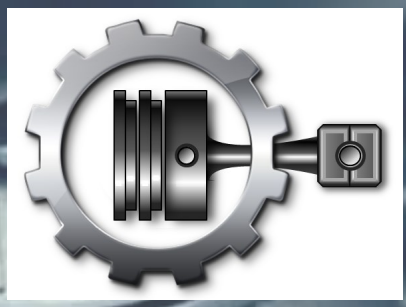
DEPARTMENT OF MECHANICAL ENGINEERING



THE CRANK

E-MAGAZINE | ANNUAL ISSUE - #2, JULY 2018

INSIDE THIS ISSUE

ST JOSEPH ENGINEERING COLLEGE
MANGALURU-575028

VISION

"To be a value based Department committed to excellence in teaching and research, nurturing technically competent and socially responsible engineering professionals."

MISSION

⇒ Providing state-of-the art technical knowledge in Mechanical Engineering.
⇒ Promoting research, education and training in frontier areas of Mechanical Engineering.
⇒ Facilitating faculty development through quality improvement programmes.
⇒ Initiating collaboration with industries, research organizations and institutes for internship, joint research and consultancy.
⇒ Instilling social and ethical values in students, staff and faculty through personality development programmes.
⇒ Developing innovation in engineering and technology in order to provide beneficial service to the local community.

PROGRAMME EDUCATIONAL OBJECTIVES

⇒ Have sound foundation in mathematical, scientific and engineering concepts necessary to formulate, solve and analyze engineering problems.
⇒ Possess the ability to work as part of teams on multidisciplinary projects.
⇒ Excel in professional ventures with successful careers in industry that meet the needs of national and multinational organizations.
⇒ Exhibit qualities of lifelong learning, professional ethics, and social concerns.

PROGRAMME OUTCOMES

Graduates of the Mechanical Engineering program are able to:

1. Apply the basic knowledge of mathematics, science, thermal, design, manufacturing engineering.
2. Identify, formulate and solve Mechanical engineering problems.
3. Design a Mechanical system that meets desired specifications and requirements.
4. Design and conduct experiments, analyze and interpret data, and report results.
5. Apply modern engineering software tools and equipments to analyze Mechanical engineering problems.
6. Apply engineering solutions in global and societal context.
7. Understand the impact of engineering on society and demonstrate awareness of contemporary issues.
8. Understand the professional and ethical responsibilities.
9. Work in a team of core competence or multidisciplinary teams.
10. Communicate effectively in both verbal and written forms.
11. Apply financial and project management skills in their professional ventures.
12. Demonstrate inquisitiveness, novelty in thoughts and zeal towards lifelong learning.

PROGRAMME SPECIFIC OUTCOMES

Graduates of the Mechanical Engineering program are able to:

⇒ Gain competence to face various competitive examinations and succeed in seeking best opportunities in the corporate world and higher studies.
⇒ Take up research programs on contemporary areas of Mechanical engineering.

Contents

REVIEW OF "THE CRANK 2017"

"The Crank" was successfully published in the year 2017 and we congratulate the editorial members of the first edition. As it is said "Practice the philosophy of continuous improvement, get a little bit better every single day", we have collected the feedbacks from various stake-holders i.e. faculties, students, alumnus, parents etc regarding the Annual Issue #1 of "The Crank". Here are some of the comments received from them….

"The initiative is applaudable. And the vibrancy with which it is made equals it to the annual college magazine! Amazing job!!"

- Eric Andrade
Alumni

"Annual message from Mechanical Engineering Department is good to hear. Events and activities for the students must be improved and staff training on leading topics is a must. "

- Fidel
Alumni

"I liked the design of the E-magazine"

- Suhas S M
Student

"I liked about the college history and achievements of students "

- Pawan Kumar Shetty
Student

"I like that we have young and energetic professors who are well versed technically as well as socially. The magazine could have highlighted extra curricular activities of students like staff's so that people can read with picture representation"

- Carlton Mario Sequeira
Alumni

"Had a lot of great information and content."

- Sahadev K A
Alumni

"It showed the achievements done by Mechanical students and gave idea of what is happening in the branch "

- John Rodrigues
Student

"Modern scientific articles is missing in the magazine"

- Abhilash
Student

"The Attempt of having a News Letter is great. I think , the design and the output of the news letter can be more creative. The Colour combination is not the best we have."

- Sanketh Suresh
Alumni

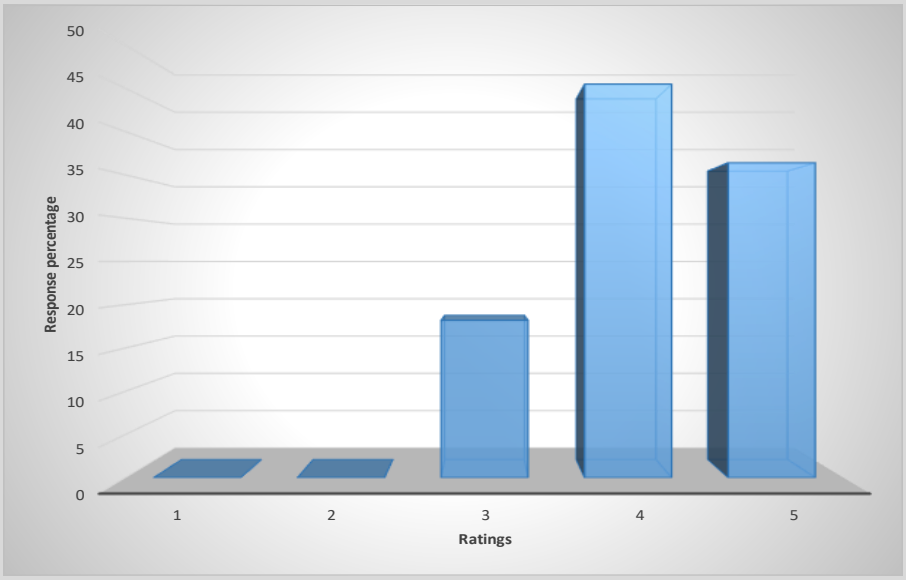
"I liked the Presentation of the content and the design of the E-Magazine. "

- Rolvin D'Silva
Faculty

"Keep up the good work "

- Varun Raj J
Student

Rating given for "The Crank 2017" on a scale of 1(Poor) to 5(Excellent)



FROM EDITOR'S DESK

PAVANA KUMARA B

POORNESH M

We are indeed happy to meet you again with the second edition of department e-magazine "THE CRANK".

The e-magazine vitrines the collection of events conducted by the Department of Mechanical Engineering in the academic year 2017-18. This e-magazine highlights how the dynamism of the students and the involvement and perception of the faculty have been merged together to form an energetic department. This edition comprises tech talks by industry and academic professionals, activities conducted by various student associations, faculty and student achievements making our department proud, industrial visits and interactions with our alumni's.

All in all, we've seen a holistic growth in the department with students expanding their horizons and embracing every new opportunity to excel in the curriculum and extra-curricular events which are put together in this second edition.

An enormous amount of work has gone into the development of this e-magazine and I believe you will see that effort reflected in this edition and in the impact it will have on the field.

We thank those whose contributions we have been privileged to publish.

We request an honest feedback of our efforts that will help us improve the product in future.

To our dear readers, have a happy and insightful reading time.

Best wishes,

On behalf of the Editorial Board,
Pavana Kumara B
Chief Editor

DIRECTOR'S MESSAGE

"Achievement seems to be connected with action. Successful men and women keep moving. They make mistakes, but they do not quit!"

— Conrad Hilton

It my gives me great pleasure to witness the publication of the second edition of "THE CRANK 2018", an e-magazine of the Mechanical Engineering Department.

Looking back at our previous year, we have so much to celebrate and be thankful for! It has been a tremendously successful year for the department, with so many events and achievements from my dear students and faculty members, which I'm sure, will forever be cherished. This year too, the department has decided to treasure these memories by publishing the upgraded version of the departmental magazine which I must say, is on its way of becoming one of the most successful magazines of our institution.

I congratulate the HOD, the staff and students of the department in their endeavour. I would especially like to appreciate every student and faculty who shared the joy of participation in co-curricular and extracurricular activities along with their commitment to the curriculum.

All the best and happy reading!

REV. FR WILFRED P. D'SOUZA

ASSISTANT DIRECTOR'S MESSAGE

A year filled with lot of activities and learning has come to an end. As we look back through this magazine, it's been an enriching experience to the students as well as to the faculty. The Department is very active in its approach to the learning aspect of the students through various technical activities, technical competitions, team work, guest lectures, industrial visits etc and it has moulded its student into the industry ready engineers.

I appreciate the hard work of the HOD and the faculty for their constant guidance and dedicated service.

I wish all the students a fruitful learning year ahead.

REV. FR ROHITH D'COSTA

PRINCIPAL'S MESSAGE

The Crank is turning out to be a literal embodiment of its namesake! As an essential link between the source of power and the transmission, the crank plays the vital role of driving the system. So also, the Crank magazine has been driving innovation and resurgence of energy within the department. When one glances at last year's issue, a panoramic view of all that the department achieves round the year emerges with stark clarity. This display of achievements celebrates 'what has been', at the same time spurring 'what could be' and in this way it catalyzes growth in the department.

Here's wishing the editorial team every success in cranking-up the quintessential spirit of the Department of Mechanical Engineering!

DR RIO D'SOUZA

CHIEF R&D'S MESSAGE

My hearty Congratulations to the HOD, Faculty and Students of Mechanical Engineering Department. I am pleased to note that the Department is bringing out its second volume of the e-magazine to showcase the achievements of the year 2017-2018. In deed the students with their sheer zeal of creativity have come up with various ideas to keep the department performing at various forums. It is very noteworthy that they have outperformed most of the top ranking institutions of National Importance particularly in the racing events held under SAE-BAJA where they won the prestigious 20th Rank in the All India SAE-BAJA, First of the kind remote controlled war machine won the First Prize in the Robo-War at the National level, Aeromodelling, The waste plastic processing unit, development of alternate energy resources by the CLEAN ENERGY RESEARCH GROUP, development of robots by the ARC GROUP, Pesticide sprayer funded by the Institution of Engineers, various projects supported by the KSCST, etc. This is quite a much, all these activities have placed the department at the top notch and that speaks volumes about their endeavours. Their achievements do not stop here, they have brought laurels to the college through a number of curricular and co-curricular activities which implies the dynamism of the ROYAL MECHS, rightly, they stand true to their name. It is commendable that Faculty are working on projects funded by the VGST and Institute for Plasma Research. All this, I am sure, has been possible due to the bountiful support from the Head and the Faculty of the Department. I wish that the record of the accomplishments through this volume of THE CRANK shall stand as a testimony as well as a reference to the successors to take this great department to the next level.

I wish you all the best.

DR JOSEPH GONSALVIS

HOD'S MESSAGE

Mechanical Engineering will evolve and collaborate as a global profession in the near future through a common vision to develop engineering solutions that foster a cleaner, healthier, safer and sustainable world. The future Mechanical Engineers have to deal with large systems and projects and on the other side info-nano-bio systems. Conventional methods of training in the college setup may not be adequate and new technology assisted approach has to be adopted.

The Department of Mechanical Engineering has taken every step to shift the focus of engineering curricula from transmission of content to development of skills that support engineering thinking and professional judgment in the new environment. With the university changing the existing curricula, the Department has also realized the importance of transformation in pedagogy.

Masterfully conceived, well delivered lectures by our dedicated team of faculty have brought wonderful teaching and learning experiences. Project based learning, team based mini-projects, open-ended problem solving, experiential learning, engagement in bio/nano/info research, Google class rooms, the philosophy of CDIO (conceive/design/implement/operate) through clubs and associations and alumni as well as industry interactions have become integral elements of teaching-learning process in the Department. The modern methods of teaching and learning have brought appreciating results in terms of improvement in the academics, skills and attitude of students. The Department has well adapted to the changing learning style of stakeholders. Our faculty choose to act as, educational researcher, interdisciplinary educator, teaching leader, reflective practitioner and above all facilitator to the betterment of our students. The issues of importance such as professional ethics, social responsibility and lifelong learning are also addressed in the Department in addition to the regular academics.

We are sure that our future generations of Mechanical Engineers will practice well in national settings and in global corporations. They will be at the forefront of developing new technology for environmental remediation, farming and food production, housing, transportation, safety, security, healthcare and water resources. They will create sustainable solutions that meet the basic needs and improve quality of life for all people around the world.

The **CRANK 2018**, Department E-magazine highlights the activities and achievements of the Department in the last academic year 2017-18. I am sure that readers will be delighted to know the achievements of the Department. Congratulating the editorial team for their sincere efforts, I wish all readers a "Happy reading".

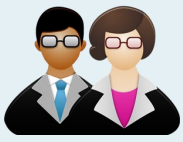
Department of Mechanical Engineering wholeheartedly extends gratitude to the Principal, Former Principal and the Management of SJEC for their excellent support to the Department at all spheres.

DR SUDHEER M.

DEPARTMENT STATISTICS

772 - DEPT. STRENGTH

8 DOCTORATES



44 FACULTY

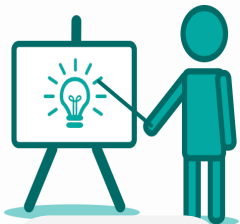
18 TECHNICAL STAFF

710 STUDENTS

47 PLACEMENTS

DEPARTMENT ACTIVITIES


Conference


Workshops


Innovative Talk


Awareness Talks


FDPs


Hands-on Training


Farewell Program


Project Exhibition

E-TIME 2017- FACULTY DELOPMENT PROGRAM AND NATIONAL CONFERENCE

August 04th and 05th, 2017

The Third Edition of National Conference on "Emerging Trends in Mechanical Engineering (eTIME-2017)" was organized by the Department of Mechanical Engineering at SJEC in association with Scientific and Academic Publishing-United States, on 4th and 5th August 2017. The National Conference was inaugurated by Dr J.M. Mallikarjuna, Professor from IIT, Madras, on 4th August 2017, who had grace the occasion as Chief Guest. Rev. Fr Wilfred Prakash D'Souza, Director, SJEC presided over the ceremony.

Four keynote lectures by eminent academicians Dr J.M. Mallikarjuna, IIT Madras, Dr Umashankar K.S., KVGCE Sullia, Dr Kumar G.N., NITK Surathkal, and Dr Shreeranga Bhat, SJEC Mangaluru were arranged on 4th August 2017. Four sessions were held on Day-1 as part of the Pre-Conference Faculty Development Program. Following topics were presented in the FDP:

Resource Person	Topic
Dr. J. M. Mallikarjuna, Associate Professor, Internal Combustion Engines Laboratory, Department of Mechanical Engineering, Indian Institute of Technology, Madras.	In-Cylinder Flow Analysis in IC Engine using PIV
Dr. Umashankar K. S, Professor and Head, Department of Mechanical Engineering, KVGCE, Sullia. D.K.	Research Opportunities in Composite Materials
Dr. Kumar G N, Associate Professor, Department of Mechanical Engineering, National Institute of Technology Karnataka, Surathkal, Mangaluru.	Hydrogen as a Future Fuel for Automobile Sector
Dr. Shreeranga Bhat, Associate Professor, Department of Mechanical Engineering, St. Joseph Engineering College, Vamanjoor, Mangaluru.	Design of Experiments

On Day–2 a total of 61 research papers were presented in the conference in various disciplines of Mechanical Engineering. All the accepted papers have been published in the journals of Scientific and Academic Publishing-United States.

INTERNATIONAL WORKSHOP ON EFFECTIVE RESEARCH

August 11th, 2017

The Department of Mechanical Engineering at St Joseph Engineering College, Vamanjoor, Mangaluru organized a One Day International Workshop on Effective Research: Proposals, Investigations and Publications on 11th August 2017. The workshop was organized in association with Dr Subramaniam Arunachalam from University of East London, School of Architecture, Computing and Engineering, Mechanical Engineering. The Workshop was inaugurated on 11th August 2017 at 9:30 AM in the Spoorthi Hall of Academic Block III.

Dr Subramaniam Arunachalam graced the occasion as Chief Guest. The inaugural ceremony was presided over by Rev. Fr Wilfred Prakash D'Souza, Director, SJEC. Dr Joseph Gonsalvis, Former Principal, SJEC, Rev. Fr Rohith D'Costa, Assistant Director, SJEC, Dr Sudheer M., Head of the Mechanical Engineering Department at SJEC and Convener, along with Dr Binu K.G., Convenor of the Programme were the other dignitaries on the dais. Dr Sudheer M, welcoming the gathering, introduced the workshop and the Resource Person. Appreciating the good turnout in participants for this workshop, he spoke about the current

requirement of Faculty contributions in quality research. Inaugurating the Workshop, Dr Arunachalam in his address, spoke of the evolving nature of technology and the need to keep pace with the changes. He also spoke about the need for academicians to be involved in cutting edge research and the scope for innovations in Universities and Institutions. Dr Joseph Gonsalvis in his address motivated the faculty members to contribute as researchers and spoke about the need to derive knowledge from research that will make them good teachers. Congratulating the Department on the Workshop, Rev. Fr Wilfred Prakash D'Souza spoke about the initiatives taken by the Department towards Research. He highlighted the recent achievement of Coffee Bot developed by SJEC Alumni Mr John Rodrigues and used it as an example for innovation and research. The inaugural ceremony concluded with the vote of thanks delivered by Dr Binu K.G.

Performing High Quality Research, Journal Publications, Evaluation of PhD Thesis – Perspective of Foreign Evaluator and Preparing Research Proposals were the four sessions of the workshop. All the four sessions were well attended and appreciated by the participants. Dr Arunachalam, drew upon his wide and varied experience as a researcher and academician in addressing the above topics related to effective research. He highlighted all the steps involved in research starting from initiating research to the publication stage. From the thought process behind topic selection, literature review, effective data collection, to research methodologies, the sessions provided exhaustive and deep insights into research. 53 participants attended the workshop and had fruitful interactions with the resource person. After completion of the sessions, Dr Arunachalam interacted with the Management and Senior Faculty of SJEC on the possibilities of collaborative research. He delivered a presentation on the guidelines involved in engaging with British Universities with MOUs. The Management appreciated Dr Arunachalam for his goodwill towards SJEC and agreed on future interactions and long-term association.

SESSION ON "HOW TO INTRODUCE INNOVATION INTO YOUR PROJECT WORK"

September 23rd and October 5th, 2017

The two hour session was conducted by Dr Purushothama Chippar, Associate Professor, Department of Mechanical Engineering and Coordinator of Innovation Club on "How to Introduce Innovation into your Project Work" for final year students on 23rd September 2017, at 11.00am to 1.00pm and 5th October 2017 at 2.00pm to 4.00pm in the Spoorthi Hall, Academic Block III. The sessions were very fruitful and the response from students were appreciable.

COMPUTATIONAL FLUID DYNAMICS – HANDS-ON TRAINING USING ANSYS-FLUENT

April 14th, 2018

The Department of Mechanical Engineering conducted a one - day workshop on Computational Fluid Dynamics - Hands - on Training using ANSYS-FLUENT at Computer Aided Engineering Drawing Laboratory on April 14th 2018. The resource person was Dr Purushothama Chippar, Associate Professor, Department of Mechanical Engineering. 50 students participated in the workshop. The objective of the workshop was to impart basic knowledge of CFD Modelling using ANSYS FLUENT.

FDP ON "BASICS OF CFD MODELLING AND ANSYS- FLUENT UDF PROGRAMMING"

January18th and 19th, 2018

There are two important reasons behind organizing this FDP. One, the emerging importance of CFD in the field of Thermal science. From academic view point, CFD is part of syllabus in Fluid Mechanics subject which is taught in 4th semester for Mechanical engineering students. It is also taught as a core elective subject in the 6th semester for Mechanical, Automobile and Aeronautical students. Thus days are not far ahead when CFD will become a core subject. So as a faculty members it is our duty to update ourselves with latest subject topics.

The event was inaugurated on 18th January, 2018 by Dr. Joseph Gonsalvis, Former Principal, SJEC. The inaugural ceremony was held in the Spoorthi Conference Hall in the 7th Floor of Academic Block III. Rev. Fr. Rohith D'Costa, Assistant Director, SJEC, presided over the ceremony. Resource person of FDP, Dr Purushothama Chippar, Associate Professor, Department of Mechanical Engineering, SJEC was the Guest of Honour. The dignitaries were accompanied by Dr Sudheer M, HOD, Mechanical Engineering, and Mr. Vijay V.S, Organizing Secretary. The FDP was inaugurated by lighting of the lamp by the dignitaries. Dr. Sudheer M, HOD, Mechanical Engineering introduced and welcomed the gathering.

First session focused on refreshing the participants on basics of CFD Modelling, in which Dr. Purushothama Chippar emphasized on basic governing equations and an overview of the topics to be covered in remaining two days. After the tea break, session continued in CAED lab, 3rd Floor of AB-3, where the audience were introduced to ANSYS-Fluent software and then trained on design modeler using which a simple T-pipe was developed involving different flow conditions.

Afternoon session started at 2:00 PM and participants were made to work on different case studies involving a single phase flow, discrete phase and multi-phase flow conditions on the same T-pipe model. First day ended at 5 PM with a break in between for tea.

On 19th Jan 2018, on the second day of the FDP, training was dedicated to understanding and use of User Defined Functions (UDF) programming in ANSYS-Fluent. In the morning sessions, introduction was given to UDF programming and using a simple UDFs for the previous day T-pipe model. Afternoon, both the sessions were devoted to the use of modifying some of the simple UDFs based on the application requirements and studying its effect on flow conditions.

The FDP was successfully concluded by a feedback session and distributing certificates to the participants. Participants expressed their happiness and appreciated the effort of Dr. Purushothama Chippar for his great effort and the involvement shown in sharing his expertise in the area of CFD - Fluent analysis. A total of 31 participants participated in which 13 of them were external participants.

AWARENESS TALK ON "GATE EXAM AND ITS IMPACT ON CAREER GROWTH"

April 4th, 2018

Proprietor of Academy in Pursuit of Excellence (APEX) Mangalore and Research Scholar of IITM Mr. Anant Pai S, gave an awareness talk on importance of "GATE Exam and its impact on career growth" to the final year students of Mechanical Engineering on 4th April 2018 from 9.00 AM to 10.00 AM. Resource person interacted with students in their respective class room and highlighted the prominence of securing good rank in GATE exam and opportunity it creates in pursuing Masters Degree like M.Tech, M.S by Research and Junior Research Fellowships in National Prominence Institutions like IITs and NITs. It also helps to secure jobs in Central Govt. Departments and Industries nowadays.

CAREER GUIDANCE TALK ON "PROCESS PIPING"

April 18th, 2018

An alumni of St Joseph Engineering College, Mangaluru passed out in the year 2008, Mr. Mithun Kumar, Project Incharge, Petrocon Engineers and Consultants delivered awareness program on Process Piping as per ASME B 31.3 on 18th April 2018 for all the final year students. The topic covered in the presentation are:

- Application of basics in Industrial Scenario.
- Introduction to process piping, 3D modelling software like PDMS, SP3D, Tekla.

The presentation has given good input to interested students aspiring jobs in the piping sector.

CAREER GUIDANCE TALK ON "ABROAD EDUCATION"

April 06th, 2018

The Department of Mechanical Engineering in association with IDP Education India Pvt. Ltd had organized a talk on "Abroad Education" on 6th April 2018 for the Final Year Students. Mr. Ashwin Shetty, Assistant Professor, introduced the speaker, Ms. Shilpa Shetty, Counsellor Australia, IDP Education India to the gathering. The speaker gave information to the students regarding higher education opportunities in Australia, Canada, New Zealand, the USA and the UK. The speaker stressed on the fact that they offer comprehensive student services, counseling, short listing courses and universities, application submission, offer acceptance, visa submission and pre -departure. IDP Education also helps in preparing for IELTS which is English Assessment Test if the universities demand it. The session helped the students aspiring to purse higher education abroad a perspective to go forward.

ALOHA - FAREWELL PROGRAMME FOR CLASS OF 2018

May 15th, 2018

Department of Mechanical Engineering had organized ALOHA 2018 - Adieu to final years on 15th May 2018, in Bishop Aloysius Paul Conference Hall. Dr Joseph Gonsalvis, Former Principal, SJEC was the Chief Guest, Dr Sudheer M, Dean Student Welfare and HOD of the Mechanical Department was the guest of honor, Dr Raju K., Research Head, Mechanical Department, SJEC presided over the function and Mr. Pavana Kumara B, Convener - ALOHA 2018 were present on the dais. Master of ceremony Mr. Jokshith Dsouza, Mechanical Department formally welcomed the gathering. Dr. Shreeranga Bhat, Associate Professor, Mechanical Department raised the toast where he spoke many aspects which will help students to excel in their life. In reply to the toast Aman Magwin D'souza, Nileema and Akash evinced their experience in SJEC. Next Dr Sudheer gave a presentation related to eight rules which must be incorporated in life to be a successful person. He advised the students to take up responsibilities to create a better environment in our society. Dr. Raju K. delivered presidential address and congratulated for completing their graduation and wished all the best for all their future endeavors. After the presidential address the certificates and mementoes of SAE, ARC club and Torque association was distributed by the dignitaries to the office bearers and the association members of respective association. The chief guest for the day, Dr. Joseph Gonsalvis, addressed the gathering where he expressed his experience teaching to the outgoing batch and wished for their good future. In the end of formal program Mr. Pavana Kumara, Convener proposed the vote of thanks. After the formal program the refreshments were served, and the informal program started at 3:45PM. Students of second and third year had organized various games and activities where all the outgoing students actively took part.

'TECHNOVA 2018' - PROJECT EXHIBITION

May18th, 2018

The project exhibition 'TECHNOVA 2018' was held on the Friday, 18th of May, 2018. The final year students of Mechanical Engineering had submitted 44 projects in various streams for the exhibition.
The judges invited were from academics and industrial fields.

External Judge	Internal Judge
Mr. Somshekaran.S, Adjunct Faculty, Department of Mechanical Engineering, SJEC, Mangaluru.	**Dr. Raju K**, Professor and Head-Research Centre, Department of Mechanical Engineering, SJEC, Mangaluru.
Dr. N. Satheesh Kumar, Associate Professor, Department of Mechanical Engineering, Canara Engineering College, Benjanpadavu.	**Dr. Purushothama C**, Associate Professor, Department of Mechanical Engineering, SJEC, Mangaluru.
Dr. Manujesh B J, Professor and Head, Department of Mechanical Engineering, Vivekananda College of Engineering and Technology, Puttur.	**Dr. James Valder**, Associate Professor, Department of Mechanical Engineering, SJEC, Mangaluru.
Mr. Arjun P M, Assistant Manager Inspection, Engineering and Inspection Dept., MRPL, Mangaluru.	**Dr. Binu K G**, Associate Professor, Department of Mechanical Engineering, SJEC, Mangaluru.

