

# MExpress

Mechanical Engineering Department's Official Newsletter  
**VOLUME 05 - Issue 03**



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**NOVEMBER 2021**

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## CATAPULT



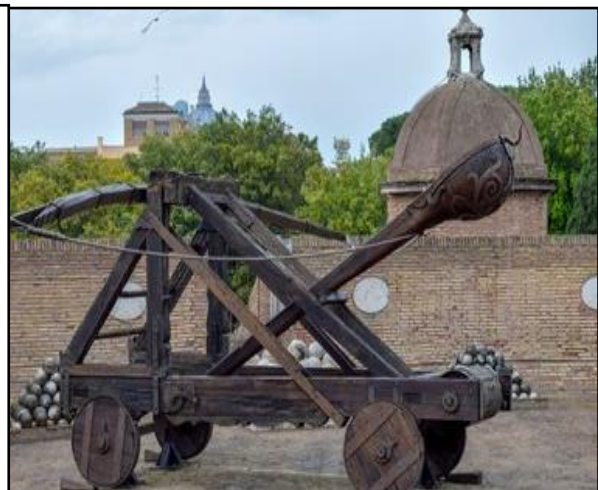
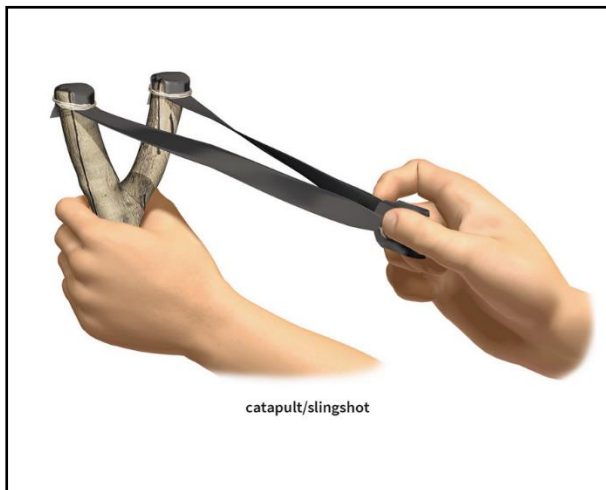
**Mr. Nithesh S V**  
**20BME080**  
**2nd Mech.- B**

### Catapult :

It is generally defined as a ballistic device which is used in launching a Projectile to a very far or great distance, without the help of any external gunpowder or other propellants like siege engines. It works by a sudden release of the potential energy which is stored in it to propel the payload. They were invented by Ancient Greeks and in Ancient India these Catapults were used by Magadhan Emperor around Mid of 5th century BC.

### Working :

The main principle of working of the catapult is, it uses the stored potential energy to act on the payload. Mostly the conversion is like from tension energy or torsion energy, which was manually set up before the release with the help of springs, ropes, bows, etc;. The material is been loaded at the payload. Now the stored energy is suddenly released, and the total force is exerted at the payload which results in throwing of it to a very far distance.



### History :

This Catapult was very widely used in ancient times, which has proved to be one of the very effective mechanisms during the war times. The latest catapult was used on 4th century BC in china with the advent of Mangonel, which is a type of Traction Trebuchet. In early stages, many of them made a wide use of these catapults which were of many different types.

### Types :

There are many types of catapults which were found during different periods of time. A catapult was found on the Walls of Fortress of Buhen in 19th century BC. Other types like Medieval Catapults which further divided as Ballista, Springald, Mangonel, Onager, trebuchet.



## Modern uses :

Modern use means, it is referred in the use of Catapults in Military. It was last used during Trench Warfare in World War I. In early time, these were used in throwing hand grenades into enemy land. Now those were replaced by small Mortars.

In 1840 Vulcanized rubber was invented which lead the way in the development of Y shaped sticks, which is now popular used among people. These were named as Slingshots in USA.

Specail types names as Aircraft catapults are used in launching the planes from base and sea if the takeoff is short so to implement a power takeoff. They are also used by the ships to deploy bombs on submarines.

## Entertainment :

Now a days catapults play a major role in daily life like in theme parks, Water park and other thrilling entertaining areas. This was in practice from 1990's and in early 2000's. But in England, this was stopped due to the fatality of water. Injury and death had occurred already in these activities. Early launched Roller coasters used this Catapult system, which is runned by a diesel engine during 1977 – 1978. Now it is been replaced with flywheels and afterwards with linear motors.



## PROGRAMMES ORGANIZED



- A Guest Lecture as a part of Alumni Talk series on “Total Productive Maintenance” was organized on 02-10-2021. **Dr. T. Karuppusamy**, Assistant Professor – II coordinated the event.

- Ph. D. Viva Voce Presentation titled “Investigation on mechanical properties, wear behaviour and machinability studies of titanium diboride and boron carbide reinforced LM13 aluminium alloy hybrid composites” for Mr. P. Vadivel, one of the research scholars of **Dr. C. Velmurugan**, Professor and HoD on 04.10.2021. Further Doctoral Committee Meetings for another couple of research scholars Mr. R. V. Bharath and Mr. J. Karthikeyan, were conducted on 07-10-2021 and on 20-10-2021, respectively.



