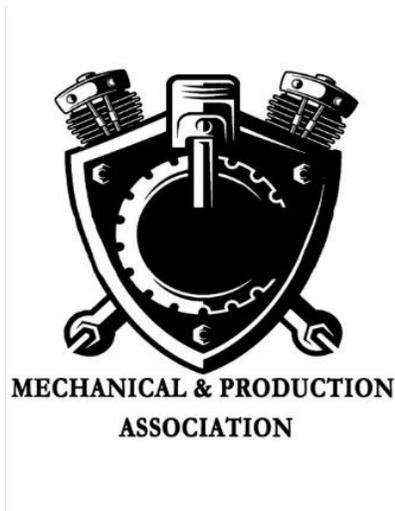


Mechanical And Production Engineering Association 2019-20

Annual Report



Dr. Mohammed Sajid

HOD



Dr. Jesna Mohammed

Association advisor



Jishnu G Nair

Mech assn Secretary



Mathias Binoson

Prodn assn secretary

MECHANICAL AND PRODUCTION ENGINEERING ASSOCIATION INAUGURATION 2019-20



The inauguration of Mechanical and Production Association was held on 14-10-2019 at the college auditorium. The chief guest for the occasion was Mr. Alex A, General Manager, Cryo-Engine, LPSE, ISRO. The event was formally inaugurated by lighting the lamp by the chief guest in the presence of the Principal, HOD and other staff members of the Mechanical Department. They also launched the official logo of the Mechanical Association 2019-20. Mr. Jishnu G Nair (Mechanical Association Secretary) of 4th year Mechanical Engineering welcomed the gathering and all the dignitaries in the dias were honoured with pleasantries. Dr. Mohammed Sajid N K, HOD, Dept. Of Mechanical Engineering, delivered the presidential address. The chief guest, Mr. Alex A gave a scintillating speech and enlightened the young minds. He also urged the students to utilize the opportunities presented by the association to develop their skills. Prizes were distributed for students who excelled in various activities like Electric Two Wheeler Design Challenge, Tractor Design Competition, EffiCycle and Efx conducted by Society of Automobile Engineers and American Society of Mechanical Engineers. The function was felicitated by Dr. T A Shahul Hameed, Principal, TKMCE, and Dr. Thilakan Haridasan, Professor, Department of Mechanical Engineering. This was followed by the vote of thanks by Mathias Binson (Mechanical Production association Secretary) of 4th year Mechanical Production Engineering. The official function came to an end with the National Anthem.

Talk on Advanced Fabrication Process



On behalf of the Mechanical and Production engineering association of TKM Engineering College, Kollam, an interactive session had conducted on 14th October 2019, Monday at 4:30 pm in the Jubilee Hall. The talk was led by an eminent personality in the field of Indian Space Research Organisation, Sri. Alex A, General Manager, Cryo engine, Liquid Propulsion System Centre, Valiamala, on the topic "ADVANCED FABRICATION PROCESSES FOR LIQUID ENGINES". He shared his views on the latest advanced technologies that ISRO has been following for recent projects like Chandrayan and about the manufacturing, moulding and arrangements of components for rockets through presentation slides. He described about the different types of rocket engines especially the liquid propellant rocket engines. He pointed out the challenges facing by the space researchers arising in the current scenario and the possibilities that can overcome it. Around 250 aspirants were gathered in the session which had longed for one and half an hour. The talk could enhance the knowledge and interest on the master minds of TKMcian's. The vote of thanks was given by Megha N from first year Mechanical department. By 6:00 pm the session had dispersed.

MeEdu Scholarship



Mechanical and Production Engineering Association has taken a step towards the empowerment of those brilliant students who need a helping hand financially. Our association advisor Prof. Jesna Mohammed and Prof. Shifin has put effort in identifying two such students in our department. Mechanical Department HOD Dr. Mohammed Sajid handed over the scholarship amount of INR 4000 to those students on 21/10/2019. MeEdu Scholarship is also a new initiative taken by the Mechanical and Production Engineering Association this year.

Career Buoy



Career Buoy is a new initiative undertaken by the Mechanical and Production Engineering Association in the year 2019. This programme aims at creating a link between the alumni of Mechanical Department with its students in order to absorb the guidance and supports related to placements and internships that may be amassed from the experienced professionals. Presently, we have a lot of alumni working in reputed companies at high positions all over the world. There is so much untapped potential in this. The students of our college are well versed in theoretical aspects owing to our pristine faculty. In today's competitive world, the moulding of one's career while still in college is essential. For this, proper guidance from our alumni would go a long way towards building better equipped professionals.

Aim of Career Buoy : To shape students as per the current industrial demand by providing them with skill improvement platforms such as workshops, MOOCs, seminars and courses as directed by the alumni within their respective industries. The whole process takes place in 3 phases:

Phase1 - Creating a comprehensive database of alumni.