First Prize Winners: Design and fabrication of RFID based solar powdered pesticide spraying robot

Second Prize Winners: Design and development of Humanoid arm

The judges were welcomed to the exhibition with a brief introduction by Dr. Sudheer M Dean -Student welfare, HOD, Department of Mechanical Engineering at the Mechanical Workshop.
The parents and invitees witnessed the exhibition and appreciated the student's effort. The students were given useful feedback during the interaction.
The Valedictory program was held at 1:00pm.Dr. Sudheer, Dean Student welfare, HOD, Department of Mechanical Engineering welcomed the dignitaries and participants.
Dr N. Satheesh Kumar Associate Professor Canara Engineering College gave the valuable feedback to the students. Also the student's efforts to do the projects as well the quality of projects were appreciated by him. He announced the winners list and the prizes were distributed by the judges.
Dr. Sudheer M, Dean-Student welfare, HOD, Department of Mechanical Engineering concluded the competition with the words of gratitude.
In the afternoon session the exhibition continued along with the internal evaluation.

Innovative Project Prize Winners: Automatic coconut grating machine

The Achievements of an organization are the results of the combined effort of each individual

- Vince Lombardi

FACULTY ACHIEVEMENTS

9
FDPs & WORKSHOPs

18
CONFERNCES

34
PUBLICATIONS

FACULTY INTERACTIONS WITH OUTSIDE WORLD

→ **Dr Shreeranga Bhat** has participated in the "IUCEE (Indo Universal Collaboration for Engineering Education) Leadership Summit" at International Center Goa, Goa at 21st and 22nd July 2017.

→ **Dr Sudheer M** has participated as Session Chair in 8th International Conference on Emerging Trends in Engineering held at NMAMIT, NITTE during 14th and 15th May 2018.

→ **Dr Raju K** has participated as Delegate in the International Conference at 9th Bengaluru India Nano 2017 held on 7th to 8th December 2017 at The Lalit Ashok Bengaluru.

→ **Mr Sharun Mendonca** has conducted theory class in the subject "A/c and refrigeration and industrial safety" at RUSEMP Community College, Pakshikere on 13th to 15th November 2017.

FACULTY DEVELOPMENT PROGRAMS AND WORKSHOPS ATTENDED

→ **Mr Rolvin S D'Silva** has attended the one-day National Workshop on "NANO FLUIDS: Application for heat transfer and energy systems" held on 28th September 2017 at Alva's Institute of Engineering and Technology, Moodabidri.

→ **Mr Sushanth H G** and **Mr Manjunath B** A have participated in Three days' workshop on "Thermal Fluid Simulation of Aerospace and Space System" held on 7th to 9th of December 2017 at DHIO Center of Excellence, Bangalore.

→ **Dr Shreeranga Bhat** has participated in Fifth International Conference on "Transformations in Engineering Education" Organized by Indo-Universal Collaboration for Engineering Education (IUCEE), USA held on 8th to 9th January 2018 at Thiagarajar College of Engineering, Madurai.

→ **Mr Naresh R** has participated in one-week National Level Workshop on "Current Scenario Bioenergy Conversion and Waste Management Technologies" jointly organized by Department of Mechanical Engineering, JNNCE Shivamogga and KSCST Bengaluru in association with ISTE New Delhi and supported by KSBEDB Bengaluru, held from 24th to 28th January, 2018.

→ **Dr Binu K G**, **Dr Shreeranga Baht** and **Mr Vijay V S** have participated in the "Immersive Training on Pedagogy, Assesment and Institutionalization of Best Practices" held during 29th January to 2nd February 2018 at CEER, KLE Technological University, Hubballi.

→ **Dr Shreeranga Bhat** has participated in the Six Sigma Case Study presentation contest held at Indian Statistical Institute, Bangalore during 27th and 28th February 2018.

→ **Mr Vijay V S**, **Dr Shreeranga Bhat** has participated in Workshop on "New Age Skills for Excellence in Teaching" jointly organized by Department of Business Administration, SJEC Vamanjoor, conducted Mr Praveen Kamath, General Manager and HR- Technology Practice Units, Wipro Ltd. held on 3rd March, 2018.

→ **Mr Vijay V S**, **Dr Shreeranga Bhat** has participated in the IUCEE International Engineering Educator Pre-Certification Workshop conducted by Dr Archana Mantri,Pro Vice Chancellor, Chitkara University held on 6th to 8th March 2018 at SJEC, Mangaluru.

→ **Mr Sushanth H G** and **Mr Joel D'mello** have participated in Three days faculty development program on "Recent Trends in Industrial Practices, RTIP-2018" held during 11th to 13th April 2018 at Srinivas Institute of Technology, Mangaluru organized by Department of Marine Engineering.

- Australia was originally called New Holland.
- Tennis was originally played with bare hands.
- Sound travels 15 times faster through steel than air.

CONFERENCES ATTENDED

INTERNATIONAL CONFERENCE

→ **Dr. Shreeranga Bhat** has presented a paper on "Multi-Response Optimizing of Mild Steel Material: Application of Statistical Techniques", Third International Conference on Statistics for Twenty First Century – 2017 (ICSTC-2017) organized by Department of Statistics, University of Kerala, Trivandrum, India, 14th to 16th December 2017 at Trivandrum.

→ **Mr. Sushanth H Gowda** has presented a paper on "Effect of compression ratio on the Performance and Emission Characteristics of Vateria Indica Oil Methyl Ester on CI Engine" International Conference on ERCAM 2017, NMIT, Bengaluru, 21st July 2017 (McGraw Hill Education (India) Private Limited, Chennai.

NATIONAL CONFERENCE

→ **Dr. Shreeranga Bhat** has presented a paper on "Application of Six Sigma in developing a Construction Machine" eTIME -2017, National Conference on August 4th and 5th 2017 at St Joseph Engineering College, Vamanjoor.

→ **Dr. Shreeranga Bhat** has presented a paper on "A Study on Implementation of Lean Six Sigma Methodology in Plywood Industry" eTIME-2017, National Conference on August 4th and 5th 2017 at St Joseph Engineering College, Vamanjoor.

→ **Mr. Pavana Kumara B** has presented a paper on "A Study on the Vibration Characteristics of Bagasse-Banana fibre Hybrid Composite" eTIME-2017, National Conference on August 4th and 5th 2017 at St Joseph Engineering College, Vamanjoor.

→ **Mr. Pavana Kumara B** has presented a paper on "Abrasive Wear Performance of Aluminium Modified Epoxy-Glass Fibre Composites" eTIME-2017, National Conference on August 4th and 5th 2017 at St Joseph Engineering College, Vamanjoor.

→ **Mr. Manjunath B A** has presented a paper on "Design and Fabrication of Air Driven Vehicle" eTIME-2017, National Conference on August 4th and 5th 2017 at St Joseph Engineering College, Vamanjoor.

→ **Mr. Sudheer Kini K** has presented a paper on "Design and Fabrication of Universal Power Cart" eTIME-2017, National Conference on August 4th and 5th 2017 at St Joseph Engineering College, Vamanjoor.

→ **Mr. Santhosh H** has presented a paper on "Productivity Improvement of 170 Series Connecting Rod Using MAG HMC 1000 CNC Machine" eTIME-2017, National Conference on August 4th and 5th 2017 at St Joseph Engineering College, Vamanjoor.

→ **Mr. Sushanth H Gowda** has presented a paper on "A Study on Enhancing COP in VCR by Providing Diffuser in between Condenser and Compressor" eTIME-2017, National Conference on August 4th and 5th 2017 at St Joseph Engineering College, Vamanjoor.

→ **Mr. Neil Vaz** has presented a paper on "Experimental Investigation of Frictional Force in a Hydrodynamic Journal Bearing Lubricated with Magnetorheological Fluid" eTIME-2017, National Conference on August 4th and 5th 2017 at St Joseph Engineering College, Vamanjoor.

→ **Mr. Rudolf Charles D'Souza** has presented a paper on "Design and fabrication of crop cutter for multipurpose application" eTIME-2017, National Conference on August 4th and 5th 2017 at St Joseph Engineering College, Vamanjoor.

→ **Dr. Raju K** has presented a paper on "A comparative study on the performance and emission characteristics of B10 blends of Vateria Indica Honge oil methyl esters on a CI engine" eTIME-2017, National Conference on August 4th and 5th 2017 at St Joseph Engineering College, Vamanjoor.

→ **Mr. Prashanth Kumar** has presented a paper on "A study on the effect of injection pressure on the performance and emission of CI engine with B20 and B30 blends of Mahua methyl ester" eTIME-2017, National Conference on August 4th and 5th 2017 at St Joseph Engineering College, Vamanjoor.

→ **Mr. Rolvin D'Silva** has presented a paper on "Effect of copper oxide nano additives on the performance and emission characteristics of a CI engine" eTIME-2017, National Conference on August 4th and 5th 2017 at St Joseph Engineering College, Vamanjoor.

→ **Mr. Noel Deepak Shiri** has presented a paper on "Fabrication of a Washing and Shredding Machine for Processing of Commingled Waste Plastics" eTIME-2017, National Conference on August 4th and 5th 2017 at St Joseph Engineering College, Vamanjoor.

→ **Ms. Ramya M** has presented a paper on "Analysis of performance characteristics of Waste Plastic Fuel oil blend in VCR CI Engine" eTIME2017, National Conference on August 4th and 5th 2017 at St Joseph Engineering College, Vamanjoor.

→ **Mr. John Paul Vas** has presented a paper on "Production of High Grade Liquid Fuel for Ci Engine by Thermo Catalytic Cracking of Waste Plastic" eTIME-2017, National Conference on August 4th and 5th 2017 at St Joseph Engineering College, Vamanjoor.

FACULTY PUBLICATIONS

→ **Manjunath B. A, Binu K. G, Santhosh H, Rahul Kumar** (2017). "Design and Fabrication of Air Driven Vehicle", Journal of Mechanical Engineering and Automation, Vol. 7 No. 4, pp. 112-115.

→ **Shreeranga Bhat**, Nishchith H, Akshay Kumar U. R, Ramith Raj, Naveen M. V, Jishnumohan Damodaran Nair (2017). "Design and Fabrication of Wall Plastering Machine Journal of Mechanical Engineering and Automation", Vol. 7 No. 5, pp. 159-163.

→ **Pavana Kumara B, John Paul Vas, Shreeranga Bhat, Karthik Madhyastha N** (2017). "A Study on the Vibration Characteristics of Bagasse-Banana Fibre Hybrid Composite", International Journal of Composite Materials, Vol. 7 No. 5, pp. 150-154.

→ **Shreeranga Bhat**, Prajwal J, Pratheek S, Kevin Prajwal Pais, Sonal Rohan Vaz, Hrish S. R. (2017). "A Study on Implementation of Lean Methodology in the Plywood Industry Management", Vol. 7 No. 5, pp. 174-179.

→ **Pavana Kumara B** (2017). "Abrasive Wear Performance of Aluminium Modified Epoxy-Glass Fibre Composites", International Journal of Materials Engineering, Vol. 7 No. 4, pp. 55-60.

→ **Pavana Kumara B**, Krisantha Alexandra Pais, Roger Michael Pereira, Mohammed Ashish Sahil, Varun S. Mallya (2017). "Design and Fabrication of a Pneumatically Powered Human Exoskeleton Arm", Journal of Mechanical Engineering and Automation, Vol. 7 No. 3, pp. 85-88.

→ Rahul K, Madhukar H. Shetty, **Karthik Madhyastha N, Pavana Kumara B** (2017). "Processing and Characterisation of Banana Fiber Reinforced Polymer Nano Composite", Nanoscience and Nanotechnology, Vol. 7 No. 2, pp. 34-37.

→ **Sudheer Kini K**, Sudarshan M. L, Ajith K, Shreepathi K, Santosh Wodeyar N. S (2017). "Design and Fabrication of Universal Power Cart", Journal of Mechanical Engineering and Automation, Vol. 7 No. 5, pp.135-138.

→ Pruthvi Serrao, **Chiranth B. P, Neil Vaz**, Aaron Fernandis, Pavan Rao, Shambulingesh, Vikas (2017). "Effect of Equal Chanel Angular Pressing and Age Hardening on the Hardness of Al-Mg-Si Alloy", American Journal of Materials Science, Vol. 7 No.5, pp. 150-155.

→ Pruthvi Serrao, Mohammed Yazid, **Neil Vaz, Chiranth B. P., James Valder** (2017). "Study of Adhesive Wear Behavior of Pure Aluminium Processed by Equal Channel Angular Pressing", American Journal of Materials Science, Vol.7 No.5, pp. 140-144.

→ **Santhosh H, Manjunath B. A, Rahul Kumar** (2017), "Productivity Improvement of 170 Series Connecting Rod Using MAG HMC 1000 CNC Machine", Journal of Mechanical Engineering and Automation, Vol. 7 No. 4, pp. 103-108.

→ **Sushanth H Gowda, Joel D'mello**, Manjunath H N, **Joseph Gonsalvis, K Raju** (2017). "Effect of compression ratio on the performance and emission characteristics of vateria indica oil methyl ester on CI engine", ISBN (13): 978-93-5260-730-3, Mc Graw Hill Publications, pp. 90-94.

→ Rakesh R, Manjunath H. N, Krupa R, **Sushanth H. Gowda**, Kiran Aithal S (2017). "A Study on Enhancing COP in VCR by Providing Diffuser in between Condenser and Compressor", Energy and Power, Vol. 7 No. 5, pp. 142-148.

→ Joynel Pinto, Aldrin J. Nazareth, Anston C. Pais, Jayadev P. Y, **Sushanth H. G, K. Raju, Joseph Gonsalvis** (2017), "A Comparative Study on the Performance and Emission Characteristics of B10 Blends of Vateria Indica and Honge Oil Methyl Esters on a CI Engine", Energy and Power, Vol. 7 No. 3, pp. 88-92.

→ Manjunath H. N, Ramesh Babu N, Suhas Kumar S, **Sushanth H. Gowda**, Kiran Aithal S (2017), "Design and Development of Solar-Thermal Energy Storage System of Phase Change Materials", Energy and Power, Vol. 7 No. 4, pp. 93-98.

→ **Neil Vaz, Binu K. G**, Pruthivi Serrao, Jeffin Jacob, Eric Dias (2017), "Experimental Investigation of Frictional Force in a Hydrodynamic Journal Bearing Lubricated with Magnetorheological Fluid", Journal of Mechanical Engineering and Automation Vol. 7 No. 5, pp. 131-134.

→ **Rudolf Charles D'Souza**, Karthik, Karthik Shenoy B, Keith Royston D'Silva, Rolin Antony D'Souza (2017). "Design and Fabrication of crop cutter for multipurpose application", Journal of Mechanical Engineering and Automation, Vol. 7 No. 4, pp. 109-111.

→ **Ramya M, John Paul Vas**, Antony Varghese, Akhil Thomas Varghese, George Varghese, Kuruvilla Thomas Kuttothara (2017). "Analysis of performance characteristics of Waste Plastic Fuel oil blend in VCR CI Engine", Energy and Power, Vol. 7 No. 5, pp. 123 -129.

→ **John Paul Vas, Ramya M**,Ashlin Leroy Dsouza, Earl Serrao,Farish Demash, Joshua Demian D sa (2017). "Production of High Grade Liquid Fuel for Ci Engine by Thermo Catalytic Cracking Of Waste Plastic" Energy and Power, Vol. 7 No. 3, pp. 81 -87.

→ **Prashanth Kumar**, Rithesh, Preetham, Melrick, Joel, Peter Fernandes, **Raju. K** (2017). "A study on effect of injection pressure on the performance and emission of CI engine with B20 and B30 blends of Mahua methyl ester", Energy and Power, Vol. 7 No. 4, pp. 105-110.

→ **Rolvin D' Silva**, M Hafeez, Joyal F, Faheem P, Ibrahim A R, **Binu K G, Raju K,** T Bhat(2017). "Effect of copperoxide nanoadditives on the performance and emission characteristics of a CI engine", Energy and Power, Vol. 7 No. 4, pp. 99-104.

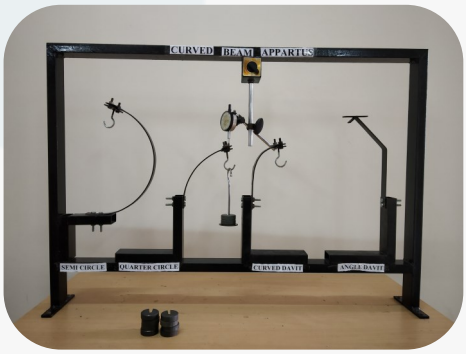
→ L S Rao, **K Raju**, A K Jha, S N Ojha (2018). "Microstructural and tribological characteristics of Al-10 Cu-Fe alloy produced by vertical centrifugal casting process", Transactions of Indian Inst. of Metals, Vol. 71 Issue 6, pp. 1427-1438.

→ G Ravichandran, **K Raju**, Y S Varadarajan, B Suresha (2017). "Performance of HSS and carbide drills on Microfiller filled glass fabric reinforced epoxy composites", Polymers Research Journal, Vol. 10 No. 4, pp. 175-185.

→ **Vinoothan Kaliveer**, Sandeepa Shetty K, Sujay Shetty, Manish S, Sandeepa M.M, **Rolvin S. D'Silva** (2017). "Effect of Biodiesel-Ethanol fuel on the Performance and Emission Characteristics of a CI Engine", Energy and Power, Vol. 7 No. 4, pp.119-122.

- → **M Sudheer**. "Evaluation of abrasive wear behavior of dual ceramic whisker reinforced epoxy composites", Materials Discovery, 6, 2016, pp.17-27. (Elsevier, Indexed by Scopus).
- → Vikas G, **Sudheer M** (2017). "A Review on Properties of Basalt Fiber Reinforced Polymer Composites", American Journal of Materials Science, Vol. 7 No. 5, pp. 156-165.
- → Bilal Ahmad, Mahammad Ashfaq, Anton Joy, Zuzarte Aaron Carlos, **Sudheer M** (2017). "Fabrication and Characterization of an Eco-friendly Biodegradable Epoxy/Chitosan Composites", American Journal of Materials Science, Vol. 7 No. 5, pp. 166-169.
- → **Noel Deepak Shiri**, Gedrick Pinto, Amith Almeida, Joshwin Sequeira, Dean Fernandes, Joshua Fernandes, Gilson Fernandes, Glen Pinto (2017). "Fabrication of a Washing and Shredding Machine for Processing of Commingled Waste Plastics", Journal of Mechanical Engineering and Automation, Vol. 7 No. 4, pp. 119-123.
- → **Noel Deepak Shiri,** Joshua Fernandes, Gilson Fernandes, Glen Pinto, Brendan Gonsalves, Deekshitha (2017). "Development of a Two-stage Extruder-Injection Molding Machine for Manufacturing of Plastic Lumber Using Commingled Waste Plastics", Journal of Mechanical Engineering and Automation, Vol. 7 No. 4, pp. 124-129.
- → **Karthik Madhyastha** (2017). "Design and Fabrication of Pepper Separator Machine", Journal of Mechanical Engineering and Automation, Vol. 7 No. 3, pp. 82-84.
- → **Poornesh M**, Johnson Xavier Saldanha, Jevy Singh, Gavin Manuel Pinto, Gaurav (2017). "Comparison of Mechanical Properties of Coconut Shell Ash and SiC Reinforced Hybrid Aluminium Metal Matrix Composites", American Journal of Materials Science, Vol. 7 No. 4, pp. 116-119.
- → **Ashwin Shetty**, Manish Nayak, Nishith Shetty, Rhea D'mello, Vinoda Naik, **Yathish K., Poornesh M** (2017). "Design and Fabrication of Paddy Cleaning Machine", Journal of Mechanical Engineering and Automation, Vol. 7 No. 5, pp. 145-149.
- → **Poornesh M**, Johnson Xavier Saldanha, Jevy Singh, Gavin Manuel Pinto, Gaurav (2017). "Effect of Coconut Shell Ash and SiC Particles on Mechanical Properties of Aluminium Based Composites", American Journal of Materials Science, Vol. 7 No. 4, pp. 112-115.
- → **Purushothama Chippar**, **Swaraj D. Lewis**, Sudhir Rai, Amit Sircar (2018), "Numerical investigation of hydrogen absorption in a stackable metal hydride reactor utilizing compartmentalization", International Journal of Hydrogen Energy, Vol. 43, pp. 8007-8017.

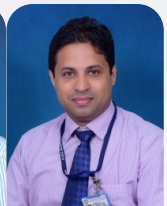
DEVELOPMENT OF CURVED BEAM APPARATUS FOR DESIGN LAB



A beam in which the neutral axis is curved in the unloaded condition instead of straight or if the beam is originally curved before applying the bending moment, is termed as Curved Beams. Curved beams find applications in many machine members such as C clamps, crane hooks frames of presses, chains, links and rings etc. As a part of the final year academic project, students of 8th semester Mr. Vineeth B, Mr. Vignesh N Sherlekar, Mr. R Pradeep Kumar and Mr. Ravichandra designed and fabricated a curved beams apparatus at a cost of Rs. 10,000. The project was guided by Dr. James Valder, Mr. Karthik Madhyastha and Mr. Joel D'mello. The setup is tested for the results and variation between theoretical and experimental results are found to be within ± 20%. This curved beam setup developed meets the academic requirements of the design lab (15MEL76) for the 7th semester Mechanical engineering students as per the CBCS syllabus.

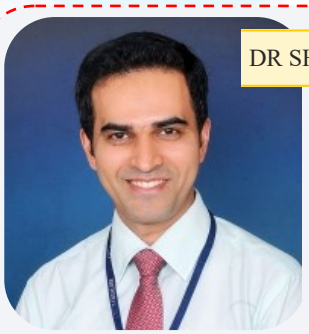

Dr James Valder


Mr Karthik M


Mr. Joel D'mello

DR RAJU K, PROFESSOR

Awarded with a grant of Rs. 30000 by IEI R&D for the project "DESIGN AND FABRICATION OF SOLAR OPERATED PESTICIDE SPRAYING ROBOT" for the academic year 2017-18 which is a final year BE student project.



DR SHREERANGA BHAT, ASSOCIATE PROFESSOR

Completed the Indo-Universal Collaboration for Engineering Education (IUCEE), USA (IUCEE-OBE) 'Outcome Based Education' Course conducted by K.L.E Technological University Faculty from September 2017 to January 2018.

