

Annual Report

MESA COUNCIL (2018-2019)

K. J. Somaiya College of Engineering, Mumbai-77
(Autonomous College Affiliated to University of Mumbai)

Name of the Council: MESA

List of Members/Details of Committee- 2018-2019

Sr. No.	Name of the Faculty advisor/ in-charge	Department	Portfolio
1	Vilas G. Dhore	Mechanical	Faculty Adviser

Sr. No.	Name of Student	Department	Portfolio
1	Rushil Thirani	Mechanical	General Secretary
2	Dharit Maniar	Mechanical	Jt. General Secretary
3	Pranav Jain	Mechanical	Treasurer
4	Atharva Iwarkar	Mechanical	Public Relations Officer
5	Kruthika Gangaraju	Mechanical	Jt. Public Relations Officer
6	Nikhil Malkapurkar	Mechanical	Creative Head
7	Virjaa Gada	Mechanical	Jt. Creative Head
8	Adnan Gangerdiwala	Mechanical	Event Head
9	Meethil Shah	Mechanical	Jt. Event Head
10	Yash Parab	Mechanical	Technical Head
11	Nilesh Gandhi	Mechanical	Jt. Technical Head
12	Kanak Manghi	Mechanical	Industrial Visit Head
13	Shubhankar Kaisare	Mechanical	Jt. Industrial Visit Head
14	Yash Jadhav	Mechanical	Jt. Industrial Visit Head

Photo of MESA Council - 2018-19



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Details of events/activities held during academic year 2018-2019

Sr. No. of Event / Activity	Day/Date	Year	Month	Time	Venue	Description of Activity
1.	8 th September	2018	September	2.00 - 4.30 pm	Mumbai	Industrial Visit at MAHINDRA AND MAHINDRA LTD
2.	5 th and 6 th October	2018	October	2 day	KJSCE	Abhiyantriki 2018: Three events were conducted by us , 1. CAD CLASH 2. CHAIN REACTION 3. GEAR UP
3.	19 th January	2019	January	10.00- 12.30 pm	Mumbai	Industrial Visit at HINDUSTAN FORGING AND STEEL LTD
4.	23 rd March	2019	March	10.00- 4.30 pm	KJSCE	Seminar on SOLIDWORKS & ANSYS

Reports of event/activity

Sr. No. of Event / Activity	Day/Date	Year	Month	Time	Venue	Description of Activity
1.	8 th September	2018	September	--	Mumbai	Industrial Visit at Mahindra and Mahindra Ltd

Details of participation in the event/activity

No of students / faculty	COMP	ETRX	EXTC	IT	MECH	Total no of participants
FY						30
SY						
TY						
LY						
No of Faculty						1

Report of event/activity

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.

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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.

Sample Photographs of the Event/Activity



Sr. No. of Event / Activity	Day/Date	Year	Month	Time	Venue	Description of Activity
2.	5 th and 6 th October	2018	October	--	Mumbai	Abhiyantriki 2018: Three events were conducted by us , 1.CAD CLASH 2.CHAIN REACTION 3.GEAR UP

Details of participation in the event/activity

No of students / faculty	COMP	ETRX	EXTC	IT	MECH	Total no of participants
FY						100
SY						
TY						
LY						
No of Faculty						--

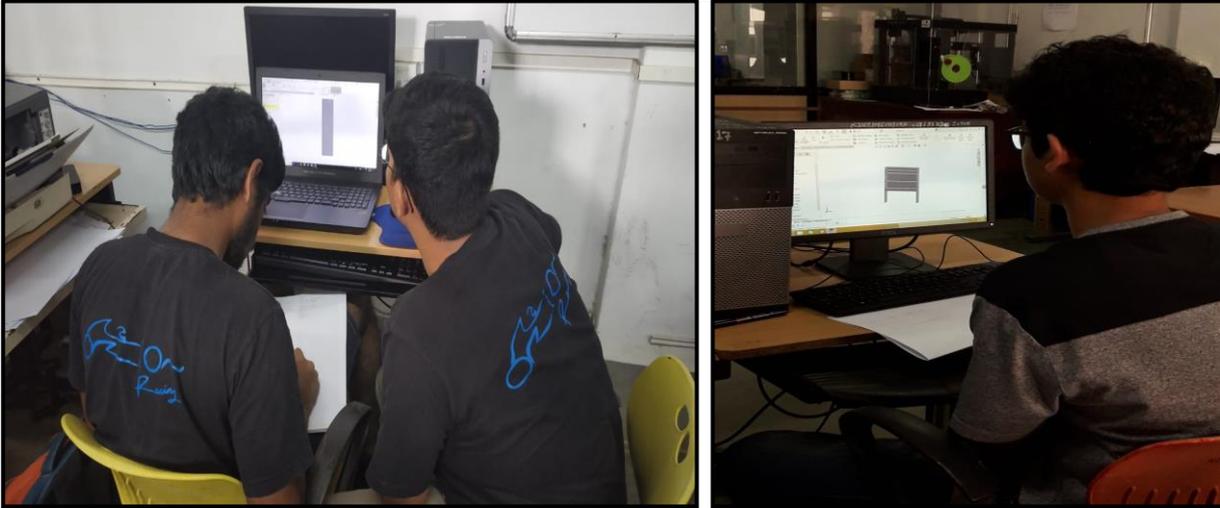
Report of event/activity

Abhiyantriki 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 Abhiyantriki 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 Abhiyantriki. 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 Abhiyantriki, 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.