Phase2 - Coordinators or faculties in charge will contact these alumni to ask for their guidance for the above mentioned skill improvement programs and enroll students for internship in the recommended industries

Phase3 - In the long run, these companies may approach the institution for placements in view of their satisfaction with the interns

How Career Buoy works? : Mechanical and Production Engineering Association is responsible for conducting these skill improvement programs. 3rd year students will be the coordinators of Career Buoy and the association advisor is responsible for guiding these coordinators. Coordinators or staff advisors will be in contact with the alumni and make an agreement with them regarding internship of students. We are glad to say that this year, we could complete 1st phase of this initiative successfully. This academic year, 2019-20, the coordinators of this program were Adil Hussain, Sooraj Afsal Saleem, Ashik Anil Jacob of third year Mechanical department . This whole process was planned and started by December 2019.

Foundation to Electric vehicle Technology



The Mechanical and Production engineering Association organized a workshop on 'Foundation to Electric Vehicle' conducted by Mr. Suraj S D from Decibels Lab PVT LTD. Mr Suraj S D is a passionate supporter of electric and sustainable mobility. He founded Competences Factory (CF) in 2017 to build trained and skilled resources in the automotive industry. He has worked with Infosys, HP and ITC InfoTech, where he has engaged in projects for Mercedes Benz, Fiat Chrysler and Fisher Dynamics USA. It was a one-day workshop starting from 9am to 5pm. The workshop had a footfall of 52 students. The session included both theory courses and hands on training. The topics covered were electric vehicle subsystems, hand calculations for battery and motor sizing, overview of traction batteries, EV architecture and Modelling of EV powertrain in MATLAB. The workshop was organized by mechanical association secretary Jishnu G Nair, mechanical production association secretary Mathias Binoson, Basil and Mohammed and Mohammed Dilshad. The workshop was conducted in a very interactive manner. It concluded with a feedback session from Advaid, Aishwarya and Joel Prekash.

GEAR UP APP



Gearup is the official app of Mechanical Production Engineering TKMCE. It is the result of lot of hard work and dedication. This venture had been initiated at first by our former Association Secretary Sunu Sundar and was completed this year under the leadership of present secretary Mathias Binoson. The motive behind the creation of this app lies on the fact that our chosen branch is found only in very few colleges across Kerala. And so students were facing difficulties in accessing notes and other study materials since they are scarce or disorganized. As a result the association brings an app named Gear Up which provides organized collection of notes and question papers. Rahul Jojo and Poornima Padmakumar of third year Mechanical Production headed as the main coordinators.

All notes and provisional question papers are collected from students in order to maintain a self explanatory style. The application interface is arranged semester wise which helps in saving time from the student's point of view. It includes subsections too. The application has been used by most of students and remarked as very helpful. Gear Up really helped every users to gear up their knowledge.

INTRODUCTION TO C++ WORKSHOP



Mechanical and Production Association in collaboration with the Institution of Engineers (Mechanical Production chapter) conducted a 2 day workshop on "Introduction to C++" on 23-24 November 2019. The workshop was conducted by Mr. Sumod C P, who works as Asst. Professor at UKF College of Engineering, ML Trainer at ASAP and IEEE-KYP-Academic Coordinator. The workshop was organized with the support of Prof. Mohamed Shahid, Faculty Coordinator of Institution of Engineers Mechanical chapter. Event coordinators were Bipin Ravindran and Anandhu Anil.

The workshop was aimed to give basic and practical knowledge of C++ programming, beyond what was included in the curriculum, for the third year students of Mechanical department.

The first session was conducted on 23 November 2019 from 9am- 4pm at the CCF facility. 32 students from 5th semester Mechanical department attended the workshop. The basics of C++ programming was covered on that day with the students being allowed to practice the programs they have learned. The second session was conducted the next day with the same timings. More in depth topics were covered and by the end of the session almost all of the programming part of the syllabus of the course Computer Programming and Numerical Methods was covered.

The workshop succeeded in effectively helping the students understand the practical as well as theoretical side of C++ programming. Responses from the students was overwhelmingly positive and they concluded that the workshop had proved useful for them in their exams as well as benefit their understanding of programming.

Technical Talk on Opportunities for Mechanical Engineering Graduates.

