



News Letter

January-June 2018

Somaiya Mech.....

**K. J. Somaiya College
of Engineering
Vidyavihar, Mumbai –
400 077**

Mechanical



Students of K J Somaiya College of Engineering India unveiled their first Electric Formula R Vidyavihar. With a power of 4500 rpm the car can takes the car can go from 0 to 100 in just 5 seconds. In the future, the team will compete in Formula One racing contest to be held in Germany.

Head speaks...

Departmental Activities

1. Department is accredited by NBA during April 13 to April 15 2019



Faculty Development Activities

Workshops/ Conferences attended by faculty

1. Dr. Ramesh Lekurwale attended Sixth International Conference on Transformation in Engineering Education (ICTIEE 2019) in Indo Universal Collaboration for Engineering Education (IUCEE) & Chitkara University in Collaboration with American Society for Engineering Education (ASEE), Internation
2. Prof. Ramola Sinha presented a Poster Titled "Mathematical Analysis of Heat Losses Through Solar Cavity Received" in the National Symposium on "Application of Mathematics in Science and Engineering sponsored by TEQIP-III, MHRD at VJTI in March 2019.
3. Prof. Shivangi Thakkar Participated and Presented Poster in Research Symposium on Recent Trends in Engineering and Industry 4.0 at Sardar Patel College of Engineering, Andheri, Mumbai in May-2019.

4. Prof. V. S. Narawane and Prof. V. V. Bhosale attended STTP on Application of Computer Aided Engineering Tools in Mechanical Technology conducted by Mechanical Engineering Department of SIES Graduate School of Technology, Nerul in January 2019.
5. Prof. V. M. Khaparde and Prof. S. V. Thakkar have attended 2 hrs workshop on Lateral thinking organized by TCS at KJSCE

Expert lectures organized by faculty

1. Dr. Ramesh Lekurwale arranged Expert Talk on "Hypothesis Testing, and other statistical tools used for Research along with Hands on using SPSS software for Ph.D (Mechanical/Electronics/Computer Engg.) students in June-2019.
2. Dr. Manoj Pawar, Dr. S. S. Bhusnoor and Dr. Luckman have given expert lecture on thrust areas of mechanical engineering like design, thermal and manufacturing/allied to FY B.Tech students for course "Industrial applications"
3. Dr. Luckman and Dr. K. N. Patil have arranged research Seminar by Dr. Himanshu Chakraborty on Topic "Clean energy production and thermal conducting properties of graphene related 2D materials" for M.Tech Students Faculty of Mechanical and Science and Humanities in January 2019.
4. Prof. V.G. Dhore and Prof. S. V. Thakkar have arranged an Industry Expert Lecture for "Industrial Application" course of Mr. Shriprashant Dururkar from Larsen & Toubro Limited in march-2019.
5. Prof. V.G. Dhore and Prof. S. V. Thakkar have arranged Expert Lecture for FYBTECH (Mechanical) on

Subject "Industrial Application" by Mrs. Hetal Doshi (Riidl) in March 2019.