- A One-day workshop on “Design Thinking and Product Development” was organized on 30-10-2021. **Dr. S. Thirumurugaveerakumar**, Associate Professor, coordinated the event.



- Department organised a webinar on “Disaster Management and Sustainability” on 01-10-2021. **Dr. V. Manivelmuralidaran**, Assistant Professor - II and **Dr. M. Thirumurugaveerakumar**, Associate Professor coordinated the webinar.



- Further, department organised another Webinar on “Recent Advances in Friction Stir Processing in association with Indian Welding Society (IWS) and Mechanical Engineering Association on 28-10-2021. **Dr. V. Manivelmuralidaran**, Assistant Professor - II coordinated the event.



- Another webinar on “Non-Destructive Testing” was organized by the department on 26.10.2021. **Mr. Krishnamoorthi Venkatesan**, Inspection Engineer, Engineers Edge Institute of NDT, Coimbatore was the resource person. **Dr. V. Muthukumar**, Professor and **Dr. S. Balaji**, Assistant Professor coordinated the webinar.



## FACULTY AS RESOURCE PERSONS



- **Dr. S. Bhaskar**, Associate Professor invited as a resource person for “Workshop on Preparing for NBA – Topic: Preparing PowerPoint presentation for presenting during NBA visit – Principal Presentation and Department HoD Presentation” dated on 16-10-2021– For Sakthi Polytechnic College, Sakthi Nagar -638315, Organized by Sakthi Polytechnic College for around 75 of their faculty. Further, Dr. Bhaskar also invited as a resource person for AICTE ATAL (AICTE Training and Learning Academy) sponsored FDP on “IoT using Arduino and Raspberry Pi” dated on 27-10-2021 – Topic: 03 - Principles and 07 – Qualities for a stress free and competitive life journey – For Sakthi Polytechnic College, Sakthi Nagar -638315, Organized by Sakthi Polytechnic College for around 150 faculty from across India.

- **Dr. R. Manivel**, Professor invited as a resource person for Training programme on Subsea Tree Component Design using ASME and API standards for PGDDE students of Cameron-Schlumberger, Coimbatore on 02-10-2021, 03-10-2021, 09-10-2021, 10-10-2021 and on 19-10-2021.



- **Dr. S. Balasubramanian**, Associate Professor delivered a lecture in KCT Weekly Forum - 76 on 29-10-2021 in the title “Additive Manufacturing”.

## PAPERS PUBLISHED

- **Dr. M. Balaji**, Associate Professor, published a paper entitled “Balanced Scorecard approach in deducing supply chain performance in a Scopus indexed International Journal.



- **Dr. K. K. Arun**, Assistant Professor - III published a paper entitled “Time Dependent Behaviour of Amino Silane-treated Aramid Fibre and Waste Latex Rubber Powder Toughened Epoxy Composite” in the Scopus indexed International Journal ‘Silicon’.

- **Mr. M. A. Vinayagamoorthi**, Assistant Professor - II published a paper titled “A Review on Application of Smart Materials in Additive Printing”, International Journal of Emerging Technologies and Innovative Research.



## BOOK CHAPTERS PUBLISHED

- **Dr. V. Manivelmuralidaran**, Assistant Professor - II and **Dr. M. Balaji**, Associate Professor published a Book chapter in Recent Advances in Manufacturing, Automation, Design and Energy Technologies titled Design of Workplace in Assembly Unit Using Ergonomic Principles with an ISBN number 978-981-16-4221-0, published by Springer, Singapore.



## INDUSTRY LINKAGE



- **Dr. R. Manivel**, Professor, **Dr. S. Balasubramanian**, Associate Professor, **Dr. S. Sivakumar**, Assistant Professor – III and **Dr. B. N. Sreeharan**, Assistant Professor – II visited M/s Messer Cut India Limited, Coimbatore and discussed about industry sponsored lab in thermal cutting system.



- **Dr. N. Sangeetha**, Sr. Associate Professor visited M/s. Kavi Techno Works, NGGO colony, Thudiyalur, Coimbatore and met Mr. Kavi Sidarth, CSO, and discussed about project works.



## INDUSTRIAL CONSULTANCY



- **Dr. B. N. Sreeharan**, Assistant Professor – II, provided consultancy worth Rs. 2000/- to M/s. Reshmi Industries India P. Ltd., Coimbatore in the EEE Lab for Measuring flux density with the help of faculty members Mr. S. Arunkumar, AP/EEE and Mr. Mohana Sundaram, AP/EEE.

## PATENT PUBLICATION

- A patent titled “Automatic Unmanned Railway Level Crossing Gate” of **Dr. K. M. Senthilkumar**, Associate Professor bearing application No. 202141047926 published on 29-10-2021.