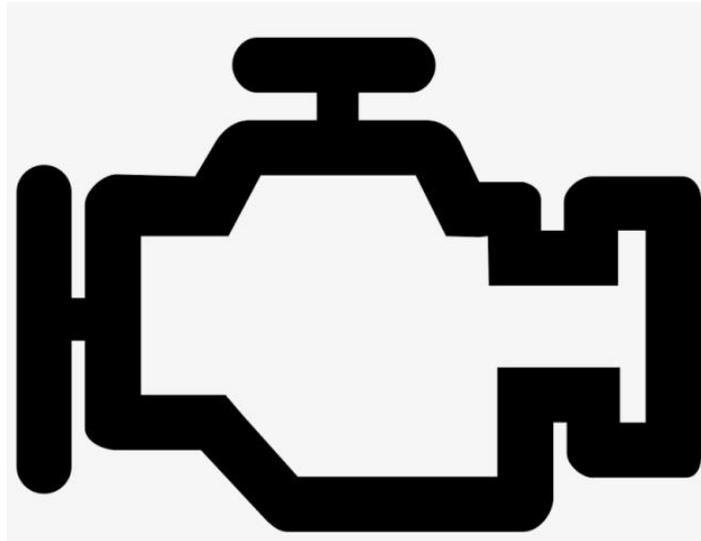


The mechanical and production engineering association organized a half day technical talk on opportunities of Mechanical Engineering graduates on Monday, 10 February 2020 at Jubilee Hall in association with Career guidance and placement unit. The talk was by Mr. Anand Shankar who secured his first job through campus placement in L&T where he worked as a Fabrication Engineer and also as a Planning Engineer for 4 years in India's first nuclear submarine. He cracked GATE & SSE exam in 2015 and secured a job at ONGC where he is now working as Driller/Drilling Engineer for the past 4 years. Secretary of the mechanical engineering association, Mr. Jishnu G Nair welcomed the gathering, with the talk commencing by 02:30 PM.

Mr. Anand Shankar explained in detail the variety of opportunities available for Mechanical engineering graduates such as certified add-on programs, higher education options, the availabilities in the job market, employment options in the public sector, GATE examination and the preparation for it. The two-hour session was very informative to the average college-goer. There was an interactive session at the end during which around 10 students clarified their doubts about the related topics.

A total of 190 students including the second, third and fourth year students from both mechanical and mechanical production engineering branches were present for the talk, which concluded at 04:30 pm with a vote of thanks by Mr. Aadil Hussain, a third year mechanical engineering student.

Procurement of MPFI Engine for Overhauling workshop .



The Mechanical and Production Engineering Association handed over a dismantled Maruti Suzuki Petrol Engine to the Heat Engines Laboratory of our college.

The 3-cylinder MPFI type engine churns out 849cc and is coupled to a 4-speed transmission. Until now, there was no engine in our Heat Engines Laboratory that could be taken apart by the students. From now on, the students can study in detail, the intricate parts of the engine by dissecting each and every part and thus, acclimatize themselves in a way that wasn't possible until now. Moreover, our Heat Engine Laboratory only consisted of Carburettor engines and thus, this would be a very useful addition to our array of Heat Engines.

The engine was procured on 31 January, 2020 at a cost of INR 5000, which was paid for by the Mechanical and Production Engineering Association. It was dismantled and cleaned before being set up in the Laboratory. Technical learning systems nowadays simply stick to a theoretical curriculum which ruins the practical side of Engineering. This initiative, however, manages to impart the much needed practical knowledge to the students. The primary objective here is to give the students a good grasp over the construction, working, maintenance and repair of engines.

The people behind this initiative were Mathias(P8), Jishnu(M8), Ajesh(P8), Hardik Ramath(P2), Ebin(M8), Hari Rajesh (M8) and Mohammed Shah (M2).

MEXSYM Mechanical Department



This year, the Hestia '20 entered our lives as the synonym of opportunities and had been etched onto our hearts as the book of fruitful experiences. This year's Hestia spanned over 4 days from March 5 to March 8, 2020. All the preparations under Mechanical Department were headed by Association Secretaries, Mathias Binson and Jishnu G Nair and the core coordinator was Sayuj Jayadev.

The gateway towards mechanical block was attractive due to the ROYAL MECH installation. Electric Scooter of first year mechanical students. Hydraulic Car and Hydraulic press were also exhibited. They also made an 8'x10' model Wall Climbing Robot. Arduino CNC Drawing Machine was a major attraction which is a CNC based drawing robot. Compressed-air engine model, grabbed the attention of students. A self-balancing hover board consisting of two motorized wheels along with a miniature hyper loop model which uses electromagnetic motor seemed special. The demonstration of CBT, Car front differential, 2D Printer and Mechanical clock were exhibited in the mechanical stall.

The mechanical production engineering students welcomed this year's Hestia with the new MECH PRO LOGO launch. Lot of mechanisms were exhibited, including Tchebicheff, Maxwell's wheel etc. The exhibits that attracted more attention were Invisible Sculpture and Tensegrity. The Dismantled Four Cylinder Petrol Engine deserved a special mention along with the Differential. Infinity cube, blended wing aircraft and artificial cannon was the other attractions. We were also able to demonstrate the practicality of automation technology by controlling the lights and fans at the stall. On the third day, in addition to this, a gaming session was set up.

