



# **STELLA MARY'S**

## **COLLEGE OF ENGINEERING**

**DEPARTMENTAL OF**  
**MECHANICAL ENGINEERING**  
**MAGAZINE 2019 - 2020**



**MECHASM**

A close-up, low-angle shot of a green and white racing car, likely a Formula 1 car, on a track. The car is in motion, with the wheels blurred. The background is a blurred track surface.

# ABOUT DEPARTMENT

*The Department of Mechanical Engineering has been in existence since 2013 with the intake of 60 students. The department has excellent infrastructure by keeping on par with the latest trends. The Department is grown into a full-fledged one with well-equipped lab facilities, Infrastructure and faculty members of various specializations. The faculty members are not only committed to the teaching profession but also involve themselves in research and constantly, publish papers in conference proceedings, International and National Journals with respect to their field of specialization. The department has been producing excellent results with distinction in the university examinations consistently.*

*The Department provides high quality education along with discipline. The faculty members make it possible to give individual attention to the learners and to motivate them to achieve their professional goals. The curriculum structure of the department is designed to meet the present day requirement of Industries and corporate sectors. The interaction between the staff and students is excellent and all the laboratories are well equipped as per the requirements of the curriculum.*

*The department also organizes frequent industrial visits, subject related seminars, guest lectures, workshops, symposia etc. to enhance the depth of the subject. Department of Mechanical Engineering offers a pavement for students to do innovative project work, by providing a separate lab, known as Design and Fabrication Laboratory". The Department is headed by Dr. J. Jenix Rino and architected with 11 faculty members*



# ABOUT MECHASM

*(The Student Association of Department of Mechanical Engineering)*

*“MECHASM” The student association of Department of Mechanical Engineering has been formed during the academic year 2015-2016. The Association is named after the abbreviation of “MECHANICAL Association of Stella Mary’s College of Engineering”. The association is solely governed by the students; One president, Secretary from final year, vice president and treasurer from pre-final year, Joint Secretary from second year and steering committee members for various portfolios was formed in every academic year. Various activities like Workshop, Guest Lecture, Student Competitions, and Seminars are conducted every academic year by MECHASM. Especially Department symposium are completely planned, organized and conducted by the association.*

## **INSTITUTION VISION AND MISSION**

### **Vision**

*To emerge as a premiere institution, acknowledged as a center for excellence imparting technical education, creating technocrats who can address the needs of the society through exploration and experimentation and uplift mankind.*

### **Mission**

*To provide an education that transforms students, through rigorous course — work and by providing an understanding of the needs of the society and the industry.*

## **DEPARTMENT VISION AND MISSION**

### **Vision**

*To impart nationally and internationally recognized education on Mechanical Engineering, leading to well qualified engineers who are innovative contributors to the profession and successful in advanced studies and research.*

### **Mission**

- *To provide an international class of education enabling the students to have the ability to design, plan, engineer, administer and manage the latest technologies in the field of Mechanical Engineering.*
- *To train students to face the future challenges of industries and society.*
- *To equip the students to take leading positions in industry, academia, and PSUs both in India and abroad.*



## PROGRAM OUTCOMES (POS)

**P01/Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

**P02/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.

**P03/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.

**P04/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 for complex problems

**P05/Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

**P06/The Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

**P07/Environment and Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

**P08/Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**P09/Individual and Team Work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**P010/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.

**P011/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.

**P012/Life-long Learning:** Recognize the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.



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## PROGRAM SPECIFIC OUTCOMES (PSOS)

**PS01/**The students will be able to combine their theory, hands-on and software knowledge in the field of Mechanical Engineering to design and develop components and provide solutions to practical problems.

**PS02/**The students will be able to apply their knowledge in the field of Materials and Energy to simulate and develop solution for the real time application.

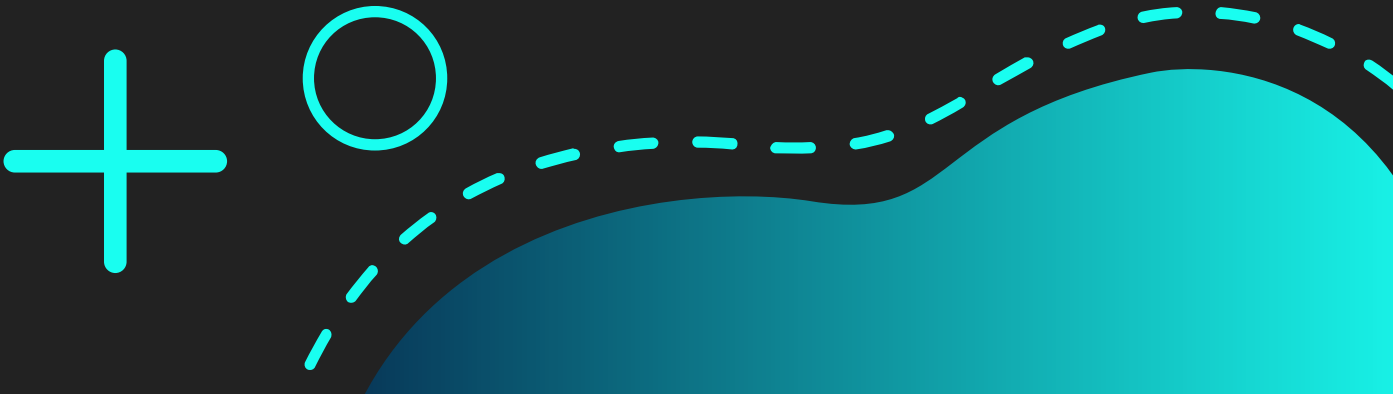
**PS03/**The students will be able to apply their knowledge and skills of various aspects of production, and automation, to enhance productivity and cater to current industrial needs.

## PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

**PE01/**To produce Mechanical Engineers with an outstanding knowledge of Mathematics, Science, Engineering, Management, Humanities and other interdisciplinary subjects for a successful career.