## PROGRAMMES ATTENDED



- **Mr. S. Sivakumar**, Assistant Professor - II participated in an Workshop on “360 Degree Feedback for Anna University and its Affiliated Institutions” on 20-10-2021, organized by AICTE, National.

- **Mr. P. D. Devan**, Assistant Professor participated in an FDP on “Stress busting meditation sittings” from 20-09-2021 to 24-09-2021, organized by ATAL , NIT Arunachal Pradesh. .



- **Mr. M. A. Vinayagamoorthi**, Assistant Professor - II participated in an International Workshop on “ICMR-Elsevier Workshop on Open Science: a multifaceted framework to improve science and health outcomes” on 29-10-2021, organized by Elsevier & ICMR. He also participated in an Webinar on “Recent Advances in Friction Stir Processing” on 28-10-2021 organized by IWS - KCT, Coimbatore.

- **Mr. K. Manikanda Prasath**, Assistant Professor participated in an FDP on “Recent Trends in Design of Experiments (DOE) and Optimization Techniques with Hands-on Training” from 18-10-2021 to 23-10-2021, organized by Department of Mechanical Engineering, SRM Institute of Science and Technology, Kattankulathur – 603203, Tamil Nadu.



- **Dr. T. Karuppusamy**, Assistant Professor - II participated in an International Workshop on “ICMR-Elsevier Workshop on Open Science: a multifaceted framework to improve science and health outcomes” on 29-10-2021, organized by Elsevier & ICMR.



- Dr. V. Manivelmuralidaran, Assistant Professor - II participated in an Webinar on “Extra Extramural Lecture Series on Latest Advances and Future Prospects of Welding Technology” on 27-10-2021 organized by Ramco institute of Technology IWS. He also participated in an FDP on “New Age Materials & Technologies” from 04-10-2021 to 08-10-2021, organized by Department of Mechanical Engineering, Sree Vidyanikethan Engineering College., Sree Vidyanikethan Engineering College (Autonomous), Tirupati, AP.

- **Dr. S. Thirumurugaveerakumar**, Associate Professor participated in an FDP on “Recent Trends in Design of Experiments (DOE) and Optimization Techniques with Hands-on Training” from 18-10-2021 to 23-10-2021, organized by Department of Mechanical Engineering, SRM Institute of Science and Technology, Kattankulathur – 603203, Tamil Nadu.



- **Dr. S. Bhaskar**, Associate Professor participated in an Workshop on “National Workshop on Curriculum Design” (02 days / 03 hours each day) arranged by KCT and ASSOCHAM – Recourse Person: Dr. Shithanshu Mishra – IIT Alumni” from 29-10-2021 to 31-10-2021, organized by ASSOCHAM and KCT.

- **Dr. R. Manivel**, Professor participated in an KLDA-Workshop on “Guidelins on Framing Powerful Questions” from 29-10-2021 to 30-10-2021, organized by KCT. He also participated in an FDP on “Energy Storage” from 25-10-2021 to 29-10-2021, organized by AICTE-ATAL, Dept. of Chemical Engg., Manipal Academy of Higher Education, Karnataka.



- **Dr. P. R. Ayyappan**, Assistant Professor (SrG) participated in an FDP on “Alternative Fuels : Biofuels” from 04-10-2021 to 08-10-2021, organized by ATAL Academy-PDA College of Engineering Kalaburagi, PDA College of Engineering Kalaburagi Karnataka.

- **Dr. B. N. Sreeharan**, Assistant Professor - II completed an online course on “Excel Time Series Models for Business Forecasting” from 05-10-2021 to 11-10-2021, organized by Coursera. He also participated in an FDP on “Recent Trends in Design of Experiments (DOE) and Optimization Techniques with Hands-on Training” from 18-10-2021 to 23-10-2021, organized by Department of Mechanical Engineering, SRM Institute of Science and Technology, Kattankulathur – 603203, Tamil Nadu.



- **Dr. M. Balaji**, Associate Professor participated in a Workshop on “Effective Research Paper Drafting FOR publication” from 18-09-2021 to 19-09-2021, organized by KLDA-KCT, KCT. He also organized 1st DC meeting for his scholar Ms. T. Miruthubashini on 30.9.2021 with Dr. Rajesh Ranganathan of CIT and Dr. Arulmozhi of Avinashilingam University as DC members.

