

*Learn*

*work*

*succeed*



**P.A. POLYTECHNIC COLLEGE**

PALLADAM ROAD, POLLACHI – 642 002

# **MECH ZONE-20**

## **NEWSLETTER**

**Academic Year 2019-2020**



**DEPARTMENT OF MECHANICAL ENGINEERING**

***June 2020***

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# **P.A.POLYTECHNIC COLLEGE**

## **POLLACHI- 02**

### **DEPARTMENT OF MECHANICAL ENGINEERING**

#### **VISION OF THE INSTITUTE**

To provide high quality skill oriented technical education to the rural students to accomplish the global requirements.

#### **MISSION OF THE INSTITUTE**

To provide modern facilities for imparting value based teaching – learning practices, enrich the faculty members with continuous learning and career guidance for the students.

#### **VISION OF THE DEPARTMENT**

To provide facilities and conducive environment for high quality education in the field of Mechanical Engineering and promote the students for enhanced employment with ethical values.

#### **MISSION OF THE DEPARTMENT**

**M1** To prepare the students with strong fundamental concepts in Mechanical Engineering and its allied fields

**M2** To provide an opportunity for Industry Institute Interaction to enhance their technical skills

**M3** To inculcate their leadership skill with moral values

#### **PROGRAM EDUCATIONAL OBJECTIVES (PEOS)**

**PEO1:** To provide knowledge on fundamental concepts of Mechanical Engineering and its allied fields.

**PEO2:** To impart skill based training with modern tools and techniques.

**PEO3:** To exhibit their leadership skill and inculcate the ethical attitude with social responsibility.

## ABOUT OUR DEPARTMENT



- ✓ Mechanical Engineering is one of the broadest and most versatile of the engineering professions. It was started right from inception of our polytechnic college in the year 2006 with an intake of 60 students. The students strength was increased to 300 in the year 2014.
- ✓ Our department consistently maintains good academic results through motivated and qualified faculty members. Our students opt higher studies (B.E) in Government Engineering Colleges and various reputed self-financing colleges. And also we have good placement records in various reputed companies like KYB Motor Cycle Suspension India Pvt Ltd, LGB, Anugraha Valve Castings Ltd, Caterpillar, L&T, Bosch, Pricol, Craftsman Automation, LMW, TVS Groups, Hyundai motors, etc.
- ✓ The objectives of our department is to enhance the ability of students in fundamental concepts of Mechanical Engineering and its allied fields, leadership skills, team work, social responsibilities and employment with ethical values

***“I cannot teach anybody anything. I can only make them think”***

The fate of the country depends upon the education, the youngster’s enrichment of knowledge in technology, science and culture that is to be built Intelligence with character. The work of engineers forms the link between scientific discoveries and their subsequent applications to human needs and quality life.

The **MECHZONE** consist a series of enhancements each raising the Individual to a higher level of knowledge, awareness, understanding and kin strip with living things.



***Prof.Dr.P.Appukutty,  
Chairman***



***Dr.LakshmiAppukutty,  
Vice Chairman***

***“Where the willingness is great, the difficulties cannot be great.”***

An Engineer is a professional practitioner of engineering, who applies scientific knowledge, mathematics and ingenuity to develop solutions for technical problems. The Department of Mechanical Engineering continues to evolve as our field changes; one thing will always remain constant; our commitment to ground breaking innovation and global leadership.



***“Children must be taught how to think, not what to think.”***

Every person has to grab the opportunities what he gets and serve at the right time. One may not worry about how to act because it is an art which will be learnt during the course. I hope this newsletter is an exciting opportunity for the students to show their talents and learn more.



**Dr.T.Manigandan**  
**CEO**

***“Everyone sees what you appear to be few experience what you really are.”***

Mechanical Engineering is one of the oldest and broadest engineering disciplines, which applies the principles of physics and material science for analysis, design, manufacturing, and maintenance of mechanical system.

The educational objective of this program is to prepare engineers to establish themselves in career and obtain diploma ,and to generate new knowledge or exercise leadership in their position to their benefit of the society.