More than everything, the days and nights that were spent working on these projects taught us the most important lessons on effective group work and turned these hours of toil into beautiful memories. This was the triumph of the fraternity that came together overcoming the hardships.

Bikers Xtreme Tkmce 2K20



Great legacies and initiatives have always been a wonderful part of the History of TKM. Back in 2011, Wheelz was the pride of the Mechanical Department. It was the largest and the most sought-after auto expo held in Kerala. As tribute to Wheelz, this year the motor enthusiasts at TKM pitched an idea to conduct a Superbike expo and that's how BXT2K20 took birth under the hood of the Mechanical and Production Engineering Association. The expo was conducted on 7/03/2020 as part of the techno cultural fest Hestia '20.

Trivandrum Super Bike Club TORC and Havoc Angels made their majestic entry into the campus and grabbed the attention of all the enthusiasts with the rattling echo of their machine. There were many students in the Mechanical department who devoted valuable time to find sponsorship for this event to happen. Govind Viswam (4th year) and Mohammad Ashik (2nd year) played pivotal roles in coordinating this event in the best possible manner. The total budget of this event was 2.8 lakh. Around 23 superbikes and 2 luxury cars mesmerized the spectators. Supreme Bakers, Sarathi Motors and Harisree Restaurant were the sponsors of this expo. All the students of the Mechanical Department also contributed to the program.

BXT2K20 was a proud moment to all the Mechanical Department students. It was the Department of Mechanical Engineering which gave us the green light to BXT, one of the

highlights of Hestia'20 . Great gratitude goes out to the department for their support and guidance.

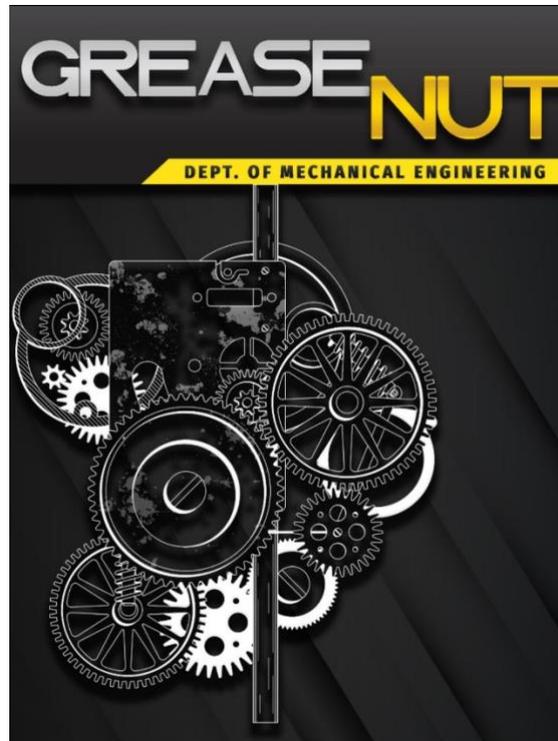
Let's Crack IES



The Mechanical Engineering Association of TKM College of Engineering had conducted a Webinar on “Cracking Engineering Services (IES): Experience Sharing and Clearing Doubts” on 8th of August at 7.30 pm for all the students of our TKM College of Engineering. Speaker of the Webinar was Ms. Anusha Das J. (Executive Engineer, Central Electricity Authority, Ministry of Power, Government of India.) She did B.Tech EEE from NSS College of Engineering Palakkad during 2004-2008, Upon completing B.Tech she worked as a software engineer with TCS. She joined CET for Masters in Power Systems in 2012 and in 2014 joined the Indian Engineering Services as AEE (Assistant Director.).

The topics of the session included how to crack IES exam, the possible opportunities on cracking the same etc. The talk was about 90 minutes of time. There was also a Question & Answer (Q&A) Session at the end. There was a total of 105 participants for the session. The webinar was totally very useful and good to broaden our horizon.

Mechanical Engineering Department Magazine 'Grease Nut 2020'



Grease Nut 2020 is the last initiative that the Mechanical and Production Engineering association has taken this academic year. This has been the most awaited creative venture that our students and faculties worked on during this pandemic period. This magazine portrays a glimpse into the national level laurels and research reports of our students and faculties. Nurturing creativity and inspiring innovation are the valuable end results of education and department magazine is a perfect combination of that. This creative venture has brought a collection scientific and literary expressions with distinct individual signatures. The editorial team and authors have put in commendable efforts to inspire the readers. Magazine was published on 30th August 2020 by hon principal Dr Shahul Hameed through online platform.

Staff editor Prof. Faraz, Editors Jishnu, Jovial, Ijaz, Akshay, Mathias and design head Adwaith, Jameel to name a few are the pillars behind its success.