**PE02/**To equip the students with modern tools and technology for deliberating engineering solutions.

**PE03/**To inculcate students with leadership skills with a high level of integrity, ethics and moral values.



## CHAIRMAN MESSAGE

*I am delighted to present another issue of our annual day magazine MECHASM 2019-2020. "Success comes to those who work hard and stays with those who do not rest on their past accomplishments." Today's world is changing at such a rapid pace that we need to take a step back and reflect on the entire educational system I'm happy to report that the growing number of university ranks each year attests to the high quality of education provided by our institution. According to Margaret Mead "Children must be taught how to think, not what to think," and to multifaceted approach.*



**DR. NAZERATH CHARLES**  
**Founder & Chairman**

*Department magazine published once a year is a watershed moment in our evolution, revealing our imaginations and bringing our hopes and dreams to life. It unleashes a wide range of creative abilities, from writing to editing to magazine design. MECHASM 2019-2020 is a harmonious blend of creative thinking, art, knowledge, and wisdom that resonates in the inner souls of all stakeholders. It is natural to find the intensive use of a variety of thinking activities, strategies, and group dynamics in this environment to make this issue interesting and thought provoking.*

## CEO'S DESK

*Instead of just teaching you how to make a living, we prepare you to live. In other words, we shape you into a job provider rather than a job seeker. Our extracurricular programmers, in conjunction with our academic curriculum, ensure that what we promise is delivered during your time with us. There is a proverb that expresses our deep concern for the future of our students who have been admitted to our college.*

*"Give a man a fish; you feed him for a day. Teach a man how to fish; you feed him for a lifetime."*

*As previously stated, we prefer to work hard for long-term treasure rather than short-term pleasure. Instead of simply providing students with facts and knowledge, we encourage them to be the sources of their own knowledge. It was made possible by a team of our staff members who first Mould themselves before molding the students. By collaborating with our students, we are able to achieve what we boldly state. Yes, students are partners in our mission to help them become entrepreneurs. Our primary responsibility is to assist them in providing jobs rather than to find jobs for them.*



**Mr. Carol Judeson**  
**Chief Executive officer**

## DIRECTOR'S DESK

*A good educational institution strives to maintain and improve quality in all aspects of its operations on a continuous basis. As the Department of Mechanical Engineering strives to fulfil its mission of providing the best learning, teaching, and research opportunities to students and academicians alike, it continues to provide students with the fundamentals of modern knowledge and high values. Our faculty's research activities result in an extraordinary enrichment of our students' experiences at both the graduate and undergraduate levels. Our graduate students' research training prepares the next generation of scholars to advance knowledge and transfer technology.*



**Mr. P. Rengitham**  
**Director**

*The expansion of research opportunities to a growing number of undergraduate students adds a dimension of experience to undergraduate education that cannot be replicated in the classroom. Our students experience both the joy and the rigors of new discovery, and they develop inquiry, evaluation, and communication skills that will serve them well in the next stages of their careers.*

*Domestically, regionally, and internationally, students' creativity, collaborative work, and competition thrive. As it continues to attract students, the Department of Mechanical Engineering remains committed to academic freedom and encourages cultural diversity. I would like to encourage you to seize this wonderful opportunity and join us in our efforts to actively contribute to the overall improvement of this increasingly globalized society.*

## PRINCIPAL MESSAGE

*The magazine represents the writer's penmanship while also allowing them to share their thoughts. I appreciate the efforts of Mechanical Department students and staff who have taken the initiative to promote students' writing and publishing skills. This enables students to share and express their ideas more clearly. Students' and faculty members' accomplishments have also been highlighted, which will serve as a motivator for other students to strive for excellence.*



**Dr. R. SURESH PREMIL KUMAR**  
Principal

*We are pleased to report that our goal of making this a reality has been met. I'd like to thank all of the students, teachers, and others who helped put this magazine together. I wish everyone much success and a bright future.*

## HOD MESSAGE

*I'm overjoyed to learn that our college will publish a magazine this academic year. It provides an excellent opportunity for both faculty and students to showcase their abilities. I am convinced that it would be an excellent medium for informing the world about the potential and accomplishments of SMCEians. I hope that this is a continuing process, and that the magazine brings out everyone's hidden talent.*



**Dr. J. Jenix Rino**  
**HoD / Mech**

*I join others in appreciating and recognising the editors' and magazine committee's efforts in bringing out the magazine, and I wish them continued success.*

## EDITOR'S PAGE

*It gives me great pleasure to bring this to your attention this magazine MECHASM 2019-2020. The caliber and achievements of students and faculty members determine a department's name and fame. A staff member's role is to facilitate the development of students' skills and talents. This magazine serves as a showcase for the literary abilities and innovative ideas of faculty and students. MECHASM represents the accomplishments of students and the contributions of staff. We would like to express our heartfelt gratitude and appreciation to everyone who helped make this effort a success.*



**Mr. E. Bravin Daniel**  
**Assistant Professor**

*We sincerely thank the management for their encouragement and support, as well as for giving us a free hand in this endeavor. Last but not least, we would like to express our gratitude to all of the authors who submitted their work. We sincerely hope you enjoy reading the pages that follow.*



