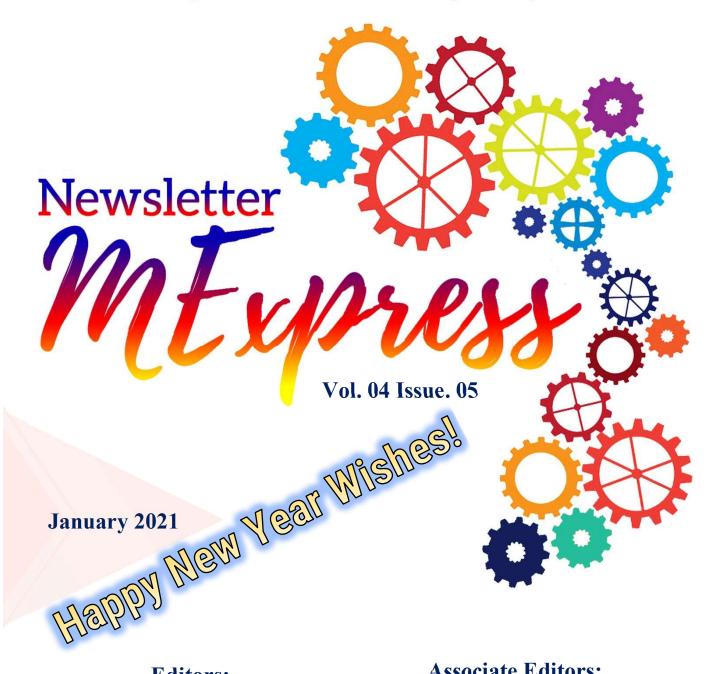


KUMARAGURU COLLEGE OF TECHNOLOGY



Department of Mechanical Engineering



Editors:

Dr. C. Velmurugan

Dr. B. N. Sreeharan

Associate Editors: Mr. Padrinarayan R Mr. Praveen B Ms. Rushethra P N

Associate Editor's Folio

AN OUTLINE OF ROTATIONAL MOTION

INTRODUCTION

One of Albert Einstein's well-known quotes is, "Nothing happens until something moves." Motion is life. Movement is a vital nutrient to our body, just as much as food, water, or oxygen. It feeds the brain, producing essential nutrient stimulation. Motion, in physics, change with time of the position or orientation of a body.

ROTATIONAL MOTION

One of the types of motion, Rotational motion which can be defined as a motion of an object around a circular path, in a fixed orbit. It can also be defined as the motion of a body, in which all its particles move in a circular motion with a common angular velocity, about a fixed point.



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

EXAMPLE

For an example we can consider the motion of a wheel, we cannot consider a wheel as a single particle because different parts of the wheel in motion has different velocities and acceleration. Rigid bodies have definite shape and size, and they can have both rotational and translational motion.

REAL LIFE APPLICATION

A person performing a Somersault, is an example of rotational motion. When we open a cap of any soda bottle, it jumps up in the air because of

pressure released and is an example of rotational motion. Fan moving in the house, table fan, hand blender's blades motion are all examples of rotational motion. We see rotational motion in almost everything around us. Every machine, celestial bodies, most of the fun games in amusement parks and in FIFA, when we watch David Beckham's familiar shot, the ball is executing rotational motion. Motion of wheel, gears, motors, etc is rotational motion. Motion of the blades of the helicopter is also rotatory motion. A door, swivelling on its hinges as we open or close it.

CONCLUSION

Objects turn about an axis. All the particles and the mass centre do not undergo identical motions. All the particles of the body undergo identical motion. It becomes essential for us to explore how the different particles of a rigid body move when the body rotates.

Departmental Activities

Programmes Organized

 Dr. C. Velmurugan, Professor & HoD organized a Ph. D. Viva Voce meeting on 19.12.2020, where a DC member is from Anna University and Dr. T. Kannan, Principal, SVS College of Engineering, Coimbatore being the other DC member attended the meeting.



- Following programmes were organized by the department under Mechanical Engineering Association.
- Mech Master 19-12-2020
- > CADD Challenge 12-12-2020
- Aptitude Test Series 02-12-2020



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



An online guest lecture on "Awareness on preparing for Government Competitive exams" was organized by the department on 18-12-2020. The guest lecture was coordinated by **Dr. A. P. Arun**, AP (II).

 Another online guest lecture was organized in the department by Dr. S. Balaji, AP on behalf of the department. The guest lecture was titled as "Manufacturing of Aircraft Components". It was conducted on 18.12.2020.





