VIMAL JYOTHI ENGINEERING COLLEGE
CHEMPERI

MECHNOVA

MECHANICAL DEPARTMENT NEWS LETTER

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HOD DESK

Greetings to Dear students, Faculty and Friends!

Skilled Engineer is an engineer who enhanced /developed his skill in line with skill requirement of the Industry. A Skilled Engineer increases his chance of employability as most firms require potential mechanical engineers not only to possess relevant degree but also to display evidence that they have expertise other hard skills in addition to the essential soft skills. Department has taken the initiative of offering Skilled Engineer program for our final year students in association with M/s Indscan Petroleum Institute, Nilambur. As demanded by the industries first programme is on "Mechanical Construction and Quality Control "to be conducted concurrently from October 2017 to March 2018. The training should make participating students work ready.

Heartiest congratulations to Mr. Loyal Stephen of S7 ME for Representing VJEC in Indian Mobile Congress 2017 at New Delhi conducted on 27-29 September 2017. Congratulations is also due to Mr. Avinash S Pramod of S5ME for winning IIIrd prize in "Open Innovation Contest" conducted by VSSC, Trivandrum as part of "World Space Week-2017.

As odd semester-2017 is coming to an end, it is time to take stock of academic efforts and concentrate on completing activities to ensure very good results in the coming university exams

Cdr Raju K Kuriakose (retd)

In this Nutshell

VISION

- *To become a center of excellence in Mechanical Engineering, producing innovative and creative mechanical engineers to meet the global challenges*

MISSION

- *To provide a platform to the students towards attaining quality education in Mechanical Engineering.*
- *To educate students about professional & ethical responsibilities and train them to build leadership and entrepreneurship qualities for their career development.*
- *To create opportunities and guide students in acquiring career oriented jobs in the field of Mechanical Engineering.*

Program Educational Objectives (PEO'S)

PEO1: *Graduates will be able to pursue successful professional career in Mechanical Engineering with sound technical and managerial capabilities.*
PEO2: *Graduates will have skills and knowledge to formulate, analyze and solve problems in mechanical engineering to meet global challenges.*
PEO3: *Graduates will be capable of pursuing mechanical engineering profession with good communication skills, leadership qualities, team spirit and professional ethics to meet the needs of the society.*
PEO4: *Graduates will sustain an appetite for continuous learning by pursue higher education and research in the allied areas of science and technology.*

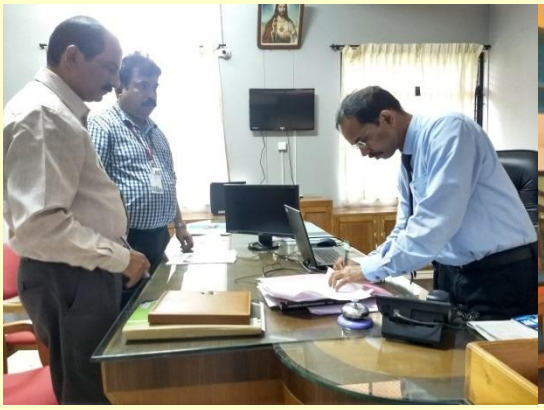
Program Specific Outcomes (PSO's)

PSO1: *An ability to use computer aided modeling and simulation tools to provide solutions to mechanical engineering problems.*

PSO2: *An ability to develop and implement a process in a well-planned manner leading to a demonstrable product*

MOU with INDUSCAN Petroleum Institute "Skilled Engineer- A Concurrent Value Added Training program"

Piping, Quality Control & inspection, Non Destructive Testing



*Mechanical department started a concurrent value added training program called "**Skilled Engineer**" in connection with Induscan Petroleum Institute Nilambur. The Course contains an integral training module covering **Quality Control, Piping & NDT**. The team offering training classes for Mechanical engineering students at college itself during Sundays, & also at the end of the course. The students passing the exams will be placed in various MNC's*

Regarding this, MOU was signed with Vimal Jyothi engineering College & Induscan Petroleum Institute on 25th September 2017

"Success is no accident. It is hard work, perseverance, learning, studying, sacrifice and most of all, love of what you are doing or learning to do" Pele

Congratulations Students.!!!!!!!