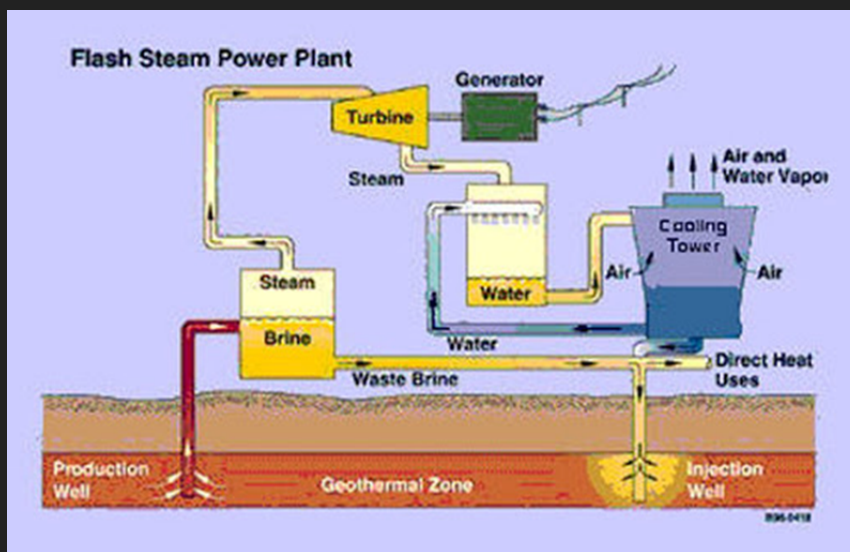
*"Move forward.  
Good things are  
up ahead"*

**– Dr. Nazerath Charles**

# ARTICLES 1

## FLASH STEAM GEOTHERMAL PLANT

- Dry Steam Power directly uses geothermal steam of 150 °C or greater to turn turbines.
- As the turbine rotates it powers a generator which then produces electricity and adds to the power field.
- Then, the steam is emitted to a condenser. Here the steam turns back into a liquid which then cools the water.
- After the water is cooled it flows down a pipe that conducts the condensate back into deep wells, where it can be reheated and produced again



**GODFREY MOHAN**  
3rd Year/ Mechanical

# ARTICLES 2

## OUT SOURCING

### DEFINITION

*Outsourcing is often viewed as involving the contracting out of a business function - commonly one previously performed in-house - to an external provider. Two organizations may enter into a contractual agreement involving an exchange of services and payments. Of recent concern is the ability of businesses to outsource to suppliers outside the nation, sometimes referred to as offshoring or offshore outsourcing.*

### REASONS

*Cost savings, Focus on Core Business, Cost restructuring, Improve quality, Knowledge, Contract, Operational expertise, Access to talent, Reduce time to market.*

### STEPS

- *Management people decided to start out source.*
- *Collect the out sourced organization.*
- *Meeting regarding contract.*
- *Discuss about the terms and conditions.*
- *Sign by the authorized people.*
- *Conduct review by the management.*
- *Make changes in the contract if necessary.*

### ADVANTAGES

- *Outsourcing your non-core activities will give you more time to concentrate on your core business processes*
- *Offshoring can give you access to professional, expert and high-quality services*
- *With outsourcing your organization can experience increased efficiency and productivity in non-core business processes*
- *Outsourcing can help you streamline your business operations*
- *Offshore outsourcing can help you save on time, effort, manpower, operating costs and training costs amongst others*
- *Outsourcing can make your organization more flexible to change*
- *You can experience an increased control of your business with outsourcing*
- *Your organization can save on investing in the latest technology, software and infrastructure as your outsourcing partner would be investing in these*
- *Outsourcing can give you assurance that your business processes are being carried out efficiently, proficiently and within a fast turnaround time*
- *Offshoring can help your organization save on capital expenditures*
- *By outsourcing, your company can save on management problems as your offshore partner will be managing the team who does your work*
- *By outsourcing, you can cater to the new and challenging demands of your customers*
- *Outsourcing can help your organization to free up its cash flow*

- *Sharing your business risks is possible with outsourcing*
- *Outsourcing can give your business a competitive advantage as you will be able to increase productivity in all the areas of your business*
- *Outsourcing can help your organization to cut its operational costs to more than half*

## DISADVANTAGES

- *At times, it is more cost-effective to conduct a particular business process, rather than outsourcing it.*
- *While outsourcing services such as payroll processing services and tax preparation services, your outsourcing provider will be able to see your company's confidential information and hence there is a threat to security and confidentiality in outsourcing*
- *When you begin to outsource your business processes, you might find it difficult to manage the offshore provider when compared to managing processes within your organization.*
- *Offshoring can create potential redundancies for your organization*
- *In case, your offshore service provider becomes bankrupt or goes out of business, your organization will have to immediately move your business processes in-house or find another outsourcing provider.*
- *The employees in your organization might not like the idea of you outsourcing your processes and they might express lack of interest or lack of quality at work.*
- *Your outsourcing provider might not be only providing services for your organization. Since your provider might be catering to the needs of several companies, there might be not be complete devotion to you and your company.*
- *By outsourcing, you might forget to cater to the needs of your valuable customers as your focus will be on the business process that is outsourced.*
- *In outsourcing, you may lose your control over the process that is outsourced.*
- *Outsourcing, though cost-effective, might have hidden costs, such as the legal costs incurred while signing a contract between companies. You might also have to spend a lot of time and effort in getting the contract signed.*
- *With outsourcing, your organization might suffer from a lack of customer focus.*
- *There can be several disadvantages in outsourcing, such as, renewing contracts, misunderstanding of the contract, lack of communication, poor quality and delayed services amongst others.*

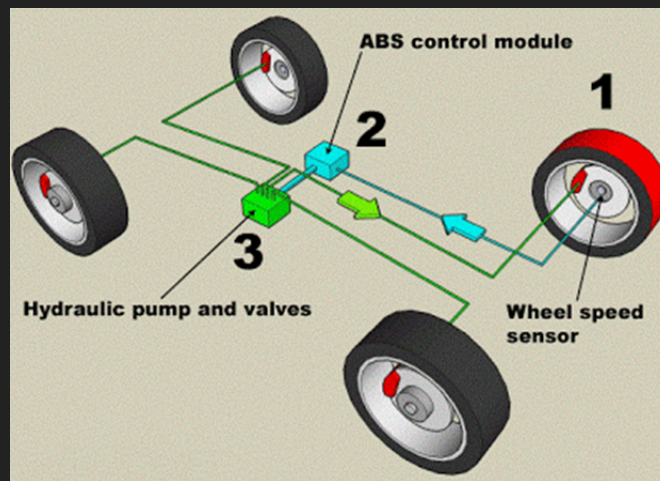


**SANTHIYA S K**  
3rd Year/ Mechanical

# ARTICLES 3

## ANTILOCK BRAKING SYSTEM (ABS)

An anti-lock braking system (abs) is a safety anti-skid braking system. Abs operates by preventing the wheels from locking up during braking, thereby maintaining tractive contact with the road surface. Principle of working It works on the principle of threshold braking and cadence braking. The abs system automatically does cadence braking to prevent locking of wheel and skidding of vehicle when brakes are applied. Main components of abs it has four main components speed sensors valves pump controller.