- Dr. V. Muthukumaran, Professor on behalf of KLDA organized a 7 days FDP on "R-Programming" in collaboration with Spoken Tutorial, IIT Bombay during the month of November and December 2020.
- On behalf of KLDA, he also organized another training programme on "Effective use of Microsoft Word and Microsoft Powerpoint" for the benefit of staff members of KCT on 30.12.2020.

Value Added Courses



Dr. P. S. Samuel Ratna Kumar, Assistant Professor handled a Value-Added Course on "Nanotechnology: Mechanical Engineering's New Frontier" during 11-12-2020 and 30-12-2020 for the third-year students.

Mr. S. Sivakumar, Assistant Professor – II handled a Value-Added Course on "Renewable Energy" during 11-12-2020 and 30-12-2020 for the final year students.



Faculty as Resource Persons



Dr. S. Sivakumar, Assistant Professor – III was the resource person on 14-12-2020 and 21-12-2020 and delivered guest lectures in Six Day Online AICTE – STTP on Modelling and Computational Techniques for Multiphase Systems, organized by Department of Mechanical Engineering, KSR College of Engineering (Autonomous), Tiruchengode.

Dr. S. Bhaskar, Associate Professor, was the resource person in the following programme whose details are given below.



- (1) Handled a 02-hour session on NBA Criterion-03 (Tier-2) in the Margdharshan scheme "six days workshop cum hands on training on Outcome Based Education (OBE)" from 02.12.2020 to 08.12.2020 on 07-12-2020 organised by Sri Sai Ram Engineering College, Chennai.
- (2) Handled a 02-hour session on the topic "Concepts in OBE" on 14th December 2020 in the Two Week AICTE Sponsored FDP Delivering OBE in Management Education: Objectives, Best Practices and Measurement of Outcomes (from 07 December 2020 to 19 December 2020) conducted by SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS) DEPARTMENT OF MBA (SAINTGITS INSTITUTE OF MANAGEMENT), Kerala.
- (3) Handled a 02-hour session on "Holistic approach to become an enlighten teacher" M.A.M. COLLEGE OF ENGINEERING AND TECHNOLOGY Siruganur, Tiruchirappalli, Tamil Nadu, India 621 105. AICTE Short Term Training Programme 2020 on Enhancement and reinforcement of moral ethics to the learned faculty members Phase III Monday 14.12.2020.

- (4) Handled a 02-hour session on the topic "Academic Audit" on 16th December 2020 in the Two Week AICTE Sponsored FDP Delivering OBE in Management Education: Objectives, Best Practices and Measurement of Outcomes (from 07 December 2020 to 19 December 2020) conducted by SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS) DEPARTMENT OF MBA (SAINTGITS INSTITUTE OF MANAGEMENT), Kerala.
- (5) Handled a 02-hour session on "Unsighted cases of Gurus converting dreams into reality" -M.A.M. COLLEGE OF ENGINEERING AND TECHNOLOGY Siruganur, Tiruchirappalli, Tamil Nadu, India – 621 105. AICTE – Short Term Training Programme – 2020 on Enhancement and reinforcement of moral ethics to the learned faculty members – Phase III - Thursday 17.12.2020.
- (6) Handled a one-and-a-half-hour session on 19.12.2020 on "Outcome Based Education" during the 61st Online Refresher Course: Teacher Educators: Learning outcomes and Educational Reform-Pedagogy, Assessment and Quality Assurance (07-12-2020 to 20-12-2020) organised by UGC - Human Resource Development Centre (UGC-HRDC) Sardar Patel University Mota Bazar, Opp. SICART, Vallabh Vidyanagar-388 120, Gujarat



Dr. S. Balasubramanian, Associate Professor was the resource person in a One-day online Webinar on "INDUSTRY 4.0 for ENTREPRENEURSHIP" in Lughu Udyog Bharathi on 05-12-2020.

Dr. B. N. Sreeharan, AP (II) was the trainer in the training programme on "Effective use of Microsoft Word and Microsoft Powerpoint" on 30-12-2020 for the staff members of the various departments conducted by KLDA of KCT.



Papers Presentations

Dr. V. Manivel Muralidaran, AP (II) and **Dr. M. Balaji**, ASP presented a paper entitled "Design of workplace in assembly Unit using Ergonomic principles" in the First International Conference on Future technologies in Manufacturing, Automation, Design and Energy organized by NIT, Puducherry conducted between 28-12-2020 and 30-12-2020.