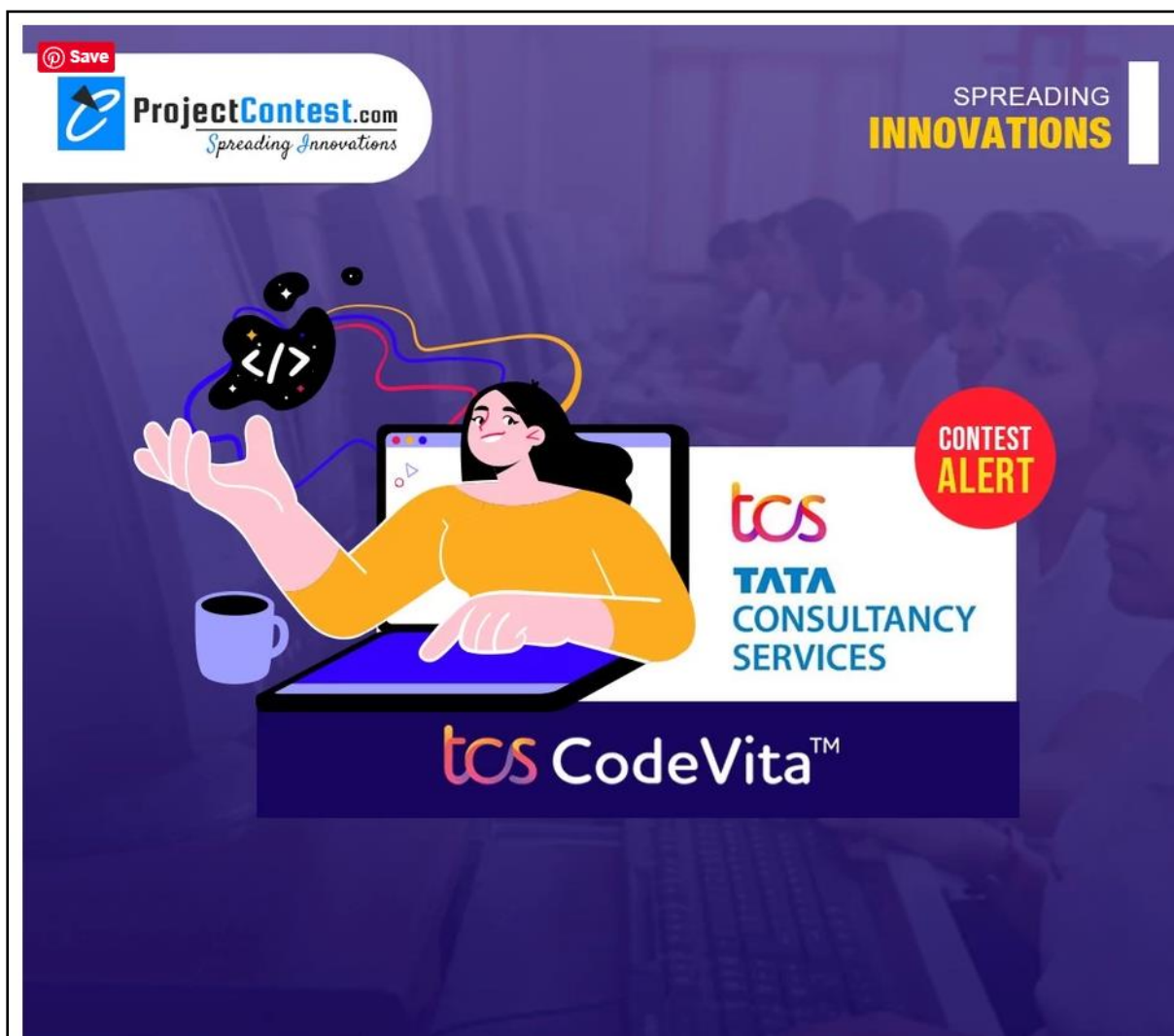


## TCS Codevita Season 10-2021

### About the Contest:

TCS Codevita is an Online Coding Contest organized to Promote Programming as a Sport. Now Codevita is in the season 10 which connects people of various origins and ethnicity, regardless of their physical and cultural boundaries. It's also a great way to compete across borders and have fun. At TCS, they continue to believe in this philosophy that programming can be both fun and challenging. Over the past nine seasons, TCS has had a great time promoting the culture of programming as a sport.

**Reward:** 20,000 USD



## Accepted Programming Languages:

Students will have the option to choose from 8 different programming languages.

## Language: Compiler/Interpreter Versions

- C: gcc 9.3.0
- C++: g++ 9.3.0
- C#: mono 6.12.0.122
- Java: Open jdk 11.0.11
- Perl: 5.30.0
- PHP: 7.4.3
- Python: Python 3.8.10
- Ruby: 3.0.0

## Contest Rounds:

1. Pre-Qualifier Zonal Round: Online
2. Qualifier Round: Online
3. Grand Finale: Online/Offline-India

## Who Can Apply:

Encoders from institutes across India who complete their university courses in 2020, 2021, 2022, 2023, 2024 and 2025 are the only ones eligible for this competition. Registrations for students enrolled in undergraduate / graduate programs in Engineering / Science Honors are invited.

**Visit the website and register :** <https://www.tcscodevita.com/>

## ELECTRICAL VEHICLE DESIGN & FABRICATION BY CALIBER EMBEDDED TECHNOLOGIES -TRAINING CUM INTERNSHIP

### INTERNSHIP DATES:

- From 2nd week of November to 2nd Week of December
- Live session: 6hrs/week
- Wednesday & Saturday - 6.30 pm to 8.30 pm, Sunday-10.30 am to 12.30 pm
- Recorded Videos will be provided for Limited time access.
- If University Exam happens extra time for task completion will be given.