MR VIJAY V S , ASSISTANT PROFESSOR

DR JAMES VALDESR, ASSOCIATE PROFESSOR
MEMBERSHIP NO. : M-1594162

Obtained Membership in Indian Institute of Engineers on 13th October 2017

MR SHARUN MENDONCA, ASSISTANT PROFESSOR
MEMBERSHIP NO. : M-1594197

FACULTY/STAFF BLOGS ON CURRICULUM

COMPTER AIDED ENGINERING DRAWING

By Christopher Cutinha
Log on to ...
http://chris-caed.blogspot.in or Scan Code ▶

THERMAL ENGINEERING

By Sushanth, Rolvin, Ramya and Sharun
Log on to ...
http://sushanthhgnotes.blogspot.in or Scan Code ▶

MATERIAL SCIENCE

By Chiranth and Orville
Log on to ...
http://msmsjec.blogspot.in or Scan Code ▶

KINEMATICS OF MACHINES

By Pavana Kumara B
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CAED - VIDEO TUTORIALS ON YOUTUBE

By Christopher Cutinha
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STAFF RESPONSIBILITIES - ACADEMIC YEAR 2017-18

Sl. No.	Staff Names	Designation	Department Level Responsibilities
1	Dr Joseph Gonsalvis	Principal	Professor, Chief Advisor - eTime 2017
2	Dr Raju K.	Professor	Head of Research, Class Advisor VII-M3 & VIII-M3, Chief Advisor eTime 2017
3	Dr Sudheer M	Prof. & HOD	Head of Department, Chief Advisor - eTime 2017
4	Dr James Valder	Assoc. Professor	Seminar Coordinator, NAAC Coordinator, Class Advisor III-M1 & IV-M1
5	Dr Purushothama Chippar	Assoc. Professor	Innovation Club Coordinator, Class Advisor V-M2 & VI-M1
6	Dr Binu K.G.	Assoc. Professor	ARC-SJEC Main Coordinator, Class Advisor V-M1 & IV-M2
7	Dr Shreeranga Bhat	Assoc. Professor	Organizing Secretary - eTime 2017, Class Advisor VII-M1 & VIII-M2
8	Dr Rajesh Shetty	Assoc. Professor	Class Advisor IV-M4
9	Mr Sampath Kumar	Asst. Professor	Department Library In-charge, Class Advisor IV-M3
10	Mr Prashanth Kumar	Asst. Professor	Project Coordinator (II Shift), Class Advisor V-M3 & VIII-M1
11	Mr Rolvin S. D'Silva	Asst. Professor	Accreditation Program Coordinator
12	Mr Prathviraj H.	Asst. Professor	Class Committee Coordinator, FM & MMM Lab In-charge
13	Mr Rudolf C. D'Souza	Asst. Professor	Workshop In-charge, Internal Exam Squad Duty
14	Mr Vijay V S	Asst. Professor	Accreditation Program Coordinator, Class Advisor VI-M3
15	Mr Noel Deepak Shiri	Asst. Professor	Department ISTE Coordinator
16	Mr Ravikantha Prabhu	Asst. Professor	Open Elective Coordinator, Time Table Coordinator, Internal Test Coordinator, Virtual Lab Coordinator, CAMD Lab In-charge
17	Mr Sushanth H. G.	Asst. Professor	EC & HMT Lab In-charge, Class Advisor III-M4
18	Mr Chiranth B. P.	Asst. Professor	IIC Main Coordinator, NIRF Coordinator, FF & Machine Shop In-charge, Class Advisor III-M2
19	Mr Neil Vaz	Asst. Professor	CIM & CAMA Lab In-charge
20	Mr John Paul Vas	Asst. Professor	NAAC Coordinator, CAED Lab In-charge
21	Mr Sharun Mendonca	Asst. Professor	Open Elective Coordinator, Internal Test Coordinator, Time Table Coordinator, SIMS Coordinator, Class Advisor VII-M2
22	Mr Pavana Kumara B.	Asst. Professor	TORQUE-Coordinator, Engineers Day-Dept. Coordinator, ALOHA-2018 Convener, TIARA 2018 Dept. Coordinator, NIRF Dept. Coordinator, Dept. Magazine Chief Editor, ALVIDA 2018 Dept. Coordinator
23	Mr Swaraj D. Lewis	Asst. Professor	NAAC Coordinator, Class Advisor III-M3
24	Mr Orville Sutari	Asst. Professor	Accreditation Program Coordinator
25	Mr Yathish Kumar K.	Asst. Professor	Faculty Advisor (ISIE, SAE India- SJEC)
26	Ms Ramya M.	Asst. Professor	Internal Exam Squad Duty
27	Mr Karthik Madhyastha	Asst. Professor	TIARA-Dept. Co-Coordinator
28	Mr Vinoothan Kaliveer	Asst. Professor	Alumni Coordinator
29	Mr Ashwin Shetty	Asst. Professor	MT lab In-charge, Dept. Cultural Coordinator

Sl. No.	Staff Names	Designation	Department Level Responsibilities
30	Mr Poornesh M	Asst. Professor	First Year Accreditation Program Coordinator, TORQUE-Co-Coordinator, Dept. Magazine Co-Editor
31	Mr Rahul Kumar	Asst. Professor	Aptitude Training Coordinator, ARC-SJEC Coordinator
32	Mr Manjunath B A	Asst. Professor	EMS- Coordinator, College Magazine Dept. Coordinator
33	Mr Joel Antony D'mello	Asst. Professor	Design Lab In-charge, Project Coordinator, Class Advisor VII-M4 & VIII-M4
34	Ms Chaithra S V	Asst. Professor	Placement Coordinator, Internal Exam Squad, Class Advisor VI-M3, ARC-SJEC Coordinator, SIMS Coordinator, Dept. Cultural Coordinator
35	Mr Santhosh H	Asst. Professor	ARC-SJEC Coordinator
36	Mr Naveen R	Asst. Professor	Placement Coordinator, ISIE-Faculty Advisor, Class Advisor V-M4
37	Mr Alister G D'souza	Asst. Professor	EMS- Coordinator
38	Mr Anil P Rodrigues	Asst. Professor	I-Point Dept Coordinator
39	Mr Joel Concessao	Asst. Professor	Department AICUF Coordinator
40	Mr Sudheer Kini K	Asst. Professor	SAE Faculty Advisor
41	Mr Jaganesh G C	Asst. Professor	Faculty Advisor-SAE India- SJEC, Class Advisor VI-M2
42	Mr Naresh R	Asst. Professor	Project Coordinator
43	Mr Nithesh D Nayak	Asst. Professor	
44	Mr S Somshekaran	Adjunct Faculty	

TECHNICAL STAFFS - ACADEMIC YEAR 2017-18

Sl. No.	Staff Names	Designation
1	Mr. Lawrence L. Pinto	Workshop Supervisor
2	Mr James Manoj	Foreman
3	Mr. Christopher Cutinha	Lab Instructor
4	Mr. Janardhan Acharya	Lab Instructor
5	Mr. Harshith	Lab Instructor
6	Ms. Jayashri	Lab Instructor
7	Mr. Sinoj M R	Lab Instructor
8	Mr Rajesh	Lab Instructor
9	Mr. Rajesha A	Lab Instructor

Sl. No.	Staff Names	Designation
10	Mr Immanuel J Amanna	Lab Assistant
11	Mr Vathan Kumar	Lab Assistant
12	Mr. Santosh P Veigas	Technician
13	Mr. Gunakara	Technician
14	Mr. Preethesh	Technician
15	Mr. Pranoy X. D'Cunha	Technician
16	Mr. Praveen G. D'Souza	Mechanic
17	Mr. Bhasker	Jr. Technician
18	Mr Minin D'Souza	Plumber & welder

ADMINISTRATIVE STAFF - ACADEMIC YEAR 2017-18

Sl. No.	Staff Names	Designation
1	Ms Divya Miranda	Jr. Asst. Clerk
2	Mr Franklin D'Souza	Attender
3	Mr Charles Fernandes	Attender

INTELLECTUAL PROPERTY RIGHTS (IPR'S)

Sl. No.	Staff Name	Title	Patent Number	Patent Publisher	Status
1	Dr. Purushothama Chippar	Aircraft Prognostic Systems and Methods for Determining Adaptive Time Between Overhaul, For Line Replaceable Units	US9568912B2	US patent office journal	Granted on 14th February 2017
2	Mr. Prathiviraj H	Automated Domestic Gas Stove with Manual and Servo Valve Controlled Independently Flooded Concentric Gas Burner	6051/CHE/2013	Official Journal of the Indian Patent Office	Request for examination under process as on date
3	Mr. Prathiviraj H	Mutually Opposite and Coaxially Rotating Armature and Field Coils Type Electric Generator	201741044759	Official Journal of the Indian Patent Office	Patent application filed as on date
4	Mr. Vijay V S	Efficient Two Stroke Engine	3152/CHE/2014A	Official Journal of the Indian Patent	Request for examination under process as on date

FUNDED PROJECTS

Sl. No.	Principal Investigator	Title	Funding Agency	Amount (Rs.)	Duration
1	Dr. Raju K	Effect of alloying elements and variables on the properties of AL-Si alloys produced by Spray forming	Vision Group on Science and Technology (VGST)	20,00,000	2014 to 2016
2	Dr. Purushothama Chippar	Experimental and numerical analysis for the development of metal hybrid based hydrogen storage system	Vision Group on Science and Technology (VGST)	20,00,000	2016 to 2018
3	Dr. Purushothama Chippar	Design, Development and Optimization of metal hybrid beds for hydrogen isotope storage and transportation	Institute for Plasma Research, Gujarat (Department of Atomic Energy, Govt. of India)	13,50,000	2016 to 2018
4	Mr. Noel Deepak Shiri	Waste plastic processing Machines - Extruder-Injection Moulding Machine and Shredder machine	The Anonymous Indian Charitable Trust (TAICT), Bangalore	5,64,874	2016 to 2019
5	Mr. Noel Deepak Shiri	A Study of Mechanical Properties of Lumber Developed from Waste Plastic	The Anonymous Indian Charitable Trust (TAICT), Bangalore	43,390	2018 to 2019

STUDENTS' ACHIEVEMENTS

Toppers

Exam Results

Sports

Projects

Placements

Performance Award

Robowars

Project Funding

CLASS TOPPERS - ACADEMIC YEAR 2016 - 17

BE - 4TH YEAR

Darshan C (79.66%)

Nithesh Kumar (75.11%)

BE - 3RD YEAR

Naveen Fernandes (80.88%)

Shreyas S. K. (79.55%)

BE - 2ND YEAR

Joswin P. R. (9.19 SGPA)

Pratheek A (8.96 SGPA)

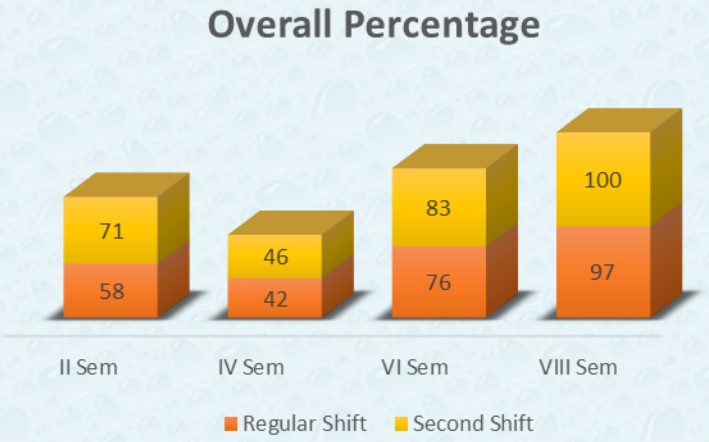
BE - 1ST YEAR

Kawshik Shetty (8.92 SGPA)

Deepak Shetty K (9.17 SGPA)

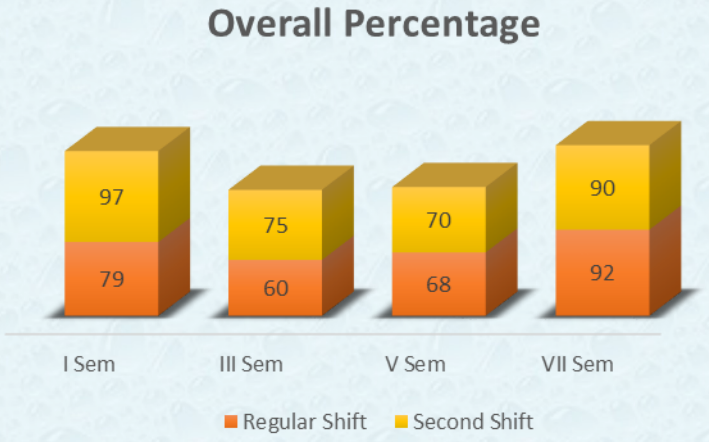
EVEN SEMESTER EXAMINATION RESULTS - ACADEMIC YEAR 2016 - 17

Semester	Regular Shift		Second Shift		Total	
	Appeared	Passed	Appeared	Passed	Appeared	Passed
II sem	118	68	38	27	156	95
IV sem	158	67	48	22	206	89
VI sem	134	102	41	34	175	136
VIII sem	149	145	53	53	202	198



ODD SEMESTER EXAMINATION RESULTS - ACADEMIC YEAR 2017 - 18

Semester	Regular Shift		Second Shift		Total	
	Appeared	Passed	Appeared	Passed	Appeared	Passed
I sem	119	94	38	37	157	131
III sem	147	88	32	24	179	112
V sem	137	93	40	28	177	121
VII sem	129	119	42	38	171	157



COCURRICULAR AND EXTRACURRICULAR ACHIEVEMENTS 2017-18

SPORTS ACHIEVEMENTS

→ The Department of Mechanical Engineering students participated and secured Runners up in VTU Mangaluru Zone 4th Place in VTU Inter Zone held at Sahyadri CEM, Adyar on 4th October 2017 and SJCEIT, Chikkaballapura on 9th and 11th October 2017.

→ The Department of Mechanical Engineering students participated and secured 2nd place in 4X400 meters Relay Men held at VTU Belgaum from 3rd to 6th November 2017.

→ Final Year student Mr Shreyas participated and secured 1st place (above 80kg) Best Physique Championships held at SIT, Tumkur from 15th to 19th September 2017 and also won the title of Mr Dakshina Kannada at Don Bosco Mangaluru held on 5th November 2017.

→ Final Year student Mr Shreyas won the title of "Karnataka Yuvashri" on 23rd December 2017 held at Kolar Secured 3rd Place in "Bharath Udaya" National Level on 10th February 2018 at Bengaluru and selected for Mr. Asia and Mr World best physique championship to be held at Philippiens from 1st to 3rd June 2018.

→ The Department of Mechanical Engineering students participated and secured 1st Place (WINNERs) VTU Mangaluru Zone Men Football Tournament held at PACE, Mudipu on 19th and 20th February 2018.

→ The Department of Mechanical Engineering students participated and secured 4th place in VTU Inter Zone Men Football Tournament held at SIT, Tumakuru on 23rd and 24th February 2018.

→ Final Year student Ms Sheetal Kuchoor (Captain) participated and secured Runners Up in INCIDENT Spin Shock-2018 Throw ball Tournament held at NITK Surathkal on 3rd March 2018.

→ Final Year student Ms Sheetal Kuchoor (Captain) was awarded as "Best All Rounder of the Tournament" in INCIDENT Spin Shock - 2018 Throw ball Tournament held at NITK Surathkal on 3rd March 2018.

→ The Department of Mechanical Engineering students participated and secured woman team Runners up and men team secured 10th place in the VTU Rest of Bengaluru Zone Chess championship held at PESCE, Mandya from 23rd and 24th March 2018.

→ The Department of Mechanical Engineering students participated, and secured Runners Up in VTU Mangaluru Zone Men Hockey Tournament held at NMAMIT, NITTE on 28th March 2018.

→ The Department of Mechanical Engineering students participated and secured 4th Place in VTU Inter Zone Men Hockey Tournament held at VVCE, Mysuru on 30th April and 1st May.

OTHER ACHIEVEMENTS

→ The Department of Mechanical Engineering students participated and secured 3rd place in March past in VTU Single Zone Annual Athletic held at VTU Belagavi from 3rd to 6th November 2017.

→ The Department of Mechanical Engineering students have participated in VROOM VROOM and secured IInd place in the event during the National level Techno- Cultural Festival "ENVISION 2K18" held on 20th and 21st February 2018 at Srinivas Institute of technology, Mangaluru.

- The Department of Mechanical engineering students participated in Paper Presentation event and secured 1st position in the event of "Shree Devi Sambhram -18" during 22nd and 23rd February 2018 at Shree Devi Institute of Technology, Kenjar.
- The Mechanical Engineering students Ms Nileema and Ms Marissa have participated in "Sentia 2018" and secured 2nd place in "Technical Paper Presentation" event conducted on the occasion of State Level Intercolligiate Cultural, Technical and Management fest held on 28th March 2018 at Mangalore Institute of Technology and Engineering, Moodabidri.
- The Department of Mechanical Engineering Students participated and secured 1st and 2nd Place in the event "CONTRAPTION" at VerTechX8.0, the intercollegiate National Level Technical Fest conducted by MVJ college of Engineering on 2nd and 3rd of April 2018.

ACHIEVEMNTS WITH ROBOTS

- The Department of Mechanical Engineering students have participated and secured 1st place in ROBOWARS in "Engineer 2017", the annual technical symposium of National Institute of Technology Karnataka, Surathkal.
- The Department of Mechanical engineering students have participated in ROBOWAR and secured 1st place in "SPECTRA- 18" on 27th and 28th January 2018 at Sardar Patel College of Engineering, Andheri west, Mumbai.
- The Department of Mechanical Engineering students have participated in ROBOWAR and secured 1st Place in Quark 2018 - Spanning Horizons held on 11th February 2018 at BITS Pilani, KK Birla, Goa Campus.
- The Department of Mechanical Engineering students participated in ROBOWAR and secured 2nd Place organized by National level Techno- Cultural Festival "ENVISION 2K18" held on 20th and 21st February 2018 at Srinivas Institute of Technology, Mangaluru.
- The Department of Mechanical Engineering students participated in ROBOWAR and secured 2nd position in the event of "Shree Devi SAMBHRAM - 18" during 22nd and 23rd February 2018 at Shree Devi Institute of Technology, Kenjar.
- The Department of Mechanical Engineering students participated in ROBOWAR event and secured 2nd position in the event of "Magnovite Season 7" during 1st to 3rd March 2018 at Faculty of Engineering and School of Architecture, CHRIST (Deemed to be University) Bangalore.
- Final Year student Mr Aman Magwin D'souza has participated in ROBO RACE event and secured 2nd position during the Annual Techno- Cultural Fest "Magnovite Season 7" conducted on 1st to 3rd March 2018 at Faculty of Engineering and School of Architecture, CHRIST (Deemed to be University) Bangalore.
- The Department of Mechanical Engineering students have participated in RC RACE event and secured 2nd position during the Annual Techno- Cultural Fest "Magnovite Season 7" conducted on 1st to 3rd March 2018 at Faculty of Engineering and School of Architecture, CHRIST (Deemed to be University) Bangalore.
- The Department of Mechanical Engineering student Mr Aman Dsouza has secured 2nd place in the event of "RC Racing" held during 'AAKRITI 2K18' an inter collegiate Techno- Cultural Fest organised by Canara Engineering College, Benjanapadavu on 2nd and 3rd March 2018.
- The Mechanical Engineering students have participated in "SENTIA 2018" and secured 1st place in "ROBOWAR" event conducted on the occasion of State Level Intercolligiate Cultural, Technical and Management fest held on 28th and 29th March 2018 at Mangalore Institute of Technology and Engineering, Moodabidri.
- The Department of Mechanical Engineering Students participated and secured Ist Place in "ROBOKOMBAT" and 2nd Place in "MYSTIQUE LOCOMOTOR" event of "ENIGMA – 2018" held from 13th to 15th of April 2018 at Malnad College of Engineering, Hassan.

A HOBBY PROJECT - QUADCOPTER

A student of final year from the Department of Mechanical Engineering Mr. Hari Prasad B has fabricated a quadcopter or popularly called as Unmanned Aerial Vehicle as a hobby project.

Hari Prasad B

UNMANNED AERIAL VEHICLE :

An unmanned aerial vehicle (UAV), commonly known as a drone, is an aircraft without a human pilot aboard.

HOW TO BUILD ONE:

To build a drone, first task is to define the payload capacity and flight time required, based on these everything is selected like propellers, motors, ESCs, battery, frame and a flight controller. In order to control the drone, you need a transmitter and a receiver. With these components you can make a basic drone. The drone which he built was basically for aerial photography, it has a lift capacity of 2kg with a flight time around 15-20 mins in a single charge. The components which are used to build this drone were 1000kv motors, 30A ESCs, 10*45 size propellers, a 3 cell 5200mAh 11.1V battery, Naza M Lite flight controller, Fly sky 9 Channel transmitter and receiver and a custom-built frame. For aerial photography 1080p action camera with a 3-axis gimbal for stabilization was used. In order to obtain a live video footage from the drone TS832 FPV video transmitter and receiver was used. Along with extra batteries, charger and a display unit it will cost around Rs. 50,000. With custom built frame it will help in positioning the parts in the drone, in order to maintain the centre of gravity of the drone.

APPLICATIONS:

UAV originated mostly in military applications, their use is rapidly expanding to commercial, scientific, recreational, agricultural, and other applications, such as policing, peacekeeping, and surveillance, product deliveries, aerial photography, agriculture, smuggling, and drone racing. It is supposed to appear into full time existence in the coming years. But every technology has merits as well as demerits. It is up to us to use technology productively to enhance the people as well as the planet instead of using them destructively. For instance, exploitation of drones by using them for spying and other lethal purposes that can harm people.

In order to avoid the exploitation of drones, The Directorate General of Civil Aviation (DGCA) of India has set certain rules in flying drones in India. One should be well aware of the rules before building or flying a drone.

COLLEGE FUNDED PROJECT - OPEN CIRCUIT SUBSONIC WIND TUNNEL

Wind engineering is a field that has been evolving over centuries. A large portion of wind engineering today relies directly or indirectly on wind tunnels. Wind tunnels are used for a variety of different reasons such as their ability to test prototypes early in design cycles, or because of their ability to record a large amount of data.

Aerodynamicists use wind tunnels to test models of proposed aircraft since the flow conditions can be carefully controlled in the tunnel which affect the forces on the aircraft. Experimental information useful for solving aerodynamic problems may be obtained in a number of ways: from flight tests; drop tests; rocket sleds; water tunnels; whirling arms; shock tubes; water tables; rocket flights; flying scale models; ballistic ranges; and subsonic, near-sonic, transonic, super-sonic, and hypersonic wind tunnels. Each device has its own sphere of superiority, and no one device can be called “best”.

In a society that is growing dependent on computers and always moving towards new technologies, the use of wind tunnels to solve aerodynamic problems may seem obsolete. But the use of wind tunnels to solve both basic and complex aerodynamic problems is still needed today. Unlike computers which produce mostly quantitative data, wind tunnels provide unique flow visualization that can find critical problems and solutions not seen in the pure numbers. With their ability to combine both types of data, wind tunnels are a critical instrument in the quick and thorough design process of anything that involves fluid dynamics.

One of the most important parts of a wind tunnel is the flow visualization it provides. Lift, drag and efficiency can all be calculated with complex equations. The versatility and tangibility of a wind tunnel is what makes it such an important part of aerodynamic research. Being such an important part of aerodynamic research, it is important to continue to promote wind tunnel testing.

No single wind tunnel is adequate for all possible aerodynamics tests. In general, wind tunnels can be divided into four broad categories by their speed ranges: subsonic with a maximum Mach number of up to 0.4; transonic with a maximum Mach number to 1.3; supersonic with a maximum Mach number up to 4.0 to 5.0; and hypersonic with a Mach number 5.0 or higher.

An open circuit subsonic wind tunnel was designed, analysed and fabricated according to academic standards for the sole purpose of airfoil study. CFD analysis was applied to check for its flow properties. The body of the wind tunnel was fabricated using Koila wood, flexi plyand plywood. Mild steel was used for the frame.7.5KW/10HP fan was used for the drive system. The

velocity in the test section was less than 50m/s. Good flow visualisation was also obtained.

Various types of instrumentation are used to determine the forces on the model. They are multi tube manometer and force balance. The instrument used in the wind tunnel is the force balance due to its advantages and ease of operation. Force balances are used to directly measure the aerodynamic forces and moments on the model. The force balance used in the wind tunnel is a three component system that can measure lift, drag and pitching moment. Hot wire anemometer can be used to check the velocity and temperature readings. Three aerofoils used were NACA 4412, NACA 0012 and E-423 and their various characteristics were studied. The wind tunnel can also be used for automobile testing by upgrading the force balance to a six component system. The total cost of the developed wind tunnel was Rs 4,37,000/-. Half of the amount was bared by the students and the other half by the college. Following are the details of the student teams which was involved in this project:

Sl No	Title of the Project	Faculty Supervisor	Students
1	Design and analysis of Aerofoil	Mr. John Paul Vas	Mr. Hari Prasad B. Mr. Karthik A. Mr. Joyson D'Souza Mr. Maclean B Pinto Mr. Aaron Almeida
2	Design And Construction Of External Force Balance for Analysis Of Aerofoil	Ms Chaithra S V	Mr. Astor Monteiro Mr. Ankith Shetty Mr. Deepak S Sequeira Mr. Dixith Raj
3	Design and fabrication of wind tunnel	Mr. Karthik M and Mrs. Ramya M	Mr. Duane Gonsalves Mr. Ashley D'Souza Mr. Likithraj S. B. Mr. Gavin Mark Vas Mr. Pavan Rego

INSTITUTION OF ENGINEERS (INDIA) FUNDED PROJECT - ACADEMIC YEAR 2017-18

Sl No	Title of the Project	Faculty Supervisor	Student	Sanctioned Amount (Rs)
1	Design and Fabrication of Solar Powered Pesticide Spraying Robot	Dr. Raju K	Mr Roshan Tulaskar Mr Sunad T Gunagi Mr Jaffar Usman Mr Ajay Kumar Mr Manjunath	30000

KSCST FUNDED PROJECTS - ACADEMIC YEAR 2017-18

Sl No	Title of the Project	Faculty Supervisor	Student	Sanctioned Amount (Rs)
1	Adsorbent Based Refrigeration System Using Solar Energy	Mr. John Paul Vas	Mr Joston L Dsouza Mr Avalon D'Souza Mr Alric Eli Karkada Mr Aman M D'souza	7000
2	Hovering Multipurpose Agro Carrier	Mr. Yathish Kumar	Mr. Arbaz Sayed Ms Sheetal Kuchoor Mr Roland L Tauro Mr Allen Clinton	7000
3	Design and Development of Humanoid Arm	Dr. Binu K.G	Mr. Sharon H Tauro Mr Uttam Bangera Ms Chrisel Ann Pais Mr Royston Pinto	7000
4*	Design and Fabrication of Automatic Arecanut Processing Unit	Mr. Yathish Kumar	Mr. Royston S Louis Mr Danish D'Souza Mr Shelton Floyd Mr Emil B Varghese	10000

**project continued from previous academic year with special concern from KSCST*

LIST OF STUDENT PROJECTS - ACADEMIC YEAR 2017 - 18

THERMAL STREAM

Sl. No.	Project Title
1	Absorbent based refrigeration system using solar energy
2	Non-thermal Plasma assisted fuel reformation
3	Effect of compression ratio on performance analysis of CI engine using Pongamia biodiesel with TiO2 Nano particles
4	Effect of magnetite in waste cooking oil methyl ester on performance, emission and combustion characteristics of CI engine
5	Analysis of performance and emission characteristics of CI engine using honge bio diesel with Al Nano particles.
6	A Study on Performance and emission of Diesel engine using preheated fuel
7	Design and development of Mechanical fuel injection timing control device for CI Engine
8	A Novel Approach of using B100 for CI Engine and its performance Studies
9	Aero Blending of Ethanol for CI engine
10	Effect of injection pressure on performance combustion and emission characteristic of vateria Indica blends on 4-stroke CI engine
11	Performance of CRDI engine with EGR

DESIGN STREAM

Sl. No.	Project Title
1	Automated Food Processor
2	Design and analysis of Aerofoil
3	Design and Construction Of External Force Balance For Analysis Of Aerofoil
4	Design and fabrication of wind tunnel
5	Seeding sower Machine
6	Equal Channel Angular Pressing of Magnesium Alloy
7	Fabrication of Solenoid Engine
8	Design and fabrication of Hybrid braking system.
9	Portable plastic pipe coupling machine.
10	Fabrication of torsion viscometer and analysis of the viscosity of oils.
11	Fabrication of instant multi coloured paint mixing machine
12	Automatic coconut grating machine
13	Design and development of Humanoid arm
14	Design and fabrication of RFID based solar powdered pesticide spraying robot.
15	Outdoor vacuum cleaner
16	Three-wheeler fork lift
17	Design and fabrication of multipurpose Agriculture Equipment
18	Design and Analysis of Curved Beam
19	Development and testing of plastic lumber and production different products
20	Arecont processing Unit

Sl. No.	Project Title
21	Arecont tree climber with sprayer
22	Design and fabrication of agriculture Drone for pesticide spraying
23	Fabrication of Multi grain separator
24	Hovering multipurpose agro carrier
25	Journal Bearing

MATERIALS STREAM

Sl. No.	Project Title
1	Processing and characterization of coconut shell ash reinforced hybrid aluminium alloy composite
2	A study on Mechanical properties of Banana fibre reinforced composite
3	Investigation of the Mechanical properties of wheat straw reinforced polymer matrix
4	A study on implementation of lean six sigma methodology in polymeric waterproofing membrane industry
5	Analysis of Natural fibres
6	A study on implementation of lean six sigma strategy in a mineral processing industry
7	Study of Mechanical Properties of Al 6061 Reinforced with SiC and TiB_2
8	Study on the damping behaviour of granite epoxy composite

AWARD WINNING PROJECT

The students of Mechanical Engineering Department has presented their final year project work in various National Level Competitions. The details of which are given below:

Paper Title	Faculty Supervisor	Students	Events	Awards
A Study on the Implementation of Lean Six Sigma Methodology in a Polymeric Waterproofing Membrane Industry	Dr. Shreeranga Bhat	Ms. Nileema Periera Ms. Marissa Serrao Mr. Melron Dsouza	"Sambhram - 18" –National Level Technical Paper Presentation competition at SDIT, Mangaluru	First Place
			"Sentia - 18" – National Level Technical Paper Presentation competition at MITE, Mangaluru	Second Place

- 85% of plant life is found in the ocean.
- When lightning strikes it can reach up to 30,000 degrees Celsius.
- The cheetah is the only cat that can't retract it's claws.
- Unless food is mixed with saliva you can't taste it.
- The most commonly forgotten item for travellers is their toothbrush.
- The electric chair was invented by a dentist.