Papers Submitted

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

- Dr. K. K. Arun, AP (III)
- Dr. K. Krishnamoorthi, AP (II)
- Mr. V. R. Navaneeth, AP



Papers Publications

Mr. M. A. Vinayagamoorthi, AP (II) & **Dr. S. Balasubramanian**, ASP published a paper entitled "Effects of bottom plate in friction stir welding of AA6061-T6" in the Journal of Metall. Res. Technol.

Papers Reviewed



Dr. P. S. Samuel Ratna Kumar, Assistant Professor reviewed the following papers in the respective WoS / Scopus indexed journals as mentioned thereof.

- (1) Analysis of Three-dimensional Fluorescence Characteristics of Extracellular Polymeric Substances at Internal Points in MPR at Low Temperature, IOP Conference Series: Earth and Environmental Science.
- (2) Application of data computing for resource scheduling in manufacturing industries, Elsevier-Materials Today: Proceedings.
- (3) Erosion Studies of SS316L Using Water Jet Machine (WJM) for the Piping Applications, Elsevier- Materials Today: Proceedings.
- (4) Experimental Investigation on Mechanical of Randomly Oriented Treated Palmyra Fibre Reinforced Polyester Composites, Elsevier- Materials Today: Proceedings.
- (5) Experimental Investigation of Flow Visualization of Vortex Shedding on a Flow Over Square Block, Elsevier- Materials Today: Proceedings.



Dr. V. Muthukumaran, Professor reviewed a paper titled "Statistical Evaluation on Physical and Mechanical Properties of Concrete Containing Green Mussel Shell (Perna viridis) Ash as an Admixture" for the WoS / Scopus indexed International Journal of Engineering, Design and Technology.

Dr. S. Thirumurugaveerakumar, ASP reviewed a paper titled "A prediction of Cutting Force, System Vibration, and Productivity in Five-Axis Milling Process of the Spiral Bevel Gear of Special for the Scopus indexed Advances in Science, Technology and Engineering Systems Journal (ASTESJ).



Ph. D. Completed



Mr. K. Ramesh Kumar, AP (II) has successfully completed the oral examination held on 30-12-2020 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.

Online Courses / Programmes



- Mr. T. R. Sukumar, Associate Professor, participated in FDP on Manufacturing applications of micro machining with emphasis on make in India from 14-12-2020 to 20-12-2020.
- Mr. T. Karuppusamy, Assistant Professor II, taken up an Online Course on NPTEL - TALE from 02-09-2020 to 02-12-2020.





- Mr. S. Sivakumar, Assistant Professor II, participated in STTP on Future trends in Nanomechanics with Feast 2. Robotics and Automation 3. IOT from 11-09-2020 to 27-11-2020.
- Mr. S. Rajesh, Assistant Professor, participated in AICTE Sponsored STTP on Recent Advances in Industrial Automation and Robotics from 14-12-2020 to 19-12-2020.





- Mr. P. D. Devan, Assistant Professor, participated in AICTE Sponsored STTP on Recent Advances in Industrial Automation and Robotics from 14-12-2020 to 19-12-2020.
- Mr. M. Thirumalaimuthukumaran, Assistant Professor II, participated in Seminar - Elsevier online on How to design effective figures for review articles, How to use the appropriate academic language, How to write a persuasive submission letter for your paper, Writing-persuasive-coverletter-manuscript-certificate from 29-12-2020 to 29-12-2020.





- Mr. M. A. Vinayagamoorthi, Assistant Professor II, participated in Online Course on NPTEL Design Thinking - A primer from 01-09-2020 to 01-12-2020.
- **Dr. V. R. Muruganantham**, Associate Professor, participated in AICTE Sponsored STTP on Recent Advances in Industrial Automation and Robotics from 14-12-2020 to 19-12-2020.





- Dr. V. Manivelmuralidaran, Assistant Professor II, participated in Online Course on Welding technology for fresh engineers organised by Indian Welding Society from 07-12-2020 to 12-and he also taken up an Online Course on Advanced Materials and Manufacturing Processes by NPTEL from 01-09-2020 to 01-12-2020.
- Dr. S. Thirumurugaveerakumar, Associate Professor, participated in FDP on R Programming from 16-11-2020 to 23-11-2020.





 Dr. S. Bhaskar, Associate Professor, participated in AICTE Sponsored STTP on Enhancement and reinforcement of moral ethics to the learned faculty members from 07-12-2020 to 12-12-2020.



