



Somaiya Vidyavihar

K J Somaiya College of Engineering

(An Autonomous Un-aided Institute - Affiliated to University of Mumbai & Approved by AICTE)



Redshift Racing India

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Report for the year 2018-19

Team RedShift Racing India is the official BAJA team of K. J. Somaiya College of Engineering. RedShift Racing India started way back in 2011, which was initiated by a group of 7 students from the campus, who inspired other students to join them and formulate the first ever team of 20 students. The team's primary objective is to take part in the national and international competitions conducted by the organization 'BAJA SAE'. BAJA SAE Competitions gives these students a platform to compete with Universities all across the globe in a multi-disciplinary competition. The team's been participating in BAJA SAE competitions since it first began and has designed and manufactured 8 prototypes till date and has competed with the best all over the country as well as the world.

Students build a completely functional, single seater 'All Terrain Vehicle (ATV)' to participate in these competitions. They are judged on a variety of factors like cost effectiveness, quality of design, build of the vehicle, the vehicle's commercialization and many other factors. Over these past 8 years, our students take up this project as an extra-curricular project and gain unparalleled insight and knowledge into how the real world functions. Right from teamwork and management, functional and aesthetic product design to negotiation and fundraising, marketing and publicity.



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Activities from July 2018 to Dec 2018

1. The team secured 4th place in the Virtuals Round of BAJA SAE India held from 12th to 14th July, 2018, at the Chitkara University in Punjab.



2. The team also participated in the Innovation Pavilion in International Exhibition and Conference on Materials Engineering and Technology organized by American Society for Metals, India Chapter at CIDCO Exhibition Centre, Vashi, **Navi Mumbai** from 27 to 29 Sept, 2018.



3. The team also hosted a workshop in association with the Mechanical Department of K. J. Somaiya College of Engineering on I.C. Engines and Vehicle Dynamics, which was conducted by professors from IIT B, COEP, LTCOE and KJSCE and also industry professionals from Vazirani Automobiles, in K. J. Somaiya College of Engineering on the 20th and 21st of October 2018.



4. The team was also invited by DNA to display their car in The DNA Auto Expo 2018 held at CIDCO Exhibition Centre, Vashi, **Navi Mumbai** on, 2018.

Activities from Jan 2018 to Present

1. The team participated in the Maker Mela event by Ridll held in K.J. Somaiya College of Engineering, Mumbai from 16th Jan to 18th Jan, 2018.



2. The team participated in BAJA SAE INDIA held from 23rd January to 27th January 2019. It took place in NATRIP Ground, Indore.

Day1: Team cleared the technical inspection on its first attempt.

Day 2: Successful completion of Brake test and Acceleration Event (5.9sec)

Two attempts of Rock Crawl were also made which were successful. In Statics event, Sales and Cost was presented

Day 3: Dynamic Events such as Maneuverability was completed first, later in the day Suspension and Traction Event was attempted but due to 3 roll-overs we did not finish the event. Simultaneously Design presentation was appreciably presented.

Day 4: It began with the Endurance Race and lining up of the car in its grid position. The first two hours of endurance marked with the completion of 9 laps of 5km each. Due to bearing failure the car was towed to the Pit Area wherein the entire hub and wheel assembly was changed and refuelling was done. This took us around 45mins. Later in the next 40 mins more 4 laps were completed. Due to collision of another ATV with our vehicle, the rear hitch plate pipe was damaged and since a damaged pipe is not allowed the marshal instructed to bring the ATV to the pit to weld it again. This took us last remaining 35mins of endurance.



Results:

Engineering Design: 9th out of 120 teams

Cost Report: 14th out of 120 teams

Business Plan Presentation: 19th out of 120 teams

Acceleration: 5.9 seconds

Maneuverability: 24th out of 120 teams

Suspension and Traction: DNF

Rock Crawl: 76th out of 120 teams

Endurance: 25th out of 120 teams

Overall rank: 29th out of 120 teams in India

1st in Mumbai out of 8 teams

Future Activities

The team is participating in Mega ATV Championship 2019, which is being held in Querim (Keri) Beach, Goa on 18th – 21st March, 2019 and BAJA SAE U.S.A. 2019, which is being held in Rochester, New York, in the month of June, 2019.