**Mr.A.Ponnambalam**  
**Principal**

***“Education is the most powerful weapon which you can use to change the world.”***

Our mission is to holistically educate the students for professional leadership as creative problem-solvers in a diverse society, conduct advanced research for society enquiry, and engage with alumni, industry, government, and community partners through outreach activities. The department has meaningful futurist plans for enhancing the technical setup ,like organizing Symposium, Guest Lecture, Project Competitions, etc are few of them. It shall also be providing impetus to the students for their growth and overall development. The aim is to produce global engineers par excellence



**Mr.N.Senthil Kumar**  
**Head of the Department**

## **EDITORIAL COMMITTEE**

### **CHIEF EDITOR**

**Mr. A.Ponnambalam M.E**  
**Principal**

### **ASSOCIATE EDITOR**

**Mr. N.Senthilkumar M.E.**  
**HOD - Mechanical Engineering**

### **EDITOR**

**Mr. N.Devakarthik B.E.**  
**Sr.LECTURER - Mechanical Engineering**

## INAUGURATION OF FIRST YEAR PROGRAMME

First year inauguration and orientation program was organized for two days 13.06.2019 and 14.06.2019 on the topic “**I can I will**” and “**Kalviyum Ozhukamum**”. Prof .P.Suryanarayannan Department of English, Government Arts College ,Coimbatore and Mr.Dwarakanathan, Ex. Vice president, (Engg., R&D, HRD), M/s. Brakes India Ltd., TVS Groups,Chennai-600020 were the chief guests. The session was more valuable and informative to the students as well as faculty members.



**ASSOCIATION OF MECHANICAL ENGINEERING**  
**INAUGURAL FUNCTION**



Mr.A.Ganesh Kumar, Managing Director, G K Industries, Coimbatore has inaugurated our Mechanical Association “**MECHANIZERS**” on 30-07-2019



## WORKSHOP -1



The one day Workshop on “**Service Training for Two Wheelers**” was organized by the Department of Mechanical Engineering on 09<sup>th</sup> August 2019. The objective of this workshop was to discuss the components of two wheeler and train the students to assemble and disassemble of two wheeler by their own **Mr. V. Ramesh Babu** discussed various information’s with the students two wheeler, which was helpful for the students to improve their practical knowledge in that field .

## WORKSHOP -2



The One day Workshop on “**Solar PV Technology**” was organized by the department of Mechanical Engineering on 05<sup>th</sup> September 2019. The Chief Guest of the day was **Mr. M. Nambidhas**, Assistant manager- Project development, MAS Solar systems Pvt.ltd, Coimbatore. His session was more informative to the students to improve their skills and knowledge in that field.

## WORKSHOP - 3



In the month of February 19<sup>th</sup> 2020 an “One day Workshop on 3D printing” was organized by Department of Mechanical Engineering for the benefit of students. Mr. R. Nithish B.E., Managing Director, RJN Engineering works, Coimbatore was the resource person who made the session as interactive and informative in latest emerging technology.

### INDUSTRIAL VISIT

- Thermal power plant, Mettur.
- Keltron controls, Aroor.
- CIPET, Madurai.
- Kerala Automobiles, Thiruvananthapuram.
- Anamalais Toyota, Naranapuram, Tiruppur.



### GUEST LECTURE -1



Mr. V. Prasath M.E., CAD/ CAM Trainer, Seyoni Solutions, Pollachi. Delivered guest lecturer on “**Product design and development in solid works**” on **31<sup>st</sup> July 2019**. He delivered a speech about Product design and development in solid works. His speech was more informative and interesting to the students as well as faculty members to update their knowledge.

### GUEST LECTURE -2



Er.P. Krishnasami, Assistant Executive Engineer, TNEB, Pollachi. Delivered guest lecturer on “**Energy Conservation**” on **13<sup>th</sup> August 2019**. He delivered a speech about Energy Conservation. His speech was really more innovative and interesting about conservation of energy.

### GUEST LECTURE -3



Mr. T.Suresh, Manager, Technical co-ordinator, SS Technovation, Coimbatore. Delivered guest lecturer on “**Hands on practice in Product Life Cycle Management (PLM)**” on **16<sup>th</sup> August 2019**. He delivered a speech on PLM and information help the student to gain knowledge on the automation field.

### GUEST LECTURE -4



Mr.M.Muthuraj M.E., Managing Director, Profenna industrial training Centre, Pollachi. Delivered guest lecturer on “**Solid Modeling**” on **6<sup>th</sup> September 2019**. He delivered a speech about solid modeling. His speech was more informative and initiated the students to get interest in the field of design.