**ARUN VIBEEES M**  
Final year/Mechanical

# ARTICLES 4

## UNMANNED UNDERWATER VEHICLES

### INTRODUCTION

*Unmanned underwater vehicles (UUV), sometimes known as underwater drones, are any vehicles that are able to operate underwater without a human occupant. These vehicles may be divided into two categories, remotely operated underwater vehicles (ROVs), which are controlled by a remote human operator, and autonomous underwater vehicles (AUVs), which operate independently of direct human input. The latter category would constitute a kind of robot.*

### 1.CONCEPT OF UUVs

*The concept of resident UUVs and mobile instrument platforms has always been connected to cabled ocean observatories. Cabled infrastructure provides the required power and high-bandwidth communication capabilities.*



### Immediate availability

*As technology progresses, resident vehicles can be remotely programmed to autonomously perform increasingly complex sampling tasks and to autonomously recognize events to investigate.*

## POSSIBLE RESIDENT UUVs

### GLIDERS

An underwater glider is a type of autonomous underwater vehicle (AUV) that uses small changes in its buoyancy in order to move up and down in the ocean like a profiling float. Unlike a float, a glider uses wings to convert that vertical motion to horizontal, propelling itself forward with very low power consumption.

While not as fast as conventional AUVs, gliders using buoyancy-based propulsion represent a significant increase in range and duration compared to vehicles propelled by electric motor-driven propellers, extending ocean sampling missions from hours to weeks or months, and to thousands of kilometers of range. Gliders follow an up-and-down, saw tooth-like profile through the water, providing data on temporal and spatial scales unavailable to previous AUVs, and much more costly to sample using traditional shipboard techniques.

### 2.CRAWLERS

### 3-HOVERING HYBRID AUVs

### 4.AUVs

#### SOME OF WHAT EXISTS NOW:

ONC (NEPTUNE Canada) VPS profiler and Wally II crawler  
RSN shallow and deep profilers

#### RESIDENT VEHICLE OPERATIONS:

Starting in the docking station, the AUV will work through a queue of survey tasks, autonomously prioritizing activities based on task importance and battery life.

Upon returning to the dock after completing a full duty cycle, that AUV will upload all of the inspection data (photographs, 3D models, CP readings, etc.) to the observatory where they can be automatically distributed.

For more complex work that is beyond the autonomous capability of the vehicle, high-rate communication equipment could be installed within the field to allow a remote operator to wirelessly provide real-time command and control to the vehicle, essentially flying it like a traditional tethered ROV.



**JOHN JERLN J**

Final year/Mechanical

## ARTICLES 5

### *HOW TO LIVE A SIMPLE AND PEACEFUL LIFE?*

*In our daily lives, we often rush through tasks, trying to get them done, trying to finish as much as we can each day, and speeding along in our cars to our next destination, rushing to do what we need to do there, and then leaving so that we can speed to our next destination.*

*Unfortunately, it's often not until we approach our final destination that we realize what madness this all is. At the end of the day, we're often exhausted and stressed out from the grind and the chaos and the business of the day. We don't have time for what's important to us, for what we really want to be doing, for spending time with loved ones, for doing things we're passionate about.*

*It doesn't have to be that way. It's possible to live a simpler life, one where you enjoy each activity, where you are present in everything (or most things) you do, where you are content rather than rushing to finish things. If this appeals to you, here are some suggestions for living a simple, peaceful, content life.*

*1. **Decide what is important:** Take a step back and think about what's important to you. What do you really want to be doing, who do you want to spend your time with, what do you want to accomplish with your work? Make a short list of 4-5 things for your life, 4-5 people you want to spend time with, 4-5 things you'd like to accomplish at work.*

*2. **Examine your commitments:** A big part of the problem is that our lives are way too full. We can't possibly do everything we have committed to doing, and we certainly can't enjoy it if we're trying to do everything. Accept that you can't do everything, know that you want to do what's important to you, and try to eliminate the commitments that aren't as important.*

*3. **Do less each day:** Don't fill your day up with things to do. You will end up rushing to do them all. If you normally try (and fail) to do 7-10 things, do 3 important ones instead (with 3 smaller items to do if you get those three done). This will give you time to do what you need to do, and not rush.*

*4. **Leave space between tasks or appointments:** Another mistake is trying to schedule things back-to-back. This leaves no cushion in case things take longer than we planned (which they always do), and it also gives us a feeling of being rushed and stressed throughout the day. Instead, leave a good-sized gap between your appointments or tasks, allowing you to focus more on each one, and have a transition time between them.*

**5. Eliminate as much as possible from your to-do list:** You can't do everything on your to-do list. Even if you could, more things will come up. As much as you can, simplify your to-do list down to the essentials. This allows you to rush less and focus more on what's important.

**6. Slow down and enjoy every task:** This is the most important tip in this article. Read it twice. Whatever you're doing, whether it's a work task, eating, brushing your teeth, cooking dinner, driving to work: slow down. Try to enjoy whatever you're doing. Try to pay attention, instead of thinking about other things. Be in the moment. This isn't easy, as you will often forget, but find a way to remind yourself. Unless the task involves actual pain, anything can be enjoyable if you give it the proper attention.

- Eat slowly. This is just a more specific application of taking things more slowly but it's something we do every day, so it deserves special attention.
- Drive more slowly. Another application of the same principle, driving is something we do that's often mindless and rushed. Instead, slow down and enjoy the journey.