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Details of prizes

Sr. No.	Event Name	Winners Position	Name of the student	Department & college
1	Cad Clash	1 st	Priyan Kamble Anmol Rane	Mechanical, Father Agnel ,Vashi
		2 nd	Kartik Gandhi Akash Kokate	Mechanical , K J Somaiya College of Engineering
		3 rd	Atharva Kulkarni Ronak Panchal	Mechanical , K J Somaiya College of Engineering
2.	Chain Reaction	1 st	Vartika Devansh Akhsar	Comps , K J Somaiya College of Engineering
		2 nd	Prashant Ronak Tanmay	Mechanical , K J Somaiya College of Engineering

Sr. No. of Event / Activity	Day/Date	Year	Month	Time	Venue	Description of Activity
3.	19 th January	2019	January		Mumbai	Industrial Visit at HINDUSTAN FORGING AND STEEL LTD

Details of participation in the event/activity

No of students / faculty	COMP	ETRX	EXTC	IT	MECH	Total no of participants
FY						40
SY						
TY						
LY						
No of Faculty						2

An industrial visit to Hindustan Forging and Steel plant, Wagle Estate Thane (west) was organized by MESA council on 19th January, 2019. There were 40 students visited the industry from 10.00 am to 12:30 pm. Prof. Abhishek Bhadauria and Prof Atul Saraf were accompanied the students during the visit.

Two officials from Hindustan Forging and Steel guided us through our entire visit. The whole group of 40 students and 2 faculties were divided into 2 groups of 20 students and 1 faculty each. The first half an hour was used to let us know about the general overview of the company and its works. After the general description of the company was given to us, certain basics of material science and metallurgy were explained to us in brief. Then we were led through the Machining Unit, where we understood the process through which the forged products are machined and finished according to customer requirement before dispatching it to them. It was a combination of immaculate management skills and serious work ethics which resulted in quick and efficient machining of forged products. The types of machines which we saw in this unit were High speed lathe machine, Radial Drilling Machine, Honing machine etc. We were then escorted to the Forging Unit where we could see the process of Forging in practicality. The officials explained us exactly how this whole line moves. The forging process we saw was Open Die forging. The most astonishing thing was how synchronized was the whole process itself. Once again the time management skills of the working members in Hindustan Forging and Steel stood out. We were then explained how the forged products were cooled in reality. In the theory of our subject we knew only about water and air cooled forged products but over here they were using aqua polymer compound to cool the forged products as it increased the effectiveness of cooling. After the visit there was a question answer session with the experts where all our doubts were cleared. We took our leave at around 12:30 pm.

It was an informative, interesting and a successful visit. As students of Mechanical Engineering, we learned about machining and how the whole forging process occurs, which is a part of our syllabus in higher semesters in subjects like Material Science and Metallurgy and Production Process to an extent. We express our thanks to the Principal who permitted us to go on the visit, the faculty members who accompanied us and the officials who explained to us the various units involved.





Sr. No. of Event / Activity	Day/Date	Year	Month	Time	Venue	Description of Activity
4.	23 rd March	2019	March		Mumbai	Seminar on SOLIDWORKS & ANSYS

Details of participation in the event/activity

No of students / faculty	COMP	ETRX	EXTC	IT	MECH	Total no of participants
FY						30
SY						
TY						
LY						
No of Faculty						2

A hands-on seminar was conducted in A-314, KJSCE, on the basics of SOLIDWORKS 2019 and ANSYS Workbench 19.2 on 23rd March, 2019. Total 30 students, from SY and TY Mechanical Engineering, attended the seminar from 10 am to 4.30 pm, which was taught by Prof. Abhijit Karamarkar and Prof. Priyanka Patil.

The seminar began with the introduction of the basic interface and tools of SolidWorks. The students then created a 3-dimensional model of an Aluminium Pressure Cooker as guided by Prof. Abhijit Karamarkar, where they learned features like Revolved Boss/Base, Extruded Cut, and Mates in Assembly etc. They designed the object without any detailed diagram or dimensions, which enabled them to learn basics of designing of a product from scratch. This was followed by a lunch break at 1.30 pm after which the students learned ANSYS.

Prof. Priyanka Patil taught us the static structural analysis and the thermal analysis of the

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pressure cooker the students designed on SolidWorks. They analyzed the stress distribution on various parts of the pressure cooker when subjected to an internal pressure of 15 bar. Also, they analyzed the temperature distribution and thermal heat flux distribution in various parts of the cooker when subjected to an internal temperature of 200-300 °C. We learned the importance of fillets and other design considerations and their effects on stress and thermal analysis.

It was an interesting, successful seminar which imparted great a deal of knowledge and understanding. As students of Mechanical Engineering, we learned about two of the most important software programs used in the industry, which is also a part of our curriculum. It is easier for us to now learn about the more advanced features of each of the software and other related software programs as well. We express great thanks to by Prof. Abhijit Karamarkar and Prof. Priyanka Patil for conducting sessions on SolidWorks & ANSYS. We would thank HOD Mechanical Dr. Ramesh Lekurwale, and our faculty advisor; Prof. Vilas Dhore permitted us to conduct the seminar and the faculty members who imparted knowledge.