### BENEFITS FOR PARTICIPANTS:

- All the registrants will receive **Course Completion Certification (42 hrs)** on the Completion on Assignment given during the time of program.
- Internship Certificate (30 Days): To Obtain the Internship Certificate students must have minimum 80% live session attendance & submit the learners report (Format will be shared)
- Idea Presentation Certificate will be issued to students who are submitting the idea & best idea will be awarded.

### WHO CAN ATTEND:

- All the Students/Individuals who are interested in Electrical Vehicle Design can apply

**Registration Link:** <https://bit.ly/evcaliberitp>

### TRAINING METHODOLOGY:

1. Real-Time Case Studies & Application Project.
2. Interact with Industry training expert and work on real-life challenges
3. Complete Plan of the Live sessions & LMS platform link will be shared to registered participants
4. Assignments after each topic of the training will be provided to the students for practice in the LMS/Whatsapp group
5. Necessary Materials as per the training Modules will be given
6. The training will be conducted fully based on their career oriented Training.

### REGISTRATION FEE:

#### Students:

- 1) Individual Registration: 1200 INR
  - 2) Four member Team: 4000 INR
- (Note: 2 or 3 Member team is 1200 INR Per Individual only)
- Others: (Research Scholar, Faculty & Job Seekers)
- Individual Registration: 1500 INR



## DRDO DARE TO DREAM 3.0-2021

### About the Contest:

The Defense Research and Development Organization (DRDO) launched its "Dare to Dream 3.0" innovation competition as a tribute to the visionary, the legendary former President and eminent scientist Dr APJ Abdul Kalam. Dr. Kalam first espoused the vision of self-reliance and India's very own development model. The program is launched for Emerging Technologies to promote individuals and startups for innovation in defense and aerospace technologies in the country after the call of "Aatmanirbhar Bharat" given by Prime Minister Shri Narendra Modi.

DRDO Dare to Dream 3.0 is an open challenge to promote innovators and startups in the country. The winners will be chosen after a formal evaluation by a committee of experts. Prize money, up to Rs 10 lakh for start-up and Rs 5 lakh for the individual category, will be given to the winners.

**Closing Date** : 1 Dec 2021  
**Reward** : 3 Lakh to 10 Lakh INR  
**Contest Categories** : Individuals and Start-Ups

**Who Can Apply** :

**Individuals:** Should be Citizen of India above 18 years of age.

**Start-ups:** Start-ups controlled by Indians and recognized by DPIIT (formerly known as DIPP)

### Contest Process:

- Screened by Domain Expert Committee and
- Short-listing and ranking by Independent Expert Committee.

### Applicant Procedure:

- Applications should be submitted in online mode only.
- Applications should be submitted either in the Individual or Start-up category.
- A person with a start-up can apply as an individual as well as a start-up.
- Select the challenges for which you want to make submissions.
- An individual or a start-up can apply for no more than five challenge areas.
- Provide a 200 word description for each selected challenge. You can also submit attachments (PDF format, less than 2 MB) with more details for submission.

**Reward: 1st Prize:** Individual : 5 lakh, Start-up : 10 lakh; **2nd Prize** Individual : 4 lakh, Start-up : 8 lakh; **3rd Prize:** Individual : 3 lakh, Start-up : 6 lakh

**To enroll:** <https://drdo.res.in/dare2dream/portal/kalam.html>

## First International Conference on recent trends on Management, Engineering and Sciences ICMES 2021, Sri Venkataramana Swamy College, Online International Conference, Bantwal, Karnataka, 27th - 28th November 2021

**Sri Venkataramana Swamy College,**  
**Bantwal, Karnataka, India &**  
**RSP Conference Hub,**  
**Coimbatore, India.**




# ICMES

## 2021

**Bantwal, Karnataka, India.**

**First International Conference on recent trends on Management, Engineering and Science**

**27<sup>th</sup> & 28<sup>th</sup>**  
**NOVEMBER 2021**

**JOINTLY ORGANIZED BY**  
Department of Botany,  
Sri Venkataramana Swamy College,  
Bantwal, Karnataka, India &  
RSP Conference Hub, Coimbatore, India.