BEST PERFORMANCE AWARD

Karnataka State Council for Science and Technology (KSCST) - Bengaluru awarded SJEC as **"THE BEST PERFORMING COLLEGE OF THE STATE"** in the 40th series of Students Projects Programme: State Level Seminar and Exhibition held at NMAM Institute of Technology, Nitte. A total of 541 projects were sanctioned for sponsorship during 2017 year across the state. A total of 230 projects were shortlisted for exhibition and seminar from 102 Colleges across the state.

A total of six Projects from St Joseph Engineering College was sponsored by KSCST in this academic year 2016-2017. All the six projects were shortlisted for exhibition/seminar and out of the six, two projects won the prestigious Project of the Year award for their technical excellence and innovation. The project on "Aero-Blending of Ethanol for Internal Combustion Engine" from the Department of Mechanical Engineering carried out by Rohan D'Souza and team and guided by Dr Joseph Gonsalvis, Principal, SJEC, won the **Project of the Year award**. The other projects that were sponsored by KSCST were: Production of High Grade Liquid Fuel for CI Engine by Thermo-Catalytic cracking of Waste Plastic by Mr. Ashlin Leroy D'Silva and team under the guidance of Mr John Paul and Mrs Ramya M, Paddy Cleaning Machine by Manish Nayak and team under the guidance of Mr Ashwin Shetty, Design and fabrication of Arecanut Processing Unit by Mr. Vion Joseph Martis and team under the guidance of Mr Yathish Kumar, and Extraction of Oil Spillages from water bodies using Magnetorheological Fluid Principle by Varun Thomas and team under the guidance of Dr Binu K.G.

CAMPUS PLACED STUDENTS - ACADEMIC YEAR 2017-18

[24]7


Mr. Ankith Shetty


Mr. Anvith Amin


Mr. Thejas Prasad

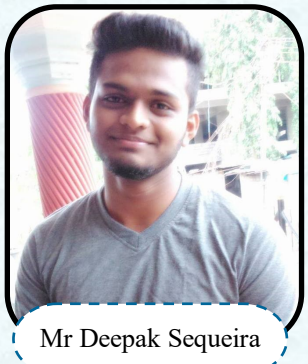

Mr. Allan Dsouza


Mr. Royston Shawn

HGS
HINDUJA GLOBAL SOLUTIONS

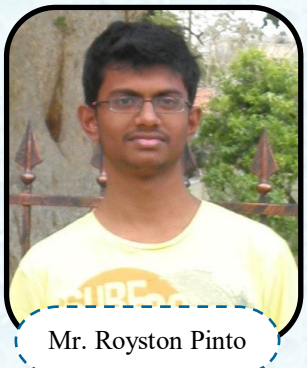

Mr. Abdul Qadir


Mr. Akash H


Mr Deepak Sequeira


Mr. Naomon Khan


Mr. Poojithakumara


Mr. Royston Pinto


Mr. Shaik Ziyad


Mr. Shavin Dsouza


Mr. Shivaraj Kumar


Mr. Shrinivasa Rai


Mr. Dhanush P


Mr. S.M Arafath


Mr. Sheetal Kuchoor


Mr. Shreyas


Mr. Zabiulla A

L&T Infotech


Mr.Naveen Fernandes

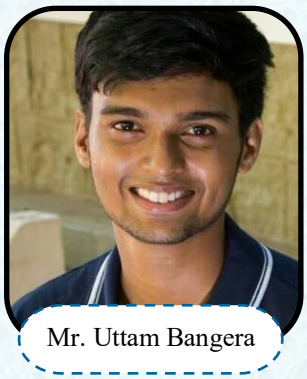

Mr. Nithesh

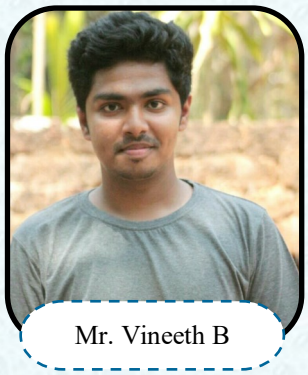

Mr. Prajwal B

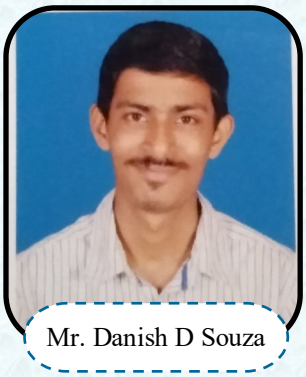

Mr. Rajath Rao


Mr. Shreyas S K


Mr. Suraj Pai K


Mr. Uttam Bangera


Mr. Vineeth B

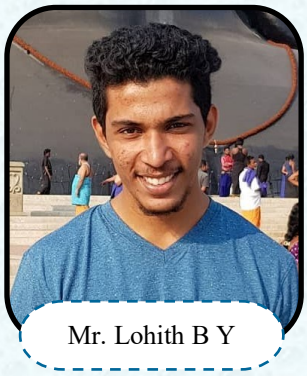

Mr. Danish D Souza


Mr. Karthik

Anglo-Eastern


Mr. Arjun S Kotian


Mr. Jithesh

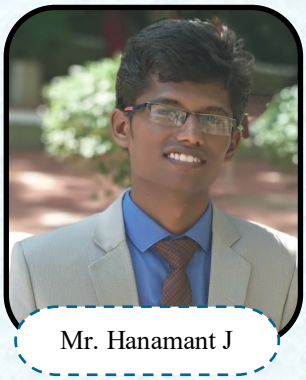

Mr. Lohith B Y


Mr. Shavin Dsouza

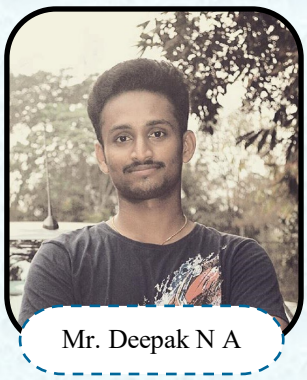

Mr. Subramanya.M

Spiders

magnasoft Geospatial Innovations


Mr. Hanamant J

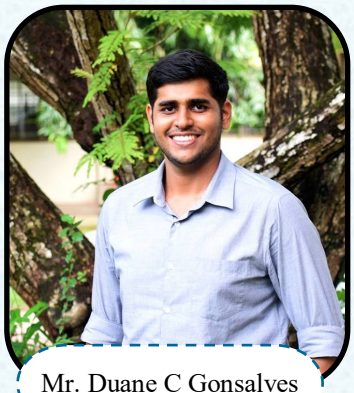

Mr. Sudeep Ganiga


Mr. Deepak N A


Mr. Lloyed Rolson

Mr. Anurag T K

KREATIO



Mr. Duane C Gonsalves

DECATHLON

Mr. Arbaz Abdul Sayed

Rane

Mr. Shawn M Dsouza

TATA CONSULTANCY SERVICES

Mr. Lohith B Y

Mr. Suraj Pai K

Mr. Ashwin Raj

ARAI
Progress through Research

Mr. Shawn Mansel Dsouza

"Coming together is a beginning. Keeping together is progress. Working together is success."

- Henry Ford

STUDENTS' ASSOCIATIONS

SAEINDIA - SJEC COLLEGIATE CLUB

Student members	: 141
Chair Person	: Mr Suraj Pai
Vice Chair Person	: Mr Subramanya M
Captain	: Mr. Arbaz Abdul Sayed
Vice Captain	: Mr Lohith Y
Secretary	: Mr Kiran K
Treasurer	: Mr Vineeth B
Program Chair	: Mr ShriRam N Kamath
Reception Chair	: Mr Shobith Kumar
Publicity Chair	: Mr Veron Lobo
Membership Chair	: Mr Shanel Monteiro
Faculty Advisors	: Mr Yathish Kumar K Mr Jaganesh G C Mr Sudheer Kini

MESSAGE FROM FACULTY ADVISOR:

"If you can dream it, you can do it."

--Enzo Ferrari

The biggest risk is not taking any risk. In a world that changing quickly, the only strategy that guaranteed to fail is not taking any risks.

Few inspired mechanical engineering students, who wanted to do something great, teamed up and initiated SAEINDIA- SJEC Collegiate club in this college with the help of the department and college management in the year 2016.

Now two years have passed and we are moving towards accelerated growth path in the journey. It was challenging and fruitful journey that the club has achieved much more in SAEINDIA BAJA events, Aero challenge competitions and Enduro students India competitions. The club had organised many automobile related workshops, webinars and industrial tours for the betterment of the student members.

Mr Yathish Kumar K
SAE Faculty Advisor

The first All-Terrain Vehicle turtle 1.0 was completely designed and fabricated by the student members of "Team SJEC Racing" – a team under the banner of SAEINDIA-SJEC Collegiate club in 2016 and achieved greater heights and set a benchmark for turtle 2.0. Turtle 1.0, Turtle 2.0 and Aero teams have brought name and fame to the college.

SAEINDIA-SJEC Collegiate club is dedicated to create a platform for the students to apply their theoretical knowledge in the practical work and make them industry-ready and in coming years, we are expecting more students to join this, one of the few professional engineering societies that helps in their personal and professional growth.

TRAINING AND WORKSHOPS ORGANIZED DURING ACADEMIC YEAR 2017-18

A webinar was conducted for club members on "Hybrid and EV Propulsion" and "Power train in Hybrid Vehicle" on 27th October 2017. Peter Benzie, CEng, Team Manager, Product Design, Altair and Benjamin Koerner, Lead Application Engineer dSPACE Inc. were the speakers. Around 60 students were present.

A Technical talk on "Design and Fabrication of IC powered Aircraft" by student alumni was organized on 20th September 2017 at Fr. Fred memorial hall. Around 50 students were present for the talk. HOD, Faculty Advisors and student members were also present.

The *S*AEINDIA SJEC Collegiate Club in association with Aerotrix division of Skyfi Labs Bengaluru organized a two day workshop on "Remote Controlled AIRCRAFT DESIGN" on 27th and 28th April 2018 which was open for students from all the disciplines of 1st, 2nd and 3rd year. Workshop began with a formal inaugural function which was presided by Rev. Fr. Wilfred Prakash Dsouza, Director, SJEC and Mr. Ronak Giri, Chief Engineer, Aerotrix Bengaluru as the Chief Guest. Rev. Fr Rohith D Costa, Assistant Director, SJEC and Dr Sudheer M, HOD, Department of Mechanical Engineering were the Guest of Honors. Mr. Vijay V S, Senior Faculty Advisor, SAEINDIA SJEC Collegiate Club welcomed the dignitaries and Mr. Akash Rai, SAE Student Member presented the vote of thanks. A total of 42 students participated in the program, most of them were from 1st and 2nd years of engineering program. They were grouped into 8 teams and each team was given a kit which consisted of materials for developing an Aircraft. Morning session of first day was dedicated to introduction of concepts and theory related to Aircraft modelling. In the afternoon sessions students were trained to build aircraft by giving hands on training to each team by Mr Bhaskaran, Engineer and Trainer from Skyfi labs Bengaluru. On the second morning, Aircraft design continued and every team came with final model of Aircraft at the end of the session. Afternoon 2:00 PM to 4:00 PM, every aircraft model was tested by flying in the college ground.

ACHIEVEMENTS 2017-18

SAEINDIA AERO DESIGN CHALLENGE - 2017

1ST IN THE STATE AND 12TH ALL OVER INDIA

Our Aero team, Team Astro participated in SAEINDIA Aero Design Challenge - 2017 and placed 1st in the state and 12th all over India. The team was also qualified for SAE International Aero Design Challenge - 2018 which was held in Florida, USA.

Well Done!

VIRTUAL BAJA 2017

1ST IN THE STATE AND 12TH ALL OVER INDIA

The e-BAJA team was formed and registered on 7th April 2017 with 20 students from department of Mechanical Engineering and 5 students from Electrical and Electronics Engineering department under SAEINDIA-SJEC Collegiate Club. The team visited BMS college of Engineering, Bengaluru and BVB College of Engineering and Technology, Hubli to interact with e-BAJA teams of these colleges.

The team completed design of their ATV in the month of June. Virtual BAJA 2017 was held on 22nd July, 2017 at Dayananda Sagar College of Engineering, Bengaluru. Five members from various departments of the team represented team for the virtual round and scored a total of 148.9 out of 200, taking the team to 12th position in All India level and 1st in state level.

BAJA 2018 - " TEAM TURTLE 2.0 "

2ND IN THE STATE AND 20TH ALL OVER INDIA

After the outstanding performance by Team Turtle 1.0, the team Turtle 2.0 was registered on 7th April 2017 with newly recruited 25 students. Recruitment for Turtle 2.0 was done in the month of March and the recruitment process was done in two stages; Pre-assessment test and an interview round. Top 46 of the 144 students who appeared for the pre-assessment test were chosen. The selected candidates undertook the interview and 21 candidates were chosen. The team completed design of their ATV (All-Terrain Vehicle) and appeared for Virtual round on 22nd July, 2017 at Dayananda Sagar College of Engineering, Bengaluru and scored 157 out of 200. The team participated BAJA-2018 main event at Pithampur, Indore, Madhya Pradesh from 26th January to 29th January 2018 and ranked 20th place all over India and 2nd place in the state.










Photo Gallery

MESSAGE FROM SAE CAPTAIN:

"Without continual growth and progress, words such as improvement, achievement and success have no meaning. Team SJEC Racing started in the year 2016 and in the first year of participation, the team achieved great heights and a benchmark was set for us. It was now our responsibility to make the Turtle 2.0 much more reliable, strong and dynamic from the experiences that our seniors had in the competition. We worked day and night, spent sleepless nights with determination only to realize our ultimate goal.

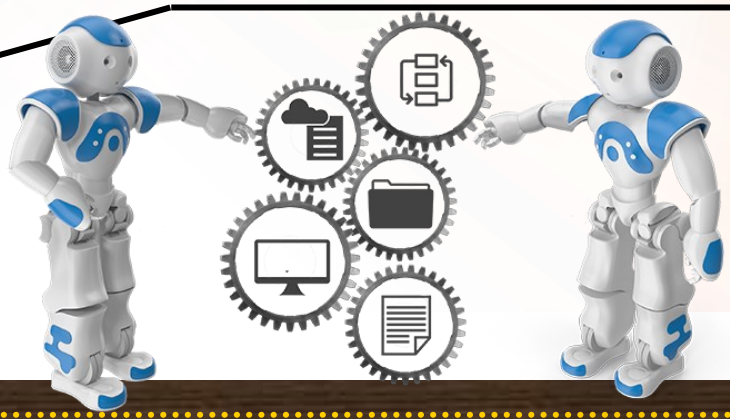
Throughout the journey at different stages, we have experienced setbacks and failures. But it is these ordeals and seemingly unsurmountable challenges that have taught us valuable lessons and paved the way for the feat that we have achieved. We are indebted to our faculty advisors, HOD of the Mechanical Department and the Management who supported and motivated us to make our dream come true.

Mr Arbaz Khader Sayed
SAE Captain

After being a part of Team SJEC Racing, we realized that Engineering is fun when we apply the classroom knowledge in the real world. SAEINDIA SJEC Collegiate Club gives us the platform for the same. To our successors, I want to convey that nothing is impossible if you have the strong determination and perseverance. I wish to see the enthusiasm growing in our juniors in the years to come."

AUTOMATION & ROBOTICS CLUB SJEC

Student members : 76
President : Mr Uttam Madhukar Bangera
Vice President : Mr Mohammed Hussainar
Secretary : Ms Ahalya Bhat
Faculty in-charges: Dr Binu K G
Mr Rahul Kumar
Ms Chaithra S V
Mr Santhosh H



MESSAGE FROM ARC STUDENT PRESIDENT:

"With the industrial world facing many technological advancements which has raised an urgent demand for premium quality products and services that can only be supplied by a high level of productivity, automated manufacturing and industrial automation has taken the limelight as a means of fulfilling these demands. With the Industry 4.0 trend rapidly sweeping across the manufacturing domain, it is imperative that today's engineers not only know how the integrated environments at such industries work but also learn how these systems can be put in place. Yet there exists a technological gap between concepts taught in class and those required by the industry today.

The Automation and Robotics Club at SJEC has helped bridge this gap by enabling students to work on technologies relevant to today's needs. Students are not only taught the fundamentals needed to start-off with learning automation but are also encouraged to work on projects that are aimed at fortifying the concepts learnt and apply it in the real world. These fundamentals include basics of programming, electronics and mechanics that are needed for any project on automation or robotics. And since automation and robotics involves the collaboration of multiple streams of engineering, students from any of the aforementioned streams can learn its concepts.

As a student, I have learnt a lot about concepts such as programming and electronics in the club – concepts that I thought weren't relevant to my field of study. But these very subjects helped me to improve the very concepts I learnt in the stream of mechanics and come up with ideas that weren't possible if one didn't understand the underlying concepts of programming and electronics. The same goes for a student who doesn't understand the physical concepts of mechanics that are necessary while designing any machine. In short, the knowledge and understanding of these concepts as a whole, makes the student industry ready.

It's been a truly fulfilling journey at ARC-SJEC which wouldn't have been possible without the company and support of my fellow members at the club. To all my friends at ARC, hope you will continue to work with greater enthusiasm and dedication. Always have the will to continue learning because as Henry Ford rightly said, Anyone who stops learning is old, whether twenty or eighty; anyone who keeps learning stays young. Our journey has just begun. Until next time, adios."

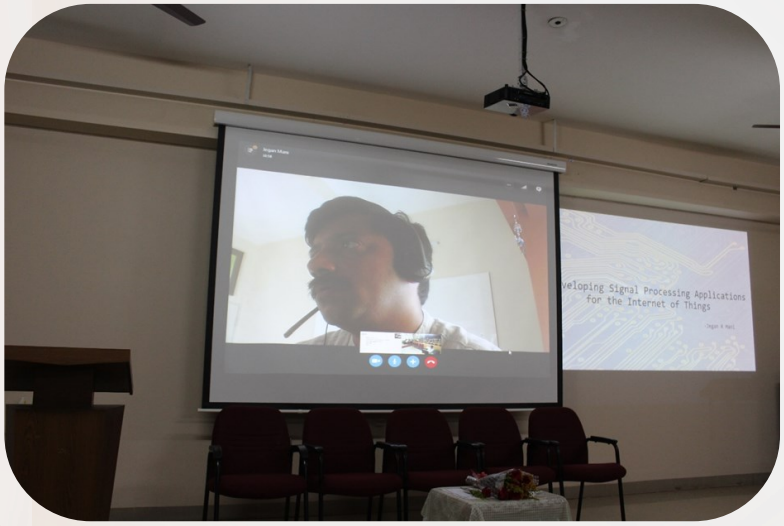
Mr Uttam M Bangera
ARC Student President

INAUGURATION OF ARC-SJEC 2017-18 AND WEBINAR ON "IOT"

September 20th, 2018

The Automation and Robotics Club of SJEC (ARC-SJEC) is one of the many Student Centric Associations at SJEC that provides its members the platform to work on their ideas and innovate products that positively affects the society. ARC-SJEC was initiated in the year 2016 and is driven by the Department of Mechanical Engineering. The inauguration of activities for the academic year 2017-18 of ARC-SJEC (Automation and Robotics Club) was held on 20th September 2017 at 3:00 PM in the Sophia Chambers of Academic Block – III.

Dr Rio D'Souza, Principal, SJEC, graced the occasion as the Chief Guest. Rev. Fr Rohith D'Costa, Assistant Director, SJEC presided over the ceremony. Dr Sudheer M, Head of the Mechanical Engineering Department was present on the dais along with the President of ARC-SJEC, Mr Uttam Bangera and Secretary of ARC-SJEC, Mr Mohammed Hussainer. Mr Jegan R. Mani, Principal Engineer, Hardware and Simulation, Foundation for Innovation and Social Entrepreneurship, Bengaluru was present online for the inaugural ceremony.



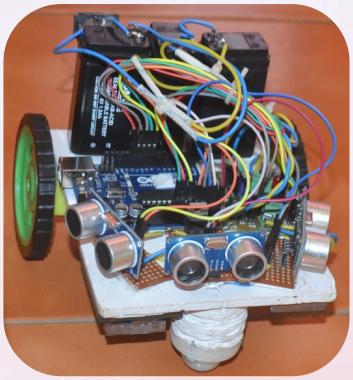
Mr Mohammed Hussainer welcomed the gathering and Mr Uttam Bangera presented the annual report of the ARC-SJEC Club activities for 2016-2017. The new office bearers of the club were then felicitated by the dignitaries. Addressing the gathering, Dr Rio D'Souza spoke about the influence of automation and robotics on modern world and highlighted the challenges faced. He spoke about the need to assess the control over automated systems and decision making aspects of automated systems.

The inaugural ceremony was followed by a webinar on Internet of Things IoT by Mr Jegan R Mani. Mr Jegan introduced IoT to the gathering and explained in detail the components of IoT. He spoke about developing and deploying algorithms for Edge Nodes and connecting to aggregation services. The talk was followed by an interaction with the Resource Person.

MAZE SOLVER

November 04th, 2017

The Club organized a MAZE SOLVER competition on 4th November 2017 for students across the College. The event witnessed the participation of around 30 teams. Dr Joseph Gonsalvis, Former Principal, SJEC graced the occasion and flagged off the event. Mr Chiranth B.P., Assistant Professor in the Department of Mechanical Engineer was also a part of the Judging panel. Mr Rahul Kumar, Mr Santhosh H, Ms Chaithra S.V. and Ms Lavina D'Silva were the Faculty Advisors.



WORKSHOP ON PCB DESIGN AND FABRICATION

April 7th, 2018

The Automation and Robotics Club (ARC-SJEC) of SJEC conducted a workshop on PCB Design and Fabrication on 7th April 2018 for its members. Mr Vijay Ganesh, Assistant Professor in the Department of Electronics and Communication Engineering at SJEC and a Faculty Coordinator of the Club, conducted the Workshop as Resource Person. The session also included discussions on various parameters considered while designing a robot including battery selection, power consumption, size of robot, component placement etc. This formed the basis for the design of the PCB at this workshop. Students also received a hands-on walkthrough session on Fritzing v0.8.7b - an open-source software for designing PCBs – where they were taught in detail, the various aspects involved in designing a PCB, including placement of component slots, connections between components, wiring thickness, good grounding practices, do's and don'ts etc. A brief introduction to double-sided PCBs, its advantages over single-sided PCBs and disadvantages were also dealt with.

WORKSHOP ON INTERNET OF THINGS (IOT)

May 5th, 2018

The Automation and Robotics Club of SJEC successfully organized a one-day hands-on workshop on Internet of Things (IoT) on 5th May 2018. Mr Jason Elroy Martis, Assistant Professor in the Department of Information Science and Engineering at NMAM Institute of Technology, Nitte, was the Resource Person. The day-long workshop was attended by 45 students from across the Departments. Mr Martis started his talk by demonstrating the importance of IoT in today's world and the use of "Blynk" and "IFTT" in IoT. He then introduced the students to Node MCU,its various versions and applications. He also explained the working of few sensors. After all the explanations were done, the students were divided into groups of 8 and were given 3 sensors and a Node MCU board using which they had to work on various projects that Mr Jason Elroy Martis assigned. After this point of time all the students were fully involved in their projects with few people coding, few others making electrical connections and so on. Thus at the end of the day each student had worked on at least 3 projects there by having a hands on experience on using Node MCU. The day concluded with certificate distribution to the participants and Vote of Thanks by Mr Uttam Bangera.

PROJECTS UNDER PROGRESS

The Club currently is engaged in the following Projects:

1. ATTENDER ROBOT

2. VTOL – VERTICAL TAKE-OFF AND LANDING AIRCRAFT

3. 3D PRINTER.

ARC-SJEC @ MAGNOVITE V7.0

A group 27 students from SJEC had participated in Magnovite v7.0, the annual techno-cultural fest of Christ University (Faculty of Engineering), Bengaluru from 1st to 3rd March 2018. The fest spanned for a period of three days and consisted of several technical and non-technical events.

The following students bagged prizes in events conducted during the fest:

Name	Event	Prize
Team Cyclone – Prasant Freyan, Dheeraj G, Sujan	Robo Wars	1st Place
Team Lumberjack – Akash Rai, Shreyas, Sharon Helson Tauro, Zayan Azad	Robo Wars	2nd Place
Veekshith	RC Racing	1st Place
Aman Magwin D'souza	RC Racing	2nd Place
Sharon Helson Tauro	League of Designers	1st Place
Karthik Verma	League of Designers	3rd Place
Uttam M Bangera	Creaticity	1st Place
Yamen Akhtar	Creaticity	2nd Place
Sanketh Maroli and Vrashab Shet	Circuit Debugging	1st Place
Mohammed Hussainer, Karthik Verma, Darryl Steven D'souza, Yamen Akhtar	Bridge design and Fabrication	1st Place

THE ACCOMPLISHMENT OF THESE STUDENTS AT THE FEST RESULTED IN SJEC WINNING THE OVERALL CHAMPIONSHIP AT MAGNOVITE V7.0.

MESSAGE FROM ARC FACULTY IN-CHARGE

"Two years have passed since the inception of Automation and Robotics Club (ARC-SJEC) at SJEC. During this two years, the Club has been successful is catering to the needs of the students to express their creative abilities and offer opportunities to engage in innovative projects related to Automation and Robotics. The club also served as a catalyst in developing interests among students on key technologies such as Internet of Things (IoT) through seminars and workshops. Another significant contribution of the club is in bringing together students from varied Engineering disciplines at SJEC to engage in interdisciplinary projects. The recently launched Projects, such as: Design and Fabrication of Vertical Take-Off and Landing (VTOL) Aircraft model, and in-house fabrication of a 3D-Printer are few instances of multidisciplinary work progressing under the Club. The 3D-Printer project is also special since it is executed by students from Second Year Engineering, thus showcasing the Club's intention and effectiveness in engaging students in self-learning and hands-on projects from their second year itself. The benefits of executing these projects is also expected to rub-off on the students' overall academic performance, since it will enable experiential learning and develop interest and focus among the students.