6. Dr. S. R. Nikam Organised a Visit to Cryogenics Lab - IIT, Bombay for LYBTECH Students of Cryogenics Elective

Paper Publication/ Presentation

1. **Prof. Vijay M Khaparde**, Dr. Vijaykumar Kottur, Dr. S.M. Kho have published a paper on "The Role of Enterprise Resource Planning in IT Issues and its challenges in Management" at International Conference on Sustainable Computing in Science, Technology & Management (SUSCOM-2019)
2. **Dr. Ajay Kumar Gangrade** has published a paper on Influence of eccentricity ratio on stability performance of conical hydrodynamic journal bearing at 2nd International Conference on New Frontiers in Engineering, Science & Technology (NFEST 2019)NIT, Kurukshetra
3. **Dr. Ajay Kumar Gangrade** has published a paper on "Microstructural and behavioural study of Intergranular Stress Corrosion Cracking in process equipments" at National Conference on Emerging Trends in Mechanical Engineering (NCETME-2019)" at Department of Mechanical Engineering, Vishwakarma Institute of Technology, Pune
4. Chirag Patel, **Prof Prashant Jain** have published a paper on "Analyzing Power Consumption of Pump by Different Flow Controlling Methods" at International Conference On Mechanical, Manufacturing, Industrial and Civil Engineering (ICRIEECICME-2019), Mumbai, India.
5. **Prof. Ramola.Sinha**, N.P.Gulhane have published a paper on "Heat Loss from Three Coil Solar Parabolic Dish Cavity Receiver: An Experimental Investigation" Ph.D. Colloquium at VJTI
6. **Dr. Bhusnoor, S.S.**, Viraj Dabhade, Yogita Yerne have published paper on "Experimental studies on performance parameters of finned tube heat exchanger for recovery of waste heat" at International Conference on Technologies For Future Cities
7. **Prof. Vilas G Dhore**, W S Rathod have published a paper on "Hardness & Wear Study of Carbon Nanotube Reinforced Aluminium Matrix Composites" at Ph.D. Colloquium at VJTI
8. **Prof. Vilas G Dhore**, W S Rathod, K N Patil have presented a paper on "Characterization of Fe-Co-Ni-Ternary Metal Catalyst For High Yield Multi-Wall Carbon Nanotubes" at 1st International and 18th ISME Conference Enabling Sustainable development in Mechanical Engineering at NIT Warangal
9. **Prof. Vaibhav S. Narwane**, Rakesh D. Raut, Balkrishna E. Narkhede have published a paper on "Improvement in the Food Losses in Fruits and Vegetable Supply Chain - A Perspective of Cold Third-Party Logistics Approach" at Operations Research Perspective Journal (Elsevier Publication)
10. L. Kotian, A. Chheda, **Prof. V. Narwane**, R. Raut have presented a paper on "Unmanned Aerial Vehicle for Road Monitoring: Fully Convolutional Networks Approach" at Industrial Engineering Journal
11. Rakesh D. Raut, **Prof. Vaibhav S. Narwane** have presented a paper

- on “The Influence of Internal-External Factors on the cloud computing adoption” at International Journal of Business Information Systems
12. Shruti Shashikumar, Rakesh D. Raut, **Prof. Vaibhav S. Narwane**, Bhaskar B. Gardas, Balkrishna E. Narkhede, Anjali Awasthi have published a paper on “Novel approach to determine the cell formation using heuristics approach” at OPSEARCH (Springer Publication)
 13. **Prof. Vaibhav S. Narwane**, Balkrishna E. Narkhede have presented a paper on “Cloud IoT Adoption-Drivers and Barriers in Indian Industries” at Ph.D. Colloquium at VJTI
 14. Rakesh D. Raut, Sachin Kumar Mangla, **Prof. Vaibhav S. Narwane**, Bhaskar B. Gardas, Pragati Priyadarshinee, Balkrishna E. Narkhede have presented a paper on “Linking Big Data analytics and operational sustainability practices for sustainable business management” in Journal of Cleaner Production.
 15. Rakesh D. Raut, Bhaskar B. Gardas, Balkrishna E. Narkhede, **Viabhav S. Narwane** have published a paper on “To Investigate the Determinants of cloud computing adoption in the manufacturing micro, small and medium enterprises: A DEMATEL - based approach” in Benchmarking: An International Journal.
- Outside world interaction of faculty**
1. Dr. Ramesh Lekurwale was Invited as Expert for MockVisit for NAAC Peer Visit at Rajiv Gandhi Institute of Technology, Mumbai in Feb-2019.
 2. Dr. Luckman Mohmood, Dr. A.K. Gangrade, Dr. Manoj Pawar and Prof. Sandip Langade were Invited to Participated in National Science Day 2019 (NSD), BARC, Trombay in Feb-2019.
 3. Dr. A. K. Gangrade was invited as a Session Chair at International Conference on Advances in Mechanical & Civil Engineering 2019 at Thakur College of Engineering & Technology in Feb-2019.
 4. Prof. V. S. Narawane was invited as an Expert Committee Member for Extension for New Courses/New Faculty (UG/PG) appointed by Mumbai University at Zagdu Singh Charitable Trusts Thakur College of Science, Kandivali, Mumbai in Feb-2019.
 5. Prof. V. M. Khaparde was invited as an External Examiner for ME Machine Design (SEM - III) (MDS301) special topic seminar at Pillai HOC College of engineering & Technology, Rasayani
 6. Dr. N. R. Gilke was a Member of Board of Studies of Production & Industrial Engineering, Savitribai Phule University, Pune
 7. Dr. S. S. Bhusnoor was Session Chaired International Conference on Recent Trends in Mechanical Engineering (ICRTME) which is held under the umbrella of International Conference on Advances in Science, Technology and Engineering (ICASTE-2019) at A. P. Shah Institute of Technology, Mumbai in Jan-2019.
 8. Prof. Shivangi Thakkar was Reviewer for IEEE Journal Paper titled "Hybrid Model of IVFRN-BWM and Robust