**ONLINE**  
**CONFERENCE**

**FOR REGISTRATION**  
[tinyurl.com/ICMES2021](https://tinyurl.com/ICMES2021)

**JOURNAL INDEXED IN**





**THEME OF THE CONFERENCE (Topics Not Limited To...)**

**Science & Technology**

- Aeronautical Engineering
- Agriculture Engineering
- Architecture & Design
- Automobile Engineering
- Biomedical Engineering
- Chemistry
- Civil Engineering
- Computer Science
- Education
- Electronics & Communication
- Food Technology
- Information Technology
- Mathematics
- Mechanical Engineering
- Management
- Petroleum
- Instrumentation Engineering

**Life Science**

- Alternative Energy and Green Technology
- Biotechnology & Molecular Biology
- Biodiversity, Bioprospecting and Conservation
- Bioinformatics and Data Mining
- Cryptogamic Botany
- Food Technology and Nutritive Biology
- Microbiology & Biochemistry
- System of Medicines and Nanotechnology

**Commerce, Management & Humanities**

- Digital Transformation
- Entrepreneurism and Business Growth
- Hybrid Engagement Skills
- Leadership in Turbulent Times
- Marketing and Branding
- Productivity & WFH Work Methods
- Strategy and Short-term Planning
- Technology Updates

**IMPORTANT DATES**

Last date for Submitting Extended Abstract : **20th November 2021**  
Last date for Submitting Full-Length Paper : **23rd November 2021**  
Intimation of Acceptance through Email : **25th November 2021**

**BENEFITS**

- All the accepted papers will be published in International Journal indexed in Google Scholar with DOI number
- Abstract will be published in Conference proceedings with ISBN Number
- Free Plagiarism Checking
- Exclusive Keynote Session
- Individual Conference Presentation & Publication Certificate

**REGISTRATION FEES**  
(Including International Poster / Conference Participation with Publication in DOI & Google Scholar Indexed Journal)

	(Indian Participants INR)	(International Participants)
Student	- Rs. 2799	Student, Faculty, Industry USD - 100 (or)
Faculty	- Rs. 2999	INR - 5999
Industry	- Rs. 3499	

**Conference only / Poster Presentation**

Student / Faculty / Industry	INR 1499, USD 75
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**CONFERENCE COORDINATORS - Mr. T. Pravin, Mr. M. Saravana Kumar**

+91 97900 35414, +91 63805 24933

[info@rspconferencehub.com](mailto:info@rspconferencehub.com)

[rspconferencehub.com/svscbantwal.com](http://rspconferencehub.com/svscbantwal.com)

**Category:** Online International Conference  
**Start Date:** 27th November 2021  
**End Date:** 28th November 2021  
**Organiser:** Sri Venkataramana Swamy College  
**City:** Bantwal  
**State:** Karnataka

## DESCRIPTION

Warm Greetings from Sri Venkataramana Swamy College, Bantwal, Karnataka, India and RSP Conference Hub, Coimbatore, Tamilnadu, India

We are extremely delighted to consolidate the First International Conference on recent trends on Management, Engineering & Science (ICMES - 2021) - (Online)

**Date:** 27/11/2021 & 28/11/2021

**Time:** 9.00 am to 5.00 pm

**Mode of Conduction:** (Online) – Google Meet

**Paper submission last Date:** 23/11/2021

**Open to All:** Students (UG/PG), Research Scholars, Professors & Educators

## LAST DATES FOR REGISTRATION

Paper submission last Date: 23/11/2021

## REGISTRATION FEES

Conference only / Poster Presentation - INR 1499 (Three to Five Authors)

Student - Conference + Publication in CROSSREF DOI , Academia & Google Scholar indexed journal - INR 2799

Faculty - Conference + Publication in CROSSREF DOI , Academia & Google Scholar indexed journal - INR 2999

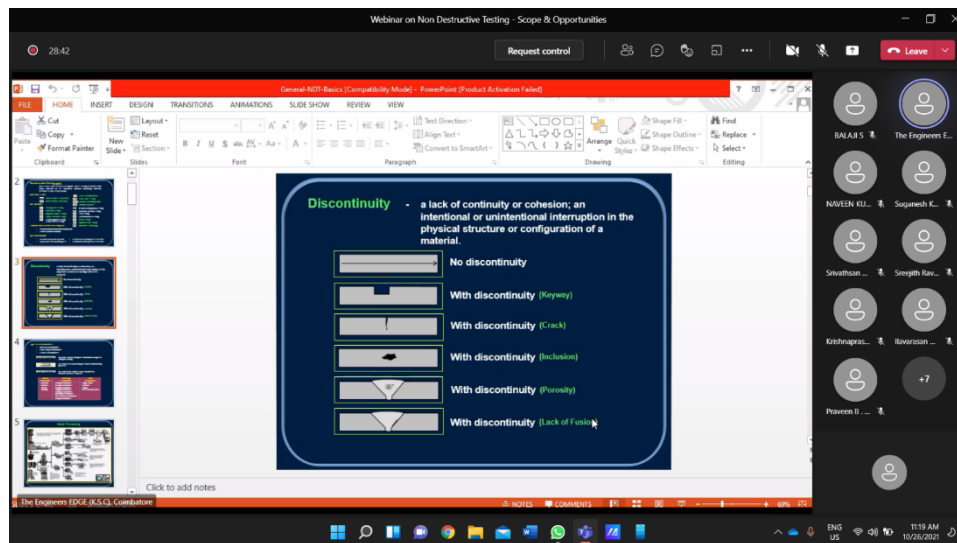
Foreign Authors - Conference + Publication in CROSSREF & Google Scholar indexed journal \$ 100 / Rs.5999