**7. Single-task:** This is an important point. Do one thing at a time, and do it well; see *How to Avoid Multi Tasking*.

**8. Eliminate stress:** Find the stressful things in your life, and find ways to eliminate them.

**9. Create time for solitude:** In addition to slowing down and enjoying the tasks we do, and doing less of them, it's also important to just have some time to you.

**10. Do nothing:** Sometimes, it's good to forget about doing things, and do nothing and don't worry.

**11. Sprinkle simple pleasures throughout your day:** Knowing what your simple pleasures are, and putting a few of them in each day, can go a long way to making life more enjoyable.

**12. Practice being present:** You can practice being in the moment at any time during the day. The key methods of being present include paying attention instead of daydreaming, observing what is going on around you, breathing attentively and meditating.

**13. Live in the Moment:** Instead of delayed gratification, try enjoying life right now.

**14. Putting others first helps with living a peaceful life:** Living in conflict with people hurts, and sometimes we feel so small after a minor or major argument. But if we could just look past their faults, they could look past ours maybe. Forgiveness helps with living a peaceful life, (at peace with ourselves and others around us).



**R RAVEEN**

1st Year/ Mechanical

# ARTICLES 6

## DID YOU KNOW THIS?

### *Company Name Origin/Meaning*

1. Mercedes - Name of the daughter of the founder.
2. Nokia - Name of river in Finland.
3. Pepsi - Named from the digestive enzyme Pepsi.
4. Honda - From the name of its founder Soichiro Honda.
5. Sony - from the Latin word 'sonus' meaning sound.
6. Maggi- Food Company named after its founder, Julius Maggi.
7. Suzuki - From the name of its founder, Michio Suzuki.
8. Samsung - Meaning 'three stars' in Korea.
9. Toyota - From the name of founder, Sakichi Toyoda.
10. Yamaha - After Torakusu Yamaha, who founded the company
11. Adidas - From the name of the founder Adolf (Adi) Dassler (das).



**M SANJAY BHARATHI**

1st Year/ Mechanical

# ARTICLES 7

## NON-TECHNICAL ARTICLE

### PARADOXES IN MATHEMATICS

$$1X8+1=9$$

$$12X8+2=98$$

$$123X8+3=987$$

$$1234X8+4=9876$$

$$12345X8+5=98765$$

$$123456X8+6=987654$$

$$1234567X8+7=9876543$$

$$12345678X*8+8=98765432$$

$$1234560789 X8+9=987654321$$

$$0X9+8=8$$

$$9X9+7=88$$

$$98X9+6=888$$

$$987X9+5=8888$$

$$9876X9+4=88888$$

$$98765X9+3=888888$$

$$987654X9+2=8888888$$

$$9876543X9+1=88888888$$

$$98765432X9+0=888888888$$

$$6X6+6=42$$

$$66X66+66=4422$$

$$666X666+666=444222$$

$$6666X6666+6666=44442222$$

$$66666X66666+66666=4444422222.$$



**JENISH RAHUL S**  
2nd Year/ Mechanical

## ARTICLES 8

### *NEVER GIVE UP*

*If I made a mistake,  
then I would have to retake,  
and do it once again,  
even feel the pain.  
But there also lays a prize,  
and that made me realise that,  
even if I was to fail,  
it would be a learning trail.  
If I hope for medals and a cup,  
I can't just rely on luck  
I must do hard work,  
to show the world my worth.  
That's the essence of never giving up!*



**ABISHEK S**

2nd Year/ Mechanical

## EVENTS ORGANIZED

Mr.M.Sajeev	Manager, CAD Centre, Nagercoil	26/07/2019	<b>Seminar on</b> Synergy School of Business Skills.
Mr.L.Don Bosco	Director, BRIX Academy India Pvt Ltd, Nagercoil.	25/09/2019	<b>Workshop on</b> Recent Trends using Biogas.
Major. Gladson	Indian Army	04-10-2019	Conclave on the Pride of uniform Services
Mr. Arun	ADSP Colachel		
Mr. A P Manoj Kumar	Founder and Director Home Trust	04-10-2019	AICTE's – One student One Tree Program



*Major. Gladson and Mr. Arun have presented a valuable awareness program about the pride of Uniform Services on 4th October 2019 and also made interactive sessions.*

*AICTE's One Student One Tree Program was conducted on the same day and Mr. A.P. Manoj Kumar presented a valuable seminar and also made the students plant trees inside the campus.*

# STUDENT ACHIEVEMENT

SL.NO.	NAME OF THE STUDENT	ORGANISED / CONDUCTED BY	Date	ACHIEVEMENT
1	M.S. Deva	Technical Symposium Mechanize 19 Bethlehem Institute of Engineering	18-09-2019	First prize in Pencil Drawing
2	A. Vigneshwar	Technical Symposium Mechanize 19 Bethlehem Institute of Engineering	18-09-2019	Second prize in Mind Game
3	Eldison	Technical Symposium Cynosure 19 Stella Mary's College of Engineering	20-09-2019	Second Prize in PUBG
4	M.S. Deva	Technical Symposium Flaaga 19 Loyola Institute of Technology & Science	31-08-2019	Second Prize in Pencil Sketching

SL.NO.	NAME	Event Title	Held At	Date	ACHIEVEMENTS / AWARDS
1	M.S. Deva	Badminton	Zonal Tournament- St. Xaviers Catholic College of Engineering	26.07.2019 to 28.07.2019	WINNER
2	J. Jeshwin Aru	Badminton	Zonal Tournament- St. Xaviers Catholic College of Engineering	26.07.2019 to 28.07.2019	WINNER

## *STUDENT ACADEMIC TOPPERS*

SL.NO.	NAME OF THE TOPPER	Year	SEMESTER	CGPA
1	J JOHN JERLIN	FINAL	VII	8.156
2	S K SANTHIYA	THIRD	V	7.967
3	R ANISH	SECOND	III	7.520