- Goal Programming in Agile and Flexible Supply Chain, a Case Study: Automobile Industry" in April 2019.
9. Prof. V. S. Narawane was Convener for Expert Committee Visit for Extension of New Courses/New Faculty (UG/PG) appointed by Mumbai University at K. P. B. Hinduja College of Commerce, Charni Road, Mumbai in March-2019.
 10. Dr. Manoj Pawar was delivered an expert lecture on "Engineering Tribology" at Adarsh Institute of Technology and Research Centre, Vita, Dist: Sangli in Feb-2019.
 11. Dr. A. K. Gangrade was a Journal Reviewer of International Journal of Automotive and Mechanical Engineering in April 2019.
 12. Prof. A. K. Gangrade was a Reviewer of Journal of Engineering Tribology Paper Entitled "Numerical Investigation for Characteristics and Oil-Air Distributions of Oil Film in a Tilting-Pad Journal Bearing" in May-2019.
 13. Dr. Ramesh Lekurwale was a Session Chair for National Conference on "Sustainable Manufacturing & Waste Management (NCSMWM-2019) at Saraswati College of Engineering, Kharghar in April 2019.
 14. Dr. Ramesh Lekurwale was Advisory Committee Member for National Conference on Sustainable Manufacturing & Waste Management (NCSMWM-2019) at Saraswati College of Engineering, Kharghar in April 2019.
 15. Prof. V. S. Narawane was Reviewer of Manuscripts of RAUSP Management for RAUSP Management Journal in April 2019.
 16. Dr. Ramesh Lekurwale was Invited as Subject Expert for the Interview of Assistant Professor in Mechanical Engineering Department of MCT's Rajiv Gandhi Institute of Technology at Rajiv Gandhi Institute of Technology, Mumbai in May-2019.
 17. Dr. A. K. gangrade was Reviewer of Journal of Engineering Tribology Paper Entitled "Linear and Nonlinear Analysis of Mount Angle Effects on the Dynamic Stability of Micropolar Lubricated Hydrodynamic Lobed Journal Bearing" of Journal of Engineering Tribology in May-2019.
 18. Dr. S. S. Bhusnoor was Member of Local Inquiry Committee (LIC) Visit for Continuation of Affiliation of UG Courses at G. V. Acharya Institute of Engineering & Technology, Shelu, Karjat, Raigad and Konkan Gyanpeeth Engineering College, Karjat
 19. Prof. V. S. Narawane was a Panel Member of Conducting Personal Interview for M.Tech in Industrial Automation at SVKM's Narsee Monjee Institute of Management Studies (NMIMS)
 20. Dr. R. R. Lekurwale delivered a talk on Topic "Factorial Design" on 03/07/2019 during STTP on 'Research Methodology' at Rajiv Gandhi Institute of Technology, Mumbai
 21. Prof. V. S. Narawane was Invited as a Guest of Honor for Inauguation Ceremony of STTP on 'Research Methodology' scheduled from

1st July, 2019 to 05th July,
2019 at Rajiv Gandhi Institute
of Technology, Mumbai

Student's Academics

Nov. - Dec. 2018 Toppers

Second Year

No.	Name of Student	GPA
1	PARAB JAYESH PRAKASH POOJA	9.86
2	KHOPKAR SUVEG GIRISH SMITA	9.79
3	KAISARE SHUBHANKAR SUDESH SUJATA	9.71