Students Achievements

Avinash S Pramod
S5 ME A

3rd Prize*
in
" Open Innovation Contest "
conducted by **ISRO**
at **VSSC Trivandrum**

** Out of 185 participants*

***Loyal Stephen S7 ME Representing Zeus Technologies** (Start Up idea VJEC) and **attending Indian Mobile Congress 2017** on September 27th to 29th 2017 at Pragati Maidan, New Delhi. An event provide an in-depth coverage of the current and future mobile industry, highlighting specific areas of growth as well as the latest technological developments, next generation services and growth strategies.*

ONE DAY WORKSHOP ON INTRODUCTION TO ATV MANUFACTURING

SAE Club of Mechanical Engineering Department organized a one day workshop on "Introduction to ATV Manufacturing on 08th October 2017 at CAD lab. During the workshop the SAE International team shared their experiences in ATV design, fabrication, and testing. The students' members of SAE & Solar Challenges were participated in workshop

ME DEPARTMENT PTA MEETING

ME department PTA meeting were conducted for all semesters on the following dates.

S1:19TH SEPTEMBER

S3:27TH SEPTEMBER

S5:28TH SEPTEMBER

S7:25TH SEPTEMBER

Detailed discussion on students academics were conducted during the meetings. The parents were interacted with principal, HOD and faculty members. The top performing students were honored with prizes

INDUSTRIAL VISITS

ME Department conducted Industrial Visits of S3, S5, S7 batches as part of their academic curriculum during 29, 30, 31 of September 2017

S3 students visited ***Goa state co-op milk producers Ltd & Muktar Automobiles***

S5 students visited ***GOA Dockyard & Goa state co-op milk producers Ltd***

S7 students visited ***Kodai Dairy Products, Veralipatti, Uchapatti, & Kannan devan tea estate Munnar***

GOOD BYE & GOOD LUCK IN ALL YOUR ENDEAVOURS DEAR JERIN CYRIAC

Upcoming Events

VIMAL JYOTHI ENGINEERING COLLEGE

Chemperi - 670 632, Kannur, Kerala

DEPARTMENT OF MECHANICAL ENGINEERING

Organise

Three day workshop on

"CNC PROGRAMMING & TRAINING IN 3-AXIS VERTICAL MILLING MACHINE"

28, 29 & 30th **OCTOBER, 2017**

Convenor: Prof. Dr. R.Umesh Sundar
Co-Convenor: Mr. Shaji George AP/ME
Mr. Anil Johney – Technical Staff

Venue: CNC Machining Centre, VJEC

Program Outcomes

PO1: Engineering knowledge
PO2: Problem analysis
PO3: Design/development of solutions
PO4: Conduct investigations of complex problems
PO5: Modern tool usage
PO6: The engineer and society
PO7: Environment and Sustainability
PO8: Ethics
PO9: Individual and team work
PO10: Communication
PO11: Project management and finance
PO12: Life-long learning

Mechanical transmission without contact between parts

Ajay T George

Researchers at Universidad Carlos III de Madrid (UC3M) are coordinating an international project to develop a new concept of mechanical transmission without contact between parts, based on magnetic forces, which prevents friction and wear as well as making lubrication of the parts unnecessary.

Objective of project MAGDRIVE is to define, construct, and test a prototype of mechanical transmission without contact between parts, which is capable of functioning in cryogenic conditions with minimum practically non-existent maintenance. "In addition, this type of mechanism, which is responsible for transmitting power between various elements within a machine, should be capable of going into space and being in operation for years without any type of breakdown or some similar event," explained Professor José Luis Pérez Díaz from the UC3M Department of Mechanical Engineering, who is the coordinator this new European research project for the 7th Framework Program (FP7), set to last for three years.

The fundamental features of the design, proposed by the researchers to ensure that there is no physical contact between the transmission movable parts, are based on the use of magnetic forces. "What we are attempting to research within the framework of this project is if the efficiency of these mechanisms is adequate and if they have the properties which we think they should have," Professor Pérez Díaz clarified.

The advantages of mechanical transmission in which there is no contact between the moving parts, are mainly, first, that wear and tear of the parts is prevented, and second, that lubrication is not necessary. "Not having contact or friction between the teeth of the gears," Perez Díaz explained, "means it would not be necessary to use lubricants. At cryogenic temperatures -- around -200 ºC -- conventional lubricants become hard as a rock and cause problems," he commented. "Furthermore," he pointed out, "if we take into account that more than half of the energy that we consume is lost to friction, having mechanisms that do not do so would be truly important."

The utility of this type of mechanical transmission model can found in diverse scenarios. The first application the researchers commented on is for all types of mechanisms used in satellites or spacecraft's where there is not easy access for maintenance and where it is necessary to have a low weight and to function under the cryogenic conditions of space, although applications can be found in instruments that need to function within this range of temperature on earth, such as a CT and MRI machines used in medicine

***Staff Editors**: Mejo M Francis & Hari Prasad Student Editor: Ajay T George*