## *FACULTY ACTIVITIES*

SL.NO	Name of the faculty	Programme	Organized by	No of days & Attended date	Type	Level
1	DR. M. SIVA PRAKASH	“CURRENT TREND IN SURFACE MODIFICATION PROCESS OF BIO-IMPLANTS AND FEA APPLICATION IN ORTHOPEDICS”	Muthayammal Engineering college, Namakkal	3days & 04/11/2019 to 06/11/2019	Workshop	National
2	Dr. F. Michael Raj	“DISRUPTIVE TECHNOLOGY IN MACHINE LEARNING AND AI”	The Institution Of Electronics And Telecommunication Engineers	1day & 08/11/2019	FDP	National

3	MR. J. JENIX RINO	“OBE IMPLEMENTATION TOWARDS ACCREDITATION”	Kalasalingam Academy Of Research And Education, Virudh Nagar	7days & 08/12/2019 to 14/12/2019	FDP	National
		“COMPUTER AIDED DESIGN AND MANUFACTURING”	College Of Engineering, Guindy, Anna University	5days & 02/12/2019 to 06/12/2019	FDP	National
		“ADVANCE RESEARCH IN MATERIAL SCIENCE- ARMS19”	Rohini College Of Engineering And Technology, Kanyakumari.	1days & 10/8/2019	Seminar	National
		“E-LEARNING AND MOOCS IN HIGHER EDUCATION”	Guru Angad Dev Teaching Learning Centre Of MHRD,SGTB Khalsa College, University Of Delhi And Anna University, Chennai.	1day & 14/11/2019	Workshop	National
4	MR. P. VIJAYAN	“COMPUTER AIDED DESIGN AND MANUFACTURING”	College Of Engineering, Guindy, Anna University	5days & 02/12/2019 to 06/12/2019	FDP	National

## ***FACULTY ACHIEVEMENTS***

<b>SL.NO.</b>	<b>Authors</b>	<b>Publication details</b>	<b>Journal</b>	<b>ISBN/ISSN Number</b>	<b>Impact Factor</b>
1	Dr. F. Michael Raj	“Experimental Investigation of Wire EDM Process Parameters on Sic Particles Reinforced AA6063 (Black & Green) Aluminum Alloy Matrix Composites”	Tierarztliche Praxis,	0303-6286	0.388
2	Dr. F. Michael Raj	“Mechanical and morphological characterization of discarded fishnet/glass fiber reinforced polyester composite”	Bulletin Of The Polish Academy Of Sciences Technical Sciences,	23001917	1.3

## ***AWARDS BY COLLEGE***

- *BEST TEACHER: MR.C.DHAYANANTH JEGAN(85% IN GE8152-ENGINEERING GRAPHICS)*
- *BEST RESEARCHER:. DR. F.MICHAEL RAJ*
- *BEST OUTGOING STUDENT: J. JOHN JERLIN*

# STUDENT ACTIVITIES

Dr.R.Manivannan	Scientist, CSIR-CMERL, West Bengal.	19/02/2020	<b>Workshop on</b> Advanced Product Technologies
Dr. M. Pradeep Kumar	Director, AU-FRG, Anna University, Chennai.	19/02/2020	<b>Workshop on</b> Additive Manufacturing Process
Dr. P. Hariharan	Prof, Dept. of ManTech Students Affairs, Anna University, Chennai.	19/02/2020	<b>Workshop on</b> Micro Machining
Dr. M S. Starvin Mr. V. Sivathanu Pillai	AP /UCEN- Nagercoil Chairman, Kanyakumari chapter (IEI)	20-02-2020	National Level Technical Symposium Joule's FEZT 20



*National Level Technical Symposium Joule's FEZT 20 purely depends on scope of Mechanical Engineering which helps engineering students to develop projects related to various fields of Mechanical Engineering. Chief guests Dr. M.S. Starvin and Mr. Sivathanu Pillai have Presented valuable seminars and also made interactive presentations.*

# STUDENT ACHIEVEMENT

SL.NO.	NAME OF THE STUDENT	ORGANISED / CONDUCTED BY	Date	ACHIEVEMENT
1	R. K. OBISIAN	Thekkan Kalari Varma Adimurai Silambam Tamil Nadu Kalarippayattu Association, Coimbatore	25-01-2020	First prize

SL.NO.	NAME	Title	Organized/Conducted by	Date	ACHIEVEMENTS / AWARDS
1	U. A. Ahilesh	Intellectual Property Rights & Entrepreneurship	Entrepreneurship Development and Innovation Institute	17-02-2020 and 18-02-2020	Participation
2	A. Muthumani	Intellectual Property Rights & Entrepreneurship	Entrepreneurship Development and Innovation Institute	17-02-2020 and 18-02-2020	Participation
3	R. Venu Gopal	Intellectual Property Rights & Entrepreneurship	Entrepreneurship Development and Innovation Institute	17-02-2020 and 18-02-2020	Participation
4	B.Thaswin	Intellectual Property Rights & Entrepreneurship	Entrepreneurship Development and Innovation Institute	17-02-2020 and 18-02-2020	Participation

5	J. David Harris S. Jenish Rahul R. L. Ezhil Ram	Automated Writing Machine using E-waste	Technology Enabling Centre Centre for Technology Development and Transfer, Anna University	27-02-2020 and 28-02-2020	Participation
6	J. Jerson	Entrepreneurship Awareness Camp	Amrita College of Engineering and Technology	12-02-2020 and 14-02-2020	Participation
7	R. Anish	Entrepreneurship Awareness Camp	Amrita College of Engineering and Technology	12-02-2020 and 14-02-2020	Participation
8	J. David Harris	Serve the Underserved with Special Emphasis on the Tribal Communities of Sirumalai	IEEE Smart Village	01.02.2020	Participation
9	M. Sujith	Serve the Underserved with Special Emphasis on the Tribal Communities of Sirumalai	IEEE Smart Village	01.02.2020	Participation