Third Year

No.	Name of Student	GPA
1	GIRI PRASANNAJIT SUSHANT RITA SHETAKE SAURABH SUBHASH MADHURI	9.73
2	PARASIA CHIRAG GIRISH DISHA	9.59
3	SHAH RONAK VINOD SONAL PATEL MILAN DINESHKUMAR ASHABEN	9.41

Final Year

No.	Name of Student	GPA
1	MORE VEDANSH EKNATH PRATIBHA	9.54
2	GURAV BHIMASHANKAR RAJSHEKHAR NAGUBAI	9.50
3	AGRAWAL SHUBHAM SANJAY MALTI	9.46

Placement

Departmental Placement record for 2017-18

Sr.	Name of Company	Students Placed
1.	Aasghirvad pipes	4
2.	ATG tyre	2
3.	Blue star	4
4.	Capgemini Phase 1	2
5.	Circor	4
6	Efficient innovation	4
7	Godrej & Boyce	8
8	Grindwell Norton Ltd	4
9	IFB industries	2
10	Jacobs engineering	4
11	L&T infotech	3
12	RK controls instruments pvt. Ltd	4
13	Suzuki Motors Gujrat	6
14	Think & Learn (Byjus')	3
15	Toyo engineering	2
16	Vertiv Energy Private Limited	3
17	Xtreme Media	3

Sudent Council

MESA

Faculty Advisor: Prof. V. G. Dhore

REPORT OF MESA EVENTS IN ACADEMIC YEAR 2018-19

Abhyantriki took place on 5th and 6th October 2018. MESA council being a technical council had to present some events, which were technical as well as fun. After lots of discussion among council members, MESA presented

three events viz. Cad-Clash, Chain Reaction, Gear Up.

Brief details of the events as follows:

➤ **CAD CLASH**

Cad Clash was the biggest MESA event of Abhyantriki 2018 with prizes worth 8k given out. The Winner won prizes worth 5k and the runner up won prizes worth 2k and 1k. This event was purely technical event. 26 teams with two members had participated from different colleges. The participants were given a problem statement according to which they had to design a 3D model on Inventor or SolidWorks. It was divided into 2 rounds. First was the elimination round in which the time limit of 45 mins was given in which the participants had to design according to the problem statement. After that came the final round in which a time limit of 3 hours was given and was judged by Prof. Rajesh Pansare, Prof. Priyanka Patil and Prof. Manoj Palsodkar, three individuals respected in their fields. They judged the elimination and final round and asked questions to the participants on which they were given points. The points were totalled in the end and the winners were announced.

➤ **GEAR UP**

Gear Up was a fun event hosted by MESA. It took place on the second day of Abhyantriki. This event had a two individuals or teams competing. They were given a set of gears and had to make a chain so as to rotate the final gear. This even was enjoyed by a lot of people.

The student's participations in Gear up Events

➤ **CHAIN REACTION**

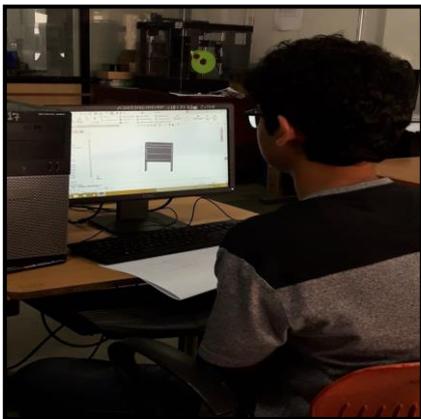
This was a fun plus technical type of event arranged by MESA in Abhyantriki, it was a successful event attracting about 20 teams. It was a fun-tech event in which a team of 3 players were formed. The teams were given a start point & a end point (which were cups arranged in a pyramid form). The teams had to form a path so as to reach the final point. We had given them different materials , which included PVC pipes , hot wheels , tape, Domino's , etc out of which they had to develop a path . The game was hence a test of knowledge of designing a unique design and analysing skills. Depending up on the maximum amount of cups fallen & the uniqueness of the design the top two winners were decided. The registration amount for the teams was Rs. 30 each and price money was worth ₹3500 for this even. It was a no profit event.