## GUEST LECTURE -5



Mr.Jegadeesan B.E., Business development engineer, AGIIT, Coimbatore. Delivered guest lecturer on “**Industrial automation and robotics**” on 29<sup>th</sup> February 2020. He delivered a speech about Industrial automation and robotics. His speech was more informative and interesting to the students as well as faculty members to update their knowledge.

## STATE LEVEL TECHNICAL SYMPOSIUM

In the month of January 31<sup>st</sup> 2020, State Level Technical Symposium “PA TECHARENA 2020” was organized by The Department of Mechanical Engineering. Mr. WonderJoky , Vice president (operations) CIEL,HR, Coimbatore , invited as the chief guest .





## VALUE ADDED COURSE

- To bridge the gap between the academic and industry need, value added course are conducted regularly in our college. These courses are conducted by professional and industry experts and help students to stand apart from the rest in the job market by adding further value to their resume. Experienced professionals and industry experts were invited to update their knowledge to students about the course and the lists of course given below.



- Mr.A.Udhayakumar Lecturer/Mechanical, Mr. S Prakash senior Lecturer/Mechanical have been conducted the course on **“CNC Programming”** during the month of August and September 2019
- Mr.M.Muthuraj M.E., Managing Director, Profenna industrial training Centre, Pollachi has been invited and conducted the course on **“Solid Works”** between January 2020 and March 2020

## PLACEMENT ACHIEVEMENTS





## PLACEMENT DETAILS

Our students have been placed in the following companies in this current semester. On behalf of P.A institution and management, our department whole heartedly congratulate them and best wishes for next adventure!!.

**TOTAL NUMBER OF STUDENTS PLACED :**

40

**COMPANY NAME : KYB Motor Cycle Suspension India Pvt Ltd, Kanchipuram**

**STUDENT'S STRENGTH : 10**

### STUDENT'S NAME:

1. ARAVIND VENKATESH T
2. ARUN VIJAY T
3. ASWIN S
4. EMANU PRADEEP T
5. GOKUL KUMAR K
6. GOKUL S
7. GOVINDARAJ N
8. GOWTHAM S
9. GUNASEKAR C
10. HARISHRAM KS

**COMPANY NAME : ANUGRAHA VALVE CASTINGS LTD, Coimbatore**

**STUDENT'S STRENGTH : 30**

**STUDENT'S NAME:**

1.KAVIN KUMARAN S	11.KALIYAPPAN M	21.SATHISHKUMAR R
2.AMIRTHARAJ S	12.KRISHNA PRADEEP N	22.SATHISHKUMAR S
3.GIRISUDHAN S	13.MAHESHBOOPATHI A	23.SURYA PRAKASH S
4.HARI PRASATH D	14.MANOJ N	24.VIJAYAKUMAR R
5.HARIHARAN J	15.MANOJKUMAR A	25.VIGNESH E
6.HARISANKAR G	16.NARASIMAMOORTHY M	26.VIGNESHWAR I
7.JEGATHEESWARAN M	17.NAVEEN K	27.VISHNU PRATHEEP M
8.PRANESH K	18.NAVEENKUMAR A	28.SANJEEV D
9.RAMANA S G	19.PAVEEN R	29.PRAKASH N
10.SABAREESWARAN S	20.PRAKASH M	30.SABAREESWARAN S