- Dr. S. Balasubramanian, Associate Professor, participated in Seminar on IIC MHRD from 04-12-2020 to 04-12-2020, Online Quiz on Entrepreneurial skill Scrollwell EduTech LLP from 06-12-2020 to 06-12-2020, Online Course on Entrepreneurship and Start ups from 12-05-2020 to 17-12-2020, Webinar on Aircraft Manufacturing- Aeronautical Society of India from 19-12-2020 to 19-12-2020 and Online Course on Design Thinking A primer from 01-09-2020 to 01-12-2020.
- Dr. P. S. Samuel Ratna Kumar, Assistant Professor, participated in AICTE Sponsored STTP on Engineering Education-A Pedagogical Approach from 14-12-2020 to 19-12-2020 and in AICTE Sponsored STTP on Recent Advances in Industrial Automation and Robotics from 14-12-2020 to 19-12-2020.





- **Dr. P. R. Ayyappan**, Assistant Professor SRG, participated in FDP on 3D printing and design from 12-09-2020 to 12-11-2020.
- Dr. K. K. Arun, Assistant Professor III, taken up a Coursera course on Introduction to the Internet of Things and Embedded Systems from 01-12-2020 to 01-12-2020.





- Dr. C. Velmurugan, Professor & HoD, participated in Seminar on National Higher Education Conclave 2020 Transformations and Challenges in Higher Education- New Normal and Beyond from 12-04-2020 to 12-05-2020.
- Dr. B. N. Sreeharan, Assistant Professor II, participated in Webinar Series on Innovations in Mechanical Engineering and Science from 08-12-2020 to 12-12-2020, STTP on Outcome Based Education for Technical Institutions Phase III: Outcome Based Education & Accreditation from 10-12-2020 to 16-12-2020, FDP on OBE Implementation, NBA Road Map and ICT Tools for Effective Teaching from 28-12-2020 to 30-12-2020 and also taken up an Online Course on NPTEL TALG from 02-09-2020 to 02-12-2020.

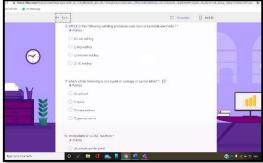


Student Activities

Mr. MECHANIC

MEA has organized an event named Mr. Mechanic to test their skills and knowledge in Technical aspects and ability to convert participants theoretical knowledge into practical one. This is an event where participants show how strong they are in industrial practices. This event was conducted on 02nd December 2020 from 4:00 PM Onwards.





In 1st Round participants were made to attend preliminary MCQ's on general mechanics and based on their performance, In the 1st round, the participants were tested on basic Manufacturing Processes and Industrial Engineering. A set of 30 questions were framed, and Participants with top score are selected for Second Round.

In the 2nd Round, the selected participants were given a set of slides, and participants were asked to select a slide number. The component lying in that slide will be the topic for them and they were asked to speak on the topic for a minute. The participants were judged based on their presentation of topics, usage of words, attitude and some other factors.

The Judges for this event was Mr. Logadeepan – 17BME230, Ms. Rushethra P N – 17BME080, Mr. Joshua Peter – 18BME084. This event was Conducted Successfully under the guidance of Dr. V. R. Muruganantham by Mr. Ashwinth K V – 19BME026 and Mr. Sudharshan – 19BME099.

Mr. Manav R Samant – 19BME006 won the 1st place and Mr. Barani M – 19BME091 won the 2nd Place.

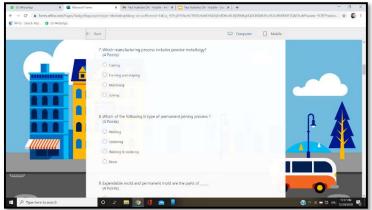
MECH MASTER

Mastering skills is not 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 18th December 2020 from 5:45 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.

This event was conducted in two different phases. In Phase-1 the technical aspirants were tested their technical standard in Manufacturing Process 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 Thermodynamics.



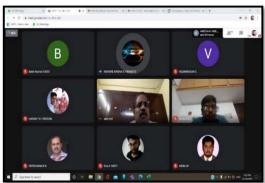


This event helped students to test their ability in Engineering Thermodynamics and Manufacturing Processes. This event was Conducted Successfully under the guidance of Dr. V. R. Muruganantham by Mr. Karutthu Vinaayaga lyyappan I N – 18BME201 and volunteered by Mr. Sudharshan K – 19BME099 and Mr. Mohamed Thoufeek – 19BME094.

Mr. Manav R Samant – 19BME006 won the 1st place and Mr. Barani M – 19BME091 won the 2nd Place.

ALUMNI GUEST TALK – Awareness on Government Competitive Exams

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 an Alumni Guest Lecture on Awareness on Government Competitive Exams, on 19th December 2020. This session was handled by a Inspector of Motor Transport Department. Mr. Arunachalam V has a experience as a Service Engineer at Maruthi cars and as a Maintenance engineer at IOCL-Manali. He was selected in various Government jobs as an Automobile engineer, Inspector of factories, Assistant Director at Department of Industries and Commerce in Chennai, Assistant Director of employment and Training.