## Register:

[https://docs.google.com/forms/d/e/1FAIpQLScITGy4LmkeP7mNiU\\_j310Jvpi3pTc35epOTyuubzX7E46GjQ/viewform](https://docs.google.com/forms/d/e/1FAIpQLScITGy4LmkeP7mNiU_j310Jvpi3pTc35epOTyuubzX7E46GjQ/viewform)



## WEBINAR ON NON-DESTRUCTIVE TESTING



To make the student aware of the Importance of Non-Destructive Testing, the factors involved in the process, the scope and career opportunities available in this field, MEA planned to conduct a webinar on non-destructive testing.

This webinar held on 26th October 2021 at 11:00 am via MS Teams. This Event was organized under the guidance of Dr. V R Muruganantham, ASP and Mr. M A Vinayagamoorthi, AP (II).

Our Guest Speaker, Mr. Krishnamoorthi Venkatesan explained about the importance of Non-Destructive Testing and casting process. He explained how the mold assembly for sand casting is executed and the discontinuities experienced in casting and welding. He explained about the different types of joint and the rolling mill process. He explained about the qualification and certification of NDT personnel, the codes and standards in NDT procedures with the acceptance criteria. He also explained the capabilities and Limitations of NDT methods.

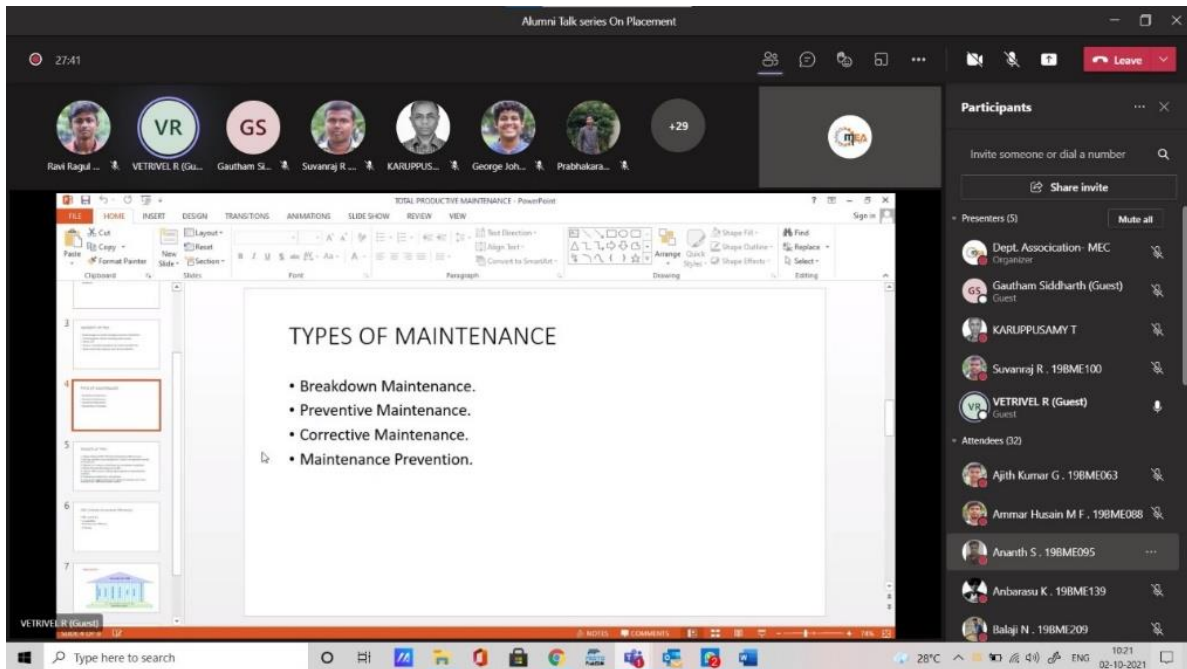
**TOTAL NUMBER OF PARTICIPANTS :** 20

**FACULTY COORDINATOR :** Dr. S. Balaji, ASP

**STUDENT COORDINATOR :** Mr. S. Nishanth – 3rd year, Member of MEA

## ME-eLITE's Alumni Talk Series on Placement

To know more about the Total Productive Maintenance and other future scopes of Mechanical Engineering, MEA planned to conduct an Alumni talk.



This Alumni talk series held on 2nd October 2021 at 10:00 am via MS Teams. This Event was organized under the guidance of Dr. V R Muruganantham, ASP and Mr. M A Vinayagamoorthis, AP (II).