The key focus of the Club in the coming days will be to engage in projects with significant potential for regional impact. One such area is the huge waste processing needs of the Vamanjoor dump yard. A visit to the place will reveal the magnitude of work involved and the urgent need to automate the processes. We are quite hopeful that the Club can bring a positive difference to the area through its involvement.

I would also like to point out the work carried out by the outgoing President of the Club, Mr Uttam Bangera and his team on the Development of Humanoid Arm. The project showcases the spirit of the Club in taking up projects that will help society at large. I congratulate the office bearers of 2017-2018 led by Uttam, Hussainer, Ahalya and the rest of the team for the wonderful work this year. The club is grateful for the contributions of Uttam Bangera and wishes him the very best in his future endeavours. The Club also acknowledges with gratitude the work by Shreyas, Vishwanath and other outgoing members for their efforts. The baton now passes onto Hussainer, Prajwal, and Ahalya to take the work of the Club forward. The Club also acknowledges the Faculty Coordinators of all Departments for their support and participation. The club is indebted to the Management of SJEC for their magnanimous support of the Club. We do hope and believe that the Club will continue to effectively serve the students and bring in laurels to the College.

Looking forward to the next academic year 2018-2019 with lots of interest and aspirations!"

Dr Binu K G
ARC Faculty In-Charge

TORQUE

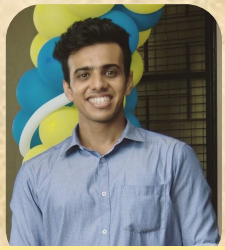
President	: Mr Rajath Rao
Vice President	: Mr Allen Clinton
Secretary	: Mr Vybhav Shetty
Joint Secretary	: Mr Joywin Anup Sequeira
Faculty Coordinator	: Mr Pavana Kumara B
Faculty Co-Coordinator	: Mr Poornesh M

MESSAGE FROM TORQUE PRESIDENT

"Engineers are known to build the world. Therefore a complete engineer must also be hardwired with these skills. 'Torque', a Mechanical student association aims at providing the students with special capabilities, starting from a simple inaugural function to handling a two day national level technical fest. It encourages students to be more creative, handle a number of events and also have fun during the same. It allows students to take responsibilities, hone their team working skills and also boosts their self-confidence.

To be honest I was least interested in joining this association when I was in first year, I blame this on my laziness and my will to do absolutely nothing productive. A senior of mine forced me to join this association telling me to improve myself. As a matter of fact, I still cannot thank him enough for doing that. With the amount of experience I obtained in the two years, I took up the role of being the president of Torque in my fourth year. This really helped me tap my leadership qualities and allowed me to be more creative. It helped me interact with many people and improve my communication skills too.

During these three years of being in Torque, I have had many amazing memories, have bonded with a number of people and have made myself a better person. It has truly been a wonderful journey which would not have been possible without the company and support of my fellow members. Kudos for being such an amazing team and overcoming all the odds in order to make all the events successful. I am blessed to have been a part of Torque family. A huge thanks to the Torque family. I wish you all good luck and ask you to keep working towards your goals and have fun on the way because "You only live once, why not make the most of it?"



Mr Rajath Rao
TORQUE Student President

INAUGURATION OF THE STUDENTS' ASSOCIATION "TORQUE" 2017-18

September 26th, 2017

Mechanical Department of St Joseph Engineering College inaugurated the students' association - TORQUE on Tuesday, September 26th, 2017, at 10:15 AM in the College Kalam Auditorium, Academic Block 2. Dr Savitha Pereira, Professor, MBA Department, SDM College of Business Management, Mangaluru was the Chief Guest of the program. Dr Joseph Gonsalvis, Former Principal, SJEC presided over the function. Rev. Fr. Wilfred Prakash D'Souza, Director, SJEC and Rev. Fr. Rohith D'Costa, Assistant Director, SJEC was the guests of honor. Dr Sudheer M, HOD of the Mechanical Engineering Department, Mr. Pavana Kumara B, Faculty Coordinator and Mr. Poornesh M, Faculty Co-Coordinator of TORQUE, Mr. Rajath Rao, President and Mr. Allen Clinton, Vice-President of TORQUE, were present on the dais. Firstly the brief presentation of the activities of Torque 2016-17 was presented. Dr Sudheer M, HOD of the Mechanical Engineering Department, welcomed the gathering and introduced the Chief Guest. Rev. Fr. Wilfred Prakash D'Souza, Director, SJEC florally welcomed the Chief Guest. The student association was inaugurated by lighting of the lamp. Mr. Allen Clinton, Vice-President of TORQUE, welcomed the second-year students to the function and gave an insight on various events conducted by the Mechanical Department under Torque association and urged them to volunteer and participate in them. Toppers and class representatives from all section of second year students were appreciated with gifts. The oath was administered to the association members and students by faculty coordinator Mr. Pavana Kumara B. The chief guest for the day, Dr Savitha Pereira, in her speech, congratulated students for being so lucky to be a part of good college which is having all necessary infrastructure and motivated students to make best use of it and study engineering with a different viewpoint. Rev. Fr. Wilfred Prakash D'Souza addressed the gathering and advised students to take active participation in the association activities. He also said that as the name Torque means a force to keep moving, students should move forward in life to achieve greater heights. Rev. Fr. Rohith D'Costa addressed the gathering and asked the students to take active participation in the association activities and understand the prime importance of studies and related activities which will help them to excel in their career. Dr. Joseph Gonsalves, president of the function delivered the Presidential address. He motivated the students to participate in various activities conducted in the college and urged them to take up initiative to shape their ideas into realities. Mr. Rajath Rao, President - Torque proposed the vote of thanks. This was followed by a Motivational talk by the Chief Guest on "Time management, Stress Management and Relationship Management". Lunch was provided in the venue and afternoon session was different events by the members of Torque.

ENGINEERS DAY 2017

September 27th, 2017

St Joseph Engineering College, Vamanjoor, Mangalore had organized Engineers Day on 27th September 2017. On this occasion various activities were conducted by the Torque association for students of Mechanical Engineering Department to showcase the technical skills of its students. Following are the Events organized:

1. Event Name: Sketch It
Student Coordinators: Mr. Puneet Sanil, Mr. Joseph Prashwin Dsouza,
Event Winners: Vishwanath-VII Sem, Sameer Hussain-VII Sem, Saqib Hassan-VII Sem
Description: The participants should draw a 3D sketch of Mechanical devices or components of their choice. They were given a total of two hours to complete the sketch. The judges evaluated the sketches done by the participants based on the complexity, accuracy and neatness. The decision of the judges was final.

2. Event Name: Mr. Machinist
Student Coordinators: Mr. Pavan Kumar, Mr. Vybhav Shetty
Event Winners: Mr. Harshith Kumar- V Sem, Mr. Mohammed Zayan Azad- III Sem
Description: 1st round: Metal Hunt, 2nd round: Model Making, 3rd round: Assembly, 4th round: Task Run, 5th round: Suspense Round.

3. Event Name: Build IT
Student Coordinators: Mr. Duane Clive Gonsalves , Mr.Sharmith Shankar T
Event Winners: Akshaya Kumar and Jithesh- VII Sem, Sameer Hussain and Saqib Hassan- VII Sem
Description: The participants were given 2 sheets of chart paper, a bottle of gum and craft sticks. With the given items the participants were supposed to build a model of either an automobile or aircraft of their choice. The judges evaluated the models done by the participants based on the creativity and execution.

4. Event Name: Can you CAMD?
Student Coordinators: Mr. Sharon Helson Tauro, Mr. Jayaraj S A
Event Winners: Mr. Kiran K- VII Sem, Mr. Vishwanat- VII Sem
Description: The event consisted of 2 rounds of 1 hour each. The contestants were given with model along with all the dimensions necessary to prepare the 3-D model of the same in Solid Egde ST7 software. The time taken by the contestants to prepare both the model were noted. If the contestants have completed both the models in the given time without any errors, then the individual with the shortest time will be declared the winner. If the contestants fail to complete both the models in time, the individual who has completed majority of the model with less errors will win the event.

5. Event Name: Technical Quiz
Student Coordinators: Mr. Glevin Andrade, Mr. Jokshith Dsouza
Event Winners: Shreyas S. K. and Anurag T K- VII Sem, Achyuth Diwakar Tonpe and Gautam Vinay- I Sem
Description: Round 1 - Technical and General awareness, Round 2 - cross word and puzzle, Round 3 - Recent trends in engineering, Round 4 - Pick and answer, Round 5 - Buzzer and guess the logo

6. Event Name: Tech-Hunt
Student Coordinators: Mr. Marissa Serrao, Mr. Robin Monis
Event Winners: Mahin Saif Nowl and Nihal Abdulla- VII Sem, Robin Sequeira and Melon Thomas Lobo- VII Sem
Description: The event consists of 5 rounds. The participants were initially given a riddle. The contestants should decipher the riddle which will lead them to their second riddle. The team which deciphers all the riddle and reaches the starting point first will be declared winner.

CAREER GUIDANCE TALK

October 23rd and 25th, 2017

The Mechanical Engineering Student Association "TORQUE" along with TIME Institute of Management has organized a career guidance talk on the topic "Orientation on Aptitude and Career opportunities available after Engineering" for pre-final year students of Mechanical Engineering on 23rd October 2017 at 12.00PM to 1:00PM for M3 and M4 sections in Spoorthi Hall, Academic Block III and on 25th October 2017 at 3:30PM to 4:30PM for M1 and M2 sections in Bishop Aloysius Paul Conference Hall, Academic Block-II. The talk was delivered by Mr Ashith Poojary, Manager, TIME Institute of Management. The speaker was introduced to the crowd by Mr Pavana, Coordinator of TORQUE. The talk was mainly focused on the higher studies and examinations that can be answered by the students in their final year if at all they are focusing on pursuing higher studies such as MTech or MBA. The talk was concluded by the questions and answer session, where the students were given an opportunity to clarify the doubts regarding their future. The session was concluded by a vote of thanks which was delivered by Mr Pavana Kumara B, Coordinator of TORQUE.

MOTIVATIONAL TALK

April 17th, 2018

The Mechanical Department Student Association "TORQUE" had organized a motivational talk on "Thinking on Entrepreneurship and Start Ups" for Second Year students of Mechanical Engineering Department on 17th April 2018 from 3.00PM to 5:00PM in Bishop Aloysius Paul Conference Hall, Academic Block-II. The talk was delivered by Dr. Anjali Ganesh, Professor, Department of Business Administration. The speaker was introduced by Dr Sudheer M, Head of the Department, Mechanical Engineering. The talk was mainly focused on the areas, advantages, limitations for an individual to be an entrepreneur in the current scenario in India. The speaker also gave an insight on the major steps towards establishing start ups. The video examples of Mr. Ramesh Babu (The Billionaire Barber) and Mr. Mustafa (Founder of ID foods) were presented to motivate the students. The talk was concluded by the questions and answer session, where the students were given an opportunity to clarify the doubts regarding their idea of start ups. The session was concluded by a vote of thanks which was delivered by Mr Poornesh M, Co-Coordinator of TORQUE.

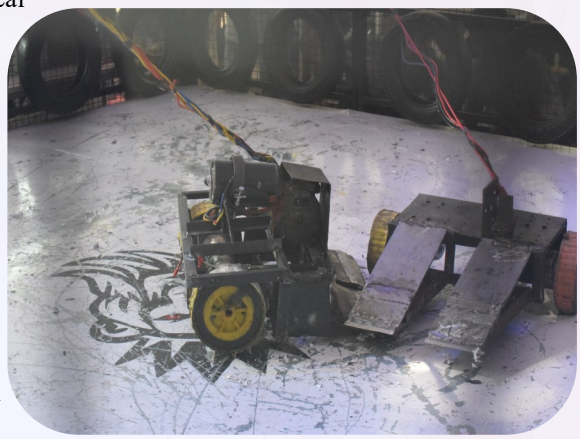
TIARA TECHFEST 2018

February 21st and 22nd, 2018

On the occasion of TIARA Techfest 2018 various activities were conducted by the TORQUE association for students to encourage showcasing their talents and skills. Following are the Events organized:

1. Event Name: HYDRO CANNONS
Student Coordinators: Mr. Jeethan Martis
Event Winners:
1st Prize: Pawan Shetty and Akshay Kumar, SJEC, Mechanical Engineering.
2nd Prize: Karthik and Sushan, SJEC, Mechanical Engineering.

2. Event Name: ROBOWARS (Mega Event)
Student Coordinators: Mr. Keshava and Mr.Upendra Barke
Event Winners:
1st Prize: Prashanth Freyan Dsouza, Adarsha, Levin Pinto, SJEC, Electrical and Electronics Engineering.
2nd Prize: Sudeep, Adarsha, Melroy, SJEC, Mechanical Engineering.



3. Event Name: LOADUP
Student Coordinators: Ms. Chrisel Ann Pais and Mr. Abhishek Bangera
Event Winners:
1st Prize: Sugandh Kumar and Shubham, SJEC, Mechanical Engineering,
2nd Prize: Ashley Kevin Dsouza and Akash Lobo, SJEC, Mechanical Engineering.

4. Event Name: BRAIN FREEZE
Student Coordinators: Mr. Glavin and Mr. Jokshith
Event Winners:
1st Prize: Karan Guptha and Garry Laroy Pinto, SJEC, Electronics and Communication Engineering.
2nd Prize: Joywin and Garwin Noronha, SJEC, Mechanical Engineering.

5. Event Name: TECH TALKS
Student Coordinators: Mr. Duane Gonsalvis
Event Winners:
1st Prize: Arjun SDIT, Mechanical Engineering.
2nd Prize: Nihaad, SJEC, Mechanical Engineering.

6. Event Name: MR. MACHINIST
Student Coordinators: Mr. Ashish Rao and Mr. Joywin Anup Sequeira
Event Winners:
1st Prize: Avinash, SJEC, Electronics and Communication Engineering.
2nd Prize: Mahesh, SJEC, Civil Engineering.

MESSAGE FROM FACULTY CO-COORDINATOR

"Torque - The Mechanical Engineering Students' association has successfully completed another year with lots of activities for the students in the Department as well as the external participants. The Student members in Torque develop abilities such as team leadership, team works, event management and accountability. The various activities of Torque brings liveliness and improves the interactions between students across sections. They work together as one team in organizing various events of the Association and the Department.

Finally, I congratulate the outgoing batch of students from Class of 2018 for their contribution to the Association. I also look forward to the new batch of Torque members to continue the good work of the Association."

Mr Poornesh M
Faculty Co-coordinator

INDUSTRY INTERACTION CELL

Faculty Coordinator : Mr Chiranth B P
Student Coordinators : Mr Ashwin shetty
Mr Ashish Rao
Mr Duane Gonsalvis
Mr Keshav
Mr Aditya
Mr Krishna P Shetty

"The interaction of knowledge and skills with experience is key to learning"

- John Dewey

MESSAGE FROM FACULTY COORDINATOR

"An Industry Institute interaction Cell (IIC) has been set up with the aims to strengthen the linkages of our Institute with the industry. Better interaction between Technical institutions and industry is the need of the hour. This will have great bearing on the Engineering Curriculum, exposure of industrial atmosphere to students.

During last year, we conducted several industrial visits and technical talk for the benefit of the students and continuing the same."

Mr Chiranth B P
IIC Faculty Coordinator

INDUSTRIAL VISIT TO "GWASF - QUALITY CASTING"

OCTOBER 24TH TO 27TH, 2017

The Industry Interaction Cell of Mechanical Engineering organized one day Industrial visit for all second years on four different days to "GWASF - Quality Casting, Baikampady". Total of 220 students along with staffs took part in the visit. The main objective of this visit was:

- To give an overview of the Manufacturing Process particularly Metal Casting, Pattern Section, Molding section, Melting Section, Fettling, Cleaning and Inspection
- Enhance their knowledge on Heat Treatment, Welding, machining and Nondestructive testing.

GWASF manufactures a range of castings in a large variety of alloys from a weight range of 10 kg to 450 kg. The castings are designed and manufactured to meet international safety standards such as the European PED for pressure vessel castings and Lloyds/DNV for marine applications. They manufacture a products like pumps casing and safety valves. GWASF has a large base on sub-contractors and in-house machining facilities. The company has high end machining capabilities to meet tight tolerance components. Components are surface finished, painted and pressure tested according to our customers requirements. The visit has enhanced the students knowledge on Metal Casting and Manufacturing process. The visit was coordinated by Mr. Rudolf D'souza and Mr. Chiranth B.P. of SJEC, Mechanical Department.

INDUSTRIAL VISIT TO "LAMINA SUSPENSION PRODUCTS LTD "

MARCH 22ND, 2018

The Industry Interaction Cell of Mechanical Engineering organized one day Industrial visit for pre final year students to "Lamina Springs Pvt Ltd, Baikampady ". Total of 46 students along with two staffs took part in the visit. Visit was scheduled on 22nd March 2018 at 10.00 A.M.

The main objective of this visit is to

- Give an overview of the Manufacturing Process involved in manufacturing of Leaf springs.
- Enhance their knowledge on different materials used to manufacture.

Lamina Suspension Products Ltd., are India's leading Manufacturer, Supplier, Exporter and Dealer of a wide assortment of Leaf Springs, Automobile Leaf Springs which feature higher load capacity, stability and lasting durability. They are also dealing with numerous foreign concerns across the world like USA, UK, Italy, Taiwan, South Korea, France, Saudi Arabia, Singapore, Belgium, Germany, Australia, Finland, Greece, UAE and many others.

The layout of steps followed in manufacturing of leaf springs was explained by the company supervisor. Students witnessed different process like bending, cutting, rolling, heat treatment and various manufacturing processes.

The visit has enhanced the students knowledge on materials and processes used in manufacturing of leaf springs. And also various difficulties which are encountered during the manufacturing of the same.

TECHNICAL TALK ON "ROBOTICS"

OCTOBER 30TH, 2017

The Industry Interaction Cell of the Department of Mechanical Engineering organized a Technical Talk on "Robotics" on 30th October 2017 at 3.00 P.M in Bishop Aloysius Paul Hall.

Mr Sudeep Devashya, Chief Executive Officer, Epitas Software, Mangaluru was the resource person. The objective of this programme was to give a overall introduction and operation of the robots.

Mr Sudeep also included in his presentation about different kinds of robots used in the industry, Advancements in Robotics and Robotics R&D Centre at STPI Mangaluru. At last, he demonstrated few working robots.

After the presentation, the floor was opened for discussion and Mr Sudeep took on the queries which the students raised.

SAFETY AWARENESS PROGRAM

APRIL 2018

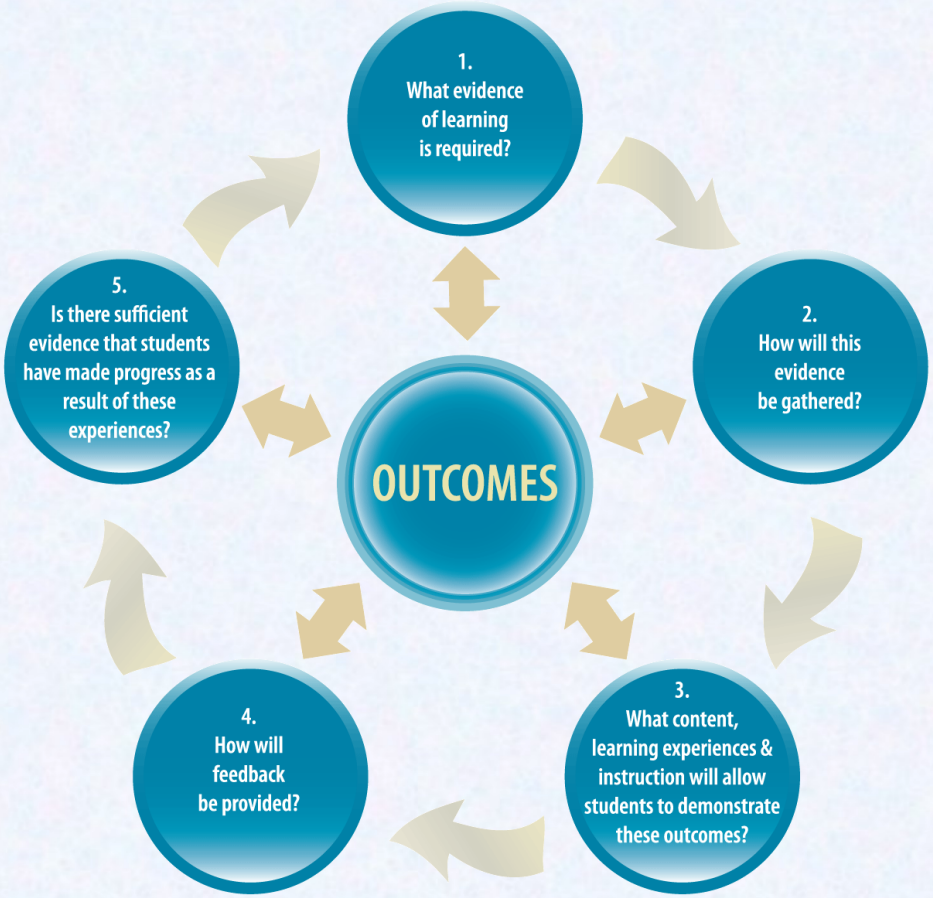
A Safety Awareness Program for III year Mechanical Engineering Students was conducted section-wise at MCF Mangaluru in the first and last week of April 2018 under the guidance of Prof Somashekaran S., Adjunct Faculty in the Department of Mechanical Engineering at SJEC. This visit to a chemical industry was arranged as a part of the new CBCS syllabus of elective subject - Industrial Safety, for III year students. The program started with an overview of the industry delivered at the the Learning and Development Cell at MCF Mangalore. This was done under the supervision of Mrs Jacintha from MCF Mnagalore. Mr Somashekaran then elaborated on the various departments, the layout, possible hazards and the safety measures present in the industrial setup. This also included several safety measures taken by MCF for the well-being of the general public in the vicinity of the industry. After this brief introduction, Mr Ravichandran explained about how the facility operates during emergency. Students were then taken to the fire safety and control section and the medical facility which was well equipped to overcome fatal incidents. Towards the end, students were taken to the incident safety room where a demonstration about the various tools like oxygen masks, fire resistant suits, alkali resistant safety wear, boots and helmets was given to the students. The Safety awareness program provided students a good insight into the safety aspects that followed in a processing industry.

INTERNSHIP TRAINING - ACADEMIC YEAR 2017-18

A total of 54 students from final year and pre-final year BE - Mechanical Engineering program have attended internship training during the academic year 2017-18 in various companies listed below during the vacation breaks in the month of July and January. The internship training spanned from one to three weeks based on the companies requisite. The students were encouraged to attend the internship training in any company or industry as per the individuals interest. Following are list of Companies / Industries where the students have completed the internship training:

Sl. No.	Company	No. of Students	No. of Days
1	Mahindra Motors, Mangaluru	01	14
2	DKMUL	02	04
3	Mandovi Motors, Mangaluru	13	11
4	MGF Motors Ltd	01	08
5	KIOCL Ltd., Mangaluru	01	06
6	Karnataka State Road Transport Corporation	20	10
7	New Mangalore Port Trust, Mangaluru	02	11
8	BASF	02	17
9	JSW Steel Ltd	06	21
10	Mangalore Refinery and Petrochemicals Limited	03	15
11	ADANI	03	10

ACCREDITATION ACTIVITIES



MESSAGE FROM ACCREDITATION PROGRAM COORDINATOR

"What's measured improves."

– Peter F. Drucker.

A pithy remark that helps justify the work done in the department towards the attainment of Outcome Based Education (OBE) and making the learning process for students, in a sense, more tangible.

Since the Mechanical Engineering Department achieved re-accreditation, the faculty have been looking into further improving the quality of Teaching Learning Practices. The various stakeholders like students and their parents, alumni and their employers, and industry personnel, are contributing towards important decision-making pertaining to the all rounded development of the students. The staff of Mechanical Engineering Department have been striving towards creating awareness and the implementation of OBE practices, both inside and out of the classrooms.

'The Crank' showcases the Department events, proceedings, and achievements of faculty and students. We congratulate Mr Pavana Kumara and the entire editorial team for their outstanding work in bringing out this e-magazine.

Mr Vijay V S
Accreditation Program Coordinator

OBE ACTIVITIES

ACCREDITATION PROGRAM COORDINATORS

Mr Vijay V S

Mr Rolvin S. D'Silva

Mr Orville Sutari

Mr Poornesh M

THE PROGRAMME ASSESSMENT COMMITTEE MEETING

October 04th, 2017

The Program Assessment Committee (PAC) meeting for the year 2016-17 was held on 04th October 2017 at 4:00 PM in the HOD Chamber, Mechanical Department - SJEC. The PAC is formed with the objective of interacting and maintaining the liaison with the key stake holders such as students, faculty, Alumni and parents. The PAC monitors and reviews the activities of the program.

Mr. Pavana Kumara B welcomed the PAC members and put forward the agenda. Department Vision and Mission were placed for the discussion and members have approved the existing Department Vision and Mission statements with no suggested corrections. Members also revisited Program Educational Objectives (PEOs), Program Outcomes (POs) and Program Specific Outcomes (PSOs) and decided to retain the existing ones. Mr. Pavana Kumara B also gave an insight on the progress of course assessment done during the semester. A detailed discussion was held regarding review of minutes and actions suggested during the previous PAC and DAB meetings, feedback on recent NBA visit, revisiting of PSOs, Course and Program Outcome Attainment of the previous academic year, Assessment Procedure for the next academic year and Course file formats.

The following members were present for the meeting.