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. Mr. Manav R Samant – 19BME006 and Mr. Kishore Krisna – 19BME013 coordinated the event.

GUEST TALK - Manufacturing of Aircraft Components

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.



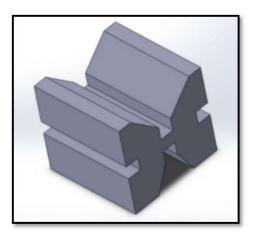
Another Guest Lecture on Manufacturing of Aircraft Components was organised on 19th December, 2020 and Shri. Ashok Aseri, a former General Manager of HAL and Vice-Chairman of Aeronautical Society of India, Bangalore. He is currently a Senior Consultant at Dheya Engineering Technologies, Private Limited. He worked in Hindustan Aeronautics Limited for 36 Years and he was also the Resident Manager HAL of Europe Region.

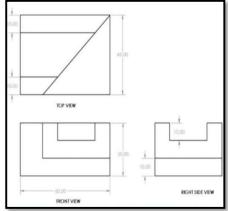
He shared his experience working in HAL, then he gave an insight on manufacturing processes involved in aircrafts. He then depicted various projects undertaken by HAL for the Indian Airforce. He also mentioned about the role of an Indian Citizen in Aircraft development. Safety and Security of workers in workplaces were also discussed.

This Session was arranged by Dr. S Balaji – Assistant Professor I and Mr. Praveen – 18BME092 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 12th December 2020. Topics were shared to students of KCT through posters earlier. This event consisted of 2 rounds. 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 5:00 PM ended smoothly by 5:50 PM. In 2nd round, 2 questions will be asked, and participants must complete them in 1 hour. This round started by 6:30 PM ended smoothly by 7:30 PM. Prize voucher worth 1.5 K was given to the participants. A total of 44 participants registered and 28 students took part in first round. Out of 28 students, 10 students are selected for second round. This event gathered participants from various departments.

Mr. Indrajith – 17BME126 won the 1st place and Mr. Kavin Prabhu – 18BME008 won the 2nd Place. This event was organized under the guidance of Dr. V.R. Muruganantham by Ms. Madhumitta P - 18BME064, volunteered by Mr. Kishore Krisna – 19BME013 and Ms. Preethi Sri – 19BME011.

Students Achievements

COURSES COMPLETED:

- Mr. Praveen B 18BME092 has completed following online courses
 - Quantitative Aptitude Basics provided by Great Learning.
 - Smart English Basics for Professionals provided by Great Learning.
 - Smart English Basics for Professionals provided by Coursera.



EVENTS ATTENDED:

❖ Mr. Praveen B - 18BME092, Ms. Pavithra - 18BME106, Mr. Sreejith - 18BME082, Ms. Madhumitta P - 18BME064, Mr. Aravind Kumar KS - 18BME120 has attended a live session with the Honorable Minister of State in the Ministry of Steel - Shri. Faggan Singh Kulaste organized by WEXPO INDIA on 6th December 2020.



CLUBS AND FORUMS:

Kumaraguru HAASYA:

- ❖ Mr. Aswath D − 17BME147, Mr. Kavinprasanth − 17BME156 as a part of Kumaraguru HAASYA played a role in Types of People during Online Class video. This Video has been Released in Kumaraguru HAASYA official Instagram page.
- Mr. Kishore Krisna 19BME013 as a part of Kumaraguru HAASYA played a role in Online Exam Alaparaigal. This Video has been Released in Kumaraguru HAASYA official Instagram page.
- Mr. Kishore Krisna 19BME013, Mr. Karthick Kumar 18BME151 as a part of Kumaraguru HAASYA played a role in Haasya Debate video. This Video has been Released in Kumaraguru HAASYA official Instagram page.