10	R. K. Obisian	Serve the Underserved with Special Emphasis on the Tribal Communities of Sirumalai	IEEE Smart Village	01.02.2020	Participation
11	R. L. Ezhil Ram	Serve the Underserved with Special Emphasis on the Tribal Communities of Sirumalai	IEEE Smart Village	01.02.2020	Participation
12	N. Nabin	Serve the Underserved with Special Emphasis on the Tribal Communities of Sirumalai	IEEE Smart Village	01.02.2020	Participation

13	S. Jenish Rahul	Serve the Underserve d with Special Emphasis on the Tribal Communiti es of Sirumalai	IEEE Smart Village	01.02.2020	Participation
14	A. Thanu	Serve the Underserve d with Special Emphasis on the Tribal Communiti es of Sirumalai	IEEE Smart Village	01.02.2020	Participation

## *STUDENT ACADEMIC TOPPERS*

SL.NO	NAME OF THE TOPPER	Year	SEMESTER	CGPA
1	J. JOHN JERLIN	FINAL	VIII	8.207
2	S. K. SANTHIYA	THIRD	VI	8.200
3	R. ANISH	SECOND	IV	7.889

# STUDENT ACADEMIC TOPPERS

Sl no	Name of the faculty	Programme	Organized by	Duration
1	Dr. M.Siva Prakash	FDP on “CFD SIMULATION OF THERMAL MANAGEMENT OF BATTERIES AND POWER CONVERTORS”	Vel Tech High Tech Dr Rangarajan Dr. Sakunthala Engineering College	28/5/2020 [1day]
2	Dr. F.Michael Raj	FDP on “ARTIFICIAL INTELLIGENCE”	Christian College Of Engineering And Technology, Oddanchatram	22.05.2020 to 26.05.2020 [5days]
		FDP on “EMERGING TRENDS IN ELECTRIC VEHICLES”	Jeppiaar Institute Of Technology, Sriperumputhoor	14.05.2020 to 15.05.2020 [2days]
		FDP on “ADVANCES IN PRODUCTION AND INDUSTRIAL ENGINEERING”	Kalasalingam Academy Of Research And Education, Virudhunager	25.05.2020 to 30.05.2020 [6days]
		FDP on “MECHANICAL BEHAVIOUR OF ADVANCED MATERIALS AND ITS SCOPE FOR ENGINEERING APPLICATIONS”	Sri Venkateswara College Of Engineering Pennalur , Sriperumbudur	10.06.2020 to 14.06.2020 [5days]

3	Dr. J. Jenix Reno	Workshop on “ADVANCES IN PRODUCTION TECHNOLOGY”	Stella Mary’s College Of Engineering	19/02/2020 [1day]
4	Mr. J. Starlin Deva Prince	FDP on “ HEAT TRANSFER AND COMPUTATIONAL FLUID DYNAMICS TOWARDS INDUSTRIAL APPLICATIONS ”	Sri Sairam Institute of Technology, Chennai, Tamil Nadu	12/6/2020-18/6/2020 [7days]
		FDP on "ETHICAL PRACTICES IN ENGINEERING”	Sri Sairam Engineering College, Chennai,	28/5/2020-03/5/2020 [7days]
		FDP on “MANAGING ONLINE CLASSES AND CO-CREATING MOOCs:2.0”	Teaching learning center, Ramanujan college, University of Delhi	18/05/2020-03/6/2020 [14 days]
		FDP on “CAM USING FUSION 360 (ONLINE LIVE FDP)”	ICT Academy	07/5/2020-13/5/2020 [7days]
		FDP on “EMERGING AREAS IN MANUFACTURING”	Vimal Jyothi Engineering College, Jyothi Nagar, Chemperi, Kannur, Kerala.	25/5/2020-30/5/2020 [6days]
		FDP on “RENEWABLE ENERGY SYSTEMS”	Panimalar Institute Of Technology	08/6/2020-12/6/2020 [6days]

5	Mr. P. Vijayan	Workshop on “STEP-BY-STEP FOR WRITING RESEARCH ARTICLES”	Kalasalingam Academy Of Research And Educator, virudhunager	21.05.2020 [1day]
6	Mr. D. Vinoth Kumar	Workshop on “RESEARCH METHODOLOGY”	Jeppiaar Institute Of Technology, Sriperumputhoor	01/6/2020 to 02/6/2020 [2days]
		FDP on “NOVEL MATERIALS AND ITS INDUSTRIAL APPLICATIONS”	Karpagam College Of Engineering, Coimbatore	13.05.2020 to 18.05.2020 [6days]
		Workshop on “ADVANCEMENT IN ROCKET SCIENCE AND ADDITIVE MANUFACTURING”	CSI College Of Engineering ,Ooty	18.5.2020 to 19.5.2020 [2days]
		FDP on “ADVANCEMENT IN MECHANICAL PRODUCTION AND CIVIL ENGINEERING AND ICT TEACHING-LEARNING PROCESS”	Sri Sairam Engineering College, Chennai	13.05.2020 to 26.05.2020 [14days]
		FDP on “FUTURE MATERIALS:NANO COMPOSITES”	Bharathi Vidyapeeth College Of Engineering, Pune	15.05.2020 to 21.05.2020 [7days]
		FDP on “ HEAT TRANSFER AND COMPUTATIONAL FLUID DYNAMICS TOWARDS INDUSTRIAL APPLICATIONS ”	Sri Sairam Institute Of Technology, Chennai, Tamil Nadu.	12.5.2020 to 18.05-2020 [7days]