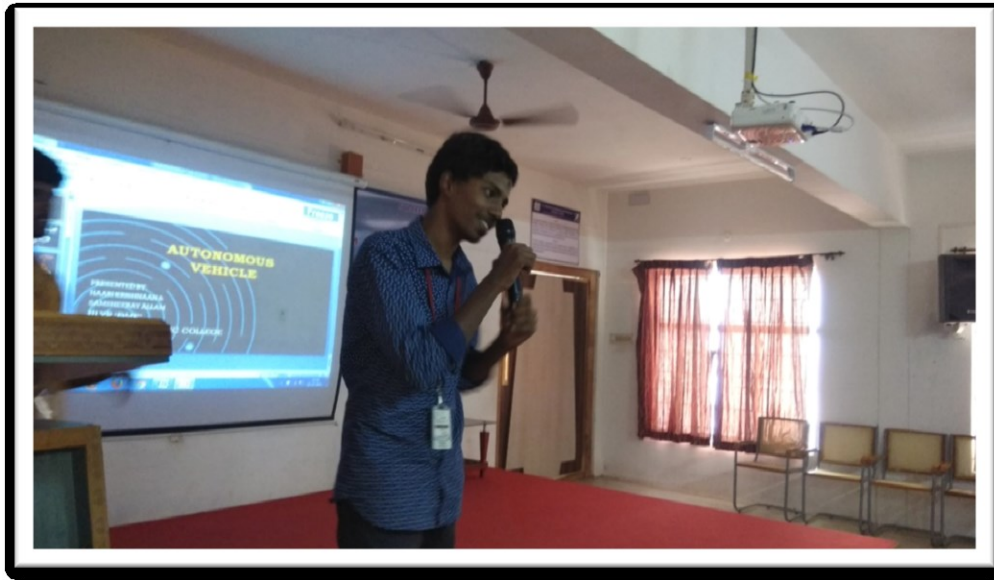
## **FACULTY CO-CURRICULAR ACTIVITIES**

### **SEMINAR / WORKSHOP ATTENDED**

- **S.Vijayasurya, P.Krishnamurthi , R.Vignesh karthik and P.Raj kumar** have attended one day Seminar on **“Advanced Safety Systems In Automobile”** at Sri Ranganathar Institute of Polytechnic College, Coimbatore on 29.11.2019.
- **A.Narandrakumar and J.Balaji** have attended one day Seminar on **“Heat Transfer Through Nano Fluid ”**at SNS College of Engineering Coimbatore on 13.12.2019.
- **A.Udhayakumar , D.Muthukumar, D.Muthukumar, M.Manikandan, N.Senthilkumar and P.Sivakumar** have attended three day Seminar on **“Faculty Development Programme on Robotics using Arduino ”**at Sri Eshwar College of Engineering Coimbatore from 27-05-2020 to 29-05-2020
- **K.Narendren ,G.Saraswathi, K.Karthika Devi, M.Bharathi, M.Vathieeshwari, S.Deepa Devi, S.Rani, T.Nagaraj and V.Manoj Mohan Prasath** have attended four day Webinar on **“Introduction to Animation, Creation of animated objects and Characters, Creation of interactive animation and Evaluation ”** at Universal Teachers Academy, Puducherry from 14-05-2020 to 18-05-2020
- **K.Pavaneeswaran, N.Devakarthik, T.Mandharasalam , S.Krishnaraj, S.Manikandan, S. Prakash, N.Parimala and S.Rakini,** have attended one day Webinar on **“Strategies to Overcome Upcoming Placement Season”** at Dhanalakshmi Srinivasan College of Engineering on 30.05.2020

## STUDENT'S CO-CURRICULAR & EXTRACURRICULAR ACTIVITIES

### PAPER AND PROJECT PRESENTATION



- Vijayaramuprawin A.V and Vishnu mohan K, III year have participated and presented the paper at CIT Sandwich Polytechnic College, Coimbatore .
- Sridhar V, Sumanth B and Solomon Y, II year have participated and presented the paper at Kongu Polytechnic College, Perundurai .
- Gunasekar C and Abinand N , II year have participated and presented the paper at Sri Ramakrishna Polytechnic College, Coimbatore .
- Dhayanandh R , Gobi V, sudransan S M , Solomon Y and Sridhar V , II year have participated and presented the paper at Sri Ramakrishna Polytechnic College, Coimbatore.
- Dinesh V, Gokul S, Shareep J, Selva Mainkadan G, Vishnu Mohan K, Vijayaramuprawin A.V, Sanjay R and Thianeshwaran K , III year have participated and presented the paper at Sri Ramakrishna Polytechnic College, Coimbatore.
- Vishnu kumar G and Vishnu pratheep M, III year have participated and presented the paper at Erode Sengunthar Engineering College, Perundurai.



## SPORTS ACTIVITIES :



- ❖ S.Ganeshkumar - III Year has won First place in the Volley ball at Inter Institute.
- ❖ S.Satishkumar - III Year has won First place in the Volley ball at Inter Institute.
- ❖ B.Mathankumar - III Year has won First place in the Volley ball at Inter Institute.
- ❖ N.Kathirvel - III Year has won First place in the Volley ball at Inter Institute.
- ❖ D.Hariprasath - III Year has won First place in the Volley ball at Inter Institute.
- ❖ N.Adhithya - III Year has won First place in the Volley ball at Inter Institute.
- ❖ S.Satishkumar - III Year has won First place in the Volley ball at Inter Institute.