Mr. Aswath 17BME147



Mr. Kavinprasanth 17BME156



Mr. Kishore Krisna 19BME013



Mr. Karthick Kumar 18BME151

TEAM EVOKE:

- Vaathi Coming Cover: As a Part of TEAM EVOKE, Mr. Aakash 17BME095, Mr. Nikhilesh 18BME052, Mr. Ponmukesh 18BME133 played a short Dance Cover. This Video has been Released in TEAM EVOKE official Instagram page.
- Thalapathy Mashup Cover: As a Part of TEAM EVOKE, Mr. Aakash 17BME095, Mr. Nikhilesh 18BME052 played a short Dance Cover. This Video has been Released in TEAM EVOKE official Instagram page.
- ❖ Anirudh Mashup (Idhu Paatu 1): As a Part of TEAM EVOKE, Mr. Nikhilesh 18BME052 played a short Dance Cover. This Video has been Released in TEAM EVOKE official Instagram page.
- ❖ ARR Shankar Mashup (Idhu Paatu 2): As a Part of TEAM EVOKE, Mr. Aakash 17BME095, Mr. Hariharan 19BME116, Ms. Pavithra 18BME106 played a short Dance Cover. This Video has been Released in TEAM EVOKE official Instagram page.

*

❖ Maestros Mix (Idhu Paatu 3): As a Part of TEAM EVOKE, Mr. Aakash – 17BME095, Mr. Nikhilesh – 18BME052, Mr. Rishimaran – 19BME018 played a short Dance Cover. This Video has been Released in TEAM EVOKE official Instagram page.



Mr. Aakash 17BME095



Mr. Hariharan 19BME116



Mr. Nikilesh 18BME052



Mr. Ponmukesh 18BME133



Ms. Pavithra 18BME106



Mr. Rishimaran 19BME018

ABLE Club:

❖ Mr. Mahesh Kumar – 18BME122, participated in TECHABLE event conducted by ABLE Club and won the 1st Place.

Robotics and Automation Club:

- ❖ Fusionism A Webinar on Fusion 360, a webinar conducted by Mr. S. B Aadithya, Scientific Research Assistant, University of Germany illustrated the use of Fusion 360 which is a excellent tool for precise modelling of 2D objects, 3D objects and much more. The following students participated in this webinar,
- Raaghul V 17BME107
- Mahesh Kumar U 18BME122
- Obli Karthi 19BME034
- Rojan S 17BME051

- Aswath D 17BME147
- Manay R Samant 19BME006
- Mohan 19BME017
- Rahul P 19BME020
- M. Boopathi Karthik 18BME202
- Padrinarayan R 19BME010

- Ajith Kumar S 17BME142
- B.Vignesh 17BME023
- Umapathi P 17BME064
- Pradeep 17BME070
- Raaj Khishorre K R 19BME012
- Sethu 17BME076

NSS:

- Emoticons, Home Green Home, Inspire, Know Your Rights, Patriotic, Q-Fiesta are the events conducted by NSS club of KCT and these are events organized by,
- Mr. Umapathi 17BME064
- Mr. Gugan 17BME078
- Mr. Kapil anandh 17BME007
- Mr. Sanjay 17BME167
- Mr. Antony Mathew 17BME011
- Mr. Prasanna venkatesh 18BME127
- Mr. Vasanth Kumar 18BME101
- Mr. Praveen Kumar 18BME112
 - Mr. Karthikeyan 18BME094
 - Mr. Saran 18BME118

RRC:

- ❖ Mos-Quit-O, Pets Cam, Quizcine, யொவன சமுதாயம், Detox, Grasp and Scrawl, Immunize are the events conducted by RRC club of KCT and these are events organized by,
- Mr. Umapathi 17BME064
- Mr. Gugan 17BME078
- Mr. Kapil anandh 17BME007
- Mr. Sanjay 17BME167
- Mr. Antony Mathew 17BME011
- Mr. Prasanna venkatesh 18BME127
- Mr. Vasanth Kumar 18BME101
- Mr. Praveen Kumar 18BME112
- Mr. Karthikeyan 18BME094
- Mr. Saran 18BME118

VBC:

- Art of Awareness, Bio Emerge, Carcino, Ezhuththu, G-VOX are the events conducted by VBC club of KCT and these are events organized by,
- Mr. Umapathi 17BME064
- Mr. Gugan 17BME078
- Mr. Kapil anandh 17BME007
- Mr. Sanjay 17BME167
- Mr. Antony Mathew 17BME011
- Mr. Prasanna venkatesh 18BME127
- Mr. Vasanth Kumar 18BME101
- Mr. Praveen Kumar 18BME112
- Mr. Karthikeyan 18BME094
- Mr. Saran 18BME118

SFS Project Based Learning:

❖ SFS - Project Based Learning is a 3-month framework program that enriches the student's knowledge and capabilities of 1st Years. In this area, the 1st Years trained Separately. Mr. Harshavarddhan P V - 6698, Mr. Shakthieswaran M - 6419, Mr. Nithesh.S. V - 6405, of 1st Years got selected for this training program.



Mr. Harshavarddhan P V 6698



Mr. Nithesh S V 6405

STUDENTS ARTICLES

WHY TURBOCHARGER AND NOT SUPERCHARGER?



