEO's):

- PEO 1 :** Graduates will be mid to higher level management / engineering professionals with responsibilities in engineering management, data analysis and business operations.
- PEO 2 :** Graduates will be engineering professionals, and technology leaders who would manage such functions as plant engineering, production, supply chain and quality management.
- PEO3 :** Graduates would function as educators or researchers in academic institutions.



PROGRAM OUTCOMES (PO's):

- P01 :** An ability to independently carry out research /investigation and development work to solve practical problems.
- P02 :** An ability to write and present a substantial technical report/document.
- P03 :** Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.

PROGRAM SPECIFIC OUTCOMES (PSO's):

- PS01 :** Graduates able to apply the engineering management and data management concepts in industrial engineering areas.
- PS02 :** Graduates able to apply industrial engineering skills and knowledge to manage the functions of production and supply chain management.

M. E. CAD/CAM

PROGRAM EDUCATIONAL OBJECTIVES (PEO's):

- PE01 :** Graduates excel in Professional career and/or higher education or/ research by continuously updating the knowledge and skill in the fields of Computer Aided Design and Manufacturing.
- PE02 :** Graduates can analyze the complex problems using advanced modelling and analysis tools and thereby solve problems related to product design and manufacturing area.
- PE03 :** Graduates work individually and also in a team with effective communication skills and pursue lifelong learning.

PROGRAM OUTCOMES (PO's):

- P01 :** An ability to independently carry out research /investigation and development work to solve practical problems.
- P02 :** An ability to write and present a substantial technical report/document.
- P03 :** Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program

PROGRAM SPECIFIC OUTCOMES (PSO's):

- PS01 :** Graduates will be able to apply the knowledge and skill in solving the real-time problems in the Computer Aided Design and Manufacturing field.
- PS02 :** Graduates will be able to analyse complex problems and provide solutions using advanced tools in product design and manufacturing area.