Our Guest Speaker, Mr. Vetrivel R talked about his experience in the industry and how he adapted to the industry. Then he explained about how the industries works and the topic about Total Productive maintenance

**TOTAL NUMBER OF PARTICIPANTS:** 57

**FACULTY COORDINATOR:** Dr. Karuppusamy T

**STUDENT COORDINATOR:** Mr. Suvanraj R – 3rd year, Member of MEA

**Mr. S. Shakeel Akthar – (20BME104)** of Second year Mechanical Engineering C section attended an International Conference named as **“MASTS 11th Annual Science Meeting”** organized by Marine Alliance for Science and Technology for Scotland from 05/10/2021 to 07/10/2021

**Mr. K. T. Imayan – (20BME045)** of Second year Mechanical Engineering B section attended an Event named as **“NGITBI HACKATHON”** organized by NGI-TBI on 04/10/2021. His team's project "Influencing the trend of Industry 4.0 using OFC technology" got selected to the next round and got approved for 'mentorship and incubation support' for one month.

**Mr. M. Subramanian (20BME111), Mr. U. Venkatesan (20BME121), Mr. S. Surendher (20BME115), Mr. S. Sabarivasan (20BME097), Mr. S L Vaseekaran (20BME120), Mr. A. Balamurugan (20BME018), Mr. R. Kumarasamy (20BME065), Mr. S. Rakul (20BME092) and Mr. M. Nandeesh (20BME076)** are attended and selected for Internship project as the next phase of that Event named as **RiGathan 21** which was conducted by our College Technical Clubs with **Emerald Industries**.





**KUMARAGURU**  
college of technology

COIMBATORE – 641 049

**Department of Mechanical Engineering**

**INSTITUTE VISION:**

The vision of the college is to become a technical university of International Standards through continuous improvement.

**INSTITUTE MISSION:**

Kumaraguru College of Technology (KCT) is committed to providing quality Education and Training in Engineering and Technology to prepare students for life and work equipping them to contribute to the technological, economic, and social development of India. The College pursues excellence in providing training to develop a sense of professional responsibility, social and cultural awareness and set students on the path to leadership.

**DEPARTMENT VISION:**

To emerge as a centre, that imparts quality higher education through the programme in the field of Mechanical Engineering and to meet the changing needs of the society.

**DEPARTMENT MISSION:**

The department involves in sustained curricular and co-curricular activities with competent faculty through teaching and research that generates technically capable Mechanical Engineering professionals to serve the society with delight and gratification.

**B. E. MECHANICAL ENGINEERING**

**PROGRAM EDUCATIONAL OUTCOMES (PEO's):**

- PEO 1 :** Graduates will take up career in manufacturing and design related disciplines.
- PEO 2 :** Graduates will be involved in the execution of Mechanical Engineering projects.
- PEO 3 :** Graduates will take up educational programme in mastering Mechanical sciences and management studies.

**PROGRAM OUTCOMES (PO's):**

- 1. Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 2. Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- 3. Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
6. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
7. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
8. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
9. **Individual and teamwork:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning:** Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

#### PROGRAM SPECIFIC OUTCOMES (PSO's):

1. Apply the fundamentals of science and mathematics to solve complex problems in the field of design and thermal sciences.
2. Apply the concepts of production planning and industrial engineering techniques in the field of manufacturing engineering.

#### M. E. INDUSTRIAL ENGINEERING

#### PROGRAM EDUCATIONAL OBJECTIVES (PEO's):

- PEO 1 :** Graduates will be mid to higher level management / engineering professionals with responsibilities in engineering management, data analysis and business operations.
- PEO 2 :** Graduates will be engineering professionals, and technology leaders who would manage such functions as plant engineering, production, supply chain and quality management.
- PEO3 :** Graduates would function as educators or researchers in academic institutions.

**PROGRAM OUTCOMES (PO's):**

- P01** : An ability to independently carry out research /investigation and development work to solve practical problems.
- P02** : An ability to write and present a substantial technical report/document.
- P03** : Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.

**PROGRAM SPECIFIC OUTCOMES (PSO's):**

- PS01** : Graduates able to apply the engineering management and data management concepts in industrial engineering areas.
- PS02** : Graduates able to apply industrial engineering skills and knowledge to manage the functions of production and supply chain management.

**M. E. CAD/CAM****PROGRAM EDUCATIONAL OBJECTIVES (PEO's):**

- PE01** : Graduates excel in Professional career and/or higher education or/ research by continuously updating the knowledge and skill in the fields of Computer Aided Design and Manufacturing.
- PE02** : Graduates can analyze the complex problems using advanced modelling and analysis tools and thereby solve problems related to product design and manufacturing area.
- PE03** : Graduates work individually and in a team with effective communication skills and pursue lifelong learning.

**PROGRAM OUTCOMES (PO's):**

- P01** : An ability to independently carry out research /investigation and development work to solve practical problems.
- P02** : An ability to write and present a substantial technical report/document.
- P03** : Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program

**PROGRAM SPECIFIC OUTCOMES (PSO's):**

- PS01** : Graduates will be able to apply the knowledge and skill in solving the real-time problems in the Computer Aided Design and Manufacturing field.
- PS02** : Graduates will be able to analyse complex problems and provide solutions using advanced tools in product design and manufacturing area.