Mr. Manav R Samant 19BME006 - 2nd year Mechanical Engineering A

If the engine's power produced should be high, then the air intake to the engine's cylinders should be high. The amount of power that an Internal Combustion engine can produce mainly depends on how much fuel it can burn. It also depends on how quickly and efficiently it converts heat into mechanical force. But the fuel requires oxygen in the air to combust the fuel inside the cylinder. So, the output of the engine largely depends on how much air it can intake to burn the fuel.

This additional air intake can be supplied either by a **supercharger** or a **turbocharger**. Both the supercharger and the turbocharger are air compressors, but they operate and perform differently. A Turbocharger uses the heat energy of the hot exhaust gases that are going out from an engine's cylinders to spin the turbine that

drives the compressor, which in turn pumps some air into the engine. A supercharger also pumps some air into the engine, but it is driven mechanically by a belt connected with the crankshaft of the engine.

Each of these have various advantages as well as disadvantages. The most obvious difference between these two is that there is a slight delay in response in the turbocharged cars as it takes a second for the exhaust heat and the pressure to increase enough to spin the turbine. This lag is called as "Boost lag" or "turbo lag" for obvious reasons.

The superchargers have no delay in its response as the air pump of it is directly linked to the engine's crankshaft. The primary drawback of Supercharger is efficiency. Because the supercharger uses the power from the engine to spin the turbine in it. So, Supercharger tends to be less fuel efficient. Auto manufacturers prefer Turbo chargers when compared to superchargers. Fuel efficiency is very much important which is not efficient in superchargers. Requirements like fuel economy, strict greenhouse gas emissions standards, customer's desire for good mileage makes the auto manufacturers to use turbos rather than supercharger.

THE REAL STRUGGLE - LIFE OF A MECHANICAL ENGINEER



Mr. Raaj Khishorre 19BME006 - 2nd year Mechanical Engineering A

Have you ever seen any old movies? Any hero who acts would just act as an ENGINEER! It was the best job that one could get. It was the best thing that a mother could say proudly, "My son is an Engineer". Times have changed, yet Engineering remains. Engineering is not just a word; it is an emotion. You might be wondering why not medical or any other profession? Why is it that I mention Engineering is the best?! Well, the answer is too simple. Even for medical testing, MRI, X-Ray or any kind of analysis, engineering plays the key role and the key factors in it. Now you might have another question too! Why is its MECHANICAL ENGINEERING? Mechanical Engineering is the oldest and the broadest of the engineering branches. Being the KING OF ALL ENGINEERING DEPARTMENTS, it is a branch of engineering that

deals with engineering physics, engineering mathematic principles, material science, design, manufacture, analyse and maintenance. It is the basic and the mother of various Engineering Streams that have originated in recent times. It is the vast development of the Mechanical Engineering that brought Mechatronics, Aeronautical and more. Though it was a great job in the past, due to the diversified opportunities and higher number of competitors Mechanical Engineering has depreciated a smaller value over the time. The development of the information technology and the depreciation were two parallel activities that lead to the value depreciation. But that does not mean anyone who learns Mechanical Engineering has no value. When the path becomes narrow, all you need to do is stay in the centre of the path. Once we develop our capacities and capabilities, we stay in the centre of the narrow path. There is no fun if there are no competitors, right? In the world of survival of the fittest, we MECHANICAL ENGINEERS workday by day to prove ourselves stronger and move towards the centre of the path. Scope of Mechanical Engineering is endless and so do not judge a book by its cover. The true intensity of scope in Mechanical Engineering might have been reduced but without Mechanical Engineering nothing can exist... WE WILL COME BACK STRONGER ONCE AGAIN !!!

Placement Section

Mr. KISHORE KANNA - 17BME163:

I am Kishore Kanna, a 4th year Mechanical Engineering student. With God's wonderful Grace, I was recently offered Job at CTS GenC, Infosys and TCS Ninja. I would like to share my experience about their placement process. Normally, the test comprised of three rounds but due to COVID pandemic situation all three companies have conducted only two rounds.

- 1. Online Aptitude Test with programming questions
- 2. Technical Interview + HR interview







1. Online Test:

For CTS, the online aptitude test was conducted via third party platform AMCAT, likewise TCS also conducted their online test as National Qualifiers Test (All India Level) by their subsidiary called TCS ION. Whereas Infosys conducted their exam on their own platform. In CTS four sections were Quants, Reasoning, Paragraph writing, Program Debug. For Infosys there was no Programming questions. TCS had Quants, reasoning, Verbal, Program Writing. For aptitude you must prepare yourself by using good YouTube videos. For Programming our college placement training (private vendor) is very useful and sufficient.