The event took place on the second floor of B-Building in B-402 on both the days of Abhiyantriki i.e on 6th and 7th October 2018.



REPORT OF INDUSTRIAL VISIT AT MAHINDRA AND MAHINDRA LTD

Date of Visit: 8th September, 2018



With cooperation of Mahindra and Mahindra, an industrial visit for students was arranged to the Kandivali plant on 8th September, 2018. 30 students visited the industry from 2 to 4:30pm and were accompanied by Prof. Shivangi Thakker. Mr. S D Kulkarni Sir from Mahindra and Mahindra guided us through our entire visit. It started with an hour-long presentation about the general overview of the company. Then we were led through the Engine Assembly Unit, where we understood the process through which small engine components are placed before they are dispatched by the unit to the vehicle assembly line. It was a combination of immaculate management skills and serious work ethics which results in quick engine assembling. Rodriques Sir explained to us, the minute details which go into the making of the engine and most importantly the losses which go into this process and the economic view of it. He also showed how certain parts are 3D printed on the engine and the precautionary measures

taken to avoid any mismanagement. We were then escorted to the vehicle assembly line where we could see the making of an automotive from scratch ie from chassis to the final finished product, ie the assembled vehicle. The vehicle assembly line head explained us exactly how this whole line moves. The most astonishing thing was how synchronized was the whole line. No wonder it completes one car in 93 seconds and also complete a total of 330 cars in one shift itself. Once again the time management skills of the working members in Mahindra and Mahindra stood out. We were then explained how the whole line has a direct contact with the engine department and how feedback and how the losses in each department affects the effectiveness of the whole line. Mahindra and Mahindra had also kindly prepared snacks for all the students before and after the session. We took our leave at around 4:30 pm.

It was an informative, interesting and a successful visit. As students of Mechanical Engineering, we learned about engine making and how the whole vehicle assembly occurs, which is a part of our syllabus in higher semesters in subjects like Internal Combustion Engines and Theory of Machines to an extent. We express our thanks to the Principal who permitted us to go on the visit, the faculty member who accompanied us and the officials who explained to us the various departments involved.



Students' Mega Projects

ORION

Faculty Advisor: Dr. M.J. Pawar

Orion Racing India, KJSCE, Mumbai

- ❖ Team completely design and manufacture the first electric car from KJSCE.
- ❖ The team cleared the qualifying round for Formula Student Germany (FSG) scheduled in the month of August 2019 in the category of Electric Vehicle.
- ❖ The expert team from Godrej and Boyce visited Orion Racing India, KJSCE workshop and interacted with team members and college authority. Godrej and Boyce shoot a documentary on Orion Racing India, KJSCE. The team from Godrej And Boyce was includes;
 1. Mr. Anil Verma, Executive Director, Godrej and Boyce
 2. Mr. S. M. Vaidya, Vice President, Godrej Aerospace
 3. Mr. Raja Senthil, Godrej Aerospace

❖ Team members from Orion were participated in "Vigyaan 2019" conducted by Daimler India Commercial Vehicles Pvt. Ltd at Chennai on 4 March 2019. The team was able to grab the position of 1st runner up in the competition.



ONYX

Faculty Advisor: Prof. Prashant Jain

Aero Design Workshop, KJSCE (8th – 9th September, 2018) A two-day aero-design workshop was conducted by the team in collaboration with Riidl which saw participation from various colleges and 100+ attendees. The workshop provided a unique opportunity for students to comprehend the basics of aerodynamics, design software, simulation and manufacturing techniques. On the second day, the students fabricated a mini P-51 Mustang Aircraft from scratch and test flights were conducted for the same. This workshop proved to be the most successful one till date. Boeing National Aeromodelling Competition, IIT-Bombay (14th-15th December, 2018) The second year students of the team participated in Boeing National Aeromodelling Competition held at IIT-Bombay. This event helped them improve on their design and manufacturing skills, while working within a limited time frame. The event also gave the students a good exposure regarding competition environment and served