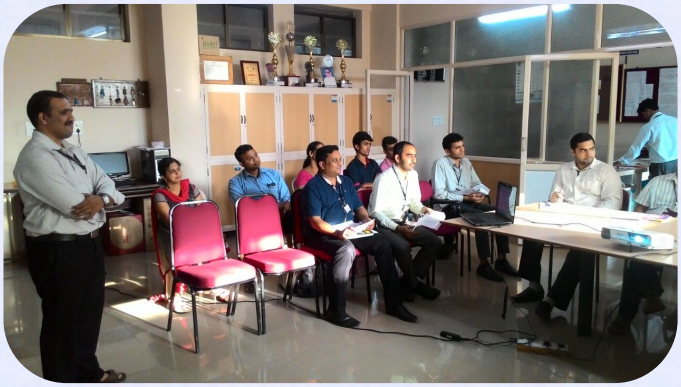
Sl. No.	Name	Category
1	Dr Sudheer M	HOD-ME & Module Coordinator
2	Dr James Valder	Module Coordinator
3	Dr Binu KG	Module Coordinator
4	Dr Shreeranga Bhat	Module Coordinator
5	Dr Purushothama C	Module Coordinator
6	Dr Rajesh Shetty	Faculty Representative
7	Mr Prashanth Kumar	Faculty Representative
8	Mr Prathviraj H.	Faculty Representative
9	Mr Rolvin S D'Silva	Module Coordinator & Program Coordinator (2017-18)
10	Mr John Paul Vas	Module Coordinator
11	Mr Rudolf D'Souza	Module Coordinator
12	Mr Sharun Mendonca	Module Coordinator

Sl. No.	Name	Category
13	Mr Sampath Kumar	Module Coordinator
14	Mr Ravikanth Prabhu	Module Coordinator
15	Mr Pavana Kumar B	Program Coordinator-ME (2015 to 2017)
16	Mr Vijay V S	Program Coordinator-ME (2017-18)
17	Mr Orville Sutari	Program Coordinator-ME (2017-18)
18	Mr Poornesh M	Program Coordinator-ME (2017-18)
19	Mr Lancy Pinto	Technical Staff Representative
20	Mr Sinoj M.R.	Technical Staff Representative
21	Mr Christophper	Technical Staff Representative

THE DEPARTMENT ADVISORY BOARD MEETING

October 11th, 2017

The Department Advisory Board (DAB) meeting for the year 2016-17 was held on 11th October 2017 at 4:00 PM in the HOD Chamber, Department of Mechanical Engineering - SJEC. The DAB is a committee consisting of representatives from the key stakeholders of the program.. The DAB is aimed at improving the quality of teaching – learning process in the department. The DAB will meet once in every year, preferably at the end of every academic year.



The Chairperson Dr Sudheer M. welcomed all the DAB members to the meeting and introduced the members to the house. Later the Ex-Program Coordinator Mr. Pavana Kumara B presented a glimpse of the Mechanical Engineering Program and briefed about the department vision, mission, outcome based education, course outcomes and program outcomes, direct assessment tools, indirect assessment tools, PEO's to the DAB members.

The proposed actions from the Program Assessment Committee were presented before the board members and various valuable inputs and suggestions were given. Dr. Rio D'Souza suggested that PO attainment values need not be compared with previous year attainment. It is the attainment gap which has to be compared. Rev. Fr Rohith D Costa expressed his concern for low attainment values for PO 7, Engineering and Society and PO 8, Professional Ethics. Parents expressed their happiness over the growth of their wards. Also requested to arrange internship for their wards during the vacation time. The members present for meeting are given below:

Sl. No.	Name	Category
1	Dr. Sudheer M	Chairperson
2	Rev. Fr. Rohith Dcosta	Management Representative
3	Dr Rio Dsouza	Management Representative
4	Mr. Pavana B	Program Coordinator-ME (2015 to 2017)
5	Mr. Vijay V S	Programme Coordinator-ME (2017-18)
6	Mr. Rolvin D'Silva	Programme Coordinator-ME (2017-18)
7	Mr Orville Sutari	Programme Coordinator-ME (2017-18)
8	Mr Poornesh M	Programme Coordinator-ME (2017-18)
9	Dr. Raju K	Senior Faculty
10	Dr. James Valder	Senior Faculty
11	Dr. Shreeranga Bhat	Senior Faculty

Sl. No.	Name	Category
12	Dr. Binu K G	Senior Faculty
13	Dr Purushothama C	Senior Faculty
14	Dr Rajesh Shetty	Senior Faculty
15	Mr Girish Babu	Employer Representative
16	Mr Akshay Shenoy	Employer Representative
17	Mr Khalid Mohammed	Alumni Representative
18	Mr Brison Pinto	Alumni Representative
19	Mr Carlton Sequeira	Alumni Representative
20	Mrs Sumana R.A.	Parent Representative
21	Mrs M. J. Lobo	Parent Representative

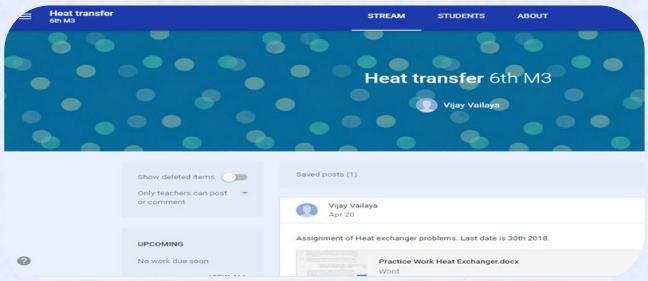
OBE INITIATIVES

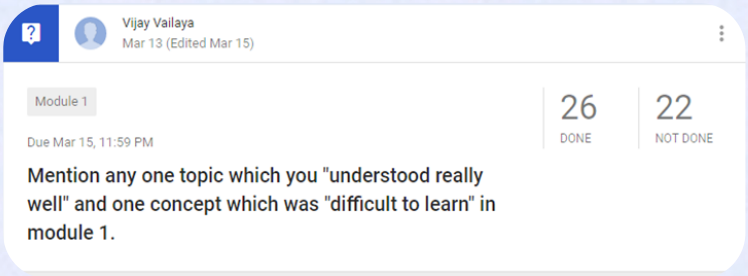
The following are the initiatives taken during the academic year to ensure quality of learning at SJEC:

- The Assessment Tool Review Committee was formed in this academic year as per the suggestions of PAC and DAB to review all the assessment tools like Assignments, Quizzes, One minute papers, etc. including the Internal Assessment Question Paper. All the course faculty/coordinators need to get approval from the review committee for any assessments tool used towards measuring the attainment of TLO's.
- Weekly meeting of Program Coordinators to assess the progress of SAR and NBA activities.
- Identify Curriculum Gaps and take actions to bridge the gap.
- Student project selection and quality assurance.
- PAC and DAB meetings every semester to implement effective teaching learning practices and assess the outcomes.
- Teaching Learning Forum to discuss, practice and implement effective teaching learning practices.
- Webinars of IUCEE forum to learn and update knowledge of faculty members on new teaching learning practices.

NEW PEDAGOGIES INITIATED

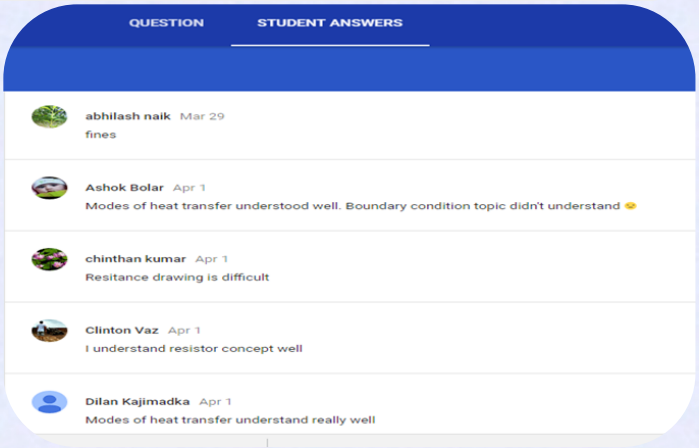
GOOGLE CLASSROOM AS A CLASSROOM ASSESSMENT TOOL





Mr. Vijay V S, Assistant Professor of Mechanical Engineering, SJEC was teaching a subject Heat Transfer for 6th Semester Mechanical Engineering students, for which he used Google classroom as a platform to interact with them on subject topics.

In the conventional teaching process, a teacher will assess learning of students in the classroom by using Question and Answer Technique. The drawback of this method, which was observed, is many students always hesitate to answer the question in the class. Also most of the time students may be ashamed when they doesn't answer the question and a teacher personally target them over their inability. Even many students shy to approach faculty outside the classroom when they get any doubts on a particular concepts. Hence Mr. Vijay decided to post questions to the students in a Google Classroom at the end of every topic or module.



An example shown above, where at the end of module 1 of Heat Transfer subject, students were asked to answer a question "Mention any one topic which you understood really well and one topic which was difficult to learn". This is a part of "First Day Background Knowledge Probe" or "Reflection" technique. Surprisingly 26 students replied and the faculty summarized few important topics like thermal resistance circuit and boundary conditions which students expressed their difficulty to study.

Another important advantage of Google classroom is to collect regular feedbacks from students. Reason for the success of student feedback in Google Classroom may due to two reasons. One, students were answering to question in their free time either in hostel or home which gave them more time to "reflect" which they usually do not get at the end of the class. Second, their ego is not hurt since a student who asks a question is not individually pointed out or recognized by others. This can be used as platform to take "Self Feedback" at the end of every module which is also a part of an OBE Calendar and mandatory for every course instructor. A regular use of this platform will definitely help every individual faculty to improve his teaching and also enable him/her to use the most advanced pedagogical initiatives in Teaching Learning Process.

Mr Vijay V S

PROBLEM-BASED LEARNING TO DEVELOP STUDENTS CRITICAL THINKING

The teachers and educators around the world have been working on the transformation of formal education system to enable new forms of learning to develop essential skills in students for the twenty first century. Inquiry-based learning must be introduced to students to nurture new competencies, critical thinking, innovate, collaboration, solve problems and effective communication skills which are essential to solve current global challenges. Since few years, teachers and management of St Joseph Engineering College, Mangalore have been trying to implement advanced pedagogies and class assessment techniques to progress the quality of learning.

As a part of the big picture, a case study of problem-based learning (PBL) is carried out for students of 3rd year UG program by Dr. Purushothama Chippar, Associate Professor in Mechanical Engineering, SJEC. Finite Element Method (FEM) course was considered to illustrate the implementation of the PBL model. The PBL is an experiential leaning where students work on an open-ended problem and it focusses on their reflection and reasoning to construct their own learning. Here students apply their prior knowledge in finding solutions to the real-life solutions. In the present study, students were asked to design a compact, which should occupy

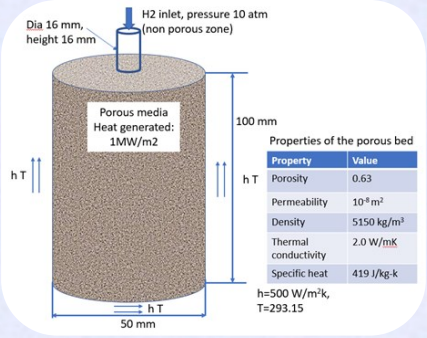
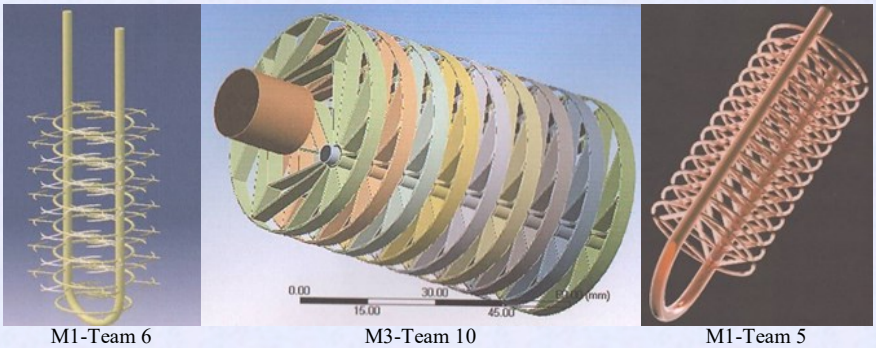


Fig.1 Geometry and properties of the porous cylinder

minimal space, internal heat exchanger to effectively remove heat from a porous cylinder, where heat is generated due to some exothermic reactions (brief explanation about the exothermic reactions was initially delivered by faculty, however students understanding of the reactions is not essential). This exercise is conducted for two classes, M1 and M3, having 44 and 52 students, respectively. Both the classes are split into several groups with each group consisting of 4 students. The problem was explained in the regular lecture and also a presentation file describing the problem was floated in the google class room. Fig. 1 shows the geometry of the porous cylinder and its properties. The study was carried out in two phases, each phase was allotted with a week time. In the phase 1, students were asked to think and come up with creative heat exchanger designs and submit the report. In the phase 2, students had to use any Computational Fluid Dynamics (CFD) tool (it was recommended to use ANSYS FLUENT since one-day hands-on workshop on CFD using ANSYS-FLUENT was conducted, noting that 60% of them attended) for modelling and simulation of their heat exchanger designs.



M1-Team 6 M3-Team 10 M1-Team 5

Fig. 2 Heat exchanger designs and temperature distribution contours

The response from the students was overwhelming, and it was found that students are very much exited to apply their learnings from FEM course and CFD workshop to the given problem. Students report of phase 1 demonstrated achievement of higher-level problem solving, analysis and creativity skills. Then, each group was asked to take up one of their best designs and perform unsteady modelling and simulation with the given boundary and operating conditions. It was interesting to see the students learning the CFD solver with a great interest. Those who did not attend the workshop also shown interest to learn the solver. It should be mentioned that CFD theory and laboratory are not part of our university curriculum. All the teams submitted their phase 2 report. Fig.2 shows the phase 1 and 2 results of some of the groups.

The outcome of this study is very convincing with the demonstration of self-directed learning, problem solving, collaboration and critical thinking by the students. Moreover, this exercise motivated students to take-up more real-life challenges. Interestingly, many students have shown interest to learn more about the CFD and also to use CFD tool in their capstone projects to optimize design and operating conditions.

Dr. Purushothama Chippar

PROJECT BASED LEARNING TO DEVELOP DEEP CONTENT KNOWLEDGE

Mr. Pavana Kumara B and Mr. Karthik Madhyastha, Assistant Professors of Mechanical Engineering, SJEC had implemented a activity called course project which was a project based learning, through the subject Kinematics of Machines for the students of 4th semester. In this methodology various student groups were formed and they were asked to follow following guidelines:

- A group were made to identify any one mechanism that is used in various machines.
- The working model of this mechanisms had to be built by each group.
- Each group should do presentation for about 10 minutes followed by 02 minutes of question answer session where all the members of group should actively take part.
- Prepared model should be displayed during the presentation.
- Group can make use of ppt or any other method for the presentation.
- Evaluation was done and the marks were considered in awarding the internal marks. Evaluation was based on presentation skills, model prepared, innovation.
- A consolidated report of 2 to 3 pages must be submitted by the group on the day of presentation. The report should contain Introduction, Method and steps incorporated in designing and developing the model, Working, Applications, Finance management and Conclusion.

"THE MAN" using Four bar Mechanism

This activity it was observed that students work on their project over an extended period of time - from a week up to a semester - that engages them in solving a real-world problems or answering a complex question. They demonstrated their knowledge and skills by developing a mechanism or presentation for a real audience. As a result, students had developed deep content knowledge as well as critical thinking, creativity, and communication skills in the context of doing an authentic, meaningful project. Project Based Learning unleashes a contagious, creative energy among students.

Mr Pavana Kumara B

Mr Karthik Madhyastha

NAAC ACTIVITIES

NAAC COORDINATORS

Dr James Valder

Mr John Paul Vas

Mr Swaraj Dominic Lewis

NAAC IN MECHANICAL DEPARTMENT

The National Assessment and Accreditation Council (NAAC) is an organization that assesses and accredits higher education institutions (HEIs) in India. It is an autonomous body funded by University Grants Commission of Government of India and has headquarters in Bangalore.

It is actually the institute's responsibility to opt for the NAAC assessment. The grade of an institution denotes the standard of quality as set by the accreditation agency. NAAC accreditation is a continuous process.

Progress towards NAAC in Mechanical Department of SJEC:

The NAAC work in the Mechanical Department has been initiated and three coordinators Dr. James Valder, Mr. John Paul Vas and Mr. Swaraj Dominic Lewis are nominated to handle the NAAC related works. The relevant documents and information are collected with cooperation of department faculties. The department has done a quite progress in the work and documents are ready for submission to the Management. Management collects similar documents from other departments and consolidated data will be submitted to NAAC shortly.

Research Activities

CERG

ERG

CSG

NPSG

Project Funding

RESEARCH GROUPS

Clean Energy Research Group (CERG)

The CERG is involved in scientific research, technical development and education for a clean and sustainable environment. CERG involved in fundamental investigation into new environmentally clean energy sources and systems with particular emphasis on and aiming at applications in the Automotive, Aerospace and Defense, Naval, Industrial and power grid sectors, i.e., electric/fuel cell powertrain, fuel cell APU, UAV, AIPS, Hydrogen production and storage systems, batteries and other non-conventional energy sources such as solar, wind etc.

FACILITIES AVAILABLE:

- Computational Lab: Features extensive computational resources for advanced Computational Fluid Dynamics Modelling.
- Fabrication/Test Lab: Features experimental setup for metal hybrid based hydrogen storage, plasma assisted fuel reformation.

The Team CERG	
Group Mentor	Dr Purushotham Chippar
Members (Faculty)	Mr Swaraj D Lewis Mr Naresh R

ONGOING PROJECTS:

- Numerical Modelling of PEM Fuel Cells
- Metal Hybrid based Hydrogen Storage

Engine Research Group (ERG)

OBJECTIVES: This group is for formed with the following objectives:

- To provide common platform for the researcher on engines.
- To share knowledge among members
- To develop innovative ideas in the research on engines
- To develop research facility on CI engine
- To increase publications on engine and renewable fuels

The Team ERG	
Chief Advisor	Dr Joseph Gonsalves
Advisory Committee	Dr K Raju Dr Sudheer M Dr Purushotham Chippar
Group Mentor	Mr Prashanth Kumar
Members (Faculty)	Mr Rolvin D Silva Mr Sharun Mandenca Mr John Paul Vas Mr Sushanth Gowda Mr Vijay V.S Mr Santhosh H Ms Ramya M

AREA OF FOCUS: Modification of engine and fuel, Control of engine (engine electronics)

PLAN OF ACTION

- Minor Modification in the engine
- Suggested to have collaboration with GTTC, Baikampady.
- Getting technical knowledge from the experienced technicians
- Promoting competition among the students of the region for developing innovative ideas to control pollution
- To have discussions with different patents on the engine
- In house development of controlling of engine
- To promote project ideas for undergraduate students
- To have a collection of literature on IC engines.

SHORT TERM PLAN:

- Experiments with minor modification on engine
- Experiments with alternate fuels

LONG TERM PLANS:

- Setting up of Automated control system for engines
- Consultancy Services to Research scholars

EXPECTED OUTCOME

- Build up of a collection of literature on Engine research, modification of fuels and related fields.
- Guiding projects for undergraduate students in the field of I. C. Engines and alternate fuels.
- Publishing journal papers/ Conference papers.
- FDP's on Engine and fuel related issues.

WORK UNDER PROGRESS

- Performance analysis with CRDI engine
- Modification of fuel with additives
- Performance analysis of conventional engine with alternate fuels

Nanoparticle Study Group (NPSG)

This group was formed on 13th Feb 2016 under the leadership of Dr Binu K.G. The main intention of forming this group is to bring the faculties with common research area together for discussion. Meetings were held during which the mentor briefed on topics related to nanoparticle dispersion, dispersion methods, surfactants, stability of Nanofluids and its various applications. The faculty members used to discuss about the literatures review done by them in their field of research. A few student members are also involved in the study group who have taken up project work in the field of nanoparticle science.

The Team NPSG	
Chief Advisor	Dr Sudheer M Dr Raju K
Group Mentor	Dr Binu K.G.
Members (Faculty)	Mr Rolvin D Silva Mr Sharun Mandenca Mr Yathish K.

OBJECTIVES OF THE STUDY GROUP

- Act as discussion forum for in-house faculty members and research scholars working in the field of application of nanoparticles in Mechanical Engineering.
- Develop in-house expertise in the area of nanoparticle synthesis and applications.
- Conduct student activities related to nanoparticle science, to contribute as Content beyond the syllabus.
- Define academic projects on nanoparticle applications in Mechanical Engineering for students.

EXPECTED OUTCOMES:

- Literature bank on nanoparticles and nanofluids.

Details:

  - A Google drive account with SJEC domain will be initiated and all literature pertaining to nanoparticle science will be stored and access granted to members.
  - Relevant papers to be added by faculty members after discussion in weekly meetings.
- Teaching and assessment resources on Applications of nanofluids in Mechanical Engineering – An overview.
- List of ideas for continued research on applications of nanoparticles in mechanical engineering.

PROPOSED FUTURE ACTIVITIES:

- Contribute to FDP sessions during semester break.
- Arrange invited lectures on nanoparticle science in collaboration with Departmental Associations.
- Submit research proposals to State and National funding agencies based on on-going research of the Group Members, to build research facilities in the Department related to nanoparticle applications.
- Generate publications in the field of nanoparticle science.

Composite Study Group (CSG)

OBJECTIVES

- To provide common flat form for the researchers on Composite Materials
- To develop research facility on processing and testing of composite materials
- To enhance the outcome in terms of publications and proposals in the field of Composites

AREA OF FOCUS

- Metal Matrix Composites (MMCs)
- Polymer Matrix Composites (PMCs)

SHORT TERM PLAN

- Awareness about Novel Materials " Composites" among students
- Promoting interactions between staffs and students

LONG TERM PLANS

- Setting up of standard fabrication facility for processing MMCs and PMCs
- Mechanical and Computation analysis of composites

EXPECTED OUTCOME

- Collection of Literatures on Composite Materials
- Guiding projects for undergraduate students in the field of Composites
- Publishing journal papers/ conference papers on Composites
- Exploring the possibilities of financial support from external agencies.

The Team CSG	
Chief Advisor	Dr Joseph Gonsalves
Advisory Committee	Dr K Raju Dr James Valder Dr Shreeranga Bhat
Group Mentor	Dr Sudheer M
Members (Faculty)	Mr Ravikantha Prabhu Mr Noel Deepak Shiri Mr Pavana Kumara B Mr Poornesh M Mr Naveen R Mr Sudheer Kini Mr Joel Concessao

A Project Journey From Waste Plastic Bricks to Plastic Lumber

A FUNDED PROJECT

In the year 2015, four students named P Varun Kajava, Nikhil Lloyd Pais, Ranjan H, Vikhyat M Naik along with their Project Guide Mr Noel Deepak Shiri, Assistant Professor, Mechanical Department, SJEC developed a project to manufacture "Waste Plastics Bricks" using a Small Prototype Extruder and over the years this project went on to win awards, recognition and funding of more than Rs 5.5 lakhs and advance into a "Two stage Extruder-Injection Moulding Machine" to manufacture Plastic Lumber. This article gives a brief information about the developments from Waste plastic bricks to Plastic Lumber over the years from 2015 to 2018 by different project students teams of Mechanical Engineering Department.

In 2015, the Engineering Project was titled as "Design And Fabrication of an Extruder for Processing Waste Plastic Into Building Materials", and this project used waste plastics and converted them into building materials with the help of an extruder, thereby reducing the plastic waste which is a key factor for environmental pollution. The waste plastic bricks could be used for low cost housing structures and interlocks for flooring purposes.

The various Achievements of this Project are as follows:-

(1) Awarded First place in the college level Exhibition "Project Showcase-2015", held on 21st May 2015, under the Mechanical Engineering category in SJEC.

(2) Participated in the Quest Global Ingenium-2015 Project Competition for engineering students from throughout India, where the project qualified up to Stage- 3 under Top 200 projects from all over India.

(3) Won First place in the "Engineering Student Project Exhibition" on the occasion of "National Science Day-Make in India: Science and Technology Driven Innovations" on 28th February 2016 organized by Department of Science and Technology, Govt. of Karnataka and held in Pilikula Regional Science Centre, Mangaluru.

Fig 3: Bricks from Plastic Waste

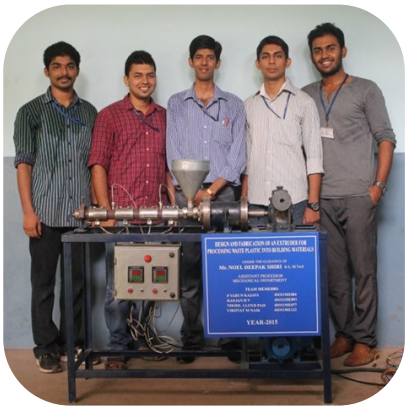


Fig 4: Project Group Photo [From L-R, P Varun Kajava, Nikhil Lloyd Pais, Mr. Noel Shiri (project guide), Ranjan H V, Vikhyat M Naik]

Fig 5: Photo of students and staff receiving the Award in Pilikula Regional Science Centre, Mangaluru

(4) Project qualified as the Top 3000 start-up Ideas in India under the "Smart Fifty-50 solutions to Transform India", jointly organized by IIM Calcutta Innovation Park in association with Department of Science and Technology, Government of India.

True Story of A Successful Academic Project

Fig 6:- Project Group Photo with the team [Front sitting row L-R, Noel Deepak Shiri (project guide), Ms. Myriam Shankar Krafft and Mr. Wolfram Thurm (Project collaborators and Funding Agency) along with project students] Standing row L-R, Dean Fernandes, Joshua Fernandes, Brendon Gonsalves, Deekshitha, Amith D'almeida, Glen Pinto, Gilson Fernandes, Gedrick Pinto, Joshwin Sequeira.

This project work has been visited by public for technical information, know how and for project collaboration with SJEC, and one such visit was by Mr. Wolfram Thurm, Product Designer from Bauhaus University in Weimar, Dresden, Germany, who visited SJEC to see this project in the year 2016. After his visit, he showed keen interest to collaborate with Mr Noel Deepak Shiri and Mechanical Department of SJEC to develop and build two machines that recycles low value waste plastic garbage into usable construction material. He along with his mentor Ms. Myriam Shankar Krafft - (German expatriate living in Bengaluru), Co-founder, Solid Waste Management Round Table (S.W.M.R.T), Bengaluru who is also an expert in Solid Waste Management, provided Project Funding support of Rs. 5,64,874 for the year 2016-2017 through their Trust for the development and building of two machines namely:

(1) Design and Fabrication of Washing and Shredding Machine for processing of Commingled Waste Plastics.

(2)Design and Development of a Two stage Extruder-Injection Moulding machine for manufacturing of Plastic Lumber using Commingled Waste Plastics.