		Workshop on “FUTURE AUTOMOTIVE INDUSTRY AND CHALLENGES”	Vel Tech High Tech Dr Rangarajan Dr. Sakunthala Engineering College	27.05.2020 [1day]
7	Mr. C. Dhayananth Jegan	FDP on “INTERNET OF THINGS”	IIT Nagpur	30.04.2020 to 04.05.2020 [5days]
		FDP on “MECHANICAL BEHAVIOUR OF ADVANCED MATERIALS AND ITS SCOPE FOR ENGINEERING APPLICATION”	Sri Venkateswara College Of Engineering Pennalur, Sriperumbudur	10.06.2020 to 14.06.2020 [5days]
8	Mr. E. Bravin Daniel	FDP on “EMERGING AREAS IN MANUFACTURING”	Vimal Jyothi Engineering College, Jyothi Nagar, Chemperi, Kannur	25/5/2020- 30/5/2020 [6days]
		FDP on “INTRODUCTION TO FINITE ELEMENT ANALYSIS”	Panimalar Institute Of Technology	11/5/2020- 15/5/2020 [5days]
		FDP on “GREEN MANUFACTURING : THE PRESENT & THE FUTURE”	Santhiram Engineering College, Nandyal	15/5/2020- 20/5/2020 [6days]
		Workshop on “CFD SIMULATION OF THERMAL MANAGEMENT OF BATTERIES AND POWER CONVERTORS”	Vel Tech High Tech Dr Rangarajan Dr. Sakunthala Engineering College	28/5/2020 [1day]

## ***FACULTY ACHIEVEMENTS***

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## ***FACULTY AWARDED PH.D***

<b>SL.NO.</b>	<b>Name of the Faculty</b>	<b>University</b>	<b>Designation</b>	<b>Date of Joining</b>	<b>Year of Award of Ph.D.</b>
1	Dr. J. Jenix Rino	Anna university, Chennai	Associate Professor & HOD	01/07/2019	2020

## ***AWARDS BY COLLEGE***

- *BEST RESEARCHER: DR.F.MICHAEL RAJ*
- *BEST OUTGOING STUDENT: J. JOHN JERLIN*

*OUT GOING STUDENT'S*  
*2019-2020 BATCH*



# CLUB ACTIVITIES

## ***BLOOD DONATION CAMP***

*Date of Programme : 04/09/2019*

*Time of Programme : 10.00 PM*

*No. of Days : 1*

*Venue : College Auditorium*

*A blood donation camp was organized by STELLA MARY'S COLLEGE OF ENGINEERING, ARUTHENGANVILAI, AZHIKAL, on 4th September 2019. A team of 11 doctors and nurses of Blood Bank, Kanyakumari Medical College, Asaripallam, Nagercoil, came for collection of blood. The event started with 'Tamil Thai Valthu' by Volunteers of NSS and YRC, welcome Address followed by Dr. Suresh Premil Kumar (Principal, Stella Mary's college of Engineering). Dr. Caroline Geetha (Blood Bank Medical Officer, Kanyakumari Medical College) enlightened the students about the importance of donating blood*



# CLUB ACTIVITIES

## ***NATIONAL SERVICE SCHEME***

*Date of Programme: 13/09/2019*

*Time of Programme: 11.00 PM*

*No. of Days : 1*

*Venue : College Campus*

*Our college National Service Scheme (NSS) and Youth Red Cross (YRC) together conducted a Dengue Awareness program on 13th September 2019. In this program the Staff from the Government Primary Health Centre, Ganapathipuram also participated and joined in the rally.*



# *DEPARTMENT OF MECHANICAL ENGINEERING*



# DEPARTMENT OF MECHANICAL ENGINEERING

## *Mini projects*



# *DURING INDUSTRIAL VISIT*



# *FIELD TRIP*



# *ONE STUDENT ONE TREE PROGRAMME*



# *EDITORIAL BOARD*

*Year*

*2019-20*

*Issue*

*April 2020*

*Faculty  
Editor*

*Mr. E. Bravin Daniel*

*Faculty  
Coordinators*

*Dr. J. Jenix Rino  
Dr. M. Siva Prakash*

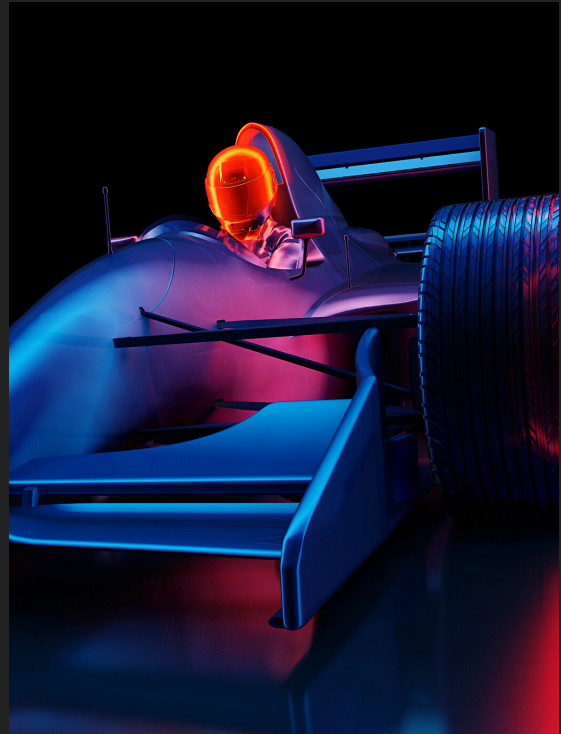
## INSTITUTION VISION AND MISSION

### Vision

*To emerge as a premiere institution, acknowledged as a centre for excellence imparting technical education, creating technocrats who can address the needs of the society through exploration and experimentation and uplift mankind.*

### Mission

*To provide an education that transforms students, through rigorous course — work and by providing an understanding of the needs of the society and the industry.*



## DEPARTMENT VISION AND MISSION

### Vision

*To impart nationally and internationally recognized education on Mechanical Engineering, leading to well qualified engineers who are innovative contributors to the profession and successful in advanced studies and research.*

### Mission

*To provide an international class of education enabling the students to have the ability to design, plan, engineer, administer and manage the latest technologies in the field of Mechanical Engineering.*

*To train students to face the future challenges of industries and society.*

*To equip the students to take leading positions in industry, academia, and PUS both in India and abroad.*