2. Interview Process:

In CTS interview there was only one interviewer, she started from self intro, then programming questions (asked logic behind program), she asked me to write new program, puzzles, Mechanical questions based on area of interest, questions related to IT domain, Managerial questions, finally she gave a chance to ask some questions. It happened around nearly one hour. In TCS interview the panel contained three members. One for technical, one for managerial questions and HR. First, Technical person asked programming questions then managerial, finally HR questions. In Infosys there was only one person and it was around only ten minutes. Infosys interview is mostly based on questions about your projects. On my opinion IT service companies only expect your interest on learning not your present knowledge on programming, leadership qualities etc., I promise that you can place in any IT service company by preparing 1 (one day) for interview. All you need to say in interview is YES sir, Sir for all HR questions in interview. My suggestion is do not get too worried about to get placement in IT service companies, just spent your time to get prepared for CORE industry or any Government jobs. Try to know about the companies which are visiting to our campus. If any queries, please feel free to contact me (Ph.no-7010215254)

Delight yourself in the Lord, and he will give you the desires of your heart. All the Best!

Mr. SACHINJITH K R - 17BME067:

I am Sachinjith K R, a 4th year Mechanical Engineering student. Recently, I got placed in Cognizant GenC and I would like to share my experience during the placement process. The placement process comprised of two rounds.



- 1. Online Test
- 2. Interview

Online test:

The test consists of four sections namely quantitative aptitude, logical reasoning, essay writing and coding questions. We cannot navigate through the previous questions which we have selected. Unacademy app and placement training videos helped me a lot to clear this round.

Interview:

This round was conducted for 40 minutes. At the beginning, the panel asked questions about my internship and some aptitude questions based on time, speed and distance and ages. They asked more questions from mechanical domain (ie; From FM, Thermodynamics and EM) and five questions are related to python programming language and AI.

Finally, they concluded the interview by asking some situational questions. The panel mainly focuses on confidence and communication skills of the candidate. I would recommend you have good background with good net connection.

All the Best!

Alumni Relations

Mr. AKILAN K - 15BME136:



Hi, this is Akilan, Mechanical Engineering graduate of batch 2019. Now I am working in KONE elevators as a Maintenance Method Developer part of R&D in Chennai. Working with any organization is the lifetime experience and it enhances the professional attitude as well as the seriousness towards the professional could also develop. Being a mechanical engineer, I make sure that I want to take a place in any core industry. Initially its quite challenging for me to get place in a good job in a good company. After so many struggles, I trained myself better and got the job what I wanted.

Before getting into the elevator industry, I never thought that it was like an ocean. It is just like the Automotive industry. Only difference is elevator moves vertically. car moves horizontally. Here we can explore many things including current trending technologies. And as a part of R&D we should always be innovative and think out of box. The basics which we study in our course will play a major role for new developments. It helped me to enhance myself and pushed me to explore new things. My suggestion and request to my juniors is to be strong in your basics. More than the theoretical knowledge, try to have a practical and industrial knowledge related to your studies. Be aware of all the industries where you really want to be and try to have an intern during your college days. Be sincere and focused on whatever you do. All the best!!! Thank you!!!

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Mr. MANIKANDAN - 15BME061:

Hi, this is am working Brothers industry wo company company

Hi, this is Manikandan, Mechanical engineering graduate of batch 2019. I am working as production planning Engineer at L. G. Balakrishnan & Brothers Ltd Coimbatore. It is chain and Sprockets manufacturing industry with the brand name of ROLON. I have been shortlisted by this company at end of my final year and I have chosen this since it is a core company too.

Money will come later if we are well experienced and well educated. I have joined here for less salary, just I am looking for experience to handle the responsibilities. Nature of my job is mainly dealing with numbers such as Quantities, Productivity, Capacity, Efficiency, Inventory and Manpower etc. It is important for a planning Engineer to know how make forecast plan for future market demand. I have given the plan, so I must accomplish that without Excuses to our customers. As a learner I want to share one thing if you want to get credit then be ready for more discredits. But at the end we will be successful if we try.

Contact:

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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.

- **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.
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- **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.
- 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.

PO2 : An ability to write and present a substantial technical report/document.

PO3 : 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):

PEO1: 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.

PEO2 : Graduates can analyze the complex problems using advanced modelling and analysis tools

and thereby solve problems related to product design and manufacturing area.

PEO3 : 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.

PO3 : 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.