The above projects were technically and intellectually supported by Dr Joseph Gonsalvis, Former Principal of St Joseph Engineering College Late Mr Robinson Furtado, Entrepreneur and Plastic machinery expert. The project was technically supported by Gurucharan Industries, Baikampady and Chrisage Engineering Company, Baikampady and Hebich Technical Training Institute Balmatta, Mangaluru.

For more info contact:

Mr Noel Deepak Shiri,
Assistant Professor, SJEC

noels@sjec.ac.in

Fig 7: Two stage Extruder-Injection Moulding machine

Fig 8: Washing and Shredding Machine

These two projects were developed by dedicated and enthusiastic students of Mechanical Engineering department from the year 2016-2017 batch. The project students had shown great interest and support to complete the project work even after completion of their Under Graduate Engineering degree course by staying in hostel for nearly two extra months and some students even had postponed their job training program in middle east for the successful completion of the machinery. This was the dedication of the students and the people involved in this project.

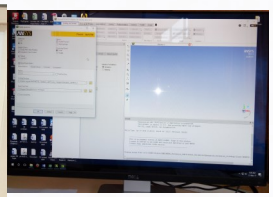
For the year 2017-2018, Ms. Myriam Shankar Krafft and Mr. Wolfram Thurm, have funded Rs 43,390 for the project titled "A study of Mechanical properties of lumber developed from waste plastic" and the project is being done by the students of final year Mechanical Engineering department named Basheer, Lloyed Monteiro, Ashirvad, Kotian Akshay, Darshan, under the guidance of Mr Noel Deepak Shiri.

Fig 9: SJEC management, Project Guide & Students with Project collaborators & Funding Agency.

RESEARCH FACILITIES

Leica Optical Microscope

Pin-on-Disk Wear Tester



System Specifications
Intel Xenon Processor E5-2620 v3 (6C HT, 15MB Cache, 2.4GHz Turbo)
64 GB 2133MHz DDR4 RDIMM ECC
Nvidia Quadro K2200 4GB
2TB SATA HDD (3.5 inch, 7.2k RPM)

CERG LAB - Computing Facility

Computerized VCR IC Engine

RESEARCH SCHOLARS

Research Scholar	Supervisor	Area of Research
Mr Shyam Prasad (Ext)	Dr Joseph Gonsalvis	IC Engine - Modification and Performance Analysis
Mr Prashanth Kumar	Dr Raju K	IC Engine - Biofuel Combustion Characteristics
Mr Suresh K V (Ext)	Dr Raju K	IC Engine
Mr Harish K (Ext)	Dr Raju K	Materials
Mr Sushanth H G	Dr Raju K	IC Engine - Biofuel Combustion Characteristics
Mr Santhosh Goudar (Ext)	Dr Raju K	Materials
Mr Rolvin Sunil D'Silva	Dr Thirumaleshwara Bhat	IC Engine - Nanoadditives
Mr Ravikantha Prabhu	Dr Thirumaleshwara Bhat	Composite Materials
Mr Sharun Mendonca	Dr Thirumaleshwara Bhat	IC Engine - Nanoadditives
Mr Vijay V S	Dr Joseph Gonsalvis	IC Engine - Modification and Performance Analysis
Mr Avil Alwyn D'Sa (Ext)	Dr Joseph Gonsalvis	IC Engine
Mr Pavana Kumara B	Dr Shreeranga Bhat	Composite Materials
Mr Swaraj Dominic Lewis	Dr Purushothama Chippar	Hydrogen Storage
Mr Anil Melwyn Rego (Ext)	Dr Shreeranga Bhat	Management
Mr Vikas G (Ext)	Dr Sudheer M	Polymer Composites

ARTICLES

Technical Articles

Poetry

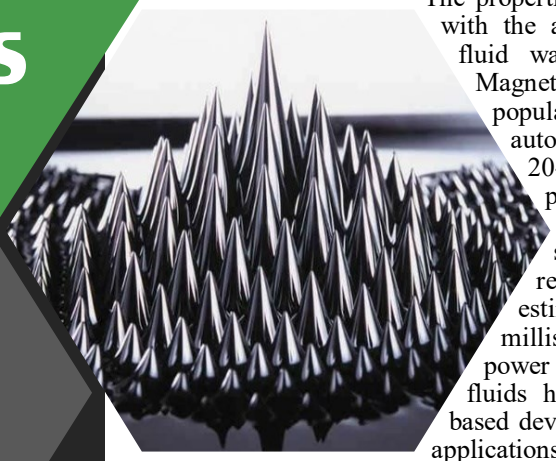
General Articles

Pencil Drawings

Magneto-rheological Fluid Dampers

Magneto-rheological (MR) materials are those smart materials whose rheological properties can be controlled by application of an external magnetic field. The various forms of MR materials used in MR devices are: MR fluids (liquids), MR foams and MR elastomers. MR fluids, whose flow or shear properties can be easily controlled to enable a variety of unique vibration control or torque transfer devices. MR foams, in which the controllable fluid is contained in an absorptive matrix, provide a convenient way of realizing the benefits of MR fluids in highly cost sensitive applications. MR elastomers are solid, rubber like materials whose stiffness may be controlled to provide tuneable or adjustable mounts and suspension devices.

A MR damper is not very different from a conventional viscous damper. The key difference is the MR fluid (oil) and the presence of a solenoid embedded inside the damper which produces a magnetic field. MR fluid dampers are the promising devices for semi-active vibration control due to their low cost, energy efficiency and fast response.



The properties of MR fluids change drastically with the application of magnetic field. The fluid was first introduced in Rabinow's Magnetic Clutch in 1948 and has gained in popularity since entering the commercial automotive market. MR fluids consist of 20-40% volume fraction magnetisable particles suspended in carrier fluids (water, silicon oil, glycol and synthetic oils). MR fluids are very responsive to magnetic field, with an estimated response time of less than 10 milliseconds, and require relatively low power to operate. The advantages of MR fluids have created great interest in MR based device development in a wide range of applications such as in civil applications, medical applications and automotive applications.

Design simplicity and compactness are among the exceptional benefits offered by MR devices, as has been demonstrated in MR based prosthetic applications.

MR dampers have the advantage of being safe from faults, they consume low power, the force is controllable, they respond rapidly, and so on. But, their non-linear force/displacement and hysteretic force/velocity characteristics are very complex. This hinders their widespread use because the design of a proper control strategy for MR dampers is based on a tractable model of their behaviour. Many models, usually in the form of differential equations with several parameters to control their damping performance have been proposed because the damping force depends not only on the current that activates the magnetic field, it also depends on working conditions such as the stroke and frequency at which the MR

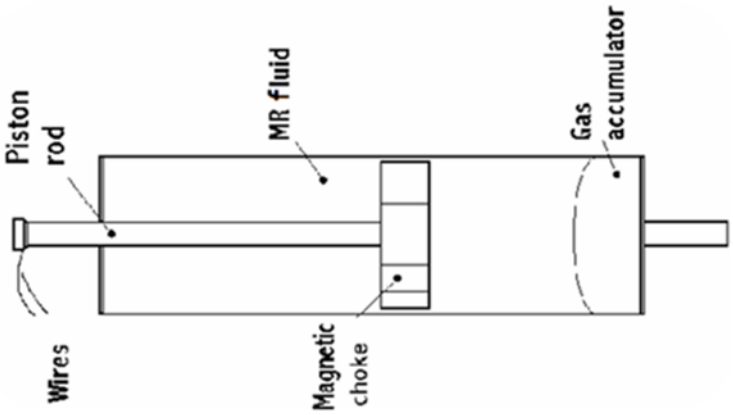


Figure 10: Schematic of a MR Damper

damper moves. In general, the hysteretic characteristics of an MR damper can be expressed as follows, as a function of current, displacement, velocity, and acceleration:

$$F(t) = f(I, x, \dot{x}, \ddot{x})$$

Where *F(t)* is the damping force, is the applied current, is displacement of the pisto and are the velocity and acceleration of the piston.

In practice, the theoretical and experimental studies are carried out to predict the dynamic performance of the MR fluid dampers. The theoretical flow analysis could be investigated based on the Bingham plastic constitutive model and Bouc–Wen hysteresis model to predict the behaviour of the prototyped MR damper.

Bingham plastic model, which is a simple parametric model, to summarise the damping hysteresis phenomenon that contains a coulomb friction element as a signum function to vibration velocity in parallel with a viscous dashpot element. Bouc and Wen proposed a hysteresis model which possesses an appealing mathematical simplicity and has the ability to represent a large class of hysteretic behaviour. The Bouc–Wen model has been used extensively to simulate hysteresis loops because it can describe the hysteretic behaviour of the force displacement and force velocity accurately. This model, the force in a non-linear hysteretic system is divided into two parts: a non-hysteresis component that possesses a functional relationship with instantaneous displacement and velocity; and an evolutionary component that represents the hysteretic nature with respect to the time history of imaginary displacement. The modified class of Bouc–Wen model is formulated by introducing another internal displacement and proposing that some parameters of the dampers' model can be described as a function of external field excitation which would track the behaviour of the MR damper better at varied levels of magnetic field strength. Moreover, other models that use polynomial curve-fitting, black box and non-parametric approaches also exist. Established MR damper models have been successfully applied to countless research projects and commercial applications of the MR damper.

Rheology is is the study of the flow of matter, primarily in a liquid state

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The theoretical results are then could be validated by comparing them against experimental data. The dynamic testing of dampers is performed on Mechanical type shock machines under sinusoidal excitation. The primary components of a damper test set-up are as shown in the Figure 11.

The shock machine has its own software to collect the data from the data card and use them to plot force vs time, force vs displacement and force vs velocity graphs for each test. A programmable power supply is used to feed current to the MR damper. The machine also has an IR temperature sensor to read the temperature data during the tests. The damper is fixed to the machine via grippers as shown in the Figure 11. The machine excites the damper's piston rod sinusoidally, while a load cell measures the force on the damper and a linear variable displacement transducer (LVDT) measures the displacement of the piston rod as well as the relative velocity between the two ends of the damper. A series of tests are conducted to determine the dynamic response of the damper by varying the applied current in increments, while maintaining the frequency at constant levels.

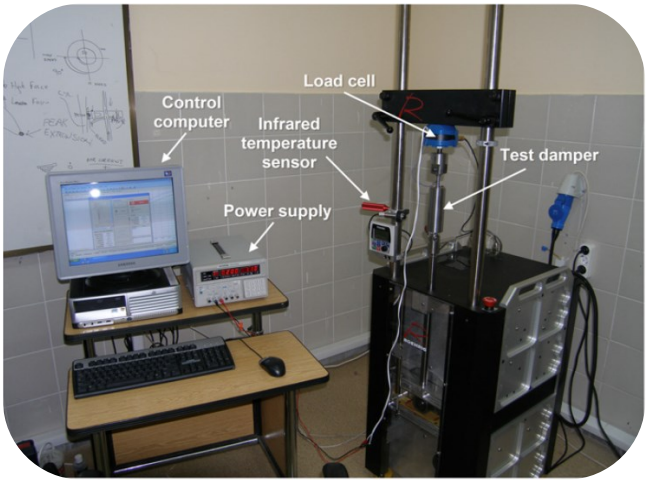

Figure 11: Experimental setup – Damper tester

The main domains of application of MR dampers are automotive and structural. In the latter, they are employed for earthquake protection and for damping wind-induced oscillations of bridges and flexible structures. In the automotive field they are employed in semi-active suspensions. They are currently present on a number of high-segment market cars.

P.S: While compiling this article, the author has referred number of research papers on MR Dampers. Readers interested in further reading, kindly contact the author to have the list of research papers referred.

ROBOT

Master or Slave ?

By
Mr Nithesh,
VIII Sem, SJEC

Czech origin ROBOTA gave birth to the word Robot which means 'forced labour'. In the long run robots are expected to be an economic alternative of humans at workplaces. They will perform operations, monitor patients, dispense medicine and provide support to the debilitated. They will be our chauffeurs, movers and packers, police and army. Though the lack of human touch is palpable today, in the future they might use virtual reality and make love to us.

Da Vinci Surgical system (FDA approved robot) almost holds the monopoly in master slave robotic system. The surgeon (master) operates from the console situated at a remote location. The console has a 3D digital vision system, which enables depth perception with high power magnification. The console is connected to the remote robot which stands around the patient site. The surgeon can manipulate the wrist like motions of the robot sitting at the console. This micro wrist manages 7 degrees of freedom that is far superior to the human wrist. Tremor filtering and motion scaling further enhances the accuracy of surgical manoeuvres. The ergonomic comfort of sitting in your robotic suite in India and operating on a patient in Pakistan is only imaginably far from reality. This would save the cost and harassment of travel, stay and logistics.

Future advances comprise of microrobots walking from your mouth to gut taking selfies with diseased areas using ingestible cameras. Sensors along with prosthesis can be implanted in the body during operation. Later size and position of implants can be manipulated using a remote control.

Robots help the patients by reducing the surgical cut size and blood loss during the operation and lesser pain experienced afterwards. Duration of stay at the hospital and time taken to recover and resumption of work after discharge is significantly less as compared to the conventional surgery.

In India very, few hospitals have a full-fledged robotic unit. This shows the tremendous potential for its growth. In-creased time taken for operation and limited training opportunity among surgeons are some of the concerns. The increased initial cost and lack of applicability to all patient's remains the main constraint. The classical administrative concerns are capital/recurrent/ maintenance cost and per case expenditure. Capital cost of a surgical robot is somewhere around $1.5 million and added expenditure of disposables are worth $1500 per procedure. Since the robot cost can be shared across all specialities, a multispecialty hospital should be the ideal consumer. Full utilization of robots improves revenue as surgeons can operate round the clock (3 different time zones). Streamlining the insurance company's commitment for reimbursement in Indian scenario will also be an uphill task. In 2013 the market of medical robot was valued at $1,781 million which is expected to grow at a CAGR of 16.1% for 5 years and land at $3,764 million by 2018.

After IT outsourcing, BPO, engineering ser-vices outsourcing, KPO, LPO robots will enable outsourcing of surgical services. The time for many outsourcing opportunities to fructify from concept to significant scale has been around a decade. Re-mote surgical services as a concept is now in place. It only remains to come up with a viable business model. We are still not in a situation where we can go to any big corporate hospital and expect robotic surgery facility to be available. But if it was so then the growth opportunity wouldn't have been this tremendous. The threat that robots pose to our livelihood is the cost we must pay for the uniform precision in all out-comes. Future belongs to those who will learn how to use robots or make them.

Nobody knows when we will start perceiving more warmth in a robot's smile than looking at bald patches of people on the street as nobody raises their eyes off the smart phone. After all, in a democracy you have the right to be nuts and bolts about anyone.

Contribution of Ancient Indians in the Field of Science

By
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India is intellectually, politically and spiritually independent, but is still a slave to the Western thoughts and thus is limited in the field of Science. This article sheds light on the contributions of ancient Indians towards Science.

"Yojanam sahasre dve, shatadve dwecha yojana, ekena nimeshaardhena kram"

This is the shloka that appears in the book Rig Veda Bhashyam written by Sayana Madhava. A Sanskrit student may look at this shloka and say that this verse is praising the Lord Sun. He is correct but this shloka says more than that. It says that we can calculate the velocity of light using this shloka. That is what Sayana Madhava did. But how? According to him, one Yojana is equal to nine miles. Half a nimesha means 8/75th fraction of a second, through which this velocity of light he gave is 1,85,16.169miles. He found this value through some complex calculations. For that, the readers have to refer his original books that are available in some old compilations. This value is more accurate than the value of 1,86,000 miles/second given by the Danish astronomer Mosley in the 19th century. There are many such hidden treasures in our ancient scriptures. Is the Indian heritage only scientific? Any claim that it is as great as its spiritual heritage would baffle many Indians for we believed for decades, if not centuries that science is the west's contribution. Not only ancient rishis, even commoners in ancient India were scientists. While browsing on the subject of alternate fuel resources of the world, I came across an article on how scientists in the U.S.A have discovered that cow dung cake can be an alternate fuel source. I was wondering if it was a discovery at all, for I knew that a combination of cow dung cake and straw were fuel sources in rural villages for centuries. Ancient Indians had great knowledge in physics, chemistry, biology, mathematics, technology, medicine, surgery among others. Rig-Veda is still considered to be one of the best textbooks in Astronomy. Aryabhatta was an ancient Indian Mathematician who had no computers, but some techniques that he developed are the ones used in solving problems in today's computers. Sanskrit is considered to be the best language for programming owing to its clarity of words. Bhaskara's work 'Leelavathi' was so famous that Hyuen Tsang, a Chinese traveller came to India, studied it and said 'If one masters this he can just have a glimpse at a tree and say how many leaves the tree has.' We might feel that he is exaggerating, but we may understand by his review as to how impressed he was with the book.

Who invented nuclear physics and surgery? The Indians! Pavooluri Mallana of the 12th century A.D. wrote a shloka that appears like a technical description of nature but has ideas on the nucleus inside an atom. Pakoda Katyayana wrote about atomic theory at Nalanda University. When people in the west were eating raw vegetables, we had the full-fledged Nalanda University. Maharshi Kannada of 3rd century B.C. wrote atomic theory in Vaisheshika Sutras. He says that all matter is made up of smaller indivisible particles called as 'anu' or 'kana' (Dalton's atom). Tippu used missiles and guns much before the British knew that. NASA recognises Tippu while we still deny. Acharya Bapooji Talapade flew the first aeroplane in 1495 at a Mumbai beach in the presence of Baroda's King much before the Wright brothers. The rust-less Iron pillar at Delhi is also a mentionable marvel.

While studying these, many questioned me, "You will not find any invention around you. When all are contributions from the west, how can you say that ancient Indians have many contributions in the field of science?" We must always remember that ancient Indians never looked outwards to make Mechanical and Electrical toys. They did not believe that "necessity is the mother of invention." Today every discovery has a theory behind it. Most of those are postulated in our ancient books. They knew that where science ends, spirituality starts. Understanding this and being proud of our heritage must inspire us all to achieve.

Poetry

ಮೆಕ್ಯಾನಿಕಲ್

ಅತೀ ದೊಡ್ಡದಾದ ಈ ಡೆಪಾರ್ಟ್ಮೆಂಟ್
ಚಟುವಟಿಕೆಯ ಸಾಗರ ಇಲ್ಲಿ ಇಲ್ಲ ಸೆಂಟಿಮೆಂಟು
ಎಲ್ಲದರಲ್ಲೂ ಬೇಕು ಇವರಿಗೆ ಸಿಂಹಪಾಲು
ಇಲ್ಲಿವೆ ಅಲ್ಲಲ್ಲಿ ಹಲವು ಲ್ಯಾಬ್ಗಾಲು.

ಕಸಕಡ್ಡಿ ವೇಸ್ಟಿಗೆ ಇಲ್ಲಿ ಲೆಕ್ಕವಿಲ್ಲ
ಕ್ಲಿನಿಂಗ್ ಮಾಡಿದಸ್ಟು ಬರುವುದು ಎಲ್ಲ.
ಹೊಸತಕ್ಕಿಲ್ಲ ಇಲ್ಲಿ ಕಿಂಚಿತ್ತೂ ಜಾಗ
ರಿಪೇರಿಯದ್ದೆ ಇರುವುದು ಮುಖ್ಯ ಯಾಗ

ಡೆಸ್ಕು ಬೆಂಚುಗಳ ಸದಾ ಕಾಲು ಮುರಿತ
ಬಾಗಿಲು ಬೀಗಗಳಿಗೂ ಇಲ್ಲಿ ಸೆಳೆತ
ಫ್ಯಾನುಗಳ ಯೆಡೊಪ್ಪರಿಗೂ ಇಲ್ಲಿ ಕವಚ
ಹೀಗಾದರೆ ಹೇಗೆ ಇಡುವುದು ಎಲ್ಲ ಸ್ವಚ್ಚ

ಆದರೂ ನೋಡಿ ನಮ್ಮಲ್ಲಿ ಅಧ್ಯಾಪಕ ವೃಂದ
ಪಾಠ ಮಾಡುವ ನೋಟ ಎಷ್ಟು ಚಂದ.
ವಿಧ್ಯಾರ್ಥಿಗಳು ಬಹುಮುಖ ಪ್ರತಿಭೆಯ ಗುಚ್ಚ
ಚಾಚುತ್ತಾರೆ ಅಲ್ಲಿ ಇಲ್ಲಿ ಪ್ರಶಸ್ತಿಗಳಿಗೆ ಹಸ್ತ

ಕಾಲಕ್ಕೆ ಹೊಂದ ಬೇಕು ಕೆಲವು ಬದಲಾವಣೆ
ಇಲ್ಲದಿರೆ ಆಗುತ್ತೆ ಎಲ್ಲ ಇಲ್ಲಿ ಬರೀ ಬವಣೆ
ಕಲಿಯಲು ಬೇಕು ಕಿಂಚಿತು ಆಸಕ್ತಿಯ ಬುಗ್ಗೆ
ಶ್ರಮವಹಿಸಿದರೆ ಮೆಕ್ಯಾನಿಕಲ್ ಡಿಗ್ರಿಗೆ ಲಗ್ಗೆ

ನಾಲ್ಕೇ ವರುಷದಲ್ಲಿ ಮೆಕ್ಯಾನಿಕಲ್ ಡಿಗ್ರಿಯ ರೆಕ್ಕೆ
ಜಗತ್ತೇ ತೆರೆಯುತ್ತೇ ಮುಂದೆ ಉದ್ಯೋಗದ ಮೆತ್ತೆ
ಶ್ರಮವಹಿಸಿದವನಿಗೆ ಸಿಗುತ್ತೆ ವೃತ್ತಿಯ ಬಿಳಿ ಕಾಲರ್
ಆಲಸಿಗೆ ಕೇಳತ್ತಾರೆ "ಈರ್ ಓಲ್ ಉಲ್ಲರ್"

— ಚಾರ್ಲ್ಸ್ ಫೆರ್ನಾಂಡಿಸ್ ಕುಲಶೇಕರ
ಪರಿಚಾರಕರು
ಮೆಕ್ಯಾನಿಕಲ್ ವಿಭಾಗ

ವಿಜಯನಗರ ರಾಜಧಾನಿ

ನೋಡಬನ್ನಿ ನಮ್ಮ ವಿಜಯನಗರ ರಾಜಧಾನಿ
ಮಳೆಗಾಲದಲ್ಲಿ ಅಲ್ಲಿ ಬೀಳುವುದು ಹನಿಹನಿ
ಶ್ರೀಮಂತವಾಗಿತ್ತು ಅಂದು ಈ ರಾಜಧಾನಿ
ಆದರೀಗ ಬಡರಾಜ್ಯವಾಗಿದೆ ಅದು ದೊಡ್ಡ ಕಹಾನಿ

ವಿಜಯನಗರದ ರಾಜಧಾನಿ ಹಂಪಿ
ಅದನ್ನು ಲೂಟಿ ಮಾಡಿ ಪರಕೀಯರು
ಹಾಕಿದರು ನಮಗೊಂದು ಟೋಪಿ
ಅವರನ್ನು ಪರಿಗಣಿಸಲಾಗುವುದು ಪಾಪಿ
ಈಗ ಅಲ್ಲಿ ಓಡಾಡುತಿಹುದು ಕುರಿ ಕಪಿ

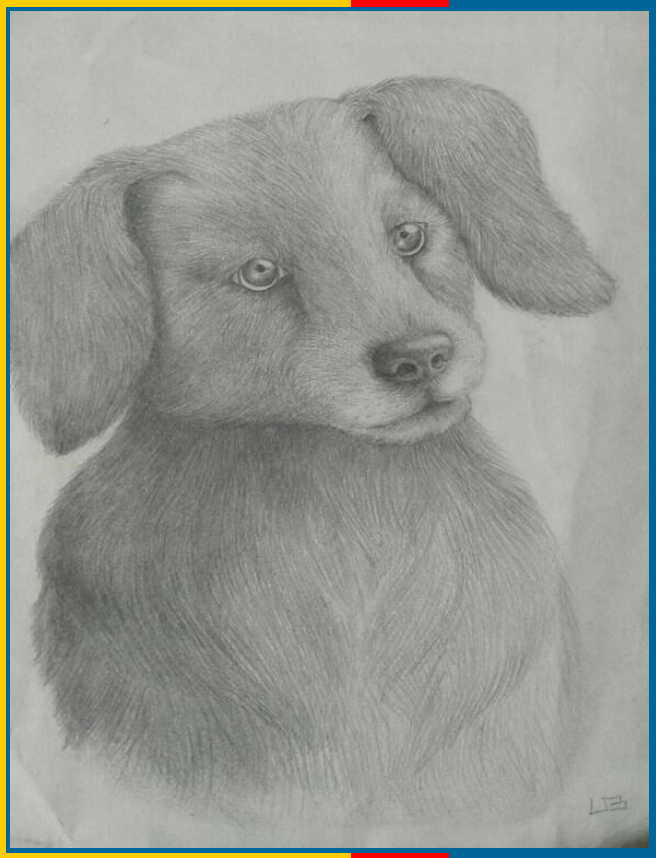
ಅಲ್ಲಿ ಬಡತನ ಎಂಬ ಶಬ್ದ ಬಂದಿದ್ದು
ವಿದೇಶೀಯರ ಲೂಟಿಯಿಂದ
ನಮ್ಮ ರಾಜರು ತಡೆಯಲಿಲ್ಲ
ಯಾವ ಕಾರಣದಿಂದ?
ಅಶಕ್ತರಾಗಿದ್ದರಿಂದ ಅಥವಾ ಹಣದಾಸೆಯಿಂದ?
ನಮ್ಮ ಸೈನಿಕರು ಹೋರಾಡಲಿಲ್ಲ ಧೈರ್ಯದಿಂದ

ವಿದೇಶಿಯರು ಕೊಂಡುಹೋದರು ಮುತುರತ್ನಗಳನ್ನು
ನಮ್ಮ ರಾಜರೇನು ತಿನ್ನುತ್ತಿದ್ದರೆ ಕಡಲೇಕಾಯನ್ನು?
ಸೈನಿಕರನ್ನು ಸಿದ್ಧಗೊಳಿಸಿದರೂ
ವೈಣಿ ಕರನ್ನು ಸಿದ್ಧಗೊಳಿಸಲಿಲ್ಲ ಕಾರಣವೇನಾದರೂ

ನಮ್ಮ ರಾಜರ ಬಳಿ ಇರಲಿಲ್ಲ ಏಕತೆ
ಅವರು ಕೇಳಿರಲಿಲ್ಲವೇ ಪುರಾಣದ ಧೈರ್ಯಸಾಹಸದ ಕಥೆ?
ಇನ್ನು ಪ್ರಯೋಜನವಿಲ್ಲ ಬಿಟ್ಟು ವ್ಯಥೆ
ಹೇಳಿ ಗತಕಾಲದ ವೈಭವದ ಕಥೆ.