# **STUDENTS FORUM**

## **INDUSTRIAL AUTOMATION**

The advanced engineering industry has thousands of supply chain companies to deliver the precision products and specialist services needed. We also have a thriving manufacturing industry, with investment in automation and technological advances potentially adding to the national economy each year.

We have seen substantial growth in supply chain industries especially in areas such as composite materials, low carbon technologies, digital process engineering, additive manufacturing, and robotics and autonomous systems - all of which offer high growth opportunities.

**MOHAMMED JUBAIR .S,III Mech**

## **3D PRINTING**

3D printing manufacturing is a process of making three dimensional solid objects from a digital file. The creation of a 3D printed object is achieved using additive processes. In an additive process an object is created by laying down successive layers of material until the object is created. Each of these layers can be seen as a thinly sliced cross-section of the object. 3D printing is the opposite of subtractive manufacturing which is cutting out / hollowing out a piece of metal or plastic with for instance a milling machine. 3D printing enables you to produce complex shapes using less material than traditional manufacturing methods.

**VIJAY RAMUPRAVEEN.AV,III Mech**

## **SOLAR TECHNOLOGY**

There are three primary technologies by which solar energy is harnessed: photovoltaic (PV), which directly convert light to electricity; concentrating solar power (CSP), which uses heat from the sun (thermal energy) to drive utility-scale, electric turbines; and solar heating and cooling (SHC) systems, which collect thermal energy to provide hot water and air heating or conditioning.

**BOOBALAKRISHNAN.T, III Mech**

## **PRODUCT LIFE CYCLE MANAGEMENT**

The term product life cycle refers to the length of time a product is introduced to consumers into the market until it's removed from the shelves. The life cycle of a product is broken into four stages—introduction, growth, maturity, and decline. This concept is used by management and by marketing professionals as a factor in deciding when it is appropriate to increase advertising, reduce prices, expand to new markets, or redesign packaging. The process of strategizing ways to continuously support and maintain a product is called product life cycle management.

**VASANTHA KUMAR .M, III Mech**

## **NON DESTRUCTIVE TESTING**

Non-destructive testing (NDT) is a testing and analysis technique used by industry to evaluate the properties of a material, component, structure or system for characteristic differences or welding defects and discontinuities without causing damage to the original part. NDT also known as non-destructive examination (NDE), non-destructive inspection (NDI) and non-destructive evaluation (NDE).

**ASARUDEEN.A , III Mech**

## **ALTERNATE FUELS**

Alternative fuels, known as non-conventional and advanced fuels, are any materials or substances that can be used as fuels, other than conventional fuels like; fossil fuels (petroleum (oil), coal, and natural gas), as well as nuclear materials such as uranium and thorium, as well as artificial radioisotope fuels that are made in nuclear reactors.

**GIRINATH.P,III Mech**

## **CRYOGENIC ENGINE**

A cryogenic engine/ cryogenic stage is the last stage of space launch vehicles which makes use of Cryogenics. Cryogenics is the study of the production and behaviour of materials at extremely low temperatures (below -150 degree Centigrade) to lift and place the heavier objects in space.

**GOBI.V,II Mech**

## **ULTRASONIC WELDING**

Ultrasonic welding, for thermoplastic injection moulded components, is a process that uses mechanical vibrations above the audible range. The vibrations, produced by a welding sonotrode or horn, as it is generally known, are used to soften or melt the thermoplastic material at the joint line. The components to be joined are held together under pressure and subjected to vibrations, usually at a frequency of 20 or 40 kHz.

**RAMESH.G , II Mech**

## **CIM**

Computer-integrated manufacturing (CIM) is the manufacturing approach of using computers to control entire production process. This integration allows individual processes to exchange information with each part. Manufacturing can be faster and less error-prone by the integration of computers. Typically CIM relies on closed-loop control processes based on real-time input from sensors. It is also known as flexible design and manufacturing

**DHANUSH SIVA .S , II Mech**

## **BS VI VEHICLE**

Bharat stage (BS) emission standards are laid down by the government to regulate the output of air pollutants from internal combustion engine and spark-ignition engine equipment, including motor vehicles.

The central government has mandated that vehicle makers must manufacture, sell and register only BS-VI (BS6) vehicles from April 1, 2020.

The first emission norms were introduced in India in 1991 for petrol and in 1992 for diesel vehicles. Followed these, the catalytic converter became mandatory for petrol vehicles and unleaded petrol was introduced in the market.

**MANOJ.K ,II Mech**



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