as practice for Pilot skills. SAE Aero Design East 2019, Dallas, Texas (8th-10th March, 2019) SAE Aero Design East 2019 was the main target of the team for the 2018-19 season. The objective of the ‘Regular Class’ category was to design and fabricate a plane within certain dimensional constraints which could lift the maximum payload (in the form of tennis balls) while simultaneously pursuing the lowest empty weight possible. The final plane had a wingspan of 12 feet and had a payload capacity of 21 kgs. The competition had 60+ teams from all over the world. Here are the achievements: Overall Rank: 15th Asia Rank: 3rd Technical Presentation: 13th



ROBOCON

ABU – ROBOCON 2019 (NATIONAL LEVEL):

The Competition is Hosted by Mongolia. The National Competition was organised in 3 Stages.

The **1st Stage** took place in February. It required us to send a Proposal Paper which included a brief description about the working mechanism of the robots and the sensors and actuators to be used. We successfully cleared Stage 1 with 83/100 points were ranked **13th**.

The **2nd Stage** required us to give the Proof of Concept for our robots proposed in Stage 1. The results for Stage 2 were announced on 30th April. We scored 92/100 points and qualified for Stage 3 of the competition which was to take place in Delhi in June. We were ranked **12th of the 54** selected teams.

The **3rd Stage** featured the top 26 teams from all over India. The competition took place in June at IIT-Delhi, from 14th to 17th of June, 2019. We represented our college there and after 4 days, we were able to secure an **All India Rank 5**.

to interact and ask questions about the mechanisms and the working of the robots.



ORIENTATION, WORKSHOP:

Team KJSCE Robocon arranged an Orientation on the **25th of March, 2019**. This orientation aimed to spread awareness about the vast field that robotics is and what we as a team are able to achieve in it. After the brief introduction to the world of Robotics, Attendees were given a demonstration of 2 of our robots.

A Workshop was arranged by the Team in month of July. It took place over the span of 3 days, **3rd, 4th and 5th of July**.

On the First day Attendees were given a basic introduction to the world of Robotics by introducing them to various types of Gears, Assemblies, Motors, CAD Models and Drives.

The Next Day We covered the hardware and coding aspects in Robotics. Various sensors were explained and displayed. Interfacing of these sensors was done by the Attendees using the Arduino Microcontroller later that day.

The Last Day of the Workshop covered the Topic of PID Sensor and also Taught the Attendees the basics of Python and Image Processing. After which the Robots made by us for the Competition were displayed. Everyone was given a chance

Stage	Rank	Date
1	13 th	28 th February, 2019
2	12 th	30 th April, 2019
3	5 th	16 th June, 2019



Departmental Responsibilities

Portfolios 2018-19

DEC chairman: Prof. V. S. Narawane

Core areas coordinators:

1. **Design** - Dr. Manoj Pawar
2. **Thermal** – Dr. S. S. Bhusnoor
3. **Manufacturing** –Dr. Luckman Muhmood

Coordinators:

FY – EG: Prof. R. B. Pansare

FY – EM: Prof. Priyanka Patil

PG coordinator CAD/CAM Dr. A. K. Gangrade

PG coordinator Energy engineering: Prof
Ramola Sinha

Autonomy committee:

Prof. V. V. Bhosale

Prof. Priyanka Patil

Prof. Abhijeet Karmarkar

Time Table Incharge:

Prof. Shivangi Thakkar

Prof. Atul Saraf

Dept. Alumni Incharge:

Prof. Prashant Yelpale

Prof. Priyanka Patil

Web Site Incharge:

Prof. V. V. Bhosale

Departmental News Letter:

Prof. Prashant Jain

Prof. Priyanka Patil

Placement Coordinator:

Prof. Sandeep Chopade

Laboratory Coordinator:

Prof. Ramola Sinha,

Dept library in charge:

Prof. V. M. Khapade

R & D Coordinator:

Prof. Abhishek Bhadauria

Chief Proctor:

Prof. Prashant Jain

Final year Projects:

Dr. A. K. Gangrade

Newsletter Team

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