— ಪಿ. ವಿಗ್ನೇಶ್ ಗಾಣಿಗ
ನಾಲಕ್ಕನೆ ಸೆಮಿಸ್ಟರ್
ಮೆಕ್ಯಾನಿಕಲ್ ವಿಭಾಗ

PENCIL Drawing



Mr Upendra Barke, VI Sem,
Mechanical Engineering

Indian railway employs more than a million people, making it the largest employers in the world.

PENCIL Drawing

ALUMNI INTERACTION

Coffee Bot!

"A Robot that gets coffee for you and smile too"

SJEC Alumnus featured in The New York Times

Here's a bot to deliver coffee and documents

TOI

Kevin.Mendonsa@timesgroup.com

Mangaluru: Are you lazy to walk around and bring your favourite beverage and documents? This 'coffeebot' will make the job easy for you.

John Rodrigues, a mechanical engineering student and an alumnus of St Joseph's Engineering College, has invented CoffeeBot, a bot that delivers coffee to people in the workplace or elsewhere. The bot rolls around the office delivering coffee, and can also deliver office documents. It is controlled by employees' cellphones.

John said the product won first place in the Collaborizm Hackathon. He said the initial prototype of the bot has advanced features like video surveillance and many more. "From the users understanding, we learn features for the product to execute the idea well. The first prototype taught us a lot, which helped us build the second prototype. We will continue our iterations till we achieve a marketable and functional version of CoffeeBot," he said. He said the team is working on a second iteration of the bot, and plans to see it rolling out in cafés and other places.

On mechanisation leading to unemployment, John said, "Five years down the line, there will be a shortage of labour, especially in the menial job sector. Products like CoffeeBot will help people focus on more productive work. CoffeeBot will be more of an assistant than a replacement."

VENDING SOLUTIONS: Engineering student John Rodrigues with his CoffeeBot

Alumnus of St. Joseph's Engineering College, Vamanjoor, Mangaluru, John Baptist Rodrigues, from the Mechanical Engineering Class of 2016 has been recently featured in the July 26, 2017 edition of The New York Times.

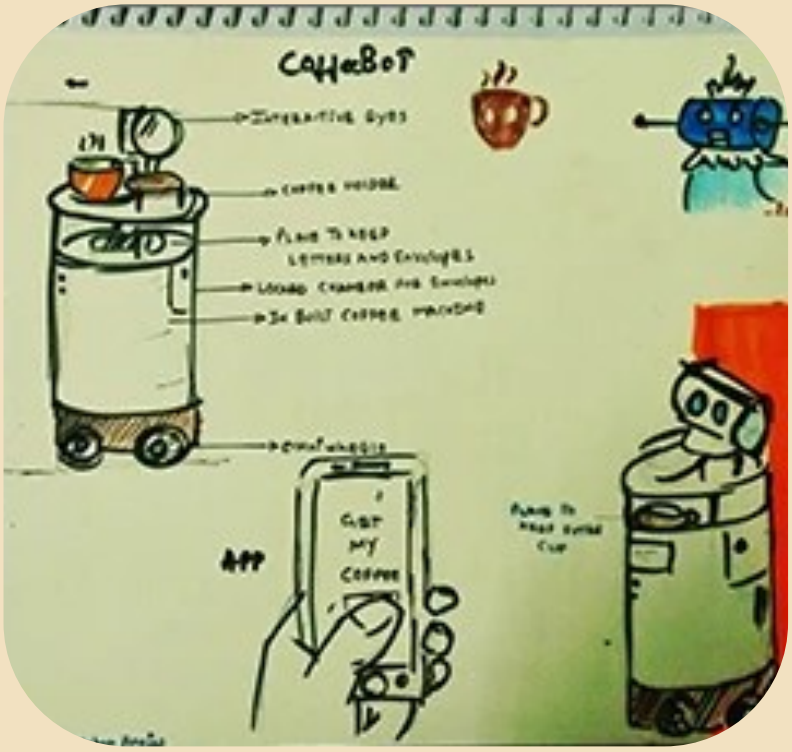
John was recognised in a feature on Collaborizm, a kickstarter-esque website in New York, for his invention-Coffee Bot, a Bot that delivers coffee to people in the workplace or elsewhere. The Bot rolls around the office delivering coffee and delivers office documents to individuals. The Bot is controlled by employees' cellphones. The product had won the first place in the Collaborizm Hack-a-thon.

Collaborizm works on providing support for companies with ideas in their pre-incubation stage. The website helps inventors connect with mentors, suppliers and early stage capital. John is a multifaceted individual with interests in product design, music and other creative outlets. He is the founder of

designwithjohn.com and is currently preparing for his Masters studies in Product Design. John and his friends are also working on the second iteration of the Bot and aim to see the Bot rolling out Coffee in Starbucks and other places.

John along with his friends Harsha Alva and Claren Martis, also alumni of SJEC, are excelling in the field of product design and coming up with innovative solutions. Harsha Alva and his team had developed a multi-functional CNC machine used primarily for laser cutting during his final year studies at SJEC.

We are proud of John and his friends and congratulates on this wonderful achievement and also wish them the very best in all their future endeavours.



"The goal for CoffeeBot is to see the robot delivering coffee in Starbucks and at workplaces, putting a smile on the peoples' faces"

- Mr. John Baptist Rodrigues

INTERACTION WITH MR JOHN RODRIGUES ON COLLABORIZM AND COFFEEBOT

The Department of Mechanical Engineering organized an interaction with Mr John Rodrigues, Mechanical Engineering, SJEC Alumnus from the Batch of 2016, who was recently featured in the reputed New York Times – United States, for his innovative CoffeeBot - a bot that delivers Coffee within office space and controlled via smartphone. Mr Clarance, Alumnus from Electronics and Communication Engineering of SJEC from the class of 2016 also joined in the interaction. The interaction was held on 8th August 2017 at Bishop Aloysius Paul Hall. In a brief presentation, John spoke about his experiences in developing the CoffeeBot and introduced the Collaborizm - a kickstarter - esque website in New York that offers mentorship to innovators. Drawing on his experiences of working on many innovative designs and product developments over the past years, John motivated the students to pursue innovation. The presentation was followed by an Q&A where John took on the queries from students.

The Career Advices You Deserved, But Never Got!

We're living in exciting times. I mean, exciting times! Unless you haven't been entitled to a smartphone and have chosen not to have a social media presence so far (highly unlikely I'd say), you haven't been living under the rock for the past few years and therefore, the reasons why I say so, shouldn't sound completely alien to you.

7 years since I've post-graduated, me, the world and the way I look at it have all drastically changed. I mean yes, I did like science-fiction a lot when I binge-watched "Fringe" some 8 years back, but to see the days when babies can be "tailored" based on preference thanks to gene-editing? Or have AI place a call on your behalf and actually "speak" and fix your dental appointment, all by itself? Or see Elon Musk literally burn through millions of dollars to develop rockets that can land back and be reused, or self-driving cars for that matter? Tell me these aren't mind-blowing!

Look guys, the generation gap and my loss of touch with guys your age may make me sound like an uncle, but I'd rather prefer if you could "bro-zone" me! Coz, I have amassed a good bit of wisdom I would love to share with my younger self, if I could go back in time. I'm just doing the next best thing!

A quick and modest run-down on my academic and career path so far, so that you can put my views and rants to perspective: A borderline-clueless Mechanical Engineer to begin with, driven with the confidence that I can do a decent job in anything I put my mind to. A kid whose dreams weren't mainstream and stable to be pursued so early, set out with a firm faith in the common knowledge that "mechanical engineers can fit-in anywhere professionally". A graduation with decent numbers, thanks to the right mix of tough grind and luck, but not without a fair share of failures. Unfortunately, timed recession meant no placement. A forgetfully-brief but an eye-openingly memorable and impactful stint as a lecturer. Followed by a decision to pursue Masters, which served both as an inspiration in the form of a grandfather-figure professor and as a launchpad for a second shot at placements, landing myself as an Aerostructures Stress Engineer! Phew!

What followed has been six years of a roller-coaster ride in the Aerospace industry in two engineering-services-based companies. The job titles "Stress Analyst" and "Fatigue and Damage Tolerance Engineer" (F&DT) do come with their share of work pressure and the resultant stress and fatigue (pun intended!). Call it a side-effect or coping mechanism, but I can't help these nerd jokes! You like it? Here's one more: One of the primary purpose of an F&DT engineer is to estimate the "life" in flight cycles of various components in the aircraft load-bearing structures. During tough days of clocking 12+ hours, I make it point to scribble and stick up a sticky note that says, "Get a life for yourself!"

A quick and rather simplified insight into what I basically have been doing at my job: My fellow mechies would know what I mean when I say, "stress analysis". One of the white-collared mechanical engineering jobs you'll end up doing can broadly be put into two aspects that we simply call "design" and "stress". If you're working on CATIA/Unigraphics or such other modelling/assembly jobs, you're a "design guy". If you're into Ansys/Nastran related analysis work, you're the "stress guy". And if you're a Hypermesh guy, you're in between the two, and God forbid, if you stick around doing that for too long, you'll see finite-element meshes everywhere! Chequered shirts, bathroom tiles, you name it! Just a fair warning, don't grumble no one ever told you so!

So, as a stress guy, I perform stress analysis for various metallic and composite structures for various failure modes depending on the type/material/primary load on the structure. For example, for metallic joint structures, failure modes like combined tension and bending load on the component section, fastener joint analysis for bearing, shear, shear and tension interactions failures, buckling and deformation checks and so on. As an F&DT engineer, I estimate the life of the structure that needs to be demonstrated as part of the aircraft certification by governing authorities like FAA and EASA. This also helps in establishing the maintenance schedule for the aircraft to make sure none of the cracks that may initiate in structures grow beyond the critical size before the next inspection is due. So yes, the FBD diagrams, the SFD/BMD diagrams, the S-N curve matter beyond college! My entire line of work heavily relies on my hold over Mechanics of Materials, Fracture Mechanics and FEM. So, drill those concepts through your brains thoroughly! These skills along with a good hand on any of the industry relevant software

tools, and not to forget, Microsoft Excel, you're good to go! Alright, I'll stop making this paragraph sound like my resume, right here!

Alright, a little bit on corporate work culture now. This is important! Once you charge out of college screaming "sweet freedom!", out of nowhere, you'll bounce back from an invisible wall called the "Corporate World". Unless you choose higher studies right away, or manage to get into a start-up mode company, you'll most likely land yourself in one of the two types of companies:

One, the companies that generate work, the ones with Intellectual Properties (like Microsoft, Tata Motors, Qualcomm, GE, Airbus etc.). For the lack of a generalized term for such companies, let me call it "Type A".

Two, the companies that get work outsourced from Type A companies and get it done (TCS, Wipro, Infosys etc.). Let's call these "Type B".

Yes, Type A pay better and are usually employee-centered, as in, you'll have much better benefits and work culture. This means you'll get allowances for everything ranging from gym, healthcare, sports etc. But getting into these takes two important things: your college needs to have tie-up with such companies for Placement and you'll need to have it in you to qualify! Else, you need to start with a Type B and work your way up into a Type A, as part of an ideal and aspirational career growth curve!

Type B employs more than half the engineers in India. It takes the work that the Type A generates, but can't do it by itself. Type B literally hoards manpower, executes the tasks and delivers the product/service back to the Type A. A major chunk of IT sector jobs, including mechanical engineering services like Automotive and Aerospace Engineering lead you into Type B companies.

Having spent 5 years in Type B companies, while having had the opportunity to work abroad for a year inside a Type B company as a contract employee, I have a fair idea what it means to be in both. And trust me, the difference shows.

So, here's the deal! Type A will have an employee headcount in 4-digit range at most and has a revenue in billions. Now compare it to the same revenue for a company with a headcount in 6 digits! That's Type B. Do the math! I don't want to influence you into making it all about what you earn, but I'm giving you a heads-up on how the Corporate World operates. I'm trying to walk the right-rope of making you hold your expectations reasonable while hopefully not scaring you away from your novice dreams and aspirations. Stay with me!

Only once you've graduated, you face the best teacher. Life itself. To get a foothold on the competitive world, it takes much more than what academics offer. That's when your keenness to learn will offer you a stepping stone at every new incremental growth that you have to work through, in your chosen line of profession. Remember, change is the only constant.

Over the past few years, the global demand for manpower has been on a sharp decline, thanks to a few buzzword trends that we'll hear a lot in the coming years. Artificial Intelligence, Machine Learning, Internet of Things and Automation. Let me give you an example for automation that I have witnessed firsthand. I was once involved in a project where we had to correlate simulation results from Finite Element Model with the physical test data from strategically placed strain gauges for a complete aircraft strain test. The approach was straight forward, although the amount of data to be handled was huge. As a fresher, I processed a part of the work using Excel spreadsheets formulae-based calculations and completed it in two weeks. A week later, a slightly more experienced colleague joined me. Little did I know that he was a self-taught VBA scripting beginner. VBA is a kind of code that helps automate tasks involving repetitive tasks involving a huge amount of data. In a week's time, he finishes up coding a spreadsheet that imports both simulation results as well as the test data in two simple clicks and throws up the correlation in a matter of an hour, with the third click! An hour, I'm not kidding!

AI / Machine Learning have created inroads into the possibilities of coding machines to learn for themselves and respond to tasks in a (superhumanly?) "smart" manner without the risks of human errors and fatigue. I don't think I'll have to give examples of the use-case scenarios of AI and ML. Ask your Siri or Alexa, she'll laugh back at you! IoT (Internet of Things) ventures into the potential of providing computational capabilities, sensors and internet connectivity to seemingly simple devices (Think about giving the sprinkler valves in a farm the ability to sense weather conditions and soil moisture to regulate the water usage!).

So, what can you do now? Apart from what your syllabus prescribes, engage yourself in a better understanding of what's happening in the world, build an interest and nurture it. Amidst comedy and action movies, watch documentaries and TED talks, read science-fiction, read anything for that matter. A good hold over English will always take you a long long way. Make friends, build lasting bonds, socialize beyond social media. Keep your creative juices flowing. Ask questions. Google is your friend but find yourself a philosopher and a guide. Build a personality of your own that you can confidently present in an interview. This will also sail you through your tough times. Learn a musical instrument, a foreign language, photography, writing... coz you know, who knows what will come in handy when you need, right?

Look, all I'm saying in that, if you're a computer science student, you need to know what IBM Watson is, now! Mechanical Engineering? You have no excuse for missing out on what Boston Dynamics have achieved. You're in E&C, and you haven't heard of Raspberry Pi? Don't worry, you have a plenty of time to look up each one of the things I have mentioned here, feel awestruck and pursue what grabs your attention and interest the most! Coz once you get into the diversified talent pool and start working, you'll have a lot of other real-world things to cope with. Low appraisals, linguistically discriminating bosses addressing you as a "resource", high rents, and hopefully the Bangalore Metro will have eased your traffic woes by then!

At a time where every engineering industry needs less and less people for any technological profession, I hope my little prologue on your insight into these emerging trends will hopefully help put you on the fast track while you finally arrive. All the very best!

By
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SJEC

The Quintessential Quadrennial Journey

By
Roger Michael Pereira
Class of 2017
Pursuing:
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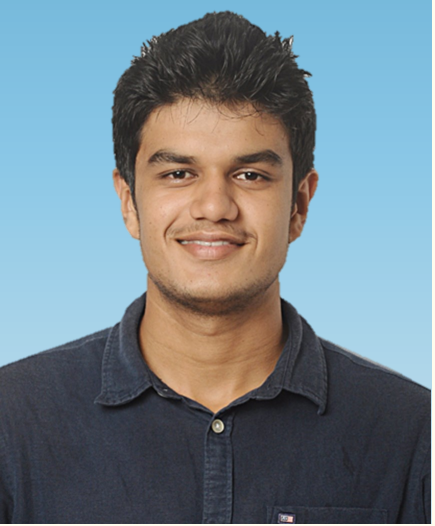
University:
Luleå Tekniska Universitet (LTU)
Place: Kiruna, Sweden



Madeleine!
Is that the name of my better half? No.
Is that the name of a random lady? Maybe.
Wait, is it the word for something that triggers nostalgia? Eureka!
(Well, we all know "that's what he said" when Archimedes discovered buoyancy)

OK! FOCUS!
Back to being "serious" (a word that is missing from every Engineering student's dictionary)

Now then, the moment I was given an opportunity to write this article, it was a madeleine. I could feel the four years of deeply embedded memories of my Engineering, rushing through my brain at the speed of $3x10^8$ m/s. It was a lot to process, of course, yet it brought a gentle smile to my face. I realised that, the feeling of nostalgia is not limited to just the head, but it is something felt by the entire body, more of a stimulus to the thought of good experiences.

SJEC – An acronym for a fortress which evokes a lot of memories for me at the very mention of it. Let us now travel through time and space, back to the day I first stepped into the loving hands of my alma mater – SJEC. It was pleasant weather on the first day of August, 2013, that motivated me to attend the orientation ceremony at college. I rushed through my morning routine, excited at the thought of meeting new faces (faces which would later leave a lasting impression in my life). As I boarded the local 3B Bus, the conductor shouting "Kankanady, Nanthoor, Bikarnakatte, Baithurli, Kudupu, Omanjoor, Omanjoor, Vamanjooooor…. Rights Poy", it marked the beginning of a new chapter in my book of life. I anxiously walked to the magnificent gates of SJEC and like every other fresher, I was clueless as to where to go and what to do. I met a few familiar faces and for some reason, at that very moment, I knew I had chosen the right place to pursue my Bachelor's Degree in Mechanical Engineering (Yes, I'm a proud mechie!)

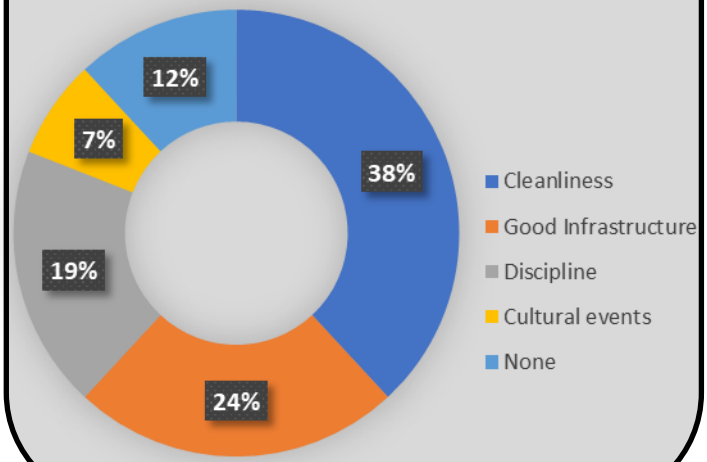
Over the four years, I was amazed at the sheer vastness of the campus, which somehow always had new areas to be discovered and explored. The scenic beauty of the entire college proves to be conducive for socializing, conducting activities or maybe just relaxing. To get some peace of mind, all I had to do was walk around the campus and that made me feel in sync with nature. To be admitted to SJEC was truly a blessing for me, for I was surrounded by the most amazing personalities from all walks of life. Every Engineer of SJEC goes through these 4 years in somewhat this manner – 62 courses, 60 externals, never-ending internals, advanced copy-paste skills used for assignments, all savings going into food, sight-seeing (No, it's not what you're thinking), bird-watching (Mate, seriously?), photoshoot at the Students' Square, mission impossible with the Management (Bro, shave malthara?), a little romance here and there, fests, fun and the like. For me, every moment I spent here has been the best. Being part of a dance crew, VDC, and ATV Design Crew, Team SJEC Racing, really boosted my technical and people skills, for I could follow my passion and in the process stay calm, confident, focused, patient and resourceful. I have always had people who were ever-ready to lend a helping hand. The Professors whose tutelage I have experienced had me amazed at their sheer simplicity-yet-extensive-knowledge in their respective subjects. Right from the Management to the HODs to the Professors to the Lab Assistants to the Placement Officer to the Non-Teaching Staff and especially, to the Students, I am grateful to each and every one for making my experience at SJEC a truly pleasant one. I will indeed miss this place and could only wish to rewind the tape and relive those four exotic years of my Engineering. I wish my readers all the very best, do achieve laurels in life and take the name of SJEC to greater heights!

FIRST 120LBS WIRELESS BOT IN KARNATAKA

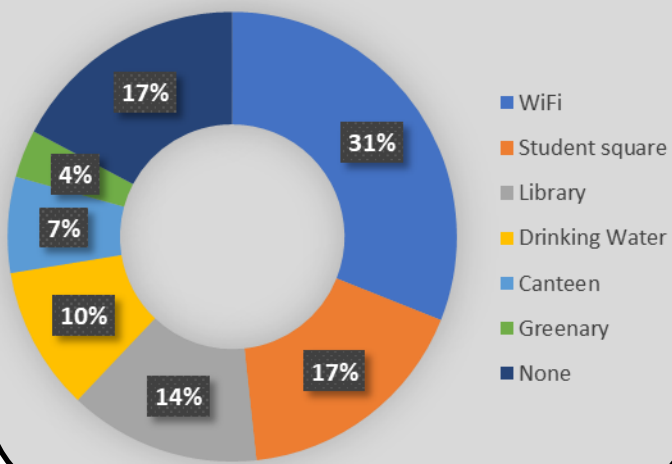
Alumnus of SJEC Mr. Shridhar, Mr. Vikas and Mr. Venkatesh Mayya of Class 2017 along with their juniors Mr Joston, Mr Joyson, Mr Aman, Mr. Avalon and Mr. Eric has built a first 120lbs wireless robot in Karnataka. The cost incurred for the Robot is 2lakhs. They were selected one among the 35 teams in India in the International Robowars which was held on 29th and 30th December 2017. The teams from Brazil, China, Russia, and Bangladesh participated in the event. Then the team participated in a event in IIT Madras where they secured first place. Also the "Team Robowars" secured first place in "60 kg Wireless Robowar Event" held on the 27th and 28th of January 2018 at Sardar Patel College of Engineering, Andheri (W) Mumbai.

OPINION POLL

WHICH GOOD PRACTICE OF SJEC YOU ARE MOST PROUD OF?



WHICH IS THE BEST FACILITY PROVIDED IN SJEC CAMPUS?



* the above statistics are based on responses obtained from Josephites through an online survey.

By
Khalid zulqurnain
Class of 2017

FOLLOW AND SUPPORT
ON INSTAGRAM
@artistic_minds_95

Scan Here ▶

By
Rhea D'mello
Class of 2017
FOLLOW AND SUPPORT
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@dmelloart

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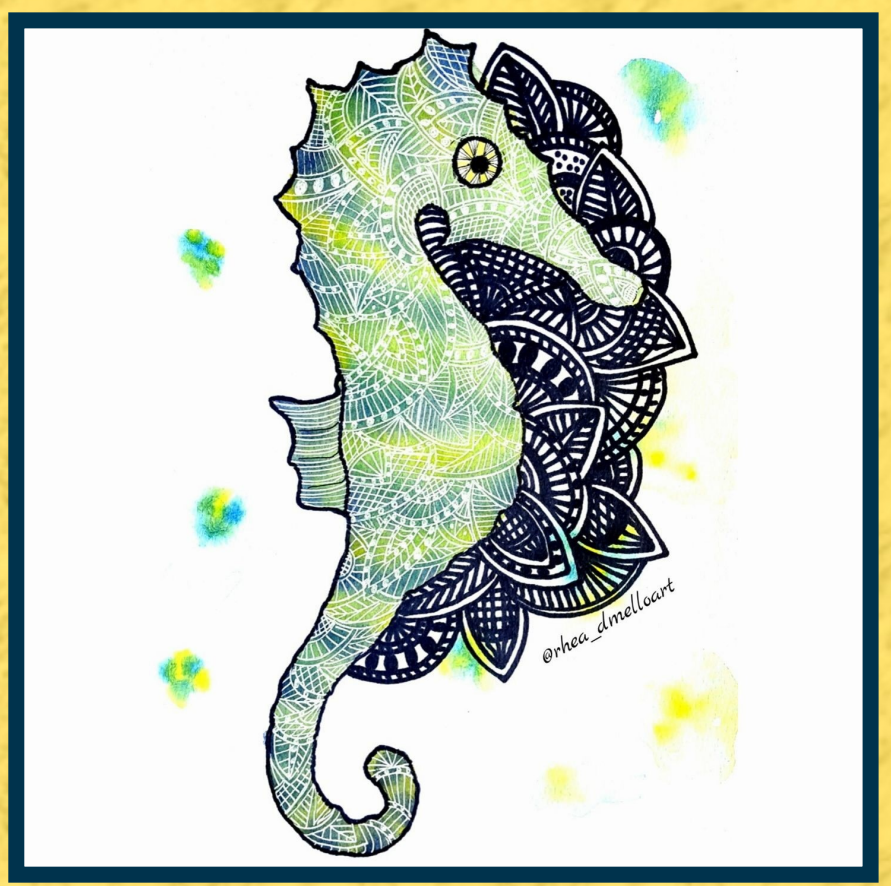

ABOUT THE DEPARTMENT

The Department of Mechanical Engineering was established in the year 2002 with the vision of nurturing technically competent and socially responsible Engineering Professionals. Alma mater to more than 1500 Graduate Engineers over the past 16 glorious years; the Department has soared to newer heights with the efforts of the well qualified and dedicated faculty and state-of-the-art infrastructure. The Department offers Undergraduate (B.E.), Post Graduate (M.Sc. Engineering by Research), and Doctoral (Ph.D.) program; with an annual intake of 180 candidates for B.E. Mechanical Engineering program. The Department believes in the overall growth of a student in both curricular, co-curricular and extra-curricular activities and encourages them to participate in various paper presentations, seminars, workshops, industrial visits and other technical activities and strives to prepare students for carriers across a broad range of industries. The faculty and research scholars in the Department are actively involved in research and have published their research in many national and international journals in fields of Composite Materials, Tribology, Fuel Cells, Spray Forming, Lean Manufacturing and Six Sigma. All of the Department's laboratories and workshops are accessible to students for conducting project work, curricular lab work and other mini projects. The Department proudly announces re-accreditation of its B.E. Mechanical Engineering program by the National Board of Accreditation for the second time which is valid till June 2019.

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